IBM

VTAM

LY30-5614-1

Customization

Version 3 Releases 1, 1.1, 1.2, and 2

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VTAM

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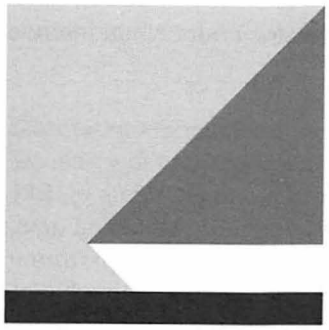

File Number
S370/4300/30XX-50

Program Numbers
5665-313 (MVS/370)
5665-289 (MVS/XA)
5664-280 (VM/SP)
5666-313 (VSE)

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Sixth Edition (March 1989)

This revision replaces LY30-5614-0. This edition applies to the Advanced Communications Function for VTAM Version 3 Release 1 (running under VSE), Version 3 Release 1.1 (running under MVS and VM), Version 3 Release 1.2 (running under VM and VSE), and Version 3 Release 2 (running under MVS, VM, and VSE). VTAM is an IBM licensed program that can be ordered by the following program numbers:

MVS/370 (program number 5665-313)
MVS/Extended Architecture (program number 5665-289)
VM/System Product (program number 5664-280)
VSE/Advanced Function (program number 5666-313)
VSE/System Package (program number 5666-313).

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About This Book

This manual is intended to help customers customize and tune VTAM. It primarily contains information about VTAM constants, user-replaceable tables, and exit routines that may be used to customize and tune VTAM. Unless specifically stated otherwise, the information in this manual must not be used for programming interface purposes. However, this manual also provides the following types of information, which are explicitly identified where they occur:

General-Use Programming Interfaces: General-use programming interfaces are provided to allow customers to write programs that use the services of VTAM.

Product-Sensitive Programming Interfaces: Installation exits and other product-sensitive interfaces are provided to allow the customer installation to perform tasks such as product tailoring, monitoring, modification or diagnosis. They are dependent on the detailed design or implementation of the product. Such interfaces should be used only for these specialized purposes. Because of their dependencies on detailed design and implementation, it is expected that programs written to such interfaces may need to be changed in order to run with new VTAM releases or versions, or as a result of maintenance.

Customization is the process of tailoring VTAM by enhancing or extending it to suit your needs. *VTAM Customization* is a reference book for programmers responsible for installing and customizing VTAM.

VSCS, while it is part of VTAM and is shipped with VTAM, is an **application program**. For clarity, therefore, this book discusses VSCS separately from VTAM.

Who Should Use This Book

Your job title probably includes the word, "system programmer," "analyst," or "administrator." Use this book if your job includes customizing VTAM. Before using this book, you should be familiar with the information in the following publications:

- *Network Program Products General Information*
- *Network Program Products Planning*
- *VTAM Installation and Resource Definition*.

How to Use This Book

How This Book Is Organized

The *VTAM Customization* manual consists of four chapters and six appendixes:

- Chapter 1, "Why Customize VTAM?" on page 3, explains why you would want to customize VTAM.
- Chapter 2, "Tuning VTAM" on page 19, explains how to tune VTAM.
- Chapter 3, "Defining User-Replaceable Tables and Modules" on page 65, describes how to code user-replaceable tables and modules.
- Chapter 4, "VTAM User Exit Routines" on page 133, describes how to code VTAM exit routines.

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- Appendix A, "Customizing VM SNA Console Support" on page 185, tells how to customize VM SNA console support, including information on coding a logon mode table.
- Appendix B, "MVS User Exit Routines for TSO/VTAM" on page 195, provides information you will need to write exit routines for TSO/VTAM.
- Appendix C, "Tuning and Link-Editing in a VM System" on page 203, supplies VTAM-related information about the VM system such as special tuning considerations and information on link-editing tables and modules.
- Appendix D, "IBM-Supplied Tables" on page 213, lists of some of the IBM-supplied user-replaceable tables.
- Appendix E, "Program Operator Coding Requirements" on page 269, describes how to write the program operator portion of a VTAM application program using the SENDCMD and RCVCMD macroinstructions.
- Appendix F, "VTAM Message Revisions" on page 283, lists messages that are new, or that have been modified or deleted from one release to the next.
- The "Glossary" on page 411 describes technical terms used in this book.

Symbols Used in This Book

The following symbols are used in this book to indicate information that pertains to a specific operating system:

MVS/XA	Indicates information that applies to MVS/XA only.
MVS/370	Indicates information that applies to MVS/370 only.
MVS	Indicates information that applies to both MVS/XA and MVS/370, but not VM or VSE.
VM	Indicates information that applies to VM only.
VSE	Indicates information that applies to VSE only.
4361	Indicates information that applies to the IBM 4361 only.
9370	Indicates information that applies to the IBM 9370 only.

These symbols precede unique information. If a piece of information applies to more than one operating system, but not all of them, more than one symbol may precede the information. For example:

MVS VM *This function locates the resource in this network or another network associated with a given symbolic name or network address.*

The information in the example applies to MVS/XA, MVS/370, and VSE. Information that applies to all operating systems is **not** denoted by any symbol.

Artwork Used in This Book

Figure 1 on page ix shows the conventions used in this book to illustrate the parts of a network.

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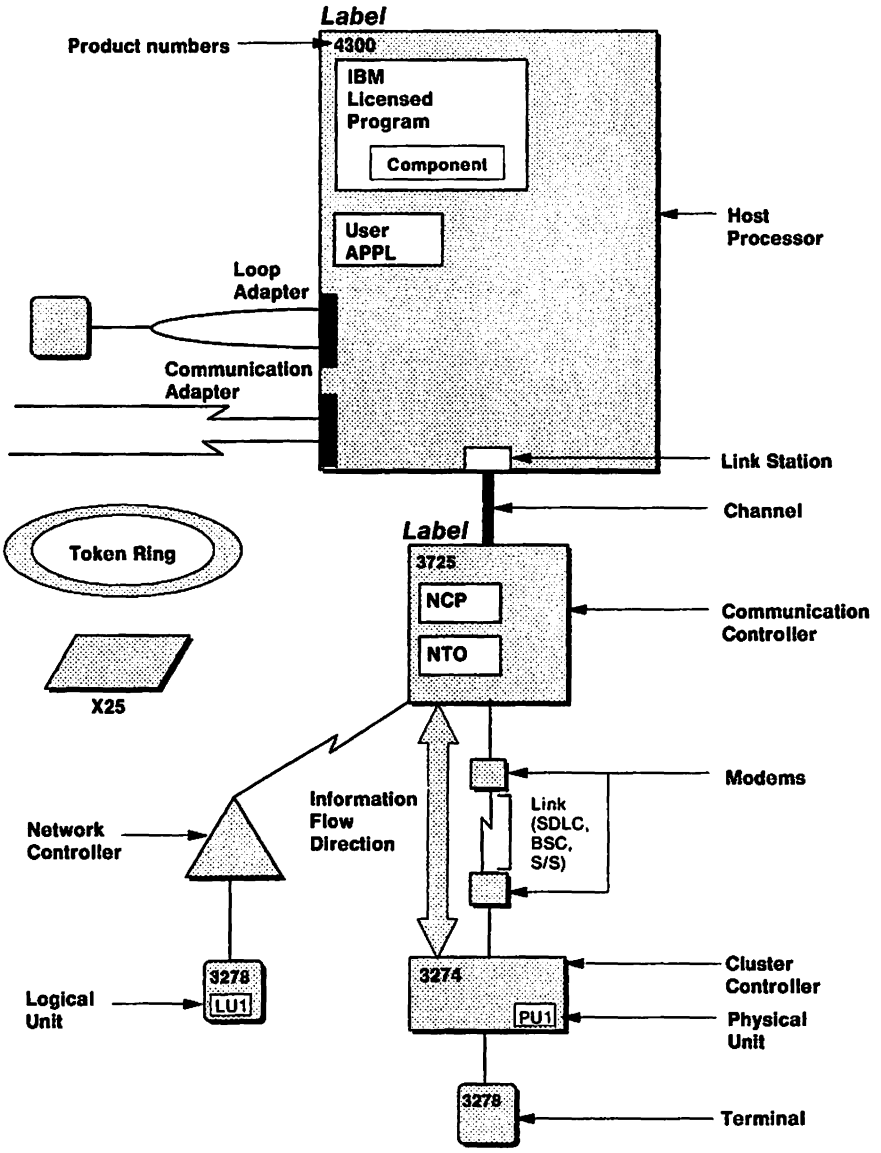

Figure 1. Conventions Used in Network Illustrations

What Is New in This Book

The following changes and additions have been made to this manual for Version 3:

What is New for VTAM V3R2

A new appendix (Appendix E, "Program Operator Coding Requirements" on page 269) has been added to provide instructions on how to code a program operator application (POA).

A new appendix (Appendix F, "VTAM Message Revisions" on page 283) lists the messages that are new, or have been modified or deleted from one release to the next. This appendix was previously in *Messages and Codes*.

VTAM start options have been added and modified.

Restrictions on tables resulting from dynamic table replacement have been added.

A description of the APPC entry for the logon mode (also known as "logmode") table has been included.

The description of USSMSG MSG=3 has been revised.

The discussion of channel-to-channel tuning has been revised to include the effects of UNITSZ.

A flow chart showing COS table processing has been added.

Logmode information has been revised to reflect independent LUs on type 2.1 peripheral nodes.

SNASVCMG has been added as an entry in the logmode table in Appendix D, "IBM-Supplied Tables" on page 213, for LU 6.2 support.

The zappable constant RACSSMSG has been added to the IBM constants module (ISTRACON) to define how certain adjacent SSCP-related messages are issued.

The zappable constant RACTRFLG has been added to the IBM constants module (ISTRACON) to enable the generation of trace entries that show the interaction between the MVS dispatcher and VTAM process scheduling services.

The zappable constant RACALIAS has been added to the IBM constants module (ISTRACON) to enable you to control alias name translation.

The zappable constant RACMIHTM has been added to the IBM constants module (ISTRACON) to enable you to specify a time value related to missing interrupt handling by VTAM.

New USS commands have been added in Appendix D, "IBM-Supplied Tables" on page 213.

Two new storage management operands that allow some control over VSCS dynamic storage have been added to the DTIGEN macroinstruction.

- The STCHKTM operand represents the time interval between storage pool scans (checking).
- The STRELTM operand represents the timer interval between releasing storage back to GCS.

The replaceable constant RACCITSZ provides a default conversation ID index table (ISTCONVT) for LU 6.2 capable applications.

A description of the new APBUF buffer pool has been included.

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V3R2 Functions Available as PTFs on V3R1.1 and V3R1.2

The following functions, which are available as part of V3R2, are also available as program temporary fixes (PTFs) to V3R1.1 for certain operating systems. Some of these functions are also available as part of V3R1.2 for certain operating systems.

- Channel-to-channel performance enhancement
  - A PTF on V3R1 for MVS
  - A PTF on V3R1.1 for MVS and VM
  - Part of the base code in V3R1.2 for VM and VSE
  - Part of the base code in V3R2 for all operating systems.
- 3720 disk support
  - A PTF on V3R1.1 for MVS and VM
  - Part of the base code in V3R1.2 for VM
  - Part of the base code in V3R2 for all operating systems.
- 3745 Communication Controller support
  - A PTF on V3R1.1 for MVS (the 3720 disk support PTF is a prerequisite)
  - Part of the base code in V3R2 for all operating systems.
- MVS Double-byte character set support
  - A PTF on V3R1.1
  - Part of the base code in V3R2.

  This is an enhancement to TSO/VTAM and does not affect VM or VSE.
- I/O buffer expansion limit support
  - A PTF on V3R1.1 for MVS
  - Part of the base code in V3R2 for all operating systems.
- TSO query for LOGMODE (see "Logon Mode Table" on page 77).

VM VSE What is new for VTAM V3R1.2

Subarea nodes (such as VTAM and NCP) can now be connected over switched networks, so that processors like the IBM 9370 and IBM 4361 can dial into an SNA network.

X.25 communication adapter support has been integrated into VTAM and is no longer a separate feature.

VM 9370 Local area network (LAN) support enables the attachment of an IBM Token-Ring Network directly to an IBM 9370.

VM Many VSCS enhancements have been added.

What is New for VTAM V3R1.1

USS message 7 has been enhanced to provide more information.

The time interval in which the maximum number of VTAM subtask reattachments can occur has been changed from approximately 4 minutes to approximately 30 minutes.

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Information on buffer pool defaults for all operating systems has been removed from *VTAM Customization* and placed in *VTAM Installation and Resource Definition*.

MVS VTAM now supports multipoint subarea links as a means by which to connect more than two devices. On an SNA line, one device is designated as the primary station, and all other devices on the line are secondary stations. A multipoint subarea link is one in which the secondary stations include one or more type 4 or type 5 physical units, with or without type 1 or type 2 physical units.

Two replaceable constants have been added. One (RACMXBUF) sets the maximum number of session awareness (SAW) buffers allowed. The other (RACBUFSZ) determines the request unit size used by VTAM when taking a static dump of an NCP or loading one.

VM VTAM has been changed to incorporate:

- Extended network addressing (ENA)
- Systems Network Architecture (SNA) network interconnection.

  SNA network interconnection affects several of the topics covered in this book, such as the replaceable constants and the class-of-service tables.

Changes for VM also include:

- Additional replaceable constants:
  - A new field (RACHNTSZ) to adjust the default size of the host node table
  - A new field (RACCITSZ) to adjust the default size of the communication identifier (CID) index table
  - A new field (RACEAS) to adjust the default maximum number of concurrently active SNA network addressable units and channel-attached non-SNA terminals
  - A new field (RACSASUP) for use when communicating with an interconnected pre-V3R1.1 network to specify the maximum subarea number that can be used within the pre-V3R1.1 network.
- The USERVAR operand has been added to the LOGCHAR macroinstruction.
- The session management exit routine may now be used.
- The @@LUNAME argument in the TEXT operand of the USSMSG macroinstruction can now be used to insert a terminal name anywhere in a message coded with this operand.
- For VM SNA console support (VSCS), information on data manipulation exit routines for display devices has been added.
- The VTAMEAS and MAXAPPL start options have been deleted.

The description of the MODEENT macroinstruction has been revised to reflect new parameters for TSO DBCS support.

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Where to Find More Information

Figure 2 shows the books in the VTAM V3R2 library, arranged according to related tasks. For a description of these manuals, see "Bibliography" on page 407. The bibliography also lists the titles and order numbers of manuals related to this manual or cited by name in this manual.

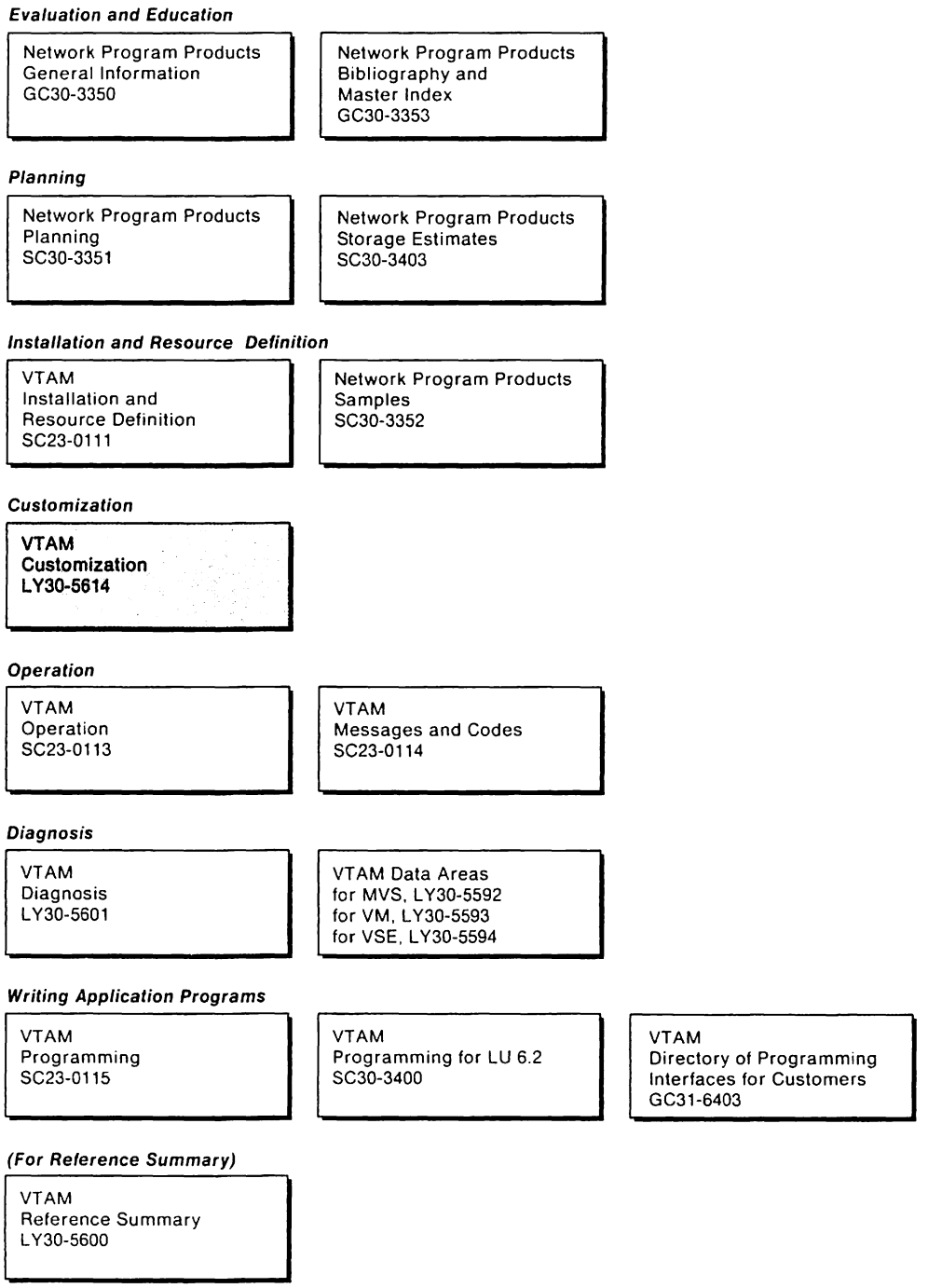

Figure 2. The VTAM V3R2 Library

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Chapter 1. Why Customize VTAM?

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Chapter 1. Why Customize VTAM?

This chapter documents VTAM exit routines, which are product-sensitive programming interfaces. Please see the statement at the beginning of this book about product-sensitive programming interfaces under "About This Book".

VTAM contains default constants, tables, modules, and exit routines, that are used for functions such as:

- Establishing and terminating sessions
- Calculating minimum and maximum sizes of virtual route pacing windows
- Authorizing sessions
- Routing unsolicited request units to communication network management (CNM) applications
- Maintaining accounting information
- Selecting gateway paths.

These default constants, tables, and modules are usually sufficient. However, since each system is different, the IBM defaults provided cannot handle every case satisfactorily. If the IBM default is not appropriate for your needs, you may find it necessary to modify it or to write your own exit routine.

You can adapt VTAM to your needs by:

- Using tuning statistics and tuning
- Coding user-replaceable tables and modules
- Coding your own exit routines.

Using Tuning Statistics and Tuning

Tuning is the process of balancing your network load among resources in order to lessen the load on the host processor and to use storage in the host and network controller more efficiently. Tuning statistics can help you perform this task.

Information on tuning and tuning statistics is in Chapter 2, "Tuning VTAM" on page 19.

User-Replaceable Tables and Modules

To establish and terminate sessions, VTAM uses tables and modules, which you can replace or modify. This capability, along with operands you can specify in VTAM definitions, allows you to adapt VTAM to the needs of your installation.

Class-of-Service Table

You can group together routes used to carry sessions into lists on the basis of characteristics such as security, transmission priority, and bandwidth of the route. The characteristics of a particular list determine a class of service. For example, you would probably want an interactive session to use a faster route than a batch job. To accomplish this, you would place the fastest routes in one list for use in interactive sessions and slower ones in another list for use by batch jobs. If a

session involves the transmission of sensitive data, you would place only secure routes in the list used for this session.

You define these classes of service by creating a class-of-service (COS) table with entries containing the lists. By specifying the name of an entry from the COS table in the logon mode table associated with a session, you select the list of routes you want to be used for the session. When VTAM establishes a session, it chooses the first available route in the list of routes you tell it to use.

VTAM provides a default list of routes that is used if you do not create a COS table, but this default list may not be the best for your needs, and its use could result, for instance, in a fast line being used for a session carrying a batch job. This default list is also used if you do not name a class of service in the logon mode table for a session. You can replace this default list by creating a COS table with an unnamed (blank) COS entry containing the new list. This new default list is then used if no COS entry is named in the logon mode table for a session.

In addition to coding an unnamed COS entry in your COS table, you may also want to code an entry for use in SSCP sessions (SSCP-SSCP, SSCP-PU, and SSCP-LU). You can specify the routes used for SSCP sessions by including an entry named ISTVTCOS in the COS table. Figure 4 on page 5 shows a summary of the algorithm VTAM uses to determine routing for SSCP and user sessions.

You can use the COSTAB, COS, and COSEND macroinstructions to create a COS table. Figure 3 shows how these macroinstructions are arranged.

Information for coding your own COS table is in "Class-of-Service (COS) Table" on page 67. See the *Network Program Products Planning* for more information on classes of service.

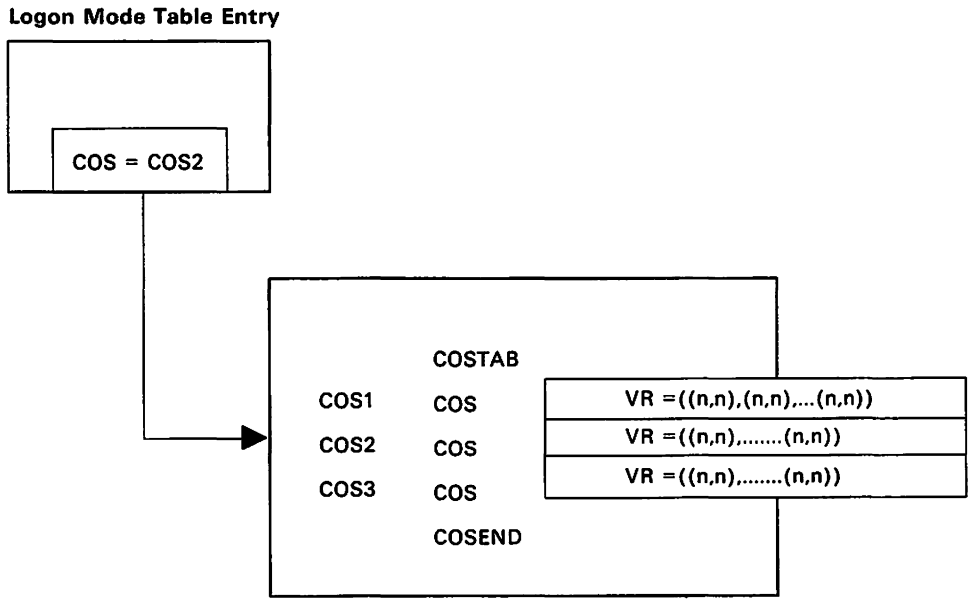

Figure 3. Macroinstructions for the Class-of-Service Table

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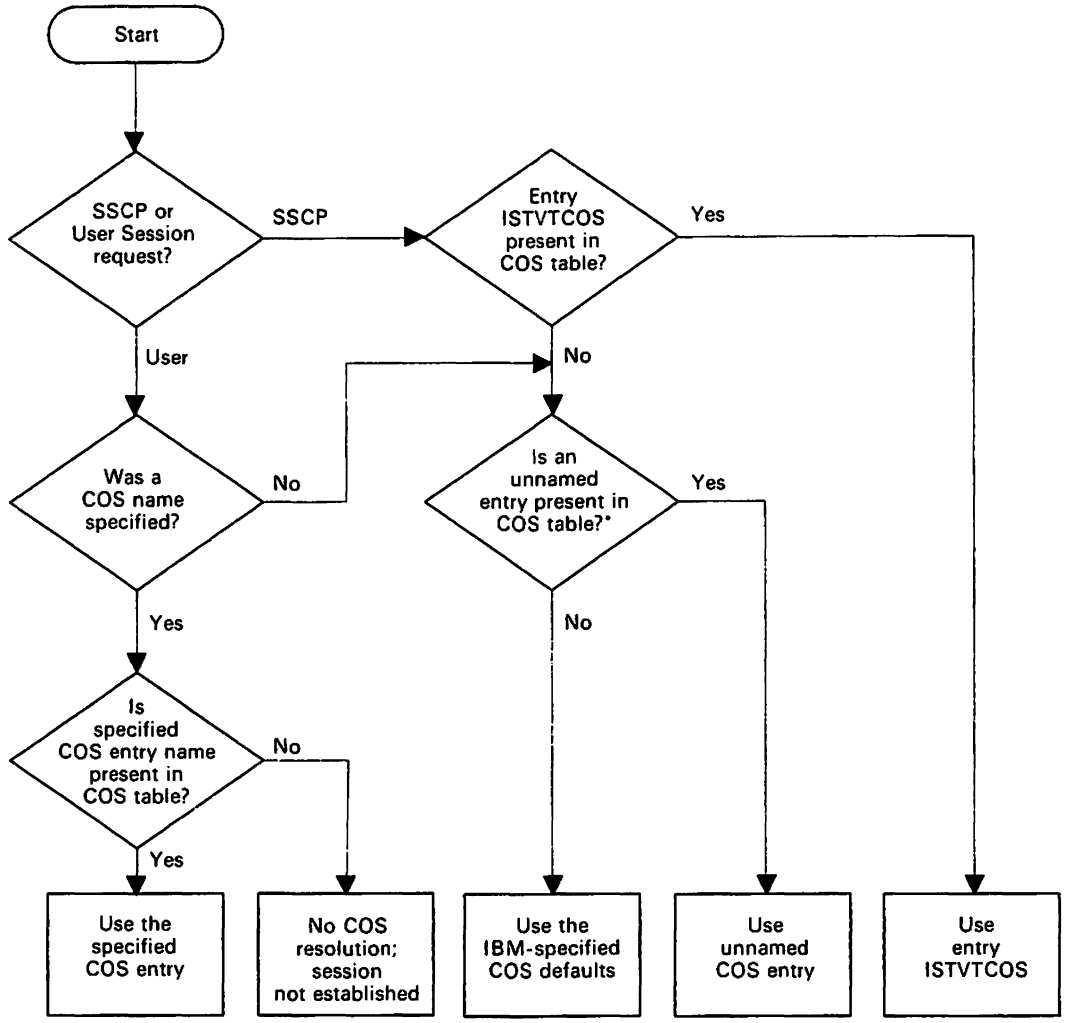

*This is also referred to as a "blank entry."

Figure 4. How Routing is Determined from the Class-of-Service Table

Interpret Table

When VTAM processes a formatted Initiate or Terminate request (either received directly from an LU or formatted by unformatted system services (USS) from a character-coded logon or logoff), it uses the interpret table to determine which application program is to be notified.

The standard logon procedure should satisfy the needs of most installations. (See "LOGON Command" on page 96 for the standard logon procedure.) You will have to write your own interpret table only under special circumstances, for instance, if the logon sequence you want to use does not follow the syntax for USS commands. You will also have to code an interpret table if you plan to use USERVARS.[1]

[1] A USERVAR is a common or "generic" name that can be given to a group of VTAM applications. VTAM uses this USERVAR to associate a logon request with a specific VTAM applica-

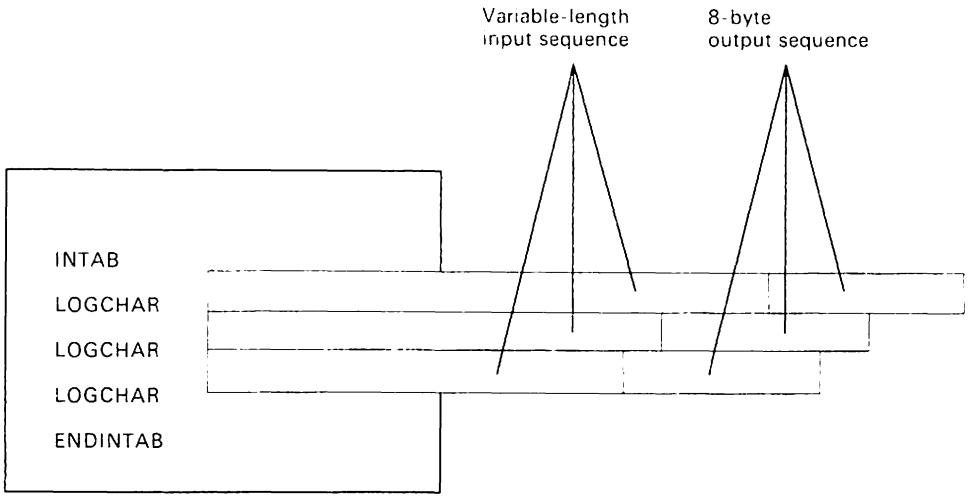

Figure 5. Macroinstructions for the Interpret Table

You use the INTAB, LOGCHAR, and ENDINTAB macroinstructions to create an interpret table. Figure 5 shows how these macroinstructions are arranged.

The information you need to code your own interpret table is in "Interpret Tables" on page 71.

Logon Mode Table

A logon mode table (also known as a "logmode" table) contains entries specifying different session parameters, which are sets of rules that describe how a session is to be conducted. VTAM contains an IBM-supplied logon mode table, ISTINCLM. Since this table contains a set of generally accepted session parameters only for a basic list of IBM device types, this table may not completely meet your needs. To customize the logon mode table, you can:

- Modify the IBM-supplied table.
- Create supplementary tables and associate them with device-type LUs or application programs using the MODETAB operands in the statements defining them.

Figure 6 on page 7 shows how logon mode tables are created or modified using MODETAB, MODEENT, and MODEEND macroinstructions. These macroinstructions are described in "Logon Mode Table" on page 77. VM You will find additional information on coding the MODEENT macroinstruction for the VM logmode table in "Customizing the Logon Mode Table" on page 190.

Regardless of the source of the logon or what session parameters are associated with the logon, the application program decides which session parameters are to be used for the session.

Figure 7 on page 8 shows a summary of the algorithm VTAM uses to obtain session parameters.

---

tion program that is currently active. For more information, see *Network Program Products Planning*.

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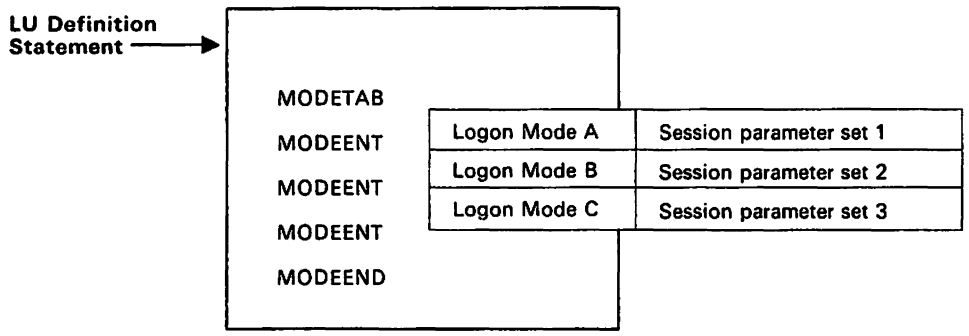

Figure 6. Macroinstructions for the Logon Mode Table

USS Definition Table

To request a session with an application program, a logical unit sends a logon request to VTAM specifying the application program's name and, optionally, a logon mode name and some additional user data.

Some Systems Network Architecture (SNA) terminals send their logons and logoffs as field-formatted SNA Initiate and Terminate requests. Other terminals, however, enter logon and logoff requests as character-coded commands. If you are using terminals that enter logons and logoffs in the form of character-coded commands, you may want to write supplementary USS definition tables and associate them with specific logical units.

If a character-coded command violates syntax rules (as defined in "Character-Coded Command Syntax" on page 94), the USS definition table cannot be used to convert such a command. In this case, an interpret table must be used.

When changing the IBM-supplied USS table or creating replacement or supplementary tables, use the USSTAB, USSCMD, USSPARM, USSMSG, and USSEND macroinstructions. Figure 8 on page 9 shows this process.

The information you need to code your own USS definition tables is in "USS Definition Tables" on page 85.

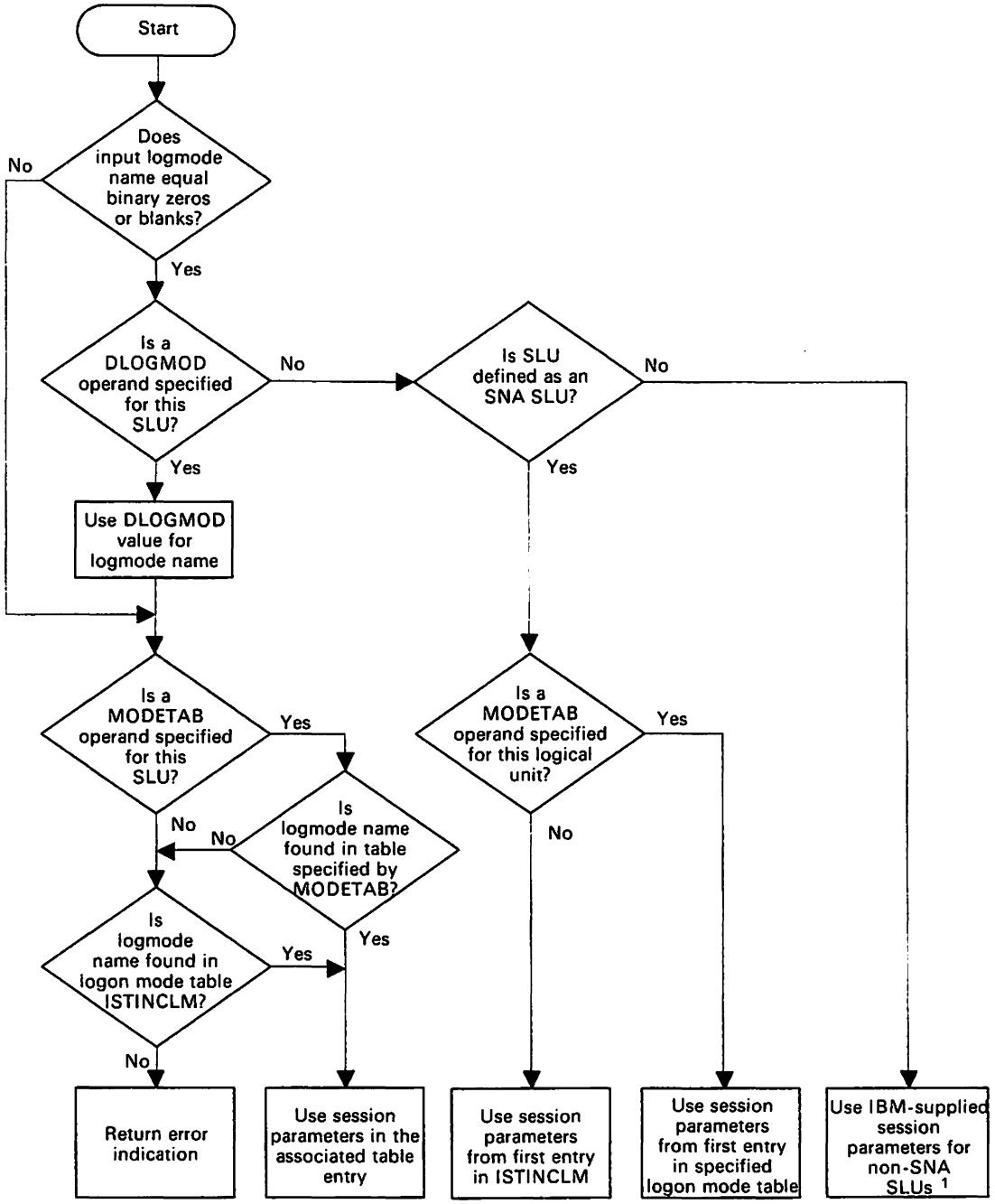

Figure 7. How Session Parameters Are Obtained from the Logon Mode Table

Note 1

The IBM-supplied session parameters for non-SNA SLUs are:

```
MODEENT LOGMODE=NONSNA,FMPROF=X'02',TSPROF=X'02',PRIPROT=X'71',
        SECPROT=X'40',COMPROT=X'2000'
```


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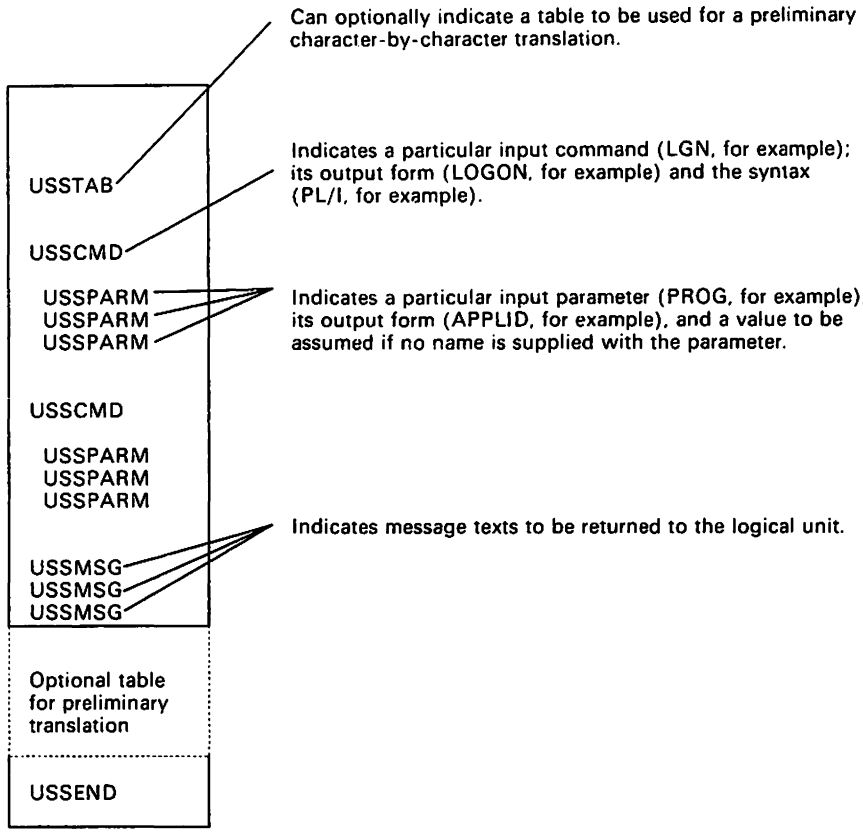

Figure 8. Macroinstructions for the USS Definition Table

USS Table for VTAM Operator Messages and Commands

VTAM uses USS definition tables to define messages and certain operator commands, as described in "Terminal Operator Commands" on page 95 and "Redefining USS Messages" on page 102. You may need to change these messages, for example, to provide non-English text. If you want to change the text or other characteristics of a message, or change the syntax or default values for a command, you can do so by creating a supplementary USS table. This USS table can be created by using USS macroinstructions to redefine the VTAM commands or messages that you want to change. Only the commands and messages that you want to change need to be defined in the supplementary USS table. After assembling and link-editing the macroinstructions to create the table, specify the name of the table on the USSTAB start option.

Any changes to VTAM commands or messages should be made with supplementary USS tables. The IBM-supplied USS tables should not be changed or removed because they might be needed later for problem determination.

Note: Since program operators depend on VTAM messages, changes to the operator messages could disrupt the functioning of a program operator. If you change an operator message, notify the responsible systems programmer. See *NetView Command Lists* for details.

Included with VTAM is a library that contains the set of source macroinstructions that were used to generate the IBM-supplied USS definition tables. If you plan to

make extensive changes in your supplementary table, you may find that the easiest way to generate the table is to copy this source material and make changes to your copy.

Migration of User-Replaceable Tables to a V3R2 Environment

Figure 9 provides useful information for migrating tables used in VTAM prior to V3R2 to a V3R2 environment and using tables assembled with V3R2 macroinstructions in a pre-V3R2 environment.

Comment	USS Table	Interpret Table	Logmode Table	COS Table
Reassemble the table with V3R2 macroinstructions to enable use of MODIFY TABLE command?	YES	YES	NO	NO
If MODIFY TABLE is not used, does the V3R2 table work without reassembly?	YES	YES	YES	YES
Can a pre-V3R2 table that is reassembled with V3R2 macroinstructions be used on a pre-V3R2 system?	YES[1]	YES	YES	YES
Can V3R2 IBM-supplied default table be assembled using pre-V3R2 macroinstructions and work on pre-V3R2 systems?	NO[2]	N/A	YES	N/A

[1]In V3R2, the structure of messages in a USS table changed to support a more efficient search mechanism. The FORMAT keyword, if used, invokes this search mechanism. If the FORMAT keyword is omitted, the less efficient pre-V3R2 search mechanism will be used. The FORMAT keyword will be omitted when a pre-V3R2 USS table is assembled using the V3R2 macroinstructions.

[2]The V3R2 IBM-supplied USS tables have FORMAT=V3R2 coded on the USSTAB statements. If these tables are assembled using pre-V3R2 macroinstructions, the FORMAT keyword will be rejected as unknown.

The two V3R2 IBM-supplied USS tables contain messages and commands supported only by V3R2. Mismatches may occur in the number and length of variable text message fields. Also, some pre-V3R2 messages have been deleted.

Figure 9. User-Replaceable Table Migration

Communication Network Management Routing Table

VTAM refers to a communication network management (CNM) routing table to determine which CNM application program is to receive an unsolicited network-services request unit that requires further processing. An application program can embed its own procedure-related identifier (PRID) in each request sent to VTAM. When a reply to the request is returned, VTAM uses the PRID to route the reply to the application program. Unsolicited RUs are not responses to previous requests; they contain network information, but they have no PRIDs.

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VTAM provides default routing for the IBM CNM application programs used by each operating system. When you authorize one or more user-written application programs to use the CNM interface, you should write a supplementary CNM routing table to allow routing of unsolicited requests to the appropriate user-written application program.

CNM routing tables are discussed in "CNM Routing Table" on page 113.

VTAM Constants Module

VTAM functions that require tuning can be tuned through start options or VTAM operator MODIFY commands. However, some functions do not normally warrant operator modification, because the default values used to control the functions are appropriate in most installations. If you should need to change these default values, you can do so by modifying the appropriate fields in ISTRACON, the constants module.

The following are among the constants in the VTAM constants replaceable module:

- Maximum request unit size
- The frequency with which snapshot dumps are taken for VTAM buffer use (SMS) trace
- The maximum number of SSCPs on a specific path that are searched for the destination SSCP before alternate paths are tried.

You can change these constants by modifying specific fields in the module, using a system service aid, or by replacing the entire module. These constants and others are discussed in "Module for VTAM Constants" on page 116.

VTAM User Exit Routines

The following sections describe user-coded exit routines that control session management, virtual route selection, virtual route pacing window size, TPRINT, session accounting, and session authorization processing.

Session Management Exit Routine

VTAM calls the session management exit routine during session setup so that you can perform the following session-related functions:

- LU-LU session authorization
- LU-LU session accounting
- LU-LU session adjacent SSCP selection
- LU-LU session gateway path selection.

It is also called for session accounting when an LU-LU session terminates.

The session management exit routine makes it possible for you to combine these session-related functions into a single multipurpose session management routine. The session management exit routine is recommended, especially for cross-network sessions. However, it should also be used for single network sessions, where it takes the place of an accounting or authorization exit routine.

You do not have to code the session management exit routine if you do not want it. IBM does not supply a version of the module.

Information for coding this exit routine is in "The Session Management Exit Routine" on page 133.

Virtual Route Selection Exit Routine

VTAM selects virtual routes in the order specified within the COS entry associated with the session. If you do not define a virtual route selection exit routine, VTAM uses an ordered list that was specified in the COS table entry. However, if you provide a virtual route selection exit routine, your routine will receive the ordered list as specified in the COS entry (as a parameter) from VTAM. Your routine can modify the list. VTAM will then use your new list of virtual routes to select a virtual route for the session.

Information on writing the virtual route selection exit routine is in "Virtual Route Selection Exit Routine" on page 163.

Note: The virtual route selection exit routine is called for virtual routes originating in the host only. The virtual route selection exit is not called for independent PLUS or for virtual routes in an NCP.

The Virtual Route Pacing Window Size Calculation Exit Routine

This exit routine is used to specify the bounds for virtual route pacing windows. A virtual route pacing window represents the quantity of path information units (PIUS) that can be transmitted on a virtual route before a virtual route pacing response is received. This response indicates that the virtual route receiver is ready to receive more PIUS on the route. The exit routine is called when a virtual route is activated. It returns the minimum and maximum values for the window of the virtual route.

The IBM-supplied algorithm for window size calculation is designed to work with the route pacing algorithm used in the network. It is appropriate for most installations and configurations. VTAM calculates the minimum and maximum sizes of virtual route pacing windows based on the link protocol and the explicit route length (that is, the number of transmission groups in the explicit route used by the virtual route). While the virtual route is being used to transmit data, adjacent subarea nodes on the route automatically adjust the window sizes within the minimum and maximum limits according to traffic conditions along the route.

However, after tuning VTAM and analyzing traffic patterns and resource capabilities, you may want to choose your own bounds or code a replacement routine that will set the window sizes to different values than the ones supplied by IBM. This exit routine is appropriate for systems where the number of resources could vary considerably from one day to the next. For example, you may find one or more resources whose capacities are not consistently used. This may warrant increasing the window sizes. Decreasing the window sizes is less likely to be useful, since network flow control protocols are designed to prevent congestion, and setting window sizes too small could reduce traffic flow considerably.

If you use the Information Management System (IMS), you may want to code a replacement virtual route pacing window size calculation exit routine to reduce the number of virtual route pacing responses that VTAM processes for every IMS transaction. See "MVS Using the VR Window Size Calculation Exit Routine for IMS" on page 171.

For more information on coding this exit routine, see "The VR Pacing Window Size Calculation Exit Routine" on page 169.

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You may also specify default minimum and maximum window sizes on the VRPWS*nn* operand of the PATH definition statement when defining a virtual route. This is the simplest way to choose the default and is sufficient for most needs. If you do not specify VRPWS*nn*, VTAM uses the default algorithm described above.

VSE TPRINT Processing Exit Routine

You can write an exit routine to be invoked whenever the trace print utility (TPRINT) has selected a record to be formatted. This routine could be used for the following:

- Formatting trace records (other than the formatting provided by TPRINT).
- Discarding unnecessary trace records.
- Discarding unnecessary information in trace records.
- Performing data analysis or problem determination. You could analyze application program data flows as a whole or on particular sessions; time stamping of TRFILE records provides a resolution of 1/1000 second.

There is no restriction on I/O functions you might want to perform in this exit routine. You could, for example, communicate with the system operator (SYSLOG) to obtain processing options. Or you might open a VTAM ACB and communicate with a terminal user for entry of options and printing of formatted trace data. See "VSE TPRINT Processing Exit Routine" on page 172 for more information on the TPRINT exit routine.

Note: The TPRINT exit routine can operate as a subtask of VTAM or as part of TPRINT when TPRINT is operating as a separate job step. When it is a subtask of VTAM, it can degrade VTAM performance if it requires lengthy processing time caused, for example, by excessive looping. This potential problem can be reduced by executing TPRINT as a separate job in a lower-priority partition.

Session Accounting Exit Routine

It is recommended that you code a session management exit routine to collect accounting information rather than code an accounting exit routine. A session management exit routine allows you to combine session-related functions in one exit routine.

You can write a session accounting exit routine to collect statistics on the number of times that sessions start and end, so that the users of application programs and terminals can be charged accordingly. The session accounting exit routine is called in same-domain, cross-domain, and cross-network sessions, when applicable. VTAM passes to the routine the name of the application program, the name of the terminal, and the reason the routine was called. The routine can record the time the session is established, and, later, the time it is terminated. The difference between these times is the session time for the terminal and the application program. To reduce the effect on VTAM's performance, any analysis of the information collected should be done later by another program.

For cross-domain sessions, the accounting routine is scheduled in the domains in which each of the session partners resides. It will be scheduled when a session is established or terminated. The same is true for cross-network sessions. The accounting routine will not be scheduled in intermediate domains on cross-network sessions.

You do not have to code an accounting exit routine. If you do not code an exit routine that handles session accounting, VTAM discards accounting information.

Information on coding the session accounting exit routine is in "The Session Accounting Exit Routine" on page 175.

Session Authorization Exit Routine

It is recommended that you code a session management exit routine to authorize sessions rather than an authorization exit routine. A session management exit routine allows you to combine session-related functions in one exit routine.

You can write an authorization exit routine to check or restrict the use of a logical unit. VTAM passes to it a parameter list containing the type of session-establishment request to be authorized and the names of the logical units that are to be in session. VTAM calls the session authorization exit routine whenever it receives a request to establish a session with a logical unit in its domain. For example, it may be called as the result of a logon from a terminal, an automatic logon, or a VTAM operator logon. It will be called for each session with a controlling application (an application to which a terminal is logged on automatically).

For cross-domain and cross-network sessions, the authorization routine is scheduled in the domains in which each of the session partners resides. It will be scheduled when a session is in the process of being established. The session authorization routine will not be scheduled in intermediate domains on cross-network sessions.

You do not have to code a session authorization exit routine. If you do not code an exit routine that handles session authorization, VTAM authorizes all sessions.

Information on coding the authorization exit routine is in "The Session Authorization Exit Routine" on page 177.

Customizing VM SNA Console Support

Several additional considerations apply when customizing VM SNA console support (VSCS). These considerations are described below and more fully in Appendix A, "Customizing VM SNA Console Support" on page 185.

VSCS Data Manipulation Exit Routines

The data manipulation exit routines allow you to provide customization of input and output data streams. You can code these routines for:

- Keyboard/printers and TWX devices
- Display devices.

VTAM supplies skeleton data manipulation exit routines that perform no function. If you want these functions, you must replace the IBM-supplied exit routines with your own. See "The VSCS Data Manipulation Exit Routines" on page 185 for more information.

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VSCS Accounting Record Format

VSCS presents accounting information to VM when a user logs off or disconnects. This data is recorded in a punch or spool file for user processing. Accounting data may assist in performance tuning with information to calculate the average buffer sizes for VSCS send and receive operations. The user is responsible for processing the data.

"Accounting Record Format for VSCS" on page 189 shows the format of the portion of the accounting record that VSCS sends to VM for user processing.

Customizing the Logon Mode Table

To provide support for devices not supported by the IBM-supplied logon mode tables for VM and VSCS, you must customize these tables. In particular, you may have to code the MODEENT macroinstruction for SNA and non-SNA 3270 devices, as well as SNA LU type 1 devices (such as the IBM 3767 and 3770). You may also need additional information to code the PSERVIC operand of this macroinstruction.

See "Customizing the Logon Mode Table" on page 190 for more information.

MVS Customizing TSO/VTAM

See Appendix B, "MVS User Exit Routines for TSO/VTAM" on page 195, for information on exit routines needed in TSO/VTAM to provide the following functions:

- Input and output editing that replaces or supplements IBM-supplied editing
- Attention handling that replaces IBM-supplied attention handling
- Support for terminals not supported by TSO/VTAM.

VM Considerations

Appendix C, "Tuning and Link-Editing in a VM System" on page 203, provides information about VTAM needed for two important tasks:

- Tuning a VM/SP or VM/SP HPO system running VTAM

  This section has information on several operands of the VM SET command, such as PRIORITY, FAVORED, and QDROP, as well as a discussion of DIAG98, IUCV resident modules, and XEDIT performance.

- Link-editing VTAM tables and modules

  This section specifies VTAM information needed to use VMFLKED to link-edit tables and modules you have customized, such as the logon mode table or USS table.

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Chapter 2. Tuning VTAM

Tuning is the process of balancing the network load among resources in order to eliminate congestion in any one resource.

Basic Tuning Objectives

The basic objectives of tuning are:

- To use storage in the host and network controller more efficiently
- To lessen the load imposed on the host processor.

To use storage more efficiently, you can:

- Avoid allocating too many VTAM buffers in the host
- Choose a more appropriate buffer size in the network controller.

To lessen the load on the host processor, you can:

- Change NCP parameters to reduce the number of attention interrupts sent to the host
- Adjust buffer pool parameters to avoid excessive expansion and contraction that place an extra burden on the host CPU.

You may also improve efficiency by moving data out of the communication controller faster.

These approaches to tuning VTAM are discussed in this chapter.

Using Tuning Statistics

This section discusses how VTAM tuning statistics can be used to gather information on the data transfer between the host and an SNA controller (cluster controller or communication controller), and how that information can be used to adjust operands in NCP and VTAM definition statements to use your system more efficiently. You can also gather information on data transfer between VTAM and a host attached through a channel-to-channel adapter to help you improve the efficiency of your system.[2] To understand the meaning of the tuning statistics provided by VTAM, you should first know something about how VTAM reads and writes data.

How VTAM Reads and Writes Data

VTAM uses channel programs to send data to SNA controllers and to other hosts. The amount of data that VTAM can read in one operation depends on the number of buffers used by a read channel program and on the size of each buffer. How VTAM uses channel programs is explained in sections that follow.

[2] Note that tuning statistics are not gathered for communication adapter lines.

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SNA Controllers

VTAM can read data from an SNA controller in two ways:

1. As an immediate sequel to a write operation performed by VTAM

   Each channel program used by VTAM to send data to an SNA controller consists of a write channel program followed by a read channel program. If, when VTAM finishes a write operation, the controller has data ready to send to VTAM, VTAM immediately begins to read that data. The SNA controller does not have to send an attention interrupt to VTAM to prompt it to read the data.

2. As a separate operation initiated by an attention interrupt from an SNA controller

   If an SNA controller has data to send to VTAM, and VTAM has not attempted to write or read during a specified time interval, or if a controller has reached a predefined buffer limit, the controller sends an attention interrupt to VTAM requesting that it start a read operation. If the attention is sent by a communication controller and VTAM is able to accept the data queued at the controller, it starts a read channel program to satisfy the request.

   If the attention is sent by a cluster controller, VTAM starts a read channel program to read the data. The cluster controller then sends a read attention to VTAM. VTAM responds to the read attention by issuing another read. This read tells the cluster controller that it can clear its buffers.

The first method of reading data from SNA controllers requires fewer attention interrupts and instructions than the second.

Channel-to-Channel Adapters

Data is transferred over a channel-to-channel adapter either by a single write followed by a single read (on the "x" side of the adapter) or by a single read followed by a single write (on the "y" side of the adapter). VTAM determines which side will be the "x" side and which will be the "y" side during the initial XID exchange. During XID exchange, each host informs the other host of the size of its channel-to-channel read buffer. Each host then sets the size of its channel-to-channel write buffer equal to the other host's channel-to-channel read buffer.

Specifying Tuning Statistics

VTAM provides a set of online tuning statistics that are valuable aids for finding congestion in both VTAM and the NCP. They primarily show performance on the channel interface between the host and the communication controller. Among the items that you can regulate are:

- How often tuning statistics records are written
- Whether the information is displayed at the operator's console in addition to being written to a file.

In order to get these tuning statistics, include the TNSTAT start option in your start option list (NOTNSTAT is the default). If you want the statistics displayed at the operator's console, specify TNSTAT.CNSL. Statistics will always be recorded on the appropriate tuning statistics file. These are:

MVS A system management facility (SMF) data set
VSE A trace file
VM FILE TUNSTATS A.

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Notes:

1. VM An alternative file may be used by defining it to the TUNSTATS *ddname* with the FILEDEF command before VTAM is started. If you specify the DISP MOD option on the FILEDEF command, the statistics will be appended to the end of the file, if the file already exists. If you do not specify DISP MOD, the old file will be erased and only new statistics will appear in the file.
2. VM You can print this file using the TUNING EXEC. This exec will prompt you for the name of the file containing the tuning statistics. The default is FILE TUNSTATS.

   You can also print this file in hexadecimal format by using the command PRINT *file* TUNSTATS A (HEX where *file* is the default name FILE or the user-designated alternative file name.

You can later change the TNSTAT specification while VTAM is running by using the MODIFY TNSTAT command. See *VTAM Operation* for information on this command.

Analyzing Tuning Statistics Output

Each tuning statistics record contains information about the state of data-transfer operations between VTAM and one channel-attached SNA controller (communication or cluster controller) or between two VTAMs (using channel-to-channel adapters). Each record contains statistics that cover the time period since the last tuning statistics record was written for that controller or channel-to-channel connection.

SNA Controllers

The following is an example of a tuning statistics report for an SNA controller that could appear at the VTAM operator's console. This report is the same for all operating systems.

```
IST440I    TIME = 07431380     DATE = 87190          ID = 0D0-L
IST441I  DLRMAX = 1            CHWR = 178          CHRD = 135
IST442I    ATTN = 31          RDATN = 0            IPIU = 196
IST443I    OPIU = 180         RDBUF = 196         SLODN = 0
IST314I END
```

Statistics displayed on the console are in the format shown above. If statistics are produced, they are always written to the appropriate tuning statistics file in the following format:

Offset	Length	Format	Description
0	2	binary	Record length
2	3	binary	Reserved
5	1	binary	Record type
6	4	binary	Time record moved to buffer
10	4	packed	Date: 00YYDDDF
14	4	EBCDIC	System identification

Figure 10 (Part 1 of 2). Record Format for SNA Controller Tuning Statistics

Offset	Length	Format	Description
18	8	EBCDIC	Controller name
26	4	binary	Dump load restart requests (DLRMAX)
30	4	binary	Write channel program count (CHWR)
34	4	binary	Read channel program count (CHRD)
38	4	binary	Total attentions received (ATTN)
42	4	binary	Attentions on ends of reads (RDATN)
46	4	binary	Number of PIUS inbound (IPIU)
50	4	binary	Number of PIUS outbound (OPIU)
54	4	binary	Total read buffers used (RDBUF)
58	4	binary	Number of slowdowns (SLODN)

Figure 10 (Part 2 of 2). Record Format for SNA Controller Tuning Statistics

A description of the statistics gathered follows.

TIME
indicates the time (in hours, minutes, seconds, and hundredths of seconds) at which the record was recorded. In the previous example, 07431380 means that the record was recorded at the 7th hour, 43rd minute, 13th second, and 80 one-hundredths of a second of the day.

DATE
is the date on which the tuning statistics report was recorded. The date is in the form *yyddd*, where *yy* is the last two digits of the numeric year and *ddd* is the numeric day of the year. In the example, 87190 means the record was recorded on the 190th day of 1987.

ID
is the name of the user-defined channel-attached SNA cluster controller or the name of the channel link that attaches the communication controller for which the statistics were gathered. For a VTAM-generated channel link name, this field contains the channel unit address followed by "-L."

VM This ID is 0.

DLRMAX
a decimal value that indicates the maximum number of dump-load-restart requests that were awaiting processing or were being processed at one time during the interval. This number refers to the entire domain, not to the SNA controller named in the report. The dump-load-restart subtask processes these types of requests:

- Dumping, loading, or restarting an NCP
- Some VTAM messages to the operator that require a reply
- Session-establishment and termination processing for a local major node
- MVS Any I/O to a configuration restart or NODELST file.

MVS VM This value can be used to determine the proper setting for the DLRTCB start option, which determines how many dump-load-restart requests can be processed concurrently. If DLRMAX consistently exceeds DLRTCB, it indicates

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that VTAM is serializing requests on the available TCBs and performance might be affected.

CHWR
indicates the total number of write channel programs issued during the interval covered by this record.

CHRD
indicates the total number of read channel programs issued to read data. It does not include the read that informs the cluster controller to clear its buffers. See "How VTAM Reads and Writes Data" on page 19.

ATTN
indicates the total number of attentions received from a controller, including the total number of read attentions (RDATN).

RDATN
indicates the total number of times that the attention was included in the ending status on a read channel program (that is, the number of times that VTAM, after reading data, was requested with an attention to read more data).

IPIU
indicates the total number of inbound (to VTAM) PIUs received from this controller.

OPIU
indicates the total number of outbound (from VTAM) PIUs sent to this controller.

RDBUF
indicates the total number of VTAM buffers used for read operations.

SLODN
indicates the total number of times the controller went into slowdown mode.

Channel-to-Channel Adapters

The following is an example of a tuning statistics report for two VTAMs connected by a channel-to-channel attachment. This report is the same for all operating systems.

```
IST577I    TIME  = 07431377     DATE = 87190      CTCA = LES
IST578I   CHNRM  = 166         CHMAX = 0        RDBUF = 258
IST579I    ATTN  = 155        TIMERS = 0        QDPTH = 94
IST580I  BUFCAP  = 0             PRI = 72
IST581I    IPIU  = 165           OPIU = 172
IST314I  END
```

Figure 11 shows the format of the record written to the appropriate tuning statistics file.

Offset	Length	Format	Description
0	2	binary	Record length
2	3	binary	Reserved
5	1	binary	Record type

Figure 11 (Part 1 of 2). Record Format for Channel-to-Channel Adapters

Offset	Length	Format	Description
6	4	binary	Time record moved to buffer
10	4	packed	Date: 00YYDDDF
14	4	EBCDIC	System identification
18	8	EBCDIC	CTCA name (CTCA)
26	4	binary	Reserved
30	4	binary	Normal-sized channel program count (CHNRM)
34	4	binary	Large-sized channel program count (CHMAX)
38	4	binary	Total attentions received (ATTN)
42	4	binary	Reserved
46	4	binary	Number of PIUs inbound (IPIU)
50	4	binary	Number of PIUs outbound (OPIU)
54	4	binary	Total read buffers used (RDBUF)
58	4	binary	Reserved
62	1	binary	CTCA extension length (including this field)
63	1	binary	CTCA attachment type
64	2	EBCDIC	CTCA version
66	4	binary	Channel program starts due to timer trigger (TIMERS)
70	4	binary	Channel program starts due to queue depth limit trigger (QDPTH)
74	4	binary	Channel program starts due to destination capacity limit trigger (BUFCAP)
78	4	binary	Channel program starts due to high priority request trigger (PRI)

Figure 11 (Part 2 of 2). Record Format for Channel-to-Channel Adapters

A description of the statistics gathered follows.

TIME, DATE
are the same as described previously for tuning with a controller.

CTCA
provides the name of the link through which the tuning statistics are taken. It corresponds to the name of the LINE statement in the associated channel-attachment major node.

CHNRM
is the number of channel programs issued.

CHMAX
is zero (unless running in migration mode) since all channel programs are the same size.

See *NCP Migration Guide* if a nonzero value appears in the field.

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ATTN
is the number of times a channel program was initiated because the other host had data to send. This number has no real relationship to any other statistic.

Note: When compared over an interval of time, ATTN usually will not equal the sum of TIMERS, QDPTH, BUFCAP, and PRI at the other host. VTAM counts only the first event that initiates an I/O operation, and when both hosts try to write at once, one of the hosts will get an attention that is not counted in its tuning statistics.

IPIU
is the number of inbound PIUs. The average number of PIUs per channel program can be calculated as IPIU / (CHNRM + CHMAX).

OPIU
is the number of outbound PIUs. The average number of output PIUs per write program can be calculated as OPIU / (TIMERS + QDPTH + BUFCAP + PRI).

RDBUF
is the total number of buffers transferred during the measurement period.

TIMERS
is the number of times a channel program was started because the period specified for queuing channel-to-channel PIUs expired. The desirable value is zero; an occasional nonzero is acceptable. You can decrease the value of TIMERS by setting the DELAY parameter on the LINE definition statement to zero or by using transmission priority 2.

QDPTH
is the number of times a channel program was initiated because the queue limit has been reached. This number should be higher than TIMERS.

BUFCAP
is the number of times a channel program was initiated because there was enough data to fill the read buffers of the host on the other end of the channel. If this event never happens (that is, BUFCAP is always zero), the other host has too many read buffers. For pre-V3R2 VTAM, this parameter is related to CHMAX in tuning statistics for the other host, as well as to the normal and maximum number of buffers for the other host.

PRI
is the number of times a channel program was started because a high priority PIU was on the outbound channel queue; that is, the PIU was running under transmission priority 2 or was a virtual route pacing response. If this number is high and there is very little transmission priority 2 traffic over this channel, then the minimum virtual route window sizes are probably too small. The higher this number is in relation to the sum of TIMERS + QDPTH + BUFCAP, the less outbound coattailing occurs and the more CPU time is used per PIU.

Analyzing Tuning Statistics for SNA Controllers

A single set of VTAM tuning statistics may be enough to indicate how a network is operating. However, these statistics become more valuable as you compare sets of values over time to see trends or the effects caused by changing buffer pool specifications and parameters. You should analyze tuning statistics before and after making any change that may affect system performance.

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Analyzing Host Processor Use

When analyzing tuning statistics, first compare the number of attentions with channel reads. If the number of attentions is the same as the number of channel reads, each read is the result of the NCP sending the host a stand-alone attention. In terms of CPU utilization, this is the worst case possible. Conversely, if the number of attentions is small in relation to the number of channel reads, the impact on the host is much less.

Analyzing I/O Buffer Size

If RDBUF is very much larger than IPIU, the value specified for the I/O buffer size might be too small. However, to be sure of this, you must know the system you are analyzing. Many systems receive the bulk of their inbound data in very short messages and respond with longer outbound messages. For details on choosing an appropriate value for the I/O buffer size, see "Choosing UNITSZ and MAXBFRU" on page 43.

Analyzing Slowdown

Slowdown in the NCP means that there are not enough buffers in the NCP to keep up with the amount of data being transferred. If your NCP never experiences a slowdown, it is probably underutilized. But increasing use of the resource could cause a slowdown that could be disastrous.

A large banking system with many teller stations is an example of this type of system. If the system goes into NCP slowdown while long lines of customers are waiting to be serviced, it is difficult for the system to return to normal operation. Retail systems can experience the same problem. In both cases, customers must wait for the slowdown condition to clear up. As the lines grow longer, the conditions that caused the slowdown become worse.

To alleviate the slowdown condition, you can take one or more of the following steps:

- Select a buffer size that makes more efficient use of NCP buffers.
- Install more memory in the communication controller.
- Transfer inbound data to the CPU more quickly by decreasing DELAY.
- Transfer outbound data to the network more quickly by increasing line speed.

  Note: Many systems have much more outbound data than inbound. Therefore, increasing line speed may cause more data to be transferred out of the NCP through the line. This would reduce buffer use.

- If the NCP slowdown can be attributed to any given session or sessions, session pacing may be used to slow down the sessions causing the congestion.

In addition, the NCP clears slowdown conditions by accepting outbound data from the CPU more slowly and by accepting data from the network more slowly. It stops polling and requests the host to stop writing data. Slowdowns are reduced in the following manner: a device is not polled if a PIU read will put the NCP in a slowdown condition. The value specified for MAXDATA may control the speed with which data is placed on intermediate routing node (IRN) links.

The following steps may be taken to alleviate slowdown for local SNA controllers:

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- Increase the value of MAXBRFU. This allows the controller to send more data on every read channel program.
- Specify lower pacing values for primary-to-secondary pacing. This limits the number of PIUs that are sent to the controller by VTAM.

Analyzing Data Transfer

To analyze data transfer, multiply MAXBFRU by CHRD (the number of channel reads). MAXBFRU is specified on the GROUP, HOST, LINE, or PU definition statement. The product should be close to the value of RDBUF (the number of read buffers). Otherwise, data is not being transferred for all the channel command words (CCWs) in the read channel program. Reducing the value of MAXBFRU should solve this problem. However, the value of MAXBFRU times UNITSZ must be at least as large as the largest PIU received. See "Choosing UNITSZ and MAXBFRU" on page 43 for more details.

Analyzing VTAM's Blocking of Outbound PIUs

To determine the average number of PIUs per write operation, divide the outbound PIU (OPIU) count by the number of channel writes (CHWR). This average number of PIUs indicates the effectiveness of the VTAM blocking algorithm. Increasing DELAY may also increase outbound coattailing. For more information, see "How UNITSZ, MAXBFRU, and DELAY Affect Coattailing" on page 41.

Analyzing Read Attentions for Communication Controllers

RDATN is the number of times that VTAM, after reading data, was requested by an attention to read more data. This happens when one of the following occurs:

- The read channel program CCW string is not long enough to contain all of the data sent.
- Enough additional data comes into the communication controller during the read operation to cause it to request VTAM to do another read.

Although this coattailing of PIUs is preferable to stand-alone attentions, a large RDATN value is not desirable.

To increase the size of the CCW string, increase the MAXBFRU value.

For background information on analyzing RDATN, see "How VTAM Reads and Writes Data" on page 19.

Setting VTAM Buffer Pool Specifications

VTAM uses buffer pools to control the buffering of data. It dynamically allocates and deallocates space in these buffer pools for the VTAM control blocks, I/O buffers, and channel programs that control the transmission of data. Tuning buffer pools affects both host processor time and storage. Specifying large buffer pools may waste storage, but it will not require frequent CPU use for expansion. Specifying small pools conserves storage but uses the CPU for frequent expansion and contraction. With proper tuning, you can achieve a balance between storage use and performance that is suitable for your system. See Figure 12 on page 28, Figure 13 on page 30, and Figure 14 on page 31 for a list of the buffer pools and their associated control blocks for MVS, VM, and VSE, respectively. You can find the default values for the VTAM buffer pools in *VTAM Installation and Resource Definition*. For more information on each control block, see *VTAM Data Areas*.

The next section discusses the start-option parameters used to specify a buffer pool. Following this is a discussion of how different values given to these parameters affect VTAM storage and performance.

Buffer Pool	Use	Assoc'd Control Blocks	Default Storage Type	Recommendations and Requirements
APBUF	• Used to provide fixed common storage addressable with a 24-bit address. • Used to build data control block (DCB) and interface area for session serialization descriptor (ISS).	DCB, ISS	Fixed	IBM-supplied values are appropriate for most systems.
CRPLBUF	• Used to build copied request parameter list (CRPL). • One buffer is required for each VTAM application request awaiting a response.	CRPL	Pageable	Set *xpanno* between 30 and 60 for 2-page expansion if expanding/contracting during steady state.
IOBUF	• Used for input/output data. • Every PIU that enters or leaves VTAM resides in an I/O buffer. • Add 55 bytes to UNITSZ when estimating storage requirements.	TSCB	Fixed	• Ensure that the largest MAXBFRU value is less than *xpanpt* minus *slowpt*. • *bufsize* should be greater than or equal to UNITSZ in the NCP.
LFBUF	• Used to contain the LUCB. • One buffer is required for LUCB for each active application with an EAS value less than 30.	LUCB	Fixed	• *slowpt* should be 2 or greater. • *xpanno* should be set in the range 1–3. • *xpanpt* should be 4 or greater.
LPBUF	Used for scheduling and audit trail (error recovery). • One buffer is required for a CRA for each VTAM process.	CRA, NCSPL	Pageable	• Set *baseno* to 9. • Set *xpanno* from 4 to 6 to force 2-page expansion.
SFBUF	• Used to contain LU blocks.	LUCB	Fixed	IBM-supplied values are appropriate for most systems.

Figure 12 (Part 1 of 2). MVS VTAM Buffer Pools

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Buffer Pool	Use	Assoc'd Control Blocks	Default Storage Type	Recommendations and Requirements
SPBUF	• Used for large message (LMPEO) requests. • One buffer is required per LMPEO send request. • One buffer is required for each active application with an EAS value greater than or equal to 30.	LMPCB	Pageable	Set *xpanno* in the range 1 – 36.
WPBUF	• Used as working set device characteristics pool. • One buffer is required for each application program-LU session.	FMCB	Pageable	IBM-supplied values are appropriate for most systems.

Figure 12 (Part 2 of 2). MVS VTAM Buffer Pools

Buffer Pool	Use	Assoc'd Control Blocks	Default Storage Type	Recommendations and Requirements
APBUF	• Used to provide fixed common storage addressable with a 24-bit address. • Used to build interface area for session serialization descriptor (ISS).	ISS	Fixed	IBM-supplied values are appropriate for most systems.
CRPLBUF	• Used to build copied request parameter list (CRPL). • One buffer is required for each VTAM application request awaiting a response.	CRPL	Pageable	Set *xpanno* between 32 and 62 for 2-page expansion if expanding/contracting during steady state.
IOBUF	• Used for input/output data. • Every PIU that enters or leaves VTAM resides in an I/O buffer. • Add 55 bytes to UNITSZ when estimating storage requirements.	TSCB	Fixed	• Ensure that the largest MAXBFRU value is less than *xpanpt* minus *slowpt*. • *bufsize* should be greater than or equal to UNITSZ in the NCP.
LFBUF	Storage allocated when VTAM is started, but is not used.		Fixed	• Set *baseno* to 1.
LPBUF	Used for scheduling and audit trail (error recovery). • One buffer is required for a CRA for each VTAM process.	CRA, NCSPL	Pageable	Set *xpanno* from 5 to 8 to force 2-page expansion.
SFBUF	• Used to contain LU blocks. • One buffer is required for each active application with an EAS value greater than or equal to 30.	LUCB	Fixed	Set *baseno* to 51.
SPBUF	• Used for requests. • One buffer is required per LMPEO send request.	LMPCB	Pageable	Set *xpanno* in the range 1 – 34.
WPBUF	• Used as working set device characteristics pool. • One buffer is required for each application program-LU session.	FMCB	Pageable	Set *baseno* to 24.

Figure 13. VM VTAM Buffer Pools

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Buffer Pool	Use	Assoc'd Control Blocks	Default Storage Type	Recommendations and Requirements
APBUF	• Used to provide fixed common storage addressable with a 24-bit address. • Used to build Interface Area for Session Serialization Descriptor (ISS).	ISS	Fixed	IBM-supplied values are appropriate for most systems.
LFBUF	• Used for input/output data. • Every PIU that enters or leaves VTAM resides in an I/O buffer. • Add 78 bytes to UNITSZ when estimating storage requirements.	TSCB	Fixed	• Ensure that the largest MAXBFRU value is less than *xpanpt* minus *slowpt*. • *bufsize* should be greater than or equal to UNITSZ in the NCP.
LPBUF	Used for scheduling and audit trail (error recovery). • One buffer is required for a CRA for each VTAM process.	CRA	Pageable	With 2K pages: • Set *baseno* to 3 • Set *xpanno* to 2 With 4K pages: • Set *xpanno* from 4 to 6 to force 2-page expansion.
SFBUF	• Used to contain LU blocks. • One buffer is required for each active application.	LUCB, NCSPL	Fixed	With 2K pages: • Set *baseno* to 5. With 4K pages: • Use the IBM defaults.
SPBUF	• One buffer is required per LMPEO send request.	LMPCB	Pageable	Use the IBM defaults.
VFBUF	Used for all other VTAM fixed control blocks.		Fixed	Refer to *Network Program Products Storage Estimates* for information on storage requirements.
VPBUF	Used for all other VTAM pageable control blocks.		Fixed	Refer to *Network Program Products Storage Estimates* for information on storage requirements.
WPBUF	• Used as working set device characteristics pool. • One buffer is required for each application program-LU session.	FMCB	Pageable	With 2K pages: • Set *baseno* to 10. With 4K pages: • Set *baseno* to 20.

Figure 14. VSE VTAM Buffer Pools

Types of Buffer Pool Allocation

VTAM provides two types of buffer pool storage allocations. One type, basic allocation, is made for each buffer pool when VTAM is started. The other type, dynamic allocation, is a process by which VTAM temporarily increases the size of a buffer pool when there are heavy demands for space in that pool. Dynamic allocation, which is the default, is strongly recommended. It allows the system programmer to reduce the amount of storage that must be permanently allocated for VTAM buffer pools. It also enables the system programmer to provide for temporary peak demands or for unexpectedly high demands for buffers, a feature that is useful when initializing a system.

Basic Allocation

The basic allocation is the amount of space reserved for the buffer pool when VTAM is started. This basic allocation is specified by the *baseno*, *bufsize*, *slowpt*, and F start-option parameters. The meanings of these parameters are as follows:

baseno
is the initial number of buffers to be provided in the buffer pool. After VTAM is started, the pool always contains at least this number of buffers.

If you do not plan to use dynamic buffering, specify the *baseno* parameter so that VTAM allocates a buffer pool large enough to meet the maximum demand for buffers. If dynamic buffering is not used and *baseno* is not specified large enough, serious problems may occur.

bufsize
is the size in bytes of each buffer in the buffer pool. It can be specified only for

MVS VM IOBUF
VSE LFBUF

and should always be specified in an even number of bytes.

slowpt
is the point at which the buffer pool is to enter slowdown processing. The pool enters slowdown processing whenever the number of buffers currently not in use in the pool is less than or equal to *slowpt*.

When the number of buffers remaining available in a pool is equal to or less than the slowdown point (*slowpt*), the pool enters slowdown processing. During slowdown processing, buffers are allocated only for priority requests.[3] Nonpriority requests are not honored if doing so would cause the pool to enter slowdown processing. Nonpriority requests are queued, if possible, or are rejected with a return code. Slowdown processing ends as soon as the number of available buffers becomes greater than *slowpt*.

To avoid having a buffer pool enter slowdown processing, increase the *xpanpt* value.

F MVS VM
MVS indicates that a buffer pool that is normally in pageable storage is to be put in fixed storage.

VM This operand is used to lock the virtual storage pages of the buffer pool in CP storage.

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[3] Priority requests are those requests for storage that must be satisfied to prevent system deadlock.

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These parameters establish the base size and the characteristics of the buffer pool. Figure 15 on page 33 shows the structure of a VTAM buffer pool after basic allocation.

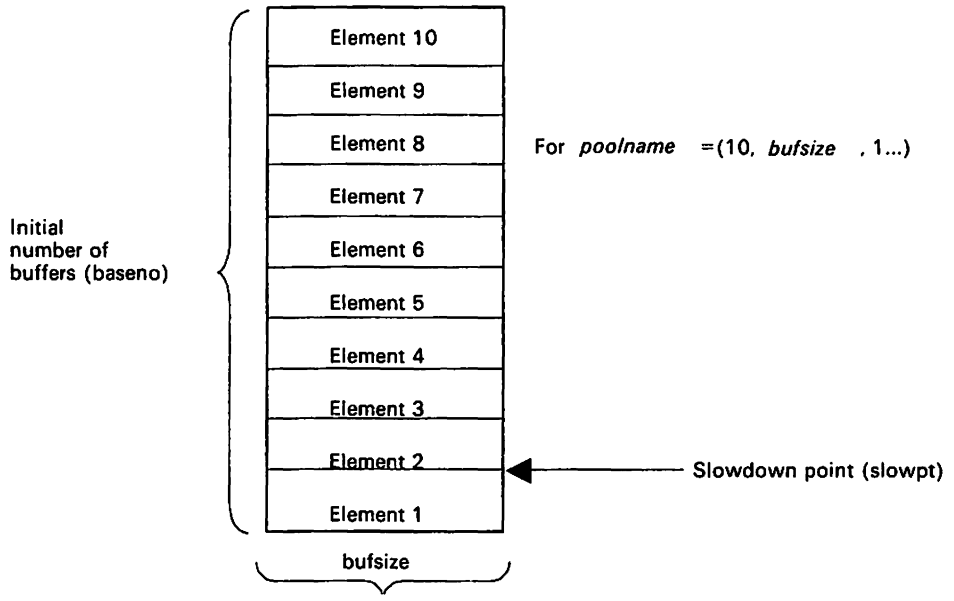

Figure 15. A Buffer Pool with No Expansion Parameter Specified

Values for the basic allocation for each buffer pool must be available to VTAM when it is started. If the user fails to specify a start-option parameter for a buffer pool, VTAM uses an IBM-supplied value for the missing parameter. The IBM-supplied values are not necessarily the most efficient values for your system, nor are they necessarily compatible with any dynamic allocation specifications you might make.

Dynamic Expansion

Dynamic expansion allows a buffer pool to be expanded temporarily during periods of heavy demand. Its use can greatly increase the efficiency with which VTAM uses storage, particularly for I/O buffers. Figure 16 on page 35 graphically illustrates the possible advantages of using dynamic expansion.

Dynamic expansion of buffer pools has been enhanced with the addition of an expansion limit buffer pool start option, *xpanlim*. The buffer pool start options now available are:

```
poolname=(baseno,bufsize,slowpt,F,xpanno,xpanpt,xpanlim)
```

Dynamic expansion allows a buffer pool to be expanded temporarily during periods of heavy demand. Its use can greatly increase the efficiency with which VTAM uses storage, particularly for I/O buffers.

Without dynamic expansion of a pool, basic allocation parameters would have to be specified large enough to meet the greatest possible demands on the pool. With dynamic expansion, smaller basic allocation values can be specified, and peak demands on the pool can be met with dynamic expansion.

Purpose of Dynamic Expansion: Without dynamic expansion of a pool, basic allocation parameters would have to be specified large enough to meet the greatest possible demands on the pool. With dynamic expansion, smaller basic allocation values can be specified, and peak demands on the pool can be met with dynamic expansion. Dynamic expansion is strongly recommended for most buffer pools, because the peak demand can vary considerably from the normal demand. However, you should not specify dynamic expansion for WPBUF. WPBUF should be preallocated (one per session) if you expect a large number of sessions to come up at once.

Three additional buffer pool parameters are provided to enable you to specify dynamic expansion. The parameters and their meanings are:

xpanlim
is the maximum allowed size for this buffer pool. This operand can be specified only for the fixed-storage message pools (IOBUF in MVS and VM, and LFBUF in VSE). The value is specified in units of 1024 bytes. The value must be between 0 and 2,097,152 for MVS/XA, and between 0 and 16,384 for all other operating systems. If you code 0, or if you do not specify an *xpanlim*, buffer expansion is not limited.

To set *xpanlim*, issue DISPLAY BFRUSE, find the peak usage, and set the limit just above that peak. For example, in Figure 16 on page 35 you might set your expansion limit at 395 or 400 buffers, times the number of bytes in each buffer (*bufsize*).

xpanno
is the number of buffers (in decimal) to be added to the buffer pool whenever dynamic allocation is needed. If *xpanno* is specified as 0, no expansion occurs. If *xpanno* is either not specified or specified as greater than 0, expansion occurs. Whenever the buffer pool is to be expanded, VTAM acquires the smallest number of whole pages of storage that are sufficient to provide the number of buffers specified by *xpanno*. For example, if 5 buffers will fit on one page of storage, and if *xpanno* is specified as 6, VTAM acquires two pages of storage whenever the buffer pool must be expanded, and expands the pool by 10 buffers. (Figure 19 on page 40 shows the number of buffers per page for each of the pools.)

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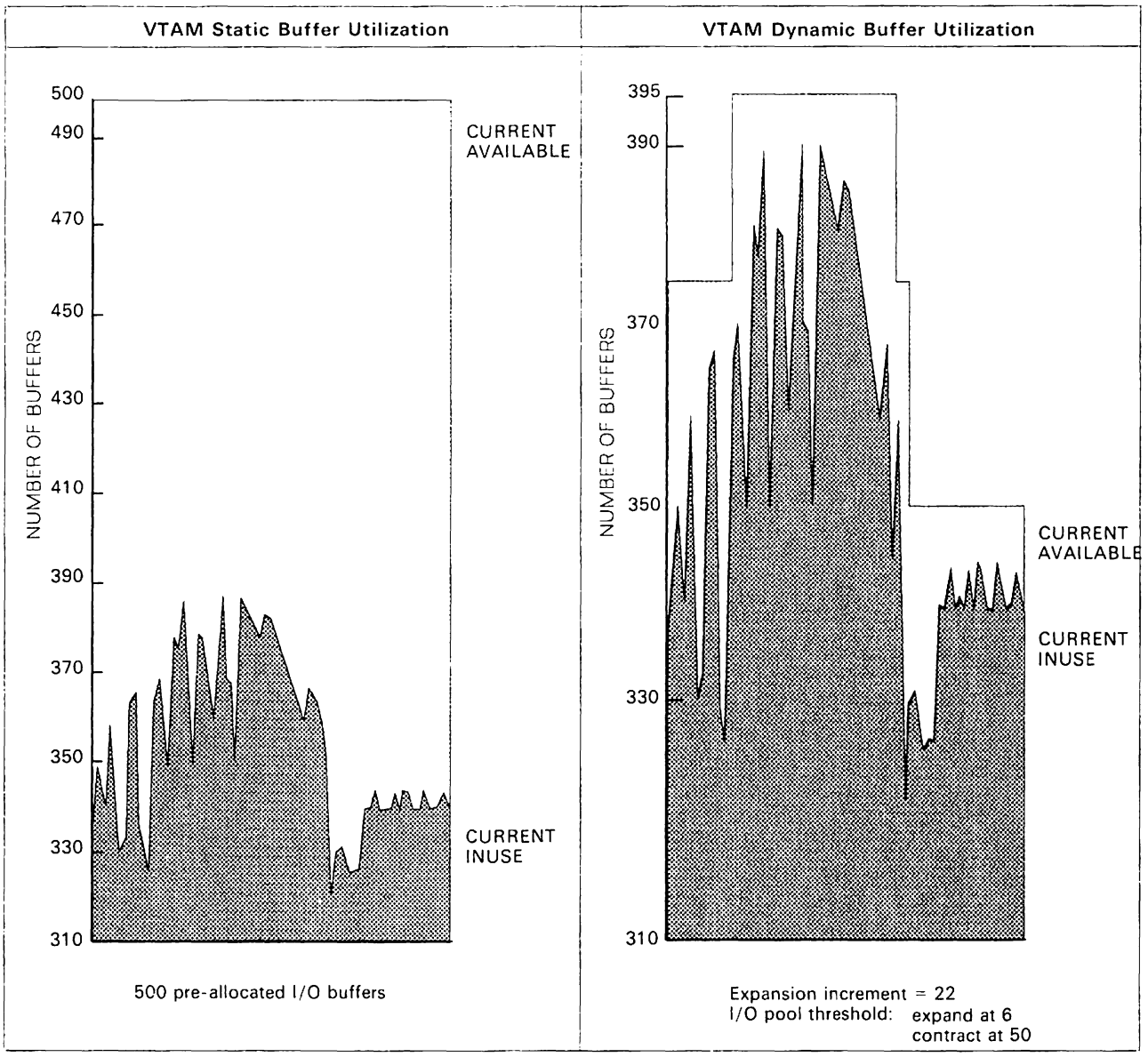

Figure 16. Comparison of Static and Dynamic Buffer Allocation

xpanpt
is a decimal integer that specifies the expansion point for this buffer pool. When the number of buffers not in use in the buffer pool falls to a value that is equal to or less than *xpanpt*, VTAM schedules an asynchronous routine to expand the buffer pool by the number of buffers specified by *xpanno*. The value of *xpanpt* must be greater than the value of *slowpt*. It should also be less than the value of *baseno* minus *adjval*, where *adjval* is an adjustment value for

---

[4] *adjval* is a nonspecifiable constant and is the number of buffers required by the VTAM initialization component to complete the OPEN of VTAM's own ACB. See *VTAM Installation and Resource Definition* for the adjustment value for each pool in each operating system.

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this buffer pool.[4] If *xpanpt* is less than or equal to *slowpt*, VTAM increases *xpanpt* to one larger than *slowpt*.

Note: Expansion and contraction of buffer pools increases the amount of real storage that VTAM requires by approximately 12K bytes. If the buffer pools are continually expanding and contracting, you should change the values specified for *xpanno* and *xpanpt*. You can determine what values to specify using the trial and error method; that is, specify values for *xpanno* and *xpanpt*, and use the DISPLAY BFRUSE command or the SMS buffer trace to see the results.

Dynamic expansion takes place only when the user specifies a nonzero value for the *xpanno* parameter for the pool or allows it to default. If *xpanno* is specified as 0, the pool always remains the size specified by the *baseno* and *bufsize* parameters.

The buffers acquired by dynamic expansion are functionally the same as the buffers provided by the base allocation.

Figure 17 on page 37 shows the structure of a pool after basic allocation (A), and after one dynamic expansion of the pool (B).

The pool is expanded when the number of available buffers in the pool is less than or equal to *xpanpt*. The pool goes into slowdown mode when the number of buffers not currently in use in the pool is less than or equal to *slowpt*. When necessary, a pool is expanded repeatedly, with the pool growing larger and larger. The limitation on the size of each pool is 32,767 times *bufsize* for pre-V3R2, and $2^{32}-1$ times *bufsize* for V3R2. When the number of buffers not currently in use is equal to or greater than the expansion increment, VTAM checks to see if the buffers it acquired in the previous expansions of the pool are not in use, and if so, VTAM releases those buffers. For V3R1.1, the expansion increment is derived from *xpanno* rounded up to the next full page of buffers. For example, if 4 buffers will fit on one page of storage and *xpanno* is specified as 5, the expansion increment is 8. In V3R2, buffers are freed when the number of unused buffers is

```
(2 x xpanno) + xpanpt = 43
```

Buffers are released in blocks, just as they are acquired. If any of the buffers in a block are in use, VTAM does not release any of the buffers.

Guidelines for Dynamic Expansion: The following guidelines will help you determine appropriate buffer pool values for your system.

- Set *baseno* for the I/O buffer to the steady state value plus *xpanpt*.

  You can determine steady state by issuing the DISPLAY BFRUSE command. "CURR TOTAL" minus "CURR AVAIL" gives the number of buffers in use. Repeat this procedure several times and take the average to determine the steady state value.

  Any additional buffers needed can be obtained using dynamic expansion.

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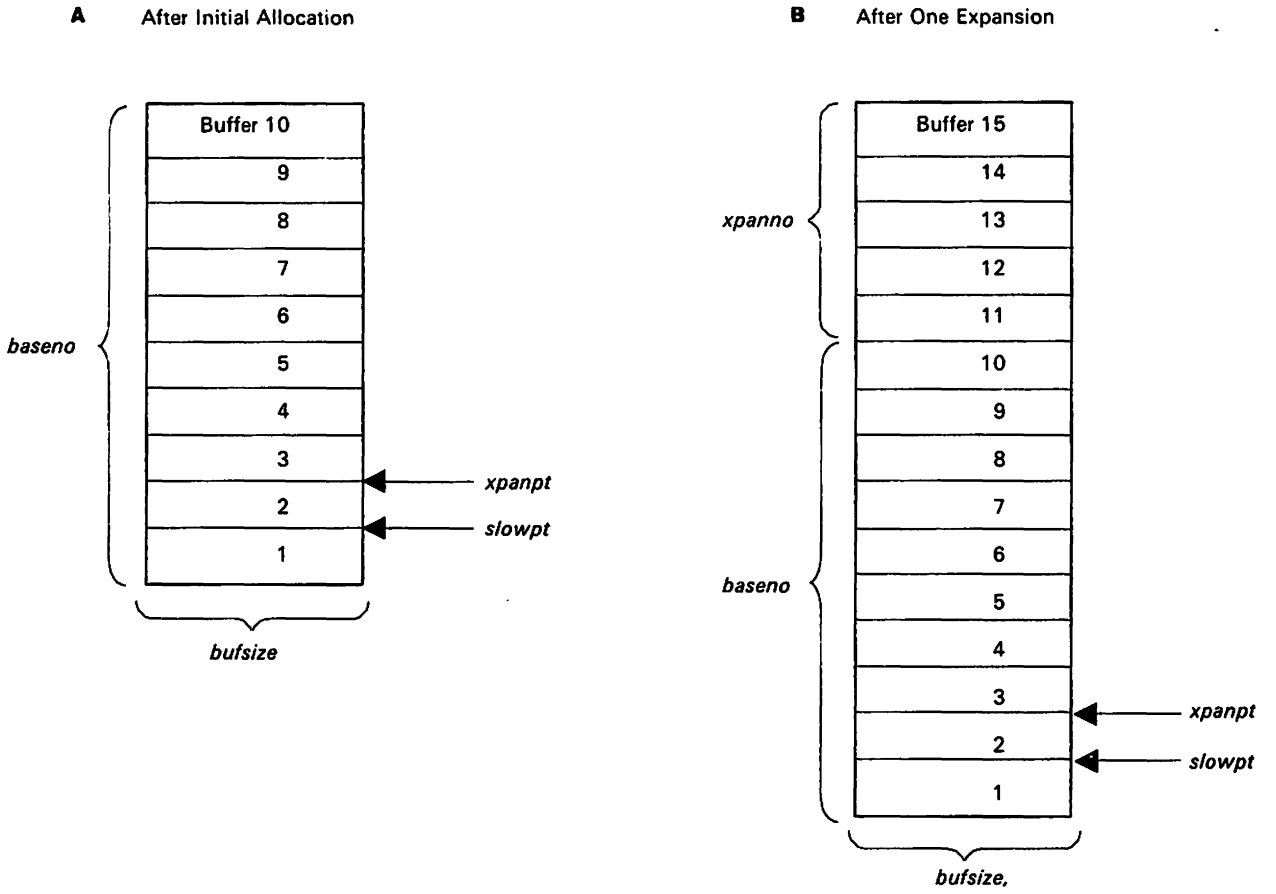

A This example shows a buffer pool for which the start options were specified as *poolname=(10,bufsize,1,5,2,xpanlim) in an MVS or VM system or as poolname=(10,bufsize,1,5,2,xpanlim)* in a VSE system. After initial allocation, the pool contains 10 buffers (baseno=10), the length in bytes of each buffer is *bufsize*, the slowdown point *(slowpt)* is 1, the expansion size is 5 buffers (assume that 5 buffers fill one page of storage), and the expansion point is 2 *(xpanpt)*. The maximum allowed size of this buffer pool is determined by the value of *xpanlim*.

B After one expansion, there are 15 buffers in the pool. Each of the 5 additional buffers has a length of *bufsize* and the same expansion point and slowdown point as before.

Figure 17. A Buffer Pool after Initial Allocation and after One Expansion

Number of Buffers Per Page	MVS, VM and VSE (with 4K Paging) Bufsize	VSE (with 2K Paging) Bufsize
1	1978–4025	954–1977
2	1290–1977	610–953
3	954–1289	442–609
4	746–953	338–441
5	610–745	266–337
6	514–609	218–265
7	442–513	186–217
8	378–441	154–185
9	338–377	130–153
10	298–337	114–129
11	266–297	98–113
12	242–265	81–97
13	218–241	–
14	202–217	–
15	186–201	–
16	170–185	–
17	154–169	–
18	138–153	–
19	130–137	–
20	122–129	–
21	114–121	–
22	106–113	–
23	98–105	–
24	90–97	–

Figure 18. Buffers per Page and I/O Buffer Size Specification

- Define dynamic expansion so that pools are expanded one page at a time. To do this, define *xpanno* to be the number of buffers that fit on one page. You can calculate *xpanno* for I/O buffers using Figure 18:

  1. Find the *bufsize* range in the table that includes the *bufsize* value that was specified for your system.

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2. Round up the current *bufsize* to the largest **even** number that appears in that range[5].
3. For one-page expansion, specify an *xpanno* value that is equal to the number in the left column of this row (the number of I/O buffers per page).

- If excessive expansion and contraction are a problem (especially for LPBUF and CRPLBUF), define these buffers to expand two pages at a time.
- Tune the expansion increments (*xpanno*) and expansion points (*xpanpt*) to keep CPU overhead from dynamic buffering low.
  - If the expansion point is set too small, VTAM may not be able to expand the buffer pool fast enough should there be a rapid demand for buffers. Setting the expansion point too small also causes the buffer pool to contract frequently.

    MVS VM Message IST565I may indicate that storage is temporarily unavailable due to this rapid demand. Adjust the *xpanpt* and *xpanno* values to eliminate this problem.

    In environments where many sessions will come up simultaneously because of VARY LOGON command or LOGAPPL specified on a definition statement, it may be necessary to preallocate enough WPBUF and CRPLBUF buffers to handle the influx of requests.

    The expansion point should be larger than the largest single request for buffers:

    — MAXBFRU (maximum - normal) allocation
    — NLDM trace buffer size
    — MVS JES/NJE TPBFSIZ.
  - The buffer pool could expand and contract too frequently if the expansion increment and expansion point are not large enough to handle normal fluctuation in the pool. The I/O buffer pool is very prone to this type of thrashing from applications that send very large messages. VTAM always rounds up an expansion increment to fill a multiple of a full page. But when the CSA is highly fragmented, you should expand a buffer pool in increments of only one page with a large expansion point, since VTAM will have a much better chance of getting one page of contiguous storage than two pages.
- Initially allocate one page to SFBUF, WPBUF, and CRPLBUF. Any elements (where an element consists of a buffer, whose size is rounded to a multiple of 8 bytes, plus a 16-byte header[6]) that are required over a page should be controlled by dynamic expansion.
- Define *xpanpt* several greater than *slowpt* for dynamic expansion.

Also keep in mind that:

- Another way to avoid constant expansion and contraction is to define *baseno* for two pages of elements. To do this, define *baseno* to be 12 elements for

---

[5] Some channel-attached SNA devices require that the I/O *bufsize* be an even number of bytes. Therefore, it is best always to define *bufsize* as an even number.

[6] VM In VTAM V3R1, this header is 8 bytes long.

LPBUF. Define *xpanno* to be two times the number of CRPLBUF elements per page. Refer to Figure 19 on page 40 for the number of elements per page.

Buffer Pool	MVS	VSE 4K Page	VSE 2K Page	VM
APBUF	51	51	25	51
CRPLBUF	30	N/A	N/A	30
LFBUF	30	See note	See note	—
LPBUF	3	3	1	3
SFBUF	51	10	5	51
SPBUF	32	32	16	32
WPBUF	20	20	10	20

Figure 19. Number of Elements per Page

Note: This figure shows the number of buffer pool elements per page. It does not show the number of elements for MVS IOBUF or VSE VM LFBUF. See Figure 18 on page 38.

- MVS LFBUF is used only for EAS values (on APPL definition statements) less than 30. Since this pool is not used often, a *baseno* value of 2 is recommended. The pool should be expanded one page at a time.
- If either *xpanno* or *xpanpt* is zero, no expansion will occur.
- Buffers will be freed (that is, the buffer pool dynamically contracts) when the number of unused buffers is greater than or equal to (2 x *xpanno*) + *xpanpt*.

Example of Dynamic Expansion: In the following MVS example of dynamic expansion, IOBUF is defined as follows:

```
IOBUF = (60,,,,20,3)
```

That is,

- The initial buffer allocation (*baseno*) is 60.
- *bufsize* and *slowpt* assume the IBM default values.
- The pool is fixed by default.
- *xpanno* is 20.
- *xpanpt* is 3.

Buffers will be freed when the number of unused buffers is

```
(2 x xpanno) + xpanpt = 43
```


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Dynamic expansion and contraction have the following effect on buffer use:

Description	Initial Values	After First Expansion	After Second Expansion	After First Contraction
Total number of IOBUF buffers	60	80	100	80
Number of buffers in use	0	57	77	57
Number of unused buffers	60	23	23	23

Figure 20. Effect of Dynamic Expansion and Contraction on Buffer Utilization

Tuning to Maximize Coattailing

Coattailing is the process whereby (1) a number of messages are transferred (inbound) to the host without an attention interruption having been generated, (2) more than one message is transferred outbound, or (3) a combination of the two above conditions occurs. Coattailing provides greater throughput between a host and an NCP, because fewer interrupts and instructions are executed per message. On the other hand, response time may increase.

If more messages are transferred in or out of the host than the number of read or write channel programs issued, then coattailing is taking place. The total number of read and write channel programs can be obtained by using tuning statistics (CHRD and CHWR respectively).

The recommendations contained in the sections below are starting points only; by using the output of the MODIFY TNSTAT command, you can adjust these values. (See *VTAM Operation* for more information on the MODIFY command.) When examining tuning statistics, keep in mind that short periods of high attention counts could simply indicate a light load on the network.

How UNITSZ, MAXBFRU, and DELAY Affect Coattailing

The amount of coattailing of messages that will occur between a host and an NCP is affected by the UNITSZ and MAXBFRU operands in the HOST NCP definition statement and the DELAY operand in the BUILD definition statement. To understand how these operands affect coattailing, you need to know more about the operands themselves. Initial allocation of the I/O buffer, as well as the *xpanno* value, depends on the *bufsize* specification. This, in turn, is based on the UNITSZ value specified in both the HOST definition statement and the buffer pool start option for the I/O buffer. In the case of channel-attached cluster controllers and channel-to-channel adapters, *bufsize* is based only on the buffer pool start option for the I/O buffer. The value in the VTAM start option is used by both VTAM and the NCP by exchanging information. The *bufsize* value entered as part of the buffer pool start option for the I/O buffer is interpreted by VTAM as the UNITSZ value used. Note that the I/O buffer size, as it appears on the console after a DISPLAY BFRUSE command, is greater than the *bufsize* that was specified in the buffer pool start option, because VTAM adds control information to each I/O buffer.

MAXBFRU is the number of VTAM I/O buffers allocated for one inbound data transfer. It is specified on the HOST NCP definition statement. When VTAM creates a read channel program, it must always have MAXBFRU number of I/O buffers available for reading from the NCP. VTAM always attempts to hold in reserve MAXBFRU number of I/O buffers for the next read from the NCP.

DELAY is an operand on the BUILD definition statement in the NCP generation. It is the elapsed time between the receipt of the first inbound message and the presentation of an attention interrupt to the host. The use of DELAY allows time for more than one message to arrive in the NCP before an attention is presented to the host.

The three examples in Figure 21 illustrate the use of DELAY. In the first example, four messages have come in over a period of time. Since DELAY is zero, each message has resulted in an attention interruption being presented to the host. In all, four attentions have been presented, and no coattailing has taken place.

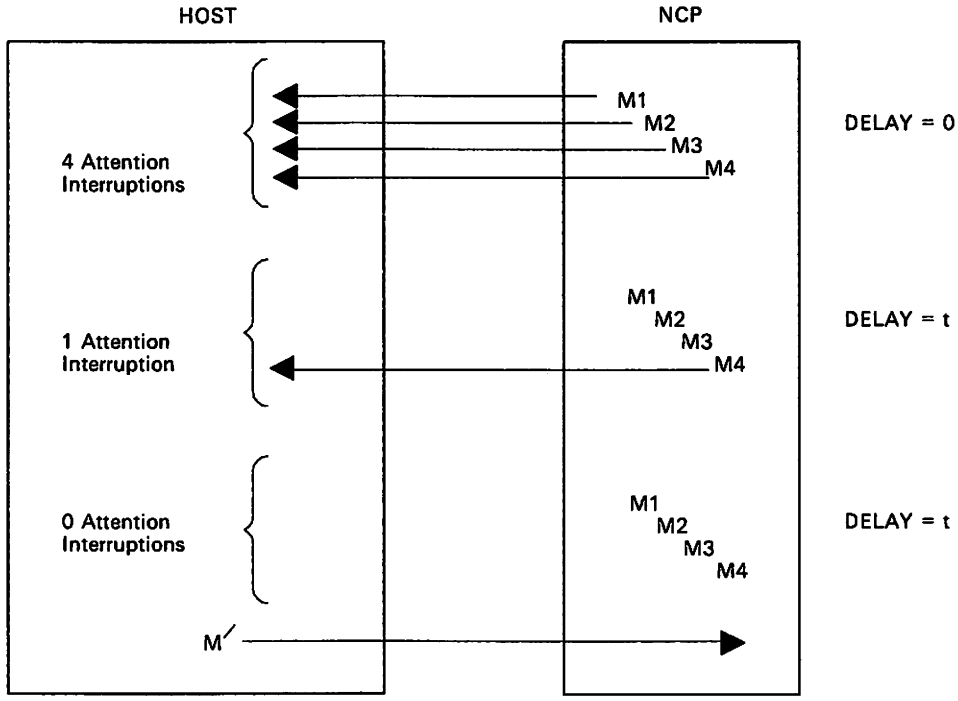

Figure 21. Effect of DELAY Time on Coattailing

In the second example, DELAY is now equal to *t*. This time period is large enough to allow four messages to arrive at the NCP. The time *t* has expired, and the NCP presents an attention interruption. VTAM reads all four messages, having received only one attention interrupt.

In the third example, DELAY is still equal to *t*; but, before *t* expires and after four messages arrive at the NCP, an outbound message is sent to the NCP. In this case, four messages are sent to the host with no attention interrupts generated. This is the ideal case, in terms of saving instructions executed in the host.

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Choosing DELAY

A nonzero attention DELAY value must be specified, but having attention DELAY in effect does not automatically ensure coattailing. First, the installation must have a transaction rate high enough to allow more than one message to accumulate in the DELAY time period in the NCP or the host. Next, the MAXBFRU value must be large enough to allow more than one message to be sent to the host. Lastly, the host processing speed has an effect on coattailing; the faster host processors reduce coattailing slightly. An attention interrupt occurs when MAXBFRU is reached or when the DELAY time period expires.

Note: Some PIUs prevent channel delay from occurring. Virtual route pacing responses and transmission priority 2 traffic have this effect.

Begin by setting DELAY equal to 0.2 or greater. A 0.2 second delay has little effect on response time, but if the traffic speed is approximately one transaction per second or greater, coattailing will occur.

Choosing UNITSZ and MAXBFRU

To choose the best UNITSZ value, first determine the average size of inbound and outbound messages. (You can determine the average message sizes from your application programs, for example, CICS or IMS. They are not determined by VTAM.) Then compare them to each other. In the simplest environment, the two sizes are nearly equal. Therefore, set UNITSZ equal to the larger of the inbound or outbound message sizes.

Suppose the inbound size is much smaller than the outbound size. Choose a UNITSZ at least large enough to contain one complete inbound message. However, the UNITSZ should be larger than the inbound message so that relatively few buffers are needed for the outbound message. Since the extra buffers increase path length, it is better not to specify too many buffers.

As another example, consider the case where the inbound message size is much greater than the outbound size. The process is similar to the previous one, except that the outbound message is the guide for choosing UNITSZ. Choose a UNITSZ that is greater than or equal to the outbound message size so that relatively few buffers are needed to contain one inbound message.

Where practical, choose UNITSZ so that no more than five to seven buffers are needed for transferring one message, whether it is inbound or outbound.

The MAXBFRU calculation is different. Set MAXBFRU so that MAXBFRU times UNITSZ can contain the largest message through the NCP. In addition, choose MAXBFRU so that more messages can be coattailed. The MAXBFRU value determines when an attention interrupt is presented to the host. MAXBFRU=5 is a good starting point. There should be enough buffers available to transfer all the messages likely to arrive in the DELAY time period. (The use of MAXBFRU=5 assumes one inbound message fits in one I/O buffer. See the following discussion for more details on I/O buffer size.) You can use tuning statistics to verify that MAXBFRU is sufficient for coattailing. Using the example in Figure 24 on page 46, for instance, MAXBFRU could have been set to 2. Instead, it was set to 6 to maximize coattailing.

The number of buffers required for a message (RU) is determined by the following formula:

```
(29 + RU size) ÷ bufsize
```

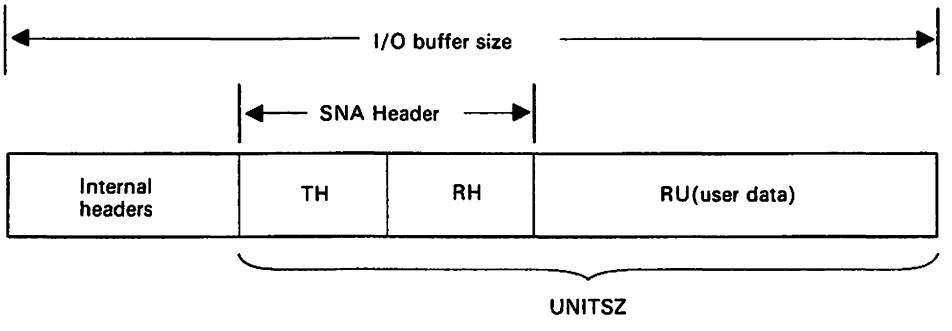
The number 29 is arrived at by adding the size of the transmission header (26) to the size of the request/response header (3). The *bufsize* is the buffer pool value you used to start VTAM. If you are unsure about this value, look at your start parameters. (You can also use the DISPLAY BFRUSE command to determine this value. It gives you the total size of the I/O buffer, from which you must subtract 55 bytes, the size of the control block that VTAM adds to the *bufsize* value. The resulting value is the *bufsize*.) This value should be greater than or equal to the UNITSZ parameter for any NCPs you are using.

The MAXBFRU you use should be greater than or equal to the number of buffers required for the largest message (RU) your system will receive. This will minimize the number of attention interrupts needed to process large messages. Use the above formula to calculate the lower bound for MAXBFRU given the size of the largest message.

To determine the approximate size of the largest RU for a 3270 terminal, simply multiply the number of rows by the number of columns, then add 5 bytes (4 for the command code and 1 for the WCC byte at the beginning of the 3270 data stream). Note that this approximation should not be used for a 3279 terminal running graphics applications, where larger data streams may be required.

Choosing the I/O Buffer Size

Choosing the ideal buffer size helps minimize host storage requirements and host processor usage.



Note: The same size is used for inbound and outbound data transfer.

Figure 22. General I/O Buffer Format

Figure 22 illustrates UNITSZ. UNITSZ is not the size of an I/O buffer; it is a portion of the buffer size. It includes an SNA header field. In the remaining discussion, for purposes of simplicity, the I/O buffer size will be referred to as the UNITSZ. (Note that one buffer size is used for both inbound and outbound data transfers.)

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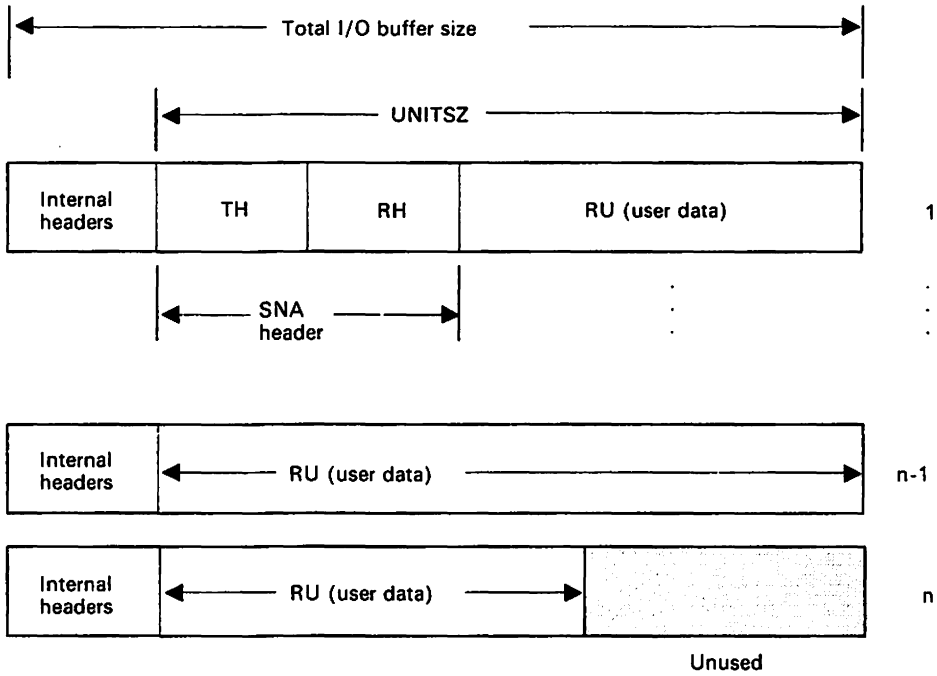

Note: Multiple I/O buffers are used where the length of outbound data is greater than UNITSZ minus the SNA header.

Note: A similar concept applies to inbound data.

Figure 23. Using Multiple I/O Buffers to Transfer a Single Message

Figure 23 illustrates how a message that is larger than UNITSZ spans more than one buffer. The message **can** be greater than UNITSZ. If it is, VTAM will use more than one buffer to contain the message.

Note that the unused space in the last buffer is not allocated to the next message.

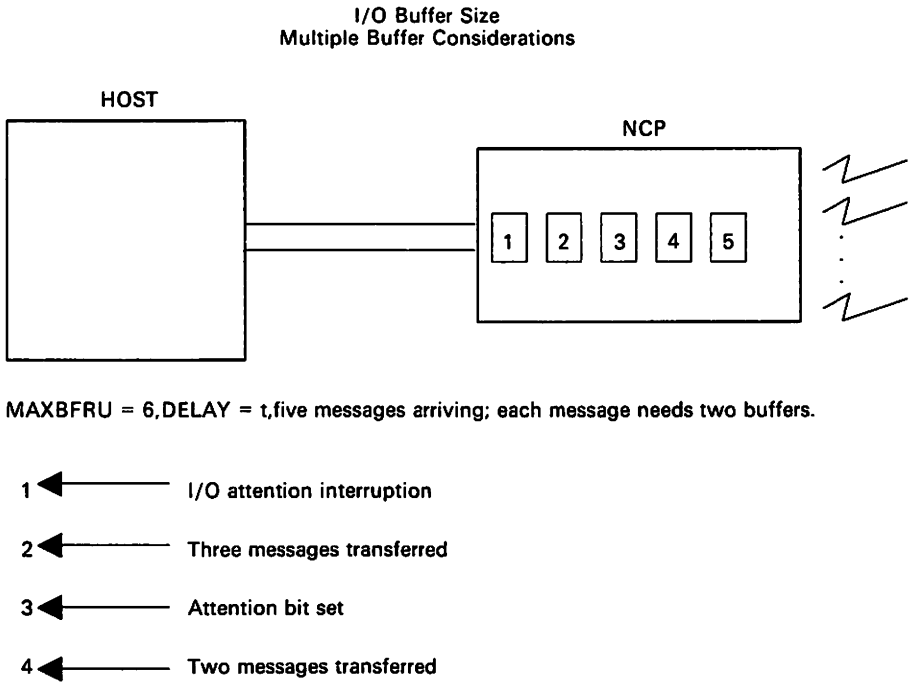

Figure 24. Multiple-Buffer Considerations

Figure 24 assumes MAXBFRU=6,DELAY=*t*, and that there are five messages arriving at the NCP before the time *t* expires. However, it also assumes that each message requires two I/O buffers. After three messages are received, the MAXBFRU limit is reached, and the NCP signals the host by an attention interrupt. The three messages are transferred, but two more remain. Therefore, the attention bit in the channel status word (CSW) is set to inform VTAM that there is more data to read in. However, coattailing has taken place; two messages have been transferred without having generated an attention interrupt. VTAM creates another channel program and redrives the I/O to obtain the remaining messages. Again, coattailing has occurred, since two messages have been transferred and only one attention interrupt has occurred. We have used two I/O operations when one would have been enough. If UNITSZ were large enough to contain an entire message, or if MAXBFRU were equal to 10, the extra I/O operation could have been avoided.

Defining a Channel-to-Channel Adapter

In releases of VTAM prior to V3R2, the size of the CTC channel program was a function of MAXBFRU. This is no longer the case. With V3R2, the channel program is always made up of 3 CCWs.

The size of the read buffer is specified by MAXBFRU in increments of 4K pages and does not fluctuate throughout the life of the connection. The buffer must be large enough to hold the largest PIU to cross the channel-to-channel connection.

The new CTC support for V3R2 was shipped earlier in PTF format to VTAM releases V3R1 and V3R1.1. If VTAM V3R2 is communicating with any earlier release of VTAM (one without the PTF), the CTC format used will be pre-V3R2.

The following topics discuss variables that can significantly affect channel-to-channel performance.

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I/O Buffer Size

In V3R2, since data is transferred in the channel-to-channel buffers, I/O buffer size (specified by IOBUF) is no longer critical in channel-to-channel communications. Increasing or decreasing the size will have no effect on the channel program size.

The DELAY Operand

When defining a channel-to-channel adapter, you should consider the effects of the DELAY operand in the LINE definition statement. This operand specifies the maximum amount of time an outbound PIU with transmission priority 0 or 1 should be queued before being transmitted over the channel. When the PIU is eventually sent, it and the PIUs following it that have also been queued are sent as a block.

Note: Other events can result in the PIUs on the queue being sent before the DELAY time elapses; for example, receiving an attention interrupt or reaching the MAXBFRU limit. Also, under certain circumstances the contents of the queue can be held beyond the time specified.

The Effect of Various DELAY Operand Values: When you specify DELAY=0, VTAM sends each PIU over the channel as it arrives on the queue. Generally, this provides faster response time at the expense of more work for the CPU.

When a nonzero value for DELAY is specified, the blocking of low-priority PIUs should save CPU instructions at both the sending and the receiving host processors. Generally, this would be at the expense of increased response time, since some PIUs would be delayed before being sent. See "Tuning to Maximize Coattailing" on page 41 for information on adjusting DELAY for maximum efficiency.

Selecting a DELAY Operand Value: The default value for the DELAY operand is 0.1 second (100 ms), which is an appropriate value for most installations. However, under the following conditions you might need to change the value to zero:

- A low rate of transactions that use the channel-to-channel connection. A rate of under five transactions/second is considered low.
- Channel-to-channel traffic with frequent bursts of SENDs, such as from an application program that makes inquiries of the other host in rapid succession.

  Occasional bursts affect throughput only for the next second or two. However, a continuing series of bursts can severely affect capacity if there is little non-channel-to-channel activity. A few sessions of interactive traffic are more likely to accentuate this condition than a large number, when traffic on the channel is likely to be more randomly distributed.

Under some conditions, you might want to increase the DELAY operand value over that of the default, for example, to:

- Decrease CPU overhead when response time is less important
- Take advantage of a smoothing effect on the queuing that can occur with larger values, an effect that can be useful for application programs with sessions conducted in bursts.

To select a DELAY operand value, follow this procedure:

1. During periods of the day when it is most likely that the conditions described above can occur, turn on the tuning statistics at each host processor.

   ```
   F NET,TNSTAT,CNSL,TIME=1
   ```

   Refer to *VTAM Operation* for information about tuning statistics commands. Refer to "Channel-to-Channel Adapters" on page 23 and to *VTAM Diagnosis Guide* (V3R1 and V3R1.1) or *VTAM Diagnosis* (V3R2) for information about tuning statistics output.

2. For each recording of the tuning statistics, compare the TIMERS and CHNRM values of the channel-attachment major node associated with each host processor. The desirable TIMERS value is zero; an occasional nonzero value is acceptable.

3. If the TIMERS value in any tuning statistics record is too large, deactivate the channel-attachment major node at each host processor and activate a previously defined major node in which DELAY=0 has been specified in the LINE definition statement.

4. If you are interested in experimenting with DELAY values greater than the default, you might activate in succession a series of major nodes with increasing values beyond 0.1 second.

The MAXBFRU Operand

For V3R2, the MAXBFRU operand has changed meaning for channel-to-channel definition decks. See *VTAM Installation and Resource Definition* for further information.

The MAXBFRU parameter defines a constant sized buffer in increments of 4K pages. This buffer must be defined as large as the largest PIU to cross the channel-to-channel connection. Also, if a nonzero delay value is chosen and multiple RUs on a single I/O is desired, then a MAXBFRU must also be large enough to handle multiple RUs.

Virtual Route Window Sizes

The default minimum window size may be too small for a VTAM channel-to-channel virtual route (VR). VTAM increases the window size only when the VR pacing response is not returned fast enough to prevent one window's worth of PIUs from being queued up on the VR (a HELD condition). A channel-to-channel route is so fast that the VR pacing responses are turned around quickly enough to prevent HELD conditions from occurring very often. Because of this, the current VR window size will tend not to increase and to stay very close to the minimum VR window size.

The smaller the VR window size, the more VR pacing responses will flow over the channel. This can cause higher CPU utilization than necessary.

Setting a higher minimum window size reduces the number of VR pacing responses and helps CPU utilization and throughput. For channel-to-channel one-hop routes, the default minimum VR window size is one. The recommended value is 15.

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MVS VM Monitoring Common Service Area

If the availability of CSA is a problem, you should monitor the VTAM buffer pools for wasted storage. You can do this with DISPLAY BFRUSE or with the VTAM TYPE=SMS,ID=VTAMBUF trace. The output from this trace goes to:

MVS The generalized trace facility (GTF)
VM CPTRAP.

The example that follows is based on the report shown in Figure 25 on page 50. This report can be used to determine how much CSA is being wasted.

The general formula for determining the wasted CSA for a given buffer pool is:

```
WASTE = (MAXTOTAL – MAXUSED) × BUFFSIZE
```

Applying this formula to the I/O buffer pool shown in the display above, the wasted CSA is:

```
IOBUF waste = (600 - 250) × 175 = 59K of fixed CSA
```

The wasted CSA for the other pools shown is:

```
LPBUF waste = 41K of pageable CSA
WPBUF waste = 31K of pageable CSA
LFBUF waste = 10K of fixed CSA
CRPL  waste = 22K of pageable CSA
SFBUF waste = 17K of fixed CSA
```

Therefore,

```
TOTAL CSA waste = 180K
TOTAL fixed     = 86K
```

As this example illustrates, this procedure may help you to identify where CSA is being wasted so that you can adjust your usage.

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V3R1.1

```
IST632I BUFF  BUFF CURR   CURR   MAX    MAX   TIMES  EXP/CONT
IST633I ID    SIZE TOTAL  AVAIL  TOTAL  USED  EXP    THRESHOLD

IST356I IO    00175 00600  00400  00600 00250  00000  00006/----- 000022

IST356I LP    01016 00050  00050  00050 00008  00000  00001/----- 000004
IST356I WP    00160 00400  00200  00400 00200  00000  00001/----- 000024
IST356I LF    00120 00100  00100  00100 00010  00000  00001/----- 000032
IST356I CRPL  00116 00400  00200  00400 00200  00000  00004/----- 000032
IST356I SF    00072 00300  00300  00300 00051  00000  00001/----- 000051
```

End of V3R1.1

V3R2

```
IST920I IO00      BUFF SIZE  0000000175 EXP INCREMENT    00010
IST921I           TIMES EXP  0000000000 EXP/CONT THRESH  00006/00022
IST922I           CUR TOTAL  0000000600 CUR AVAILABLE    0000000400
IST923I           MAX TOTAL  0000000600 MAX USED         0000000250
IST924I           ------------------------------------------------
IST920I LP00      BUFF SIZE  0000001016 EXP INCREMENT    00030
IST921I           TIMES EXP  0000000000 EXP/CONT THRESH  00001/00004
IST922I           CUR TOTAL  0000000050 CUR AVAILABLE    0000000050
IST923I           MAX TOTAL  0000000050 MAX USED         0000000008
IST924I           ------------------------------------------------
IST920I WP00      BUFF SIZE  0000000160 EXP INCREMENT    00020
IST921I           TIMES EXP  0000000000 EXP/CONT THRESH  00001/00024
IST922I           CUR TOTAL  0000000400 CUR AVAILABLE    0000000200
IST923I           MAX TOTAL  0000000400 MAX USED         0000000200
IST924I           ------------------------------------------------
IST920I LF00      BUFF SIZE  0000000120 EXP INCREMENT    00010
IST921I           TIMES EXP  0000000000 EXP/CONT THRESH  00001/00032
IST922I           CUR TOTAL  0000000100 CUR AVAILABLE    0000000100
IST923I           MAX TOTAL  0000000100 MAX USED         0000000010
IST924I           ------------------------------------------------
IST920I CRPL      BUFF SIZE  0000000116 EXP INCREMENT    00010
IST921I           TIMES EXP  0000000000 EXP/CONT THRESH  00004/00032
IST922I           CUR TOTAL  0000000400 CUR AVAILABLE    0000000200
IST923I           MAX TOTAL  0000000400 MAX USED         0000000200
IST924I           ------------------------------------------------
IST920I SF00      BUFF SIZE  0000000072 EXP INCREMENT    00005
IST921I           TIMES EXP  0000000000 EXP/CONT THRESH  00001/00051
IST922I           CUR TOTAL  0000000300 CUR AVAILABLE    0000000300
IST923I           MAX TOTAL  0000000300 MAX USED         0000000051
IST924I           ------------------------------------------------
```

Note: VSE Buffer pools displayed by IST920I are VF, VP, LF, LP, SF, SP, and WP.

End of V3R2

Figure 25. Sample DISPLAY BFRUSE Command Report

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Optimizing the Use of Alias Name Tables

The alias name translation facility can add numerous instructions to the session establishment path if the alias tables it uses are not complete. If an LU (either origin or destination) entry is not found in the origin SSCP, a search is made in the next interconnected host to receive the CDINIT that has the alias name translation facility. This process is repeated in every interconnected host until the alias is found or the search fails in the destination host. Similarly, if the destination host alias name translation facility cannot find the COS entry, searches will occur on the return of the CDINIT response until the alias is found or the search fails in the originating host. However, if the LOGMODE entry is not found in the origin SSCP, the session establishment request is not rerouted and is rejected.

In short, include all entries (OLU, DLU, LOGMODE, and COS) in alias tables whether they have alias names or not. This will reduce the number of searches. Also, place the LUs that log on most frequently at the beginning of the table. This will reduce the length of the searches.

Note: Including all entries reduces VTAM CPU time, but it increases alias name translation CPU time.

Establishing Efficient Session Pacing

There are two types of pacing: route pacing and session pacing. You can affect how VTAM does route pacing through the PATH statement (see *VTAM Installation and Resource Definition*) or the VR pacing window size calculation module (see "Virtual Route Window Sizes" on page 48).

You can specify session pacing in a logon mode table entry that is derived from the logon that requests the session (see "The MODEENT Macroinstruction" on page 79). You can also specify it on the statement that defines a logical unit to VTAM (for example, the PACING and VPACING operands on an LU statement).

An introductory description of pacing in *Network Program Products Planning* explains one- and two-stage pacing and how they relate to pacing counts.

Figure 26 on page 53 and Figure 27 on page 55 demonstrate pacing value selection. In these tables, the type of SLU and the direction of pacing (primary-to-secondary or secondary-to-primary) are shown at the top. The stages for each of the categories are then shown, followed by the letter of the text that accompanies the table entry. The text is a summary of the table for that entry. The next entries are logic tables, showing the appropriate value to select. An X indicates that the text to the left is true for the SLU and direction selected.

When using Figure 26 on page 53 and Figure 27 on page 55, note the following:

- PR and PS refer to primary receive and primary send counts.
- SR and SS refer to the secondary receive and secondary send counts.
- The value of SSNDPAC, PSNDPAC, and SRCVPAC is assigned to the logon mode table as generated by the MODEENT macroinstruction.

- APPL AUTH=NVPACE specifies that pacing is not to be used in the primary to secondary direction. If adaptive session pacing is used, the maximum pacing window is used, which is virtually no pacing.
- XBSI is the extended BIND indicator in CINIT or BFCINIT. In Figure 26 on page 53, XBSI=ON means that extended BIND will be used to establish the session.

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SNA Secondary LU is ..	Application		NCP LU Switched LU 43X1 CA LU [1] 9370 CA LU [2]			Local SNA LU same domain		Local SNA LU cross domain	
Direction	PLU to SLU	SLU to PLU	PLU to SLU	SLU to PLU	SLU to PLU	PLU to SLU	SLU to PLU	PLU to SLU	SLU to PLU
Stages	1	1	2	1	1	1	1	2	2
Summary text ref is	A	E	G C	J K	J K	B	E	H C	F B
Detail follows			PS SR	SS PR	SS = PR			PS SR	SS PR
If XBSI = ON				X X					
IF APPL AUTH=NVPACE use 0	X		X					X	
ELSE use	X	X	X X	X	X	X	X	X X	X
SRCVPAC . . .	X		X			X		X	X
SSNDPAC . . .		X		X	X		X		X
PSNDPAC . . .			X					X	
. . . always				X					X
. . . only if it is 0		X			X		X		
. . . if it is not 0	X		X X			X		X X	X
ELSE use	X	X	X X	X	X	X	X	X X	X
PLU VPACING		X		X	X		X		
SLU VPACING	X		X			X		X	X
SLU PACING			X					X	
which has default of	X	X	X X	X	X	X	X	X X	X
0	X	X		X	X		X		
1			X			X		X X	X
2			X						
May be reduced by appl but not to 0	Sec APPL	Pri APPL		Pri APPL	Pri APPL		Pri APPL		Pri APPL

[1] For 43X1 CA LU, XBSI is always OFF

[2] For 9370 CA LU, XBSI is always OFF

Figure 26. Selecting Pacing Counts for SNA Secondary LUs

The following texts are summaries of Figure 26 on page 53 and Figure 27 on page 55.

A
IF PLU AUTH=NVPACE, use 0
ELSE IF SRCVPAC is not 0, use it
ELSE use SLU VPACING (default is 0)

Note: SLU may reduce value, but not to 0.

B
IF SRCVPAC is not 0, use it
ELSE use SLU VPACING (default is 1)

C
IF SRCVPAC is not 0, use it
ELSE use SLU PACING (default is 1)

D
Use SRCVPAC

E
IF SSNDPAC is 0, use it
ELSE use PLU VPACING (default is 0)

Note: PLU may reduce value, but not to 0.

F
Use SSNDPAC

G
IF PLU AUTH=NVPACE, use 0
ELSE IF PSNDPAC is not 0, use it
ELSE use SLU VPACING (default is 2)

H
IF PLU AUTH=NVPACE, use 0
ELSE IF PSNDPAC is not 0, use it
ELSE use SLU VPACING (default 1)

I
Use PSNDPAC

J
IF XBSI=ON, use SSNDPAC
ELSE IF SSNDPAC is 0, use it
ELSE use PLU VPACING (default is 0)

Note: PLU may reduce value, but not to 0.

K
IF XBSI=ON, use PLU VPACING
ELSE PR=SS

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NON-SNA Secondary LU is ..	Local non-SNA same domain		Local non-SNA cross-domain		NCP TERMINAL		43X1 CA TERMINAL same domain		43X1 CA TERMINAL cross-domain	
Direction	PLU to SLU	SLU to PLU	PLU to SLU	SLU to PLU	PLU to SLU	SLU to PLU	PLU to SLU	SLU to PLU	PLU to SLU	SLU to PLU
Stages	1	0	1	1	1	0	1	0	2	0
Summary text ref is	D		D	F	D		D		I D	
Detail follows									PS SR	
IF APPL AUTH=NVPACE use 0 ??????										
ELSE use										
Use SRCVPAC . . .	X		X		X		X		X	
Use SSNDPAC . . .				X						
Use PSNDPAC . . .									X	
. . . always	X		X	X	X		X		X X	
. . . only if it is 0										
. . . if it is not 0										
ELSE use										
PLU VPACING										
SLU VPACING										
SLU PACING										
which has default of										
0										
1										
2										
May be reduced by appl but not to 0										

Figure 27. Selecting Pacing Counts for Non-SNA Secondary LUs

Adaptive Session Pacing (V3R2 Only)

Adaptive session pacing allows session stage endpoints to adapt dynamically to buffer availability and demand on a session-by-session basis. With adaptive session pacing, the session stage endpoints exchange explicit pacing windows that can vary in size during the course of a session.

Pre-V3R2 session pacing uses a fixed window size that is determined by the BIND. A physical unit and its associated NCP, however, may have relatively limited buffer resources but still service a large amount of data. These PUs require more control over buffer resources than is allowed by the fixed window mechanism.

Adaptive session pacing applies to LUs that send extended BINDs. Whenever an LU sends an extended BIND within a subarea network, VTAM uses adaptive pacing for that session. Each session stage endpoint can determine the transmission window and include the window size in the pacing response sent to the partner session stage endpoint.

Adaptive session pacing may also be used for the NCP's boundary function (BF). If a peripheral node attached to the NCP does not support adaptive session pacing, the NCP will use adaptive pacing within the subarea network and fixed pacing when transmitting to the peripheral node.

Note: VTAM does not dynamically vary its own pacing windows. It uses the same receive window sizes for both adaptive and fixed pacing. VTAM, however, does honor the pacing windows sent by its pacing stage partners (NCP) for adaptively paced sessions.

Tuning Start Options

You may be able to improve your system's performance or use of storage by modifying several of the VTAM start options. These start options are described below.

ITLIM Start Option (Pre-V3R2 Only)

ITLIM controls storage use by limiting the amount of dynamic storage that can be used for certain operations. It specifies the maximum number of session services and USS requests, as well as the maximum number of VTAM macroinstruction requests (for example, SIMLOGON and CLSDST), that VTAM can process simultaneously. These maximums apply to same-domain, cross-domain, and cross-network application hosts.

Normally, you will not need to specify ITLIM if you have a network with fewer than 100 – 200 LUs; nor should you specify it if your installation is not running out of storage for these requests. If such requests consistently fail for lack of storage, however, you must set a value for ITLIM that will correct this condition.

The ITLIM value, multiplied by the number of bytes needed for session services (initiations and terminations) and USS commands, or by the number of bytes needed for VTAM macroinstruction requests, represents the dynamic storage that is available for that number of operations performed simultaneously. If more simultaneous requests occur than are specified in ITLIM, the excess is queued until the number of session requests falls below the ITLIM value, assuming that enough dynamic storage exists to perform the number of requests specified in ITLIM.

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Suppose, for example, that VTAM receives 1000 requests at the same time, and that it has only enough dynamic storage to handle 400. This is what will happen with various values for ITLIM:

1. If you have not specified any value for ITLIM, the default (0) applies; that is, you have implied that there is enough storage for handling any number of requests. This will result in 600 requests failing because there is not enough storage.

   If there are only 400 requests, all 400 will be serviced.

2. If you have specified ITLIM=1, all 1000 requests will, in theory, be honored, but in a one-by-one manner, so that system interlock is likely to occur because of waits.

3. If you have specified ITLIM=500, 400 requests will be completed. But since you have told VTAM that it should be able to honor 100 more requests than it actually has the storage for, some of the remaining 600 may fail.

4. If you have specified ITLIM=400, all 1000 requests will be serviced, in two groups of 400 followed by one group of 200.

Your goal in setting a value for ITLIM is that VTAM uses as much dynamic storage as possible for session services, USS commands, and macroinstruction requests, but never uses more dynamic storage than it actually has available.

In finding this value, you should first set ITLIM as high as possible if real storage is not a problem.[7] As an example of the magnitude of the numbers involved, if the number of LUs in your system is 1000, you might specify ITLIM at 900. If you run out of storage using this initial value, lower it to 800 and keep lowering it successively until the value is just below that which causes a storage problem.

Notes:

1. The use of cross-network routing can lower the value of ITLIM that is required.
2. A lower ITLIM value does not necessarily slow down processing. Although a lower ITLIM value results in fewer simultaneous requests running, there could be a reduction in the amount of system paging because of VTAM processing.

See *Network Program Products Storage Estimates* for more information on determining the common and private dynamic storage represented by the value.

MVS VM CSALIMIT Start Option

CSALIMIT specifies the maximum amount of common service area (CSA) that will be used by VTAM. It can be used as a safety valve, so that VTAM does not use CSA needed by the operating system. Most installations will not have to limit VTAM's use of CSA, because their peak CSA usage is a very small increment over their requirements when all their LUs are in session.

If the limit specified by CSALIMIT is reached, the results are unpredictable. If LPBUF cannot be expanded, VTAM could enter a deadlock condition. Therefore, if CSALIMIT

---

[7] The minimum value is determined by how much VTAM dynamic storage is available and how large a working set you can afford. A good value to begin with is 20K for each ITLIM slot. If ITLIM is set too low, VTAM will dynamically increase it when no ITLIM processes have run after three seconds.

is specified, LPBUF should be defined so that it does not have to expand. Other possible occurrences are that messages may be lost or a session initiation or termination may fail.

You can display the maximum CSA used since VTAM was started by issuing the DISPLAY BFRUSE command. For more information, see *VTAM Operation*.

MVS/XA CSA24 Start Option

CSA24 specifies the maximum amount of 24-bit addressable common service area (CSA) that can be used by VTAM. The largest possible value for CSA24 is 16 megabytes.

The CSA24 option limits only the amount of explicitly requested 24-bit addressable storage (GETMAIN LOC=BELOW). The CSA24 limitations do not apply when, in response to a VTAM storage request (GETMAIN LOC=ANY), MVS returns 24-bit addressable storage and not enough CSA above the line is defined

The DISPLAY BFRUSE command lists storage with both CSA24 (24 bit) and 31 bit addressable storage.

For more information, see *VTAM Operation*.

SONLIM Start Option

SONLIM specifies the maximum number of fixed I/O buffers available for session outage notification (SON) processing request/response units (RUs). This controls VTAM's use of fixed (real) storage. The default (60%) is expected to be sufficient for most environments.

SONLIM is the percentage of I/O buffers that may be allocated for SON RUs. This percentage is calculated from the base number of buffers specified when VTAM is started and will not include buffers from dynamic buffering in its calculations. The default value of 60% will work well if you do not preallocate most of your I/O buffers at start time and if you use dynamic buffering. If you preallocate most of your start buffers at start time, you should override the VTAM default with a much smaller percentage.

A SONLIM of 60% will allocate up to 360 buffers for SON processing if the initial I/O buffer allocation was 600 buffers. Changing SONLIM to 5% will limit this allocation to 30 buffers.

Start Options Affecting Adjacent SSCP Tables

Significant performance problems can result from excessive routing of some VTAM requests, such as CDINIT and INQUIRE APPSTAT. For example, VTAM remembers successful and unsuccessful session initiation paths, and will continue to use an alternate (and possibly longer) path even after the preferred initial path becomes available again.

There are several ways to improve the performance of adjacent SSCP rerouting. One is to include the adjacent SSCP selection function in a session management exit routine used by your installation. This function allows you to modify the list of SSCPs from which the next SSCP used in session setup is selected. You can find more information on session management exit routines on page 144.

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Another method is to change the maximum number of SSCPs on a specific path that will be searched for the destination SSCP before alternate paths are tried. This number is adjusted by customizing a field (RACVCNT) in the VTAM constants module. See "Maximum SSCP Rerouting Count" on page 122 for more information.

MVS VM A final method of alleviating the problem of excessive routing of VTAM requests is through two start options, SSCPDYN and SSCPORD, that give you more control over how VTAM processes adjacent SSCP tables. SSCPDYN determines whether VTAM should add entries dynamically to the table, and SSCPORD determines how VTAM should scan the entries in the table when it establishes cross-network sessions. See the *VTAM Installation and Resource Definition* manual for more information on these start options.

Coding the APPL Definition Statement

Several of the operands on the APPL definition statement may be modified to improve your system's performance. These operands are described in the following paragraphs.

EAS Value on the APPL Definition Statement

The EAS value tells VTAM the amount of storage to allocate for a function management control block (FMCB) directory table for the application.

Specifying too large an EAS value causes storage to be allocated that will not be used. If EAS is less than 30, no extra storage will be allocated. In V3R1.1, if the EAS value is greater than 29, but less than 2000, an additional 2K will be allocated for the FMCB directory table; if it is greater than or equal to 2000, 4K will be allocated for this table.

In V3R2, Figure 28 shows the amount of storage allocated to an FMCB for a range of EAS values.

EAS Value is Greater than or Equal to	EAS Value is Less than or Equal to	FMCB Storage Allocated
30	4000	4K
4001	8000	8K
8001	16000	16K
16001	32000	32K
32001	64000	64K

Figure 28. FMCB Storage Allocated in Response to EAS Value (V3R2)

Specifying too small an EAS value can cause an increase in path length for VTAM data flows that use FMCBs (for example, SENDs and RECEIVEs). The increase is due to scanning a chain of FMCBs for some of the sessions. As more sessions become active, the FMCB directory entries are used more frequently, and the FMCB chains become longer. Longer FMCB chains require more scan time.

For a non-TSO application, you should specify an EAS value that equals the average number of sessions, but does not exceed 32,767. If you have storage considerations, you can specify a smaller EAS value.

For a TSO application program, you should specify EAS=1.

MVS VM MAXPVT Value on the APPL Definition Statement

MAXPVT specifies the maximum amount of storage that VTAM can take for its own use from the application private area. VTAM uses this storage for queued input data, that is, data that has come into the host for a session and for which no RECEIVE has been issued.

Performance-Related VTAM Constants

The VTAM replaceable constants module, ISTRACON, contains several fields whose values can be changed to improve performance. The fields are described briefly in this section.

VM These constants apply only to V3R1.1.

See "Module for VTAM Constants" on page 116 for more information.

Reducing Queue Searches at Logon Time

When VTAM is operating with a large number of LUs, logon time can be excessive, because the queue of symbol resolution table (SRT) entries that are being used gets quite long and is searched many times.

The VTAM constants replaceable module contains two fields that you can use to decrease the amount of time VTAM spends on queue searches:

- RACHSRT specifies the number of queue pointers in the SRT directory for the network containing the VTAM host node
- RACONSRT specifies the number of queue pointers in every SRT directory for networks other than the VTAM network.

The default directory size for the host is 1499 directory queue pointers. For a network with a large number of LUs, queues may be very long. By using a larger directory, you can shorten the length of the queues and decrease the amount of time VTAM spends searching those queues.

EAS Value for VTAM's Application

"EAS Value on the APPL Definition Statement" on page 59 contains a discussion of the effect of the EAS value on VTAM performance.

Maximum Subarea Number

If VTAM is interconnected to a back-level network that contains relatively few subareas, performance may be improved by decreasing the value in the ISTRACON field named RACSASUP. This field represents the largest subarea number supported by the back-level network.

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Note: Under no circumstances should the value in this field be increased above 255.

Reducing Table Search Time

The VTAM replaceable constants module contains two fields that determine the size of tables used to find element addresses and function management control blocks. These two fields are RACHNTSZ and RACCITSZ, respectively. Performance may be improved by increasing the size of these two tables, since chaining to additional blocks of entries will be reduced. However, storage may be used less efficiently if larger tables are used.

VTAM Internal Trace

The VTAM internal trace (VIT) can affect VTAM's CPU utilization. Except when isolating VTAM problems, you should keep the number of VIT trace options to a minimum.[8] By default the VIT is active with no option being traced. This will log all exception entries.

These exception conditions include:

- Storage request failures
- VTAM application requests with nonzero return codes
- PIUs with nonzero sense codes
- SSCP functions that receive an error.

MVS Fixing Storage

Storage for pageable buffer pools and pageable link pack area (LPA) modules can be fixed.

The only buffer pools that should be considered for fixing are those pools having control blocks in the mainline steady-state path. Usually these control blocks will be in storage because they are frequently referenced. However, if the transaction rate is low, and the host is heavily loaded with other activities, the response time may be improved by fixing some of the pageable buffer pools. The candidates for fixing are WPBUF, LPBUF, and CRPLBUF.

Modules that are normally loaded in pageable LPA can optionally be loaded into the fixed LPA. The only VTAM candidates for this area are the mainline steady-state load modules. When the transaction rate is high, these modules remain in storage. However, if the transaction rate is low, and the host is heavily loaded with other activity, the response time may be improved by putting these modules in fixed LPA. The load modules include ISTAICIR, ISTAICPT, ISTNACRT, ISTTSCCR, and ISTTSCVT.

---

[8] Note that performance degradation increases as the number of active options increases.

VM Locking Storage

Response time **may** be improved by locking the CRPLBUF and WPBUF buffer pools. This is particularly true of systems where long periods of inactivity may cause these buffer pools to be paged out. You can lock these pools by using the F operand of the buffer pool start option.

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Chapter 3. Defining User-Replaceable Tables and Modules

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Chapter 3. Defining User-Replaceable Tables and Modules

This chapter discusses how to create or modify user-replaceable tables and modules.

The MODIFY TABLE operator command lets you dynamically replace COS, interpret, logon mode, and USS definition tables. Before you can use the MODIFY TABLE command to replace a USS or interpret table assembled from pre-V3R2 macroinstruction libraries, the replacing table must be reassembled using the VTAM V3R2 macroinstruction libraries.

Format of Macroinstructions in This Book

This section describes the conventions used in this book to explain the syntax of macroinstructions and the rules used to code them.

The rules summarized here are assembler language rules.

VTAM macroinstructions have the following format:

Name	Operation	Operands
Symbolic name	Macroinstruction	Required and optional operands

The Name field symbolically identifies the macroinstruction. If a symbolic name is specified in the field, it must contain 1–8 characters in the following format:

First character: alphabetic (A–Z) or the national characters @, #, or $

Second through eighth characters: alphanumeric (A–Z or 0–9) or the national characters @, #, or $.

Note: Alphabetic characters must be in upper case. The results of their being in lower case are unpredictable.

The name must begin in the first position of the macroinstruction or definition statement and must be followed by one or more blanks. If the description indicates that the name is optional, you may still want to code it, since VTAM uses it in operator messages referring to the resource defined.

The operation field identifies the macroinstruction. It must be preceded and followed by one or more blanks.

The operands field contains operands coded in any order and separated by commas. The operands field ends with one or more blanks placed after the last operand. In most macroinstructions, keyword operands are used in the operands field. Keyword operands are followed by an equal sign (=) and the keyword value. The keyword value can be a single value or a list of values. If it is a list of values, the values must be separated by commas and the list must be enclosed in parentheses. If the value is specified as *name* then it must follow the rules for formation of a symbolic name on page 65.

Comments can be written after the operands field, but they must be separated from the last operand of the operands field by one or more blanks. Comments can be continued on the next line beginning in column sixteen. An entire line can be used for a comment by placing an asterisk in the first column of the line. A macroinstruction that has no operands cannot have comments on the same line as the operation code.

VTAM macroinstructions are coded in columns 1–71 of a line. A macroinstruction that exceeds 71 columns can be continued on one or more additional lines by placing a nonblank character in column 72 to indicate continuation. The operands can be interrupted either at column 71 or after any comma that separates operands. The continued portion must begin in column 16 of the following line. Comments can appear on every line of a continued statement. Columns 73–80 can be used to code identification characters, statement sequence characters, or both.

Symbols Used in This Book

This section lists the conventions used in this publication to illustrate the format and coding of macroinstructions.

Capital Letters: Capital letters represent values that are coded directly, without change. Brackets [ ], the "or" bar |, underlines, and subscripts are never coded.

Lowercase Letters: Lowercase letters represent operands for which a value or name must be supplied if the operand is coded.

Brackets [ ]: Brackets enclose operands or symbols that are either optional or conditional. Conversely, the lack of brackets indicates that an item or group of items must be coded.

An optional operand is one that can be coded or omitted independently of other operands that are coded or omitted. Depending on the operand, omitting it might cause the corresponding feature or function to be omitted or included; omitting it can also cause a specific value (the default value) to be assigned. When the syntax of a macroinstruction is shown in this book, any operands that are always required appear first, followed by the optional or conditional operands in alphabetical order.

Vertical "or" Bar (|): A vertical bar between operands indicates that one operand must be coded from among the values separated by the "or" bar.

Parentheses, Equal Signs, and Commas: Parentheses, equal signs, and commas are coded as shown.

Underlined Values: An underlined value represents the value that VTAM or the NCP uses if the operand is omitted (the default value).

Braces { }: Braces indicate mutually exclusive operands.

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Class-of-Service (COS) Table

You define classes of service by creating a class-of-service (COS) table with entries that contain lists of routes grouped according to certain characteristics (see the general discussion of class of service on page 3). By specifying the name of an entry from the COS table in the logon mode table associated with a session, you can select the list of routes you want to be used for the session.

The SSCP that owns the secondary logical unit (SLU) in a prospective session sends the COS name, if one has been specified, to the SSCP that owns the primary logical unit (PLU) in the session. The SSCP that owns the PLU resolves this COS name to a list of virtual routes (in order of preference) for a session. This SSCP also sends the list of virtual routes to the subarea node associated with the PLU. The PLU subarea node activates one of the routes from the VR list and informs the SSCP which route was chosen when the session is successfully established.

VTAM does not provide a default COS table. However, it does have a default COS selection algorithm. For more information on this default algorithm, see *Network Program Products Planning*.

Selecting the Default Virtual Route List

Selection of the default virtual route list follows the same rules for all COS tables. If the unnamed class-of-service entry (identified by a name consisting of eight blanks) is requested, but is not available in the appropriate table, VTAM uses the default virtual route list. If the SSCP class of service (ISTVTCOS) is not present in the table, the unnamed COS entry is used, if present. Otherwise, the default virtual route list is used. See Figure 4 on page 5.

In a gateway NCP, the SSCP COS entry applies only to SSCP-SSCP sessions, since this is the only type of SSCP session that crosses network boundaries. That is, an SSCP-PU or SSCP-LU session does not cross network boundaries.

You need not define a COS table if the only COS names to be used are ISTVTCOS and the unnamed class of service. In this case, VTAM uses its own default virtual route list as follows:

```
VR0.TP0,...,VR7.TP0
VR0.TP1,...,VR7.TP1
VR0.TP2,...,VR7.TP2
```

VTAM also uses its own default virtual route list when a cross-network SSCP-SSCP session activation is attempted with a COS name other than ISTVTCOS or the unnamed class of service. Session activation proceeds, but a message is sent to warn the operator that the COS table should be corrected. Whenever convenient, the operator should have the problem corrected and restart VTAM.

Installing a COS Table

A COS table is defined by specifying a COSTAB macroinstruction, one or more COS macroinstructions, and a COSEND macroinstruction. In a single-network installation, the assembled output of this process must be named ISTSDCOS. A VTAM acting as a gateway SSCP, designated to resolve COS names for a gateway NCP, uses the COS table named on the NETWORK or BUILD definition statement in the gateway NCP's generation deck.

This table should be link-edited into:

MVS A library associated with the VTAMLIB DD statement as a nonexecutable data module

VSE A private definition library referenced in the VTAM start procedure

VM The VTAMUSER LOADLIB.

Note: See "Installing Tables and Modules in VM" on page 207 for information on using VMFLKED to link-edit this table.

VTAM loads the resulting load module during initialization processing and uses it later for session establishment.

Using COS Tables in Interconnected Networks

Several important topics to consider when using COS tables for interconnected networks are:

- Using COS tables for gateway SSCPs and gateway NCPs
- Using multiple identical COS tables; that is, using one COS table for more than one network or for more than one subarea node within a single network
- Using different COS tables for interconnected networks
- Conflicting COS table names.

The following sections describe how to use COS tables for interconnected networks. This section concludes with an example of using a COS table in a back-to-back configuration.

Using COS Tables for Gateway SSCPs and Gateway NCPs

You may define different COS tables for VTAM to use within its own network or within gateway NCPs that it owns. When the PLU is in VTAM's subarea, VTAM uses ISTSDCOS to resolve the class-of-service name to a virtual route list. The virtual routes originating in the host subarea extend to the SLU's subarea node or to a gateway NCP providing a path to the SLU.

When VTAM is acting as a gateway SSCP that has been designated to resolve COS names for a gateway NCP, VTAM uses the COS table named on the NETWORK or BUILD definition statement in the gateway NCP's generation deck. The COS table named on the NETWORK definition statement is used if the gateway SSCP needs to resolve the list of virtual routes to another network. The COS table named on the BUILD definition statement is used if the virtual route list is in the same network as the gateway SSCP. The gateway SSCP passes the virtual route list to the gateway NCP, and the gateway NCP performs the route activation for one of the routes in the resulting virtual route list within that network.

All of the COS tables to be used for gateway NCPs controlled by a gateway SSCP must be available to that SSCP. If VTAM attempts to load a COS table that it cannot find, session requests associated with the table will fail.

If more than one gateway SSCP shares control of a gateway NCP, those gateway SSCPs can be defined in such a way that some of them allow the others to resolve the COS name. This is specified by the GWCTL operand on the PCCU definition statement. In this case, only those gateway SSCPs responsible for resolving COS names for that gateway NCP must have the COS tables stored in their hosts.

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Using Multiple Identical COS Tables

The same COS table can be used for more than one network. You can also create a universal COS table to be used for all networks. This is possible if the COS names are the same and if virtual routes originating in different subarea nodes have identical VR numbers for routes providing the same levels of service.

If the same COS table can be used in more than one network connected to a gateway NCP, code the same table name on the COSTAB operands for the BUILD or NETWORK macroinstructions representing those networks in the NCP major node. VTAM will load only a single copy of the table into VTAM's storage.

Using Different COS Tables

If your interconnected networks require different COS tables, you can associate these table names with their proper networks by coding the table names on the COSTAB operands of the appropriate BUILD or NETWORK definition statements in the NCP generation decks.

Conflicting COS Table Names

The COS table for routes originating in a VTAM host must be named ISTSDCOS. If the same COS table can be used for a gateway NCP that is controlled by a **different** VTAM host, the COS table must be stored in the other VTAM host under some name other than ISTSDCOS (unless that VTAM can also share the same COS table for routes originating in that host).

Example of COS Tables Used in a Back-to-Back Configuration

In Figure 29, networks NETA and NETB are connected in a back-to-back configuration.

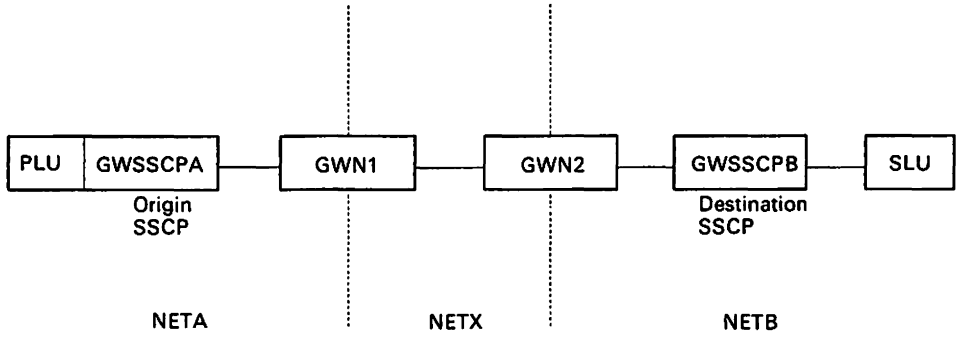

Figure 29. Example of a Back-to-Back Configuration

The session between the PLU in NETA and the SLU in NETB uses three routes:

1. A route within NETA from the PLU's subarea to the gateway NCP's (GWN1's) subarea in NETA
2. A route from the NETX subarea within GWN1 to the NETX subarea within GWN2
3. A route from the NETB subarea within GWN2 to the SLU's subarea.

Assuming that GWN1's resources reside in NETA (that is, NETA is GWN1's native network), GWN1's generation deck contains the following definitions:

```
BUILD    NETID=NETA,...,COSTAB=COSNETA1
:
NETWORK  NETID=NETX,...,COSTAB=COSNETX1
```

Also, assuming that GWN2's native network is NETB, GWN2's generation deck contains these definitions:

```
BUILD    NETID=NETB,...,COSTAB=COSNETB2
:
NETWORK  NETID=NETX,...,COSTAB=COSNETX2
```

The following COS tables are used:

1. In GWSSCPA, the SSCP of the PLU will use ISTSDCOS to select the list of virtual routes in NETA from which a route is selected for the session.
2. GWSSCPA, as the gateway SSCP controlling GWN1, resolves the COS name for NETX to a list of virtual routes in NETX. It uses the table COSNETX1.
3. GWSSCPB, as the gateway SSCP controlling GWN2, resolves the COS name for NETB to a list of virtual routes in NETB. It uses the table COSNETB2.
4. GWSSCPB, as the gateway SSCP controlling GWN2, resolves the COS name for NETX to a list of virtual routes in NETX. It uses the table COSNETX2.

The COSTAB Macroinstruction

The name on the COSTAB macroinstruction is the name of the class of service CSECT. This macroinstruction defines the beginning of the COS table and must precede all COS definition entries.

The format of the COSTAB macroinstruction is:

Name	Operation	Operands
name	COSTAB	

name
specifies a 1–8 character symbolic name of the class of service. This name is required. In a single network installation, you must specify ISTSDCOS as the COS table name.

This macroinstruction has no operands.

The COS Macroinstruction

The COS macroinstruction defines a class-of-service entry.

Name	Operation	Operands
[name]	COS	VR=(vr#,tp#)|((vr#,tp#),(vr#,tp#),...)

name
specifies the 1–8 character symbolic name of the class of service; if not specified, the unnamed default class of service is assumed. For SSCP sessions, specify ISTVTCOS as the COS name.

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VR

specifies one or more ordered pairs of numbers that must satisfy the following rules.

- Each pair must be enclosed within parentheses and must consist of a virtual route number (*vr#*) and a transmission priority indicator number (*tp#*).
- If more than one pair is specified, the entire list must be enclosed within parentheses and each pair must be separated by a comma.
- A virtual route number must be an integer 0–7.
- A transmission priority indicator number must be an integer 0–2, where:
  - 0 specifies low-priority session traffic
  - 1 specifies medium-priority session traffic
  - 2 specifies high-priority session traffic.
- A maximum of 24 ordered pairs may be specified.
- Virtual route selection attempts are performed in the order in which the pairs are specified. The sequence of pairs, therefore, should reflect the desired route selection order. See "Virtual Route Selection Exit Routine" on page 163.

The COSEND Macroinstruction

The COSEND macroinstruction marks the end of the class-of-service table.

Name	Operation	Operands
	COSEND	

This macroinstruction has no operands.

Interpret Tables

When a session-establishment request is received, VTAM uses the interpret table to determine which application program is to be notified. Each interpret table is defined by one INTAB macroinstruction, followed by at least one LOGCHAR macroinstruction, followed by one ENDINTAB macroinstruction. This section will discuss:

- Coding logon-interpret routines (APPLID routines)
- Logon-interpret routine requirements
- Installing and changing interpret tables
- Interpret table macroinstruction.

IBM does not supply a default logon-interpret routine. If you need one, you must code it. See *Network Program Products Planning* for more information.

Notes:

1. An independent LU does not support "uninterpreted" names; therefore, the interpret table does not apply to names received from an independent LU.
2. If you are using USERVARS, you cannot use an interpret routine.

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Coding Logon-Interpret Routines

You can code logon-interpret routines to validate logons and determine the name of the application program that is to receive the logons. The entry point name must match the *routine name* specified in the APPLID=(ROUTINE,*routinename*) operand in the LOGCHAR macroinstruction. All logon-interpret routines specified in an interpret table must be assembled and link-edited with that interpret table.

Logon-Interpret Routine Requirements

Entry from: VTAM to entry point *routinename*.

Contents of registers at entry:

Register 0:	Length of logon message
Register 1:	Address of first byte of logon message
Register 13:	Address of a 72-byte save area provided by VTAM
Register 14:	Return address
Register 15:	Address of entry point of this routine.

Operation: The logon-interpret routine is run synchronously in pageable storage under the control of VTAM and not under the control of an application program. For the application program to receive the logon, this routine must validate the logon, obtain the symbolic name of the application program to receive control, and provide this name to VTAM. Otherwise, the routine specifies that the logon is invalid or that the name of the application program was not found.

Because the logon-interpret routine operates at VTAM's main task dispatching priority, there is a possibility of lockout if a wait requires another task action. The routine gets control in supervisor state with a VTAM storage key, so errors within the routine could cause damage to VTAM or to system control blocks and modules.

The logon-interpret routine must also:

- Save and restore the contents of registers 2 – 14 when receiving and passing control
- Use re-enterable code (the routine must not store anything within itself or modify itself during execution)
- Perform no I/O operations; an I/O request causes the routine to terminate abnormally.

Notes:

1. The logon message that is passed to the interpret routine is read-only, and cannot be modified.
2. MVS/XA All data is addressable only in 24-bit mode.

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Contents of Registers at Exit: Registers 0 and 1 contain the name of the application program (in EBCDIC characters) with which the LU is to establish a session:

Register 0: First 4 characters of name (left-justified).

Register 1: Last 4 characters of name (left-justified).

Registers 2 – 14: Restored to condition at entry.

Register 15: Return code:

00	Application program was found and the name placed in registers 0 and 1.
Nonzero	Application program was not found and the name is not placed in registers 0 and 1.

If the name of the application program contains fewer than 8 characters, use blanks to provide a name with 8 characters.

Installing and Changing Interpret Tables

Follow these steps to install each interpret table and any user-written routines:

1. Assemble the interpret table and the user-written routines referred to by the LOGCHAR macroinstruction.

   The user-written routines can be placed in:

   MVS A private call library
   VSE A private definition library referenced in the VTAM start procedure
   VM The VTAMUSER LOADLIB.

2. Link-edit the interpret table with its associated routines, preferably assigning a module name that matches the name of the interpret table as specified with the INTAB macroinstruction.

   For pre-V3R2 these changes must be made before VTAM is started. For V3R2 the MODIFY TABLE command allows the user to dynamically replace the interpret table without taking VTAM down and restarting it.

   This interpret table must be link-edited into the appropriate library (as an non-executable data module). These libraries are:

   MVS A library identified by the VTAMLIB DD statement
   VSE A private definition library referenced in the VTAM start procedure
   VM The VTAMUSER LOADLIB.

   See "Installing Tables and Modules in VM" on page 207 for information on using VMFLKED to link-edit this table.

3. Code the assigned name in the LOGTAB operand of the appropriate macroinstruction or definition statement to associate the logical unit or logical units with this interpret table (see *VTAM Installation and Resource Definition* for information on specifying the LOGTAB operand in definition statements).

To add a LOGCHAR macroinstruction to an installed interpret table or to replace an installed interpret table, add or replace the LOGCHAR macroinstruction in the source deck, and assemble and link-edit the new interpret table, replacing the old module.

For pre-V3R2 these changes must be made before VTAM is started. For V3R2 the MODIFY TABLE command allows the user to dynamically replace the interpret table without taking VTAM down and restarting it.

The control sections of the interpret table module consist of the interpret table itself and a CSECT for each user-written routine identified by the ROUTINE operand of the LOGCHAR macroinstruction. Individual CSECTs can be extracted when the interpret table is link-edited. Because reprocessing a load module deletes the END statement, use the linkage editor ENTRY control statement to specify the entry point of the new load module. For linkage editor requirements, refer to *MVS/XA Linkage Editor and Loader*, *VM/SP Installation Guide*, or *VSE/Advanced Functions System Control Statements*.

To change the name of an installed interpret table:

1. Change the name specified on the INTAB macroinstruction and follow the procedure outlined above. When link-editing the interpret table, the module name and entry point must be made to match the new name of the interpret table.
2. Change the LOGTAB operand in all affected macroinstructions and definition statements.
3. File the corrected NCP source deck and the corrected set of definition statements in the VTAM definition library, replacing the old source decks. (The procedure is described in *VTAM Installation and Resource Definition*.) It is not necessary to do a partial NCP generation because the LOGTAB operand is used only by VTAM.
4. For V3R2, use the MODIFY TABLE command to associate the new table with the corresponding LU and load the table.

The INTAB Macroinstruction

The INTAB (interpret table) macroinstruction defines an interpret table that lists the VTAM application programs with which one or more LUs can establish a session. One INTAB macroinstruction defines the name of the interpret table and a group of logon message definitions.

The format of the INTAB macroinstruction is:

Name	Operation	Operands
[name]	INTAB	

name

Specification of a *name* is optional. If specified, however, it must be a unique name and should be used as the operand for the assembler language END statement.

When the INTAB, LOGCHAR, and ENDINTAB macroinstructions are assembled, this name is used to identify the entry point to the interpret table CSECT. This name can also be used as a member name for this interpret table when the linkage editor is being used to put the interpret table into the appropriate library. This assignment prevents different names from being used for the same interpret table (one for the entry point to the interpret table CSECT; and another as the name in the LOGTAB operand that other NCP and VTAM definition statements use to refer to this interpret table).

The interpret table will be used by terminals that are defined by NCP and VTAM definition statements. The name assigned to the interpret table in the VTAM definition library must therefore be coded in the LOGTAB operand of these statements.

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Note: If you are using USERVARs, you must use an interpret table and may not use an interpret routine.

The LOGCHAR Macroinstruction

Each LOGCHAR (logon characters) macroinstruction defines a single logon message and the name of an application program, a logon-interpret routine, or a USERVAR. More than one LOGCHAR macroinstruction can be included in an interpret table.

VTAM compares the logon message (character by character) with successive entries in the specified interpret table. If the leading characters in the logon message correspond to all the characters in an entry in the interpret table, VTAM accepts the logon message as valid (even though the logon message can be longer than the corresponding entry in the interpret table). If the first character or characters of a logon message are identical, the LOGCHAR macroinstructions should be arranged so that the logon sequences for the logon messages are from the most restrictive (greatest number of characters) to the least restrictive (fewest number of characters). An example of this is:

```
SEQ1 LOGCHAR APPLID=(APPLICID,AP2),SEQNCE='LOG2'
SEQ2 LOGCHAR APPLID=(APPLICID,AP1),SEQNCE='LOG'
```

Otherwise, in the preceding example, if sequence LOG had preceded LOG2 in the interpret table, both logon messages LOG and LOG2 would be valid logons to application program AP1.

Note: Although a USERVAR can be defined only in the interpret table, the interpret table entry can be used in conjunction with a USS table to process an incoming character-coded LOGON. For details, see "Conversion of Character-Coded Commands" on page 87.

The format of the LOGCHAR macroinstruction is:

Name	Operation	Operands
[name]	LOGCHAR	APPLID=(APPLICID,appIname) (ROUTINE,routinename) (USERVAR,uservar name) [,SEQNCE='characters']

name
Specification of a *name* is optional.

APPLID=(APPLICID,appIname)
indicates the name of the application program, and is identical to the name assigned to the application program by an APPL definition statement.

APPLID=(ROUTINE,routinename)
indicates the routine name of the associated logon-interpret routine. All logon-interpret routines specified in an interpret table must be assembled and link-edited with that interpret table.

APPLID=(USERVAR,uservar name)
specifies a USERVAR. This USERVAR name consists of 1–8 alphanumeric characters, the first of which must be alphabetic. You must code this operand only if you intend to use USERVARs. You can define, delete, or change the name of the

VTAM application associated with this USERVAR through the MODIFY USERVAR command.

When you log on to an application for which a USERVAR has been defined using the character string specified by the SEQNCE operand of the LOGCHAR macroinstruction, VTAM attempts to find the name of the currently active application associated with the USERVAR, and, if successful, establishes a session with that application.

Note: If you are using USERVARS, you must use an interpret table and may not use an interpret routine.

Figure 30 illustrates the relationship between the USERVAR, the VTAM application name, and the logon message for the following:

```
name LOGCHAR APPLID=(USERVAR,IMSN),SEQNCE='IMS'
```

See *Network Program Products Planning* for more information on USERVARS.

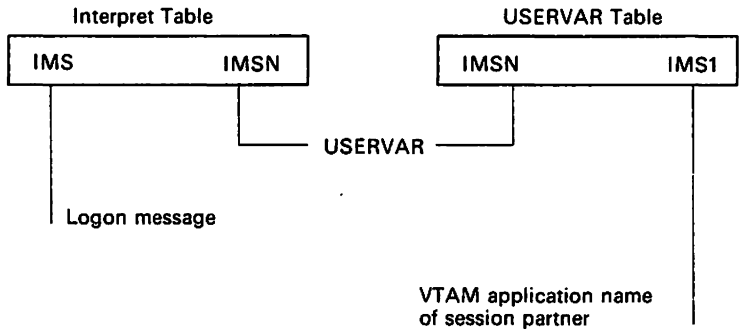

Figure 30. The USERVAR, the VTAM Application Name, and the Logon Message

SEQNCE = 'characters'
indicates the required part of an LU's logon message.

If '*characters*' is a logon message, optional information, which is not specified in the LOGCHAR macroinstruction, can be used by the logon-interpret routine (if the ROUTINE operand is specified), or by an application program's LOGON exit routine.

To specify an apostrophe or an ampersand within the logon message, code a double apostrophe or a double ampersand within the character string.

In order for a terminal user to use lowercase letters in the logon message, the character string must be coded using the lowercase EBCDIC codes.

Note: SEQNCE must be in uppercase in the interpret table for a successful USS logon using SEQNCE.

Do not specify leading and trailing device-control characters within a character string that is to be interpreted, because the USS facility deletes these characters. Device control characters coded within a logon message will be deleted; therefore, a blank should not be coded for each occurrence of these characters. However, if a character within the logon message will be translated to a blank by the interpret table, code a blank to represent that character.

For non-SNA terminals, the length of the entire logon message (required information plus optional information) is limited to the number of characters that can be accommodated on one line of the terminal screen, to a maximum of 255

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characters. For SNA terminals, the length is limited to 255 characters (VTAM deletes new line [NL] characters before the INTRPRET macroinstruction is completed).

If SEQNCE is not coded in one LOGCHAR macroinstruction and if a logon message does not match the character string of the SEQNCE operand in a preceding LOGCHAR macroinstruction in the interpret table, VTAM accepts this logon message and requests logon for this terminal to the application program specified in the LOGCHAR macroinstruction (the one in which SEQNCE is not coded). Therefore, do not place a LOGCHAR macroinstruction at the beginning of the interpret table (immediately following the INTAB macroinstruction) without coding the SEQNCE operand. Otherwise, the remaining logon messages in the interpret table are not compared with the logon message entered by the terminal user.

Note: If two or more LOGCHAR macroinstructions are used, they must be arranged so that their SEQNCE fields are in reverse collating order.

The ENDINTAB Macroinstruction

The end interpret table (ENDINTAB) macroinstruction defines the end of an interpret table. Code one ENDINTAB macroinstruction after one or more LOGCHAR macroinstructions to define the end of an interpret table. The ENDINTAB macroinstruction can also be followed by an assembler language END statement or by CSECTs containing one or more user-written logon-interpret routines.

The format of the ENDINTAB macroinstruction is:

Name	Operation	Operands
[name]	ENDINTAB	

name
The specification of a *name* is optional.

If an assembler language END statement is coded, it must be in the format:

```
END name
```

where *name* is the label of the INTAB macroinstruction and specifies the main entry point.

Follow the ENDINTAB macroinstruction with an assembler language END statement unless the interpret table is to be followed by CSECTs containing one or more user-written APPLID routines, as described under "The LOGCHAR Macroinstruction" on page 75.

Logon Mode Table

A logon mode table contains one or more sets of session parameters representing session protocols to be used in a session. It is defined by specifying a MODETAB macroinstruction, one or more MODEENT macroinstructions, and a MODEEND macroinstruction.

VTAM has an IBM-supplied logon mode table named ISTINCLM that provides generally accepted session protocols for a basic list of IBM device types.

MVS VSE The listing beginning on page 213 shows the macroinstructions that make up the MVS and VSE logon mode table.

VM The listing beginning on page 226 shows the macroinstructions that make up the default VM logon mode table. This table contains logmode entries for use with VSCS and the NetView™ program[9] or NCCF.

VM IBM provides additional tables for VM. These, too, are shown in the listing on page 226. One of these (ISTTABLE) contains entries for terminals that may not be using VSCS, for example, terminals that need to log on to TSO. In addition, there are eight IBM-supplied tables for use with the NetView program or NCCF and TAF. See "Customizing the Logon Mode Table" on page 190 for information on customizing the logon mode table for VSCS.

The source language for this table is included for your information with the code released to you as the VTAM V3R2 licensed program. It is located in the following library or file:

MVS SYS1.ASAMPLIB
VSE The same library where VTAM definitions are located
VM A file located on the VTM191 disk with file type ASSEMBLE.

You can modify or replace the IBM-supplied logon mode table, provided that the modified or replacement table has the same name as the IBM-supplied table and that the IBM-supplied table is deleted. However, it is recommended that you create supplementary tables instead of deleting the IBM-supplied table, since the IBM-supplied table might be needed for problem determination.

You can create or modify logon mode tables with MODETAB, MODEENT, and MODEEND macroinstructions. These macroinstructions are described in detail later in this chapter. A logon mode table can be associated with an LU by specifying the table's name in the MODETAB operand of the LU's definition statement. If you do not designate a logon mode table for an LU, VTAM uses the IBM-supplied logon mode table, ISTINCLM.

MVS TSO Query for Logmode

Associated with each terminal is a default logon mode table entry. Within this entry the primary and alternate screen sizes are specified, as well as a code that describes how these screen sizes are used.

The 11th byte of the MODEENT macroinstruction can have the value of hex 03 (PSERVICE = X'.....03..').

When the field is specified as hex 03:

- The primary screen size is 24x80, and
- The alternate screen size is determined by VTAM.

[9] NetView is a trademark of International Business Machines Corporation.

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System programmers do not have to code different logon mode table entries for TSO users when the only difference is the screen size.

Users logging on to TSO with a screen size different than the default do not have to specify a logon mode table entry. The screen size will be determined dynamically.

Note: The 3274 Terminal Controller must be at release 65 or higher, or the logon will fail.

Additional information on logon mode tables for TSO/VTAM users is in *VTAM Installation and Resource Definition*.

Installing a Logon Mode Table

Each logon mode table must be assembled and link-edited into the appropriate system library. The logon mode table is a nonexecutable data module. These libraries are:

MVS SYS1.VTAMLIB
VSE A private definition library referenced in the VTAM start procedure
VM The VTAMUSER LOADLIB.

See "Installing Tables and Modules in VM" on page 207 for information on using VMFLKED to link-edit this table. Prior to V3R2, if you replace a logon mode table with a new one that has the same name, the devices that were using the old table will not automatically use the new one. To make sure these devices use the new table, deactivate all major nodes for these devices, then reactivate them.

MVS The VTAM V3R2 user can use the MODIFY TABLE command to refresh or load the logon mode table instead of deactivating the major node.

The MODETAB Macroinstruction

The MODETAB macroinstruction indicates the beginning of a logon mode table and is coded as follows:

Name	Operation	Operands
[name]	MODETAB	

name
if coded, is used as a CSECT name for the logon mode table to be generated. This macroinstruction has no operands.

The MODEENT Macroinstruction

A MODEENT macroinstruction associates a logon mode name with a set of parameters representing session protocols. The component description for the device represented by the LU should describe the features you want to use and the session protocols required to use them. The section in *VTAM Programming* that describes the session parameter fields will tell you what bits must be set to obtain these session protocols. If a bit is identified as being reserved, set it to 0.

Once you have determined what bits must be set, convert the 8 bits in each byte of the session parameter field into the two equivalent hexadecimal digits. The value for each operand is the hexadecimal equivalent of the bits in the byte with which the operand is associated. For example, the operand PRIPROT is associated with

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byte 3 of the session parameter field. If you decide, for example, that the appropriate bit settings for the byte are 1111 0001, then code PRIPROT=X'F1'.

For the FMPROF and TSPROF operands, *value* can be specified as unframed decimal digits (for example, 4), or as framed hexadecimal digits (for example, X'04'). The other operands require hexadecimal values.

The MODEENT macroinstruction is coded as shown below and follows the MODETAB or another MODEENT macroinstruction.

Name	Operation	Operands
[name]	MODEENT	[COMPROT=value|**0**] [,COS=name] [,DCODE=value] MVS (V3R2 Only) [,ENCR=value|**0**][1] [,FMPROF=value|**0**] [,LANG=values] MVS/XA (V3R2 Only) [,LOGMODE=name] [,PRIPROT=value|**0**] [,PSERVIC=value|**0**] [,PSNDPAC=value|**0**][2] [,RUSIZES=value][2] [,SECPROT=value|**0**] [,SRCVPAC=value|**0**][2] [,SSNDPAC=value|**0**][2] [,TSPROF=value|**0**] [,TYPE=value|**1**]

Notes:

1. MVS For the VTAM data encryption facility only.
2. If the session partner of the LU for which this mode table applies is an independent LU, only the RUSIZES, PSNDPAC, SRCVPAC, and SSNDPAC operands are applicable.

name
is optional and has no function in the specification of a logon mode table.

COMPROT=value|0
represents the common LU protocols (bytes 5 and 6 in the session parameter field) for this logon mode. Any hexadecimal number in the range 0–FFFF can be specified for *value*. The default value is 0.

COS=name
specifies the name of the class of service to be used for a session that uses this logon mode. It should be a 1–8 character name. If COS is omitted, eight blanks will be stored into the COS field in the mode entry. This blank name is the default COS.

DCODE=value MVS (V3R2 Only)
defines the LU device code. This device code allows VTAM to give applications enough information to decide if a TWX or WTTY device is a keyboard and printer or a keyboard and display terminal.

value can be one of the following:

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X'00' The terminal is a keyboard and printer
X'80' The terminal is a keyboard and display.

If an invalid value is specified for DCODE, or the parameter is not specified at all, the device is assumed to be a keyboard and printer.

ENCR = value|0 MVS
can be specified for the VTAM data encryption facility. ENCR = *value* specifies what type of cryptography is expected by the LU. Any hexadecimal number in the range 0 – F (or an equivalent decimal value) can be specified. A 4-bit binary string (for example, ENCR = B'0001') can also be specified. The default value is 0.

The ENCR value is converted to a 4-bit string, which is treated as two 2-bit fields. The meanings of the bit settings are as follows:

xx.. Private cryptography field

00.. No private cryptography

01.. Private cryptography used

..xx VTAM cryptography field

..00 No session-level cryptography

..01 Selective cryptography; the primary LU can encipher messages and the secondary LU must support cryptography

..10 Reserved

..11 Mandatory cryptography; all messages on this session will be enciphered and deciphered.

This value is stored in the first 4 bits of byte 26 in the session parameter field.

Note: In order to use the VTAM data encryption facility, the IBM-programmed cryptographic facility must be started before VTAM is started.

FMPROF = value|0
represents the function management profile (byte 1 in the session parameter field) for this logon mode. Any hexadecimal number in the range 0 – FF (or its equivalent decimal value) can be specified for *value*. Values 2, 3, 4, 7, and 18 have defined meanings that are described in *VTAM Programming*. The default value is 0.

LANG = value MVS/XA **(V3R2 Only)**
defines a translation character set for use with 5550 or 3270 terminals running under TSO/VTAM. The Kanji and Katakana character sets support the 5550 terminal. Any decimal number in the range 0 – 255 can be specified for *value*. Equivalently, any hexadecimal number in the range 0 – FF can be specified for *value* by using the standard assembler notation X'*value*'. Hex values 00, 01, 11, 80, 81, and 91 have defined meanings as described below. The default value is hex 01.

The meanings of the LANG value are as follows:

Bit 0123 4567	Description
0...	The language is identified from the code specified in bits 1–7. The device is assumed incapable of double-byte character set (DBCS) processing.
1...	A query command is sent to the device to determine the language and DBCS capability. If the language cannot be determined from the input received from the query, the language is identified from the code specified in bits 1–7.
.000 0000 or .000 0001	The language is U.S. English or any single-byte character set (SBCS) in which the valid character codes are compatible with the English codes.
.001 0001	The language is Katakana, or any SBCS in which the valid character codes are compatible with Katakana.

See *3274 Control Unit Description and Programmer's Guide* for the set of valid character codes for Katakana. The 3274 Control Unit must be at microcode level 65 or higher in order to use the LANG parameter.

Note: The only way to establish a Kanji character-translation set (or alternate double-byte character set (DBCS)) is to query the device by specifying LANG=X'80' in the MODEENT macroinstruction. The correct character translation set for the device will be established from the input received from the device as a result of the query command.

LOGMODE = name
specifies the logon mode name to be used as a key for the session parameters in this table entry. If duplicate names appear in the table, the first occurrence of the name is used. If LOGMODE is omitted, eight blanks are used.

PRIPROT = value|0
represents the primary LU protocol (byte 3 in the session parameter field) for this logon mode. Any hexadecimal number in the range 0–FF can be specified for *value*. The default value is 0.

PSERVIC = value|0
represents the LU presentation services profile and usage field (bytes 13–24 in the session parameter field) for this logon mode. Code a 24-digit hexadecimal number as the *value*, using the bit settings described in "Specifying Session Parameters" in *VTAM Programming* as a guide. If the PSERVIC operand is not coded, a value of 0 is assumed.

VM See "The PSERVIC Operand of the MODEENT Macroinstruction" on page 191 for special considerations when coding this field for VM SNA console support (VSCS).

PSNDPAC = value|0
specifies the primary send pacing count (byte 11 in the session parameter field). Any hexadecimal number in the range 0–3F can be coded. See "Defining Session Pacing Values" in *VTAM Installation and Resource Definition* for more information on primary send pacing. If the PSNDPAC operand is not coded, a value of 0 is assumed.

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RUSIZES=value
represents a portion of the transmission services usage field (bytes 9 and 10 in the session parameter field) for this logon mode. It specifies the maximum length of data (request units) in bytes that the primary LU and secondary LU can send to each other.

Specify RUSIZES as four hexadecimal digits. The leftmost two digits apply to the secondary LU, and the rightmost two digits apply to the primary LU. The format is the same for both sets of digits. The first digit is the mantissa (m) and the second digit is the exponent (n) in the formula $m \times 2^n$, from which is calculated the maximum length of data that can be sent by the primary or secondary LU. For example, RUSIZES=X'96A8' specifies that the secondary LU can send a maximum length of 9×2^6 (or 576) bytes and that the primary LU can send a maximum of 10×2^8 (or 2560) bytes. The digit representing the mantissa must be in the range hex 8–F while the digit representing the exponent must be in the range hex 0–F. If both the mantissa and exponent are set to zero or if RUSIZES is not specified, the default size is used. The default indicates there is no limit on the size of the RU that may be sent.

SECPROT=value|0
represents the secondary LU protocol (byte 4 in the session parameter field) for this logon mode. Any hexadecimal number in the range 0–FF can be specified for *value*. The default value is 0.

SRCVPAC=value|0
specifies the secondary receive pacing count (byte 8 in the session parameter field). Any hexadecimal number in the range 0–3F can be coded. If the SRCVPAC operand is not coded, a value of 0 is assumed.

SSNDPAC=value|0
specifies the secondary send pacing count (byte 7 in the session parameter field). Any hexadecimal number in the range 0–3F can be coded. See "Defining Pacing Values" in *VTAM Installation and Resource Definition* for more information on secondary send pacing. If the SRCVPAC operand is not coded, a value of 0 is assumed.

TSPROF=value|0
represents the transmission services profile (byte 2 in the session parameter field) for this logon mode. Any hexadecimal number in the range 0–FF (or its equivalent decimal value) can be specified for *value*. Values 2, 3, 4, and 7 have defined meanings that are described in *VTAM Programming*. The default value is 0.

TYPE=value|1
indicates the type of BIND command represented by this logmode entry (bits 4–7 of byte 0 in the session parameter field). While only the values of 0 and 1 are defined, any hexadecimal value between 0 and F can be specified. If 0 is specified, the LOGMODE entry represents session parameters that could be sent in a negotiable BIND. If 1 is specified, a non-negotiable BIND should be sent. The default value is 1.

Note that specifying TYPE=0 (indicating a negotiable BIND entry) does **not** cause VTAM to necessarily send a negotiable BIND to the secondary LU. The LOGMODE entry can indicate only that the secondary LU can support a negotiable BIND. The application program issuing the OPNDST macroinstruction must specify PROC=NEGBIND (in the NIB) before VTAM will send a negotiable BIND command. For more information on negotiable BIND, see *VTAM Programming*.

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The MODEEND Macroinstruction

The MODEEND macroinstruction indicates the end of the logon mode table. It **must** be coded after the last MODEENT macroinstruction as follows:

Name	Operation	Operands
[name]	MODEEND	

name
is optional and has no function in the specification of the logon mode table.

This macroinstruction has no operands.

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USS Definition Tables

VTAM contains two IBM-supplied USS definition tables, which it uses to define certain commands and messages. You can optionally redefine these commands and messages by creating your own tables to be used in addition to the IBM-supplied tables. The commands and messages that are defined in these USS tables are called *USS commands* and *USS messages*. Whenever VTAM receives a USS command, it uses one of these tables to process the command. Similarly, whenever VTAM is to send a USS message, it uses one of these tables to determine the message text and other characteristics of the message.

VTAM uses USS tables for two distinct functions:

- The *session-level USS table* handles commands that can be received from a dependent logical unit (such as IBMTEST) and messages that are sent by VTAM to a dependent logical unit (such as the IBMECHO messages that result from IBMTEST). The IBM-supplied session-level USS table is named ISTINCDT. Included as part of this table is an IBM-supplied translation table named STDTRANS. The listing beginning on page 257 shows the macroinstructions that make up this table.

  A session-level USS definition table can be associated with a logical unit by specifying the table's name in the USSTAB operand of the logical unit's LU definition statement. If you do not designate a USS definition table for a logical unit, VTAM uses the IBM-supplied USS definition table.

- The *operation-level USS table* handles USS commands that can be received from the VTAM operator (such as DISPLAY ROUTE) and messages that are sent by VTAM to the VTAM operator (such as the messages that result from entering DISPLAY ROUTE). The IBM-supplied operation-level USS table is named ISTINCNO.

  This table contains the operands and defaults for the following commands:

  - All DISPLAY commands
  - All MODIFY commands
  - VARY NOLOGON
  - VARY TERM
  - VARY ACT (V3R2 only)
  - VARY ACQ (V3R2 only)
  - VARY INACT (V3R2 only).

  For a more detailed discussion of these commands, see *VTAM Operation*.

  This table also contains the definitions for VTAM operator messages IST000I through IST999E. Other messages, such as TSO/VTAM messages, are provided through other facilities. For an explanation of these messages, see *VTAM Messages and Codes*.

  An operation-level USS definition table can be specified for the VTAM operator by specifying the table's name in the USSTAB start option. If you do not designate a USS definition table for the VTAM operator, VTAM uses the IBM-supplied USS definition table, ISTINCDT.

  An operation-level USS definition table can be associated with a program operator by using the SSCPFM and USSTAB operands of the program operator's APPL definition statement. If you do not designate a USS definition table for a program operator, VTAM uses an IBM-supplied USS definition table, ISTINCNO.

Note: Changes to operator messages could disrupt operations of a program operator, particularly in routing messages. See *NetView Command Lists* for details.

The source language for these tables is included for your information with the code released to you as the VTAM V3 licensed program. It is located in the following libraries or files:

MVS SYS1.ASAMPLIB
VSE The same library where VTAM definitions are located
VM A file on the VTM191 disk with file type ASSEMBLE.

To create a USS definition table, assemble a USSTAB macroinstruction, followed by a USSCMD macroinstruction and its associated USSPARM macroinstructions for each command to be defined. Code a USSMSG macroinstruction for each message to be defined. If a character translation table is to be specified, code the table using assembler DC statements. If the table is to be part of another module, code an EXTRN statement for the table name. Follow this with a USSEND macroinstruction to indicate the end of the table definition. These macroinstructions are discussed in detail at the end of this section.

The IBM-supplied tables should not be deleted because they might be needed for problem determination.

This section also discusses:

- "Installing a USS Definition Table"
- "Order of USS Definition Table Use" on page 87
- "Conversion of Character-Coded Commands" on page 87
- "Character-Coded Command Syntax" on page 94
- "Terminal Operator Commands" on page 95
- "VTAM Operator Commands" on page 98
- "Redefining USS Messages" on page 102
- USS macroinstructions, beginning with "The USSTAB Macroinstruction" on page 104.

Installing a USS Definition Table

Assemble and link-edit the object module into the appropriate VTAM library as non-executable. These libraries are:

MVS SYS1.VTAMLIB
VSE A private definition library referenced in the VTAM start procedure
VM The VTAMUSER LOADLIB.

See "Installing Tables and Modules in VM" on page 207 for information on using VMFLKED to link-edit this module. Specify the module name in the USSTAB operand of the LU definition statement for each logical unit to be supported by this definition table.

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Order of USS Definition Table Use

When VTAM receives a character-coded USS command, it searches the IBM-supplied and user-supplied definition tables (if they exist) in a specific order. The order of table use is as follows:

- **For a translation table:** VTAM uses the translation table specified by the TABLE operand of the USSTAB macroinstruction associated with the logical unit, if such a table exists. If not, VTAM uses the translation table associated with the IBM-supplied USS definition table. If no such translation table exists, VTAM does no translation.

  For ISTINCDT: The associated translation table is STDTRANS. For ISTINCNO, there is no associated translation table (and therefore no translation).

- **For a verb:** If the verb is in a user-defined USS definition table, VTAM uses the translation for the verb provided by that table. Otherwise, it searches the IBM-supplied USS definition table for the verb and if the verb is found, VTAM uses the translation for the verb that is provided there. Otherwise, VTAM uses the verb as entered.

- **For parameters on a verb:** If the verb is in the IBM-supplied USS definition table or a user-defined USS definition table, VTAM searches that table for the parameter. If the parameter is found, VTAM uses the translation provided by the table. If neither the verb nor the parameter is found, VTAM uses the parameter as entered.

- **For messages:** If the message is in a user-supplied table, VTAM uses the text of the message provided by the table. If it is not, VTAM searches the IBM-supplied table and if the message is found, VTAM uses the message text provided there. Otherwise, VTAM issues the message "MESSAGE NOT DEFINED."

Note: If message IST116I is received because the USSTAB start option is invalid, the MODIFY TABLE,OPTION=ASSOC,ID=ISTNOP,OLDTAB=*,NEWTAB=*tablename* command can be used to supply a new USS table, *tablename*, for the network operator (represented by ISTNOP).

Conversion of Character-Coded Commands

As illustrated in Figure 31 on page 88, when VTAM receives a character-coded command, the following steps occur:

1. Media control characters are deleted from the command.

2. If the command is from a program operator or a VTAM operator, VTAM skips this step and goes to step 3.

   If the command is from a logical unit, and if an interpret table has been provided, VTAM uses the interpret table (see "Interpret Tables" on page 71 and *Network Program Products Planning*) to attempt to identify the name of the application program. If a corresponding entry in the interpret table is found, VTAM builds a LOGON command for the application program identified by the interpret table, using the entire character-coded command as the value for the DATA parameter. VTAM then proceeds directly to step 5.

3. If a USS table was specified for the originator of the command (a logical unit, program operator, or VTAM operator) and if a translation table is specified for that USS table, the character string is translated according to the specified translation table. If no USS table is specified for the originator of the command, or if no translation table is specified for the USS definition table, then VTAM uses the

translation table in the IBM-supplied USS definition table. If the IBM-supplied USS definition table (or a user-written replacement) does not specify a translation table, translation is not performed. If the IBM-supplied translation table (STDTRANS) is used, lowercase letters from a–z are replaced by the corresponding uppercase letters, horizontal tab characters are replaced with blanks, and all other characters remain unchanged.

Characters located between pairs of single quotation marks (for example, 'abc') are not translated. Operator ID card characters are not translated. An unpaired single quotation mark (') is identified by VTAM before character string translation and therefore cannot be translated or replaced. However, other characters can be translated into single quotation marks (if not between quotation marks). Unpaired quotation marks must not appear in the converted commands.

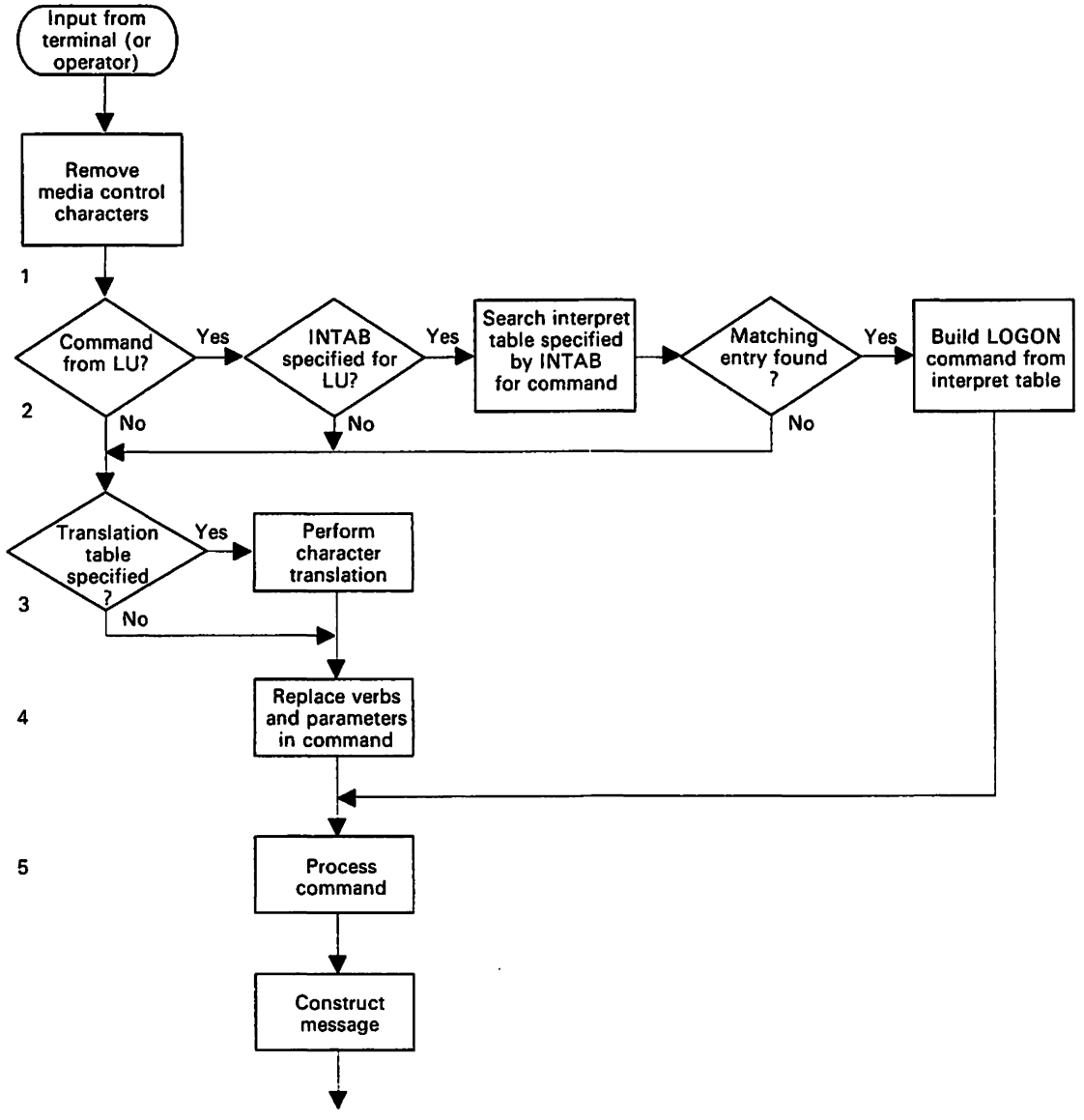

Figure 31. Conversion of Character-Coded Commands

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4. VTAM uses the resulting character string to construct a reformatted USS command. It does this by first using the verb (the first field) of the translated string to search the USS definition table for the associated entry built by the USSCMD macroinstruction. If a replacement verb was specified on USSCMD, that verb is placed in the reformatted USS command being constructed.

   Parameters in the character-coded command are replaced using information supplied by the USSPARM macroinstructions associated with the USSCMD macroinstruction. If a parameter was not supplied and a default was given on USSPARM, the default value is placed in the converted command; otherwise, the value in the character-coded command is used. If a parameter is specified more than once, the last specification of the parameter is used.

   If a parameter is replaced by a verb (REP=VERB is specified on USSPARM), VTAM goes through the replacement process again for the new verb and any associated parameters. (VTAM will go through the process only twice). If more than one parameter is replaced by a verb, only the last of these parameters is processed; the rest are ignored.

   VTAM deletes quotation marks in converted USS commands, but only if both the first and last characters in a value are quotation marks and all intervening single quotation marks are paired (two adjacent single quotation marks). The first and last single quotation marks are deleted and each sequence of the two adjacent single quotation marks is replaced by a single quotation mark. For example:

   `'Don''t tread on me.'` results in `Don't tread on me.`

   while

   `X'A4'(X'3F')` remains `X'A4'(X'3F')`

   The deletion of quotation marks occurs for all parameters of the converted command.

5. The converted command is then sent to the appropriate VTAM command processor to be executed and the message is constructed.

   Note: For LOGON requests, VTAM will again search the interpret table, after USS translation, looking just for the specified APPLID. This allows USS translation to be used in conjunction with interpret processing (for example, to use USS translation but still take advantage of USERVAR translation provided by interpret processing). See "Example 8" on page 93.

Examples of Command Conversion

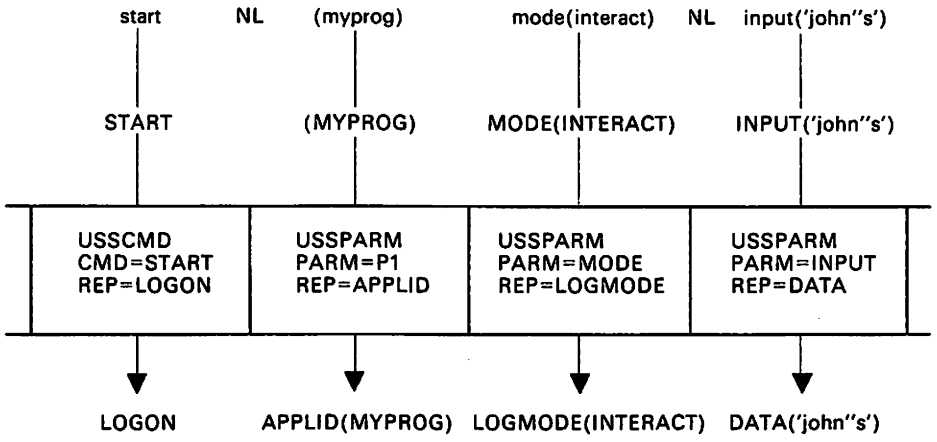
Example 1: Figure 32 provides an example of command conversion.

If this character coded command is entered:

The media control characters are first deleted, then a character-by-character translation is performed.

Note that no character translation is done to 'john' 's', because there are quotes around it. Next, the USS definition table is used ...

... to produce the converted command. The data string 'john' 's' is later changed to john's by the USS command processors.



If this VTAM operator command is entered:

The operating system passes this character string to VTAM:

VTAM processes the MODIFY command, changing the TNSTAT keyword into a TNSTAT command in PL1 format.

There is no replacement for TIME, so it is passed through unchanged.

VTAM processes the TNSTAT command, obtaining a default value for the OUTPUT parameter and passing TIME on unchanged.

The resulting converted command is sent to the VTAM command processors.

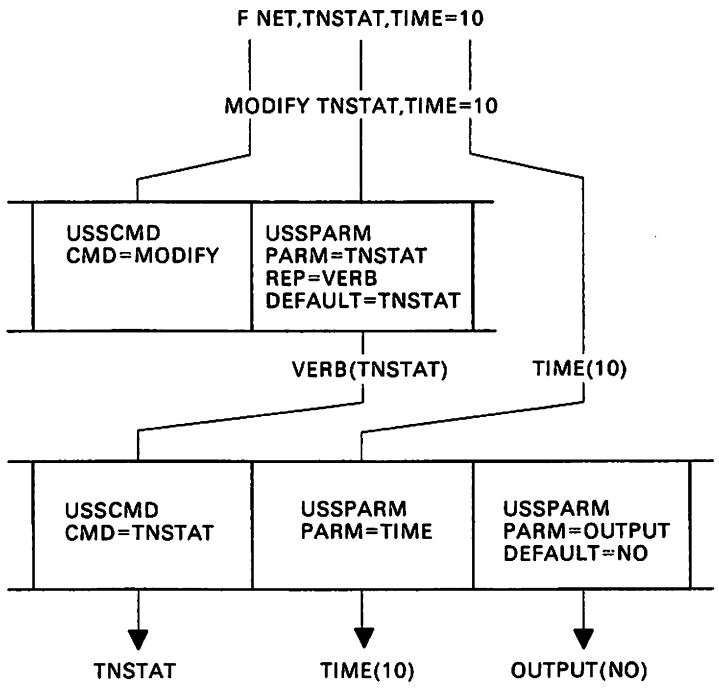


Figure 32. Example of Command Conversion

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Example 2: This example uses the following USS definition table:

```
   USSTAB
*
*  THE TNSTAT COMMAND - AS REDEFINED IN USER USS TABLE
*  ENTERED BY VTAM OPERATOR
*
   USSCMD CMD=TNSTAT,FORMAT=BAL
   USSPARM PARM=P1,REP=CNSL,DEFAULT=NO
   USSPARM PARM=P2,REP=TIME,DEFAULT=60
   USSEND
```

All parameters are omitted and are therefore supplied defaults during conversion. The command

```
F NET,TNSTAT
```

is converted to a command of the form

```
TNSTAT CNSL(NO) TIME(60)
```

Example 3: Examples 3 and 4 use the following USS definition table:

```
   USSTAB
*
*  THE LOFF COMMAND - FOR TERMINAL OPERATOR
*
   USSCMD CMD=LOFF,REP=LOGOFF,FORMAT=PL1
   USSPARM PARM=P1,REP=APPLID
   USSPARM PARM=T,REP=TYPE,DEFAULT=COND
   USSEND
```

This example demonstrates the use of positional and keyword parameters when FORMAT=PL1. The command

```
LOFF(PROG) T(COND)
```

is converted to a command of the form

```
LOGOFF APPLID(PROG) TYPE(COND)
```

Example 4: A null value is taken instead of a default value. The command

```
LOFF (PGM) T
```

is converted to a command of the form

```
LOGOFF APPLID(PGM) TYPE( )
```

Because T was coded, the default value specified in the definition table is not used. If T had not been coded, TYPE(COND) would have resulted. TYPE( ) causes unconditional termination. Note that if you replace DEFAULT=COND with VALUE=COND in the definition table entry (USSPARM PARM=T,REP=TYPE,VALUE=COND), this command results in a TYPE(COND) instead of TYPE( ).

Example 5: This example uses the following USS definition table:

```
   USSTAB
*
*  THE LON COMMAND - FOR TERMINAL OPERATOR
*
   USSCMD CMD=LON,REP=LOGON,FORMAT=BAL
   USSPARM PARM=P1,REP=APPLID,DEFAULT=TESTPROG
   USSPARM PARM=MODE,REP=LOGMODE,DEFAULT='PROMPT'
   USSPARM PARM=IN,REP=DATA
   USSEND
```

This example demonstrates the positional and keyword parameters when FORMAT=BAL. The command

```
LON PROGRAM,IN='7,3,JOhn'
```

results in a converted command of the form

```
LOGON APPLID(PROGRAM) LOGMODE(PROMPT) DATA('7,3,JOhn')
```

Note that no character translation was performed on JOhn because there were single quotation marks around it. Note also that the single quotation marks around PROMPT in the default declaration have been deleted (by the assembler when the USS table was assembled).

Example 6: This example uses the following USS definition table:

```
   USSTAB
*
*  THE IMR COMMAND - AS DEFINED IN IBM-SUPPLIED USS TABLE
*  ENTERED BY VTAM OPERATOR
*
   USSCMD CMD=IMR,FORMAT=BAL
   USSPARM PARM=OPT,DEFAULT=ACT
   USSPARM PARM=RECLIM,DEFAULT=10
   USSEND
```

This example uses a parameter (ID) that is not defined on the USS definition table above. The command

```
F NET,IMR,ID=PU12,OPT=ACT,RECLIM=200
```

results in a converted command of the form

```
IMR ID(PU12) OPT(ACT) RECLIM(200)
```

Because ID is not defined by a USSPARM macroinstruction in the USS table, the keyword is not changed during conversion.

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Example 7: This example uses the following USS definition table:

```
   USSTAB
*
*  THE XYZ COMMAND - AS DEFINED IN USER USS TABLE
*  ENTERED BY VTAM OPERATOR
*
   USSCMD CMD=MODIFY,FORMAT=BAL
   USSPARM PARM=XYZ,REP=VERB,VALUE=XYZ
*
   USSCMD CMD=XYZ,REP=IMR,FORMAT=BAL
   USSPARM PARM=OPT,DEFAULT=ACT
   USSPARM PARM=RECLIM,DEFAULT=10
   USSEND
```

This example shows how to rename a keyword that is replaced by a verb. The command

```
F NET,XYZ,ID=PU12
```

results, after the first pass, in a command of the form

```
VERB(XYZ) ID(PU12)
```

which in turn, after the second pass, results in a converted command of the form

```
IMR ID(PU12) OPT(ACT) RECLIM(10)
```

Note that the FORMAT=BAL specification on CMD=XYZ is ignored. After the first pass, VTAM uses the PL/I format for command processing.

Example 8: This example demonstrates the combined use of interpret and USS tables:

If it is desired to utilize the facilities of both the USS table and the interpret table, the SEQNCE parameters in the interpret table should be coded to **avoid** a match during the first search of the interpret table (which would prevent the USS table from being used). Instead, a USSPARM statement in the USS table should be used to specify an APPLID that will match an interpret table entry during the second pass.

- The interpret table is coded as follows:

```
XRFINTAB INTAB
         LOGCHAR  APPLID=(USERVAR,ZZIMSUV),SEQNCE='ZZIMS'
         ENDINTAB XRFINTAB
```

- The USS table is coded as follows:

```
XRFUSTAB USSTAB
         USSCMD   CMD=IMS,REP=LOGON,FORMAT=PL1
         USSPARM  PARM=P1,REP=APPLID,DEFAULT=ZZIMS
         USSPARM  PARM=P2,REP=LOGMODE,DEFAULT=ILOGMODE
         USSEND
         END      XRFUSTAB
```

- If the LOGON sequence entered by the terminal user is "IMS",
  - The interpret table will be searched for a matching entry, but none will be found.

- The message will be translated, using the information in the USS table, to read

  ```
  LOGON APPLID(ZZIMS) LOGMODE(ILOGMODE)
  ```

- The interpret table will be searched once again, this time using "ZZIMS", the string specified as the APPLID in the reformatted LOGON message. Since "ZZIMS" **does** match an entry in the interpret table, the information in that entry will be used. If the current value of the USERVAR ZZIMSUV is "IMS1", the session will be established to the IMS1 application.

- On the other hand, if the LOGON sequence entered by the terminal user is "ZZIMS", a match **will** be found during the initial search of the interpret table; so, the USS table will not be used (the LOGMODE parameter specified in the USS table will not be added). The USERVAR specified in the interpret table entry will still be used.

For further information, see *Network Program Products Planning.*

Character-Coded Command Syntax

The following characters can be used in a character-coded command:

- All graphics characters (greater than or equal to hex 40)
- BS (backspace: hex 16)
- HT (horizontal tab: hex 05)
- SSR (start secure reader string: hex 04)
- IRS (interchange record separator: hex 1E)
- NL (new line: hex 15); deleted from the character string before translation if SSCPFM=FSS or SSCPFM=USSSCS is specified
- 3270 SBA (set buffer address: hex 11); deleted from the character string before translation if SSCPFM=USS3270 or USS3275 or SSCPFM=USSSCS is specified
- 3270 AID (attention identifier); deleted from the character string before translation if SSCPFM=USS3270 or USS3275 is specified
- Hex 11 or hex 12, hex 3C, hex 16, hex 25, and hex 0D are deleted from the character string before translation if SSCPFM=USSNTO is specified.

In character-coded commands, parameter values cannot contain blanks, horizontal tabs, or unpaired parentheses except between paired single quotation marks. A parameter value cannot contain an odd number of single quotation marks.

After translation, verbs can contain from 1–8 alphanumeric characters, the first of which must be alphabetic (A–Z) or national characters ($, #, or @). Keywords can contain from 1–8 alphanumeric characters, the first of which must be alphabetic.

Values can contain any of the following characters:

- All graphics characters (greater than or equal to hex 40)
- BS (backspace: hex 16)
- HT (horizontal tab: hex 05)
- Data entered from a magnetic card reader.

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Magnetic card data from a BSC or type 1 PU 3270 device is supported only if the card data is used as the last data in a value within quotation marks for the last parameter of a command. The CLEAR key should be pressed before entering a character-coded command containing magnetic card reader data.

If FORMAT=PL1 is specified or assumed by default in the USSCMD macroinstruction, the following syntax for a character-coded command must be specified:

```
verb[(p1,p2,...)][keyword[(value)]][keyword[(value)]][...]
```

verb
identifies the command. It is followed by one or more blanks or by a left parenthesis (that is, positional parameters).

(p1,p2,...)
is used to enter one or more positional parameters. Note that if used, the parentheses must be coded.

keyword[(value)]
is used to enter each keyword parameter. Each keyword must be followed by one or more blanks or by a value enclosed in parentheses.

If FORMAT=PL1 is specified or assumed by default, coded values cannot contain semicolons except between paired single quotation marks. A positional parameter value cannot contain commas except between paired single quotation marks or parentheses.

If FORMAT=BAL is specified, the unformatted command must have the following syntax:

```
verb [p1,p2,...][keyword[=value]][,keyword[=value]][...]
```

verb
identifies the command. It is followed by one or more blanks.

p1,p2,...
is used to enter one or more positional parameters. Each parameter (unless it is the last in the command) is followed by a comma. If positional parameters are used, they must appear before any keyword parameters.

keyword[=value]
is used to enter each keyword parameter. Each parameter (unless it is the last in a command) is followed by a comma.

Blanks or horizontal tab characters are not permitted in a BAL command except between the verb and the first parameter or between paired single quotation marks. Values cannot contain commas except between paired parentheses or single quotation marks. A positional parameter cannot contain equal signs except between paired parentheses or single quotation marks.

Terminal Operator Commands

VTAM recognizes these terminal operator commands:

LOGON
LOGOFF
IBMTEST
UNDIAL (VM use only)
VM (VM use only).

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For dependent logical units that are sources of character-coded commands, you can associate the dependent logical unit's definition statement with a USS definition table that converts a user-created command into one of these commands using the appropriate syntax.

LOGON Command

The LOGON command allows the terminal operator to request a session with an application program.

Operation	Operands
LOGON	APPLID(name|uservar name) [,LOGMODE(name)] [,DATA(userdata)]

APPLID(name|uservar name)
specifies the name of the application program or character string specified by the SEQNCE entry in the interpret table (USERVAR) with which a session is to be established. For more information on network regulations regarding name specification, see the description of the APPL definition statement in *VTAM Installation and Resource Definition.*

LOGMODE(name)
is the logon mode entry that is used to select a set of session parameters for the session to be established.

DATA(userdata)
specifies user data to be made available to the application program's logon exit routine. *userdata* can be a single quoted string if embedded blanks are desired. The application receiving the user data will not receive the quotes.

LOGOFF Command

The LOGOFF command allows the terminal operator to request that a session with an application program be ended.

Operation	Operands
LOGOFF	[APPLID(name|uservar name)] [,TYPE(COND|**UNCOND**|FORCE)] [,HOLD(**YES**|NO)]

APPLID(name|uservar name)
specifies the name of the application program or USERVAR with which a session is to be terminated. If omitted, the application program with which a current session exists is assumed.

TYPE(COND|UNCOND|FORCE)
specifies the manner in which an active session between an application acting as a PLU (primary logical unit) and another LU is to be terminated. If COND is specified, the LOSTERM exit of the PLU receives a code indicating conditional termination. That is, the PLU is to terminate the session at its own discretion.

If UNCOND is specified, the PLU's LOSTERM exit is driven with a code indicating unconditional termination. SENDs and RECEIVEs stop immediately, and the PLU is to clean up storage used for the session by issuing a CLSDST macroinstruction.

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If FORCE is specified, the PLU's NSEXIT exit receives a code indicating forced termination and the session is brought down immediately by the SSCP. If there is no NSEXIT, VTAM sends the code to the LOSTERM exit, which must issue a CLSDST macroinstruction.

UNCOND is used for normal situations when the session is assumed to be viable and an UNBIND can be sent to terminate the session. FORCE is used in abnormal situations, for example, when either one of the session ends cannot communicate with the SSCP. When use of the UNCOND operand has no effect, the FORCE operand should be specified.

HOLD(YES|NO)
specifies the action the logical unit expects VTAM to take in regard to physically terminating the SSCP-PU session after the logical unit has itself been disconnected. A HOLD value of YES corresponds to a NOT LAST indicator on a Terminate Self request. The effect of HOLD depends on the setting of the DISCNT operand specified on the PU statement. The relationship between HOLD and DISCNT is described in the description of the DISCNT operand of the PU (local) and PU (switched) statements in *VTAM Installation and Resource Definition.*

IBMTEST Command

The IBMTEST command allows the terminal operator to test the physical path between the terminal and VTAM. IBMTEST causes VTAM to return test data to the terminal a specified number of times. VTAM returns the test data with the prefix "IBMECHO."

Operation	Operands
IBMTEST	[nn|**10**] [,data]

nn|10
specifies the number of times the test data should be returned to the terminal. Specify *n* as a decimal number in the range 1 – 255. If no value is specified, a value of 10 is used by default.

data
specifies the test data to be returned. Specify a character string of up to 247 characters, or the maximum message length of the terminal, whichever is smaller. If you do not specify a character string, VTAM sends out and returns a string consisting of the letters A – Z followed by the decimal numbers 0 – 9. ("ABCDEF...xyz01...789")

You may include blanks as part of this message if the whole string is surrounded by single quotes.

VM UNDIAL Command

A VM terminal operator can use the UNDIAL command to request that his terminal be disconnected from the VTAM virtual machine and returned to the control of the VM Control Program.

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Operation	Operands
UNDIAL	

You should issue the UNDIAL command only if you have previously issued the CP DIAL command to connect your terminal to the VTAM virtual machine. VTAM will reset the terminal (via the CP RESET command) using the SSCP-LU session flow. VTAM will ignore the command if it does not apply to the terminal from which it is invoked.

This command has no operands.

VM VM Command

A VM terminal operator can use the VM command to log on to VSCS.

Operation	Operands
VM	

The VM command causes the VM system logo to be displayed. You may then log on or DIAL a virtual machine exactly as you would for a native VM terminal.

This command has no operands.

VTAM Operator Commands

VTAM operator commands use the Basic Assembly Language (BAL) format. (You have the option of specifying PL/I format for all USS commands in your USS definition table. This is not recommended, however, because using different formats for the VTAM commands might be confusing.)

The first two parts of each command, the verb (such as DISPLAY, MODIFY, and VARY) and the first positional parameter (NET),[10] must be accepted and processed by the operating system before the command reaches VTAM. Therefore, they cannot be changed through VTAM facilities.

The third part of a VTAM command is one or more parameters. The parameters that are defined in a USS table can be changed by creating a user-defined table. All of the parameters of the MODIFY and DISPLAY commands, and some of the parameters for the VARY command, are defined through USS. The commands whose parameters are not defined through USS, such as VARY DRDS and HALT, cannot be redefined by the user.

There are four kinds of parameters:

1. Positional parameters (such as the TERM parameter of the VARY TERM command)
2. Keywords with a value (such as the MSGMOD=YES|NO keyword of the MODIFY MSGMOD command)

[10] VM This parameter is optional.

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3. Keywords without a value (such as the CNSL keyword of the MODIFY TNSTAT command or the DUMP keyword of the MODIFY DUMP command)
4. Keywords replaced by a verb (such as the DUMP keyword of the MODIFY DUMP command).

To change any one parameter of a command, you must redefine the verb to which this parameter is subordinate, along with all of the other parameters for that verb. The degree to which a parameter can be changed and the methods that can be used to change it vary according to what kind of parameter it is.

Positional Parameters

Positional parameters are parameters whose meanings are determined by their location in the command. For example, if positional parameters were defined for the LOGON command, you could enter LOGON (TSO,MODE2) for PL/I or LOGON TSO,MODE2 for BAL, instead of LOGON APPLID(TSO) LOGMODE(MODE2). In this case, VTAM interprets TSO as APPLID(TSO) because it is the first parameter after LOGON.

The IBMTEST command uses positional parameters.

The use of positional parameters can reduce the number of keystrokes in a command. On the other hand, positional parameters require the operator to enter parameters in a precise order to get the command to work properly. Any positional parameters must appear before any keyword parameters.

For V3R2, some parameters for VTAM operator commands are positional because VTAM uses those parameters to determine whether a command should be processed by USS. For example, some VARY commands (such as VARY TERM) are processed by USS and other VARY commands (such as VARY ACT) are processed by other VTAM facilities. When VTAM receives a VARY command, it needs to decide whether this is a USS command. It does this by examining the first parameter after VARY NET and checking it against a list of USS-supported parameters. VTAM then sends the command to USS for further processing, if it is a USS command, or somewhere else if it is not.

For commands like VARY TERM, the first parameter after the NET is a positional parameter and is unchangeable. This means, for example, that TERM cannot be replaced by a user-defined keyword. However, other parameters on VARY TERM can be redefined.

Keywords with Values

Keywords with values (such as MSGMOD=YES|NO on the MODIFY command) can be converted into another keyword with the same value. For example, MSGMOD=YES could be converted into MODULE=YES. It is also possible to specify a value to be used if the keyword is omitted (a default). For example, you could specify that MSGMOD=YES is to be assumed by default if MSGMOD is not coded on a MODIFY command. (This is not recommended.) You can also specify a value to be used if the keyword is specified without a value. For example, you could specify that MSGMOD is to be converted into MSGMOD=YES.

A parameter value (a **particular** value assigned to a keyword) cannot be replaced. That is, it is **not** possible to convert MSGMOD=NO into MSGMOD=YES.

Keywords with a value are defined as part of the definition of the command they can be coded on. For example, CSALIMIT=*n* for MODIFY CSALIMIT is a parameter of the

MODIFY command, ID=*name* for MODIFY DUMP is a parameter of the DUMP command, and NOTIFY=YES|NO for VARY TERM is a parameter of the TERM command. To change any one parameter, the associated command and all of that command's parameters must be defined in the user table. Any parameter that does not appear in the user table will be passed unconverted to the command processor. For example, if the MODIFY command is redefined in a user table and the MSGMOD parameter is not defined there, the MODIFY MSGMOD command will be processed "as is," without any conversion of its parameters. In this case, the operator must enter the command in a format that can be used without conversion.

Keywords without Values

Some keywords, such as CNSL on the MODIFY TNSTAT command and DUMP on the MODIFY DUMP command, are entered without values. These keywords are converted by USS into a keyword with a value before the command is processed. For example, CNSL is converted into CNSL=YES and DUMP is converted into VERB=DUMP.

If the USS table does not contain a definition for a keyword, it is not converted and is passed to the VTAM command processors "as is." Because the VTAM command processors expect all keywords to have a value, a converted command that still contains a keyword without a value will be rejected. For example, if the MODIFY command is redefined, and the new definition does not convert the DUMP operand into VERB=DUMP, the MODIFY DUMP command will not be usable.

Note: Even though they are coded similarly to positional parameters, these "special" parameters are considered keyword parameters. Therefore, in BAL syntax, they may not be followed by positional parameters.

Keywords Replaced by Verbs

Some keywords, such as DUMP on the MODIFY DUMP command, have special characteristics because they are defined twice in the USS table, first as a parameter and then as a command. For example, in the parameter definition for the DUMP keyword, REP=VERB is specified, which tells VTAM to look for a command named DUMP in its USS definition table (to perform a "second pass"). The parameters for MODIFY DUMP are associated with the definition of the DUMP command, rather than with the definition of the MODIFY command.

A keyword that is to be replaced by a verb can be redefined by the user, provided that this keyword is defined on the user table. The replacement verb can also be redefined, provided that the verb and all of its parameters are defined on the user table. For example, if you want to change only a parameter on the MODIFY DUMP command, but keep the DUMP keyword unchanged, your user table needs have only a USSCMD macroinstruction for DUMP and USSPARM macroinstructions for each parameter you want to use on the DUMP command. In the following example, the ID, DUMPSTA, and DUMPDS parameters are given new names and default values:

```
DUMP     USSCMD  CMD=DUMP,FORMAT=BAL
         USSPARM PARM=NCP,REP=ID,DEFAULT=MYNCP
         USSPARM PARM=STA,REP=DUMPSTA,DEFAULT=MYSTA
         USSPARM PARM=DDN,REP=DUMPDS,DEFAULT=DS12
         USSPARM PARM=DYNA
         USSPARM ...
           .
           .
           .
```

If the table above were in effect, the VTAM operator would dump an NCP by entering:

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```
MODIFY NET,DUMP,NCP=ncpname,STA=linksta,DDN=dsname
```

instead of:

```
MODIFY NET,DUMP,ID=ncpname,DUMPSTA=linksta,DUMPDS=dsname
```

Furthermore, the operator could omit the NCP, STA, and DDN operands because default values are now supplied for these parameters.

The verb-replaced keyword itself can be redefined only by redefining the command that defines that keyword. Any other parameters or keywords for that command must also be defined. For example, to change the MODIFY DUMP command to MODIFY NCPDMP requires that the user table contain definitions for the MODIFY command:

```
MODIFY  USSCMD  CMD=MODIFY,FORMAT=BAL
          .
          .
          .
        USSPARM PARM=NCPDMP,REP=VERB,VALUE=NCPDMP
          .
          .
          .
NCPDMP  USSCMD  CMD=NCPDMP,FORMAT=BAL,REP=DUMP
        USSPARM PARM=ID
        USSPARM PARM=DUMPSTA
        USSPARM PARM=DUMPDS
        USSPARM ...
          .
          .
          .
```

If a keyword that is to be replaced by a verb is omitted from the definition of a command, that keyword might become unusable on the command. For example, if the MODIFY command is redefined in a user table and the TRACE keyword is not defined there, the TRACE keyword is no longer replaced with VERB=TRACE. As a result, the MODIFY TRACE command will no longer be a valid VTAM command.

Multiple Specification of Verbs: If more than one positional keyword is specified, only the last is actually done; the keywords are not treated as extraneous.

For example, in:

```
DISPLAY NET,APPLS,INACT
```

since APPLS and INACT are USS "verbs," APPLS becomes the verb, and then INACT replaces APPLS as the verb.

USS converts the command to:

```
DISPLAY NET,INACT
```

and DISPLAY NET,INACT messages are issued.

Redefining USS Messages

VTAM provides an extensive set of messages that can be used to provide information to a terminal operator, to a program operator, or to a VTAM operator. You can redefine any of these messages by coding a USSMSG macroinstruction for each message to be redefined. These USSMSG macroinstructions are included in a user-defined USS table. This USS table is associated with the logical unit (for messages to the terminal operator), with a program operator, or with the system console (for messages to the VTAM operator).

Using the USSMSG macroinstruction, you can change the message text of any message. Also, for VTAM operator messages, you can change the message suppression class for the message, as well as other characteristics.

Rules for Creating USS Messages

When preparing USS messages to be sent to a terminal operator, to a VTAM operator, or to a program operator, certain rules must be followed. This section lists these rules.

Single quotation marks in the message text must be specified as in the assembler DC statement for character (C-type) constants.

The message text must conform to the rules for coding an assembler DC statement for character (C-type) constants. Alternatively, if noncharacter message text is required, the TEXT operand can be specified as a sublist, with each entry coded as the full operand of an assembler DC statement. If the sublist form is used, the assembler does boundary alignment processing. For example,

```
TEXT=(A(0),C'SAMPLE MESSAGE')
```

might result in some leading zeroes being supplied by the assembler to ensure that the "A(0)" part of the text is located on a fullword boundary. This could be avoided by specifying

```
TEXT=(AL4(0),C'SAMPLE MESSAGE')
```

Noncharacter data should not contain percent signs (hex 6C) because VTAM interprets a percent sign as a point at which to insert variable data into the message. Also, if the message text contains blanks (hex 40), OPT=BLKSUP should not be specified for this message, because VTAM might delete some of the hex 40 characters (unless that is desired).

Note: The 3270 control commands may not be used when creating USS messages for SNA devices.

When VTAM issues a message, it can supply one or more variable data character strings to be inserted in the message text. The location of the variable data character strings in the message text is indicated by numbered or unnumbered percent signs (%). Numbered percent signs are used when a message has more than one variable character string. The first string is called %(1), the second string is %(2), and so on, for as many strings as are provided by VTAM. Specifying unnumbered percent sign (just % by itself) is the same as specifying %(1). You can rearrange the order of the percent signs in a message to change the order of the variable data in a message.

For example, if the message definition for IST380I:

```
TEXT='ERROR FOR ID = %(1) – REQUEST: %(2), SENSE: %(3)'
```


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results in the message

```
ERROR FOR ID = NOD1234 – REQUEST: CDINIT, SENSE: 087D0001
```

Then this message definition for IST380I:

```
TEXT='%(2) REQUEST RECEIVED SENSE %(3) FOR NODE %'
```

results in the message

```
CDINIT REQUEST RECEIVED SENSE 087D0001 FOR NODE NODE1234
```

Variable text can be used more than once in the same message or can be omitted in the redefined message.

If a particular numbered percent sign appears more than once in the message prototype, the corresponding character string will appear more than once. If the number of a percent sign is greater than the number of variable data character strings provided for that message, that percent sign is replaced by the last available variable data. For example, if %(7) were specified for the message above, it would be replaced with nulls.

The maximum length of a message after replacement of any percent signs is 255 characters. If a message exceeds 255 characters, only the first 255 characters are sent to a terminal.

Note: MVS/XA The maximum length of a message after replacement of any percent signs is 251 characters. If a message exceeds 251 characters, only the first 251 characters are sent to a terminal.

Appendix F, "VTAM Message Revisions" on page 283, shows the number and location of the variable data character strings in each VTAM message. The *VTAM Messages and Codes* manual provides a message explanation that includes a description of what type of data can appear in each character string.

Do not change the message ID that appears in the text of a VTAM operator message. If you do, you may affect IBM's ability to service your product.

The following characters can be used for USS messages:

- 26 uppercase letters: A – Z
- 3 national characters: $ # @
- 10 numeric digits: 0 – 9
- 12 special characters: blank ' = ( ) , + – * . / &

National characters (and any graphic or control characters not listed above) are sent to a terminal user only if present in user-specified message replacements specified through the BUFFER operand of the USSMSG macroinstruction.

Note: (For terminal operator messages only) Since control characters are device-dependent, it is recommended that you do not include them in the data defined by the TEXT or BUFFER operands, unless you can select the appropriate character for the device to which the message will be sent. You may use '%' and ' ' in data defined by the BUFFER operand. However, do not include '%' or ' ' in the TEXT operand data since USS treats them differently.

The macroinstructions used to code a USS definition table are described in the following section.

The USSTAB Macroinstruction

The USSTAB macroinstruction indicates the beginning of a USS definition table. It can optionally specify the table to be used for character translation. See "Conversion of Character-Coded Commands" on page 87 for a description of character translation.

Name	Operation	Operands
[name]	USSTAB	[TABLE=name] [FORMAT=V3R2|**OLD**]

name
if specified, is used as a CSECT name for the USS definition table to be generated; otherwise, no CSECT name is generated.

TABLE=name
specifies a translation table to be used by VTAM to translate character-coded commands. If the table is not part of the module containing USSTAB, an EXTRN statement must be coded for the specified name.

If no translation table is specified, VTAM uses the translation table associated with the IBM-supplied table (or its user-written replacement). If the IBM-supplied table (or its user-written replacement) does not have a translation table, VTAM does no character translation.

FORMAT=V3R2|OLD
Specifies the version of VTAM the USS table will be used on. The default is OLD.

Use FORMAT=V3R2 to take advantage of the V3R2 dynamic table replacement functions and also realize a significant reduction in CPU utilization searching for VTAM operator messages.

Use FORMAT=OLD if the goal is to transport a V3R2 USS table to a pre-V3R2 system.

Note: For more information see Figure 9 on page 10.

FORMAT=V3R2 is coded in ISTINCN0 (USS table for operator commands and messages) but not in ISTINCDT (default USS definition table).

The USSCMD Macroinstruction

USSCMD identifies a set of definition statements to be used to convert a user-defined USS command. It can also specify the syntax to be used when entering the command.

Name	Operation	Operands
[name]	USSCMD	CMD=name [,FORMAT=BAL|**PL1**] [,REP=name]

name
is any valid symbol and is optional.

CMD=name
specifies the user-defined command name to which this USSCMD macroinstruction applies. *name* must contain 1–8 characters, the first of which must be alphabetic (A–Z) or a national character (@, #, or $). Ensure that no two

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CMD operands specify the same command name for a single USS definition table.

FORMAT=BAL|PL1
indicates the syntax of the user-entered command. Code FORMAT=BAL to use the BAL assembler language syntax or FORMAT=PL1 to use the PL/I programming language syntax. If FORMAT is not specified or is specified incorrectly, FORMAT=PL1 is used. See "Character-Coded Command Syntax" on page 94 for a description of the syntax, the input character set, and PL/I and BAL value restrictions.

This operand is ignored on the second pass of USS processing. A command produced as a result of REP=VERB on the first pass is always in PL/I format, regardless of how the FORMAT operand is specified.

REP=name
specifies the valid command that is to replace the user-defined command specified by the CMD operand. If REP is not coded, the value in CMD is used; in this case, CMD must specify a valid command.

The USSPARM Macroinstruction

The USSPARM macroinstruction identifies a user-defined keyword or positional parameter that can be coded in the user-defined command identified by the previous USSCMD definition. This macroinstruction can also specify that this user-defined keyword is to be converted into a valid parameter for the command. A default value for this parameter can also be defined.

Name	Operation	Operands
[name]	USSPARM	PARM=name|Pn [,DEFAULT=value] [,REP=name] [,VALUE=value]

name
is any valid symbol and is optional.

PARM=name|Pn
specifies a user-defined keyword or positional parameter that can be coded in the user-defined command identified by the previous USSCMD definition.

PARM=name
specifies the keyword that identifies the parameter in the user-entered command to which this USSPARM macroinstruction applies. *name* must be 1–8 alphanumeric characters.

PARM=Pn
identifies a positional parameter, where *n* is a decimal integer from 1 to the maximum number of positional parameters for the command. P*n* indicates the positional parameter in the user-entered command to which this USSPARM macroinstruction applies.

DEFAULT=value
specifies a default value to be used for the parameter identified by the PARM operand if the parameter is omitted when the command is entered. Single quotation marks in the default value must be specified as in the assembler DC statement for character (C-type) constants.

If a keyword parameter or a positional parameter is not entered for a user-defined command, the DEFAULT value from USSPARM is used; if DEFAULT is not specified, a null value is used.

See the note at the end of this description of USSPARM for information on specifying both DEFAULT and VALUE in the same macroinstruction.

REP = name
specifies a keyword that is to appear in the command that is to be generated from the user-defined command. *name* must be 1 – 8 alphanumeric characters. The value of the keyword is assigned from the parameter specified by PARM. If PARM specifies a keyword parameter, its value is assigned to the keyword specified by REP. If PARM specifies a positional parameter, its value is treated as if it were a keyword value and it is assigned to the keyword specified by REP.

If REP is not coded, it takes the value of PARM. (That is, the user-entered parameter is used just as it is entered.)

Such positional parameters as P1, P2,... can also be used as keywords. For multiple specifications of the same parameter, the last value specified is used (as shown in Example 3 in "Examples of Command Conversion" in this section).

A special name, VERB, can be used to indicate that this parameter is to be replaced by a verb. In this case, VTAM searches the USS table for the specified verb. If this verb is found, VTAM builds a command using this verb. Normally, the parameter to be replaced is a keyword without a value. As a result, the VALUE operand must be specified to provide the name of the verb.

VALUE = value
specifies the default value to be used if the keyword specified by the PARM operand is entered but entered without any value (for example, KWD or KWD() in PL/I). Contrast this with DEFAULT=*value*, which specifies the default to be used if the keyword itself is not entered.

If a keyword parameter is entered without an associated value for a user-defined command, the value specified by the VALUE operand is used (if multiple VALUE operands are specified for the same keyword, the first VALUE operand is used); if the VALUE operand is not specified, a null value is used. Note that VALUE and DEFAULT are mutually exclusive.

Note: The DEFAULT and VALUE operands cannot be coded on the same USSPARM macroinstruction. Instead, code two USSPARM macroinstructions with the same value specified for PARM. The macroinstruction specifying VALUE must precede the one containing the DEFAULT operand. If REP is to be specified, it must be on the macroinstruction containing the VALUE operand.

The USSMSG Macroinstruction (for Terminal Operator Messages)

The USSMSG macroinstruction defines a USS message. To determine under what circumstances a message is issued, refer to *VTAM Messages and Codes*.

Note: The USSMSG macroinstruction does not apply to independent LUs.

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Name	Operation	Operands
[name]	USSMSG	MSG=n|(n1,n2,...) ,BUFFER=buffer address ,TEXT='message text' [,OPT=**BLKSUP**|NOBLKSUP] [,SUPP=ALWAYS|NEVER]

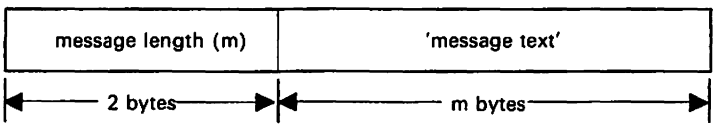
name
is any valid symbol and is optional.

MSG=n or MSG=(n1,n2,...)
is a required operand that specifies one or more USS messages that are to be redefined by this macroinstruction. Enter decimal integers in the range 0–14. The numbers 0–14 correspond to the USS messages below (these messages are explained in *VTAM Messages and Codes*).

```
MSG=0
MSG=1   TEXT= INVALID command COMMAND SYNTAX
MSG=2   TEXT= command COMMAND UNRECOGNIZED
MSG=3   TEXT= parameter PARAMETER EXTRANEOUS
MSG=4   TEXT= parameter PARAMETER INVALID
MSG=5   TEXT= UNSUPPORTED FUNCTION
MSG=6   TEXT= SEQUENCE ERROR
MSG=7   TEXT= LU_name UNABLE TO ESTABLISH SESSION -
              RU_name FAILED WITH SENSE sense
MSG=8   TEXT= INSUFFICIENT STORAGE
MSG=9   TEXT= MAGNETIC CARD DATA ERROR
MSG=10
MSG=11  TEXT= num SESSIONS ENDED
MSG=12  TEXT= REQUIRED PARAMETER OMITTED
MSG=13  TEXT= IBMECHO data
MSG=14  TEXT= USS MESSAGE number NOT DEFINED
```

The number 0 corresponds to a message indicating that the USS command has completed successfully. The number 10 corresponds to a message that is automatically sent to a logical unit whenever the logical unit is active or powered on, or whenever a user session ends. There are no such messages among the IBM-supplied messages, but you can create them by using USSMSG.

BUFFER=buffer address
specifies the address (name) of an area of storage defined to contain the USS message text as well as a header indicating the length of the message text. The storage area must be formatted as follows:



Using BUFFER allows an installation to customize logos (for example, USS message 10) and error messages. For example, use of the Set Attribute command for terminals supported by a 3274 control unit allows an installation to have color or highlighted USS messages.

The message text is sent to the logical unit as it appears in the buffer. VTAM does not modify or translate the message text (even if FEATUR2=LOWERCSE is specified for

the device). Variable data may not be specified in the message text. You are responsible for including any device-dependent control commands within the message.

For example, when sending a USS message to a BSC 3270 you would include the following (except for SNA and local SNA before a BIND):

- In the first byte of text, a write-type command code:
  - hex F5 for an erase-write
  - hex F1 for a write
- In the second byte, a write control character
- In subsequent bytes, orders or data or both, as required.

For more information, consult the appropriate IBM 3270 Information Display System publication.

Note: Allowing the default USSMSG10 to be sent to a non-SNA printer may cause printer forms to be out of alignment. This can be avoided by coding a separate USSTAB for these printers, and coding USSMSG10 in this table as follows:

```
         USSMSG MSG=10,BUFFER=BUF10
BUF10    DC     X'0002F57A'
```

While a message size of 65535 (hex FFFF) can be specified, the user must ensure that the logical unit can support the size of the message specified. Note that BUFFER and TEXT are mutually exclusive.

Note: VTAM produces an error message if both the BUFFER and TEXT operands are coded. If you code either the OPT or SUPP operands in addition to BUFFER, OPT and SUPP will be ignored.

TEXT = 'message text'
specifies the text to replace the USS messages identified by the MSG operand. The message text provided here must follow the rules in "Rules for Creating USS Messages" on page 102.

Note: VTAM produces an error message if both the BUFFER and TEXT operands are coded.

The character string @@LUNAME can be used to insert a terminal name anywhere in a message coded with the TEXT operand. The terminal name appears in the message text in the position where it is coded. The name is left-justified and trailing blanks are inserted, if necessary. For example, the message definition

```
TEXT='@@LUNAME IS NOW IN SESSION WITH VTAM'
```

where the LUNAME is less than 8 characters, produces a message like the following:

```
TERMA     IS NOW IN SESSION WITH VTAM
```

Or, if the LUNAME is 8 characters, it produces a message like the following:

```
TERMBBBB IS NOW IN SESSION WITH VTAM
```

Note that this replacement character string applies only to messages coded using the TEXT operand of the USSMSG macroinstruction.

OPT = BLKSUP|NOBLKSUP
specifies a message construction option to be used for this message. Specify one of the following options:

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OPT = BLKSUP
specifies that extraneous blanks are to be suppressed from the message. That is, any sequence of two or more blanks is to be converted into a single blank.

OPT = NOBLKSUP
specifies that extraneous blanks are **not** to be suppressed from the message. That is, any sequence of two or more blanks is to be presented unchanged in the message. It is recommended that OPT = NOBLKSUP be used for any message that is part of a tabular display.

OPT = BLKSUP is the default.

Note: If you code both the OPT and BUFFER operands, VTAM will ignore OPT.

SUPP = ALWAYS|NEVER
specifies the message suppression class to be used for this message. The message suppression class for a message, along with the SUPP start option and the MODIFY SUPP command, determines whether a particular message will be suppressed by VTAM. Either of the following values can be specified:

SUPP = ALWAYS
specifies that this message is always to be suppressed, regardless of what level of message suppression is in effect. That is, this message should never be written.

SUPP = NEVER
specifies that this message should never be suppressed.

Notes:

1. SUPP = INFO|NORM|SER|WARNING may also be coded, but each of these is processed as though SUPP = NEVER were specified.
2. If you code both the SUPP and BUFFER operands, VTAM will ignore SUPP.
3. If the SUPP operand is omitted or is specified with a null value (that is, if "SUPP = " is coded), VTAM uses the SUPP value specified in either ISTCFCMM or ISTINCNO.

The USSMSG Macroinstruction (For VTAM Operator Messages)

The USSMSG macroinstruction defines a USS message. To determine under what circumstances a message is issued, refer to *VTAM Messages and Codes*.

Name	Operation	Operands
[name]	USSMSG	MSG = n|(n1,n2,...) [,DESC = (desc-code)] [,MCSFLAG = (value)] [,OPT = **BLKSUP**|NOBLKSUP] [,ROUTCDE = (route-code)] MVS [,SUPP = ALWAYS|INFO|NEVER| NORM|SER|WARN] [,TEXT = 'message text']

name
is any valid symbol and is optional.

MSG = n or MSG = (n1,n2,...)
indicates the USS messages to be redefined. Enter one or more valid message IDs for VTAM operator messages. These message IDs should be entered in the correct format (for example, IST123I). If more than one message ID is specified, then all of the corresponding messages are replaced by the message defined by this macroinstruction. For an explanation of the VTAM message that corresponds to each message ID, refer to *VTAM Messages and Codes*.

DESC = (desc-code)
specifies the descriptor code to be used for this message. This operand is coded exactly like, and has the same meaning as, the DESC parameter of the WTO or WTOR macroinstruction. For information on how to specify this operand, refer to the *VTAM Messages and Codes* manual.

This operand applies only to messages that are sent to the VTAM operator. VTAM ignores this operand when sending a message to a program operator.

If the DESC operand is omitted or is specified with a null value (that is, if "DESC=" is specified), VTAM uses the DESC value specified for this message ID in either ISTCFCMM or ISTINCNO.

MCSFLAG = (value)
specifies the multiple console support flags to be used for this message. This operand is coded exactly like, and has the same meaning as, the MSCFLAG parameter of the WTO or WTOR macroinstruction. For information on how to specify this operand, refer to *MVS Supervisor Services and Macros*.

This operand applies only to messages that are sent to the VTAM operator. VTAM ignores this operand when sending a message to a program operator.

If the MCSFLAG operand is omitted or is specified with a null value (that is, if "MCSFLAG=" is specified), VTAM uses the MCSFLAG value specified for this message ID in the next USS table searched.

OPT = BLKSUP|NOBLKSUP
specifies a message construction option to be used for this message. Specify one of the following options:

OPT = BLKSUP
specifies that extra blanks are to be suppressed from the message. That is, any sequence of two or more blanks is to be converted into a single blank.

OPT = NOBLKSUP
specifies that extra blanks are **not** to be suppressed from the message. That is, any sequence of two or more blanks is to be presented unchanged in the message. It is recommended that OPT=NOBLKSUP be used for any message that is part of a tabular display.

OPT=BLKSUP is the default.

ROUTCDE = (route-code) MVS
specifies the routing code to be used for this message. This operand is coded exactly like, and has the same meaning as, the ROUTCDE parameter of the WTO or WTOR macroinstruction. For information on how to specify this operand, refer to *Routing and Descriptor Codes* for your operating system.

This operand applies only to messages that are sent to the VTAM operator. VTAM ignores this operand when sending a message to a program operator.

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If the ROUTCDE operand is omitted or is specified with a null value (that is, if "ROUTCDE=" is specified), VTAM uses the ROUTCDE value specified for this message ID in either ISTINCNO or ISTCFCMM.

SUPP=ALWAYS|INFO|NEVER|NORM|SER|WARN
specifies the message suppression class to be used for this message. The message suppression class for a message, along with the SUPP start option and the MODIFY SUPP command, determines whether a particular message will be suppressed by VTAM.

If the SUPP operand is omitted or is specified with a null value (that is, if "SUPP=" is specified), VTAM uses the SUPP value specified for this message ID in either ISTINCNO or ISTCFCMM.

Note: You cannot suppress individual VTAM messages in a multi-line WTO (MLWTO) message (that is, messages identified as issued as part of a message group). Message groups may be suppressed by suppressing the message identified as the first in the group. Refer to *VTAM Messages and Codes* to identify messages issued as part of a group.

Any of the following values can be specified:

SUPP=ALWAYS
specifies that this message is always to be suppressed, regardless of what level of message suppression is in effect. That is, this message should never be written.

SUPP=INFO
specifies that this message is to be in the "informational" class.

SUPP=NEVER
specifies that this message is never to be suppressed, regardless of what level of message suppression is in effect. That is, this message should always be written.

SUPP=NORM
specifies that this message is to be in the "normal" class.

SUPP=SER
specifies that this message is to be the "serious" class.

SUPP=WARN
specifies that this message is to be in the "warning" class.

TEXT='message text'
specifies the text to replace the USS messages identified by the MSG operand. The message text provided here must follow the rules in "Rules for Creating USS Messages" on page 102.

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The USSEND Macroinstruction

The USSEND macroinstruction indicates the end of a USS definition table.

Name	Operation	Operands
[name]	USSEND	

name
is any valid symbol and is optional.

This macroinstruction has no operands.

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CNM Routing Table

IBM supplies default routing information for the following communications network management (CNM) application programs:

- The NetView program
- NPDA
- NLDM
- Alias name translation facility (supplied by IBM as part of the NetView program or NCCF)
- Downstream load utility.

This table is named ISTMGC01. The listing beginning on page 267 shows the current IBM-supplied CNM routing table for all systems.

For any user-written application program to use the CNM interface to receive unsolicited request units, you must write a supplemental table with an entry for each RU. This table should be named ISTMGC00.

This user-supplied table (ISTMGC00) overrides any entries within the default CNM routing table (ISTMGC01).

Installing the CNM Routing Table

Follow these steps to install the CNM routing table:

1. Assemble the module.
2. Link-edit it to the appropriate VTAM library:

   MVS SYS1.VTAMLIB or SYS1.LPALIB
   If you place your user-written module in SYS1.LPALIB, re-IPL to reformat the link-pack area. For details, see *Initialization and Tuning* for your system.

   VSE A private definition library referenced in the VTAM start procedure

   VM The VTAMUSER LOADLIB.
   See "Installing Tables and Modules in VM" on page 207 for information on using VMFLKED to link-edit this module.

The link-editing must be done before VTAM is started. The name of the replacement module must be the same as the IBM-supplied module it replaces.

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Structure of the CNM Routing Table

A CNM routing table consists of a 12-byte header entry and routing-table entries. The 12-byte header entry contains the size and number of routing table entries that follow it. Each routing-table entry contains the network-services RU (NSRU) type to be routed, followed by the application program name to which the NSRU is to be routed. The header format is:

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	2	Number of entries
2(2)	2	Entry length (hex 000C)
4(4)	8	Reserved

Figure 33. The CNM Routing-Table Header Format

A CNM routing-table entry consists of 12 bytes defined as follows:

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	1	Flag byte: Bit 0 0 = do not send to VTAM operator 1 = send to VTAM operator also Bit 1 0 = embed in DELIVER RU 1 = do not embed in DELIVER RU Bits 2–7 Reserved
1(1)	3	Network Services RU type
4(4)	8	Application program name in EBCDIC

Figure 34. The CNM Routing-Table Format

Bit 0 of the flag byte specifies whether the RU is to be sent to the VTAM operator designated to receive unsolicited messages as well as to the CNM application program named in the table entry. This flag bit is supported only for requests for which VTAM has operator message support (that is, ROUTE-INOP).

Bit 1 of the flag byte allows an installation to specify that an RU is to be sent to a user-written CNM application program without being embedded in a DELIVER RU. If this flag bit is set to 1, VTAM will send the request unit to the application program without embedding it in a DELIVER RU. If the flag bit is set to 0, the request unit is embedded in the DELIVER RU.

The following types of requests can be received by an application program that uses the CNM interface. You should provide an entry in the table for each type of unsolicited Network Services RU. The Network Services header value listed below must be coded in the respective entry for that NSRU type (bytes 1–3).

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Request	Header Value
RECMS	hex 010381
RECFMS	hex 410384
INIT-LOAD	hex 3F0233
TR-INQ	hex 3F0814
ROUTE-INOP	hex 410289
ER-TESTED	hex 410386
CNM	hex 810814
NMVT	hex 41038D

You can code more than one entry associating a single type of RU with more than one application program; however, no more than one program associated with that type of RU can be active at the same time. For example, if an application program associated with the RECMS RU is already active, another application program associated with the RECMS RU is unable to open its ACB.

For a CNM routing table that will allow either of two CNM application programs (CNMAPPL1 or CNMALT) to receive unsolicited requests, the following might be coded:

```
         CSECT
HDR      DC    X'0004'          NUMBER OF ENTRIES
         DC    X'000C'          ENTRY LENGTH
         DC    8X'00'           RESERVED

ENT1     DC    X'00'            RESERVED
         DC    X'010381'        RECMS
         DC    CL8'CNMAPPL1'    APPLNAME

ENT2     DC    X'00'            RESERVED
         DC    X'410384'        RECFMS
         DC    CL8'CNMAPPL1'    APPLNAME

ENT3     DC    X'00'            RESERVED
         DC    X'010381'        RECMS
         DC    CL8'CNMALT  '    APPLNAME

ENT4     DC    X'00'            RESERVED
         DC    X'410384'        RECFMS
         DC    CL8'CNMALT  '    APPLNAME
         END
```

Note that in the above example, CNMAPPL1 and CNMALT have each been defined to receive the same type of unsolicited requests (RECMS and RECFMS). In this case, both application programs cannot be active (that is, have open ACBs for application programs whose network names are CNMALT and CNMAPPL1) at the same time.

Note: If you are using a user-written alias name translation facility, you must include it in your CNM routing table as the receiver of the TR-INQ and ROUTE-INOP request units. If you are using the alias name translation facility supplied as a function of NCCF, the default CNM routing table already contains the information needed for routing.

Module for VTAM Constants

VTAM provides a module, ISTRACON, that contains constants used to control functions that do not usually warrant operator modification.

You can modify a number of VTAM functions using ISTRACON. These functions are discussed under the following headings:

- "Buffer-Use (SMS) Trace Snapshot Value" on page 119
- "Maximum RU Size for Sessions" on page 119
- "BSC 3270 Timeout (Inoperative) Value" on page 119
- "VR Selection Subtask Interval Analysis Block" on page 120
- "Adjacent SSCP Message Control" on page 120
- "Alias Name Translation Control" on page 121
- "VM VSE Switched Subarea Disconnect Timeout" on page 121
- "Host IRN Slowdown Storage" on page 121
- "NetView Trace Buffers" on page 122
- "Maximum SSCP Rerouting Count" on page 122
- "Directory Size of Symbol Resolution Table for the Host Network" on page 123
- "MVS VM Directory Size of Symbol Resolution Tables for Other Networks" on page 124
- "MVS Process Scheduling Services Trace Control" on page 125
- "Size of the Host Node Table (HNT)" on page 126
- "Size of the CID Index Table" on page 126
- "EAS Value for VTAM's Application" on page 126
- "Maximum Subarea Number" on page 127
- "VSE Code to Retry" on page 127
- "Size of Data Used by VTAM in Dumping or Loading a Remote NCP" on page 127
- "MVS Session Awareness (SAW) Buffer Limit" on page 127
- "Missing Interrupt Handling for a CTC" on page 128.
- "VM 9370 Token-Ring Adapter Buffer Size" on page 129
- "VM 9370 Token-Ring Adapter Transmit Buffer Maximum Count" on page 129
- "VM 9370 Token-Ring Adapter Transmit Buffer Minimum Count" on page 129
- "Option to Receive Dumps for INOPs" on page 129
- "Individual IST530I/IST532I Message Pair Limit" on page 129

Figure 35 on page 117 summarizes **all** of these constants, showing their defaults as well as their offsets within the module.

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Dec Offset	Hex Offset	Field Name	Default Value	Description
2–3	2–3	RACBSNAP	1000	Number of requests for VTAM buffers between snapshot dumps
4–5	4–5	RACMCPBF	4096	Maximum RU size for all SSCP sessions
6–7	6–7	RACMLUBF	6144	Maximum RU size for LU-LU sessions
8–11	8–B	RACINOPT	X'0000011E'	Timeout value for a BSC 3270
12–21	0C–15			Reserved
22–23	16–17	RACABCNT	X'0004'	Number of times subtask can abend within the time interval
24–27	18–1B	RACABINT	X'00001AD2'	Time interval during which maximum number of abends can occur
28	1C	RACSSMSG	X'01'	Defines how adjacent SSCP table related messages are issued
29	1D	RACALIAS	X'FF'	Used to control alias name translations
30–31	1E–1F	RACSSDTO	30 seconds	VM VSE Switched subarea disconnect timeout
32–35	20–23	RACINNBL	X'00000000'	Defines maximum size of virtual storage area used to store host IRN transmissions.
36	24	RACPDBFS	X'02'	Maximum buffers to build for an NLDM request
37	25	RACVCNT	10	The maximum SSCP rerouting count
38–39	26–27	RACHSRT	1499	The number of entries in host SRT directory
40–41	28–29	RACONSRT	43	MVS VM The number of entries in SRT directories in other networks VSE Reserved
42	2A	RACTRFLG	X'00'	MVS Enables the generation of trace entries which show the interaction between the MVS dispatcher and VTAM process scheduling services
43	2B			Reserved
44–47	2C–2F	RACHNTSZ	4080 MVS VM 2024 VSE	The size of the host node table (HNT)
48–51	30–33	RACCITSZ	4080 MVS VM 2024 VSE	The size of the CID index table and of the CONVT table (both)
52–55	34–37	RACEAS	3000 MVS 50 VM VSE	The default EAS value for VTAM's application
56–59	38–3B	RACSASUP	255	The maximum subareas supported in the network
60–77	3C–4D	RACCPS	X'40'	VSE CPS code to retry (X.21 SHM only)

Figure 35 (Part 1 of 2). The Default IBM Constants Module (ISTRACON)

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Dec Offset	Hex Offset	Field Name	Default Value	Description
78 – 79	4E – 4F	RACBUFSZ	512	Size of request unit used by VTAM in taking a static dump or loading a remote NCP
80 – 83	50 – 53	RACMXBUF	500	MVS Maximum number of session awareness (SAW) buffers allowed
84 – 87	54 – 57	RACMIHTM	1800	INOP the CTC at reply-to plus this many 10ths of a second
88 – 89	58 – 59	RACLBFSZ	128	VM 9370 Token-ring adapter buffer size
90	5A	RACLTXMX	18	VM 9370 Token-ring adapter transmit buffer maximum count
91	5B	RACLTXMN	2	VM 9370 Token-ring adapter transmit buffer minimum count
92	5C	RACINOP	0	Indicates whether or not a dump should be generated whenever an inop occurs
93 – 95	5D – 5F			Reserved
96 – 99	60 – 63	RACNTWRE	X'7FFFFFFF'	Individual IST982I message limit
100 – 103	64 – 67	RACHXSRT	0	MVS/XA The number of entries in host SRT directory
104 – 107	68 – 6B	RACXNSRT	0	MVS/XA The number of entries in SRT directories in other networks

Figure 35 (Part 2 of 2). The Default IBM Constants Module (ISTRACON)

Modifying the Constants Module

The VTAM constants module may be modified by replacing values within the executable module. To do this, "zap" ISTRACON's executable module within the appropriate VTAM library:

MVS SYS1.VTAMLIB
VSE A private definition library referenced in the VTAM start procedure
VM The VTAMUSER LOADLIB,

using the appropriate system service aid:

MVS The AMASPZAP program
VSE The MSHP patch function
VM The ZAP command.

Whenever ISTRACON's values are modified, VTAM must be restarted before the new values will be used.

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Description of Constants

The following sections describe each of the VTAM constants in detail, indicating which operating systems they are found in.

Buffer-Use (SMS) Trace Snapshot Value

ISTRACON field name: RACBSNAP

VTAM takes a snapshot dump after a specified number of requests occur for VTAM buffers. While more frequent dumps may enable you to more accurately determine buffer use, frequent dumps may degrade system performance.

The IBM-supplied default number causes a snapshot dump to be taken after every 1000 (hex 3E8) requests. You can modify this number by changing the RACBSNAP field in ISTRACON.

Specify a number from 0–32767 (hex 7FFF). If zero is specified, a snapshot dump is taken after every request (that is, it is equivalent to specifying 1).

Maximum RU Size for Sessions

ISTRACON field names: RACMCPBF and RACMLUBF

You can set a maximum length for RUs in LU-LU sessions and a maximum for SSCP sessions (SSCP-PU, SSCP-LU, and SSCP-SSCP). For LU-LU sessions, the maximum RU lengths can be changed as a BIND command parameter and can be specified through the appropriate logon mode table entry. In absence of such specification, VTAM uses a default value. VTAM uses another default value for SSCP sessions. It is these default values that you can change in the constants module.

The default values should be adequate in most cases. However, if they are too small, devices that send RUs larger than the default value will be deactivated. The default values should be increased if your installation has logon mode table entries for devices that do not specify the maximum RU size and the devices may send larger RUs than the default.

BSC 3270 Timeout (Inoperative) Value

ISTRACON field name: RACINOPT

VTAM keeps track of the number of general poll failures that occur for a BSC 3270 over a specific time interval. If two failures occur within the time interval, VTAM treats this as an unrecoverable failure of the terminal and deactivates it. If the second failure occurs outside the time interval, VTAM starts the poll again, and an operator message is sent to report the failure, even though recovery is automatically initiated.

The pattern of responses to general polls in your installation could require you to change the time interval. For example, if a small number of operator messages report polling failures, this might suggest that the terminal responds frequently enough to general polls so that it would not be efficient to deactivate the terminal. If two of these failures happened to occur within the specified time interval, however, the device would be deactivated unnecessarily. In this case, you might want to decrease the time interval, thus decreasing the chance that the terminal will be unnecessarily deactivated.

Conversely, if general poll failures outside the time limit are frequently reported, you might want to increase the time interval, so that the device will be deactivated earlier and corrective action can be initiated.

The IBM-supplied default for the time interval is approximately 300 seconds. Thus, if two failures occur within 300 seconds, the 3270 will be deactivated. By changing RACINOPT, you can specify a different time interval.

The value in RACINOPT is specified in units of time. Each unit of time is 1.048576 seconds. The default is hex 11E units of time, or approximately 300 seconds. The value can range from 0 to 2147483647 (hex 84E1FFFF). If zero is specified, the device will never be deactivated as a result of a general poll failure.

VR Selection Subtask Interval Analysis Block

ISTRACON field names: RACABCNT and RACABINT

The first byte used (at offset hex 16) indicates the number of times the subtask can abend within the time interval. This value may be specified in the range of 0–32767 (hex 7FFF). If zero is specified, there is no limit; that is, VTAM will continue to reattach the subtask as often as it abends.

At offset hex 18 is the time interval in which the maximum number of abends can occur. This interval is specified in units of 0.262144 seconds. The default is approximately 30 minutes. Default shown is for V3R1.1.

The time interval may be specified in the range of 0–2147483647 (hex 84E1FFFF). If 0 is specified, VTAM will not consider the time interval in deciding whether or not to reattach the subtask. For example, if the count is 10 and the time interval is 0, VTAM will stop reattaching the subtask after 10 abends.

Ordinarily, VTAM reattaches the subtask each time it abends. If the number of abends exceeds the maximum within the time interval, however, VTAM no longer reattaches the subtask.

If these constants are not appropriate to your needs, you may want to change them. However, you should use low enough values to avoid a possible abend loop, where an abend is caused by a programming error within your routine.

Adjacent SSCP Message Control

ISTRACON field name: RACSSMSG

This constant controls the display of messages that are generated whenever session initiation requests to or from adjacent SSCPs fail. It may not be desirable to have adjacent SSCP related messages issued in every SSCP. These messages are not "duplicates" and, consequently, cannot be suppressed by the use of VTAM's duplicate message ID table.

The following messages may be controlled using the RACSSMSG constant: IST894I, IST895I and IST896I.

These messages are issued when a session initiation fails because trial and error routing using an adjacent SSCP table has exhausted the table. All adjacent SSCPs were tried but the destination LU was not located by any of the SSCPs.

The following values may be specified for the RACSSMSG constant:

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Value	Description
X'00'	Do not issue adjacent SSCP messages in any SSCP
X'01'	Issue adjacent SSCP messages in SSCP (OLU) only
X'02'	Issue adjacent SSCP messages in all SSCPs.

The default value is X'01'.

Any value of the RACSSMSG constant specified other than hex 00, hex 01, or hex 02 will result in an **error** default value of hex 00 being used.

Alias Name Translation Control

ISTRACON field name: RACALIAS

This constant controls alias name translation.

The following bit values may be specified for the RACALIAS constant:

Bit Value	Description
x...	If ON, determine alias names.
.x..	If ON, determine real names.
..x.	If ON, determine owning SSCP name.
...x	If ON, determine COS names.
.... x...	If ON, determine LOGMODEs.
.... .111	Reserved.

The default value is hex FF.

Valid values are hex 07 – FF. Any invalid value of the RACALIAS constant specified will result in the default value of hex FF being used.

VM VSE Switched Subarea Disconnect Timeout

ISTRACON field name: RACSSDTO

This parameter indicates the number of seconds that can pass, without a new LU-LU session beginning, before VTAM automatically disconnects the switched PU. The default value is 30 seconds.

For more on automatic disconnection, see *VTAM Installation and Resource Definition*.

Host IRN Slowdown Storage

ISTRACON field name: RACINNBL

This constant defines the maximum size, in bytes, of the virtual area in VTAM storage that can be used to save host intermediate routing node (IRN) transmissions. This pageable data area is used only when an adjacent subarea is not accepting traffic, for example, an NCP that has gone into slowdown mode and is not receiving data. Any host IRN traffic for that subarea is moved from fixed I/O buffers to the VTAM pageable buffers.

If the IBM-supplied default of zero is specified, the amount of storage that will be used is unlimited.

NetView Trace Buffers

ISTRACON field name: RACPDBFS

This constant specifies the number of buffers to build for a NLDM request. The valid range is 2–255.

Maximum SSCP Rerouting Count

ISTRACON field name: RACVCNT

The maximum SSCP rerouting count is the maximum number of SSCPs on a specific path that will be searched for the destination SSCP before alternate paths are tried. If all paths are tried without finding the destination SSCP, the RU is not rerouted and VTAM sends a negative response. This constant affects the rerouting of both session initiations (CDINIT), and direct search routing (INQUIRE APPSTAT).

For example, assume that this constant has been changed to three. In Figure 36, a CDINIT is sent from SSCP1 to SSCP2. SSCP2 decrements the rerouting count to 2 and passes the request to SSCP3, which decrements the count to 1 and passes the request to SSCP4. At SSCP4 the count is decremented to zero, and the request can go no further on that particular path; it cannot be rerouted to SSCP6. SSCP4 then sends a negative response to the CDINIT, and SSCP3 increments the rerouting count by one, allowing the request to be routed to SSCP5. As was the case at SSCP4, the rerouting count at SSCP5 is decremented to zero and a negative response is returned. The rerouting count is again incremented to 1 at SSCP3. SSCP3 can continue to reroute the CDINIT if other potential paths exist.

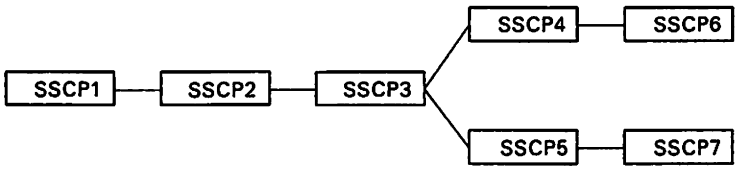

Figure 36. Example of SSCP-Rerouting-Count Use

Thus, you would reduce this count primarily to reduce potential logon time and storage use due to unnecessary adjacent SSCP rerouting. You should review the level of CDINIT and INQUIRE APPSTAT rerouting required for each network environment carefully, and change the SSCP rerouting count accordingly.

The IBM-supplied default value is 10. You can change the rerouting count by specifying a number from 0–255 (hex FF). Specifying 0 is equivalent to specifying 1. A maximum SSCP rerouting count of 1 prevents the gateway-capable[11] SSCP that receives the cross-network RU from rerouting that RU to another SSCP.

For session initiation, a maximum of one rerouting can occur within a given network. At least every other rerouting must cross a network boundary.

For other methods of resolving the problem of excessive rerouting, see "Start Options Affecting Adjacent SSCP Tables" on page 58 and the discussion of the

[11] To be gateway capable, an SSCP must be started with both NETID and SSCPNAME specified. For V3R2, GWSSCP=YES must also be specified.

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adjacent SSCP selection function of the session management exit routine on page 144.

Directory Size of Symbol Resolution Table for the Host Network

ISTRACON field name: RACHSRT (MVS/XA RACHXSRT)

The symbol resolution table (SRT) consists of an internal VTAM table used primarily to find information about control blocks. For a VTAM started as gateway-capable and interconnected with other networks, the SRT is several tables: one for the host network and one for each network known by VTAM. Each symbolic name has two parts. The first is a network ID (one assigned to each network) that is used to find an SRT directory. Once the SRT directory is found, the second part of the symbolic name points to the address of a queue of SRT entries.

This field specifies the number of queue pointers in the SRT directory for the network containing the VTAM host node. The IBM-supplied default value is 1499. You can change the number of SRT entry queues by specifying a number from 0 – 32767 (hex 7FFF). If you specify 0, VTAM uses the default value of 1499.

MVS/XA RACHXSRT allows a 31-bit value for the number of SRT entry queues. If it contains a nonzero value it will be used instead of RACHSRT.

There are several facts you should consider before changing the default directory size:

1. Using a prime number of queue pointers results in a fairly even distribution of SRT entries to the queues. It is recommended that you choose a prime number.
2. Besides the SRT entries for symbolic node names, add SRT entries to the host network's SRT for the following:
   - Network ID
     - Add one SRT entry for each network known to this VTAM.
   - Class-of-service table
     - Add one SRT entry for each COS table associated with this host's network by COSTAB operands in active gateway NCPs. That is, add one to your count of SRT entries for every COSTAB operand specified on the BUILD and NETWORK macroinstructions with this host's NETID.
     - Add one SRT entry for this host's COS table.
   - Adjacent SSCP table
     - Add one SRT entry for each destination SSCP in this host's network that is specified in an active adjacent SSCP table.
     - Add one SRT entry for this network's SSCP list.
     - Add one SRT entry for the default SSCP list.
   - Alias name
     - Add one SRT entry for each alias LU name that this VTAM host recognizes.
   - Autologon
     - Add one SRT entry for each SSCP that controls at least one LU that is designated as the PLU for a PLU-SLU automatic logon.

- Network address
  - Add one SRT entry for each network address assigned to nodes in this VTAM domain.
  - Add one SRT entry for the real network address of each cross-domain resource that establishes a session through this VTAM SSCP.
  - Add one SRT entry for the alias network address of each cross-network resource that establishes a session through this VTAM SSCP.
  - Add one SRT entry for each alternate gateway path to other-network SSCPs (if the SUBAREA operand is specified on the GWPATH statement).
- NetView trace requests
  - Add one SRT entry for each resource for which there may be pending NetView trace requests outstanding at any one time.

    This SRT entry represents a NetView trace request that is pending for a resource that is not yet defined to VTAM. An example of this kind of undefined resource is a dynamically defined cross-domain resource for which no session is active at the time of the trace request. To determine how many entries may be needed for these pending traces, you should know how the NetView program is used in your installation, and be aware of the kinds of resources in your configuration that may be undefined to VTAM at the time of a NetView trace request.

    Note: This value should represent the maximum number of resources for which there may be pending NetView trace requests outstanding at any one time, not the total number of resources for which a NetView trace may be requested.
- PCID
  - Add one SRT entry for each LU-LU session.
- Physical unit services control block

  For each active connection to a physical unit channel-attached to this VTAM host:
  - Add one SRT entry for the link.
  - Add one SRT entry for the station.

  In addition, if the PU is a subarea node (for example, a communication controller or a channel-channel attachment to a host),
  - Add one SRT entry for that subarea node.

MVS VM Directory Size of Symbol Resolution Tables for Other Networks

ISTRACON field name: RACONSRT (MVS/XA RACXNSRT)

This field specifies the number of queue pointers in every SRT directory for networks other than this VTAM network (that is, all networks with a NETID other than the NETID of this VTAM specified on the BUILD and NETWORK macroinstructions). The IBM-supplied default value is 43. You can change the number of SRT entry queues in each directory by specifying a number from 0 – 32767 (hex 7FFF). If you specify 0, VTAM uses the default value of 43. It is recommended that you use a prime number of queue pointers.

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MVS/XA RACXNSRT allows a 31-bit value for the number of queue pointers in every SRT directory for networks other than this VTAM network. If it contains a nonzero value it will be used instead of RACONSRT.

The following are the SRT entry types in the SRT tables for each network:

- Class-of-service table
  - Add one SRT entry for each COS table associated with another network by COSTAB operands in active gateway NCPs. That is, add one to your count of SRT entries for every COSTAB operand specified on the BUILD and NETWORK macroinstructions with NETIDs other than that of this host.
- Adjacent SSCP table
  - Add one SRT entry for each destination SSCP in another network specified in an active adjacent SSCP table.
  - Add one SRT entry for each default adjacent SSCP list for the other networks.
- Network address
  - Add one SRT entry for the real network address of each cross-network resource that establishes a session through this VTAM SSCP.
  - Add one SRT entry for the alias network address of each host-network resource that establishes a session through this VTAM SSCP.
  - Add one SRT entry for each alternate gateway path to other-network SSCPs (if the ADJNETSA operand is specified on the GWPATH statement).
- SSCPID
  - Add one SRT entry for each other-network SSCP that has a session with this VTAM SSCP.
- PCID
  - Add one SRT entry for each LU-LU session.
- Nodes
  - Add one SRT entry for each active CDRSC in another network.

MVS Process Scheduling Services Trace Control

ISTRACON field name: RACTRFLG

The trace entries that show the interaction between the MVS dispatcher and the process scheduling services (PSS) component of VTAM are normally not generated when using the VTAM internal trace (VIT) with OPTION=PSS or OPTION=ALL specified. The zappable constant RACTRFLG enables all or some of these entries to be optionally generated during VIT processing. The VTAM internal trace must have OPTION=PSS or OPTION=ALL active to allow the optional entries to be generated.

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The following values may be specified for the RACTRFLG constant:

Value	Description
X'00'	Do not include IRB or SRB entries in VTAM internal trace
X'40'	Include IRB entries in VTAM internal trace
X'80'	Include SRB entries in VTAM internal trace
X'C0'	Include IRB and SRB entries in VTAM internal trace.

The default value is hex 00.

Any value of the RACTRFLG constant specified other than hex 00, 40, 80, or C0 will result in the default value of hex 00 being used.

Size of the Host Node Table (HNT)

ISTRACON field name: RACHNTSZ

This field determines the maximum size of the host node table used to find element addresses. Each entry in this table represents an element address of the host. When all entries in a table are filled, a chain will be created to another block of entries. The larger the table size, the less chaining there will be and the better the performance. However, storage may be used less efficiently if larger tables are used.

Size of the CID Index Table

ISTRACON field name: RACCITSZ

This field determines the maximum size of the following index tables, used to find control blocks as indicated:

ISTCIT Function management control blocks (FMCBS). Each entry in this table represents the location of an FMCB that represents the session identified by the CID value.

ISTCONVT Conversation control blocks (RABS). Each entry in this table represents the location of an RAB that represents the conversation identified by the CID value.

When all entries in one of these tables are allocated, a chain will be created to another block of entries. The larger the table size, the less chaining there will be and the better the performance. However, storage may be used less efficiently if larger tables are used.

EAS Value for VTAM's Application

ISTRACON field name: RACEAS

This field determines the maximum number of SNA network addressable units and channel-attached non-SNA terminals that may be active at the same time. If the actual total number of SNA network addressable units and channel-attached non-SNA terminals in the VTAM system is greater than the number specified here, or if the actual number is greater than 8080, the VTAM path length is increased.

The valid range is 0 – 32767.

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Maximum Subarea Number

ISTRACON field name: RACSASUP

This field determines the maximum subarea number supported by a back-level network to which a host running VTAM V3 is interconnected. This number should never be increased beyond 255. However, it may be decreased for improved performance if the back-level VTAM network contains relatively few subareas.

VSE Code to Retry

ISTRACON field name: RACCPS

This field determines for which CALL progress signals VTAM will perform special retries. The IBM-supplied default is blank (hex 40).

The valid CALL progress signals for retry are 41 (hex F4F1) through 49 (hex F4F9). Any one, any combination, or all of these CALL progress signals can be specified. No blanks, commas, or spaces are inserted between the CALL progress signals (for example, hex F4F1F4F2).

Size of Data Used by VTAM in Dumping or Loading a Remote NCP

ISTRACON field name: RACBUFSZ

This field determines the request unit size (I/O *bufsize* minus the size of the SNA header) used by VTAM when taking a static dump of a remote NCP or when loading one. The default size is 512 bytes, but VTAM can also handle sizes of 1024 (hex 400) or 2048 (hex 800) bytes.

The range of allowable values for this field is determined by calculating the result of:

```
(MAXBFRU X UNITSZ) - 34 bytes
```

for **each** of the NCPs on the path between the host and the remote NCP being dumped or loaded. The value you choose for this field must be less than the lowest number in this series of results.

Notes:

1. This constant does not apply to a MODIFY LOAD. The length of the IPLTEXT RU will always be 2048 plus the length of the SNA header.
2. This constant applies only to static dumps or loads of 3720, 3725, and 3745 Communication Controllers. VTAM will ignore this constant when dumping or loading a 3705, and will use a default data size of 512 bytes.

MVS Session Awareness (SAW) Buffer Limit

ISTRACON field name: RACMXBUF

This field sets the maximum number of buffers used for session awareness (SAW) buffers. To determine whether you need to change this constant, use the following method:

1. First, note the following information:
   - The size of the buffer header (*buffer-header-size*) is 48.
   - The buffer size (*buffer-size*), as you defined it through the NetView program or NLDM.

- The number of physical units (*number-of-PUs*), as defined on the NCP.
- The number of dependent logical units (*number-of-LUs*), as defined on the NCP.
- The maximum SAW record size (*SAW-record-size*):
  - for SSCP PU/LU sessions is 133
  - within a single network is 235
  - for cross-network is 370.

2. Then, compute the average SAW record size:
   a. The number of SSCP SAW records is obtained by adding the number of physical units to the number of logical units:

      ```
      SSCP-SAW-records = Number-of-PUs + Number-of-dependent-LUs
      ```

   b. The number of LU-LU SAW records is equal to the number of LUs:

      ```
      LU-LU-SA-records = Number-of-LUs
      ```

   c. The total number of SAW records is obtained by adding the number of SSCP SAW records to the number of LU-LU SAW records from the last two calculations:

      ```
      Total-SAW-records = SSCP-SAW-records + LU-LU-SAW-records
      ```

   d. The average SAW record size is derived from the following formula:

      ```
      Avg-SAW-record-size =
           ((SSCP-SAW-records × 133) +
           (same-network LU-LU-SAW records × 235) +
           (cross-network LU-LU-SAY records × 370) ÷ Total-SAW-records
      ```

3. Compute the number of SAW records in a SAW buffer. To do this, subtract the size of the buffer header from the size of the buffer, then divide this difference by the average SAW record size; round down the answer obtained from this division:

   ```
   Records-per-buffer =
      Round-down((Buffer-size - Buffer-header-size) ÷ Avg-SAW-record-size)
   ```

4. Finally, determine the maximum number of buffers used when taking down an NCP by using the formula:

   ```
   Maximum-number-of-SAW-buffers =
        (1.25 × Total-SAW-records) ÷ Records-per-buffer
   ```

If the number produced by this algorithm is significantly different from the default value (MVS/XA 10,000 buffers, MVS/370 500 buffers), then you may want to alter this constant.

Missing Interrupt Handling for a CTC

ISTRACON field name: RACMIHTM

This value is related to missing interrupt handling by VTAM for a CTC (channel-to-channel). It is a time value coded in tenths of seconds.

After CTC I/O has been started, if no reply is received in REPLYTO seconds, VTAM will wait (RACMIHTM × .10) seconds. If no reply is received by then, the I/O is halted.

Note: REPLYTO is a system definition (SYSDEF) parameter.

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The default value is 3 minutes.

VM 9370 Token-Ring Adapter Buffer Size

ISTRACON field name: RACLBFSZ

This parameter is used to set the buffer size used in the I/O adapter for token-ring connections in an IBM 9370. This buffer size may be set to zero. If this parameter is set to zero, the adapter uses its default value. If the buffer size is not set to zero, it must be greater than or equal to 96 (hex 60) and must be a multiple of 8.

VM 9370 Token-Ring Adapter Transmit Buffer Maximum Count

ISTRACON field name: RACLTXMX

This parameter indicates the maximum number of buffers that are to be used as transmit buffers in the I/O adapter for token-ring connections in an IBM 9370. The adapter always keeps a minimum of two buffers as receive buffers. If this parameter is set to zero, the adapter uses its default value.

Note: The transmit buffer count, with the buffer size, is used to determine the maximum size frame that the adapter can transmit.

VM 9370 Token-Ring Adapter Transmit Buffer Minimum Count

ISTRACON field name: RACLTXMN

This parameter indicates the number of buffers that are to be reserved as transmit buffers in the I/O adapter for token-ring connections in an IBM 9370. These buffers are reserved as transmit buffers and never used for receive buffers. If zero is specified, no buffers are reserved for transmit. The minimum transmit buffer count must be less than or equal to the transmit maximum buffer count.

Option to Receive Dumps for INOPs

ISTRACON field name: RACINOP

This parameter indicates whether or not dumps should be generated whenever VTAM detects an INOP. The default value for RACINOP is zero, which indicates that dumps will not be generated for an INOP.

Note: Once this field has been changed, dumps will be taken for any CTC, local-SNA, and channel-attached NCP INOP.

Individual IST530I/IST532I Message Pair Limit

ISTRACON field name: RACNTWRE

This parameter limits the number of IST982I messages that are written for individual subareas by the IOPD facility.

If the number of pending I/O operations for a subarea is greater than the value of RACNTWRE, then the IOPD facility writes just one message pair for each **type** of pending I/O operation for that subarea, rather than one pair for **each** operation.

The default value for RACNTWRE is hex 7FFFFFFF, which ensures that the IST982I messages will report each individual pending I/O operation.

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Chapter 4. VTAM User Exit Routines

This chapter documents VTAM exit routines, which are product-sensitive programming interfaces. Please see the statement at the beginning of this book about product-sensitive programming interfaces under "About This Book".

The Session Management Exit Routine

The session management exit (SME) routine allows you to combine session-related functions (authorization, accounting, gateway path selection, and SSCP selection) into one exit routine.

The session management exit routine is called in the SSCPs of the origin logical unit (OLU) and destination logical unit (DLU), as well as in every SSCP along the path of the SSCP-SSCP session used to support a particular LU-LU session.

The session management exit routine is recommended especially for cross-network sessions, but it is also recommended for use in single-network sessions. In that case, it can replace the authorization and accounting exit routines, but it will not be called for gateway path selection, since there are no gateway paths to be selected.

The session management exit routine is recommended for sessions with independent LUs because, optionally, a network qualified name may be used to identify the PLU and SLU (see Figure 51 on page 153), and only this exit provides network qualified names.

If a VTAM is capable of SSCP takeover for type 2.1 nodes, that VTAM should provide a session management exit routine.

When you use the session management exit for gateway path selection, you can modify the list of alternate gateway paths. The exit routine is called with the list of alternate gateway paths and the names and network identifiers of the LU-LU session partners. You can modify the order of the list or shorten it, thus changing the order in which the gateway paths are considered for use in this session. The gateway path selection function allows you to distribute the LU-LU sessions across gateway NCPs according to your particular requirements.

Similarly, when the session management exit routine is used for adjacent SSCP selection, you can shorten or reorder the list from which the next SSCP used in session setup is chosen. The session management exit routine receives as input either a default list or a list of adjacent SSCPs that was built during the previous LU-LU session setup for the resource.

An example of how the session management exit functions are driven is shown in Figure 37. A sample cross-network session between APPLA and APPLB, illustrating when the functions are driven, is shown in Figure 38 on page 135.

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Function	Driven
Begin	Once during VTAM initialization.
Adjacent SSCP selection	Once during session initialization when the adjacent SSCP table is being built.
Gateway path selection	During session initialization each time a new adjacent SSCP is selected and gateway path list is built (cross-network only).
Initial authorization 1st 2nd through *n*th time	Once during session initialization. After an adjacent SSCP is selected in the DLU direction. Each time a new adjacent SSCP is selected in the DLU direction.
Secondary authorization	Once during session initialization; during CDINIT processing (DLU) or when a positive response to CDINIT is received (OLU).
Initial accounting	Once during session initialization when all session started signals have arrived and the session is ACTIVE.
Final Accounting	Once during session termination.
End	Once during VTAM termination.

Figure 37. Example of Session Management Exit Functions

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Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of environment vectors
4(4)	4	Address of exit routine function code
8(8)	4	Address of user data field
12(C)	4	Address of exit options

Figure 40. Begin-Function Parameter List

Final Register Contents: The routine must leave the register status as follows:

Registers 1 – 14: Restore these registers.
Register 15: 0.

If the exit routine returns an invalid return code (that is, a nonzero return code) or invalid data as a result of processing the begin function, VTAM will continue as if no exit routine exists. All sessions will be authorized, accounting data will be discarded, the list of gateway paths determined by the GWPATH statements will be used for gateway path selection, and an adjacent SSCP will be selected from the original list. VTAM issues message IST793E to inform the operator.

Initial Authorization Function (Function Code X'00')

This function is processed when session initiation begins (when an INIT, CDINIT, or BFSESSINFO [for takeover] request is issued or ACTLU response is received with session information control vector). Using this function, the exit routine may allow or may not allow a session. It may also defer the decision of allowing a session to the secondary authorization function when more information is available, for example:

- The DLU's real name
- The DLU's network identifier
- The DLU's owning SSCP.

If the above information is not known at initial authorization, it will be known at secondary authorization.

Although the DLU gateway information vector is not known at this time, you can determine the DLU by looking at the parameter list you get for secondary authorization.

If the initial authorization function is not selected during begin function processing, VTAM defers authorization to the secondary authorization function. If the exit routine does not process secondary authorization either, VTAM automatically authorizes the session.

The initial authorization function can reject a session and prevent the sending SSCP from continuing trial and error rerouting. The exit can also reject the session through this host, but allow the sending SSCP to continue rerouting.

Figure 41 shows the initial authorization parameter list pointed to by register 1. The parameters are described in "Parameter Descriptions" on page 146.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of environment vectors
4(4)	4	Address of exit routine function code
8(8)	4	Address of user data field
12(C)	4	Address of PLU resource identifier control vector
16(10)	4	Address of SLU resource identifier control vector
20(14)	4	Address of session ID
24(18)	4	Reserved
28(1C)	4	Address of OLU gateway information vector
32(20)	4	Reserved
36(24)	4	Address of OLU adjacent SSCP vector

Figure 41. The Initial-Authorization-Function Parameter List

Final Register Contents: The routine must leave the register status as follows:

Registers 1 – 14: Restore these registers.

Register 15: 0, session setup authorized; do not schedule the secondary authorization function.

4, session setup authorized; secondary authorization required. This return code is valid only if the exit routine processes the secondary authorization function; otherwise, session setup is not authorized and session setup fails.

8, session setup not authorized and session setup fails. Do not reroute.

12, session setup not authorized. Allow sending SSCP to reroute.

Note: If this return code is set in the host of the origin LU, it will be handled as return code 8.

Note: An invalid return code (that is, a return code not defined above) always means that session setup is not authorized and the session setup fails. VTAM issues message IST793E to inform the operator.

Secondary Authorization Function (Function Code X'01')

The secondary authorization function may receive authorization requests that were deferred by the initial authorization function, or all session authorization requests, if the exit routine does not process the initial authorization function. This function is processed when the CDINIT response is received, or when a BFSESSINFO is received for takeover, or an ACTLU response is received with a session information control vector. The secondary authorization function may receive more information about a session from VTAM than does the initial authorization function. That is, if the DLU's real name, network identifier, and owning SSCP were not known at initial authorization, they are known at secondary authorization since the DLU gateway information vector is provided.

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If the exit routine processes neither initial nor secondary authorization functions (because they were not selected during begin function processing), all sessions are authorized.

Figure 42 shows the secondary authorization parameter list pointed to by register 1. The parameters are described in "Parameter Descriptions" on page 146.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of environment vectors
4(4)	4	Address of exit routine function code
8(8)	4	Address of user data field
12(C)	4	Address of PLU resource identifier control vector
16(10)	4	Address of SLU resource identifier control vector
20(14)	4	Address of session ID
24(18)	4	Reserved
28(1C)	4	Address of OLU gateway information vector
32(20)	4	Address of DLU gateway information vector
36(24)	4	Address of OLU adjacent SSCP vector
40(28)	4	Address of DLU adjacent SSCP vector

Figure 42. The Secondary-Authorization-Function Parameter List

This function is processed when the CDINIT response is received.

Final Register Contents: The routine must leave the register status as follows:

Registers 0 – 14: Restore these registers.

Register 15: 0, session authorized.
8, session setup not authorized, and session setup fails.

Note: An invalid return code always means that session setup is not authorized and the session setup has failed. VTAM issues message IST793E to inform the operator.

Initial and Final Accounting Functions (Function Codes X'02' and X'03')

The initial accounting function is processed at session initiation time. The final accounting function is processed at session termination time. These functions are used to pass accounting information only. No results are returned to VTAM.

If the initial accounting function is selected for processing, the final accounting function will also be selected for processing.

If the session management exit routine does not process the accounting functions (because they were not selected during begin function processing), VTAM discards data meant for the exit routine.

Figure 43 on page 142 shows the accounting function parameter list (for both initial and final accounting function) pointed to by register 1. The parameters are described in "Parameter Descriptions" on page 146.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of environment vectors
4(4)	4	Address of exit routine function code
8(8)	4	Address of user data field
12(C)	4	Address of PLU resource identifier control vector
16(10)	4	Address of SLU resource identifier control vector
20(14)	4	Address of session ID
24(18)	4	Address of time of day field
28(1C)	4	Address of OLU gateway information vector
32(20)	4	Address of DLU gateway information vector
36(24)	4	Address of OLU adjacent SSCP vector
40(28)	4	Address of DLU adjacent SSCP vector

Figure 43. The Accounting-Function Parameter List

Final Register Contents: The routine must leave the register status as follows:

Registers 0 – 14: Restore these registers.
Register 15: 0.

Note: An invalid return code (that is, a nonzero return code) is ignored. VTAM issues message IST793E to inform the operator.

MVS VM Gateway Path Selection Function (Function Code X'04')

The gateway path selection function allows you to shorten or reorder the list of gateway paths determined by the GWPATH definition statements. (See *VTAM Installation and Resource Definition* for an explanation of the GWPATH statement.) If this function is not selected during begin function processing, VTAM uses the original gateway path list determined by the GWPATH statements.

Figure 44 shows the gateway path selection parameter list pointed to by register 1. The parameters are described in "Parameter Descriptions" on page 146.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of environment vectors
4(4)	4	Address of exit routine function code
8(8)	4	Address of user data field

Figure 44 (Part 1 of 2). The Gateway-Path Selection-Function Parameter List

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Dec(Hex) Offset	Size (Bytes)	Description
12(C)	4	Address of PLU resource identifier control vector
16(10)	4	Address of SLU resource identifier control vector
20(14)	4	Address of session ID
24(18)	4	Reserved
28(1C)	4	Address of gateway path selection list

Figure 44 (Part 2 of 2). The Gateway-Path Selection-Function Parameter List

Final Register Contents: The routine must leave the register status as follows:

Registers 0 – 14: Restore these registers.

Register 15: 0, proceed with session setup; the gateway path list returned by the exit routine is used. Modification of the gateway path list by the exit routine is optional.

4, proceed with session setup; the original gateway path list (determined by the GWPATH definition statements) is used.

Note: If an invalid return code is received, the original gateway path list determined by the GWPATH statements is used for gateway path selection. The original gateway path list is also used if the returned list is empty or if it is larger than the list that was passed to the routine. VTAM issues message IST793E to inform the operator.

MVS/XA Session Takeover Accounting Function for XRF (Function Code X'05')

This primary function code indicates that the session management exit routine has been called to process a session takeover by the alternate XRF application. The exit routine is driven for this function when the alternate application has completed its takeover of a session. It is used to notify the exit routine of a change of session status.

If this function is not selected during begin function processing, data intended for it is discarded.

A bit setting in the secondary function code (shown in Figure 49 on page 148) indicates whether a session is a backup XRF session. This setting applies to primary function codes hex 00 – 06. It does not apply to the begin and end functions.

Figure 45 shows the session takeover accounting parameter list that is pointed to by register 1. These parameters are described in "Parameter Descriptions" on page 146.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of environment vectors
4(4)	4	Address of exit routine function code
8(8)	4	Address of user data field
12(C)	4	Address of PLU resource identifier control vector
16(10)	4	Address of SLU resource identifier control vector
20(14)	4	Address of session ID
24(18)	4	Address of time of day
28(1C)	4	Address of OLU gateway information vector
32(20)	4	Address of DLU gateway information vector
36(24)	4	Address of OLU adjacent SSCP vector
40(28)	4	Address of DLU adjacent SSCP vector

Figure 45. The Session-Takeover Accounting-Function Parameter List

Final Register Contents. The routine must leave the register status as follows:

Registers 0 – 14: Restore these registers.
Register 15: 0.

Note: An invalid return code (that is, a nonzero return code) in register 15 is ignored. VTAM issues message IST793E to inform the operator.

The Adjacent SSCP Selection Function (Function Code X'06')

The adjacent SSCP selection function for LU-LU sessions allows you to shorten or reorder the list of SSCPs from which the next SSCP used in session setup is chosen during CDINIT or DSRLIST routing. This function is invoked for DSRLST (direct search list) routing only if it is enabled during the BEGIN function.

The session management exit routine receives as input the user-defined list of adjacent SSCPs and the list of adjacent SSCPs that was built during the previous LU-LU session setup for the same resource (if any).

If no adjacent SSCPs exist, this function will not be invoked.

The gateway SSCP invokes the SSCP selection function during the processing of an LU-LU session request to select the SSCP to which the request will be routed.

Figure 46 shows the SSCP selection function parameter list pointed to by register 1. The parameters are described in "Parameter Descriptions" on page 146.

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Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of environment vectors
4(4)	4	Address of exit routine function code
8(8)	4	Address of user data field
12(C)	4	Address of PLU resource identifier control vector
16(10)	4	Address of SLU resource identifier control vector
20(14)	4	Address of session ID
24(18)	4	Reserved
28(1C)	4	Address of SSCP name list

Figure 46. The SSCP Selection-Function Parameter List

Final Register Contents: The routine must leave the register status as follows:

Registers 0 — 14: Restore these registers.

Register 15: 0, proceed with session setup; use SSCP name list returned by this function. Changing the SSCP name list is optional.

4, proceed with session setup; standard VTAM routing will be used.

If an invalid return code is returned, or if the exit routine terminates abnormally, the session initiation request will continue to be processed using the original list of adjacent SSCPs received by the exit routine. VTAM also uses the original adjacent SSCP list if the returned list is invalid, for instance, if it is empty or if it is larger than the list that was passed to the routine. VTAM issues error message IST793E to inform the operator.

The End Function (Function Code X'FF')

This function of the session management exit routine is processed during VTAM termination (HALT or HALT QUICK). This function should perform any cleanup required and return processing to VTAM. Note that HALT CANCEL causes VTAM to abend. In this case, the end function is not processed.

Figure 47 shows the end function parameter list pointed to by register 1. The parameters are described in "Parameter Descriptions" on page 146.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of environment vectors
4(4)	4	Address of exit routine function code
8(8)	4	Address of user data field

Figure 47. End-Function Parameter List

Final Register Contents: The routine must leave the register status as follows:

Registers 0 – 14: Restore these registers.
Register 15: 0, continue with termination.

Note: An invalid return code (that is, a nonzero return code) causes VTAM to continue termination. VTAM issues message IST793E to inform the operator.

VTAM termination does not complete if the exit routine does not complete. In this case, the operator must issue

MVS VM a HALT CANCEL command or
VSE a CANCEL Fx (the VTAM partition)

to terminate VTAM.

Parameter Descriptions

The descriptions of each of the parameters that follow refer to Figure 40 on page 139 through Figure 47 on page 145. These figures are summarized in Figure 39 on page 137.

Environment Vector List

The address of the environment vector list is the first word of the parameter list for all function codes. These vectors, which are preceded by a 2-byte length field, make it possible for your installation to use a single exit routine, installed in each host, to collect session authorization and accounting data. Although all information collected may be combined for analysis, it is possible to identify the host at which the data was collected.

The environment vector list has the same format as the resource identification vector list described in *VTAM Programming*. (Do not confuse this with the resource identifier control vector described later in this section.) The parameter list points to the environment vector list that follows.

Comments	Dec(Hex) Offset	Size (Bytes)	Description
A header precedes the list of vectors:			
	0(0)	2	Total length of the parameter list including this length field (m)
This header is followed by several vectors, which may be in any order. The first of these is the network identification vector:			
	0(0)	1	Length of the vector including this field (n)
	1(1)	1	ID of the vector (X'06')
	2(2)	n–2	ID of the network in which this exit routine is operating (from the NETID start option)

Figure 48 (Part 1 of 3). Environment Vectors

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Comments	Dec(Hex) Offset	Size (Bytes)	Description
This is followed by the SSCP-name vector:			
	0(0)	1	Length of the vector including this field (n)
	1(1)	1	ID of the vector (X'07')
	2(2)	n–2	SSCP name of the host in which this exit is operating. Prior to V3R2, the name is derived from the SSCPNAME start option, if specified. If SSCPNAME is not specified, the name "VTAM" is assumed. In V3R2, SSCPNAME is required.
This is followed by the host-PU-name vector:			
	0(0)	1	Length of the vector including this field (n)
	1(1)	1	ID of the vector (X'08')
	2(2)	n–2	Name of the host in which this exit is operating (from the HOSTPU start option)
This is followed by the host-PU-network-address vector:			
	0(0)	1	Length of the vector including this field
	1(1)	1	ID of the vector (X'09')
	2(2)	6	Network address of the host PU
In V3R1.1 and V3R2, this is followed by the adjacent OLU-network-name vector for the following functions:			
Initial authorization Secondary authorization Initial accounting Final accounting GWN path selection Adjacent SSCP selection	0(0)	1	Length of the vector including this field This field is zero if this information is not applicable.
	1(1)	1	ID of the vector (X'0A')
	2(2)	n–2	Network name of the adjacent network in the OLU direction.

Figure 48 (Part 2 of 3). Environment Vectors

Comments	Dec(Hex) Offset	Size (Bytes)	Description
In V3R1.1 and V3R2, this is followed by the adjacent DLU-network-name vector for the following functions:			
Secondary authorization Initial accounting Final accounting	0(0)	1	Length of the vector including this field This field is zero if this information is not applicable.
	1(1)	1	ID of the vector (X'0B')
	2(2)	n–2	Network name of the adjacent network in the DLU direction.

Figure 48 (Part 3 of 3). Environment Vectors

Exit Routine Function Code

The exit routine function code is always passed to the session management exit routine as the second parameter in the function parameter list. The exit routine function code determines which of the functions of the session management exit routine will be processed. The first byte of the function code is the primary function code. The parameters passed to the exit routine depend on the primary function code.

The second byte is the secondary function code. This field contains information about the initiator of the session, the success or failure of the session initiation attempt, and whether a session is a backup extended recovery facility XRF session.

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Byte	Description
0	Primary Function Code:
	X'00' The exit routine has been called for initial session authorization; only partial information may be available. (INIT, BFINIT, CDINIT, or BFSESSINFO request or ACTLU response with session information control vector is being processed by the SSCP.)
	X'01' The exit routine has been called for secondary session authorization; complete session initiation information is available. (INIT, BFINIT, CDINIT, BFSESSINFO, or ACTLU response is being processed by the SSCP.)
	X'02' The exit routine has been called for session accounting at session setup completion. (SESSST, BFSESSST, CDSESST, BFSESSINFO, or ACTLU is being processed by the SSCP.)
	X'03' The exit routine has been called for session accounting at the completion of session termination. (SESSEND, BFSESSEND, or CDSESSEND is being processed by the SSCP.)
	X'04' The exit routine has been called for gateway path selection. (CDINIT request is being processed by the first gateway SSCP in this gateway.) The secondary function code defines whether the function is invoked for the DLU or OLU direction.
	X'05' The exit routine has been called in response to SWITCH RU or NOTIFY (SWITCH) processing.
	X'06' The exit routine has been called for SSCP selection. (CDINIT request is being routed to adjacent SSCP.)
	X'FE' The exit routine has been called to select the functions it will process; this begin function is processed only once.
	X'FF' The exit routine has been called to perform required cleanup during VTAM termination. This end function is processed only once during VTAM termination.

Figure 49 (Part 1 of 2). Exit Routine Function Code

Byte	Description
1	Secondary Function Code:

The following bit settings indicate whether a session is a backup XRF session. (The settings are defined for primary function codes hex 00–06).

`B'0... ....'` The session is not a backup XRF session. If the primary function code is hex 05, the session is now a primary session and was previously a backup session. For all other valid primary function codes, the session is either a primary session or not enabled for XRF.

`B'1... ....'` The session is a backup XRF session. If the primary function code is hex 05, the session was previously a primary XRF session.

For the session authorization functions (primary function codes hex 00 and 01), the following flags define the session initiator:

`B'..00 ....'` Autologon session (VARY LOGON, LOGAPPL)

`B'..01 ....'` PLU requested the session: third party (SIMLOGON, OPNDST ACQUIRE). (PLU is the OLU, SLU is the DLU.)

`B'..10 ....'` SLU requested the session (USS logon, INIT SELF) (SLU is the OLU, PLU is the DLU.)

`B'..11 ....'` Some other LU requested the session: third party initiation (CLSDST PASS).

For the session authorization functions (primary function codes hex 00 and 01), the following flag defines whether the DLU real network ID is assumed:

`B'.... 0...'` DLU real network ID is not assumed.
`B'.... 1...'` DLU real network ID is assumed and is being processed.

For the SSTCP selection function (primary function code hex 06), the following flag defines whether the function is invoked for CDINIT or DSRLST routing:

`B'.... .0..'` SSCP selection invoked for CDINIT routing (PLU and SLU RICS initialized)

`B'.... .1..'` SSCP selection invoked for DSRLST routing (PLU RIC is initialized, SLU RIC is not initialized).

For the gateway path selection function (primary function code hex 04), the following flag defines whether the function is invoked for DLU or OLU direction:

`B'.... ..0.'` Gateway path selection invoked for OLU direction
`B'.... ..1.'` Gateway path selection invoked for DLU direction.

For primary function codes hex 00–02, the following flag indicates whether session management exit (SME) functions are being driven during takeover:

`B'.... ...0'` Session management exit function not driven for takeover
`B'.... ...1'` Session management exit function driven for takeover.

Figure 49 (Part 2 of 2). Exit Routine Function Code

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User Data Field

The user data field is always passed to the exit routine as the third parameter in the function parameter list. This word points to a 4-byte user data field, originally initialized to 0, which the exit routine may use for any purpose (for example, to store the address of a dynamically obtained storage area). VTAM saves the contents of this user field when register 15 is either 0 or 4 and if the function is initial authorization, so that it is available to the exit routine the next time it is called.

Note: VTAM returns the address of this field on subsequent calls, not the data itself.

Exit Options

The exit options field is passed to the exit routine as the fourth parameter of the parameter list only for the begin function. This word points to a 2-byte field that indicates the functions for which the exit routine will be called. This field is modified by the exit routine during begin function processing. The bit definitions are described below:

Byte	Bit	Description
0	B'1... ....'	The exit routine will process the initial authorization function.
	B'0... ....'	The exit routine will **not** process the initial authorization function. (The default is 0.)
	B'.1.. ....'	The exit routine will process the secondary authorization function.
	B'.0.. ....'	The exit routine will **not** process the secondary authorization function. (The default is 0.)
	B'..1. ....'	The exit routine will process the initial and final accounting functions.
	B'..0. ....'	The exit routine will **not** process the accounting functions. (The default is 0.)
	B'...1 ....'	The exit routine will process the gateway path selection function.
	B'...0 ....'	The exit routine will **not** process the gateway path selection function. (The default is 0.)
	B'.... 1...'	The exit routine will process the end function.
	B'.... 0...'	The exit routine will **not** process the end function. (The default is 0.)
	B'.... .1..'	The exit routine will process the session takeover accounting function (primary function code hex 05).
	B'.... .0..'	The exit routine should not be processed for the session takeover accounting function (primary function code hex 05). (The default is 0.)
	B'.... ..1.'	The exit routine will process the SSCP selection function.

Figure 50 (Part 1 of 2). Exit Routine Options

Byte	Bit	Description
	B'.... ..0.'	The exit routine will **not** process the SSCP selection function. (The default is zero.)
	B'.... ...1'	SSCP selection is allowed for DRSLST.
	B'.... ...0'	SSCP selection is not allowed for DRSLST.
1	B'1... ....'	Session management exit functions allowed for takeover of independent LU sessions.
	B'0... ....'	Session management exit functions not allowed for takeover of independent LU sessions.

Figure 50 (Part 2 of 2). Exit Routine Options

PLU Resource Identifier Control Vector

The PLU resource identifier control vector is passed to the exit routine as the fourth parameter of the function parameter lists for primary function codes hex 00–06. This word points to a resource identifier control vector for the PLU in the session. If the primary function code is hex 01, 02, 03, or 05, all the information described later in this section (that is, the resource identifier control vector) is available. If the primary function code is hex 00, 04, or 06, only a portion of the information is available. The real name of the destination LU and the alias name of the origin LU may be unknown as well as the name of the destination LU's owning SSCP. If unknown, its field length is set to zero and the length field of the next vector will immediately follow.

The format of the PLU resource identifier control vector is the same as for the SLU (see Figure 51 on page 153).

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Comments	Dec(Hex) Offset	Size (Bytes)	Description
	0(0)	1	Vector key (X'19')
	1(1)	1	Vector length (number of bytes of vector, not including the vector key and length of this length field) **Note:** If any of the name fields does not exist (cannot be determined at the time the exit is called), the length field will be zeroes and the length field of the next name in the RIC vector will follow immediately.
	2(2)	1	SSCP rerouting count (number of SSCPs remaining in the count for this session setup request). This byte is reserved if the exit routine function code is not hex 00.
	3(3)	1	Usage indicators. The flags are defined as follows: B'1... ....' This name has been translated B'0... ....' This name has not been translated B'.1.. ....' The resource is the target resource **Note:** The OLU is **never** the target resource. B'.0.. ....' The resource is not the target resource **Note:** The DLU is **always** the target resource.
This is followed by the SSCP name:			
	0(0)	1	Length of SSCP name (m)
	1(1)	m	Symbolic name of SSCP that controls the LU
This is followed by the network ID:			
	0(0)	1	Length of network ID (n)
	1(1)	n	Network ID of the network containing the LU

Figure 51 (Part 1 of 2). PLU and SLU Resource Identifier Control Vector

Comments	Dec(Hex) Offset	Size (Bytes)	Description
This is followed by the LU name:			
	0(0)	1	Length of the LU name (p)
	1(1)	p	Network name of the LU (real name)
This is followed by another network ID:			
	0(0)	1	Length of network ID (q)
	1(1)	q	Network ID of the network in which the following alias LU is known
This is followed by the alias LU name:			
	0(0)	1	Length of alias LU name (r)
	1(1)	r	Alias LU name
In V3R1.1 and V3R2, this is followed by three LU-address vectors:			
	0(0)	1	ID of the vector (hex 1A)
	1(1)	1	Vector length (number of bytes of vector, not including the vector key and length of this length field)
	2(2)	6	PLU or SLU address in this network
	0(0)	1	ID of the vector (hex 1A)
	1(1)	1	Vector length (number of bytes of vector, not including the vector key and length of this length field)
	2(2)	6	PLU or SLU address in the adjacent network in the OLU direction
	0(0)	1	ID of the vector (hex 1A)
	1(1)	1	Vector length (number of bytes of vector, not including the vector key and length of this length field)
	2(2)	6	PLU or SLU address in the adjacent network in the DLU direction

Figure 51 (Part 2 of 2). PLU and SLU Resource Identifier Control Vector

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Comments	Dec(Hex) Offset	Size (Bytes)	Description
In V3R2, the PLU/SLU resource identifier control vector is followed by a hierarchy resource vector (the hierarchy vector is not part of the RIC vector).			
	0(0)	1	ID of the vector (X'FF')
	1(1)	1	Vector length (number of bytes of vector, not including the vector key and length of this length field)
	2(2)	1	Number of hierarchy resource entries (n)
In V3R2, this header is followed by a variable number (n) of hierarchy resource entries.			
	0(0)	8	Resource name
	8(8)	1	Resource type Dec(Hex) 1(1) Communication controller 2(2) APPL major node 3(3) LOCAL non-SNA major node 4(4) Switched major node 5(5) LOCAL SNA major node 6(6) CDRM major node 7(7) CDRSC major node 8(8) CA major node 9(9) Dummy entry 10(A) CDRM 11(B) Line control dial out 12(C) GROUP 13(D) Local device 14(E) LINE 15(F) Direct attachment major node 16(10) APPL 17(11) CLUSTER 18(12) PU 19(13) Skeletal PU 20(14) UTERM 21(15) TERMINAL 22(16) LU 23(17) Adjacent link station 24(18) CDRSC 25(19) Skeletal LU 26(1A) Component NCP level equates
	9(9)	1	Reserved

Figure 52. PLU and SLU Hierarchy Control Vector

SLU Resource Identifier Control Vector

This word of the parameter list points to a resource identifier control vector for the SLU in the session. If the primary function code is hex 01, 02, 03, or 05, all the information described is available. If the primary function code is hex 00, 04, or 06, only a portion of the information is available. The real name of the destination LU and the alias name of the origin LU may be unknown as well as the name of the SSCP that owns the destination LU. If unknown, its field length is set to zero and the length field of the next vector will immediately follow.

Figure 51 on page 153 shows the format of the resource identifier control vector.

Note: The exit routine cannot change the maximum SSCP rerouting count. You can change this value by using the VTAM constants module described in "Module for VTAM Constants" on page 116.

The exit routine should not assume that the resource identifier control vector is of fixed length. It should use the length byte to determine the size of the vector. Any information following the last byte that the exit routine does not understand should be ignored.

Session Identifier

The session ID is passed to the exit routine for all primary function codes **except** hex FE and FF.

This word of the parameter list points to an 8-byte session identifier. It is a unique identifier for this session within the SSCP in which the session management exit routine is scheduled.

Time-of-Day Field

This word of the parameter list points to an 8-byte field containing the time of day that the session was started (for primary function code hex 02), ended (for primary function code hex 03), or taken over (for primary function code hex 05).

The time-of-day field is in the following format:

Time (4 bytes): *hhmmssth*
Date (4 bytes): 00*yydddC*

where:

hh = hours (24-hour clock)
mm = minutes
ss = seconds
t = tenths of seconds
h = hundredths of seconds
yy = the last two digits of the year
ddd = the day of the year
C = a 4-bit sign character that allows the data to be unpacked and printed.

MVS VM OLU Gateway Information Vector

This word of the parameter list points to the OLU gateway information vector.

This word is nonzero only if there is an SSCP in the OLU direction that is a gateway SSCP and the session is cross-network. If the exit routine is called within the network of the origin LU, there is no such gateway NCP and the field is set to zero.

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The OLU gateway information vector provides the gateway NCP name and COS names for the gateway in the direction of the origin LU.

The format of the OLU gateway information vector is shown in Figure 53. Its format is the same as that of the DLU gateway information vector.

Comments	Dec(Hex) Offset	Size (Bytes)	Description
	0(0)	1	Length of vector data (excluding this field) **Note:** If one of the name fields does not exist (cannot be determined at the time the exit is called), the length field will be zeroes and the length field of the next name in the GIV vector will follow immediately.
This is followed by the gateway node name:			
	0(0)	1	Length of gateway NCP name (m)
	1(1)	m	Name of the gateway NCP in the direction of the origin LU
This is followed by a COS name:			
	0(0)	1	Length of COS name (n)
	1(1)	n	COS name for the network on the origin LU side of the gateway NCP identified above
This is followed by another COS name:			
	0(0)	1	Length of COS name (p)
	1(1)	p	COS name for the network on the destination LU side of the gateway NCP identified above

Figure 53. OLU Gateway Information Vector

The COS names are found in the host that provides translation. If a COS name is not available, the length of the COS name is set to zero.

MVS VM Gateway Path Selection List

This word of the parameter list points to the list of alternate gateway paths available for this LU-LU session. Figure 54 on page 158 shows the format of this list.

Gateway path entries are provided for all the alternate gateway paths defined by the GWPATH definition statements for each gateway NCP for which the gateway SSCP is performing gateway path selection. The gateway path entries are passed to the session management exit routine in the order in which they are defined to VTAM (by the GWPATH definition statements). However, the gateway NCP used for an SSCP-SSCP session is always placed first in the list if this SSCP is in session with the gateway NCP.

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Note that the gateway path selection function might be processed in one SSCP to select a gateway for an adjacent SSCP.

Comments	Dec(Hex) Offset	Size (Bytes)	Description
	0(0)	2	Total length of the gateway NCP path list (excluding this field). Do not use this field to determine the last gateway path entry.
	2(2)	8	NETID of the adjacent SSCP
	10(A)	2	Number of gateway path selection entries (n). Use this number to determine the last gateway path entry. This header is followed by a variable number (n) of gateway path selection entries.
	0(0)	1	Length of the following gateway path information (excluding this field). Use this field to determine the end of this path specification and the beginning of the next one.
	1(1)	8	Name of the gateway NCP connecting this network to the adjacent network (obtained from the GWN operand on the GWPATH definition statement or inferred from the SUBAREA operand). This field will be blank if the GWN operand was not coded on GWPATH and this SSCP is not in session with the gateway NCP.
	9(9)	4	Subarea address of the gateway NCP in this network (obtained from the SUBAREA operand on the GWPATH definition statement or inferred from the GWN operand). This field will be 0 if this SSCP is not in session with the gateway node and the SUBAREA operand was not coded on GWPATH. **Note:** If both GWN and SUBAREA are coded on the GWPATH definition statement, you cannot tell if this SSCP is in session with the gateway NCP.
	13(D)	8	NETID of the adjacent network accessed by the gateway NCP identified above (from ADJNET on the GWPATH statement).

Figure 54. Gateway Path Selection List

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You can modify the selection list in the following ways:

- You can reduce the number of gateway path entries in the list by decreasing the number of gateway path entries (bytes 10 and 11) in the gateway path selection list. If the exit routine returns a smaller number of alternate gateway nodes than that presented to it at entry (in the gateway path selection list), VTAM will use a list of only those entries. In its attempt to find a gateway node to use for the LU-LU session, VTAM will search that list of entries in the order they were returned to VTAM by the exit routine.
- You can change the order of the gateway path entries in the list. The order of the entries returned to VTAM by the exit routine is the same order in which the gateway path entries will be used to attempt LU-LU session setup.

For a list to be correct, the following requirements must be met:

- Each gateway path entry returned must match one of the entries originally received.
- The number of entries returned can be no larger than the number of entries received.
- The adjacent NETID field of the adjacent SSCP must remain unchanged.
- The returned gateway path list must contain at least one valid entry.

If the list returned by the exit routine is invalid for any of the above reasons, the original list that was sent to the exit routine will be used.

The address of the gateway path selection list should remain unchanged. The modified gateway path list should use the same storage that was passed by VTAM to the exit routine.

SSCP Name List

The SSCP name list consists of the names of the adjacent SSCPs or default SSCPs.

The format of the SSCP name list is:

Comments	Dec(Hex) Offset	Size (Bytes)	Description
	0(0)	2	Total length of the SSCP name list (excluding this field)
	2(2)	2	Number of SSCP names in this list (n)
This header is followed by a variable number (n) of SSCP names:			
	0(0)	8	Adjacent SSCP name

Figure 55. SSCP-Name-List Format

You can modify the SSCP name list in the following ways:

- You can reduce the number of SSCP name entries in the list by decreasing the number of SSCP name entries (byte 2 and 3) in the SSCP name list. If the exit routine returns a smaller number of SSCP names than that presented to it at entry (in the SSCP name list), VTAM will use a list of only those entries. In its

attempt to find an SSCP name to use, VTAM will search that list of entries in the order they were returned to VTAM by the exit routine.

- You can change the order of the SSCP name entries in the list. The order of the entries returned to VTAM by the exit routine is the same order in which the SSCP name entries will be used.

For a list to be correct, the following requirements must be met:

- Each SSCP name entry returned must match one of the entries originally received.
- The number of entries returned can be no larger than the number of entries received.
- The returned SSCP name list must contain at least one valid entry.

If the list returned by the exit routine is invalid for any of the above reasons, the original list that was sent to the exit routine will be used.

The address of the SSCP name list should remain unchanged. The modified SSCP name list should use the same storage that was passed by VTAM to the exit routine.

MVS VM DLU Gateway Information Vector

The DLU gateway information vector provides the gateway NCP name and COS names for the gateway NCP in the direction of the destination LU. This parameter is set to zero if the session management exit routine is scheduled in the destination LU's network, since there is no such gateway NCP.

The format of the DLU gateway information vector shown below is the same as that of the OLU:

Comments	Dec(Hex) Offset	Size (Bytes)	Description
	0(0)	1	Length of vector data (excluding this field).
This is followed by the gateway node name:			
	0(0)	1	Length of gateway NCP name (m)
	1(1)	m	Name of the gateway NCP in the direction of the origin LU
This is followed by a COS name:			
	0(0)	1	Length of COS name (n)
	1(1)	n	COS name for the network on the origin LU side of the gateway NCP identified above
This is followed by another COS name:			
	0(0)	1	Length of the following COS name (p)

Figure 56 (Part 1 of 2). DLU Gateway Information Vector

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Comments	Dec(Hex) Offset	Size (Bytes)	Description
	1(1)	p	COS name for the network on the destination LU side of the gateway NCP identified above

Figure 56 (Part 2 of 2). DLU Gateway Information Vector

The COS name is found in the host that provides translation. If a COS name is not available, the length of the COS name is set to 0.

OLU Adjacent SSCP Vector

The OLU adjacent SSCP vector provides the name of the adjacent SSCP in the direction of the origin LU.

The format of the OLU adjacent SSCP vector is:

Comments	Dec(Hex) Offset	Size (Bytes)	Description
	0(0)	1	Length of vector data (excluding this field)
This is followed by the adjacent SSCP name:			
	0(0)	1	Length of the adjacent name (q)
	1(1)	q	Name of the adjacent SSCP in the direction of the origin LU (OLU)

Figure 57. OLU Adjacent SSCP Vector Format

This word of the parameter list is set to zero if the session management exit routine is scheduled in the network of the OLU, since there is no OLU adjacent SSCP.

DLU Adjacent SSCP Vector

The DLU adjacent SSCP vector provides the name of the adjacent SSCP in the direction of the destination LU.

The format of the DLU adjacent SSCP vector is:

Comments	Dec(Hex) Offset	Size (Bytes)	Description
	0(0)	1	Length of vector data (excluding this field)
This is followed by the adjacent SSCP name:			
	0(0)	1	Length of the adjacent name (q)
	1(1)	q	Name of the adjacent SSCP in the direction of the destination LU (DLU)

Figure 58. DLU Adjacent SSCP Vector Format

Notes:

1. This word of the parameter list is set to zero if the session management exit routine is scheduled in the network of the DLU, since there is no DLU adjacent SSCP.

Design Considerations

Follow these procedures when writing this routine:

- Use standard linkage.
- Save registers 0 – 14.

Likewise, keep in mind the following restrictions when writing this routine:

- The name of the session management exit routine must be ISTEXCAA.
- User-coded exit routines should **not** be coded with any unconditional GETMAINS. You can reduce the possibility of VTAM abending during a storage shortage by coding conditional GETMAINS.
- MVS/XA All data is addressable only in 24-bit mode.
- The session management exit routine must be re-entrant. It must be link-edited into the appropriate library. See "Installing VTAM Exit Routines" on page 180 for more information.
- The routine operates as an internal VTAM subroutine. It operates enabled in pageable storage. The routine gets control in supervisor state with a VTAM storage key. Errors in the routine could cause damage to VTAM or system control blocks and modules. VTAM performance is degraded if the routine requires lengthy processing time.
- If your installation allows parallel LU-LU sessions, the session management exit routine must be capable of processing more than one request for the same LU-LU pair. You can distinguish between these sessions using the session ID pointed to by word 6 of the input parameter list.
- Do not invoke any function that causes a system wait to occur, including implied waits for I/O operations. System waits may cause VTAM failure in some timing-dependent situations.
- Do not use VTAM macroinstructions in the routine.
- MVS/XA This exit routine may be above the 16M line. Data is always presented below the line.
- All functions except the end function run under ABEND protection. If an error occurs, VTAM issues message IST793E and continues as though the exit routine had not been coded.

Suggestions: When writing your exit routine, keep in mind that any number of vectors may exist and the vector lengths may be different in different releases of VTAM. Therefore, use the variable-length parameter list indicator to determine the end of the list. In addition, use the length byte to manipulate each vector in the list. If any bytes are added to the vector, or any vectors to the list, you will not have to recode your exit routine.

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Virtual Route Selection Exit Routine

A virtual route selection exit routine allows you to modify the ordered list of virtual routes as specified in the class-of-service (COS) entry. VTAM will then use your new list of virtual routes to select a virtual route for the session.

You can write a virtual route selection routine, named ISTEXCVR, to be invoked before VTAM establishes any sessions between logical units and before VTAM is terminated (to allow it to cleanup any necessary resources).

VTAM calls the virtual route selection exit routine when a session between a primary logical unit in the VTAM subarea and a logical unit in **another** subarea is about to be established. The virtual route selection exit routine is not called if both logical units reside in the same VTAM subarea. The exit is not called for independent PLUs.

The exit routine is passed only the list of routes within the local network and is scheduled only within the subarea of the primary logical unit.

Initial Register and Parameter List Contents

When this user-written routine gains control, register contents are as follows:

Register 1:	Address of a variable-length parameter list (described in Figure 59 on page 165)
Register 13:	Address of the standard 18-fullword save area
Register 14:	Return address
Register 15:	Address of the entry point of this routine.

Changing the Virtual Route Selection List

The parameter list that VTAM sends to the virtual route selection exit routine includes pointers to a series of data blocks called *virtual route descriptor blocks*. Each virtual route descriptor block contains the virtual route number and transmission priority for each virtual route that is defined and operative between the origin and destination subareas and within the class of service requested for the session.

The exit routine can modify VTAM's route selection process by changing the descriptor blocks it receives in the following manner:

Note: In the following examples, "(*)Address" means that the high-order bit indicates this is the last entry in the list.

- Reordering the original list

  Example: Virtual route exit routine receives:

  Address of VR1,TP1 descriptor block
  Address of VR2,TP2 descriptor block
  Address of VR3,TP1 descriptor block
  (*)Address of VR4,TP0 descriptor block

  Virtual route exit routine reorders the list and returns to VTAM:

  Address of VR3,TP1 descriptor block
  Address of VR4,TP0 descriptor block

Address of VR1,TP1 descriptor block
(*)Address of VR2,TP2 descriptor block

Now VTAM will attempt to assign the pending session to VR3, then VR4, and so forth.

- Deleting entries from original list

  Example: Virtual route exit routine receives:

  Address of VR1,TP2 descriptor block
  Address of VR2,TP0 descriptor block
  Address of VR3,TP2 descriptor block
  (*)Address of VR4,TP1 descriptor block

  VR exit routine deletes VR2,TP0 from the list and returns to VTAM:

  Address of VR1,TP2 descriptor block
  00 00 00 00 (4 bytes of zeros)
  Address of VR3,TP2 descriptor block
  (*)Address of VR4,TP1 descriptor block

  Now VTAM will attempt to use VR3,TP2 if VR1,TP2 cannot be activated.

- Using only a portion of the list

  Example: Virtual route exit routine receives:

  Address of VR1,TP1 descriptor block
  Address of VR2,TP1 descriptor block
  Address of VR3,TP0 descriptor block
  (*)Address of VR4,TP2 descriptor block

  VR exit routine sets the high-order address bit on in VR2,TP1 and returns to VTAM:

  Address of VR1,TP1 descriptor block
  (*)Address of VR2,TP1 descriptor block
  Address of VR3,TP0 descriptor block
  Address of VR4,TP2 descriptor block

  VTAM will use only VR1,TP1 and then VR2,TP1 to establish the pending session. If neither route can be activated, the session-establishment request is terminated because no paths are available.

- Replacing a virtual route in the list

  Example: Virtual route exit routine receives:

Addresses of Descriptor Blocks		**Descriptor Block Contents**
VR1,TP2 descriptor block	------->	VR1,TP2.....
VR2,TP1 descriptor block	------->	VR2,TP1.....
VR3,TP0 descriptor block	------->	VR3,TP0.....
(*)VR4,TP0 descriptor block	------->	VR4,TP0.....

To replace the first entry in the virtual route list, for instance, you must overwrite the contents of the appropriate **descriptor block**:

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Addresses of Descriptor Blocks		Descriptor Block Contents
(Former) VR1,TP2 descriptor block	------->	VR6,TP1.....
VR2,TP1 descriptor block	------->	VR2,TP1.....
VR3,TP0 descriptor block	------->	VR3,TP0.....
(*)VR4,TP0 descriptor block	------->	VR4,TP0.....

After the replacement, the first address in the list will point to the same descriptor block. However, this descriptor block has been overwritten, and now describes VR6,TP1. VTAM will attempt to use VR6,TP1 before using the other virtual routes in the list.

Note that if the virtual route is invalid (defined as being outside the range 0–7 or as having a transmission priority outside the range 0–2) or is not defined between the origin and destination subareas, VTAM will continue through the set of virtual routes, attempting to activate the next one in the set (VR2,TP1). Note that you cannot return more virtual route blocks than presented on input. The list can be shortened, but not lengthened.

The virtual route exit routine will **not** be scheduled for the following events:

- An SSCP session is established.
- An LU-LU session is established that is confined entirely to the host's subarea, for example, two application programs communicating within the same host, or an application program communicating with a channel-attached terminal.
- A session setup is attempted, and no defined routes, which are operational, exist between the origin and destination subareas. In this case, the request to establish a session is rejected before the exit would have been scheduled.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of a 1-byte reason code indicating why the exit routine was scheduled: Code Reason for Scheduling X'00' To establish an LU-LU session (the first time) X'01' To establish an LU-LU session (not the first time) X'02' MVS To establish an LU-LU session (after an ABEND to the exit subtask) X'03' Because VTAM is terminating due to HALT (last time) X'04' MVS Because VTAM is terminating
4(4)	4	Address of a 4-byte user field[1]
8(8)	4	Address of a 1-byte session information field: Bit Description 1... .... Pending session requires a VR that maps to an explicit route with an ER number of 0 (originating in the SLU subarea and terminating in the PLU subarea)[2] .xxx xxxx Reserved
12(C)	4	Address of an 8-byte field containing the COS name associated with this pending session establishment request[3]
16(10)	4	Address of a 12-byte field containing the origin subarea information and LU name[4]
20(14)	4	Address of a 12-byte field containing the destination subarea information and LU name[4]
24(18)	4	This word and all subsequent words will each contain the address of a virtual route descriptor block[5]

Figure 59. Parameter List for the Virtual Route Selection Exit Routine

Notes:

1. The user field will initially be set to zero. The exit routine may use this field (for example, to store the address of a dynamically obtained storage area). VTAM will preserve the contents of this user field and resupply it to the exit routine the next time it is driven.
2. Bit 0 (the leftmost bit) being set will indicate that the pending session requires a virtual route that is mapped to an explicit route that has an ER number of zero in the direction leading to this VTAM host. That is, the explicit route must be ER0 in the direction from the SLU to the PLU. Bits 1–7 are reserved.
3. This field is padded on the right with blanks as necessary to make a total of 8 characters.

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4. This field is 12 bytes long and contains a 4-byte subarea number in binary, followed by an 8-byte LU name in EBCDIC.
5. The last word of the parameter list will be indicated by the setting of the high-order bit (byte 0, bit 0) to one.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	1	VR number (0–7)
1(1)	1	Transmission priority (0–2)
2(2)	1	VR status X'01' — VR not active X'02' — VR is active
3(3)	1	Reserved.
4(4)	2	Current[1] number of LU-LU sessions between the origin and destination subareas using the given VR number and transmission priority.
6(6)	2	Current[1] number of LU-LU sessions between the origin and destination subareas using the given VR number regardless of priority.
8(8)	2	Current[1] number of all sessions between the origin and destination subareas using the given VR number and transmission priority.
10(A)	2	Current[1] number of all sessions between the origin and destination subareas using the given VR number regardless of priority.
[1]Current as of the queuing of the virtual route selection request to the virtual route selection exit routine subtask.		

Figure 60. The Virtual-Route Descriptor Block

Design Considerations

Follow these procedures when writing the virtual route selection exit routine:

- Use standard linkage.
- Save registers 0–14.

Likewise, consider the following restrictions when writing the exit routine:

- User-coded exit routines should **not** be coded with any unconditional GETMAINS. You can reduce the possibility of VTAM abending during a storage shortage by coding conditional GETMAINS.
- MVS/XA All data is addressable only in 24-bit mode.
- The exit routine must be re-entrant.

- MVS VM This routine runs under a VTAM subtask to permit the exit routine to perform any necessary I/O or other processing without affecting the VTAM main task.
- VSE The routine runs under the VTAM main task.

The exit routine will execute in the problem state with VTAM's storage key.

MVS VM The exit routine may set up its own ESTAE (Extended Specify Task Abnormal Exit) environment for recovery. See *MVS/Extended Architecture Supervisor Services and Macro Instructions* or *VM/SP Group Control System Macro Reference* for more information. A SYNCH interface will be used between VTAM and the exit routine, so that the VTAM module invoking the exit routine will be isolated from any ESTAE environment established by the exit routine.

VSE An abend of the virtual route selection exit routine causes VTAM to abend.

MVS VM Abend Processing

If scheduled as a result of an abend of the subtask under which the exit routine executes, the exit routine will be responsible for any cleanup or reopening of data sets that may be required.

If a dynamic storage address was stored in the user field (second word of the parameter list [see Figure 59 on page 165]), the address will not be valid after the abend is processed.

An abend indication may occur either for a normal route selection request or for the last time the exit routine is driven during VTAM termination. Also, if the subtask under which the exit routine runs suffers an abend during "first time" route selection, and the exit routine has not yet returned to VTAM, the next time the exit routine is driven will still be considered the "first time" (reason code hex 00). This will not be true if the next time the exit routine is driven is for VTAM termination, in which case reason code hex 04 will be indicated. In any case, modifications made by the exit routine to the user field prior to an abend will be preserved for use by the exit routine in any cleanup or recovery actions it may perform the next time it is driven.

To summarize the implications of the above reason code specifications:

Hex 00: Driven for route selection (first time)
Hex 01: Driven for route selection (nth time – normal)
Hex 02: Driven for route selection (previous time resulted in abend)
Hex 03: Driven for VTAM termination (last time)
Hex 04: Driven for VTAM termination (after abend).

If the exit routine subtask abnormally terminates, VTAM will reattach the subtask unless the subtask has exceeded an abend threshold.[12] If the abend threshold is exceeded, VTAM will use the default list originally supplied to the exit routine. The session setup undergoing route selection at the time of an abend will fail. Other queued selection requests will be presented to the reattached exit.

[12] In V3R1.1, this threshold is four abends in approximately 30 minutes. In V3R1, it is four abends in approximately four minutes.

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Final Register Contents

The routine must leave the register status as follows:

Registers 0 – 14:	Restore these registers.
Register 15:	Must be set to zero. If a nonzero value is returned, VTAM will no longer schedule the exit routine.

The VR Pacing Window Size Calculation Exit Routine

The logic for calculating the maximum and minimum window sizes for virtual route pacing is contained in the VTAM exit routine named ISTPUCWC.

The VR pacing window size calculation exit routine can be coded to calculate virtual route pacing window sizes for all virtual routes or for selected routes.

For most routes, VTAM sets the minimum window size to the explicit route length and the maximum size to 3 times the explicit route length. However, if the virtual route ends in a subarea that is adjacent to VTAM, the maximum window size is set to the greater of 15 or 255–16*n*, where *n* is the number of explicit routes (defined or operative) originating in the host and passing through and not ending in the adjacent subarea. This will increase the maximum window size for a route to a channel-attached NCP that has only a few explicit routes passing through it.

The exit routine is called when VTAM is preparing to activate a virtual route. VTAM passes to it the following information:

- The particular virtual route number and its transmission priority
- The number and length of the explicit route that is associated with the particular virtual route
- The subarea addresses of the destination and adjacent subareas
- The number of defined and operative explicit routes that pass through, but do not end in, the adjacent subarea
- The address of the explicit route characteristics table, which describes the transmission group traversed by the explicit route associated with a virtual route. This table is used to determine the link protocol being used between the host and the adjacent node on the explicit route. (See Figure 62 on page 172 for the format of this table.)

The following sections provide information needed to replace or modify this routine.

Note: You can also specify default minimum and maximum window sizes using the VRPWS*nn* operand on the PATH definition statement. See *VTAM Installation and Resource Definition* for details.

Initial Register and Parameter List Contents

When the routine gains control, register contents are as follows:

Register 1:	Address of parameter list (described in Figure 61)
Register 13:	Address of a standard 18-fullword save area for use by this routine
Register 14:	Return address
Register 15:	Address of the entry point of this routine.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	VR identifier: byte 0 = hex 00 byte 1 = hex 00 byte 2 = VR number byte 3 = transmission priority
4(4)	4	Explicit route number
8(8)	4	Destination subarea number
12(C)	4	Adjacent subarea number
16(10)	4	Explicit route length (this length is equal to the total number of transmission groups in the explicit route)
20(14)	4	Total number of defined or operative explicit routes that pass through, but do not end in, the given adjacent subarea
24(18)	4	Address of explicit route characteristics table

Figure 61. VR-Pacing Window-Size-Calculation Exit Routine Parameter List

Design Considerations

Follow these procedures when writing the routine:

- Use standard linkage.
- Save and restore registers 2 – 14.

Likewise, take into account the following restrictions when writing the routine:

- The routine operates as an internal VTAM subroutine. Therefore, VTAM performance may be degraded if the routine requires lengthy processing time. While this routine is being executed, no new VTAM operator requests or requests to initiate or terminate sessions are processed by VTAM for any application program. System waits, including implied waits for I/O operations, should be avoided. Also, be aware that a program check will cause VTAM to ABEND.
- User-coded exit routines should **not** be coded with any unconditional GETMAINS. You can reduce the possibility of VTAM abending during a storage shortage by coding conditional GETMAINS.
- MVS/XA All data is addressable only in 24-bit mode.
- This routine operates enabled in pageable storage. The routine gets control in supervisor state and with a supervisor storage key, so errors within the routine could cause damage to VTAM or system control blocks and modules.

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Final Register Contents

The routine must leave the register status as follows on return:

Register 0: Minimum VR window size (if register 15 = 0).

Note: This value must be greater than zero and less than or equal to the maximum value specified in register 1.

Register 1: Maximum VR window size (if register 15 = 0).

Note: This value must be greater than or equal to the minimum value specified in register 0 and less than or equal to 255.

Registers 2 – 14: Restore these registers.

Register 15: Return code of zero if the minimum and maximum window size values are to be used by VTAM. Any nonzero return code (or invalid values specified in register 0 or 1) will cause VTAM to ignore the values indicated by registers 0 and 1. Instead it will use a minimum window size equal to the ER length and a maximum window size of three times the ER length or the minimum and maximum window sizes that you defined on the PATH definition statement, if any.

For more information on specifying virtual route pacing window sizes on the PATH definition statement, see *VTAM Installation and Resource Definition*.

MVS Using the VR Window Size Calculation Exit Routine for IMS

Because of the specialized use of channel-to-channel virtual routes by the IMS resource lock manager (RLM), you may find it useful to modify the VTAM virtual route window size calculation exit routine (ISTPUCWC). The RLM in one IMS system sends one message at a time to a correspondent IMS RLM, and waits for a message in response. With this level of message traffic on a virtual route, the virtual route window size algorithm does not indicate that a demand exists to increase the window size. Thus, in the absence of other message traffic flowing on the virtual route, the window size tends to stay at its minimum value. While this situation does not impede throughput on the virtual route, it tends to increase the number of machine instructions executed by VTAM for each IMS transaction (because VTAM processes a virtual route pacing response for every, or nearly every, IMS RLM message).

Accordingly, if a channel-to-channel virtual route between two IMS systems is not also used for non-IMS message traffic, the following changes may be made to the module to reduce the number of virtual route pacing responses sent and processed by VTAM in each of the IMS hosts:

1. Insert code to recognize the destination subarea address, virtual route number, and transmission priority that you have defined for use between the two IMS systems.
2. Then, insert code so that when the module recognizes such a virtual route, it sets the minimum window size to a value of 6.
3. The maximum window size may be computed in the normal manner, but the output of that calculation must be checked against this new minimum and must not be allowed to fall below it. That is, if the maximum window size is calculated to be less than 6, the maximum should then be set to 6.

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Note that there are two possible ways to compute the maximum window size in the IBM-supplied version of the module. One is used when the destination subarea is the same as the adjacent subarea, and the other is used in all other cases. Both parts of this logic should be copied into any new section of code added to compute window sizes for IMS RLM routes. Again, the maximum window size values computed must be adjusted, if necessary, to be at least equal to the minimum window size selected.

These changes to the module are **not** recommended if the IMS RLM virtual route is shared with other virtual route users. The message traffic of the other users should keep the operating window size values at acceptable levels.

Comments	Dec(Hex) Offset	Size (Bytes)	Description
	0(0)	1	Control block identifier hex 4C
	1(1)	1	Reserved
	2(2)	2	Length of this table
The transmission group entry consists of the following data:			
	0(0)	1	Control block identifier hex 4D
	1(1)	1	Length of entry
	2(2)	1	Not used
	3(3)	1	DLC protocol:
			X'01' SDLC
			X'02' channel-to-communication controller
			X'03' channel-to-channel
			X'04' LAN attachment (V3R2 only)

Figure 62. Explicit-Route Characteristics Table

VSE TPRINT Processing Exit Routine

You can write an exit routine to be invoked whenever the trace print utility (TPRINT) has selected a record to be formatted. The following sections provide information needed to write this routine.

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Initial Register and Parameter List Contents

When this user-written routine gains control, register contents are as follows:

Register 0: 0 indicates first entry after record selection.

1 indicates subsequent entries for more output after return code of 8.

Register 1: Address of a parameter list (described below).

Register 13: Address of the save area for use by this routine.

Register 14: Return address.

Register 15: Address of the entry point of this routine.

The parameter list is as follows:

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	4	Address of trace record (ISTTRAB)
4(4)	4	Address of 121-byte output buffer
8(8)	4	Address of formatted date and time stamp for this record: *yy.ddd/hh:mmth*

Figure 63. TPRINT-Processing Parameter List

Design Considerations

Follow these procedures when writing this routine:

- Use standard linkage.
- Save registers 0 – 14.

Likewise, keep in mind the following restrictions when writing this routine:

- The name of the module must be ISTRAEUE.
- User-coded exit routines should **not** be coded with any unconditional GETMAINS. You can reduce the possibility of VTAM abending during a storage shortage by coding conditional GETMAINS.
- This routine operates enabled in pageable storage. It gets control in problem state with the user's protection key. The routine is executed under the invoking program's task, which can be the VTAM task.
- When the TPRINT exit routine operates as a subtask of VTAM, performance is degraded if the routine requires lengthy processing time, for example, if it includes excessive looping. This potential problem can be reduced by executing TPRINT as a separate job in a lower-priority partition.
- The parameter list pointed to by register 1 (the 12-byte area described in the preceding section) must not be modified by this routine. Neither can the fields pointed to by word 1 (ISTTRAB) or word 3 (time stamp) be modified.
- The routine must supply a return code to the calling routine (ISTRACTO) in register 15. See "Final Register Contents" on page 174 for a detailed description of these return codes. In addition, if the return code is 4 or 8, the output buffer

is assumed to contain a SYSLST record with a valid ASA control character in the first byte.

- Do not code any VSE macroinstructions that are invalid for a subtask (for example STXIT). Do not use STXIT AB because TPRINT establishes its own AB exit which must not be prevented from executing.

Final Register Contents

The routine must leave the register status as follows:

Registers 0 – 14: Restore these registers.

Register 15: Valid Return Codes

- 0 indicates skip this record, get the next record
- 4 indicates print output, get the next record
- 8 indicates print output, return the same record for more output
- 12 indicates terminate TPRINT (no SYSLST record) other indicates perform standard editing in ISTRACTO.

Example of a TPRINT Exit Routine

The flow chart in Figure 64 on page 175 shows the logic for a simple TPRINT exit routine. The function of this routine is to format VIT (internal trace) records only and to allow TPRINT to perform standard formatting on all other trace records. Options initialized at label SPECIFY on the flowchart might be used, for example, to select (at SELECT) those types of VIT records to be formatted by this routine.

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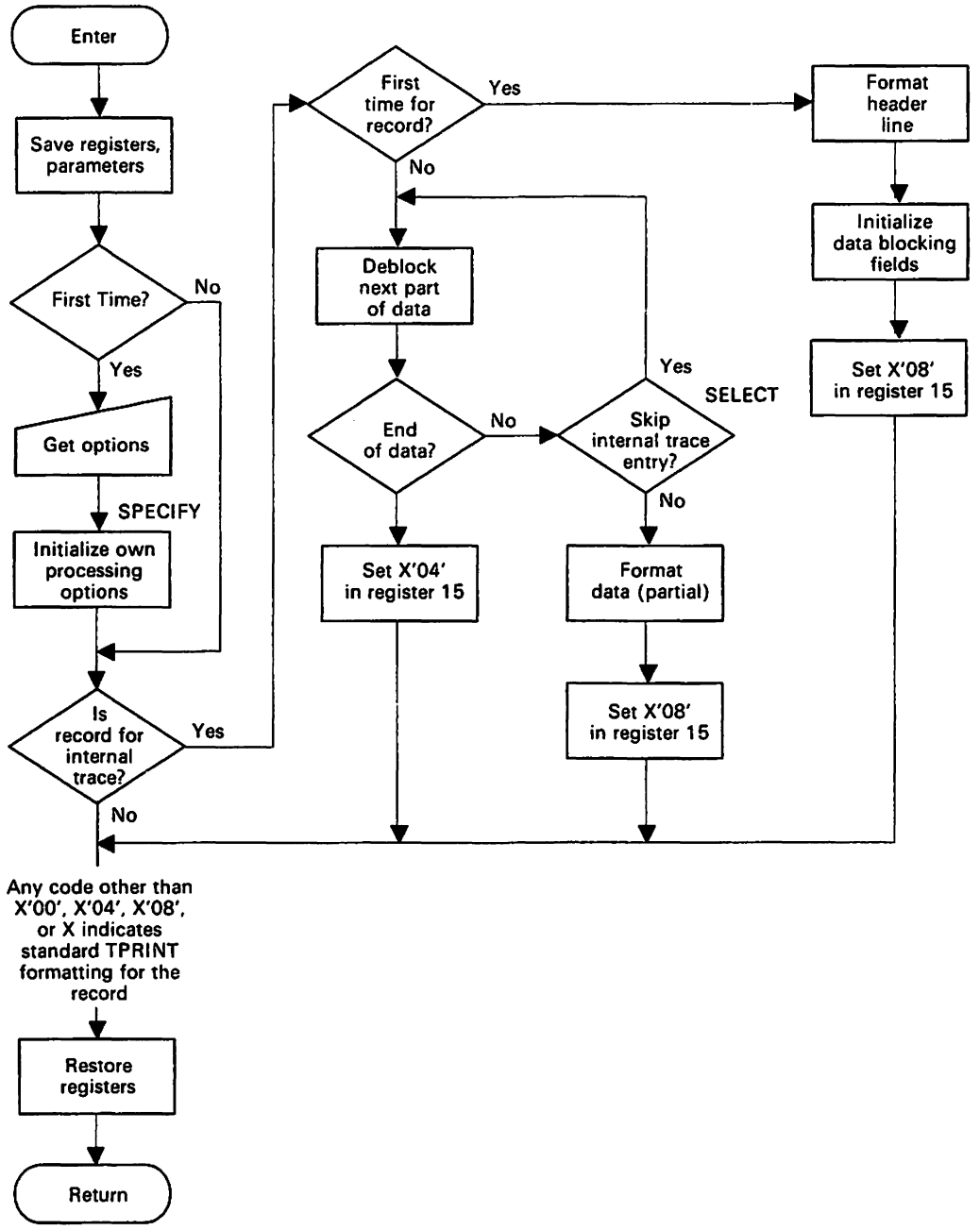

Figure 64. An Example of Logic for a TPRINT Exit Routine

The Session Accounting Exit Routine

It is recommended that you use the session management exit routine rather than an accounting exit routine to gather accounting information, since the session management routine allows you to combine session-related functions into one exit routine. The session management exit routine also fully supports cross-network and takeover processing. (See "The Session Management Exit Routine" on page 133 for more information.)

You can write a session accounting exit routine to collect statistics on the number of times that sessions start and end, so that the users can be charged accordingly.

For both same-network and cross-network sessions, VTAM calls the accounting routine whenever a session between LUs is either established or terminated. A separate call is made for each session.

The session accounting exit routine is scheduled only in SSCPs that are in the same domain as one of the LUs. This means that any information provided to the accounting exit routine about a cross-network session could be misunderstood, since a resource name is not necessarily unique. Instead, VTAM schedules the session management exit routine, if one is present. Furthermore, if both the accounting and session management exit routines are provided within the LU's domain, VTAM schedules them both. (See "The Session Management Exit Routine" on page 133 for more information.)

IBM does not supply a dummy session accounting exit routine. This routine, if desired, must be coded in its entirety by the user. Any previously written accounting exit routine can be used without changes for VTAM Version 3. However, if you do not code this routine, all session accounting information will be discarded.

Initial Register Contents

When this user-written routine gains control, register contents are as follows:

Register 0:	Hex 00000000 if a session has been established; hex FFFFFFFF if a session has been terminated
Register 7:	Address of the doubleword containing the name of the PLU
Register 11:	Address of the doubleword containing the name of the SLU
Register 13:	Address of the save area for use by this routine
Register 14:	Return address
Register 15:	Address of the entry point of this routine.

Design Considerations

Follow these procedures when writing this routine:

- Use standard linkage.
- Save registers 0 – 14.

Likewise, keep in mind the following restrictions when writing this routine:

- The name of the module must be ISTAUCAG.
- User-coded exit routines should **not** be coded with any unconditional GETMAINS. You can reduce the possibility of VTAM abending during a storage shortage by coding conditional GETMAINS.
- MVS/XA All data is addressable only in 24-bit mode.
- The accounting exit provides the two LU names involved in the session. You can write this information to SMF (or an equivalent facility), along with the time of day. From these records, you can determine the session connection time. This exit does not have access to the logon data, nor to any VTAM or TSO control blocks.

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- The routine operates as an internal VTAM subroutine. Therefore, performance is degraded if the routine requires lengthy processing time. While this routine is being executed, no requests to establish or terminate a session are processed by VTAM. System waits, including implied waits for I/O operations, should be avoided.
- This routine operates enabled in pageable storage. Because the routine operates at VTAM's main task dispatching priority, there is a possibility of lockout if a wait requires another task action. The routine gets control in supervisor state with a VTAM storage key, so errors within the routine could cause damage to VTAM or system control blocks and modules.
- VTAM macroinstructions must not be used in the routine.
- The routine is notified as part of an LU-LU session setup and takedown. The routine should be designed to process requests involving only LU-LU sessions.
- If an application program is capable of establishing parallel sessions, the exit routine must be capable of processing more than one request from the same LU-LU pair.

Final Register Contents

All general-purpose registers except register 15 must be restored. No return code is expected by VTAM.

The Session Authorization Exit Routine

It is recommended that you code the session management exit routine rather than an authorization exit routine to authorize sessions, since the session management routine handles both same- and cross-network sessions and allows you to combine session-related functions into one exit routine. (See "The Session Management Exit Routine" on page 133 for more information.)

The purpose of the session authorization exit routine is to check on or restrict the use of an application program or other LU.

For same-network sessions, VTAM calls the session authorization routine whenever it receives a request to establish a session between two LUs. For example, it may be called as the result of a logon from a terminal, an automatic logon, or a VTAM operator logon. It is called for both the initial and all subsequent logons to a controlling application (that is, one to which the terminal is logged on automatically).

For cross-domain sessions, the authorization exit routine in each domain (the domain of the PLU and of the SLU) is scheduled whenever a session is in the process of being established.

The session authorization exit routine is scheduled only in SSCPs that are in the same domain as one of the LUs. For cross-network sessions, this means that any information provided to the authorization exit routine could be misunderstood, since an LU name is not necessarily unique. Instead, VTAM schedules the session management exit routine, if one is present.

If both the session authorization and session management exit routines exist within the LU's domain, the authorization exit routine is scheduled first. If it authorizes the

session, the session management exit is scheduled; otherwise, the session management exit is not scheduled and session setup is rejected.

You might code the routine to contain a table of valid sessions against which the session-establishment request can be compared. For example, an application program can be designed to establish a session with any LU, using the OPNDST OPTCD=ACCEPT macroinstruction in its LOGON exit routine. The authorization exit routine could compare the identity of any LU that attempts to establish a session with the application program to entries in such a table to determine whether authorization can be granted for that LU. For example, a particular LU could be authorized only at a particular time of day.

IBM does not supply a dummy session authorization routine. This routine, if desired, must be coded by the user. Any previously written authorization routine can be used without changes for VTAM Version 3. However, if you do not write an authorization exit routine, all sessions will be authorized. The following sections explain how to code this routine.

Initial Register and Parameter List Contents

When VTAM passes control to this routine, register contents are as follows:

Register 1:	Address of a parameter list as described in Figure 65 on page 179
Register 13:	Address of the save area for use by this routine
Register 14:	Return address
Register 15:	Address of the entry point of this routine.

Figure 65 on page 179 lists the contents of the parameter list that VTAM passes to the routine. The macroinstructions and options referred to appear in *VTAM Programming*.

Design Considerations

Follow these procedures when writing this routine:

- Use standard linkage.
- Save registers 0 – 14.

Likewise, keep in mind the following restrictions when writing this routine:

- The name of the module must be ISTAUCAT.
- User-coded exit routines should **not** be coded with any unconditional GETMAINS. You can reduce the possibility of VTAM abending during a storage shortage by coding conditional GETMAINS.
- MVS/XA All data is addressable only in 24-bit mode.
- The routine operates as an internal VTAM subroutine. Therefore, performance is degraded if the routine requires lengthy processing time. While this routine is being executed, no new session-establishment, session-termination, or activation requests are processed by VTAM. System waits, including implied waits for I/O operations, should be avoided.
- This routine operates enabled in pageable storage. Because the routine operates at VTAM's main task dispatching priority, there is a possibility of lockout if

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a wait requires other task action. The routine gets control in supervisor state and with a VTAM storage key, so errors within the routine could cause damage to VTAM or system control blocks and modules.

- VTAM macroinstructions must not be used in the routine.
- The parameter list pointed to by register 1 (described in Figure 65) must not be modified by this routine. Neither can any field pointed to from the parameter list be modified.
- The routine must supply a return code to VTAM in register 15. A return code of zero authorizes the session to be established. Any nonzero return code means that the request is not authorized. If the request is not authorized, VTAM informs the session initiator.

Dec(Hex) Offset	Size (Bytes)	Description
0(0)	1	Reserved.
1(1)	1	Contains a decimal number 1–6 that identifies the request: **No. Request** 1 Primary LU initiated session (SIMLOGON or OPNDST macroinstruction with ACQUIRE option). 2 Reserved. 3 Reserved. 4 Operator initiated session (Logon request initiated by the network operator by issuing a VARY ACT command or VARY LOGON command). 5 Third party initiated session (CLSDST macroinstruction with PASS option). (See offset 8 for pointer to name of application program for which logon is requested.) 6 Secondary LU initiated session (REQSESS macroinstruction).
2(2)	2	Reserved.
4(4)	4	0 or address of doubleword with name of the LU that issued the request. (Not applicable if offset 1 is 4 or 5.)
8(8)	4	0 or address of doubleword with name of the application program acting as the primary end of the session.
12(C)	4	Identifies the SLU associated with request. This field contains the address of the doubleword containing the LU name.
16(10)	2	Hex 0001.

Figure 65. Parameter List for the Authorization Exit Routine

Failure of the authorization exit routine to honor requests of the type discussed here will limit VTAM services accordingly.

VTAM invokes the exit routine after the Initiate request for the session is received by the SSCP.

If an application program is capable of establishing parallel sessions, the exit routine must be capable of processing more than one request from the same LU-LU pair.

For cross-domain session-initiation requests, the authorization exit routines in each host (the host owing the PLU and the host owing the SLU) are called during processing of either the Initiate or cross-domain Initiate requests.

Final Register Contents

The routine must leave the register status as follows:

Registers 0 – 14: Restore these registers.

Register 15: Return code of zero if the request is authorized. Any nonzero return code if the request is not authorized.

Installing VTAM Exit Routines

Except for the TPRINT processing exit routine, follow these steps to install the appropriate VTAM exit routines:

1. Assemble the routines.
2. Link-edit the routines to the appropriate VTAM library:

   MVS VM Use the libraries indicated in Figure 66.
   VSE Use a private definition library.

Exit Routine	MVS Library	VM Library
Session management exit routine	SYS1.VTAMLIB	VTAMUSER LOADLIB[2]
Virtual route selection exit routine	SYS1.VTAMLIB	VTAMUSER LOADLIB[2]
Virtual route pacing window size calculation exit routine	SYS1.VTAMLIB	VTAMUSER LOADLIB[2]
Accounting exit routine	SYS1.LPALIB[1]	DCSS[3]
Authorization exit routine	SYS1.LPALIB[1]	DCSS[3]

Figure 66. MVS and VM Libraries for VTAM Exit Routines

Notes:

1. If you place your user-written exit routine in SYS1.LPALIB, re-IPL to reformat the link-pack area. For details, see the *Initialization and Tuning* manual for your system
2. VM See "Installing Tables and Modules in VM" on page 207 for information on using VMFLKED to link-edit these routines.

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3. VM If your user-coded exit routine is in the discontiguous shared segment (DCSS), replace the TXT deck for the exit routine (on the VTAM BASE disk) with the new copy and rebuild VTAM.

To install the TPRINT processing exit routine, catalog the routine (ISTRAEUE) and link-edit it with the TPRINT routine into the library where VTAM is installed.

The link-editing must be done before VTAM is started. The names of the user-written routines must be those shown in the following table:

Exit Routine	VTAM Module Name
Session management exit routine	ISTEXCAA
Virtual route selection exit routine	ISTEXCVR
Virtual route pacing window size calculation exit routine	ISTPUCWC
Accounting exit routine	ISTAUCAG
Authorization exit routine	ISTAUCAT

Figure 67. VTAM Module Names for Exit Routine

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Appendix A. Customizing VM SNA Console Support

This appendix contains information specific to customizing VM SNA console support (VSCS). It contains information on:

- Data manipulation exit routines for VSCS
- The format of the accounting record created by VSCS
- The logon mode table for VSCS
- Defining VSCS start options.

You may also want to customize VSCS by creating alternate start options. If so, see *VTAM Installation and Resource Definition* for information on coding the DTIGEN macroinstruction.

The VSCS Data Manipulation Exit Routines

You can write exit routines to customize the translation of input and output data streams. You can write these exit routines for two categories of devices:

- Keyboard/printers and TWX devices
- Display devices.

IBM supplies skeleton exit routines that perform no function.

The following sections provide information you need to code these routines. See "Installing the Data Manipulation Exit Routines" on page 188 for information on installing these routines.

Exit Routines for Keyboard/Printer and TWX Devices

The keyboard/printer and TWX device data manipulation exit routines are device manager routines that allow you to manipulate the data stream for a keyboard/printer or TWX device. The name of the routine that manipulates input data is DTIPDNTI. The name of the routine that manipulates output data is DTIPDNTO.

The exit routines that are supplied with VTAM are skeletons and perform no function. Figure 68 on page 186 shows a listing of a portion of the skeleton for the input routine.

Use the information that follows when coding these exit routines.

Initial Register and Parameter List Contents

When the routine gains control, register contents are as follows:

Register 1:	Address of parameter list (described in Figure 69)
Register 13:	Address of a standard 18-fullword save area for use by this routine
Register 14:	Return address
Register 15:	Address of the entry point of this routine.

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```
         MANIPULATE INPUT/OUTPUT DATA ROUTINE
  LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT
000000                             2 xxxxxxxx CSECT
                           00000     3          USING *,@15
000000 47F0 F014           00014     4          B     @PROLOG
000004 0F                            5          DC    AL1(15)
000005 C4E3C9D7C4D5E3D6              6          DC    C'DTIPDNTO 84.282'
000014                               7 xxxxxxxx CSECT ,
000014 90EC D00C           0000C     8 @PROLOG  STM   @14,@12,12(@13)
000018 05C0                          9          BALR  @12,0
00001A                              10 @PSTART  DS    0H
                           0001A    11          USING @PSTART,@12
                                   663          DROP  @15
00001A 58E0 D008           00008   670          L     @14,8(,@13)   PICK UP SAVE AREA
00001E 50D0 E004           00004   671          ST    @13,4(,@14)   SET BACKWARD POINTER
000022 18DE                        672          LR    @13,@14       ADDRESS NEW SAVE AREA
000024 5AE0 C02E           00048   673          A     @14,@SIZDATD  ADDRESS OF SAVE AREA
000028 50E0 D008           00008   674          ST    @14,8(,@13)   SET FORWARD POINTER
                           00000   675          USING @DATD,@13     ADDRESS NEW SAVE AREA
00002C D203 D000 C03A 00000 00054  677          MVC   SWBMID(4,SAVREG),@CC00408
*********************************************************************************************

                                User-Coded Routine Starts Here

*********************************************************************************************
000036 42F0 D003           00003   691          STC   RTNCODE,SWBXRC(,SAVREG)
00003A 58D0 D004           00004   693          L     @13,4(,@13)
00003E 58E0 D00C           0000C   694          L     @14,12(,@13)
000042 980C D014           00014   695          LM    @00,@12,20(@13)
000046 07FE                        696          BR    @14
```

Note: xxxxxxxx is a placeholder for the name of the input or output data manipulation exit routine.

Figure 68. IBM-Supplied Data Manipulation Exit Routines

Dec(Hex) Offset	Size (bytes)	Description
0(0)	4	Address of data (in ASCII line code format)
4(4)	4	Length of data
8(8)	4	Device subtype: 3767 = X'00000001' 2741 = X'00000002' TWX = X'00000003' **Note:** X'00000000' indicates no value was set for the TERM operand for this device.

Figure 69. Keyboard/Printer and TWX-Device Data Manipulation Exit Routines Parameter List

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Accounting Record Format for VSCS

VSCS presents accounting information to VM when a user logs off or disconnects. VM records this data in a punch or spool file for user processing by VM. Accounting data may assist in performance tuning with information to calculate the average buffer sizes for VSCS send and receive operations. The user is responsible for processing the data.

VM adds to the accounting record a 16-byte prefix containing the user ID or terminal identification and the accounting number, and a 2-byte suffix indicating the accounting record identification code (07). The information shown in Figure 71 is contained in columns 17–78 of the accounting record. See the *VM/SP System Programmer's Guide* for more information.

Note: In some error situations, VSCS does not provide an accounting record, or VM may discard it.

Record	Size (Bytes)	Description
Overflow count	4	Number of times counters 1–4 reached their maximum values.[1] Byte Meaning 1 Overflow for counter number 1 2 Overflow for counter number 2 3 Overflow for counter number 3 4 Overflow for counter number 4
Counter #1	4	Number of input request units
Counter #2	4	Total number of input bytes
Counter #3	4	Number of output request units
Counter #4	4	Total number of output bytes
Counter #5	4	Number of console output lines
Counter #6	4	Number of copy requests
Logon time stamp	8	The time stamps are in the following format:[2] Time (4 bytes): *hhmmssth* Date (4 bytes): 00*yydddC*
Logoff time stamp	8	The format is the same as that shown for the logon time stamp.[2]
Logical unit name	8	The name of the logical unit logging off.

Figure 71. The VSCS Accounting Record Format

Notes:

1. The maximum value for each counter is 2147483647. To find the actual counter values, multiply the overflow count value times the maximum value, then add the amount in the counter.
2. The time stamp data is in packed decimal digits:

   hh = hours (24-hour clock)
   mm = minutes
   ss = seconds
   t = tenths of seconds
   h = hundredths of seconds
   yy = the last two digits of the year
   ddd = the day of the year
   C = a 4-bit sign character that allows the data to be unpacked and printed.

Customizing the Logon Mode Table

IBM supplies several logon mode tables. One (ISTINCLM), the default table, contains logon mode entries for use with VSCS and the NetView program. ISTINCLM contains defaults for most devices you will be using. Before coding an entry for a device, refer to the listing on page 226 to see if the device you are using appears there. Another (ISTTABLE) contains entries for terminals that may not be using VSCS. An example would be terminals that need to log on to VTAM applications running under MVS, such as TSO.

In addition to these two tables, there are eight IBM-supplied tables for use with the NetView program and TAF. Refer to the block comments provided in each entry for a description of the following tables:

DSIASCII
DSIASCPR
DSICNMDT
DSILU0
DSIXDOM
DSI4LU2
DSI6LU2
TAFBINDS.

Before you customize the logmode table for VSCS, refer to the listing beginning on page 226 to see what devices are supported by the IBM-supplied tables.

Incorrect specification of the VTAM logon mode table can result in loss of color, incorrect screen format, incorrect characters, logon problems, or the LU being purged.

Use the MODETAB and MODEENT macroinstructions to define 3270 characteristics in logon mode tables and their entries. The following are examples of definitions of MODEENT table entries.

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The MODEENT Macroinstruction for non-SNA 3270 Devices

Note that the FMPROF, TSPROF, PRIPROT, SECPROT, and COMPROT values shown below are the same as those used in the IBM-supplied logon mode table, ISTINCLM, and used in the logon mode entry, IBMS3270.

```
name     MODEENT FMPROF=X'02',                                    C
                 TSPROF=X'02',                                    C
                 PRIPROT=X'71',                                   C
                 SECPROT=X'40',                                   C
                 COMPROT=X'2000',                                 C
                 PSERVIC=X'00.....see below........'
```

The MODEENT Macroinstruction for SNA LU Type 1 Devices

The LU type 1 terminals include the IBM 3767 and 3770. When using the Network Terminal Option (NTO), the IBM 2741, IBM 3101 and TWX Models 33 and 35 are also supported as LU type 1 devices. Note that the distinction between LU type 1 and LU type 2 devices is indicated in the PSERVIC field of the logon mode table entry. The values used are the same as those in the IBM-supplied logon mode entries VSCS3767, VSCS2741, and VSCSTWX.

```
name     MODEENT FMPROF=X'03',                                    C
                 TSPROF=X'03',                                    C
                 PRIPROT=X'B1',                                   C
                 SECPROT=X'90',                                   C
                 COMPROT=X'3080',                                 C
                 PSERVIC=X'01.....see below........'
```

The MODEENT Macroinstruction for SNA 3270 Devices

The logon mode entry values used below are the same for both LU type 2 devices and LU type 3 printers with the exception of the LU type specification in the PSERVIC field. The RUSIZES parameter below defines a 256-byte maximum secondary logical unit send size and a 1024-byte maximum primary logical unit send size. The RUSIZES values depend on the control unit and printer buffer specifications.

```
name     MODEENT FMPROF=X'03',                                    C
                 TSPROF=X'03',                                    C
                 PRIPROT=X'B1',                                   C
                 SECPROT=X'90',                                   C
                 COMPROT=X'3080',                                 C
                 RUSIZES=X'8587',                                 C
                 PSERVIC=X'.......see below........'
```

The PSERVIC Operand of the MODEENT Macroinstruction

The PSERVIC operand of the MODEENT macroinstruction defines the device LU type, buffer sizes, and QUERY capability (programmed symbols, extended color, or extended highlight support).

The format of the PSERVIC field is shown in Figure 72.

Byte	Description
0	LU type 0, 1, 2, or 3
1	Used by VSCS Value Meaning X'00' Device will not support queries. X'80' Device may be queried. It supports write structured field (WSF) and read partition (Query) structured field. X'40' New APL[1] (invalid for LU types 2 and 3) **Note:** VSCS uses this bit to define the display LU type to VM: ON 3278 or 3279 (most are new APL)[1] OFF 3277 X'20' VSCS printer X'10' LU type 0 on an SNA control unit, used for a 3277 with graphics attachment only. X'08' Write Structured Field (WSF) 3270 data stream (3270DS) command is not supported X'88' LU type 0 or type 2 X'C8' LU type 0 with new APL only X'C0' Extended data stream and new APL[1] (invalid for LU types 2 and 3)
2–5	Zero
6–7	Primary size or zero
8–9	Alternate size or zero
10	Presentation space size (X'00', X'01', X'02', X'03'[2], X'7E', X'7F')
11	Zero

[1] The APL type for extended data stream devices is set by the graphic escape character (X'08') support indicated in the Character Sets Query Reply. The APL type will not affect the device type.
[2] Presentation space size X'03' is used for 3290 terminals with a screen larger than the standard size. If the value of X'03' is specified, a default primary screen size of 24x80 is established and VSCS issues a write structured field query (WSFQ) to the terminal to determine the alternate screen size that will be used. If the value of X'03' is not specified, the primary and alternate screen sizes must be specified as documented in the *Installation and Resource Definition* manual. The 3274 terminal controller must be at micro-code level 65 or higher.

Figure 72. Format of the PSERVIC Field

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Code the 12 bytes of device-specific hexadecimal data of the PSERVIC operand as described below:

PSERVIC Coding	Description
X'00..00000000.....00'	For non-SNA (LU type 0)
X'01..00000000.....00'	For SNA LU type 1
X'02..00000000.....00'	For SNA LU type 2
X'03..00000000.....00'	For SNA LU type 3
X'..00.....'	Device with old APL and without extended data stream capability
X'..20.....'	Device is VSCS printer
X'..40.....'	Device with new APL
X'..80.....'	Device with extended data stream capability
X'..C0.....'	Device with new APL and with extended data stream capability
X'.....0C5000007E..'	Buffer size 960 only (12X80)
X'.....185020507F..'	Buffer size 1920 or 2650 (24X80 or 32X80)
X'.....18502B507F..'	Buffer size 1920 or 3440 (24X80 or 43X80)
X'.....18501B847F..'	Buffer size 1920 or 3564 (24X80 or 27X132)
X'.....18503EA07F..'	Buffer size 1920 or 9920 (24X80 or 62X160)
X'.....00..'	Undefined row and column format
X'.....01..'	12 rows, 40 columns format
X'.....02..'	24 rows, 80 columns format
X'.....03..'	Get alternate screen size from WSFQ reply
X'.....7E..'	Presentation space has a fixed primary (bytes 6, 7) size as defined in the PSERVIC field
X'.....7F..'	Presentation space has both primary (bytes 6, 7) and alternate (bytes 8, 9) sizes as defined in the PSERVIC field

Appendix B. MVS User Exit Routines for TSO/VTAM

This appendix documents VTAM exit routines, which are product-sensitive programming interfaces. Please see the statement at the beginning of this book about product-sensitive programming interfaces under "About This Book".

Use the information in this appendix to write exit routines for TSO/VTAM. These routines can be written to:

- Perform input and output editing that replaces or supplements IBM-supplied editing
- Perform attention handling that replaces IBM-supplied attention handling
- Provide support for terminals not supported by TSO/VTAM.

  Note: An installation must write its own terminal input manager and terminal output manager, in addition to exit routines IKTGETXT, IKTINX2, and IKTINX1, to support terminals that are not supported by TSO/VTAM.

These exit routines are optional, but before you can use an exit routine, you must link-edit it with the object module that calls it. For additional information see "Installing TSO/VTAM Exit Routines" on page 201.

Note: If you do not write these exit routines, you will get unresolved external reference messages during link-editing of the load modules that call them.

To determine whether any of the input and output editing exit routines are needed, see the sections on the TPUT and TGET options in the appropriate *TSO Guide to Writing a TMP*.

At appropriate points during VTIOC and TCAS processing, a check is made to determine if a particular exit routine exists. If it exists, it is called; if it does not exist, normal processing continues.

The exit routines are summarized in Figure 73. For information about coding your own exit routines, see *VTAM Programming*.

Name	Purpose	Terminal Type	Caller
VTIOC			
IKTGETXT	Edit input data	unsup-ported	IKTVTGET
IKTIDSX1	Replace or supplement IBM-supplied output editing	3270	IKT3270O
IKTIDSX2	Supplement IBM-supplied input editing	3270	IKT3270I
IKTIDSX3	Supplement IBM-supplied attention handling	3270	IKT3270I

Figure 73 (Part 1 of 2). TSO/VTAM Exit Routines

Name	Purpose	Terminal Type	Caller
IKTIDSX4	Replace or supplement IBM-supplied input editing	3270	IKTVTGET
IKTINX2	Initialize user-written I/O managers	unsup-ported	IKTXINIT
IKTRTX1	Replace or supplement IBM-supplied output editing	3767/3770 2741	IKT3767O
IKTRTX2	Supplement IBM-supplied attention handling	3767/3770 2741 WTTY TWX	IKT3767I
IKTRTX3	Replace IBM-supplied attention han-dling	3767/3770 (LU1)	IKTMLU1
IKTRTX4	Replace or supplement IBM-supplied input editing	3767/3770 (LU1)	IKTVTGET
IKTWTX1	Replace or supplement IBM-supplied output editing	TWX WTTY	IKTWTTYO
TCAS			
IKTCASX1	Replace or supplement IBM-supplied logon error messages	unsup-ported	IKTCAS31
IKTINX1	Set terminal type and buffer size	unsup-ported	IKTCAS23

Figure 73 (Part 2 of 2). TSO/VTAM Exit Routines

IKTCASX1 — Error Handling for Non-Supported Terminals

You must write this routine if you want to send an error message to a terminal that is not supported by TSO/VTAM. IKTCAS31 calls IKTCASX1 if the maximum number of users is reached or if IKTCAS31 cannot obtain storage for either of the TSBs or the logon buffer. It also calls IKTCASX1 if the address space for this session cannot be obtained.

Input from IKTCASX1: When VTAM passes control to IKTCASX1, register contents are as follows:

Register 0: Address of the message buffer
Register 1: Address of the message number
Register 10: Address of a work element, IKTWESTD (terminal type defined).

Output from IKTCASX1: The final register contents are as follows:

Register 1: New request unit size

Register 15: Return code:

0: IBM routine performed editing
Nonzero: Exit routine performed all editing

MSGBUF: Message buffer (contains user's message).

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IKTGETXT — Editing on Non-supported Terminals

You must write this routine if you want to use a terminal not supported by TSO/VTAM. IKTVTGET calls IKTGETXT instead of using the IBM-supplied code at statement label EDIT3270 (for 3270 terminals) or EDIT3767 (for 3767 and 3770 terminals) in IKTVTGET. IKTGETXT must scan the input data, edit it, and move the edited data from the input queue to the TGET requester's data area.

Input to IKTGETXT: When VTAM passes control to IKTGETXT, register contents are as follows:

Register 0: Address of SVRB extended save area
Register 1: Address of IKTIPARM.

Output from IKTGETXT: None.

IKTIDSX1 — Output Editing for IBM 3270 Terminals

You may write this routine to perform 3270 output editing in place of or in addition to that performed by the IBM-supplied routine IKT32700 (before IKT32700 moves the data from the output queue into the output request unit).

Input to IKTIDSX1: The input to the IKTIDSX1 routine is as follows:

Register 1: Address of IKTOPARM
OPACBUFA: Current buffer address
OPACBUFL: Current buffer length.

Output from IKTIDSX1:

Register 15: Return code:

- 0: IBM-supplied routine IKT32700 should perform editing; data is still on the output queue.
- Nonzero: Exit routine performed all editing; portions of IKT32700 are bypassed.

IKTIDSX2 — Input Editing for IBM 3270 Terminals

You may write this routine to perform input scanning and editing in addition to that performed by the IBM-supplied routine IKT3270I. If provided, IKTIDSX2 is called after the data is translated (if necessary) from ASCII code to EBCDIC, but before it is scanned for input line delimiters, broken into line segments, and placed on the input queue.

Input to IKTIDSX2: The input to the IKTIDSX2 routine is as follows:

Register 1: Address of IKTMPL.

Output from IKTIDSX2:

MPLTXTA: Address of available input data
MPLTXTL: Length of available input data.

IKTIDSX3 — Attention Handler for IBM 3270 Terminals

You may write this routine to handle attention interruptions from 3270 terminals during input editing instead of using the IBM-supplied routine IKTATTN. One use of a user-coded routine is to clear the queues conditionally (rather than unconditionally) when an attention interruption is received.

Input to IKTIDSX3: The input to the IKTIDSX3 routine is as follows:

PSAAOLD:	Address of ASCB
ASCBTSB:	Address of TSB
TSBEXTNT:	Address of TSB extension
TSBXTVWA:	Address of TVWA.

Output from IKTIDSX3: None.

IKTIDSX4 — TGET Edit for IBM 3270 Terminals

You may write this routine to perform 3270 editing in place of or in addition to that performed by the IBM-supplied routine IKTVTGET. IKTVTGET scans for invalid data and 3270 control characters and moves the data from the input queue to the TGET requester's data area. You might write an edit exit routine to change TGET EDIT editing criteria.

Input to IKTIDSX4: The input to the IKTIDSX4 routine is as follows:

Register 0:	Address of IKTXSA (SVRB extended save area)
Register 1:	Address of IKTIPARM.

Output from IKTIDSX4: The output from the IKTIDSX4 routine is as follows:

Register 15: Return code:

X'00':	Exit routine performed the entire edit operation and moved the input data to the TGET data area.
X'04':	Exit routine performed only a data scan; the IBM-supplied code (EDIT3270) should perform editing.

IKTINX1 — Logon Edit

You must write this routine if you want to use a terminal not supported by TSO/VTAM. IKTCAS23 calls IKTINX1, if provided, when a logon request is encountered from a terminal other than an IBM 3270, 3767, or 3770. (If TSO/VTAM is used with NTO, the 2741, WTTY, and TWX Models 33 and 35 are also supported.) IKTINX1 must verify that the terminal is supported by user-written routines (that is, a terminal input manager, a terminal output manager, and edit routine IKTGETXT), and it must provide the terminal type of X'03', the buffer size, and the device BIND image.

Input to IKTINX1: The input to the IKTINX1 routine is as follows:

Register 1: Address of a parameter list containing:

- Address of the RPL
- Address of 1 byte (WETMTP) indicating terminal type
- Address of 2 bytes (WETMBF) for indicating terminal buffer size
- Address of WEBIND (bind image).

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Output from IKTINX1: The output from the IKTINX1 routine is as follows:

Register 15: Return code:

X'00': Recognized terminal type; logon processing continues
X'04': Unrecognized terminal type; logon processing terminates.

IKTINX2 — I/O Manager Initialization

You must write this routine if you want to use terminal input managers and terminal output managers you have written. IKTINX2 should perform the same function for user-coded input and output managers that module IKTIIOM performs for the IBM-supplied I/O managers. IKTINX2 allocates storage for and initializes the I/O manager SRBs.

Input to IKTINX2: None.

Output from IKTINX2: The output from the IKTINX2 routine is as follows:

Register 15: Return code:

0: Successful initialization
Nonzero: Unsuccessful initialization; logon processing terminates.

IKTRTX1 — Output Edit for IBM 3767, 3770, and 2741 Terminals

You may write this routine to perform 3767, 2741, or 3770 output editing in place of or in addition to that performed by the IBM-supplied routine IKT3767O (before IKT3767O moves the data from the output queue to the output request unit). The IBM-supplied code scans data, edits it according to TPUT operands specified (EDIT, ASIS, or CONTROL), and provides user-specified character translation.

Input to IKTRTX1: The input to the IKTRTX1 routine is as follows:

Register 1: Address of IKTOPARM
OPACBUFA: Current buffer address
OPACBUFL: Current buffer length.

Output from IKTRTX1: The output from the IKTRTX1 routine is as follows:

Register 15: Return code:

0: IBM-supplied code should perform editing; data is still on the output queue

Nonzero: Exit routine performed the entire edit operation; the IBM-supplied code is bypassed.

IKTRTX2 — Input Edit for IBM 3767 and 3770 Terminals

You may write this routine to perform input scanning and editing in addition to that performed by the IBM-supplied routine IKT3767I. If provided, IKTRTX2 is called after the data is translated (if necessary) from ASCII code to EBCDIC and the user-supplied character translation is performed on the data, but before the data is scanned for input line delimiters, broken into single lines, and placed on the input queue.

Input to IKTRTX2: The input to the IKTRTX2 routine is as follows:

Register 1: Address of IKTMPL
MPLTXTA: Address of buffer
MPLTXTL: Length of buffer.

Output from IKTRTX2: The output from the IKTRTX2 routine is as follows:

MPLTXTA: Address of buffer
MPLTXTL: Length of buffer.

IKTRTX3 — Attention Handler for IBM 3767 and 3770 Terminals

You may write this routine to handle attention interruptions from 3767 or 3770 terminals instead of using the IBM-supplied routine IKTATTN. One use of a user-supplied attention handler might be to clear the queues conditionally (rather than unconditionally) when an an attention interruption is received.

Input to IKTRTX3: None.

Output from IKTRTX3: None.

IKTRTX4 — Edit for IBM 3767, 3770 and 2741 Terminals

You may write this routine to perform 3767 or 3770 editing in place of or in addition to that performed by the IBM-supplied routine IKTVTGET. IKTVTGET scans for invalid data and moves the data from the input queue to the TGET requester's data area. You might write an edit exit routine to change TGET EDIT editing criteria.

Input to IKTRTX4: The input to the IKTRTX4 routine is as follows:

Register 0: Address of IKTXSA (SVRB extended save area)
Register 1: Address of IKTIPARM.

Output from IKTRTX4: The output from the IKTRTX4 routine is as follows:

Register 15: Return code:

- X'00': Exit routine performed the entire edit operation and moved the input data to the TGET data area.
- X'04': Exit routine performed only a data scan; the IBM-supplied code (EDIT3767) should perform editing.

IKTWTX1 — Output Edit for WTTY and TWX Terminals

You may write this routine to perform TWX or WTTY output editing in place of or in addition to that performed by the IBM-supplied routine IKTWTTYO. The IBM-supplied code scans data, edits it according to the TPUT operands specified (EDIT, ASIS, or CONTROL), and provides user-specified character translation.

Input to IKTWTX1: The input to the IKTWTX1 routine is as follows:

Register 1: Address of IKTOPARM
OPACBUFA: Current buffer address
OPACBUFL: Current buffer length.

Output from IKTWTX1: The output from the IKTWTX1 routine is as follows:

Register 15: Return code:

- 0: Continue with normal editing
- Nonzero: No further editing.

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Installing TSO/VTAM Exit Routines

You must link-edit exit routines you have coded with the object modules that call them. The following table shows the calling module and load module for each exit routine.

Name	Calling Module	Load Module
IKTCASX1	IKTCAS31	IKTCAS30
IKTGETXT	IKTVTGET	IGC0009C
IKTIDSX1	IKT3270O	IKTIOM02
IKTIDSX2	IKT3270I	IKTIOM02
IKTIDSX3	IKT3270I	IKTIOM02
IKTIDSX4	IKTVTGET	IGC0009C
IKTINX1	IKTCAS23	IKTCAS20
IKTINX2	IKTXINIT	IKJEFLA
IKTRTX1	IKT3767O	IKTIOM01
IKTRTX2	IKT3767I	IKTIOM01
IKTRTX3	IKTIMLU1	IKTIOM01
IKTRTX4	IKTVTGET	IGC0009C
IKTWTX1	IKTWTTYO	IKTIOM01

Figure 74. Routine — Module Cross-Reference

Appendix C. Tuning and Link-Editing in a VM System

This appendix provides:

- Information needed to tune a VM/SP or VM/SP High Performance Option (HPO) system running VTAM
- Information on link-editing VTAM tables and modules using VMFLKED
- Guidelines on the usage of DTIGEN storage management operands (V3R2 only)
- VM/SP logo usage through VTAM.

VM Tuning

This section describes VTAM tuning considerations for both VM/SP and VM/SP HPO (hereafter referred to as VM and HPO respectively). It contains information on:

- SET PRIORITY
- SET FAVORED
- SET QDROP
- SET RESERVE
- SET MINWS
- DIAG98
- IUCV resident modules
- XEDIT SET REMOTE.

VM/SP and VM/SP HPO Operands

The following paragraphs discuss specific operands that improve the performance of VTAM in VM or HPO environments. These operands make VTAM the highest dispatchable task under CP's control. The heading for each parameter description indicates whether it applies to VM, HPO, or both.

1. SET PRIORITY (VM and HPO)

   The system operator uses the PRIORITY operand of the SET command to assign relative dispatching priorities of virtual machines in VM and HPO systems[13]. A virtual machine with a higher priority (lower number) is considered for dispatching before a virtual machine with a lower priority (higher number).

   This command requires privilege class A. The recommendation for VTAM on both VM and HPO is:

   ```
   SET PRIORITY vtam-id 0
   ```

   See *VM/SP Operator's Guide*, *VM/SP HPO System Programmer's Guide*, and *VM/SP HPO Operator's Guide* for more information.

2. SET FAVORED (VM and HPO)

   FAVORED is an operand of the CP SET command and requires privilege class A.

[13] The highest dispatching priority is 0.

The FAVORED execution option allocates up to the specified percentage of processor time for the named virtual machine. When a value of 99 or less is specified, the dispatcher checks the time used during a prior interval. If the time has been exceeded during the interval, then the virtual machine is given its normal priority usage. If the percentage has not been exceeded, the virtual machine is assigned the highest priority for the remainder of the interval. When 100 is specified, the system places the virtual machine at the top of the dispatch queue until it logs off. However, SET FAVORED 100 does not designate the virtual machine as always dispatchable. To designate a virtual machine as always dispatchable, a second SET FAVORED command without a percentage value must be issued.

Thus, the recommendation for VTAM on both VM and HPO is:

```
SET FAVORED vtam-id 100
SET FAVORED vtam-id
```

See *VM/SP Operator's Guide*, *VM/SP HPO System Programmer's Guide*, and *VM/SP HPO Operator's Guide* for more information.

3. SET QDROP (VM)

QDROP is an operand of the CP SET command and requires privilege class A.

VM optimizes throughput by queue dropping, which is the elimination of idle virtual machines from the active queue. The virtual machine's page and segment tables are scanned, and resident pages are invalidated and put on the flush list. Pages on the flush list are the first candidates for page-out or removal from real storage. VTAM is a virtual machine that can go through a cycle of repeatedly being dropped from the active queue and then returned to the active queue. As a result, there is a significant amount of overhead involved in invalidating and revalidating pages. An additional delay can also be incurred when a page referenced by VTAM is not in real storage and must then be paged in.

For VM systems, the use of SET QDROP OFF improves VTAM performance by eliminating these paging and dispatcher delays. However, when using QDROP OFF, the VTAM virtual machine consumes a larger amount of storage. Pages associated with the VTAM virtual machine, which remain unreferenced for long periods of time, are ultimately reclaimed by other processes within VM so that this storage consumption does not continue completely unchecked. However, if a system is storage-constrained, using QDROP OFF could adversely affect system performance.

An additional option (SET QDROP OFF USERS) provides temporary QDROP OFF status to any virtual machine using virtual machine communication facility (VMCF) or inter-user communication vehicle (IUCV) to communicate to a second virtual machine for which QDROP OFF has been specified. This eliminates the overhead associated with a virtual machine being queue-dropped during communications with the second virtual machine. The VTAM virtual machine will **not** gain any performance with this option since it communicates directly with CP rather than another virtual machine.

The recommendation for VTAM on VM is:

```
SET QDROP vtam-id OFF
```

See *VM/SP Operator's Guide* for more information on QDROP.

The effect of QDROP OFF is significantly different in HPO due to the changes HPO provides to the scheduler and dispatcher. The mechanism that exists in VM

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systems, which reclaim a virtual machine's storage that has remained unreferenced for long periods of time, does not exist in HPO. Using SET QDROP OFF may result in much larger dynamic storage usage for VTAM in HPO systems than in VM systems. For this reason, QDROP is **not** recommended for the HPO environment. Refer to the sections on SET RESERVE and SET MINWS for HPO recommendations.

4. SET RESERVE (HPO)

   RESERVE is an operand of the CP SET command and requires privilege class A.

   While SET RESERVE is available to both VM and HPO, it is recommended only for the HPO environment. The use of SET RESERVE, in conjunction with SET MINWS specified with the same value, will accomplish the desired performance advantage of retaining VTAM's virtual machine dynamic storage in main storage.

   SET RESERVE specifies the number of page frames that will be reserved for the specified virtual machine's exclusive use, in this case VTAM's. The number of frames held is either the value specified or the actual amount of dynamic storage, whichever is smaller. The value specified in SET RESERVE should be the same value that is specified in SET MINWS.

   To achieve the maximum VTAM throughput, the paging rate on behalf of the VTAM virtual machine must approach zero, meaning that all of VTAM's instructions are in real storage at all times. However, reserving too many pages (and setting the minimum dynamic storage value too high) may adversely impact other system users. There are two software tools that can monitor the real storage utilization:

   a. VM Realtime Monitor takes a snapshot of the system, displaying the system's most active users and the amount of paging taking place on behalf of the users displayed.

   b. VMMAP reports the activity on behalf of individual virtual machines. If the paging rate for the VTAM Service Machine (VSM) is consistently greater than one per second, the minimum amount of dynamic storage and amount of storage reserved should be increased.

   The recommendation for VTAM on HPO is:

   ```
   SET RESERVE vtam-id nnnn
   ```

   where nnnn is the same value specified in SET MINWS.

   See *VM/SP Operator's Guide* and *VM/SP HPO System Programmer's Guide* for more information.

5. SET MINWS (HPO)

   MINWS is an operand of the CP SET command and requires privilege class E.

   SET MINWS is an option available only in HPO environments and is used in conjunction with SET RESERVE (see SET RESERVE for a discussion of the effects on VTAM). This operand sets the minimum amount of dynamic storage. To meet this minimum, unreferenced pages are added to the dynamic storage of a virtual machine if there are not enough referenced pages to maintain the minimum. The value chosen for MINWS should be the same value used in the SET RESERVE command.

   The recommendation for VTAM on HPO is:

   ```
   SET MINWS vtam-id nnnn
   ```

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where nnnn is the same value specified in SET RESERVE.

See *VM/SP Operator's Guide* and *VM/SP HPO System Programmer's Guide* for more information.

DIAGNOSE 98 — Real I/O

The DIAG98 option allows VTAM to translate storage addresses in its CCW strings from virtual addresses to real addresses. Since VTAM uses specialized code for the translation, this will normally use less CPU time than CP's generalized translation.

VTAM's use of DIAG98 is limited to the locking of its I/O buffers and control blocks containing CCWs. The amount of storage locked for I/O buffers is determined by the allocation of IOBUF in ATCSTR*xx* VTAMLST file. This storage is locked during initialization and is not unlocked until VTAM is halted. The control blocks containing CCWs are locked by VTAM from various pools. This typically takes place when a physical unit is activated, and is controlled internally by VTAM.

When DIAG98 is enabled, VTAM uses it for all I/O to NCP, local SNA controllers, channel-to-channel attachments, and local non-SNA 3270 devices. In addition, devices that were attached, dedicated, or already connected to the VTAM virtual machine using the CP DIAL command prior to VTAM major node activation will use the real I/O enhancement of DIAG98. VTAM will not use DIAG98 facilities for devices that are not connected at the time VTAM activates them. Such devices include non-SNA terminals defined by using the DIRECTORY SPECIAL statement or the DEFINE command.

DIAGNOSE 98 — HPO Considerations

DIAG98 protocol requires that all locked pages be locked below the 16 megabyte address line of real storage. While use of this option is highly recommended for VM systems, care should be taken before implementing this feature on HPO.

The requirement for space in that address range for the VTAM service machine may cause contention with other system requirements. For example, a very large HPO system with 64 megabytes of real storage will probably have many other users throughout its 64 megabytes contending for real storage below the 16 megabyte address. This will also create high CP demand for this area of main storage to perform supervisor functions. Thus, use of DIAG98 in such an environment may result in the following:

- Excessive overhead as the system tries to manage contention for the area below 16 megabytes in real storage.
- In an extremely storage constrained environment, it is possible that high contention for storage below the 16 megabyte line, resulting from the use of the DIAG98 option, could result in real storage exhaustion.

The best approach is to run without DIAG98 and observe the demand for this storage by other system resources. If the demand is low, try running with DIAG98 and see whether the system's performance improves. An indication of real storage contention below the 16 megabyte line is represented by subtracting the VMMAP average HISTEALRAT from the average STEALRATE. As this value goes above zero, the exposure increases.

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This option can be selected at system generation time using the DIAG98 operand of the OPTION control statement in the virtual machine's entry in the system directory. The recommendation for VTAM on a VM system is:

```
USER VTAM VTAMPW 10M 16M G
OPTION.....DIAG98
```

The recommendations for VTAM on an HPO system are:

- Use DIAG98 in systems with fewer than 16 megabytes of real storage.
- Assess the impact of DIAG98 implementation on other users of the HPO system when more than 16 megabytes of real storage is involved.

Resident IUCV Modules (VM and HPO)

Performance for the VTAM virtual machine can be improved by making the IUCV modules resident, avoiding possible paging delays when the code is not resident in real storage. This is accomplished by placing six load statements naming DMKIUA, DMKIUC, DMKIUE, DMKIUG, DMKIUJ, and DMKIUL prior to DMKCPE in the CPLOAD file and rebuilding the CP nucleus.

See *VM/SP System Programmer's Guide* and *VM/SP HPO System Programmer's Guide* for more information.

XEDIT Performance (VM and HPO)

All terminals that access the VM system through VSCS/IUCV/CCS appear as channel-attached terminals. If an application were to interrogate VM control blocks (RDEVBLOK) to obtain a description of the device, it would find each VTAM terminal defined as a local device, even though the device may actually be remote.

XEDIT is an example of an application that interrogates this block to determine whether the device is local or remote. If the device is local, the full data stream is transmitted to the terminal. If, however, the device is remote, XEDIT will compress the data stream. This compressed data stream will decrease the amount of data that is actually transmitted on the line, thereby improving the response time and line utilization.

A user can override the automatic setting by the XEDIT subcommand SET REMOTE ON when in XEDIT, or on behalf of the user from the XEDIT profile.

The recommendation for remotely attached VTAM terminals using XEDIT is:

```
SET REMOTE ON
```

See *VM/SP System Product Editor Command and Macro Reference* and *VM/SP HPO System Product Editor Command and Macro Reference* for more information.

Note: Set Remote On is a full-screen CMS command in CMP SP5.

Installing Tables and Modules in VM

A tool called VMFLKED is available to simplify the process of link-editing the modules for class-of-service tables, interpret tables, logon mode tables, USS tables, CNM routing tables, and VTAM constants.

Use the following procedure to create or update one of these modules using VMFLKED.

1. Copy the IBM-supplied module (ISTxxxxx ASSEMBLE) on the VTM191 disk and update it, or create your own ASSEMBLE file.
2. Access the disk containing the VTAM macroinstruction library (the default is 191).
3. Issue the command

   GLOBAL MACLIB VTAMAC
4. Assemble the table. This creates files with file types of 'LISTING' and 'TEXT'.
5. Use VMFLKED to link-edit the text file from the assemble step:
   a. Create the input control file as VTAMUSER LKEDCTRL

      Note: This file name is arbitrary. However, it is suggested that VTAMUSER be used for VTAM modules.

   b. Place the following records in the file:

```
%LEPARMS REUS       (starts in column 1)
 INCLUDE ISTxxxxx   (starts in column 2)
 NAME ISTxxxxx(R)
```

   c. Issue the command

      VMFLKED VTAMUSER (PRINT

      The output is a load library named VTAMUSER LOADLIB with a load module of the same name as you specified above. The command also creates a link edit map named VTAMUSER LKEDIT.
6. After the library is created, the VTAM virtual machine will need to:
   a. Access the disk containing the VTAMUSER LOADLIB.
   b. Issue a global command for the VTAMUSER LOADLIB, for example:

      GLOBAL LOADLIB VTAMUSER VTAM VSCS

      You can put this command into your EXEC that starts VTAM.

DTIGEN Performance Operands

Three new operands have been added to the DTIGEN macroinstruction to increase VSCS performance. (See *VTAM Installation and Resource Definition* for more information on these operands.)

If a logical unit is switched from full-screen mode to console mode, data can be lost if the application uses a full-screen read buffer to retrieve input data from the logical unit. The FSREAD operand can prevent that loss of data by preventing the full-screen read buffer from being generated internally.

The SCHED operand, which is valid for all devices except printers, allows the use of exception response when sending outbound requests. This reduces the number of definite response requests issued, thus reducing network traffic and definite response processing. This option requires additional storage to provide a limited error recovery process. Error situations that are recoverable by the user's application are limited, and an increase in users being disconnected may occur normally.

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The SPEC operand, which is valid for all devices, allows VSCS to process an LU in SPECIFIC mode only. That means you no longer need to issue a VTAM RESETSR macroinstruction to switch LU from SPECIFIC mode to ANY mode. SPECIFIC mode requires the LU to have its own RECEIVE RPL and data area, which requires additional storage.

DTIGEN Storage Management Operands (V3R2)

In V3R2 of VSCS, new storage management operands have been added to the DTIGEN macroinstruction, which allow some control over VSCS dynamic storage.

The following is a description of the new operands:

- The STCHKTM operand represents the time interval between storage pool scans (checking).
- The STRELTM operand represents the timer interval between releasing storage back to GCS.

The following shows the results with different setting of both operands:

STCHKTM = 0	STRELTM = 0	Storage processing is the same as for previous releases of VSCS.
STCHKTM = 0	STRELTM > 0	Storage processing is the same as for previous releases of VSCS except that, at the specified times, a FREEMAIN will be executed to release available storage segments.
STCHKTM > 0	STRELTM = 0	At the specified times, available storage segments will be made available for all storage pools.
STCHKTM > 0	STRELTM > 0	At specified times, available storage segments will be made available for all storage pools and a FREEMAIN will be executed to release storage.

Storage, as discussed here, has two forms:

1. Allocated and in use (one or more blocks of the segment are currently being used). This is referred to as "not available" storage.
2. Allocated and not in use (all blocks of the segment are on the free chain). This is referred to as "available" storage.

When the SPCHKTM time interval has expired and VSCS has no additional work to do, VSCS:

1. Scans each of the VSCS storage pools for "available" storage.
2. If more than one segment of "available" storage is found in a pool:
   a. If the storage segment is larger than 12K, issues a FREEMAIN
   b. Makes half of the "available" storage segments available for use by all VSCS storage pools.
3. If only one segment of "available" storage is found, then that segment is not removed or released.

When the SPRELTM time interval has expired and VSCS has no additional work to do, VSCS checks the storage "available" and issues a FREEMAIN for half of the existing segments.

Recommendations for use of new operands:

1. If there are no limitations: use the STCHKTM operand, or the STCHKTM and STRELTM operands.
2. If storage is limited: use both of the new operands, setting STRELTM greater than STCHKTM.
3. If cycles are limited and no storage operands were specified: use the STCHKTM operand or the STCHKTM and STRELTM operands with large time values specified, or set both operands to zero (default).
4. If cycles are limited and storage is limited: use either the STCHKTM operand, or the STCHKTM and STRELTM operands.
5. If not sure (flexible load): use the STCHKTM operand.
6. If migrating from VCNA: initially, use the defaults.
7. If a new user: initially, use the defaults.

Specifying STRELTM < STCHKTM will reduce dynamic storage, but increase the number of GETMAINS and FREEMAINS issued. For normal environments, specifying STCHKTM < STRELTM or STCHKTM alone is desirable since it will reduce the number of GETMAINS used. The time values chosen should not be too low, because of additional processing involved in scanning the VSCS storage pools, nor should they be so high as to reduce the effectiveness of the feature.

VM/SP Logo Usage Through VTAM

With VM/SP Release 5, you get one of three logos when you log on to VSCS.

If you are using the VM/SP-supplied default logo on a display that is 24 lines deep and 80 characters wide, the online message, logo body, and command lines are displayed, as shown in Figure 75 on page 211.

If you are using a alternate logo that is much deeper than the default logo, and the command lines with the logo body will not fit on the screen, only the online message and a single-line logo are displayed, as shown in Figure 76 on page 211.

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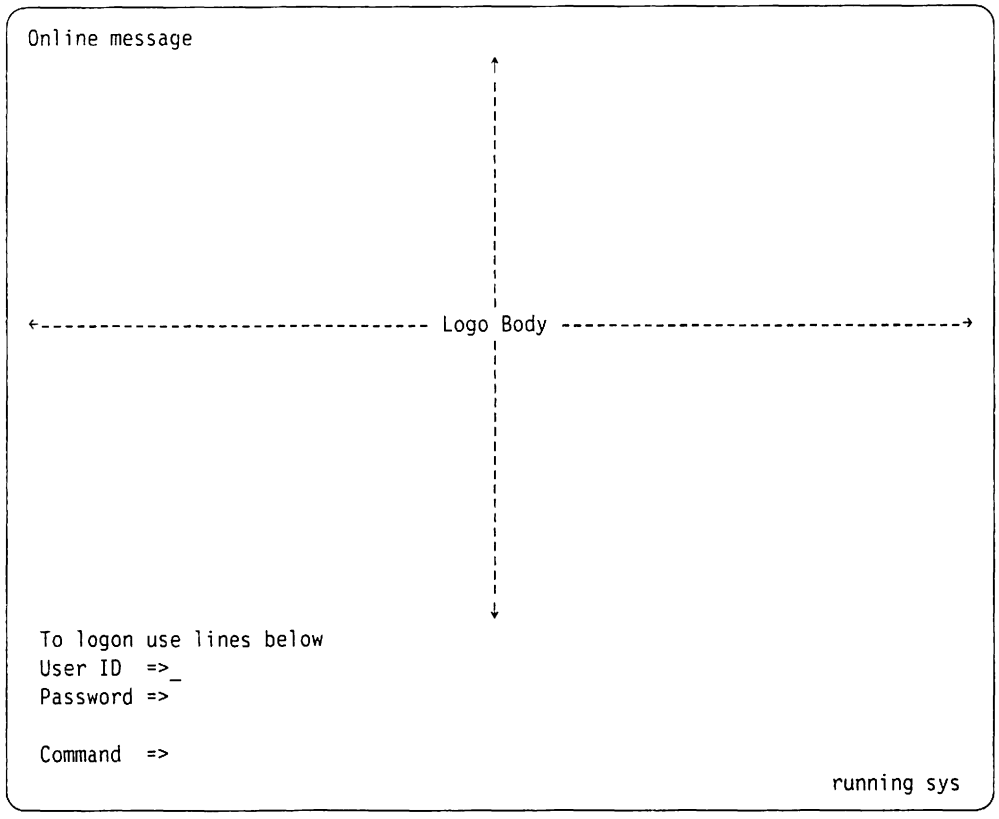

Figure 75. VM Unmodified Default Logo

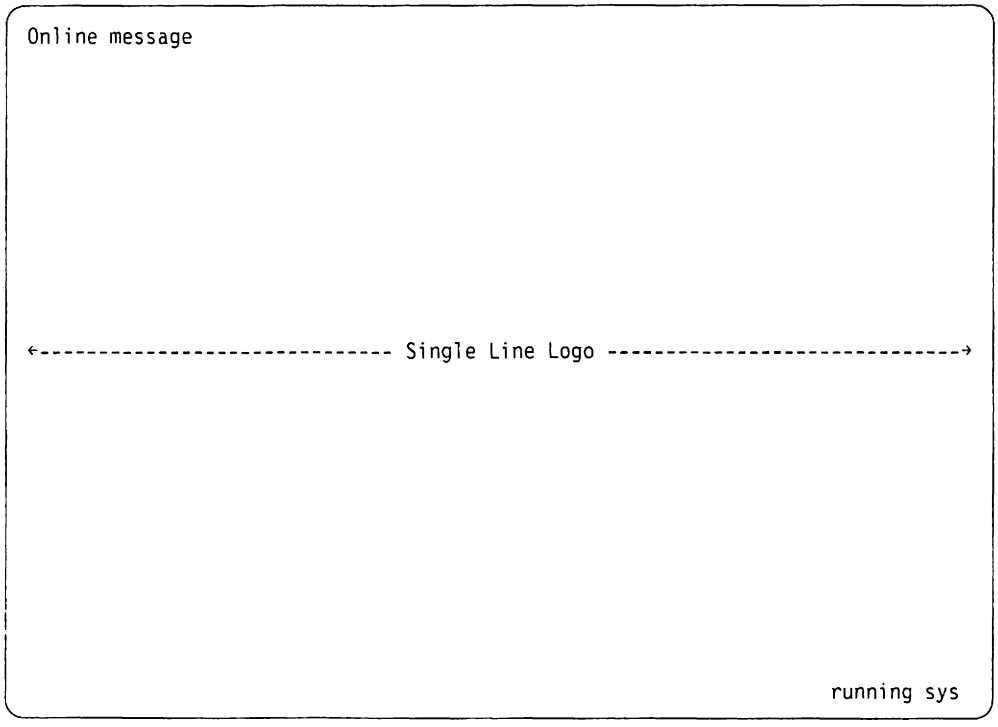

Figure 76. VM Alternate Logo, Online Message and Single-Line Logo Displayed

If you modify a logo that is used by VSCS, keep the following considerations in mind:

1. In most cases, your alternate logo should appear the same on a VTAM display as it does on a CP-controlled display. However, VSCS is more sensitive to the number of lines used in a logo, so remember the following:
   a. Allow a single line for the online message (unless you modify it to take more lines).
   b. Allow two lines for the input area.
   c. Compensate for the command lines (including the first line of the input area).
2. VSCS is also sensitive to the width of each line in the logo. Therefore, use a line width that is less than or equal to the maximum line width, minus 3 (77 characters on an 80-character screen).
3. You **should not** modify the command lines. However, if you do modify them, remember the following points:
   a. Keep the user ID, password, and command on **separate** lines.
   b. Place the insert cursor (IC) at the first user field of the user ID line (see Figure 75 on page 211).
   c. Make sure each command line is bound by the appropriate attributes (that is, protected, masked, or unprotected).
4. If you embed Start Field (SF) and Start Field Extended (SFE) commands in your logo, make sure they are supported by **all** VTAM devices that log on to VSCS.
5. All set buffer addresses are blanked out, which may distort the logo.

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Appendix D. IBM-Supplied Tables

This appendix lists:

- The default logon mode table for MVS and VSE
- The default logon mode table for VM, used with VSCS
- The session-level USS definition table
- The operation-level USS definition table
- The default CNM routing table.

Note: "Customizing the Logon Mode Table" on page 190 contains information for customizing the logon mode table in a VM environment.

The Default Logon Mode Table for MVS and VSE

```
         EJECT
ISTINCLM MODETAB
         EJECT
IBM3767  MODEENT LOGMODE=INTERACT,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'A0',COMPROT=X'3040'
         EJECT
IBM3770  MODEENT LOGMODE=BATCH,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'A3',*
               SECPROT=X'A3',COMPROT=X'7080'
         EJECT
IBMS3270 MODEENT LOGMODE=S3270,FMPROF=X'02',TSPROF=X'02',PRIPROT=X'71',*
               SECPROT=X'40',COMPROT=X'2000'
         EJECT
IBM3600  MODEENT LOGMODE=IBM3600,FMPROF=X'04',TSPROF=X'04',PRIPROT=X'F1*
               ',SECPROT=X'F1',COMPROT=X'7000'
         EJECT
IBM3650I MODEENT LOGMODE=INTRACT,FMPROF=X'04',TSPROF=X'04',PRIPROT=X'B1*
               ',SECPROT=X'90',COMPROT=X'6000'
         EJECT
IBM3650U MODEENT LOGMODE=INTRUSER,FMPROF=X'04',TSPROF=X'04',PRIPROT=X'3*
               1',SECPROT=X'30',COMPROT=X'6000'
         EJECT
IBMS3650 MODEENT LOGMODE=IBMS3650,FMPROF=X'04',TSPROF=X'04',PRIPROT=X'B*
               0',SECPROT=X'B0',COMPROT=X'4000'
         EJECT
IBM3650P MODEENT LOGMODE=PIPELINE,FMPROF=X'04',TSPROF=X'04',PRIPROT=X'3*
               0',SECPROT=X'10',COMPROT=X'0000'
         EJECT
IBM3660  MODEENT LOGMODE=SMAPPL,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'A0'*
               ,SECPROT=X'A0',COMPROT=X'0081'
         EJECT
IBM3660A MODEENT LOGMODE=SMSNA100,FMPROF=X'00',TSPROF=X'00',PRIPROT=X'0*
               0',SECPROT=X'00',COMPROT=X'0000'
```

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```
        TITLE 'D6327801'
*********************************************************************
*                                                                   *
*             3276 SNA WITH 3278 MODEL 1 SCREEN                     *
*             PRIMARY SCREEN 12 X 40 (480)                          *
*             ALTERNATE SCREEN 12 X 80 (960)                        *
*                                                                   *
*********************************************************************
D6327801 MODEENT LOGMODE=D6327801,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
              1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'88F8',PSERVIC*
              =X'0200000000000C280C507F00'
        TITLE 'D6327802'
*********************************************************************
*                                                                   *
*             3276 SNA WITH 3278 MODEL 2 SCREEN                     *
*             PRIMARY SCREEN 24 X 80 (1920)                         *
*             NO ALTERNATE SCREEN DEFINED                           *
*                                                                   *
*********************************************************************
D6327802 MODEENT LOGMODE=D6327802,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
              1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'88F8',PSERVIC*
              =X'020000000000185000007E00'
        TITLE 'D6327803'
*********************************************************************
*                                                                   *
*             3276 SNA WITH      MODEL 3 SCREEN                     *
*             PRIMARY SCREEN 24 X 80 (1920)                         *
*             ALTERNATE SCREEN 32 X 80 (2560)                       *
*                                                                   *
*********************************************************************
D6327803 MODEENT LOGMODE=D6327803,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
              1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'88F8',PSERVIC*
              =X'020000000000185020507F00'
        TITLE 'D6327804'
*********************************************************************
*                                                                   *
*             3276 SNA WITH      MODEL 4 SCREEN                     *
*             PRIMARY SCREEN 24 X 80 (1920)                         *
*             ALTERNATE SCREEN 43 X 80 (3440)                       *
*                                                                   *
*********************************************************************
D6327804 MODEENT LOGMODE=D6327804,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
              1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'88F8',PSERVIC*
              =X'020000000000185028B507F00'
        TITLE 'D6327805'
*********************************************************************
*                                                                   *
*             3276 SNA WITH      MODEL 5 SCREEN                     *
*             PRIMARY SCREEN 24 X 80 (1920)                         *
*             ALTERNATE SCREEN 27 X 132 (3564)                      *
*                                                                   *
*********************************************************************
D6327805 MODEENT LOGMODE=D6327805,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
              1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'88F8',PSERVIC*
              =X'020000000000185018B847F00'
```


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```
         TITLE 'D6328904'
*********************************************************************
*                                                                   *
*              3276 SNA WITH 3289 MODEL 4 PRINTER                   *
*                                                                   *
*********************************************************************
D6328904 MODEENT LOGMODE=D6328904,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'8787',PSERVIC*
               =X'030000000000018502B507F00'
         TITLE 'D6328902'
*********************************************************************
*                                                                   *
*              3276 SNA WITH 3289 MODEL 2 PRINTER                   *
*                                                                   *
*********************************************************************
D6328902 MODEENT LOGMODE=D6328902,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'8787',PSERVIC*
               =X'030000000000185018507F00'
         TITLE 'D4A32781'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 1 SCREEN (LOCAL SNA)        *
*              PRIMARY SCREEN 12 X 40 (480)                         *
*              ALTERNATE SCREEN 12 X 80 (960)                       *
*                                                                   *
*********************************************************************
D4A32781 MODEENT LOGMODE=D4A32781,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'020000000000C280C507F00'
         TITLE 'D4A32782'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 2 SCREEN (LOCAL SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*********************************************************************
D4A32782 MODEENT LOGMODE=D4A32782,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'020000000000185000007E00'
         TITLE 'LSK32782'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 2 SCREEN (LOCAL SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*              KATAKANA                                             *
*                                                                   *
*********************************************************************
LSK32782 MODEENT LOGMODE=LSK32782,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'020000000000185000007E00',LANG=X'11'
```

```
         TITLE 'D4A32783'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 3 SCREEN (LOCAL SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 32 X 80 (2560)                      *
*                                                                   *
*********************************************************************
D4A32783 MODEENT LOGMODE=D4A32783,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'020000000000185020507F00'
         TITLE 'D4A32784'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 4 SCREEN (LOCAL SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 43 X 80 (3440)                      *
*                                                                   *
*********************************************************************
D4A32784 MODEENT LOGMODE=D4A32784,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'0200000000018502B507F00'
         TITLE 'D4A32785'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 5 SCREEN (LOCAL SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 27 X 132 (3564)                     *
*                                                                   *
*********************************************************************
D4A32785 MODEENT LOGMODE=D4A32785,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'0200000000018501B847F00'
         TITLE 'D4A32XX3'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A (LOCAL SNA)                            *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN TO BE DETERMINED BY APPLICATION     *
*                                                                   *
*********************************************************************
D4A32XX3 MODEENT LOGMODE=D4A32XX3,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'028000000000000000000300'
         TITLE 'D4A32771'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH 3277 MODEL 1 SCREEN               *
*                                                                   *
*********************************************************************
D4A32771 MODEENT LOGMODE=D4A32771,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'020000000000000000000100'
```


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```
         TITLE 'D4A32772'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH 3277 MODEL 2 SCREEN               *
*                                                                   *
*********************************************************************
D4A32772 MODEENT LOGMODE=D4A32772,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'020000000000000000000200'
         TITLE 'D4C32781'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C WITH MODEL 1 SCREEN(REMOTE SNA)        *
*              PRIMARY SCREEN 12 X 40 (480)                         *
*              ALTERNATE SCREEN 12 X 80 (960)                       *
*                                                                   *
*********************************************************************
D4C32781 MODEENT LOGMODE=D4C32781,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87F8',PSERVIC*
               =X'0200000000000C280C507F00'
         TITLE 'D4C32782'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C WITH MODEL 2 SCREEN(REMOTE SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*********************************************************************
D4C32782 MODEENT LOGMODE=D4C32782,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87F8',PSERVIC*
               =X'020000000000185000007E00'
         TITLE 'RSK32782'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C WITH MODEL 2 SCREEN(REMOTE SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*              KATAKANA                                             *
*                                                                   *
*********************************************************************
RSK32782 MODEENT LOGMODE=RSK32782,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87F8',PSERVIC*
               =X'020000000000185000007E00',LANG=X'11'
         TITLE 'D4C32783'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C WITH MODEL 3 SCREEN(REMOTE SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 32 X 80 (2560)                      *
*                                                                   *
*********************************************************************
D4C32783 MODEENT LOGMODE=D4C32783,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87F8',PSERVIC*
               =X'020000000000185020507F00'
```

```
         TITLE 'D4C32784'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C WITH MODEL 4 SCREEN(REMOTE SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 43 X 80 (3440)                      *
*                                                                   *
*********************************************************************
D4C32784 MODEENT LOGMODE=D4C32784,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87F8',PSERVIC*
               =X'02000000000018502B507F00'
         TITLE 'D4C32785'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C WITH MODEL 5 SCREEN(REMOTE SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 27 X 132 (3564)                     *
*                                                                   *
*********************************************************************
D4C32785 MODEENT LOGMODE=D4C32785,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87F8',PSERVIC*
               =X'02000000000018501B847F00'
         TITLE 'D4C32XX3'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN TO BE DETERMINED BY APPLICATION     *
*                                                                   *
*********************************************************************
D4C32XX3 MODEENT LOGMODE=D4C32XX3,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87F8',PSERVIC*
               =X'028000000000000000000300'
         TITLE 'D4C32771'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C WITH 3277 MODEL 1 SCREEN               *
*                                                                   *
*********************************************************************
D4C32771 MODEENT LOGMODE=D4C32771,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87F8',PSERVIC*
               =X'020000000000000000000100'
         TITLE 'D4C32772'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C WITH 3277 MODEL 2 SCREEN               *
*                                                                   *
*********************************************************************
D4C32772 MODEENT LOGMODE=D4C32772,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87F8',PSERVIC*
               =X'020000000000000000000200'
```


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```
         TITLE 'D4B32781'
*********************************************************************
*                                                                   *
*      3274 MODEL 1B/1D WITH MODEL 1 SCREEN (LOCAL NON-SNA)         *
*      3274 1C BSC WITH MODEL 1 SCREEN                              *
*      3276 BSC WITH MODEL 1 SCREEN                                 *
*      PRIMARY SCREEN 12 X 40 (480)                                 *
*      ALTERNATE SCREEN 12 X 80 (960)                               *
*                                                                   *
*********************************************************************
D4B32781 MODEENT LOGMODE=D4B32781,FMPROF=X'02',TSPROF=X'02',PRIPROT=X'7*
               1',SECPROT=X'40',COMPROT=X'2000',RUSIZES=X'0000',PSERVIC*
               =X'0000000000000C280C507F00'
         TITLE 'D4B32782'
*********************************************************************
*                                                                   *
*      3274 MODEL 1B/1D WITH MODEL 2 SCREEN (LOCAL NON-SNA)         *
*      3274 1C BSC WITH MODEL 2 SCREEN                              *
*      3276 BSC WITH MODEL 2 SCREEN                                 *
*      PRIMARY SCREEN 24 X 80 (1920)                                *
*      NO ALTERNATE SCREEN DEFINED                                  *
*                                                                   *
*********************************************************************
D4B32782 MODEENT LOGMODE=D4B32782,FMPROF=X'02',TSPROF=X'02',PRIPROT=X'7*
               1',SECPROT=X'40',COMPROT=X'2000',RUSIZES=X'0000',PSERVIC*
               =X'0000000000000185000007E00'
         TITLE 'LNK32782'
*********************************************************************
*                                                                   *
*      3274 MODEL 1B/1D WITH MODEL 2 SCREEN (LOCAL NON-SNA)         *
*      3274 1C BSC WITH MODEL 2 SCREEN                              *
*      3276 BSC WITH MODEL 2 SCREEN                                 *
*      PRIMARY SCREEN 24 X 80 (1920)                                *
*      NO ALTERNATE SCREEN DEFINED                                  *
*      KATAKANA                                                     *
*                                                                   *
*********************************************************************
LNK32782 MODEENT LOGMODE=LNK32782,FMPROF=X'02',TSPROF=X'02',PRIPROT=X'7*
               1',SECPROT=X'40',COMPROT=X'2000',RUSIZES=X'0000',PSERVIC*
               =X'0000000000000185000007E00',LANG=X'11'
         TITLE 'D4B32783'
*********************************************************************
*                                                                   *
*      3274 MODEL 1B/1D WITH MODEL 3 SCREEN (LOCAL NON-SNA)         *
*      3274 1C BSC WITH MODEL 3 SCREEN                              *
*      3276 BSC WITH MODEL 3 SCREEN                                 *
*      PRIMARY SCREEN 24 X 80 (1920)                                *
*      ALTERNATE SCREEN 32 X 80 (2560)                              *
*                                                                   *
*********************************************************************
D4B32783 MODEENT LOGMODE=D4B32783,FMPROF=X'02',TSPROF=X'02',PRIPROT=X'7*
               1',SECPROT=X'40',COMPROT=X'2000',RUSIZES=X'0000',PSERVIC*
               =X'0000000000000185020507F00'
```

```
         TITLE 'D4B32784'
*********************************************************************
*                                                                   *
*      3274 MODEL 1B/1D WITH MODEL 4 SCREEN (LOCAL NON-SNA)         *
*      3274 1C BSC WITH MODEL 4 SCREEN                              *
*      3276 BSC WITH MODEL 4 SCREEN                                 *
*      PRIMARY SCREEN 24 X 80 (1920)                                *
*      ALTERNATE SCREEN 43 X 80 (3440)                              *
*                                                                   *
*********************************************************************
D4B32784 MODEENT LOGMODE=D4B32784,FMPROF=X'02',TSPROF=X'02',PRIPROT=X'7*
               1',SECPROT=X'40',COMPROT=X'2000',RUSIZES=X'0000',PSERVIC*
               =X'00000000000018502B507F00'
         TITLE 'D4B32785'
*********************************************************************
*                                                                   *
*      3274 MODEL 1B/1D WITH MODEL 5 SCREEN (LOCAL NON-SNA)         *
*      3274 1C BSC WITH MODEL 5 SCREEN                              *
*      3276 BSC WITH MODEL 5 SCREEN                                 *
*      PRIMARY SCREEN 24 X 80 (1920)                                *
*      ALTERNATE SCREEN 27 X 132 (3564)                             *
*                                                                   *
*********************************************************************
D4B32785 MODEENT LOGMODE=D4B32785,FMPROF=X'02',TSPROF=X'02',PRIPROT=X'7*
               1',SECPROT=X'40',COMPROT=X'2000',RUSIZES=X'0000',PSERVIC*
               =X'00000000000018501B847F00'
         TITLE 'D4B32XX3'
*********************************************************************
*                                                                   *
*      3274 MODEL 1B/1D (LOCAL NON-SNA)                             *
*      3274 1C BSC                                                  *
*      3276 BSC                                                     *
*      PRIMARY SCREEN 24 X 80 (1920)                                *
*      ALTERNATE SCREEN TO BE DETERMINED BY APPLICATION             *
*                                                                   *
*********************************************************************
D4B32XX3 MODEENT LOGMODE=D4B32XX3,FMPROF=X'02',TSPROF=X'02',PRIPROT=X'7*
               1',SECPROT=X'40',COMPROT=X'2000',RUSIZES=X'0000',PSERVIC*
               =X'00800000000000000000300'
         TITLE 'SCS'
*********************************************************************
*                                                                   *
*      PRINTER WITH SNA CHARACTER SET                               *
*                                                                   *
*********************************************************************
SCS      MODEENT LOGMODE=SCS,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B1',  *
               SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C6',          *
               PSERVIC=X'01000000E100000000000000',                    *
               PSNDPAC=X'01',SRCVPAC=X'01'
         TITLE 'DSC4K'
*********************************************************************
*                                                                   *
*      PRINTER WITH 4K BUFFER                                       *
*                                                                   *
*********************************************************************
DSC4K    MODEENT LOGMODE=DSC4K,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B1',*
               SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'8787',          *
               PSERVIC=X'03000000000018502B507F00'
```


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```
         TITLE 'DSC2K'
*********************************************************************
*                                                                   *
*      PRINTER WITH 2K BUFFER                                       *
*                                                                   *
*********************************************************************
DSC2K    MODEENT LOGMODE=DSC2K,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B1',*
               SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'8787',       *
               PSERVIC=X'030000000000185018507F00'
         TITLE 'BAT13790'
*********************************************************************
*                                                                   *
*      3790 BATCH                                                   *
*                                                                   *
*********************************************************************
BAT13790 MODEENT LOGMODE=BAT13790,FMPROF=X'03',TSPROF=X'03',        *
               PRIPROT=X'00',SECPROT=X'00',COMPROT=X'0000',         *
               RUSIZES=X'0000'
         TITLE 'EMU3790'
*********************************************************************
*                                                                   *
*      3790 IN DATA STREAM COMPATIBILITY MODE                       *
*                                                                   *
*********************************************************************
EMU3790  MODEENT LOGMODE=EMU3790,FMPROF=X'03',TSPROF=X'03',         *
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',         *
               RUSIZES=X'85C7',PSERVIC=X'020000000000000000000200'
         TITLE 'RJE3790A'
*********************************************************************
*                                                                   *
*      3790 RJE                                                     *
*                                                                   *
*********************************************************************
RJE3790A MODEENT LOGMODE=RJE3790A,FMPROF=X'03',TSPROF=X'03',        *
               PRIPROT=X'A3',SECPROT=X'A1',COMPROT=X'7080',         *
               RUSIZES=X'8585',PSERVIC=X'01106000F100800000010040'
         TITLE 'RJE3790B'
*********************************************************************
*                                                                   *
*      3790 RJE                                                     *
*                                                                   *
*********************************************************************
RJE3790B MODEENT LOGMODE=RJE3790B,FMPROF=X'03',TSPROF=X'03',        *
               PRIPROT=X'A3',SECPROT=X'A1',COMPROT=X'7080',         *
               RUSIZES=X'8585',PSERVIC=X'01102000F100800000010040'
         TITLE 'BAT23790'
*********************************************************************
*                                                                   *
*      3790 BATCH                                                   *
*                                                                   *
*********************************************************************
BAT23790 MODEENT LOGMODE=BAT23790,FMPROF=X'03',TSPROF=X'04',        *
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'7080',         *
               RUSIZES=X'8585',PSERVIC=X'013100000000000000000000'
```

```
         TITLE 'BLK3790'
*********************************************************************
*                                                                   *
*      3790 BULK PRINT                                              *
*                                                                   *
*********************************************************************
BLK3790  MODEENT LOGMODE=BLK3790,FMPROF=X'03',TSPROF=X'03',          *
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',          *
               RUSIZES=X'8585',PSERVIC=X'030000000000000000000000'
         TITLE 'SCS3790'
*********************************************************************
*                                                                   *
*      3790 WITH SNA CHARACTER SET                                  *
*                                                                   *
*********************************************************************
SCS3790  MODEENT LOGMODE=SCS3790,FMPROF=X'03',TSPROF=X'03',          *
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',          *
               RUSIZES=X'8585',PSERVIC=X'010000000000000000000000'
         TITLE 'EMUDPCX'
*********************************************************************
*                                                                   *
*      3790 IN DPCX EMULATION MODE                                  *
*                                                                   *
*********************************************************************
EMUDPCX  MODEENT LOGMODE=EMUDPCX,FMPROF=X'03',TSPROF=X'03',          *
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',          *
               RUSIZES=X'85C7',PSERVIC=X'020000000000000000000200'
         TITLE 'DSILGMOD'
*********************************************************************
*                                                                   *
* DSILGMOD  LOGMODE TABLE FOR BSC,LOCAL,SDLC 3275,3277,3278,3279    *
*           MODEL 2 OR 12, 24 X 80 SCREEN. MAY BE USED TO RUN       *
*              MODELS 3, 4, 5, 2C OR 3C AS MODEL 2                  *
*           ALSO FOR 3284, 3286, 3287, 3288, 3289 PRINTERS          *
*           THROUGH A 3271, 3272, 3274, 3275, OR 3276 CONTROLLER    *
*                                                                   *
*********************************************************************
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'02',TSPROF=X'02',         *
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',          *
               RUSIZES=X'0000',PSERVIC=X'000000000000000000000200'
         TITLE 'ISTNLDM'
*********************************************************************
*        NLDM LOGMODE FOR LU - LU SESSION WITH NCCF                 *
*********************************************************************
ISTNLDM  MODEENT LOGMODE=ISTNLDM,FMPROF=X'02',TSPROF=X'03',          *
               PRIPROT=X'30',SECPROT=X'40',COMPROT=X'0000',          *
               SSNDPAC=X'02',RUSIZES=X'0000',                        *
               PSERVIC=X'000000000000000000000000'
```


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```
         TITLE 'D329001'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR THE 3290 TERMINAL                  *
*             OR EXTENDED DATA STREAM TERMINAL OFF 3274-1A          *
*             PRIMARY SCREEN SIZE 24 X 80                           *
*             ALTERNATE SCREEN SIZE 62 X 160                        *
*********************************************************************
D329001  MODEENT LOGMODE=D329001,FMPROF=X'03',TSPROF=X'03',          *
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',          *
               RUSIZES=X'8787',                                      *
               PSERVIC=X'02800000000018503EA07F00'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           SCREEN SIZE IS 24 X 80.                                 *
*********************************************************************
NSX32702 MODEENT LOGMODE=NSX32702,FMPROF=X'02',TSPROF=X'02',         *
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',          *
               RUSIZES=X'0000',                                      *
               PSERVIC=X'00800000000018500000 7E00'
         TITLE 'NED32702'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           SCREEN SIZE IS 24 X 80.                                 *
*           LANGUAGE IS ENGLISH.                                    *
*           QUERY FOR DOUBLE BYTE CAPABILITY.                       *
*********************************************************************
NED32702 MODEENT LOGMODE=NED32702,FMPROF=X'02',TSPROF=X'02',         *
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',          *
               RUSIZES=X'0000',                                      *
               PSERVIC=X'00800000000018500000 7E00',LANG=X'81'
         TITLE 'NKD32702'
*********************************************************************
* NAME:  NON-SNA KATAKANA, DOUBLE BYTE CAPABLE, 3270-2              *
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           SCREEN SIZE IS 24 X 80.                                 *
*           LANGUAGE IS KATAKANA.                                   *
*           QUERY FOR DOUBLE BYTE CAPABILITY.                       *
*********************************************************************
NKD32702 MODEENT LOGMODE=NKD32702,FMPROF=X'02',TSPROF=X'02',         *
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',          *
               RUSIZES=X'0000',                                      *
               PSERVIC=X'00800000000018500000 7E00',LANG=X'91'
```

```
         TITLE 'LED32702'
*********************************************************************
*                                                                   *
*        LOGMODE TABLE ENTRY FOR LOCAL SNA                          *
*              3274 MODEL 1A WITH MODEL 2 SCREEN (LOCAL SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*              EXTENDED DATA STREAMS                                *
*              ENGLISH LANGUAGE                                     *
*              QUERY FOR DOUBLE BYTE CAPABILITY                     *
*********************************************************************
LED32702 MODEENT LOGMODE=LED32702,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'028000000000185000007E00',LANG=X'81'
         TITLE 'LKD32702'
*********************************************************************
*                                                                   *
*        LOGMODE TABLE ENTRY FOR LOCAL SNA                          *
*              3274 MODEL 1A WITH MODEL 2 SCREEN (LOCAL SNA)        *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*              EXTENDED DATA STREAMS                                *
*              KATAKANA LANGUAGE                                    *
*              QUERY FOR DOUBLE BYTE CAPABILITY                     *
*********************************************************************
LKD32702 MODEENT LOGMODE=LKD32702,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B*
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC*
               =X'028000000000185000007E00',LANG=X'91'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES            *
*           WITH EXTENDED DATA STREAMS (3278 OR 3279).              *
*           SCREEN SIZE IS 24 X 80.                                 *
*********************************************************************
SNX32702 MODEENT LOGMODE=SNX32702,FMPROF=X'03',TSPROF=X'03',          *
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',          *
               RUSIZES=X'87F8',                                      *
               PSERVIC=X'028000000000185000007E00'
         TITLE 'SED32702'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES            *
*           WITH EXTENDED DATA STREAMS (3278 OR 3279).              *
*           SCREEN SIZE IS 24 X 80.                                 *
*           LANGUAGE IS ENGLISH.                                    *
*           QUERY FOR DOUBLE BYTE CAPABILITY                        *
*********************************************************************
SED32702 MODEENT LOGMODE=SED32702,FMPROF=X'03',TSPROF=X'03',          *
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',          *
               RUSIZES=X'87F8',                                      *
               PSERVIC=X'028000000000185000007E00',LANG=X'81'
```


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```
        TITLE 'SKD32702'
*********************************************************************
*       LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES             *
*          WITH EXTENDED DATA STREAMS (3278 OR 3279).               *
*          SCREEN SIZE IS 24 X 80.                                  *
*          LANGUAGE IS KATAKANA.                                    *
*          QUERY FOR DOUBLE BYTE CAPABILITY                         *
*********************************************************************
SKD32702 MODEENT LOGMODE=SKD32702,FMPROF=X'03',TSPROF=X'03',          *
              PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',            *
              RUSIZES=X'87F8',                                        *
              PSERVIC=X'028000000000185000007E00',LANG=X'91'
        TITLE 'SNX32703'
*********************************************************************
*       LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES             *
*          WITH EXTENDED DATA STREAMS (MOD3).                       *
*             PRIMARY SCREEN 24 X 80 (1920)                         *
*             ALTERNATE SCREEN 32 X 80 (2560)                       *
*********************************************************************
SNX32703 MODEENT LOGMODE=SNX32703,FMPROF=X'03',TSPROF=X'03',          *
              PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',            *
              RUSIZES=X'87F8',                                        *
              PSERVIC=X'028000000000185020507F00'
        TITLE 'SNX32704'
*********************************************************************
*       LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES             *
*          WITH EXTENDED DATA STREAMS (MOD4).                       *
*             PRIMARY SCREEN 24 X 80 (1920)                         *
*             ALTERNATE SCREEN 43 X 80 (3440)                       *
*********************************************************************
SNX32704 MODEENT LOGMODE=SNX32704,FMPROF=X'03',TSPROF=X'03',          *
              PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',            *
              RUSIZES=X'87F8',                                        *
              PSERVIC=X'028000000000185028507F00'
```

V3R2 Only

```
        TITLE 'SNASVCMG'                                              *
*********************************************************************
*       LOGMODE TABLE ENTRY FOR RESOURCES CAPABLE OF ACTING         *
*                              AS LU 6.2 DEVICES                    *
*********************************************************************
SNASVCMG MODEENT LOGMODE=SNASVCMG,FMPROF=X'13',TSPROF=X'07',          *
              PRIPROT=X'B0',SECPROT=X'B0',COMPROT=X'D0B1',            *
              RUSIZES=X'8585',ENCR=B'0000',                           *
              PSERVIC=X'060200000000000000000300'
```

End of V3R2 Only

```
        MODEEND
        END
```

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The Default Logon Mode Table for VM

```
         EJECT
ISTINCLM MODETAB
         TITLE 'INTERACT'
*********************************************************************
*                                                                   *
*              3767 INTERACTIVE                                     *
*                                                                   *
*********************************************************************
IBM3767  MODEENT LOGMODE=INTERACT,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'A0',COMPROT=X'3040'
         TITLE 'VSCS3767'
*********************************************************************
*                                                                   *
*              VSCS 3767 KEYBOARD PRINTER                           *
*                                                                   *
*********************************************************************
VSCS3767 MODEENT LOGMODE=VSCS3767,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               PSERVIC=X'01400000000000000000000'
         TITLE 'VSCS2741'
*********************************************************************
*                                                                   *
*              VSCS 2741 KEYBOARD PRINTER                           *
*                                                                   *
*********************************************************************
VSCS2741 MODEENT LOGMODE=VSCS2741,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               PSERVIC=X'01400000000000000000000'
         TITLE 'VSCSTWX'
*********************************************************************
*                                                                   *
*              VSCS TWX                                             *
*                                                                   *
*********************************************************************
VSCSTWX  MODEENT LOGMODE=VSCSTWX,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               PSERVIC=X'01000000000000000000000'
         TITLE 'BATCH'
*********************************************************************
*                                                                   *
*              3770 BATCH                                           *
*                                                                   *
*********************************************************************
IBM3770  MODEENT LOGMODE=BATCH,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'A3',SECPROT=X'A3',COMPROT=X'7080'
         TITLE 'S3270'
*********************************************************************
*                                                                   *
*              3270 SDLC                                            *
*                                                                   *
*********************************************************************
IBMS3270 MODEENT LOGMODE=S3270,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000'
```


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```
         TITLE 'IBM3600'
*********************************************************************
*                                                                   *
*              3600                                                 *
*                                                                   *
*********************************************************************
IBM3600  MODEENT LOGMODE=IBM3600,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'F1',SECPROT=X'F1',COMPROT=X'7000'
         TITLE 'INTRACT'
*********************************************************************
*                                                                   *
*              3650 INTERACTIVE                                     *
*                                                                   *
*********************************************************************
IBM3650I MODEENT LOGMODE=INTRACT,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'6000'
         TITLE 'INTRUSER'
*********************************************************************
*                                                                   *
*              3650 INTERUSER                                       *
*                                                                   *
*********************************************************************
IBM3650U MODEENT LOGMODE=INTRUSER,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'31',SECPROT=X'30',COMPROT=X'6000'
         TITLE 'IBMS3650'
*********************************************************************
*                                                                   *
*              3650 SDLC                                            *
*                                                                   *
*********************************************************************
IBMS3650 MODEENT LOGMODE=IBMS3650,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'B0',SECPROT=X'B0',COMPROT=X'4000'
         TITLE 'PIPELINE'
*********************************************************************
*                                                                   *
*              3650 PIPELINE                                        *
*                                                                   *
*********************************************************************
IBM3650P MODEENT LOGMODE=PIPELINE,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'30',SECPROT=X'10',COMPROT=X'0000'
         TITLE 'SMAPPL'
*********************************************************************
*                                                                   *
*              3660                                                 *
*                                                                   *
*********************************************************************
IBM3660  MODEENT LOGMODE=SMAPPL,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'A0',SECPROT=X'A0',COMPROT=X'0081'
         TITLE 'SMSNA100'
*********************************************************************
*                                                                   *
*              3660                                                 *
*                                                                   *
*********************************************************************
IBM3660A MODEENT LOGMODE=SMSNA100,FMPROF=X'00',TSPROF=X'00',
               PRIPROT=X'00',SECPROT=X'00',COMPROT=X'0000'
```

```
         TITLE 'D6327801'
*********************************************************************
*                                                                   *
*              3276 SNA WITH 3278 MODEL 1 SCREEN                    *
*              PRIMARY SCREEN 12 X 40 (480)                         *
*              ALTERNATE SCREEN 12 X 80 (960)                       *
*                                                                   *
*********************************************************************
D6327801 MODEENT LOGMODE=D6327801,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'0200000000000C280C507F00'
         TITLE 'D6327802'
*********************************************************************
*                                                                   *
*              3276 SNA WITH 3278 MODEL 2 SCREEN                    *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*********************************************************************
D6327802 MODEENT LOGMODE=D6327802,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'020000000000185000007E00'
         TITLE 'D6327803'
*********************************************************************
*                                                                   *
*              3276 SNA WITH 3278 MODEL 3 SCREEN                    *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 32 X 80 (2560)                      *
*                                                                   *
*********************************************************************
D6327803 MODEENT LOGMODE=D6327803,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'020000000000185020507F00'
         TITLE 'D6327804'
*********************************************************************
*                                                                   *
*              3276 SNA WITH 3278 MODEL 4 SCREEN                    *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 43 X 80 (3440)                      *
*                                                                   *
*********************************************************************
D6327804 MODEENT LOGMODE=D6327804,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'02000000000018502B507F00'
         TITLE 'D6327805'
*********************************************************************
*                                                                   *
*              3276 SNA WITH 3278 MODEL 5 SCREEN                    *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 27 X 132 (3564)                     *
*                                                                   *
*********************************************************************
D6327805 MODEENT LOGMODE=D6327805,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'02000000000018501B847F00'
```


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```
         TITLE 'D6328902'
*************************************************************************
*                                                                       *
*              3276 SNA WITH 3289 MODEL 2 PRINTER                       *
*                                                                       *
*************************************************************************
D6328902 MODEENT LOGMODE=D6328902,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'030000000000185018507F00'
         TITLE 'D6328904'
*************************************************************************
*                                                                       *
*              3276 SNA WITH 3289 MODEL 4 PRINTER                       *
*                                                                       *
*************************************************************************
D6328904 MODEENT LOGMODE=D6328904,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'03000000000018502B507F00'
         TITLE 'D4A32781'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3278 MODEL 1 SCREEN                               *
*              PRIMARY SCREEN 12 X 40 (480)                             *
*              ALTERNATE SCREEN 12 X 80 (960)                           *
*                                                                       *
*************************************************************************
D4A32781 MODEENT LOGMODE=D4A32781,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000C280C507F00'
         TITLE 'D4A32782'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3278 MODEL 2 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              NO ALTERNATE SCREEN DEFINED                              *
*                                                                       *
*************************************************************************
D4A32782 MODEENT LOGMODE=D4A32782,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000185000007E00'
         TITLE 'D4A32783'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3278 MODEL 3 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 32 X 80 (2560)                          *
*                                                                       *
*************************************************************************
D4A32783 MODEENT LOGMODE=D4A32783,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000185020507F00'
```

```
         TITLE 'D4A32784'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A (LOCAL SNA)                            *
*                WITH 3278 MODEL 4 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 43 X 80 (3440)                      *
*                                                                   *
*********************************************************************
D4A32784 MODEENT LOGMODE=D4A32784,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'0200000000018502B507F00'
         TITLE 'D4A32785'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A (LOCAL SNA)                            *
*                WITH 3278 MODEL 5 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 27 X 132 (3564)                     *
*                                                                   *
*********************************************************************
D4A32785 MODEENT LOGMODE=D4A32785,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'0200000000018501B847F00'
         TITLE 'D4A32792'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A (LOCAL SNA)                            *
*                WITH 3279 MODEL 2 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*********************************************************************
D4A32792 MODEENT LOGMODE=D4A32792,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'028000000000185000007E00'
         TITLE 'D4A32793'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A (LOCAL SNA)                            *
*                WITH 3279 MODEL 3 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 32 X 80 (2560)                      *
*                                                                   *
*********************************************************************
D4A32793 MODEENT LOGMODE=D4A32793,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'028000000000185020507F00'
```


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```
         TITLE 'LSX32704'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A WITH MODEL 4 SCREEN (LOCAL SNA)            *
*              WITH EXTENDED DATA STREAMS (MOD4)                        *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 43 X 80 (3440)                          *
*                                                                       *
*************************************************************************
LSX32704 MODEENT LOGMODE=LSX32704,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC
               =X'028000000000018502B507F00'
         TITLE 'LSX32705'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A WITH MODEL 5 SCREEN (LOCAL SNA)            *
*              WITH EXTENDED DATA STREAMS (MOD5)                        *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 27 X 132 (3564)                         *
*                                                                       *
*************************************************************************
LSX32705 MODEENT LOGMODE=LSX32705,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC
               =X'028000000000018501B847F00'
         TITLE 'D4A32771'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3277 MODEL 1 SCREEN                               *
*                                                                       *
*************************************************************************
D4A32771 MODEENT LOGMODE=D4A32771,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'021000000000000000000100'
         TITLE 'D4A32772'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3277 MODEL 2 SCREEN                               *
*                                                                       *
*************************************************************************
D4A32772 MODEENT LOGMODE=D4A32772,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'021000000000000000000200'
         TITLE 'D4A3290'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3290 SCREEN                                       *
*              PRIMARY SCREEN SIZE 24 X 80                              *
*              ALTERNATE SCREEN SIZE UNDEFINED                          *
*                (WRITE STRUCTURED FIELD QUERY REQUIRED)                *
*                                                                       *
*************************************************************************
D4A3290  MODEENT LOGMODE=D4A3290,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'028000000000185000000300'
```

```
         TITLE 'D4C32781'
*************************************************************************
*                                                                       *
*              3274 MODEL 1C (REMOTE SNA)                               *
*                WITH 3278 MODEL 1 SCREEN                               *
*              PRIMARY SCREEN 12 X 40 (480)                             *
*              ALTERNATE SCREEN 12 X 80 (960)                           *
*                                                                       *
*************************************************************************
D4C32781 MODEENT LOGMODE=D4C32781,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'0200000000000C280C507F00'
         TITLE 'D4C32782'
*************************************************************************
*                                                                       *
*              3274 MODEL 1C (REMOTE SNA)                               *
*                WITH 3278 MODEL 2 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              NO ALTERNATE SCREEN DEFINED                              *
*                                                                       *
*************************************************************************
D4C32782 MODEENT LOGMODE=D4C32782,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'020000000000185000007E00'
         TITLE 'D4C32783'
*************************************************************************
*                                                                       *
*              3274 MODEL 1C (REMOTE SNA)                               *
*                WITH 3278 MODEL 3 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 32 X 80 (2560)                          *
*                                                                       *
*************************************************************************
D4C32783 MODEENT LOGMODE=D4C32783,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'020000000000185020507F00'
         TITLE 'D4C32784'
*************************************************************************
*                                                                       *
*              3274 MODEL 1C (REMOTE SNA)                               *
*                WITH 3278 MODEL 4 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 43 X 80 (3440)                          *
*                                                                       *
*************************************************************************
D4C32784 MODEENT LOGMODE=D4C32784,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'02000000000018502B507F00'
```


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```
         TITLE 'D4C32785'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3278 MODEL 5 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 27 X 132 (3564)                     *
*                                                                   *
*********************************************************************
D4C32785 MODEENT LOGMODE=D4C32785,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'020000000000018501B847F00'
         TITLE 'D4C32792'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3279 MODEL 2 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*********************************************************************
D4C32792 MODEENT LOGMODE=D4C32792,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'028000000000185000007E00'
         TITLE 'D4C32793'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3279 MODEL 3 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 32 X 80 (2560)                      *
*                                                                   *
*********************************************************************
D4C32793 MODEENT LOGMODE=D4C32793,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'028000000000185020507F00'
         TITLE 'SNX32704'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES            *
*           WITH EXTENDED DATA STREAMS (MOD4).                      *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 43 X 80 (3440)                      *
*********************************************************************
SNX32704 MODEENT LOGMODE=SNX32704,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',
               PSERVIC=X'028000000000018502B507F00'
```

```
         TITLE 'SNX32705'
*********************************************************************
*                                                                   *
*        LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES            *
*           WITH EXTENDED DATA STREAMS (MOD5).                      *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 27 X 132 (3564)                     *
*                                                                   *
*********************************************************************
SNX32705 MODEENT LOGMODE=SNX32705,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',
               PSERVIC=X'028000000000018501B847F00'
         TITLE 'D4C32771'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3277 MODEL 1 SCREEN                           *
*                                                                   *
*********************************************************************
D4C32771 MODEENT LOGMODE=D4C32771,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'02100000000000000000100'
         TITLE 'D4C32772'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3277 MODEL 2 SCREEN                           *
*                                                                   *
*********************************************************************
D4C32772 MODEENT LOGMODE=D4C32772,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'02100000000000000000200'
         TITLE 'D4C3290'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3290 SCREEN                                   *
*              PRIMARY SCREEN SIZE 24 X 80                          *
*              ALTERNATE SCREEN SIZE 62 X 160                       *
*                                                                   *
*********************************************************************
D4C3290  MODEENT LOGMODE=D4C3290,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'028000000000185000000300'
         TITLE 'D4B32781'
*********************************************************************
*                                                                   *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                  *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)             *
*                WITH 3278 MODEL 1 SCREEN                           *
*              PRIMARY SCREEN 12 X 40 (480)                         *
*              ALTERNATE SCREEN 12 X 80 (960)                       *
*                                                                   *
*********************************************************************
D4B32781 MODEENT LOGMODE=D4B32781,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'004000000000C280C507F00'
```


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```
         TITLE 'D4B32782'
*************************************************************************
*                                                                       *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                      *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)                 *
*                WITH 3278 MODEL 2 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              NO ALTERNATE SCREEN DEFINED                              *
*                                                                       *
*************************************************************************
D4B32782 MODEENT LOGMODE=D4B32782,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'00400000000018500000 7E00'
         TITLE 'D4B32783'
*************************************************************************
*                                                                       *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                      *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)                 *
*                WITH 3278 MODEL 3 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 32 X 80 (2560)                          *
*                                                                       *
*************************************************************************
D4B32783 MODEENT LOGMODE=D4B32783,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'00400000000018502050 7F00'
         TITLE 'D4B32784'
*************************************************************************
*                                                                       *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                      *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)                 *
*                WITH 3278 MODEL 4 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 43 X 80 (3440)                          *
*                                                                       *
*************************************************************************
D4B32784 MODEENT LOGMODE=D4B32784,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'00400000000018502B50 7F00'
         TITLE 'D4B32785'
*************************************************************************
*                                                                       *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                      *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)                 *
*                WITH 3278 MODEL 5 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 27 X 132 (3564)                         *
*                                                                       *
*************************************************************************
D4B32785 MODEENT LOGMODE=D4B32785,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'00400000000018501B84 7F00'
```

```
         TITLE 'D4B32792'
*********************************************************************
*                                                                   *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                  *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)             *
*                WITH 3279 MODEL 2 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*********************************************************************
D4B32792 MODEENT LOGMODE=D4B32792,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'00C000000000185000007E00'
         TITLE 'D4B32793'
*********************************************************************
*                                                                   *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                  *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)             *
*                WITH 3279 MODEL 3 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 32 X 80 (2560)                      *
*                                                                   *
*********************************************************************
D4B32793 MODEENT LOGMODE=D4B32793,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'00C000000000185020507F00'
         TITLE 'D4B3290'
*********************************************************************
*                                                                   *
*              3274 MODEL 1B/1D (LOCAL NON-SNA)                     *
*                WITH 3290 SCREEN                                   *
*              PRIMARY SCREEN SIZE 24 X 80                          *
*              ALTERNATE SCREEN SIZE 62 X 160                       *
*                                                                   *
*********************************************************************
D4B3290  MODEENT LOGMODE=D4B3290,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',START=X'00C000000000185000000300'
         TITLE 'DSC2K'
*********************************************************************
*                                                                   *
*              PRINTER WITH 2K BUFFER                               *
*                                                                   *
*********************************************************************
DSC2K    MODEENT LOGMODE=DSC2K,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'030000000000185018507F00'
         TITLE 'DSC4K'
*********************************************************************
*                                                                   *
*              PRINTER WITH 4K BUFFER                               *
*                                                                   *
*********************************************************************
DSC4K    MODEENT LOGMODE=DSC4K,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'03000000000018502B507F00'
```


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```
         TITLE 'LU03287B'
*************************************************************************
*                                                                       *
*              3287 PRINTER, LUTYPE 0                                   *
*                                                                       *
*************************************************************************
LU03287B MODEENT LOGMODE=LU03287B,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               PSERVIC=X'00200000000018501850 7F00'
         TITLE 'LU33286S'
*************************************************************************
*                                                                       *
*              3286 PRINTER, LUTYPE 3                                   *
*                                                                       *
*************************************************************************
LU33286S MODEENT LOGMODE=LU33286S,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'20',COMPROT=X'3080',
               PSERVIC=X'03000000000018502B507F00'
         TITLE 'BAT13790'
*************************************************************************
*                                                                       *
*              3790 BATCH                                               *
*                                                                       *
*************************************************************************
BAT13790 MODEENT LOGMODE=BAT13790,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'00',SECPROT=X'00',COMPROT=X'0000',
               RUSIZES=X'0000'
         TITLE 'EMU3790'
*************************************************************************
*                                                                       *
*              3790 IN DATA STREAM COMPATIBILITY MODE                   *
*                                                                       *
*************************************************************************
EMU3790  MODEENT LOGMODE=EMU3790,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',
               RUSIZES=X'85C7',PSERVIC=X'020000000000000000000200'
         TITLE 'RJE3790A'
*************************************************************************
*                                                                       *
*              3790 RJE                                                 *
*                                                                       *
*************************************************************************
RJE3790A MODEENT LOGMODE=RJE3790A,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'A3',SECPROT=X'A1',COMPROT=X'7080',
               RUSIZES=X'8585',PSERVIC=X'01106000F100800000010040'
         TITLE 'RJE3790B'
*************************************************************************
*                                                                       *
*              3790 RJE                                                 *
*                                                                       *
*************************************************************************
RJE3790B MODEENT LOGMODE=RJE3790B,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'A3',SECPROT=X'A1',COMPROT=X'7080',
               RUSIZES=X'8585',PSERVIC=X'01102000F100800000010040'
```

```
         TITLE 'BAT23790'
*********************************************************************
*                                                                   *
*              3790 BATCH                                           *
*                                                                   *
*********************************************************************
BAT23790 MODEENT LOGMODE=BAT23790,FMPROF=X'03',TSPROF=X'04',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'7080',
               RUSIZES=X'8585',PSERVIC=X'013100000000000000000000'
         TITLE 'BLK3790'
*********************************************************************
*                                                                   *
*              3790 BULK PRINT                                      *
*                                                                   *
*********************************************************************
BLK3790  MODEENT LOGMODE=BLK3790,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',
               RUSIZES=X'8585',PSERVIC=X'030000000000000000000000'
         TITLE 'SCS3790'
*********************************************************************
*                                                                   *
*              3790 WITH SNA CHARACTER SET                          *
*                                                                   *
*********************************************************************
SCS3790  MODEENT LOGMODE=SCS3790,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',
               RUSIZES=X'8585',PSERVIC=X'010000000000000000000000'
         TITLE 'EMUDPCX'
*********************************************************************
*                                                                   *
*              3790 IN DPCX EMULATION MODE                          *
*                                                                   *
*********************************************************************
EMUDPCX  MODEENT LOGMODE=EMUDPCX,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',
               RUSIZES=X'85C7',PSERVIC=X'020000000000000000000200'
         TITLE 'NSX32702'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           SCREEN SIZE IS 24 X 80.                                 *
*********************************************************************
NSX32702 MODEENT LOGMODE=NSX32702,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',
               PSERVIC=X'00800000000185000007E00'
         TITLE 'NSX32703'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *'
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           PRIMARY SCREEN 24 X 80                                  *
*           ALTERNATE SCREEN 32 X 80                                *
*           SHOULD NOT BE USED FOR VSCS TERMINALS                   *
*********************************************************************
NSX32703 MODEENT LOGMODE=NSX32703,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',
               PSERVIC=X'00800000000185020507F00'
```


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```
         TITLE 'NSX32704'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           PRIMARY SCREEN 24 X 80                                  *
*           ALTERNATE SCREEN 43 X 80                                *
*           SHOULD NOT BE USED FOR VSCS TERMINALS                   *
*********************************************************************
NSX32704 MODEENT LOGMODE=NSX32704,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',
               PSERVIC=X'008000000000018502B507F00'
         TITLE 'NSX32705'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           PRIMARY SCREEN 24 X 80                                  *
*           ALTERNATE SCREEN 27 X 132                               *
*           SHOULD NOT BE USED FOR VSCS TERMINALS                   *
*********************************************************************
NSX32705 MODEENT LOGMODE=NSX32705,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',
               PSERVIC=X'008000000000018501B847F00'
         TITLE 'SNX32702'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES            *
*           WITH EXTENDED DATA STREAMS (3278 OR 3279).              *
*           SCREEN SIZE IS 24 X 80.                                 *
*********************************************************************
SNX32702 MODEENT LOGMODE=SNX32702,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',
               PSERVIC=X'028000000000185000007E00'
         TITLE 'SNA5550N'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR SNA 5550 DEVICE                    *
*                WITH 3279 MODEL 2 SCREEN                           *
*               PRIMARY SCREEN 24 X 80 (1920)                       *
*               NO ALTERNATE SCREEN DEFINED                         *
*                                                                   *
*      PSERVIC LU0N3270 = '1'B (3270DS NOT SUPPORTED)               *
*********************************************************************
SNA5550N MODEENT LOGMODE=SNA5550N,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'028800000000185000007E00'
         TITLE 'NSX5550N'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 5550 DEVICE                *
*                WITH 3279 MODEL 2 SCREEN                           *
*               PRIMARY SCREEN 24 X 80 (1920)                       *
*               NO ALTERNATE SCREEN DEFINED                         *
*                                                                   *
*      PSERVIC LU0N3270 = '1'B (3270DS NOT SUPPORTED)               *
*********************************************************************
NSX5550N MODEENT LOGMODE=NSX5550N,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'008800000000185000007E00'
```

```
         TITLE 'SNA5550Y'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR SNA 5550 DEVICE                    *
*                WITH 3279 MODEL 2 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*      PSERVIC LU0N3270 = '0'B (3270DS SUPPORTED)                   *
*********************************************************************
SNA5550Y MODEENT LOGMODE=SNA5550Y,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'028000000000185000007E00'
         TITLE 'NSX5550Y'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 5550 DEVICE                *
*                WITH 3279 MODEL 2 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*      PSERVIC LU0N3270 = '0'B (3270DS SUPPORTED)                   *
*********************************************************************
NSX5550Y MODEENT LOGMODE=NSX5550Y,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'008000000000185000007E00'
         TITLE 'ISTNLDM'
*********************************************************************
*                                                                   *
*              NLDM LOGMODE FOR LU - LU SESSION WITH NCCF           *   *
*                                                                   *
*********************************************************************
ISTNLDM  MODEENT LOGMODE=ISTNLDM,FMPROF=X'02',TSPROF=X'03',
               PRIPROT=X'30',SECPROT=X'40',COMPROT=X'0000',
               RUSIZES=X'0000',PSERVIC=X'000000000000000000000000',
               SSNDPAC=X'02'
         TITLE 'DSILGMOD'
*********************************************************************
*                                                                   *
* DSILGMOD     DEFAULT NCCF DSILGMOD                                *
*              LOGMODE TABLE FOR BSC,LOCAL,SDLC 3275,3277,3278,3279 *
*                MODEL 2 OR 12, 24 X 80 SCREEN.                     *
*              MAY ALSO BE USED TO RUN MODELS 3, 4, 5, 2C OR 3C AS  *
*                MODEL 2.                                           *
*              ALSO FOR 3284, 3286, 3287, 3288, 3289 PRINTERS       *
*                VIA A 3271, 3272, 3274, 3275, OR 3276 CONTROLLER   *
*                                                                   *
*********************************************************************
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'000000000000000000000200'
```


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V3R2 Only

```
         TITLE 'SNASVCMG'
*********************************************************************
*                                                                   *
*        LOGMODE TABLE FOR RESOURCES CAPABLE OF ACTING              *
*                        AS LU 6.2 DEVICES                          *
*                                                                   *
*********************************************************************
SNASVCMG MODEENT LOGMODE=SNASVCMG,FMPROF=X'13',TSPROF=X'07',
               PRIPROT=X'B0',SECPROT=X'B0',COMPROT=X'D0B1',
               RUSIZES=X'8585',ENCR=B'0000',
               PSERVIC=X'060200000000000000000300'
```

End of V3R2 Only

```
         MODEEND ,                    END OF DEFAULT TABLE ENTRIES
ISTTABLE MODETAB
         TITLE 'ISTTABLE.INTERACT'
*********************************************************************
*                                                                   *
*             3767 INTERACTIVE                                      *
*                                                                   *
*********************************************************************
IBM3767  MODEENT LOGMODE=INTERACT,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'A0',COMPROT=X'3040'
         TITLE 'ISTTABLE.BATCH'
*********************************************************************
*                                                                   *
*             3770 BATCH                                            *
*                                                                   *
*********************************************************************
IBM3770  MODEENT LOGMODE=BATCH,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'A3',SECPROT=X'A3',COMPROT=X'7080'
         TITLE 'ISTTABLE.S3270'
*********************************************************************
*                                                                   *
*             3270 SDLC                                             *
*                                                                   *
*********************************************************************
IBMS3270 MODEENT LOGMODE=S3270,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000'
         TITLE 'ISTTABLE.IBM3600'
*********************************************************************
*                                                                   *
*             3600                                                  *
*                                                                   *
*********************************************************************
IBM3600  MODEENT LOGMODE=IBM3600,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'F1',SECPROT=X'F1',COMPROT=X'7000'
```

```
         TITLE 'ISTTABLE.INTRACT'
*************************************************************************
*                                                                       *
*              3650 INTERACTIVE                                         *
*                                                                       *
*************************************************************************
IBM3650I MODEENT LOGMODE=INTRACT,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'6000'
         TITLE 'ISTTABLE.INTRUSER'
*************************************************************************
*                                                                       *
*              3650 INTERUSER                                           *
*                                                                       *
*************************************************************************
IBM3650U MODEENT LOGMODE=INTRUSER,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'31',SECPROT=X'30',COMPROT=X'6000'
         TITLE 'ISTTABLE.IBMS3650'
*************************************************************************
*                                                                       *
*              3650 SDLC                                                *
*                                                                       *
*************************************************************************
IBMS3650 MODEENT LOGMODE=IBMS3650,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'B0',SECPROT=X'B0',COMPROT=X'4000'
         TITLE 'ISTTABLE.PIPELINE'
*************************************************************************
*                                                                       *
*              3650 PIPELINE                                            *
*                                                                       *
*************************************************************************
IBM3650P MODEENT LOGMODE=PIPELINE,FMPROF=X'04',TSPROF=X'04',
               PRIPROT=X'30',SECPROT=X'10',COMPROT=X'0000'
         TITLE 'ISTTABLE.SMAPPL'
*************************************************************************
*                                                                       *
*              3660                                                     *
*                                                                       *
*************************************************************************
IBM3660  MODEENT LOGMODE=SMAPPL,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'A0',SECPROT=X'A0',COMPROT=X'0081'
         TITLE 'ISTTABLE.SMSNA100'
*************************************************************************
*                                                                       *
*              3660                                                     *
*                                                                       *
*************************************************************************
IBM3660A MODEENT LOGMODE=SMSNA100,FMPROF=X'00',TSPROF=X'00',
               PRIPROT=X'00',SECPROT=X'00',COMPROT=X'0000'
```


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```
         TITLE 'ISTTABLE.D6327801'
*************************************************************************
*                                                                       *
*              3276 SNA WITH 3278 MODEL 1 SCREEN                        *
*              PRIMARY SCREEN 12 X 40 (480)                             *
*              ALTERNATE SCREEN 12 X 80 (960)                           *
*                                                                       *
*************************************************************************
D6327801 MODEENT LOGMODE=D6327801,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'0200000000000C280C507F00'
         TITLE 'ISTTABLE.D6327802'
*************************************************************************
*                                                                       *
*              3276 SNA WITH 3278 MODEL 2 SCREEN                        *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              NO ALTERNATE SCREEN DEFINED                              *
*                                                                       *
*************************************************************************
D6327802 MODEENT LOGMODE=D6327802,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'020000000000185000007E00'
         TITLE 'ISTTABLE.D6327803'
*************************************************************************
*                                                                       *
*              3276 SNA WITH 3278 MODEL 3 SCREEN                        *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 32 X 80 (2560)                          *
*                                                                       *
*************************************************************************
D6327803 MODEENT LOGMODE=D6327803,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'020000000000185020507F00'
         TITLE 'ISTTABLE.D6327804'
*************************************************************************
*                                                                       *
*              3276 SNA WITH 3278 MODEL 4 SCREEN                        *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 43 X 80 (3440)                          *
*                                                                       *
*************************************************************************
D6327804 MODEENT LOGMODE=D6327804,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'02000000000018502B507F00'
         TITLE 'ISTTABLE.D6327805'
*************************************************************************
*                                                                       *
*              3276 SNA WITH 3278 MODEL 5 SCREEN                        *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 27 X 132 (3564)                         *
*                                                                       *
*************************************************************************
D6327805 MODEENT LOGMODE=D6327805,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'02000000000018501B847F00'
```

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         TITLE 'ISTTABLE.D6328904'
*************************************************************************
*                                                                       *
*              3276 SNA WITH 3289 MODEL 4 PRINTER                       *
*                                                                       *
*************************************************************************
D6328904 MODEENT LOGMODE=D6328904,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'030000000000185028507F00'
         TITLE 'ISTTABLE.D6328902'
*************************************************************************
*                                                                       *
*              3276 SNA WITH 3289 MODEL 2 PRINTER                       *
*                                                                       *
*************************************************************************
D6328902 MODEENT LOGMODE=D6328902,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'030000000000185018507F00'
         TITLE 'ISTTABLE.D4A32781'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3278 MODEL 1 SCREEN                               *
*              PRIMARY SCREEN 12 X 40 (480)                             *
*              ALTERNATE SCREEN 12 X 80 (960)                           *
*                                                                       *
*************************************************************************
D4A32781 MODEENT LOGMODE=D4A32781,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000C280C507F00'
         TITLE 'ISTTABLE.D4A32782'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3278 MODEL 2 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              NO ALTERNATE SCREEN DEFINED                              *
*                                                                       *
*************************************************************************
D4A32782 MODEENT LOGMODE=D4A32782,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000185000007E00'
         TITLE 'ISTTABLE.D4A32783'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3278 MODEL 3 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 32 X 80 (2560)                          *
*                                                                       *
*************************************************************************
D4A32783 MODEENT LOGMODE=D4A32783,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000185020507F00'
```


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```
         TITLE 'ISTTABLE.D4A32784'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3278 MODEL 4 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 43 X 80 (3440)                          *
*                                                                       *
*************************************************************************
D4A32784 MODEENT LOGMODE=D4A32784,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000018502B507F00'
         TITLE 'ISTTABLE.D4A32785'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3278 MODEL 5 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 27 X 132 (3564)                         *
*                                                                       *
*************************************************************************
D4A32785 MODEENT LOGMODE=D4A32785,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000018501B847F00'
         TITLE 'ISTTABLE.D4A32771'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3277 MODEL 1 SCREEN                               *
*                                                                       *
*************************************************************************
D4A32771 MODEENT LOGMODE=D4A32771,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000000000000100'
         TITLE 'ISTTABLE.D4A32772'
*************************************************************************
*                                                                       *
*              3274 MODEL 1A (LOCAL SNA)                                *
*                WITH 3277 MODEL 2 SCREEN                               *
*                                                                       *
*************************************************************************
D4A32772 MODEENT LOGMODE=D4A32772,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000000000000200'
         TITLE 'ISTTABLE.D4C32781'
*************************************************************************
*                                                                       *
*              3274 MODEL 1C (REMOTE SNA)                               *
*                WITH 3278 MODEL 1 SCREEN                               *
*              PRIMARY SCREEN 12 X 40 (480)                             *
*              ALTERNATE SCREEN 12 X 80 (960)                           *
*                                                                       *
*************************************************************************
D4C32781 MODEENT LOGMODE=D4C32781,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'0200000000000C280C507F00'
```

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```
         TITLE 'ISTTABLE.D4C32782'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3278 MODEL 2 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*********************************************************************
D4C32782 MODEENT LOGMODE=D4C32782,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'020000000000185000007E00'
         TITLE 'ISTTABLE.D4C32783'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3278 MODEL 3 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 32 X 80 (2560)                      *
*                                                                   *
*********************************************************************
D4C32783 MODEENT LOGMODE=D4C32783,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'020000000000185020507F00'
         TITLE 'ISTTABLE.D4C32784'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3278 MODEL 4 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 43 X 80 (3440)                      *
*                                                                   *
*********************************************************************
D4C32784 MODEENT LOGMODE=D4C32784,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'02000000000018502B507F00'
         TITLE 'ISTTABLE.D4C32785'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3278 MODEL 5 SCREEN                           *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 27 X 132 (3564)                     *
*                                                                   *
*********************************************************************
D4C32785 MODEENT LOGMODE=D4C32785,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'02000000000018501B847F00'
         TITLE 'ISTTABLE.D4C32771'
*********************************************************************
*                                                                   *
*              3274 MODEL 1C (REMOTE SNA)                           *
*                WITH 3277 MODEL 1 SCREEN                           *
*                                                                   *
*********************************************************************
D4C32771 MODEENT LOGMODE=D4C32771,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'020000000000000000000100'
```


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```
         TITLE 'ISTTABLE.D4C32772'
*************************************************************************
*                                                                       *
*              3274 MODEL 1C (REMOTE SNA)                               *
*                WITH 3277 MODEL 2 SCREEN                               *
*                                                                       *
*************************************************************************
D4C32772 MODEENT LOGMODE=D4C32772,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',PSERVIC=X'020000000000000000000200'
         TITLE 'ISTTABLE.D4B32781'
*************************************************************************
*                                                                       *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                      *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)                 *
*                WITH 3278 MODEL 1 SCREEN                               *
*              PRIMARY SCREEN 12 X 40 (480)                             *
*              ALTERNATE SCREEN 12 X 80 (960)                           *
*                                                                       *
*************************************************************************
D4B32781 MODEENT LOGMODE=D4B32781,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'000000000000C280C507F00'
         TITLE 'ISTTABLE.D4B32782'
*************************************************************************
*                                                                       *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                      *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)                 *
*                WITH 3278 MODEL 2 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              NO ALTERNATE SCREEN DEFINED                              *
*                                                                       *
*************************************************************************
D4B32782 MODEENT LOGMODE=D4B32782,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'000000000000185000007E00'
         TITLE 'ISTTABLE.D4B32783'
*************************************************************************
*                                                                       *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                      *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)                 *
*                WITH 3278 MODEL 3 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 32 X 80 (2560)                          *
*                                                                       *
*************************************************************************
D4B32783 MODEENT LOGMODE=D4B32783,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'000000000000185020507F00'
```

```
         TITLE 'ISTTABLE.D4B32784'
*************************************************************************
*                                                                       *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                      *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)                 *
*                WITH 3278 MODEL 4 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 43 X 80 (3440)                          *
*                                                                       *
*************************************************************************
D4B32784 MODEENT LOGMODE=D4B32784,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'000000000000018502B507F00'
         TITLE 'ISTTABLE.D4B32785'
*************************************************************************
*                                                                       *
*              3274 MODEL 1B/1D (LOCAL NON-SNA) OR                      *
*              3274 MODEL 1C (REMOTE BSC) OR 3276 (BSC)                 *
*                WITH 3278 MODEL 5 SCREEN                               *
*              PRIMARY SCREEN 24 X 80 (1920)                            *
*              ALTERNATE SCREEN 27 X 132 (3564)                         *
*                                                                       *
*************************************************************************
D4B32785 MODEENT LOGMODE=D4B32785,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'000000000000018501B847F00'
         TITLE 'ISTTABLE.SCS'
*************************************************************************
*                                                                       *
*              PRINTER WITH SNA CHARACTER SET                           *
*                                                                       *
*************************************************************************
SCS      MODEENT LOGMODE=SCS,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C6',PSERVIC=X'01000000E100000000000000',
               PSNDPAC=X'01',SRCVPAC=X'01'
         TITLE 'ISTTABLE.DSC4K'
*************************************************************************
*                                                                       *
*              PRINTER WITH 4K BUFFER                                   *
*                                                                       *
*************************************************************************
DSC4K    MODEENT LOGMODE=DSC4K,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'030000000000018502B507F00'
         TITLE 'ISTTABLE.DSC2K'
*************************************************************************
*                                                                       *
*              PRINTER WITH 2K BUFFER                                   *
*                                                                       *
*************************************************************************
DSC2K    MODEENT LOGMODE=DSC2K,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'030000000000185018507F00'
```


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```
         TITLE 'ISTTABLE.BAT13790'
*************************************************************************
*                                                                       *
*              3790 BATCH                                               *
*                                                                       *
*************************************************************************
BAT13790 MODEENT LOGMODE=BAT13790,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'00',SECPROT=X'00',COMPROT=X'0000',
               RUSIZES=X'0000'
         TITLE 'ISTTABLE.EMU3790'
*************************************************************************
*                                                                       *
*              3790 IN DATA STREAM COMPATIBILITY MODE                   *
*                                                                       *
*************************************************************************
EMU3790  MODEENT LOGMODE=EMU3790,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',
               RUSIZES=X'85C7',PSERVIC=X'02000000000000000000000200'
         TITLE 'ISTTABLE.RJE3790A'
*************************************************************************
*                                                                       *
*              3790 RJE                                                 *
*                                                                       *
*************************************************************************
RJE3790A MODEENT LOGMODE=RJE3790A,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'A3',SECPROT=X'A1',COMPROT=X'7080',
               RUSIZES=X'8585',PSERVIC=X'01106000F100800000010040'
         TITLE 'ISTTABLE.RJE3790B'
*************************************************************************
*                                                                       *
*              3790 RJE                                                 *
*                                                                       *
*************************************************************************
RJE3790B MODEENT LOGMODE=RJE3790B,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'A3',SECPROT=X'A1',COMPROT=X'7080',
               RUSIZES=X'8585',PSERVIC=X'01102000F100800000010040'
         TITLE 'ISTTABLE.BAT23790'
*************************************************************************
*                                                                       *
*              3790 BATCH                                               *
*                                                                       *
*************************************************************************
BAT23790 MODEENT LOGMODE=BAT23790,FMPROF=X'03',TSPROF=X'04',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'7080',
               RUSIZES=X'8585',PSERVIC=X'013100000000000000000000'
         TITLE 'ISTTABLE.BLK3790'
*************************************************************************
*                                                                       *
*              3790 BULK PRINT                                          *
*                                                                       *
*************************************************************************
BLK3790  MODEENT LOGMODE=BLK3790,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',
               RUSIZES=X'8585',PSERVIC=X'030000000000000000000000'
```

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```
         TITLE 'ISTTABLE.SCS3790'
*********************************************************************
*                                                                   *
*              3790 WITH SNA CHARACTER SET                          *
*                                                                   *
*********************************************************************
SCS3790  MODEENT LOGMODE=SCS3790,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',
               RUSIZES=X'8585',PSERVIC=X'010000000000000000000000'
         TITLE 'ISTTABLE.EMUDPCX'
*********************************************************************
*                                                                   *
*              3790 IN DPCX EMULATION MODE                          *
*                                                                   *
*********************************************************************
EMUDPCX  MODEENT LOGMODE=EMUDPCX,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'B0',COMPROT=X'3080',
               RUSIZES=X'85C7',PSERVIC=X'020000000000000000000200'
         TITLE 'ISTTABLE.D329001'
*********************************************************************
*                                                                   *
*              3290 TERMINAL                                        *
*              PRIMARY SCREEN SIZE 24 X 80                          *
*              ALTERNATE SCREEN SIZE 62 X 160                       *
*                                                                   *
*********************************************************************
D329001  MODEENT LOGMODE=D329001,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'0280000000018503EA07F00'
         TITLE 'ISTTABLE.NSX32702'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           SCREEN SIZE IS 24 X 80.                                 *
*********************************************************************
NSX32702 MODEENT LOGMODE=NSX32702,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',
               PSERVIC=X'00800000000185000007E00'
         TITLE 'ISTTABLE.NSX32703'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           PRIMARY SCREEN 24 X 80                                  *
*           ALTERNATE SCREEN 32 X 80                                *
*********************************************************************
NSX32703 MODEENT LOGMODE=NSX32703,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',
               PSERVIC=X'00800000000185020507F00'
```


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```
         TITLE 'ISTTABLE.NSX32704'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           PRIMARY SCREEN 24 X 80                                  *
*           ALTERNATE SCREEN 43 X 80                                *
*********************************************************************
NSX32704 MODEENT LOGMODE=NSX32704,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',
               PSERVIC=X'008000000000018502B507F00'
         TITLE 'ISTTABLE.NSX32705'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR NON-SNA 3270 DEVICES WITH          *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           PRIMARY SCREEN 24 X 80                                  *
*           ALTERNATE SCREEN 27 X 132                               *
*********************************************************************
NSX32705 MODEENT LOGMODE=NSX32705,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',
               PSERVIC=X'008000000000018501B847F00'
         TITLE 'ISTTABLE.SNX32702'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR SNA 3270 DEVICES WITH              *
*           EXTENDED DATA STREAMS (3278 OR 3279).                   *
*           SCREEN SIZE IS 24 X 80.                                 *
*********************************************************************
SNX32702 MODEENT LOGMODE=SNX32702,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',
               PSERVIC=X'028000000000185000007E00'
         TITLE 'ISTTABLE.SNX32703'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES            *
*           WITH EXTENDED DATA STREAMS (MOD3).                      *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 32 X 80 (2560)                      *
*********************************************************************
SNX32703 MODEENT LOGMODE=SNX32703,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',
               PSERVIC=X'028000000000185020507F00'
         TITLE 'ISTTABLE.SNX32704'
*********************************************************************
*        LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES            *
*           WITH EXTENDED DATA STREAMS (MOD4).                      *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 43 X 80 (3440)                      *
*********************************************************************
SNX32704 MODEENT LOGMODE=SNX32704,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',
               PSERVIC=X'028000000000018502B507F00'
```

```
         TITLE 'ISTTABLE.SNX32705'
*********************************************************************
*                                                                   *
*        LOGMODE TABLE ENTRY FOR REMOTE SNA 3270 DEVICES            *
*           WITH EXTENDED DATA STREAMS (MOD5).                      *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 27 X 132 (3564)                     *
*                                                                   *
*********************************************************************
SNX32705 MODEENT LOGMODE=SNX32705,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87F8',
               PSERVIC=X'028000000000018501B847F00'
         TITLE 'ISTTABLE.LSX32702'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 2 SCREEN (LOCAL SNA)        *
*              WITH EXTENDED DATA STREAMS (MOD2)                    *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              NO ALTERNATE SCREEN DEFINED                          *
*                                                                   *
*********************************************************************
LSX32702 MODEENT LOGMODE=LSX32702,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC
               =X'028000000000185000007E00'
         TITLE 'ISTTABLE.LSX32703'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 3 SCREEN (LOCAL SNA)        *
*              WITH EXTENDED DATA STREAMS (MOD3)                    *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 32 X 80 (2560)                      *
*                                                                   *
*********************************************************************
LSX32703 MODEENT LOGMODE=LSX32703,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC
               =X'028000000000185020507F00'
         TITLE 'ISTTABLE.LSX32704'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 4 SCREEN (LOCAL SNA)        *
*              WITH EXTENDED DATA STREAMS (MOD4)                    *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 43 X 80 (3440)                      *
*                                                                   *
*********************************************************************
LSX32704 MODEENT LOGMODE=LSX32704,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC
               =X'028000000000018502B507F00'
```


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```
         TITLE 'ISTTABLE.LSX32705'
*********************************************************************
*                                                                   *
*              3274 MODEL 1A WITH MODEL 5 SCREEN (LOCAL SNA)        *
*              WITH EXTENDED DATA STREAMS (MOD5)                    *
*              PRIMARY SCREEN 24 X 80 (1920)                        *
*              ALTERNATE SCREEN 27 X 132 (3564)                     *
*                                                                   *
*********************************************************************
LSX32705 MODEENT LOGMODE=LSX32705,FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B
               1',SECPROT=X'90',COMPROT=X'3080',RUSIZES=X'87C7',PSERVIC
               =X'028000000000018501B847F00'
```

V3R2 Only

```
         TITLE 'ISTTABLE.SNASVCMG'
*********************************************************************
*                                                                   *
*        LOGMODE TABLE FOR RESOURCES CAPABLE OF ACTING              *
*                        AS LU 6.2 DEVICES                          *
*                                                                   *
*********************************************************************
SNASVCMG MODEENT LOGMODE=SNASVCMG,FMPROF=X'13',TSPROF=X'07',
               PRIPROT=X'B0',SECPROT=X'B0',COMPROT=X'D0B1',
               RUSIZES=X'8585',ENCR=B'0000',
               PSERVIC=X'060200000000000000000300'
```

End of V3R2 Only

```
         TITLE 'ISTTABLE.ISTNLDM'
*********************************************************************
*                                                                   *
*              NLDM LOGMODE FOR LU - LU SESSION WITH NCCF           *
*                                                                   *
*********************************************************************
ISTNLDM  MODEENT LOGMODE=ISTNLDM,FMPROF=X'02',TSPROF=X'03',
               PRIPROT=X'30',SECPROT=X'40',COMPROT=X'0000',
               RUSIZES=X'0000',PSERVIC=X'000000000000000000000000',
               SSNDPAC=X'02'
         TITLE 'ISTTABLE.DSILGMOD'
*********************************************************************
*                                                                   *
* DSILGMOD     DEFAULT NCCF DSILGMOD                                *
*              LOGMODE TABLE FOR BSC,LOCAL,SDLC 3275,3277,3278,3279 *
*                MODEL 2 OR 12, 24 X 80 SCREEN.                     *
*              MAY ALSO BE USED TO RUN MODELS 3, 4, 5, 2C OR 3C AS  *
*                MODEL 2.                                           *
*              ALSO FOR 3284, 3286, 3287, 3288, 3289 PRINTERS       *
*                VIA A 3271, 3272, 3274, 3275, OR 3276 CONTROLLER   *
*                                                                   *
*********************************************************************
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'000000000000000000000200'
         MODEEND
```

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```
         TITLE 'DSIASCII.DSILGMOD'
*************************************************************************
*                                                                       *
* DSIASCII     NCCF ASCII-8 LOGMODE TABLE                               *
*              MAY BE USED TO RUN A 3274 CONTROLLER IN ASCII-8 MODE.    *
*                                                                       *
*************************************************************************
DSIASCII MODETAB
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'A0',COMPROT=X'3884',
               RUSIZES=X'8787',PSERVIC=X'020000000000000000000200'
         MODEEND
         TITLE 'DSIASCPR.DSILGMOD'
*************************************************************************
*                                                                       *
* DSIASCPR     NCCF ASCII-8 LOGMODE TABLE                               *
*              MAY BE USED TO RUN A 3278 SNA PRINTER OFF                *
*              OF A 3274 CONTROLLER IN ASCII-8 MODE.                    *
*                                                                       *
*************************************************************************
DSIASCPR MODETAB
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'A0',COMPROT=X'3884',
               RUSIZES=X'8687',PSERVIC=X'01000000E100000000000000'
         MODEEND
         TITLE 'DSICNMDT.DSINLDML'
*************************************************************************
*                                                                       *
* DSICNMDT     NCCF CNM DATA TRANSFER LOGMODE TABLE.                    *
*                                                                       *
*************************************************************************
DSICNMDT MODETAB
DSINLDML MODEENT LOGMODE=DSINLDML,FMPROF=X'13',TSPROF=X'07',
               PRIPROT=X'B0',SECPROT=X'B0',COMPROT=X'50B1',
               RUSIZES=X'8686',PSERVIC=X'00000000000000000002F00'
         MODEEND
         TITLE 'DSILU0.DSILGMOD'
*************************************************************************
*                                                                       *
* DSILU0        LOGMODE TABLE FOR BSC, LOCAL, SDLC 3275, 3277, 3278,    *
*                 3279 MODEL 2 OR 12, 24 X 80 SCREEN.                   *
*               MAY ALSO BE USED TO RUN MODELS 3, 4, 5, 2C OR 3C AS     *
*                 MODEL 2.                                              *
*               ALSO FOR 3284, 3286, 3287, 3288, 3289 PRINTERS          *
*                 VIA A 3271, 3272, 3274, 3275, OR 3276 CONTROLLER      *
*                                                                       *
*************************************************************************
DSILU0   MODETAB
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'000000000000000000000200'
         MODEEND
```


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```
         TITLE 'DSIXDOM.DSILGMOD'
*************************************************************************
*                                                                       *
* DSIXDOM      NCCF CROSS DOMAIN LOGMODE TABLE                          *
*                                                                       *
*************************************************************************
DSIXDOM  MODETAB
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'20',SECPROT=X'20',COMPROT=X'4000',
               RUSIZES=X'0000',PSERVIC=X'000000000000000000000000'
         MODEEND
         TITLE 'DSI4LU2.DSILGMOD'
*************************************************************************
*                                                                       *
* DSI4LU2       LOGMODE TABLE FOR SNA 3277, 3278, 3279                  *
*                 MODEL 2 OR 12, 24 X 80 SCREEN.                        *
*               MAY ALSO BE USED TO RUN MODELS 3, 4, 5, 2C OR 3C        *
*                 AS MODEL 2 VIA A 3274 CONTROLLER.                     *
*                                                                       *
*************************************************************************
DSI4LU2  MODETAB
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'A0',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'020000000000000000000200'
         MODEEND
         TITLE 'DSI6LU2.DSILGMOD'
*************************************************************************
*                                                                       *
* DSI6LU2      LOGMODE TABLE FOR SNA 3277, 3278, 3279                   *
*                MODEL 2 OR 12, 24 X 80 SCREEN.                         *
*              MAY ALSO BE USED TO RUN MODELS 3, 4, 5, 13, 14, 2C OR    *
*                3C AS MODEL 2 VIA A 3276 CONTROLLER.                   *
*                                                                       *
*************************************************************************
DSI6LU2  MODETAB
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'A0',COMPROT=X'3080',
               RUSIZES=X'8786',PSERVIC=X'020000000000000000000200'
         MODEEND
         TITLE 'TAFBINDS.DSITAF0'
*************************************************************************
*                                                                       *
* DSITAF0      LOGMODE TABLE FOR TAF OPERATOR CONTROL SESSION           *
*                                                                       *
*************************************************************************
TAFBINDS MODETAB
DSITAF0  MODEENT LOGMODE=DSITAF0,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               SSNDPAC=X'00',SRCVPAC=X'01',
               RUSIZES=X'8585',PSNDPAC=X'01',
               PSERVIC=X'010000008000800000800080'
```

```
        TITLE 'TAFBINDS.DSITAFF'
*************************************************************************
*                                                                       *
* DSITAFF      LOGMODE TABLE FOR TAF FULL-SCREEN                        *
*                                                                       *
*************************************************************************
DSITAFF  MODEENT LOGMODE=DSITAFF,FMPROF=X'03',TSPROF=X'03',
              PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
              RUSIZES=X'8587',PSERVIC=X'020000000000185000007E00'
         MODEEND
         END                          , END OF ISTINCLM
```


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The Session-Level USS Definition Table

```
         EJECT
ISTINCDT USSTAB   TABLE=STDTRANS
         SPACE 4
LOGON    USSCMD   CMD=LOGON,FORMAT=PL1
         USSPARM  PARM=APPLID
         USSPARM  PARM=LOGMODE
         USSPARM  PARM=DATA
         EJECT
LOGOFF   USSCMD   CMD=LOGOFF,FORMAT=PL1
         USSPARM  PARM=APPLID
         USSPARM  PARM=TYPE,DEFAULT=UNCOND
         USSPARM  PARM=HOLD,DEFAULT=YES
         EJECT
IBMTEST  USSCMD   CMD=IBMTEST,FORMAT=BAL
         USSPARM  PARM=P1,DEFAULT=10
         USSPARM  PARM=P2,DEFAULT=ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
         EJECT
MESSAGES USSMSG   MSG=1,TEXT='INVALID COMMAND SYNTAX'
         USSMSG   MSG=2,TEXT='% COMMAND UNRECOGNIZED'
         USSMSG   MSG=3,TEXT='% PARAMETER EXTRANEOUS'
         USSMSG   MSG=4,TEXT='% PARAMETER INVALID'
         USSMSG   MSG=5,TEXT='UNSUPPORTED FUNCTION'
         USSMSG   MSG=6,TEXT='SEQUENCE ERROR'
         USSMSG   MSG=7,TEXT='%(1) UNABLE TO ESTABLISH SESSION - %(2) F-
               AILED WITH SENSE %(3)'
         USSMSG   MSG=8,TEXT='INSUFFICIENT STORAGE'
         USSMSG   MSG=9,TEXT='MAGNETIC CARD DATA ERROR'
         USSMSG   MSG=11,TEXT='% SESSIONS ENDED'
         USSMSG   MSG=12,TEXT='REQUIRED PARAMETER OMITTED'
         USSMSG   MSG=13,TEXT='IBMECHO % '
         EJECT
STDTRANS DC       X'000102030440060708090A0B0C0D0E0F'
         DC       X'101112131415161718191A1B1C1D1E1F'
         DC       X'202122232425262728292A2B2C2D2E2F'
         DC       X'303132333435363738393A3B3C3D3E3F'
         DC       X'404142434445464748494A4B4C4D4E4F'
         DC       X'505152535455565758595A5B5C5D5E5F'
         DC       X'606162636465666768696A6B6C6D6E6F'
         DC       X'707172737475767778797A7B7C7D7E7F'
         DC       X'80C1C2C3C4C5C6C7C8C98A8B8C8D8E8F'
         DC       X'90D1D2D3D4D5D6D7D8D99A9B9C9D9E9F'
         DC       X'A0A1E2E3E4E5E6E7E8E9AAABACADAEAF'
         DC       X'B0B1B2B3B4B5B6B7B8B9BABBBCBDBEBF'
         DC       X'C0C1C2C3C4C5C6C7C8C9CACBCCCDCECF'
         DC       X'D0D1D2D3D4D5D6D7D8D9DADBDCDDDEDF'
         DC       X'E0E1E2E3E4E5E6E7E8E9EAEBECEDEEEF'
         DC       X'F0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFF'
END      USSEND
```

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The Operation-Level USS Definition Table

```
ISTINCNO USSTAB
         USSCMD   CMD=DISPLAY,FORMAT=BAL
         USSPARM  PARM=ADJSSCPS,REP=VERB,VALUE=ADJSSCPS
         USSPARM  PARM=APPLS,REP=VERB,VALUE=APPLS
         USSPARM  PARM=BFRUSE,REP=VERB,VALUE=BFRUSE
         USSPARM  PARM=CDRMS,REP=VERB,VALUE=CDRMS
         USSPARM  PARM=CDRSCS,REP=VERB,VALUE=CDRSCS
         USSPARM  PARM=CLSTRS,REP=VERB,VALUE=CLSTRS

┌──────────────────────────── V3R2 Only ────────────────────────────┐

         USSPARM  PARM=COS,REP=VERB,VALUE=COS

└──────────────────────── End of V3R2 Only ──────────────────────────┘

         USSPARM  PARM=LINES,REP=VERB,VALUE=LINES
         USSPARM  PARM=GROUPS,REP=VERB,VALUE=GROUPS
         USSPARM  PARM=MAJNODES,REP=VERB,VALUE=MAJNODES
         USSPARM  PARM=PATHS,REP=VERB,VALUE=PATHS
         USSPARM  PARM=PATHTAB,REP=VERB,VALUE=PATHTAB
         USSPARM  PARM=P,REP=VERB,VALUE=PATHS
         USSPARM  PARM=PENDING,REP=VERB,VALUE=PENDING
         USSPARM  PARM=ROUTE,REP=VERB,VALUE=ROUTE
         USSPARM  PARM=STATIONS,REP=VERB,VALUE=STATIONS
         USSPARM  PARM=TRACES,REP=VERB,VALUE=TRACES
         USSPARM  PARM=USERVAR,REP=VERB,VALUE=USERVAR
         USSPARM  PARM=TERMS,REP=VERB,VALUE=TERMS
         USSPARM  PARM=U,REP=VERB,VALUE=TSOUSER
         USSPARM  PARM=TSOUSER,REP=VERB,VALUE=TSOUSER

┌──────────────────────────── V3R2 Only ────────────────────────────┐

         USSPARM  PARM=SESSIONS,REP=VERB,VALUE=SESSIONS

└──────────────────────── End of V3R2 Only ──────────────────────────┘

         USSPARM  PARM=NCPSTOR,REP=VERB,VALUE=NCPSTOR
         USSPARM  PARM=E,REP=SCOPE,VALUE=ALL
         USSPARM  PARM=EVERY,REP=SCOPE,VALUE=ALL
         USSPARM  PARM=A,REP=SCOPE,VALUE=ACT
         USSPARM  PARM=ACT,REP=SCOPE,VALUE=ACT
         USSPARM  PARM=I,REP=SCOPE,VALUE=INACT
         USSPARM  PARM=INACT,REP=SCOPE,VALUE=INACT
         USSPARM  PARM=N,REP=SCOPE,VALUE=ONLY
         USSPARM  PARM=NONE,REP=SCOPE,VALUE=ONLY
         USSPARM  PARM=NETID
         USSPARM  PARM=ID
         USSPARM  PARM=SCOPE
*
* DISPLAY APPLS COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=APPLS,FORMAT=BAL
```


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```
         USSPARM  PARM=SCOPE,DEFAULT=ALL
*
* DISPLAY BFRUSE COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=BFRUSE,FORMAT=BAL
         USSPARM  PARM=BUFFER,DEFAULT=*
*
* DISPLAY CDRMS COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=CDRMS,FORMAT=BAL
         USSPARM  PARM=SCOPE,DEFAULT=ALL
*
* DISPLAY CDRSCS COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=CDRSCS,FORMAT=BAL
         USSPARM  PARM=SCOPE,DEFAULT=ALL
         USSPARM  PARM=NETID
*
* DISPLAY CLSTRS COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=CLSTRS,FORMAT=BAL
         USSPARM  PARM=SCOPE,DEFAULT=ALL
```

V3R2 Only

```
*
* DISPLAY COS COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=COS,FORMAT=BAL
         USSPARM  PARM=ID
         USSPARM  PARM=NETID
```

End of V3R2 Only

```
*
* DISPLAY LINES COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=LINES,FORMAT=BAL
         USSPARM  PARM=SCOPE,DEFAULT=ALL
*
* DISPLAY GROUPS COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=GROUPS,FORMAT=BAL
         USSPARM  PARM=SCOPE,DEFAULT=ALL
*
* DISPLAY MAJNODES COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=MAJNODES,FORMAT=BAL
*
* DISPLAY NCPSTOR COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=NCPSTOR,FORMAT=BAL
         USSPARM  PARM=ADDR
         USSPARM  PARM=ID
         USSPARM  PARM=LENGTH,DEFAULT=32
         USSPARM  PARM=STORAGE,DEFAULT=MAIN
*
```

```
* DISPLAY PATHS COMMAND (NETWORK OPERATOR SERVICES)
*
        USSCMD   CMD=PATHS,FORMAT=BAL
        USSPARM  PARM=ID
*
* DISPLAY PENDING COMMAND (NETWORK OPERATOR SERVICES)
*
        USSCMD   CMD=PENDING,FORMAT=BAL
```

V3R2 Only

```
*
* DISPLAY SESSIONS COMMAND (NETWORK OPERATOR SERVICES)
*
        USSCMD   CMD=SESSIONS,FORMAT=BAL
        USSPARM  PARM=SCOPE,DEFAULT=PEND
        USSPARM  PARM=LIST,DEFAULT=ALL
        USSPARM  PARM=PLU
        USSPARM  PARM=SLU
        USSPARM  PARM=LU1
        USSPARM  PARM=LU2
        USSPARM  PARM=SID
```

End of V3R2 Only

```
*
* DISPLAY TERMS COMMAND (NETWORK OPERATOR SERVICES)
*
        USSCMD   CMD=TERMS,FORMAT=BAL
        USSPARM  PARM=SCOPE,DEFAULT=ALL
*
* DISPLAY TSOUSER COMMAND (NETWORK OPERATOR SERVICES)
*
        USSCMD   CMD=TSOUSER,FORMAT=BAL
        USSPARM  PARM=ID
*
* DISPLAY USERVAR COMMAND (NETWORK OPERATOR SERVICES)
*
        USSCMD   CMD=USERVAR,FORMAT=BAL
        USSPARM  PARM=ID
*
* DISPLAY PATHTAB COMMAND (NETWORK OPERATOR SERVICES)
*
        USSCMD   CMD=PATHTAB,FORMAT=BAL
        USSPARM  PARM=ADJSUB
        USSPARM  PARM=DESTSUB
*
* DISPLAY ROUTE COMMAND (NETWORK OPERATOR SERVICES)
*
        USSCMD   CMD=ROUTE,FORMAT=BAL
        USSPARM  PARM=COSNAME
        USSPARM  PARM=DESTSUB
        USSPARM  PARM=ER
        USSPARM  PARM=TEST,DEFAULT=NO
        USSPARM  PARM=VR
        USSPARM  PARM=NETID
```


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```
         USSPARM  PARM=ORIGIN
*
* DISPLAY STATIONS COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=STATIONS,FORMAT=BAL
         USSPARM  PARM=A,REP=SCOPE,VALUE=ACT
         USSPARM  PARM=ACT,REP=SCOPE,VALUE=ACT
         USSPARM  PARM=E,REP=SCOPE,VALUE=ALL
         USSPARM  PARM=EVERY,REP=SCOPE,VALUE=ALL
         USSPARM  PARM=I,REP=SCOPE,VALUE=INACT
         USSPARM  PARM=INACT,REP=SCOPE,VALUE=INACT
         USSPARM  PARM=ID
         USSPARM  PARM=SCOPE,DEFAULT=ALL
*
* DISPLAY TRACES COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=TRACES,FORMAT=BAL
         USSPARM  PARM=ID
*
* DISPLAY ADJSSCPS COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=ADJSSCPS,FORMAT=BAL
         USSPARM  PARM=SCOPE,DEFAULT=ONLY
         USSPARM  PARM=NETID
         USSPARM  PARM=CDRM
*
* MODIFY COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=MODIFY,FORMAT=BAL
         USSPARM  PARM=CDRM
         USSPARM  PARM=CSALIMIT
```

V3R2 Only

```
         USSPARM  PARM=DR,REP=VERB,VALUE=DR
```

End of V3R2 Only

```
         USSPARM  PARM=OPT,REP=OPTION
         USSPARM  PARM=USERVAR,REP=VERB,VALUE=FUSERVAR
         USSPARM  PARM=DUMP,REP=VERB,VALUE=DUMP
         USSPARM  PARM=MSGMOD
         USSPARM  PARM=PPOLOG
```

V3R2 Only

```
         USSPARM  PARM=TABLE,REP=VERB,VALUE=TABLE
```

End of V3R2 Only

```
         USSPARM  PARM=TYPE
*
* 'SPECIAL' KEYWORDS FOR MODIFY CDRM COMMAND
*
         USSPARM  PARM=IMMED,REP=TYPE,VALUE=IMMED
```

```
         USSPARM  PARM=NORM,REP=TYPE,VALUE=NORM
         USSPARM  PARM=I,REP=TYPE,VALUE=IMMED
         USSPARM  PARM=N,REP=TYPE,VALUE=NORM
         USSPARM  PARM=ID
*
* 'SPECIAL' KEYWORDS FOR MODIFY DUMP (SEE ALSO USSCMD CMD=DUMP)
*
         USSPARM  PARM=DYNA,REP=OPTION,VALUE=DYNA
         USSPARM  PARM=RMPO,REP=RMPO,VALUE=YES
*
         USSPARM  PARM=ENCR
         USSPARM  PARM=IMR,REP=VERB,VALUE=IMR
         USSPARM  PARM=IOPD,REP=VERB,VALUE=IOPD
         USSPARM  PARM=LL2,REP=VERB,VALUE=LL2
*
* 'SPECIAL' KEYWORDS FOR MODIFY LL2 (SEE ALSO USSCMD CMD=LL2)
*
         USSPARM  PARM=CANCEL,REP=OPTION,VALUE=CANCEL
         USSPARM  PARM=CONT,REP=OPTION,VALUE=CONT
*
         USSPARM  PARM=MSGMOD
         USSPARM  PARM=NEGPOLL
         USSPARM  PARM=NOTNSTAT,REP=VERB,VALUE=NOTNSTAT
         USSPARM  PARM=NOTRACE,REP=VERB,VALUE=NOTRACE
         USSPARM  PARM=POLL
         USSPARM  PARM=SESSION
         USSPARM  PARM=SUPP
         USSPARM  PARM=TNSTAT,REP=VERB,VALUE=TNSTAT
*
* 'SPECIAL' KEYWORDS FOR MODIFY TNSTAT (SEE ALSO USSCMD CMD=TNSTAT)
*
         USSPARM  PARM=CNSL,REP=CNSL,VALUE=YES
         USSPARM  PARM=NOCNSL,REP=CNSL,VALUE=NO
*
         USSPARM  PARM=TRACE,REP=VERB,VALUE=TRACE
*
* 'SPECIAL' KEYWORDS FOR MODIFY TRACE (SEE ALSO USSCMD CMD=TRACE)
*
         USSPARM  PARM=E,REP=SCOPE,VALUE=ALL
         USSPARM  PARM=EVERY,REP=SCOPE,VALUE=ALL
*
* END OF MODIFY COMMAND DEFINITION
* * BEGINNING OF DEFINITIONS OF MODIFY 'SUB-COMMANDS'
```


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V3R2 Only

```
*
* MODIFY DR COMMAND (NETWORK OPERATOR SERVICE)
*
         USSCMD   CMD=DR
         USSPARM  PARM=TYPE
         USSPARM  PARM=ID
         USSPARM  PARM=FROM
         USSPARM  PARM=TO
         USSPARM  PARM=ACTIVATE
         USSPARM  PARM=ACT,REP=ACTIVATE
         USSPARM  PARM=ADDR
```

End of V3R2 Only

```
*
* MODIFY DUMP COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=DUMP
         USSPARM  PARM=ACTION,DEFAULT=COMP
         USSPARM  PARM=DUMPDS
         USSPARM  PARM=DUMPSTA
         USSPARM  PARM=ID
         USSPARM  PARM=OPTION,DEFAULT=STATIC
         USSPARM  PARM=OPT,REP=OPTION,DEFAULT=STATIC
         USSPARM  PARM=RMPO,DEFAULT=NO
         USSPARM  PARM=TYPE,DEFAULT=NCP
*
* MODIFY IMR COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=IMR
         USSPARM  PARM=ID
         USSPARM  PARM=OPT,REP=OPTION,DEFAULT=ACT
         USSPARM  PARM=RECLIM,DEFAULT=10
*
* MODIFY IOPD COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=IOPD
         USSPARM  PARM=IOINT
*
* MODIFY LL2 COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=LL2
         USSPARM  PARM=CANCEL,REP=OPTION,VALUE=CANCEL
         USSPARM  PARM=CONT,REP=OPTION,VALUE=CONT
         USSPARM  PARM=DATA
         USSPARM  PARM=ID
         USSPARM  PARM=NFRAMES,DEFAULT=1
         USSPARM  PARM=NTRANS,DEFAULT=10
         USSPARM  PARM=OPT,REP=OPTION
*
* MODIFY NOTNSTAT COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=NOTNSTAT
*
```

```
* MODIFY NOTRACE COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=NOTRACE
         USSPARM  PARM=COUNT,DEFAULT=ALL
         USSPARM  PARM=E,REP=SCOPE,VALUE=ALL
         USSPARM  PARM=EVERY,REP=SCOPE,VALUE=ALL
         USSPARM  PARM=ID
         USSPARM  PARM=OPT,REP=OPTION
         USSPARM  PARM=SCOPE,DEFAULT=ONLY
         USSPARM  PARM=TYPE
         USSPARM  PARM=PU
         USSPARM  PARM=LINE
*
* MODIFY TNSTAT COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=TNSTAT
         USSPARM  PARM=CNSL,REP=CNSL,VALUE=YES
         USSPARM  PARM=NOCNSL,REP=CNSL,VALUE=NO
         USSPARM  PARM=CNSL,DEFAULT=NO
         USSPARM  PARM=TIME
*
* MODIFY TRACE COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=TRACE
         USSPARM  PARM=COUNT,DEFAULT=ALL
         USSPARM  PARM=E,REP=SCOPE,VALUE=ALL
         USSPARM  PARM=EVERY,REP=SCOPE,VALUE=ALL
         USSPARM  PARM=ID
         USSPARM  PARM=MODE
         USSPARM  PARM=OPT,REP=OPTION
         USSPARM  PARM=SCOPE,DEFAULT=ONLY
         USSPARM  PARM=SIZE
         USSPARM  PARM=TYPE
         USSPARM  PARM=PU
         USSPARM  PARM=LINE
         USSPARM  PARM=FRAMES,DEFAULT=DATA
*
* MODIFY USERVAR COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=FUSERVAR,FORMAT=BAL
         USSPARM  PARM=ID
         USSPARM  PARM=VALUE
         USSPARM  PARM=VAL,REP=VALUE
         USSPARM  PARM=OPT,REP=OPTION,DEFAULT=UPDATE
         USSPARM  PARM=OPTION,DEFAULT=UPDATE
```


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```
┌──────────────────────────────── V3R2 Only ────────────────────────────────┐

*
* MODIFY TABLE COMMAND (NETWORK OPERATOR SERVICES)
*
         USSCMD   CMD=TABLE,FORMAT=BAL
         USSPARM  PARM=ID
         USSPARM  PARM=NEWTAB
         USSPARM  PARM=OPTION
         USSPARM  PARM=TYPE
         USSPARM  PARM=OLDTAB
         USSPARM  PARM=ORIGIN
         USSPARM  PARM=NETID
         USSPARM  PARM=OPT,REP=OPTION

└──────────────────────────── End of V3R2 Only ──────────────────────────────┘

*
* VARY COMMANDS
*
         USSCMD   CMD=VARY,FORMAT=BAL

┌──────────────────────────────── V3R2 Only ────────────────────────────────┐

         USSPARM  PARM=ACT,REP=VERB,VALUE=ACT
         USSPARM  PARM=INACT,REP=VERB,VALUE=INACT

└──────────────────────────── End of V3R2 Only ──────────────────────────────┘

         USSPARM  PARM=TERM,REP=VERB,VALUE=TERM

┌──────────────────────────────── V3R2 Only ────────────────────────────────┐

         USSPARM  PARM=ACQ,REP=ACQ

└──────────────────────────── End of V3R2 Only ──────────────────────────────┘

         USSPARM  PARM=NOLOGON
         USSPARM  PARM=ID

┌──────────────────────────────── V3R2 Only ────────────────────────────────┐

*
* VARY ACT
*
         USSCMD   CMD=ACT,FORMAT=BAL
         USSPARM  PARM=WARM,REP=WARM
         USSPARM  PARM=ANS
         USSPARM  PARM=DUMPLOAD
         USSPARM  PARM=DUMPSTA
         USSPARM  PARM=ID
         USSPARM  PARM=LOAD,DEFAULT=U
         USSPARM  PARM=LOADFROM
```

```
         USSPARM  PARM=LOADSTA
         USSPARM  PARM=LOGMODE
         USSPARM  PARM=LOGON
         USSPARM  PARM=NEWPATH
         USSPARM  PARM=RNAME
         USSPARM  PARM=SAVEMOD
         USSPARM  PARM=SCOPE
         USSPARM  PARM=U
*
* VARY INACT
*
         USSCMD   CMD=INACT
         USSPARM  PARM=IMMED,REP=TYPE,VALUE=IMMED
         USSPARM  PARM=UNCOND,REP=TYPE,VALUE=UNCOND
         USSPARM  PARM=FORCE,REP=TYPE,VALUE=FORCE
         USSPARM  PARM=REACT,REP=TYPE,VALUE=REACT
         USSPARM  PARM=GIVEBACK,REP=TYPE,VALUE=GIVEBACK
         USSPARM  PARM=FINAL,REP=FINAL,VALUE=YES
         USSPARM  PARM=RMPO,REP=RMPO,VALUE=YES
         USSPARM  PARM=G,REP=TYPE,VALUE=GIVEBACK
         USSPARM  PARM=I,REP=TYPE,VALUE=IMMED
         USSPARM  PARM=F,REP=TYPE,VALUE=FORCE
         USSPARM  PARM=R,REP=TYPE,VALUE=REACT
         USSPARM  PARM=U,REP=TYPE,VALUE=UNCOND
         USSPARM  PARM=CDLINK
         USSPARM  PARM=TYPE
         USSPARM  PARM=FINAL,DEFAULT=NO
         USSPARM  PARM=ID
         USSPARM  PARM=RMPO,DEFAULT=NO
```

End of V3R2 Only

```
*
* VARY TERM COMMAND (SESSION SERVICES)
*
         USSCMD   CMD=TERM,FORMAT=BAL
         USSPARM  PARM=LU1
         USSPARM  PARM=LU2
         USSPARM  PARM=NOTIFY,DEFAULT=YES
         USSPARM  PARM=PLU
         USSPARM  PARM=SCOPE,DEFAULT=ACT
         USSPARM  PARM=SID
         USSPARM  PARM=SLU
         USSPARM  PARM=TYPE,DEFAULT=UNCOND
         USSEND
```


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The Default CNM Routing Table

```
*/*FUNCTION:  THIS IS THE CNM ROUTING TABLE FOR IBM-SUPPLIED
*/*           CNM APPLICATIONS. EACH ENTRY IN THE TABLE
*/*           REPRESENTS AN APPLICATION.
ISTMGC01 CSECT
         DS    0F
         DC    S(ENTRIES)     NUMBER OF ENTRIES
         DC    X'000C'        LENGTH OF EACH ENTRY
         DC    XL4'00000000'  RESERVED
         DC    XL4'00000000'  RESERVED
ENTRIES  EQU   22             THE NUMBER OF ENTRIES
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'410386'    ER_TESTED RU
         DC    CL8'ISTNOP  '  NETWORK OPERATOR SERVICES NETWORK NAME
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'410289'    ROUTE_INOP RU
         DC    CL8'ISTNOP  '  NETWORK OPERATOR SERVICES NETWORK NAME
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'010381'    RECMS RU
         DC    CL8'BNHDSERV'  NPDA ACB NETWORK NAME
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'010381'    RECMS RU
         DC    CL8'BNJDSERV'  NPDA VERSION 2 ACB NETWORK NAME
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'410384'    RECFMS RU
         DC    CL8'BNHDSERV'  NPDA ACB NETWORK NAME
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'410384'    RECFMS RU
         DC    CL8'BNJDSERV'  NPDA VERSION 2 ACB NETWORK NAME
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'3F0233'    INIT LOAD RU
         DC    CL8'DLUPULP '  DOWNSTREAM LOAD UTILITY ACB NETWORK NAME
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'410384'    RECFMS RU
         DC    CL8'AAUTSKLP'  NLDM ACB NETWORK NAME WITHOUT NPDA
*
         DC    XL1'40'        FLAG - DO NOT IMBED IN DELIVER RU
         DC    XL3'3F0814'    TRANSLATE INQUIRE RU
         DC    CL8'ALIASAPL'  ALIAS ACB NETWORK NAME
*
*             NLDM R2 UNIQUE SUPPORT
*
         DC    XL1'40'        FLAG - DO NOT IMBED IN DELIVER RU
         DC    XL3'810814'    CNM AMRU
         DC    CL8'BNHDSERV'  NPDA ACB NETWORK NAME
*
         DC    XL1'40'        FLAG - DO NOT IMBED IN DELIVER RU
         DC    XL3'810814'    CNM AMRU
```

```
         DC    CL8'BNJDSERV'  NPDA VERSION 2 ACB NETWORK NAME
*
         DC    XL1'40'        FLAG - DO NOT IMBED IN DELIVER RU
         DC    XL3'810814'    CNM AMRU
         DC    CL8'AAUTSKLP'  NLDM ACB NETWORK NAME WITHOUT NPDA
*
         DC    XL1'80'        FLAG - ALSO SEND TO NETWORK OPERATOR
         DC    XL3'410289'    ROUTE INOP RU
         DC    CL8'BNHDSERV'  NPDA ACB NETWORK NAME
*
         DC    XL1'80'        FLAG - ALSO SEND TO NETWORK OPERATOR
         DC    XL3'410289'    ROUTE INOP RU
         DC    CL8'BNJDSERV'  NPDA VERSION 2 ACB NETWORK NAME
*
         DC    XL1'80'        FLAG - ALSO SEND TO NETWORK OPERATOR
         DC    XL3'410289'    ROUTE INOP RU
         DC    CL8'AAUTSKLP'  NLDM ACB NETWORK NAME WITHOUT NPDA
*
*             NLDM R3 UNIQUE SUPPORT
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'41038D'    NMVT RU
         DC    CL8'BNJDSERV'  NPDA VERSION 2 ACB NETWORK NAME
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'41038D'    NMVT RU
         DC    CL8'AAUTSKLP'  NLDM ACB NETWORK NAME WITHOUT NPDA
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'010381'    RECMS RU
         DC    CL8'DSICRTR '  NETVIEW ROUTER
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'410384'    RECFMS RU
         DC    CL8'DSICRTR '  NETVIEW ROUTER
*
         DC    XL1'40'        FLAG - DO NOT IMBED IN DLV RU
         DC    XL3'810814'    CNM RU
         DC    CL8'DSICRTR '  NETVIEW ROUTER
*
         DC    XL1'80'        FLAG - ALSO SEND TO NOS
         DC    XL3'410289'    ROUTE INOP RU
         DC    CL8'DSICRTR '  NETVIEW ROUTER
*
         DC    XL1'00'        FLAG BYTE
         DC    XL3'41038D'    NMVT RU
         DC    CL8'DSICRTR '  NETVIEW ROUTER
*
*             END OF REFERENCED TABLE ENTRIES
*
         DC    XL1'00'        UNUSED TABLE ENTRY
         DC    XL3'000000'    IF REFERENCED THEN ALSO UPDATE
         DC    CL8'        '  THE NUMBER OF ENTRIES COUNT
END      ISTMGC01
```


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Appendix E. Program Operator Coding Requirements

This appendix is intended to help customers write application programs using the VTAM program operator interface. The VTAM program operator interface is a general-use programming interface, which allows customers to write programs that use the services of VTAM You can write the program operator portion of a VTAM application program using the SENDCMD and RCVCMD macroinstructions.

Introduction

A VTAM application program can be authorized to issue VTAM operator commands to:

- Display the status of the network
- Control the status of the network
- Receive messages from VTAM
- Reply to VTAM messages.

Such an application program is called a *program operator*, or a *program operator application* (POA), and permits a user to:

- Enter operator commands from any LU in the network (for example, from a terminal)
- Monitor and control elements in the network at program execution speed
- Specialize network control by dividing the network among several application programs
- Define specialized commands (for example, to display the status of the entire network with a single command)
- Reformat replies received for VTAM commands (for example, to reformat the status display of a part of the network to fit on a 3270 display screen)
- Coordinate control of different domains in a multiple-domain network.

A program operator can:

- Issue a DISPLAY, MODIFY, or VARY command by using a SENDCMD macroinstruction. The format of the command is the same as if it were issued from the system console.
- Receive messages from VTAM by using a RCVCMD macroinstruction.
- Reply to a VTAM message by using a SENDCMD macroinstruction to send a REPLY command.

Figure 77 on page 270 shows how the system console operator and a program operator send VTAM operator commands and receive VTAM operator messages to control the VTAM domain.

OPNDST, SEND, RECEIVE, and CLSDST are examples of session-establishment and communication macroinstructions.

The NetView program provides many of the facilities listed above while also providing a base for communication network management functions. The NetView program is described in *Network Program Products General Information.*

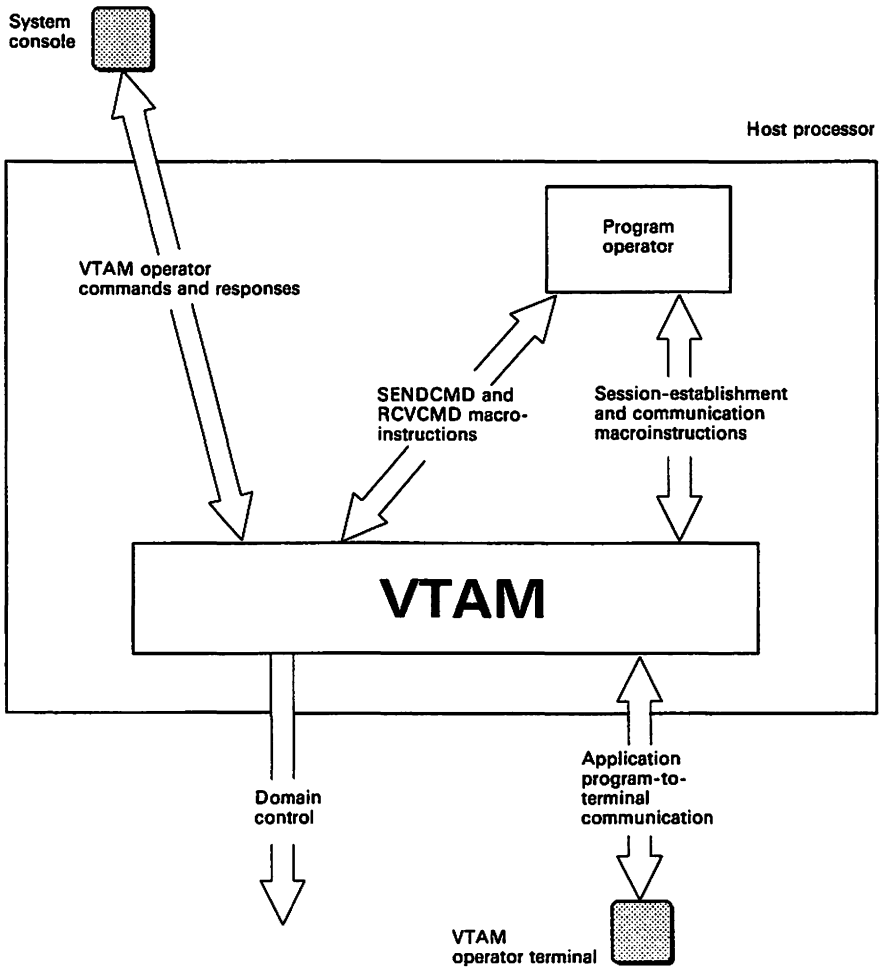

Figure 77. VTAM Operator Control of a VTAM Domain

In a multiple-domain network, program operators in different domains can communicate by means of VTAM macroinstructions to allow a program operator or an operator at a terminal to monitor and control elements in other domains. Figure 78 on page 271 shows an example of how a multiple-domain network can be controlled using two program operators.

To activate an element in domain 2:

1. An operator at a terminal in domain 1 sends a command to program operator 1.
2. Program operator 1 determines that the command is for domain 2 and sends it to program operator 2.
3. Program operator 2 sends the command to VTAM (using a SENDCMD macroinstruction), where the command is processed.
4. Program operator 2 sends any replies back to program operator 1, which, in turn, sends them to the terminal.

Another way to activate an element in domain 2 is to have a terminal establish a session directly with program operator 2.

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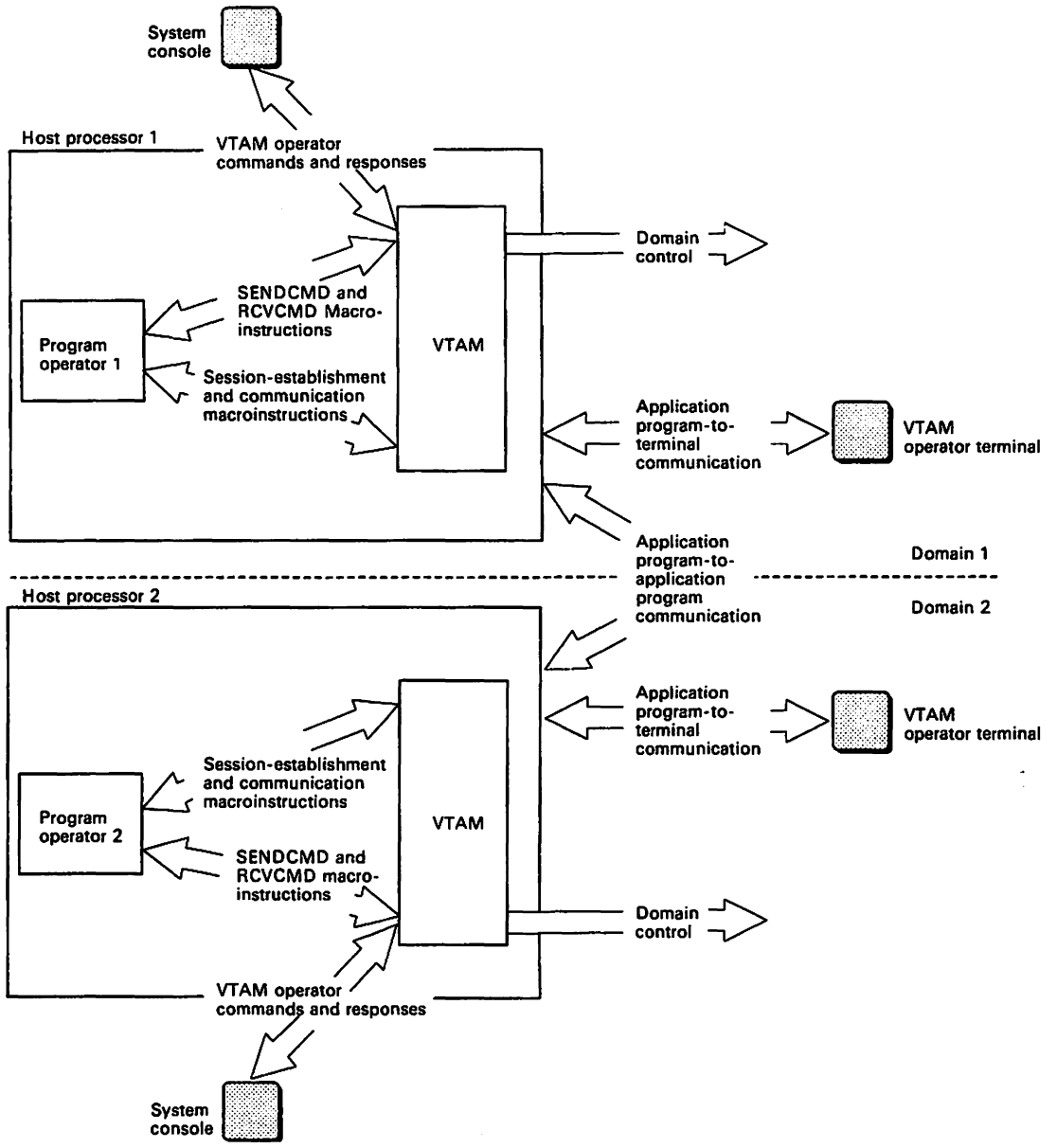

Figure 78. VTAM Operator Control of a Multiple-Domain VTAM Network

Two levels of authorization for an application program determine the type of messages that the program can receive. A program can be authorized to:

- Receive only messages that are in reply to VTAM operator commands issued by a program operator (solicited messages). Such an application program is called a *secondary program operator* (SPO).
- Receive messages whether they are in reply to VTAM operator commands that the program operator issued (solicited messages) or are as a result of unexpected events in the network (unsolicited messages), for example, losing contact with a terminal. Such an application program is called a *primary program operator* (PPO).

Only one primary program operator can be active at a time; however, one or more secondary program operators can also be active.

Note: If a primary program operator is active and F NET, PPOLOG=YES has been issued, the systems operations console does not receive unsolicited messages.

Authorization

A program operator must be authorized to use the SENDCMD and RCVCMD macroinstructions during VTAM definition. The APPL definition statement for the application program specifies one of the following:

- AUTH=PPO: Authorizes the application program to send VTAM operator commands to VTAM and to receive both solicited and unsolicited VTAM messages.
- AUTH=SPO: Authorizes the application program to send VTAM operator commands to VTAM and to receive only those VTAM messages that are in reply to those commands.
- AUTH=NOPO: Prohibits the application program from issuing the SENDCMD and RCVCMD macroinstructions. NOPO is the default value for AUTH.

Writing a Program Operator

An application program can use the SENDCMD macroinstruction to issue VTAM operator commands to VTAM and the RCVCMD macroinstruction to receive messages from VTAM. For a description of the SENDCMD and RCVCMD macroinstructions, refer to *VTAM Programming*. Terminals in the network can be in session with any program operator, permitting VTAM commands to be entered from any terminal in the network either in this domain or in another.

If a program operator fails, VTAM reroutes to the system console any commands still outstanding that require a reply and any unsolicited VTAM messages. All other messages are discarded.

The program operator interface allows flexibility in controlling and managing the network. Careful planning is necessary to decide how much or how little programmed control to use.

The following steps describe a suggested approach to coding and developing a program operator:

1. Write a switching program that performs a minimum amount of VTAM operator control to permit an operator at a terminal in the network to enter commands and receive VTAM messages. This program (a) relieves the system console operator of a part of the responsibility for monitoring and controlling the VTAM network and (b) provides a base for further analysis and extension of network control.
2. Analyze the daily command procedures used by the operator at the terminal. Some of these procedures can be written into the program operator. For example, the operator may be entering a series of repetitive, time-consuming commands that can be handled by the program operator, or the replies to a series of commands can be summarized or handled by the program operator.
3. Change and extend the program operator or add program operators. New functions may be needed to aid the terminal operators or to support changes to the network configuration. The program can be expanded gradually until the desired amount of automatic operator control is implemented.

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4. For a multiple-domain network, add application program-to-application program communication capability (between VTAM domains) to allow operator commands and replies to be exchanged between domains.

VTAM Operator Commands

VTAM operator commands entered by a program operator have the same format and effect as commands entered at the system console. The VTAM operator commands supported are the VARY. DISPLAY, and MODIFY commands. The REPLY command is also supported to answer VTAM messages that require a reply.

A program operator can issue all commands except the VTAM START and HALT commands; they can be issued only by the system operator at a system console.

For information about each VTAM operator command, refer to *VTAM Operation*. For additional information about VTAM operator commands that use the unformatted system services (USS) facility, refer to "USS Definition Tables" on page 85.

The operating procedures supplied by the system programmer should not depend on internal VTAM execution sequences; that is, VTAM commands entered at nearly the same time could be processed in parallel, and the order of processing of the commands should not be assumed to be the same as the order in which the commands are entered. In particular, if one command depends on the successful completion of another, the dependent command should not be entered until the successful completion of the first command is confirmed by a VTAM message.

VM The VTAM prefix required for operator commands from the VTAM virtual machine console is not required for commands from a program operator.

VSCS commands are not VTAM commands and cannot be issued using the VTAM program operator facility. The program operator facility does, however, receive VSCS messages.

Operational Characteristics

A hard-copy log of the VTAM system console is not directly available to the program operator. A program operator, however, can:

- Request that a copy of each VTAM command entered at the system console and each VTAM message sent to the system console be sent to the primary program operator log. The operator can see them at the primary program console in the form of unsolicited messages if the primary program operator implements a log. See the description of the MODIFY PPOLOG command in *VTAM Operation* or the PPOLOG option of the START command in *VTAM Installation and Resource Definition*.

  Note: VSE V3R1 does not support the primary program operator log.

- Maintain a copy of each VTAM command issued by the program operator and each message received by the program operator by writing them to a printer or recording them on an auxiliary storage device.

An application program must control the display format of a terminal to be used as a VTAM operator terminal.

To have the same capability as a VTAM operator at a system console, a program operator must communicate with a system console operator to request certain operating system services (such as starting application programs). When there is not an active PPO, the messages or commands will go to the system operator.

If a secondary program operator or a system console operator issues a MODIFY USERVAR command, the resulting solicited USERVAR messages are sent to **both** the originator of the command **and** the primary operator. The primary operator receives them in the form of unsolicited messages. If the command was issued by a secondary program operator and an active primary program operator is not available, the messages go to the system console as well as to the secondary program operator.

Certain Restrictions The following restrictions apply to the program operator, but not to the system console operator:

- A program operator can receive only **VTAM** messages. **Operating system** messages, even though related to VTAM, cannot be received by a program operator.
- VSE Certain control functions for the IBM-supplied trace print are available only from the system console.

In addition, it may be necessary to coordinate the operation of program operators and the system console operator.

Special Programming Considerations

Figure 79 lists some of the considerations and questions that relate to writing a program operator. This list supplements the list of programming considerations found in *VTAM Programming*.

Program Function	Programming Considerations
Handling VTAM operator commands and VTAM messages	• Can a timer routine perform predefined actions while the network is active? • How is the program operator going to examine and react to messages received from VTAM? • Are there situations that require human intervention? • Should displays be processed or reformatted prior to sending them to the terminal? • Should commands be processed before sending them to VTAM? • Are there other services that the program operator can provide? – Operator-to-operator communication – Hard-copy log (the hard-copy log available to the system console is not available to the program operator)
Opening the program operator	• How many ACBS are to be opened? • Are separate EXLSTS to be used if more that one ACB is used?

Figure 79 (Part 1 of 2). Some Considerations That Affect the Coding of a Program Operator

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Program Function	Programming Considerations
Establishing sessions to handle VTAM operator commands	• When a terminal logs on, how is authorization for the terminal and the operator to be determined? – Is the terminal or operator authorized to use the program operator? – What type of authorization is to be used (for example, a password as a part of the logon message)? • How does the program operator determine the terminal's authorization? – Can this terminal receive all VTAM messages? – Can this terminal enter only certain commands?
Correlating messages and responses	• Is a table needed to associate messages and responses with a specific terminal? • What type of messages are received by the program operator (solicited or unsolicited)? **Note:** The message-suppression level specified by the system console operator or a program operator determines the levels of VTAM operator messages received by any VTAM operator. • How is the ID field of the header to be used? • How is the header set up to send the message to VTAM? • If a reply is requested, does the program operator – generate the reply? – pass the messages to a terminal? – keep track of the message until a reply is sent? • If the terminal cannot receive the message, should it be sent to the system console, sent to another terminal, or discarded?
Outage of the session with the terminal operator	• What happens to messages that are intended for the terminal? – Should they be sent to the system console? – Should they be sent to another terminal? – Should they be discarded? • If all the terminals are lost, what should the program operator do? – Terminate? – Request operator intervention? – Wait for other terminals to log on?
Closing the program operator	• In what order are the ACBs in the application program to be closed? • Are outstanding messages to be sent to the system console? • What happens if the first CLOSE fails? • Should any additional messages be processed before issuing a second CLOSE?

Figure 79 (Part 2 of 2). Some Considerations That Affect the Coding of a Program Operator

Orderly Closing of a Program Operator

When a program operator is about to be closed, unreceived VTAM messages may still be queued for it. Issuing the CLOSE macroinstruction results in a return code (76), which indicates there are messages waiting. At this point, before a second CLOSE macroinstruction is issued, the program operator can issue only RCVCMD macroinstructions or SENDCMD macroinstructions with a REPLY command.

This permits the program operator to receive the messages that are still waiting and to answer any that require a reply.

When all the messages have been received, a return code for a RCVCMD macroinstruction indicates that there are no more messages waiting. A second CLOSE macroinstruction then completes normally. Because VTAM does not queue these RCVCMD macroinstructions, it is recommended that they be issued with NQ specified in the OPTCD operand. VTAM accepts the RCVCMD macroinstruction with the Q option; however, when there are no messages remaining on the queue, the RCVCMD macroinstruction completes with (RTNCD,FDBK2) = (20,112). If NQ is specified, the request completes with (RTNCD,FDBK2) = (0,6) when there are no more messages queued. Alternatively, a program operator can issue a second CLOSE macroinstruction without receiving the queued messages. The second CLOSE causes the outstanding messages that do not request a reply to be discarded. Messages that require a reply and have not been received or replied to are sent to the system console.

Data Exchanged between a Program Operator and VTAM

The area pointed to by the AREA operand of the RPL associated with the program operator macroinstructions contains the data that is exchanged between the program operator and VTAM. The RPL associated with the SENDCMD macroinstruction points to the VTAM operator commands that are sent from the program operator to VTAM. The RPL associated with the RCVCMD macroinstruction points to the message received by the program operator from VTAM. Every time data is exchanged in this way, the sender of the data appends a header to the beginning of the data. The header tells where the data is coming from, the status of the data (such as whether a reply is requested), and the identification number of the data.

The Header

Every time VTAM sends a message to a program operator or every time a program operator sends a VTAM operator command to VTAM, a 4-byte header is appended to the data. The header has the following form:

X'00'	Status	ID Number
1 byte	1 byte	2 bytes

X'00'
is a required part of the header and is always present. Either it is provided by VTAM in data that the program operator receives, or it must be supplied by the program operator in data that is sent to VTAM.

Status
indicates the sender of the message or command, whether a reply is required, and the type of message if it is part of a multiline message.

When VTAM sends an operator command to the program operator, the program operator sets the following bits:

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Status Field
Bit Setting

0123 4567	Meaning
....1	The command originates from a program operator.
.... ..0.	VTAM is not to return a reply to the message issued as a result of a SENDCMD macroinstruction
.... ..1.	VTAM is to return an appropriate reply to the message issued as a result of a SENDCMD macroinstruction.
xxxx xx..	Reserved.

When the program operator receives a message from VTAM, VTAM sets the following bits:

Status Field
Bit Setting

0123 4567	Meaning
....0	This message is an unsolicited message. It originates from VTAM and is not in reply to a VTAM operator command. The ID in this header was generated by VTAM.
....1	This message is sent in reply to a VTAM operator command previously sent to VTAM by the program operator. The ID number in this header was generated by the program operator when the command was sent.
.... ..0.	A reply is not required.
.... ..1.	A reply is required. A reply ID is present in the message. Use the SENDCMD macroinstruction to issue a REPLY command to VTAM.
.... 00..	This message is not a copy of a VTAM operator command or a copy of a VTAM message sent to the system console.
.... 01..	This is an unsolicited message containing a copy of a VTAM operator command entered from the system console.
.... 10..	This is an unsolicited message containing an unsuppressed message that had been sent to the system console.
.... 11..	This is an unsolicited message containing a copy of a VTAM-solicited, suppressed message that had been sent to the system console.
0000	This is not a multiline message.

Status Field Bit Setting

0123 4567	Meaning
0001	This is the *control line* of a multiline message. The control line is always the first line of a multiline message and normally contains a message title. The control line should remain static during framing operations on a display console such as the 3270 (provided it is displayed in an out-of-line display area).
0010	This is a *label line* of a multiline message. The label line may be the first line of a multiline message if there is no control line. If there is a control line, the label line always follows it. There may be more than one label line, but they cannot be interspersed with other types of lines. Label lines usually contain message header information and remain static with the control line.
0100	This is a *data line* of a multiline message. The data line always follows either a control line or a label line, if present. The data line contains the information intended for the VTAM operator and, unlike the control line and label line, is paged during framing operations.
1000	This is the *end line* of a multiline message. The end line indicates that the previous data line is the last line of text that is to be passed to the VTAM program operator. If data is included in the end line, it is ignored.
1100	This is a combined data and end line of a multiline message. It indicates that this is the last line of text that is to be passed to the program operator.

ID Number

Any number from 0 to 65535 (X'0000' to X'FFFF') can be specified by VTAM when it sends an unsolicited message to the program operator. The program operator, when sending a command or reply to VTAM, can select and interpret the identification number in any way it finds meaningful. When the program operator sends a command to VTAM, the program operator must set the identification number; if a reply is requested, VTAM returns the same number with the reply. If VTAM sends a message to the program operator and the message is not a reply to a command, VTAM sets the identification number. Using the identification number, the program operator can correlate solicited messages received from VTAM with the appropriate commands issued by the program operator.

Note: An IBM-supplied DSECT (ISTDPOHD) is available and can be used in creating or interpreting the header. Refer to "Format and DSECT of the Message and Command Header" on page 281 for more information.

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Data Received from VTAM

A program operator can use the RCVCMD macroinstruction to receive messages from VTAM. The program operator receives the message data with a 4-byte header appended to it. The format of the message data is determined by the status byte of the header:

- If this is a solicited message that does not require a reply (bits 6–7) **or** if this is a copy of VTAM message that had been sent to system console (bit 4), the message is in the form:

Header	Message ID	Message Text
4 bytes	7 bytes	(*n*–7) bytes

Message ID
is ISTxxxx. It represents the message ID of any VTAM message that can be sent to the VTAM operator. See *VTAM Messages and Codes* for the specific IDs and text of VTAM messages.

Message Text
is the text of the VTAM message that corresponds to the message ID.

n
Represents the total length of the message without the header bytes.

The text and occurrence of each message are VTAM release dependent. Therefore, a program operator application program may have to be changed in subsequent releases if the messages change.

You can define USS tables to allow the program operator to run independently of changes in message text. Refer to "USS Definition Tables" on page 85 for details about creating and modifying USS definition tables.

- If this is a message that requires a reply (bit 6), the message data is in the form:

Header	Reply ID	Message ID	Message Text
4 bytes	4 bytes	7 bytes	(*n*–11) bytes

Reply ID
is a reply identification number that must be returned to VTAM with the reply in the REPLY command. It is a decimal number from 0–99. Leading zeros are included but do not have to be included in the reply. This identifier should not be confused with the identification number that is used in the header.

n
Represents the total length of the message without the header bytes.

- If this is a message that contains a copy of a VTAM operator command entered from the system console (bit 5), the message data is in the form:

Header	Command Text
4 bytes	*n* bytes

Command Text
is the text of the command as entered from the system console. The command keyword (DISPLAY, VARY, or MODIFY) is always received spelled in full (that is, not abbreviated).

n
Represents the total length of the command without the header bytes.

Only the primary program operator can receive a copy of commands entered from the system console or messages sent to the console, and only if PPOLOG=YES as a result of the MODIFY PPOLOG command or the PPOLOG start option. In order to receive the next message transmission from VTAM, the program operator must have an outstanding RCVCMD.

VSE V3R1 does not support the primary program operator log.

If the message containing the reply identifier is not replied to by the program operator and it is subsequently sent to the system console, the number is changed and does not correspond to the original number.

Data Sent to VTAM

A program operator can use the SENDCMD macroinstruction to send VTAM operator commands and the REPLY command to VTAM. The VTAM operator commands that can be sent are the VARY, DISPLAY, and MODIFY commands. The data that the program operator sends to VTAM is in this form:

Header	Command Sent to VTAM
4 bytes	*n* bytes

Each VTAM command issued by the program operator has the same format and meaning as when it is entered at the system console. The VARY, DISPLAY, and MODIFY commands are described in *VTAM Operation*.

The REPLY command is used to answer VTAM messages that require a reply from the program operator. It has the following format:

{REPLY|R}	reply identifier,[']text[']

reply identifier
is the reply identification number (*nn*) that was received.

text
is the reply to the VTAM message. If the actual wording of the text is supplied in the original message, it should be copied exactly in the reply. The apostrophes are optional and included only if the reply is not to be translated into uppercase characters. A blank immediately following the reply identification number indicates a null reply.

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MVS The abbreviated format of the REPLY command supported by MVS for the system console cannot be sent by a program operator.

Example:

```
IST619I ID = DALLAS5 FAILED - RECOVERY IN PROGRESS
*00 IST095A OPTION TO DUMP DALLAS5 AVAILABLE - REPLY YES OR
            NO OR YES,DUMPSTA=DALLS22
R 0,no
*00 IST284A OPTION TO RELOAD 3705 DALLAS5 - REPLY YES OR NO
            OR YES,LOADSTA=DALLS22
R 1,yes
```

The informational message IST619I is followed by messages that require replies (IST095A and IST284A); VTAM assigns it a reply ID of 00 in both cases. In the first case, the reply for the message is "no"; in the second case, the reply for the message is "yes."

Format and DSECT of the Message and Command Header

Figure 80 and Figure 81 on page 282 describe the format map and DSECT for the VTAM message and command header (ISTDPOHD). The header contains status information and an ID number for each message or command that is sent or received by the application program sending SENDCMD and RCVCMD macroinstructions.

The format map and DSECT description may help in examining or setting up a header. The IBM-supplied DSECT ISTDPOHD is provided as part of the system macroinstruction library as follows:

MVS SYS1.MACLIB
VSE Source statement library
VM IBM-supplied MACLIB-type file.

To avoid the risk of duplicating DSECT labels in a program, no label should begin with the characters POH. All relevant bits should be set.

Dec	Hex	Header Code	Status	Message Identifier
0	0	(POHRSVD)	(POHSTAT)	(POHID)

Figure 80. Format of the VTAM Message and Command Header (ISTDPOHD)

Field	DSECT DS or ORG Label	DSECT EQU Label	Value	Meaning	Displacement Dec	Displacement Hex	Len
Header Code	POHRSVD			Reserved	0	0	1
Status	POHSTAT	POHEND	X'80'	Message is an end line	1	1	1
		POHDATA	X'40'	Message is a data line			
		POHLBL	X'20'	Message is a label line			
		POHCNTRL	X'10'	Message is a control line			
		POHPPCMD	X'04'	Message contains copy of VTAM operator command entered from the system console.[1]			
		POHPPSOL	X'08'	Message contains copy of VTAM-solicited, unsuppressed message that had been sent to the system console.[1]			
		POHPPSUP	X'80'	Message contains copy of VTAM-solicited, suppressed message that had been sent to the system console.[1]			
		POHRREQ	X'02'	A reply is requested			
		POHGEN	X'01'	If the bit is off, the message was generated by VTAM. If the bit is on, the message was generated by the program operator.			
Message Identifier	POHID			ID number	2	2	2

[1]Not supported by VSE V3R1.

Figure 81. VTAM Message and Command Header DSECT (ISTDPOHD)

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Appendix F. VTAM Message Revisions

This appendix consists of the following eight sections:

- MVS MVS Message Differences for Version 3 Release 1.1
- MVS MVS Message Differences for Version 3 Release 2
- VSE VSE Message Differences for Version 3 Release 1
- VSE VSE Message Differences for Version 3 Release 1.2
- VSE VSE Message Differences for Version 3 Release 2
- VM VM Message Differences for Version 3 Release 1.1
- VM VM Message Differences for Version 3 Release 1.2
- VM VM Message Differences for Version 3 Release 2
- VM VSCS Message Differences for Version 3 Release 1.1
- VM VSCS Message Differences for Version 3 Release 2.

MVS Message Differences for Version 3 Release 1.1

This section lists the message numbers of all MVS messages that have been added, modified, or deleted since Version 3 Release 1 of VTAM.

If a message is **new**, the message has been added in V3R1.1.

If a message is **modified**, the message text or message number has been changed since V3R1.

If the message is **deleted**, the message existed in V3R1 but does not exist in V3R1.1.

Also listed is the text of all messages as they appear for MVS in V3R1.1. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

Change	Message Number					
New	IST113I	IST658I	IST772I	IST809I	IST810I	IST811I
	IST813I	IST814I	IST825I	IST834I	IST835I	IST842I
	IST849I	IST865I	IST883I			
Modified	IST039I	IST121I	IST130I	IST219I	IST260I	IST413I
	IST464I	IST482I	IST516I	IST517I	IST518I	IST522I
	IST525I	IST526I	IST548I	IST637I	IST638I	IST640I
	IST642I	IST643I	IST656I	IST716I	IST717I	IST719I
	IST720I	IST725I	IST726I	IST755I	IST756E	IST786I
	IST832I					
Deleted	IST293I	IST340I	IST787I			

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Message Number	Text
IST001I	VTAM START REJECTED - FAILURE ATTEMPTING TO FIX STORAGE
IST002I	%%%%%%%% IS AN INVALID START PARM - ALL PARMS IGNORED
IST003I	ABEND OCCURRED DURING NETWORK DEFINITION OF CONFIG %%%%%%%%, CODE = %%%
IST006I	VTAM START REJECTED - INSUFFICIENT STORAGE
IST010I	%%%%%%%% COMMAND INVALID
IST012I	VTAM START REJECTED - CANNOT LOCATE %%%%%%%% IN %%%%%%%%
IST013I	I/O ERROR FOR %%%%%%%% IN %%%%%%%%
IST015A	ERROR PROCESSING LIST IDENTIFIER - ENTER LIST ID OR BLANK
IST016I	VTAM START REJECTED - STAE FAILED
IST018I	CONFIG COULD NOT BE INITIALIZED - VTAM START CONTINUES
IST019I	SYNTAX ERROR IN START OPTION %%%%%%%% - ENTER WHEN PROMPTED
IST020I	VTAM INITIALIZATION COMPLETE
IST025I	BLDL FAILED FOR %%%%%%%% IN %%%%%%%%
IST032I	%%%%%%%% FAILED - FIRST CHARACTER OF %%%%%%%% NOT ALPHABETIC
IST033I	%%%%%%%% COMMAND CANCELLED
IST037I	%%%%%%%% FAILED - SYNTAX ERROR
IST038I	VARY FAILED FOR ID = %%%%%%%% - HOST CDRM IS NOT ACTIVE
IST039I	%%%%%%%% FAILED - CANNOT IDENTIFY COMMAND TYPE
IST040I	START PARAMETER SSCPID NOT PROCESSED - REENTER WHEN PROMPTED
IST042I	%%%%%%%% FAILED - TOO MANY OPERANDS
IST043I	%%%%%%%% INVALID VALUE FOR KEYWORD %%%%%%%%
IST044I	%%%%%%%% FAILED - INSUFFICIENT STORAGE
IST047I	%%%%%%% BUFFER SIZE TOO SMALL - DEFAULT VALUE USED
IST048I	VTAM START REJECTED - INSUFFICIENT STORAGE FOR BUFFERS
IST049I	VTAM START REJECTED - OPEN FOR VTAM ACB FAILED, ACB ERROR FLAG = %%
IST050I	%%%%%%%% COMMAND REJECTED - OPEN FOR VTAM DATA SET %%%%%%%%%% FAILED
IST051A	ENTER VTAM START PARAMETERS
IST052I	%%%%%%%% IS AN INVALID START PARAMETER KEYWORD - IGNORED
IST054I	%%%%%% KEYWORD SEQUENCE ERROR IN START PARMS - KEYWORD IGNORED
IST055I	%%% IS AN INVALID CONFIGURATION ID - PARAMETER IGNORED
IST056A	LIST = %%% IS INVALID - ENTER LIST ID OR BLANK
IST057I	KEYWORD MISSING AFTER TRACE/NOTRACE OPTION ON START PARMS
IST058I	%%%%%%%%%% WILL NOT BE PROCESSED - INVALID START PARAMETER
IST059I	%%%%%%%%%%%%%%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST061I	%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE UNKNOWN TO VTAM
IST066I	%%%%%%%%% FAILED - CONFLICTING OR INVALID OPTIONS
IST072I	%%%%%%%%% FOR ID = %%%%%%%% FAILED DURING NETWORK DEFINITION
IST073I	%%%%%%%%% FOR ID = %%%%%%%% FAILED - MORE POWERFUL REQUEST IN PROGRESS
IST074I	%%%%%%%%% FOR ID = %%%%%%%% FAILED - INSUFFICIENT STORAGE
IST075I	VTAM DISPLAY - NODE TYPE = %%%%%%%%%%%%%%%%
IST077I	SIO = %%%%%%%% CUA = %%%%%%%%%%%%%%%%%%%%
IST080I	%%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%%
IST081I	LINE NAME = %%%%%%%%, LINE GROUP = %%%%%%%%, MAJNOD = %%%%%%%%
IST082I	DEVTYPE = %%%%, CONTROLLING PLU = %%%%%%%%

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Message Number	Text
IST084I	NETWORK NODES:
IST085I	DISPLAY FAILED - INFORMATION NOT AVAILABLE
IST087I	LINE TYPE = %%%%%%%%, LINE GROUP = %%%%%%%%, LNCTL = %%%%
IST089I	%%%%%%%% TYPE = %%%%%%%%%%%%%%%%%, %%%%%%%%%% %%%%%%%%
IST092I	%%%%%%%% REQUESTED CSALIMIT LESS THAN CURRENT ALLOCATION REQUEST %%%%%%%%
IST093I	%%%%%%%% ACTIVE
IST095A	OPTION TO DUMP %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,DUMPSTA=LINKSTANAME'
IST096I	%%%%%%%% FAILED - DUPLICATE %%%%%%%% PARAMETERS SPECIFIED
IST097I	%%%%%%%% ACCEPTED
IST098I	%%%%%%%% FAILED - %%%%%%%% INCORRECT LENGTH
IST099I	%%%%%%%% FAILED - %%%%%%%% NOT ALPHAMERIC
IST101I	%%%%%%%% FAILED - %%%%%%%% NOT SPECIFIED
IST102I	VTAM IS NOW INACTIVE
IST105I	%%%%%%%% NODE NOW INACTIVE
IST107I	TIME AND DATE NOT SET IN %%%%%%%% DUE TO INVALID TIMER IN HOST
IST112I	VTAM INTERNAL TRACE MODIFY FAILED - CONFLICTING MODES
IST113I	%%%%%%%% IS A USERVAR WITH VALUE %%%%%%%% %%%%%%%%%%%%%%%%
IST114I	SYNTAX ERROR IN %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST115I	INSUFFICIENT STORAGE TO READ %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST116I	MEMBER %%%%%%%% NOT FOUND ON VTAM DEFINITION LIBRARY
IST117I	I/O ERROR READING %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST118I	ERROR IN LIST = %% - ALL START PROCEDURE PARAMETERS IGNORED
IST119I	SYNTAX ERROR IN START PARM %%%%%%%% - ALL PARMS IGNORED
IST120I	LOGON PROCESSING OF NODE %%%%%%%% TO CONTROLLER %%%%%%%% COMPLETE
IST121I	%%%%%%%% OF NODE %%%%%%%% TO CONTROLLER %%%%%%%% FAILED - CODE %%
IST122I	ATTACH OF VTAM SUBTASK %%%%%%%% FAILED
IST124I	STOP COMMAND REJECTED - NOT SUPPORTED FOR VTAM
IST125A	ENTER VTAM PARAMETER OVERRIDES - EXCEPT LIST ID - OR DEFAULT
IST126I	%%%%%%%% MODE NOT SUPPORTED DUE TO LOADING FAILURE
IST127I	%%%%%%%% STILL ACTIVE - VTAM TERMINATION WAITING %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST128I	HALT OF VTAM ALREADY IN PROGRESS
IST129I	UNRECOVERABLE OR FORCED ERROR ON NODE %%%%%%%% - VARY INACT SCHED
IST130I	VTAM SUBTASK %%%%%%%% INACTIVE - ABEND THRESHOLD EXCEEDED
IST132I	VTAM SUBTASK %%%%%%%% NOT REATTACHED - CANNOT BE FOUND
IST133I	VTAM TERMINATION IN PROGRESS
IST134I	MAJNOD = %%%%%%%%
IST135I	PHYSICAL UNIT = %%%%%%%%%%%%%%%%%%
IST136I	%%%%%%%% SNA MAJOR NODE = %%%%%%%%
IST137I	CONFIG %%%%%%%% BYPASSED - LOCAL ADDRESS OF LU %%%%%%%% IS INVALID
IST142I	CONFIG %%%%%%%% BYPASSED - PATH MACRO %%%%%%%% ERROR REASON CODE %
IST146I	LINE NAME = %%%%%%%%, STATUS = %%%%%
IST148I	DIAL OUT PATH INFORMATION FOR PHYSICAL UNIT %%%%%%%%
IST149I	LINE GRP TELEPHONE NUMBER OR LINE NAME PID GID CNT
IST150I	RRT LOAD MODULE %%%%%%%% DOES NOT CONTAIN RESOURCE SEGMENT %%%%%%%%

Message Number	Text
IST153I	PENDING DEACTIVATION OF %%%%%%%% OVERRIDDEN
IST154I	EXPANSION FAILED FOR %% BUFFER POOL - CODE %
IST155I	SUBTASK %%%%%%%% HAS ABENDED, CODE %%%
IST159I	THE FOLLOWING NODES ARE IN A PENDING STATE
IST165I	CDRM %%%%%%%% HAS AN INVALID ELEMENT VALUE - 1 IS ASSUMED
IST167I	NO DIAL OUT PATH FOR %%%%%%%%
IST168I	%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%% %%% %%%
IST169I	DISCONNECTION CAUSED VARY %%%%% FOR PU = %%%%%%%%
IST170I	LINES:
IST171I	ACTIVE SESSIONS = %%%%%, SESSION REQUESTS = %%%%%
IST172I	NO %%%%%%%%%%%%% %%%%%%%%
IST176I	%%%%%%%% FAILED - %%%%%%%% AND %%%%%%%% ARE CONFLICTING OPTIONS
IST180I	OPEN FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
IST181I	CLOSE FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
IST182I	UNABLE TO GET STORAGE FOR CKPT %%%%%%%% MAJOR NODE %%%%%%%%
IST183A	%%%%%%%% FOUND LOADED WITH %%%%%%%% REPLY 'YES' TO REIPL OR 'NO' TO CONTINUE
IST184I	I/O ERROR ON CKPT DS %%%%%%%% MAJOR NODE %%%%%%%% RTNCD = %% %%
IST185I	LOGICAL ERROR ON CHECKPOINT DS %%%%%%%% MAJOR NODE %%%%%%%%
IST186I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES COLD - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
IST187I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
IST191I	%%%%%%%% SYNTAX ERROR
IST192I	POA MSG TRANSFER FAILED - INSUFFICIENT STORAGE
IST193I	REPLY %% IGNORED - REPLY TOO LONG FOR REQUESTOR
IST194I	REPLY %% NOT OUTSTANDING
IST195I	REPLY %% IGNORED - NON-DECIMAL ID
IST198I	VTAM INTERNAL TRACE ACTIVATION FAILED - GTF NOT ACTIVE
IST206I	SESSIONS:
IST208I	UNABLE TO TERMINATE SESSIONS FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST211I	NCP SLOWDOWN INITIATED FOR %%%%%%%%
IST212I	ACBNAME = %%%%%%%%
IST213I	ACBNAME FOR ID = %%%%%%%%
IST214I	NCP SLOWDOWN TERMINATED FOR %%%%%%%%
IST219I	I/O ERROR ON READ FOR %%%%%%%% - BYTECNT MISMATCH
IST221I	%%%%%%%% : %%%%%%%% IS INVALID, %, UNSUPPORTED OPTION - %%%%%%%%%%%%%%%%%
IST223I	MODIFY %%%%%%%% COMMAND COMPLETED
IST225I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST226I	%%%%%%%%%% FOR ID = %%%%%%%% NOT EFFECTIVE DURING CURRENT OR QUEUED SESSIONS
IST228I	ENCRYPTION = %%%%%%%%%
IST231I	CA MAJOR NODE = %%%%%%%%
IST232I	%%%%%%%%, %%%%%%%%%%, CUA = %%%
IST234I	I/O ERROR %%%%%%%%%%%%%%%%%%%%%%%
IST238I	%%%%%%%%%% %%% FOR ID = %%%%%%%% RCVD %%
IST240A	WAIT STATE IN VTAM DUE TO INSUFFICIENT NUMBER OF I/O BUFFERS SPECIFIED BY USER

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Message Number	Text
IST241I	%%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%%
IST242I	%%%%%%%% COMMAND FAILED FOR ID = %%%%%%%% SENSE = %%%%%%%%
IST243I	FRAMES SENT = %%%%%, RCVD = %%%%%, RCVD WITHOUT ERRORS = %%%%%
IST244I	NCP STORAGE FOR ID = %%%%%%%%
IST245I	%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST247I	LOAD/DUMP PROCEDURE STATUS = %%%%%
IST251I	CONFIG %%%%%%%% LUPOOL MACRO %%%%%%%% IGNORED - OWNER KEYWORD REQUIRED
IST257I	VTAM SDUMP FAILED WITH RETURN CODE %%%%
IST258I	STMT IN ERROR = %%
IST259I	INOP RECEIVED FOR %%%%%%%% CODE = %% %%
IST260I	%%%%%%%% - %%%%%%%% SESSION LOST, SA %%%%%%%%%% CODE %%
IST262I	%%%%%%%% = %%%%%%%%, STATUS = %%%%%%%%%%
IST264I	SESSION SETUP FOR PLU = %%%%%%%% SLU = %%%%%%%% FAILED - REQUIRED %%%%%%%% %%%%%%%% %%%%%%%%%%
IST265I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUP %%%%%%%% HL %%%%%%%%
IST270I	LOAD OF %%%%%%%% COMPLETE - LOAD MODULE = %%%%%%%
IST271I	JOBNAME = %%%%%%%%, STEPNAME = %%%%%%%%
IST272A	NO INITIAL TEST FOR %%%%%%%% - REPLY 'U' TO BYPASS - OR CANCEL
IST273I	LOAD OF %%%%%%%% FAILED - PERMANENT I/O ERROR
IST274I	LOAD OF %%%%%%%% FAILED - INITIAL TEST HARDSTOP
IST278A	INVALID REPLY FOR ID = %%%%%%%% LOAD - ENTER 'U' - OR CANCEL
IST282A	INVALID REPLY FOR ID = %%%%%%%% %%%%%%%%%% %%
IST284A	OPTION TO RELOAD %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,LOADSTA=LINKSTANAME'
IST285I	%%%%%%%% DUMP OF %%%%%%%% COMPLETE
IST286I	%%%%%%%% DUMP OF %%%%%%%% PARTIALLY COMPLETE
IST287I	%%%%%%%% DUMP OF %%%%%%%% FAILED - PERMANENT I/O ERROR
IST288I	%%%%%%%% DUMP OF %%%%%%%% FAILED - %%%%%%%% CANNOT BE OPENED
IST289I	%%%%%%%% DUMP OF %%%%%%%% FAILED - UNSUPPORTED DEVICE TYPE
IST291I	LOAD OF %%%%%%%% FAILED - LOADER FAILURE
IST292I	LOAD OF %%%%%%%% FAILED - %%%%%%%% BLDL ERROR
IST294I	LOAD OF %%%%%%%% FAILED - INVALID DEVICE TYPE DEFINITION
IST295I	LOAD OF %%%%%%%% FAILED - UNEXPECTED END OF FILE ON DATA SET
IST296I	LOAD OF %%%%%%%% FAILED - UNEXPECTED CODE %%% FROM IFLOADRN
IST297I	LOAD OF %%%%%%%% FAILED - LOAD MODULE %%%%%%%% IS TOO LARGE
IST298I	LOAD OF %%%%%%%% FAILED - PERMANENT I/O ERROR ON %%%%%%%%
IST299I	LOAD OF %%%%%%%% FAILED - %%%%%%%% COULD NOT BE OPENED
IST302I	INVALID DEFINITION TYPE IN MEMBER %%%%%%%% IN VTAM DEFINITION LIBRARY
IST303I	INSUFFICIENT STORAGE TO BUILD CONFIGURATION %%%%%%%%
IST309I	UNABLE TO LOAD MODULE %%%%%%%% FROM LIBRARY %%%%%%%%
IST310I	INVALID SPACE REQUEST FOR CONFIGURATION %%%%%%%%
IST311I	NCP LOAD MODULE LIBRARY %%%%%%%% - FAILED TO OPEN
IST314I	END
IST315I	VTAM INTERNAL TRACE ACTIVE - MODE = %%%, SIZE = %%%, OPTIONS = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

Message Number	Text
IST316I	VTAM INTERNAL TRACE NOW INACTIVE
IST317I	VTAM INTERNAL TRACE ACTIVATION FAILED - INSUFFICIENT STORAGE
IST318I	VTAM INTERNAL TRACE ACTIVATION FAILED - UNABLE TO FIX STORAGE
IST319I	CONFIGURATION %%%%%%%% FIRST SPECIFICATION USED %%%%%%%%%%%%%%%%%%%%
IST320I	CONFIGURATION %%%%%%%% DEFINITION FAILED - %%%%%%%%%%%%%%%%%%
IST321I	CONFIGURATION %%%%%%%% DEFAULT TAKEN - %%%%%%%%%%%%%%%%%%%%
IST322I	CONFIGURATION %%%%%%%% ERROR IGNORED - %%%%%%%%%%%%%%%%%%%%
IST323I	LABEL = %%%%%%%% - MACRO TYPE = %%%%%%%% - KEYWORD = %%%%%%%%
IST324I	%%%%%%%% IN PROGRESS WITH ID = %%%%%%%% DUE TO %%%%%%%%%% REQUEST
IST326I	REQUEST = %%%%%%%%%% FAILED FOR %%%%%%%% ID = %%%%%%%%, SENSE = %%%%%%%%
IST327I	%%%%%%%% ID = %%%%%%%% INCOMPLETE, REQUEST = %%%%%%%%%%, SENSE = %%%%%%%%
IST328I	COMMUNICATION WITH CDRM ID = %%%%%%%% LOST
IST329I	THIS NODE WAS NOT ORIGINALLY OWNED BY THIS HOST
IST330I	CONFIGURATION %%%%%%%% BYPASSED - TABLE = %%%%%%%% IS INVALID
IST331I	CONFIG %%%%%%%% BYPASSED - 'MAXSUBA' VALUES CONFLICT
IST333I	CONFIG %%%%%%%% USING DUPLICATE RESOURCE NAME %%%%%%%% - CODE %
IST336I	THIS NCP MAJOR NODE WAS %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST339I	CONFIG %%%%%%%% BYPASSED - %%%%%%%% UNKNOWN TO THE NCP
IST342I	SLU %%%%%%%% HAS CONTROLLING PLU %%%%%%%% - NO SESSION - CODE = %%
IST343I	CONTROLLER %%%%%%%% ASSIGNED TO NODE %%%%%%%% LOGON COULD NOT BE COMPLETED
IST345I	TERMINATION OF SESSION BETWEEN %%%%%%%% AND %%%%%%%% FAILED
IST346I	UNABLE TO COMPLETE SESSION SETUP FOR %%%%%%%%, %%%%%%%% DUE TO INSUFFICIENT STORAGE
IST348I	UNABLE TO PROCESS DISCONNECTION FOR PU = %%%%%%%% DUE TO LACK OF STORAGE
IST350I	VTAM DISPLAY - DOMAIN TYPE = %%%%%%%%%%%%%%%%%%%%
IST351I	LOCAL 3270 MAJOR NODE = %%%%%%%%
IST352I	LOCAL SNA MAJOR NODE = %%%%%%%%
IST353I	SWITCHED SNA MAJOR NODE = %%%%%%%%
IST354I	PU T4/5 MAJOR NODE = %%%%%%%%
IST355I	LOGICAL UNITS:
IST356I	%%%
IST359I	ATTACHMENT = %%%%%%%%
IST360I	APPLICATIONS:
IST361A	%%%%%%%%%%%% FOUND LOADED WITH %%%%%%%%%%%% - REPLY 'YES' TO RELOAD OR 'NO' TO CANCEL ACTIVATION
IST362I	GROUP %%%%%%%% DEVICES UNAVAILABLE - MISSING SYSCNTRL OPTION
IST363I	CONFIG %%%%%%%% NODES AND SUBNODES SET UNAVAILABLE - %%%%%%%%%%%%%%%%%%%%
IST366I	CONFIG %%%%%%%% UNABLE TO DEFINE %%%%%%%% - MAXIMUM NUMBER OF NETWORK ADDRESSES FOR HOST SUBAREA EXCEEDED
IST367I	NO STORAGE TO DEFINE NODE %%%%%%%% CONFIG %%%%%%%%
IST368I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TO/FROM OPERAND UNKNOWN
IST369I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TARGET RESOURCE NOT IN DR - ABLE NCP
IST370I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% IGNORED - INVALID TARGET RESOURCE TYPE
IST371I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% MISSING - NOT DELETED

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Message Number	Text
IST372I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% CONFLICTS WITH TARGET - NOT DELETED
IST373I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% IMPROPER DELETE STATE - NOT DELETED
IST374I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO, CODE %
IST375I	DR ADD FUNCTION GROUP %%%%%%%% NOT INCLUDED
IST376I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST377I	CONFIG %%%%%%%% DR FUNCTION GROUP IGNORED %%%%%%%%%%%%%%%%%%%
IST378I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO SEQUENCE
IST379I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TABLE %%%%%%%% IS INVALID, CODE %
IST380I	ERROR FOR ID = %%%%%%%% - REQUEST: %%%%%%%%%%, SENSE: %%%%%%%%
IST381I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CANNOT DEFINE NODE
IST382I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - STATE: %%%%% NOT VALID FOR REQUEST
IST383I	DEACTIVATION OF ID = %%%%%%%% FAILED - REQUEST: %%%%%%%%%% SENSE: %%%%%%%%
IST384I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED
IST388I	DYNAMIC CDRSC DEFINITION SUPPORT = %%%
IST389I	PREDEFINITION OF CDRSC = %%%
IST391I	ADJ LINK STATION = %%%%%%%%, LINE = %%%%%%%%, NODE = %%%%%%%%
IST393I	PU T4/5 MAJOR NODE %%%%%%%%, SUBAREA = %%%%%%%%%%
IST394I	ADJACENT LINK STATIONS NOT OWNED BUT AWAITING ACTIVATION
IST395I	%%
IST396I	LNKSTA STATUS CTG GTG ADJNODE ADJSA NETID
IST397I	%%%
IST398I	LOAD OF %%%%%%%% FAILED - %%%%%%%% HAS ZERO ENTRY POINT
IST399E	ISTSDCOS IS NOT A CLASS OF SERVICE TABLE - ISTSDCOS DELETED
IST400I	TERMINATION IN PROGRESS FOR APPLID %%%%%%%%
IST401I	%%%%%%%%%% INITIATED FOR ID = %%%%%%%%
IST403I	%%%%%%%% COMMAND FAILED - MULTIPLE OPTIONS FOR %%%%%%%% NOT ALLOWED
IST404I	%%%%%%%% PARAMETER IGNORED - MULTIPLE OPTIONS NOT ALLOWED
IST405I	%%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%%
IST410I	%% BUFFER POOL COULD NOT BE BUILT - CODE %
IST411I	%%%%%%%% COMMAND REJECTED DUE TO TERMINATION IN PROGRESS
IST412I	VTAM COMMAND PROCESSING TERMINATED
IST413I	VTAM DUMPING FOR %%%%%%%%%%%%%%%%%%%%%%%%%%
IST414I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PROCESS UNAVAILABLE
IST422I	I/O ERROR ON DS %%%%%%%% RTN CD = %%, %%
IST423I	UNABLE TO GET STORAGE FOR DS %%%%%%%%
IST424I	CLOSE FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST425I	OPEN FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST430I	%%%%%%%%%% FOR ID = %%%%%%%% DISCARDED
IST431I	%%%%%%%% NOT WITHIN ALLOWABLE RANGE OF VALUES
IST432I	TUNING STATISTICS NOT ACTIVE, SMF NOT IN SYSTEM
IST433I	COMMAND REJECTED - TUNING STATISTICS TASK NOT ATTACHED
IST435I	UNABLE TO RECORD ON SMF FILE %%%%

Message Number	Text
IST436I	STORAGE NOT AVAILABLE FOR TUNING STATISTICS DATA
IST440I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST441I	DLRMAX = %%%%%%%% CHWR = %%%%%%%% CHRD = %%%%%%%%
IST442I	ATTN = %%%%%%%% RDATN = %%%%%%%% IPIU = %%%%%%%%
IST443I	OPIU = %%%%%%%% RDBUF = %%%%%%%% SLODN = %%%%%%%%
IST447I	BUFFER SIZE WAS IGNORED FOR ONE OR MORE POOLS
IST448I	BUFFER POOL START OPTION INPUT FOR AN UNUSED POOL - IGNORED
IST449I	%%%%%%%%%%% = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST450I	INVALID %%%%%%%% COMMAND SYNTAX
IST451I	%%%%%%%% COMMAND UNRECOGNIZED
IST452I	%%%%%%%% PARAMETER UNRECOGNIZED
IST453I	%%%%%%%% PARAMETER VALUE INVALID
IST454I	%%%%%%%% COMMAND FAILED, INSUFFICIENT STORAGE
IST455I	% SESSIONS ENDED
IST456I	%%%%%%%% REQUIRED PARAMETER OMITTED
IST457I	POSITIVE % COMMAND RESPONSE
IST458I	USS MESSAGE %%% NOT DEFINED
IST459I	%%%%%%%%%% FAILED - ID = %%%%%%%% - ADJ NODE %%%
IST460I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% FAILED: %%
IST461I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% STARTED
IST462I	ACTIVATION OF LINK STATION %%%%%%%% IS DEFERRED PENDING HIGHER LEVEL NODE ACTIVATION
IST464I	LINK STATION %%%%%%%% HAS CONTACTED %%%%%%%% SA %%%%%%%%%%
IST465I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NO %%%% STATION AVAILABLE
IST466I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - UNABLE TO DO %%
IST467I	CONTACTED ERROR TYPE %%% FOR ID = %%%%%%%%
IST468I	XID1=%%%
IST469I	%%
IST470I	XID2=%%%
IST471I	%%
IST473I	CONNECTIVITY TEST TO %%%%%%%% TERMINATED AFTER %%% ECHOES DUE TO I/O ERROR, SENSE = %%%%%%%%
IST475I	%%%%%%%% FAILED FOR ID = %%%%%%%%, REQUEST = %%%%%%%%%%, SENSE = %%%%%%%%
IST476I	CDRM TYPE = %%%%%%%% %%%%%%%%%%%%%%%%%
IST477I	CDRMS:
IST478I	CDRSCS:
IST479I	CDRM NAME = %%%%%%%%
IST482I	%%%%%%%% %%%%%, SA %%%%%%%%%%, EL %%%%% %%%%%%%%%%%%%%%%%
IST483I	%%%%%%%% %%%%%%%%%%, CDRM = %%%%%%%% %%%%%%%%%%%%%%%%%
IST484I	SUBAREA = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST486I	NAME= %%%%%%%%, STATUS= %%%%%%%%%%%%%%%, DESIRED STATE= %%%%%
IST487I	%%%%%%%%%% FOR ID = %%%%%%%% SCHEDULED BY %%%%%%%%%%

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Message Number	Text
IST488I	%%%%%%%%% FOR ID = %%%%%%% FAILED - DUPLICATE NODE: %%%%%%%
IST489I	%%%%%%%%% FOR ID = %%%%%%% CONTINUES - CANNOT DEFINE NODE: %%%%%%%
IST490I	%%%%%%%%% FOR ID = %%%%%%% FAILED - %%%%%%%%% IN PROGRESS
IST493I	%%%%%%%%% FOR ID = %%%%%%% OVERRIDDEN BY %%%%%%%%%
IST494I	%%%%%%%%% FOR ID = %%%%%%% FAILED - ALREADY IN DESIRED STATE
IST495I	VTAM CSALIMIT HAS BEEN SET TO %%%%%%%
IST496E	%%%%%%%%%%%%%%%%%%%% FUNCTION INOPERATIVE DUE TO ABEND
IST507I	%%%%%%% NOT ACTIVE, TSO TRACE REQUEST IGNORED
IST510I	ROUTE TEST %%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST511I	TRACE REQUEST FAILED - ID = %%%%%%% INVALID
IST512I	TRACE TERMINATED FOR NODE = %%%%%%%
IST513I	TRACE INITIATED FOR NODE %%%%%%%
IST516I	DESTSUB ADJSUB ER ER STATUS VR(S)
IST517I	%%%%%%%%% %%%%%%%%% %% %%%%%% %%%%%%%%%%%%%%%%%%%%
IST518I	%%%%%%%%%%%%%%%%%%%%
IST520I	UNABLE TO PROCESS %%
IST521I	GBIND %%%%%% FOR COS %%%%%%% %%%%%%%%%%%%%%%%%%%%
IST522I	%%%% %%%%% %%%%%%% SA %%%%%%%%% TO SA %%%%%%%%% %%%%%%%
IST523I	REASON = %%%
IST524I	REVERSE ER MASK = %%%%
IST525I	REJECTING SA %%%%%%%%% USING TG %%% ADJACENT SA %%%%%%%%%
IST526I	ROUTE FAILED FROM %%%%%%%%% TO %%%%%%%%% - DSA %%%%%%%%% - NETID %%%%%%%
IST528I	VIRTUAL ROUTE NUMBER %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST529I	VR SELECTION EXIT %%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST530I	%%%%%%%%% PENDING %%
IST531I	%%
IST532I	EVENT CODE = %%%% EVENT ID = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST533I	ER %% %%%%%%%% IN ROUTE TEST %%%
IST534I	%%%%%%%%% %%% %%%%%%%%% %%%%%%%%% %%%
IST535I	ROUTE DISPLAY %%% FROM SA %%%%%%%%% TO SA %%%%%%%%%
IST536I	VR TP STATUS ER ADJSUB STATUS
IST537I	%% %% %%%%%% %% %%%%%%%%% %%%%%%
IST538I	ROUTE TEST %%% IN PROGRESS
IST539I	DISPLAY ROUTE COMMAND FAILED, COS CANNOT BE RESOLVED
IST540I	DISPLAY ROUTE COMMAND FAILED, SENSE = %%%%%%%
IST541I	FOLLOWING PATH DEFINITION IS IGNORED
IST542I	INVALID DEST SUBAREA VALUE %%% FOR PATH DEFINITION - IGNORED
IST543I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%% IS REDEFINED AS FOLLOWS
IST544I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST546I	UNABLE TO PROCESS %%
IST547I	EXPLICIT ROUTE MASK %%%%
IST548I	%%%%%%%%%% FAILED %%
IST549I	LL2 TEST FOR ID = %%%%%%% ENDED %%%%%%%%%%%%%%%%%%%%%%%%
IST561I	STORAGE UNAVAILABLE: %% BUFFER POOL

Message Number	Text
IST562I	STORAGE UNAVAILABLE: %%%%%%%%%% REACHED
IST563I	STORAGE UNAVAILABLE: MAXPVT REACHED FOR %%%%%%%% %%%%%%%%
IST564I	STORAGE UNAVAILABLE: COMMON AREA SUBPOOL %%%
IST565I	STORAGE UNAVAILABLE: VTAM PRIVATE AREA SUBPOOL %%%
IST566I	STORAGE UNAVAILABLE: %%%%%%%% %%%%%%%% SUBPOOL %%%
IST571I	LOAD FAILED FOR ID = %%%%%%%% REQ: %%%%%%%%%%, SENSE: %%%%%%%%
IST572I	REJECTING TG ADJACENT ER MASK
IST573I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST574E	START I/O TIMEOUT OCCURRED FOR %%%%%%%%
IST576I	TSO TRACE = %%%
IST577I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST578I	CHNRM = %%%%%%%% CHMAX = %%%%%%%% RDBUF = %%%%%%%%
IST579I	ATTN = %%%%%%%% TIMERS = %%%%%%%% QDPTH = %%%%%%%%
IST580I	BUFCAP = %%%%%%%% PRI = %%%%%%%% SLODN = %%%%%%%%
IST581I	IPIU = %%%%%%%% OPIU = %%%%%%%% DLRMAX = %%%%%%%%
IST582I	'EVERY' INVALID FOR TRACE OF ID = %%%%%%%% - OPERAND IGNORED
IST583I	CONFIG %%%%%%%% NOT PROCESSED - SYSDEF TASK NOT ATTACHED
IST584I	CA MAJOR NODE: NAME = %%%%%%%%
IST585E	VTAM UNABLE TO CLOSE %%%%%%%% - RESOURCES MAY BE LOST TO VTAM
IST587I	IRN STORAGE %%%%%%%% CAUSED BY SLOWDOWN OF NODE %%%%%%%%
IST588I	SIT TRACE STATUS = %%%%%
IST589I	ERROR FOR ID = %%%%%%%%, CODE = %, NET = %%%%%%%%
IST590I	CONNECTION %%%%%%%%%% FOR PU %%%%%%%% ON LINE %%%%%%%%
IST591E	VTAM COMMAND CANCELED DUE TO VTAM TASK ABEND - %%% - RETRY COMMAND
IST592I	VTAM MAIN TASK ABEND - CODE %%% - VTAM IS BEING TERMINATED
IST593I	ISTPDCLU %%%%%%%%%%%%%%%% SESSION ENDED
IST594I	ISTPDCLU %%%%%%%% FAILED %%% %%%
IST595I	IRNLIMIT = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST596I	IRN TRACE = %%%
IST597I	CAPABILITY-PLU %%%%%%%%%,SLU %%%%%%%%%,SESSION LIMIT %%%%%%%%
IST598I	NETID = %%%%%%%%
IST599I	%%%%% NAME = %%%%%%%%, NETID = %%%%%%%%
IST602I	%%%%%%%% FAILED ID = %%%%%%%% - HIGHER NODE HAS BECOME INACTIVE
IST605I	ERROR FOR ID = %%%%%%%% - %%%%%%%% : %%%%%%%%%%, DATA INVALID FOR THIS NODE
IST607I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INVALID NODE TYPE OR STATE
IST608I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - HIGHER NODE: %%%%%%%% NOT ACTIVE
IST610I	LINE %%%%%%%% - STATUS %%%%%%%%%%
IST611I	NETID = %%%%%%%%, DESTINATION SSCP = %%%%%%%%
IST617I	DEACTIVATION IN PROGRESS FOR %%%%%%%%
IST619I	ID = %%%%%%%% FAILED - RECOVERY IN PROGRESS
IST621I	RECOVERY SUCCESSFUL FOR NETWORK NODE %%%%%%%%
IST623I	ADJACENT SSCPS - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST624I	%%%%%%%%
IST625I	%%%%%%%% TRACE ALREADY ACTIVE

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Message Number	Text
IST626I	%%%%%%%% TRACE ALREADY INACTIVE
IST627I	%%%%%%%% - INSUFFICIENT STORAGE
IST632I	BUFF BUFF CURR CURR MAX MAX TIMES EXP/CONT EXP
IST633I	ID SIZE TOTAL AVAIL TOTAL USED EXP THRESHOLD INCR
IST634I	NAME STATUS SESSION ID SEND RECV VRN TP %%%%%
IST635I	%%%
IST636I	CDRSCS OWNED BY %%%%%%%% -
IST637I	SUBAREA = %%%%%%%%%%, ELEMENT = %%%%%
IST638I	ADJNETSA = %%%%%%%%%%, ADJNETEL = %%%%%
IST639I	GWN = %%%%%%%%, ADJNET = %%%%%%%%
IST640I	%%%%%%%% ADDR IN ADJNET - SA = %%%%%%%%%%, EL = %%%%%
IST641I	GATEWAY PATH SELECTION LIST -
IST642I	ADJNET GWN SUBAREA ELEM ADJNETSA ADJNETEL
IST643I	%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%% %%%%%%%%%% %%%%%
IST644I	%%%%%%%% TG %%%%%%%% %%%%%%%%
IST645I	%%%%%%%% DEFINITION FAILED - NO VALID %%%%%%%% MACRO
IST650I	POLL = %%%, NEGPOLL = %%%, SESSION(S) = %%%
IST652I	%%%% = IS A DUPLICATE KEYWORD WITHIN THE TRACE/NOTRACE OPTION
IST654I	I/O TRACE = %%%, BUFFER TRACE = %%%
IST655I	LINE TRACE STATUS = %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST656I	ACTIVATE REJECTED FROM UNDEFINED CDRM, SA %%%%%%%%%% EL %%%%%
IST658I	%%%%%%%% COMMAND FAILED - %%%%%%%% NOT FOUND
IST659I	SESSION SETUP FAILED THROUGH ADJ SSCP %%%%%%%%-CODE %%
IST660I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PARM: %%%%%%%%%%%%%%% NOT VALID
IST662I	DUPLICATE NAMES NOT ALLOWED - CROSS-NET RESOURCE %%%%%%%%
IST663I	SESSION SETUP REQUEST %%%%%%%%%% FAILED, SENSE = %%%%%%%%
IST664I	%%%% LU = %%%%%%%% SSCP = %%%%%%%% NETID = %%%%%%%%
IST670I	VARY %%%% PROCESSING FOR ID = %%%%%%%% COMPLETE
IST674I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - PARM: %%%%%%%%%%%%%%% IGNORED
IST675I	VR = %%, TP = %%
IST678I	%%%%%%%% SUBTASK END NOT SCHEDULED, INSUFFICIENT STORAGE
IST679A	PLEASE DIAL LINE = %%%%%%%%, NUMBER = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST680I	CONNECTION REQUEST DENIED - ID = %%%%%%%% %%%%%%%%%%%%%%%%%%
IST683I	CONNECTION REQUEST DENIED, ID = %%%%%%%%
IST684I	I/O ERR, CSW = %%%%%%%%%%%%%%%%, SENSE = %%%%
IST688I	VARY FAILED FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST690I	CONNECTION REQUEST DENIED - INVALID STATION ID = %%%%%%%%%%%%
IST693I	UNABLE TO DISCONNECT ID = %%%%%%%%
IST700I	INVALID %%%%% - SKIPPING TO NEXT NETWORK STMT OR EOF
IST701I	CONFIG %%%%%%%% LABEL = %%%%%%%% STMT TYPE = %%%%%%%%
IST702I	CONFIG %%%%%%%% - UNEXPECTED %%%%%%%%%%%%%%%%%%%%%%
IST703I	CONFIG %%%%%%%% ADJSSCP DEFINITIONS IGNORED - NO ADJCDRM STMT
IST706I	ADJSSCP TABLE FOR %%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST707I	ADJSSCP TABLE FOR %%%%%%%% BEING REPLACED

Message Number	Text
IST708I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%
IST709I	CONFIG %%%%%%%% FAILED - NO VALID BUILD OR NETWORK MACRO
IST710I	CONFIG = %%%%%%%% NETWORK = %%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST711I	%%%%%%%%%%%%%%%% NETID %%%%%%%% NOT PROCESSED FOR %%%%%%%%
IST712I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - MISSING OPERANDS
IST713I	CONFIG %%%%%%%% GWPATH %%%%%%%% - %%%%%%%% OPERAND IGNORED
IST714I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - INVALID STMT
IST715I	CONFIG %%%%%%%% CDRM %%%%%%%% IGNORED - GWPATH STMT MISSING
IST716I	%%%%%%%%%% FOR %%%%%%%% FAILED
IST717I	NETID %%%%%%%% ID %%%%%%%% SA %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST718I	ADDRESS INVALID FOR NETID=%%%%%%%% CDRM=%%%%%%%% CODE=X'%%'
IST719I	%%
IST720I	%%%%%%%% HAS CONTACTED %%%%%%%% IN %%%%%%%%, SA %%%%%%%%%%
IST721I	SESSION SETUP FOR CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST722I	CONFLICTING GWCTL PARAMETERS
IST723I	SSCPID %%%%%%%%%%%% ALREADY IN USE BY CDRM %%%%%%%%
IST725I	GWN %%%%%%%%, SUBAREA %%%%%%%%%%, CDRM ALIAS ELEMENT %%%%%
IST726I	ADJNET %%%%%%%%, ADJNETSA %%%%%%%%%%, ADJNETEL %%%%%
IST727I	COMMUNICATION WITH CDRM %%%%%%%% LOST - REASON = X'%%'
IST728I	GWPATHS FOR GWN %%%%%%%% ARE NOW %%%%%%%% FOR THESE CDRMS
IST732I	%%%%%%%%%% REJECTED DUE TO %%%%%%%%%%%%%%%%%%%%
IST733I	GWPATH TO CDRM %%%%%%%% USING GWN %%%%%%%% NOT AVAILABLE
IST734I	ACTIVATION OF CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST735I	NO ADDRESS TRANSFORMS - REQACTCDRM SENT
IST737I	DEFAULT VR LIST USED FOR CDRM %%%%%%%% USING GWN %%%%%%%%
IST738I	SESSIONS WITH %%%%%%%% NOT TERMINATED - INSUFFICIENT STORAGE
IST739I	LU DEFINED IN NETID = %%%%%%%%
IST740I	UNABLE TO FREE ALIAS ADDRESSES FOR CDRM %%%%%%%% GWN %%%%%%%%
IST742I	ACTIVATION OF CDRM %%%%%%%% %%%%%% - GWN PATH NOT AVAILABLE
IST744I	CROSS-NETWORK SESSION SETUP FAILED IN ADJNET = %%%%%%%%
IST745I	ACTCDRM TO CDRM = %%%%%%%% FAILED, SENSE = %%%%%%%%
IST746I	BIND FAILED FROM %%%%%%%% TO %%%%%%%%, SENSE = %%%%%%%%
IST752I	GPT TRACE STATUS = %%%%%
IST755I	ALERT FROM PU %%%%%%%% FOLLOWS
IST756E	ALERT FROM PU %%%%%%%% FOLLOWS
IST757E	MOSS UNAVAILABLE - HARDWARE ERROR
IST758E	MOSS RELOADED - HARDWARE ERROR
IST759E	MOSS DISKETTE UNUSABLE
IST760E	MOSS DISKETTE HARDWARE ERROR
IST761E	MOSS CONSOLE UNAVAILABLE
IST762I	MOSS IN MAINTENANCE MODE
IST763I	PHYSICAL UNIT RELOADED - HARDWARE ERROR
IST764I	PHYSICAL UNIT RELOADED - PRIOR ABEND CODE WAS %%%%%%%%
IST765E	CHANNEL ADAPTER %%%%%%%% UNAVAILABLE - HARDWARE ERROR

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Message Number	Text
IST766I	DUMP COMPLETED - %%%% DATA SET ON %%%%%%%% DISKETTE EMPTY
IST767E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE
IST768E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE
IST769E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE
IST770E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE
IST771E	SCANNER %%%%%%%% LINE %%%%%%%% UNAVAILABLE - HARDWARE ERROR
IST772I	UAC = %% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST778I	%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST784I	SESSION(S) EXIST(S) WITH UNKNOWN PARTNER
IST785I	%%%%%%%% AND %%%%%%%%-CONFLICTING GWCTL OPTION FOR %%%%%%%%
IST786I	%%%%%%%% COMMAND REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%%%
IST790I	MAXIMUM %%%%% USED = %%%%%%%K
IST792I	NO SUCH SESSION EXISTS
IST793E	SESSION MANAGEMENT ERROR, CODE %%%%%%%%%%%%%%%%%%%%%%%%%%
IST796I	HOSTSA VALUE EXCEEDS MAXSUBA
IST797I	FROM VIA ADJACENT DEST ER LENGTH
IST798I	%%%%%%%%
IST799I	%%%%%%%% DUMP IN PROGRESS
IST804I	VTAM CLOSE IN PROCESS FOR %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
IST805I	VTAM CLOSE COMPLETE FOR %%%%%%%%
IST807I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE IS IN TEST MODE
IST808I	ORIGIN PU = %%%%%%%% DEST PU = %%%%%%%% %%%%%%%%%%%%%%%%
IST809I	XRF SESSIONS - PRIMARY = %%%%% BACKUP = %%%%%
IST810I	NAME = %%%%%%%%, VALUE = %%%%%%%%
IST811I	USERVAR(S)
IST813I	USERVAR %%%%%%%% CHANGED FROM %%%%%%%% TO %%%%%%%%
IST814I	USERVAR %%%%%%%% DELETED
IST815I	AUTOMATIC RECOVERY IS SUPPORTED
IST816I	%%%%%%%%%% %%% %%%%%%%%% %%%%
IST819I	CDRM %%%%%%%% COMMUNICATION LOST - RECOVERY IN PROGRESS
IST820I	%%%%% RSP DATA DISCARDED FOR ID = %%%%%%%% - INSUFF STORAGE
IST822I	CDRM %%%%%%%% RECOVERY FAILED - INSUFFICIENT STORAGE
IST825I	USERVAR DEFINED - NAME = %%%%%%%%, VALUE = %%%%%%%%
IST827I	%%%%%%%%%% FOR %%%%%%%% FAILED - ADJSA %%%%%%%%%% INVALID
IST829I	IMPROPER TRANSLATION OF %%%%%%%% TO %%%%%%%% IN %%%%%%%%
IST830I	ORIGINATING SSCP NAME = %%%%%%%%, NETID = %%%%%%%%
IST831I	DUPLICATE ADJCDRM NAME %%%%%%%% IN %%%%%%%%
IST832I	UNLABELED %%%%%%%% STMT IN %%%%%%%%
IST833I	SKIPPING TO NEXT %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST834I	%%%% BACKUP SESSION(S) EXIST(S) WITH UNKNOWN PARTNERS
IST835I	%%%%%%%% COMMAND FAILED - NO USERVARS DEFINED
IST838I	TRACE STATUS DISPLAY FOR ID = %%%%%%%%
IST839I	PU NAME LINE NAME
IST840I	%%%%%%%% %%%%%%%%

Message Number	Text
IST841I	NO RESOURCES ARE BEING TRACED FOR %%%%%%%%
IST842I	UNABLE TO FIND BUFFERS IN %% POOL - DUMP IN PROGRESS
IST843I	%%%%%%%% NOT SPECIFIED - GATEWAY FUNCTIONS NOT SUPPORTED
IST844I	VTAM START REJECTED - INVALID START OPTION VALUE %%%%%%%%
IST849I	%%%%%%%% INCONSISTENT WITH USE OF %%%%%%%% IN %%%%%%%%
IST860I	DEACTIVATION OF %%%%%%%% INCOMPLETE - INSUFFICIENT STORAGE
IST865I	%%%%%%%%%%% COMMAND COMPLETE-%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST883I	%%%%%%%%% OF SAW BUFFERS USED %%%%%%%%%%%%%%%%%%%%%%%%%%
IST992I	UNABLE TO COMPLETE MESSAGE GROUP - CODE %
IST998E	VTAM MESSAGE %%%% ISSUED BUT DOES NOT EXIST
IST999E	VTAM MESSAGE LOST - INSUFFICIENT STORAGE

MVS Message Differences for Version 3 Release 2

This section lists the message numbers of all MVS messages that have been added, modified, or deleted since Version 3 Release 1.1 of VTAM.

If a message is **new**, the message has been added in V3R2.

If a message is **modified**, the message text or message number has been changed since V3R1.1.

If the message is **deleted**, the message existed in V3R1.1 but does not exist in V3R2.

Also listed is the text of all messages as they appear for MVS in V3R2. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

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Change	Message Number					
New	IST004I	IST009I	IST011I	IST014I	IST017I	IST046I
	IST109I	IST199I	IST252I	IST266I	IST301I	IST407I
	IST408I	IST409I	IST437I	IST446I	IST474I	IST499I
	IST500I	IST501I	IST502A	IST503I	IST504I	IST505I
	IST506I	IST567I	IST751I	IST753I	IST773I	IST787I
	IST788I	IST789I	IST794I	IST803I	IST806I	IST812I
	IST821I	IST823I	IST824I	IST826I	IST836I	IST837I
	IST845I	IST846I	IST861I	IST862I	IST863I	IST864I
	IST866I	IST867I	IST868I	IST869I	IST870I	IST871I
	IST872I	IST873I	IST874I	IST875I	IST876I	IST877I
	IST878I	IST879I	IST880I	IST881I	IST882I	IST886I
	IST887I	IST888I	IST889I	IST890I	IST891I	IST892I
	IST893I	IST894I	IST895I	IST896I	IST897I	IST899I
	IST900I	IST901A	IST902A	IST903A	IST904A	IST905A
	IST906A	IST907A	IST908A	IST909A	IST910I	IST911I
	IST912I	IST913I	IST914I	IST915I	IST916I	IST917I
	IST918A	IST919I	IST920I	IST921I	IST922I	IST923I
	IST924I	IST925I	IST926I	IST927I	IST928I	IST929I
	IST930I	IST932E	IST933I	IST934I	IST935I	IST936I
	IST937A	IST939I	IST951I	IST952I	IST953I	IST954I
	IST955I	IST956I	IST957I	IST958I	IST959I	IST960I
	IST961I	IST962I	IST963I	IST965I	IST980I	IST981I
	IST982I	IST996I	IST996I			
Modified	IST001I	IST040I	IST054I	IST058I	IST059I	IST061I
	IST075I	IST082I	IST087I	IST092I	IST113I	IST120I
	IST127I	IST134I	IST142I	IST171I	IST172I	IST183A
	IST225I	IST231I	IST232I	IST241I	IST242I	IST244I
	IST264I	IST285I	IST315I	IST327I	IST330I	IST350I
	IST361A	IST368I	IST435I	IST448I	IST452I	IST475I
	IST476I	IST479I	IST482I	IST483I	IST484I	IST486I
	IST495I	IST511I	IST542I	IST543I	IST544I	IST546I
	IST590I	IST599I	IST607I	IST611I	IST621I	IST623I
	IST634I	IST637I	IST655I	IST663I	IST664I	IST707I
	IST709I	IST744I	IST766I	IST767E	IST768E	IST769E
	IST770E	IST799I	IST804I	IST844I	IST883I	
Deleted	IST006I	IST012I	IST016I	IST042I	IST044I	IST048I
	IST098I	IST121I	IST273I	IST274I	IST286I	IST287I
	IST288I	IST289I	IST291I	IST292I	IST294I	IST295I
	IST296I	IST297I	IST298I	IST299I	IST342I	IST343I
	IST345I	IST346I	IST356I	IST369I	IST370I	IST371I
	IST372I	IST373I	IST374I	IST375I	IST376I	IST377I
	IST378I	IST379I	IST405I	IST584I	IST598I	IST625I
	IST626I	IST632I	IST633I	IST659I	IST662I	IST711I
	IST722I	IST733I	IST738I	IST739I	IST785I	IST827I
	IST829I	IST843I				

Message Number	Text
IST001I	VTAM START REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST002I	%%%%%%%% IS AN INVALID START PARM - ALL PARMS IGNORED
IST003I	ABEND OCCURRED DURING NETWORK DEFINITION OF CONFIG %%%%%%%%, CODE = %%%
IST004I	VTAM MAIN TASK ABEND - START REJECTED
IST009I	VTAM ALREADY ACTIVE - START REJECTED
IST010I	%%%%%%%% COMMAND INVALID
IST011I	%%%%%%%%%% FOR %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST013I	I/O ERROR FOR %%%%%%%% IN %%%%%%%%
IST014I	DEVICE SUPPORT MAY BE UNAVAILABLE - SYS000 NOT UNASSIGNED
IST015A	ERROR PROCESSING LIST IDENTIFIER - ENTER LIST ID OR BLANK
IST017I	UNABLE TO LOAD PHASE %%%%%%%%
IST018I	CONFIG COULD NOT BE INITIALIZED - VTAM START CONTINUES
IST019I	SYNTAX ERROR IN START OPTION %%%%%%%% - ENTER WHEN PROMPTED
IST020I	VTAM INITIALIZATION COMPLETE
IST025I	BLDL FAILED FOR %%%%%%%% IN %%%%%%%%
IST032I	%%%%%%%% FAILED - FIRST CHARACTER OF %%%%%%%% NOT ALPHABETIC
IST033I	%%%%%%%% COMMAND CANCELLED
IST037I	%%%%%%%% FAILED - SYNTAX ERROR
IST038I	VARY FAILED FOR ID = %%%%%%%% - HOST CDRM IS NOT ACTIVE
IST039I	%%%%%%%% FAILED - CANNOT IDENTIFY COMMAND TYPE
IST040I	START OPTION %%%%%%%% REQUIRED - REENTER WHEN PROMPTED
IST043I	%%%%%%%% INVALID VALUE FOR KEYWORD %%%%%%%%
IST046I	%%%%%%% THRESHOLD VALUE EXCEEDS NUMBER OF BUFFERS - NUMBER OF BUFFERS USED
IST047I	%%%%%%% BUFFER SIZE TOO SMALL - DEFAULT VALUE USED
IST049I	VTAM START REJECTED - OPEN FOR VTAM ACB FAILED, ACB ERROR FLAG = %%
IST050I	%%%%%%%% COMMAND REJECTED - OPEN FOR VTAM DATA SET %%%%%%%%%%% FAILED
IST051A	ENTER VTAM START PARAMETERS
IST052I	%%%%%%%% IS AN INVALID START PARAMETER KEYWORD - IGNORED
IST054I	%%%%%%%% IN %%%%%%%% %%%%%%%% - START PROCESSING CONTINUES
IST055I	%%% IS AN INVALID CONFIGURATION ID - PARAMETER IGNORED
IST056A	LIST = %%% IS INVALID - ENTER LIST ID OR BLANK
IST057I	KEYWORD MISSING AFTER TRACE/NOTRACE OPTION ON START PARMS
IST058I	%%%%%%%% AND %%%%%%%% OPTIONS HAVE DUPLICATE VALUES
IST059I	%%%%%%%%%%%%%%%%%%%%%%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST061I	%%%%%%%%%% FOR %%%%%%%%%%%%%%%% FAILED - NODE UNKNOWN TO VTAM
IST066I	%%%%%%%%%% FAILED - CONFLICTING OR INVALID OPTIONS
IST072I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED DURING NETWORK DEFINITION
IST073I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - MORE POWERFUL REQUEST IN PROGRESS
IST074I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INSUFFICIENT STORAGE
IST075I	NAME = %%%%%%%%%%%%%%%%%%, TYPE = %%%%%%%%%%%%%%%%
IST077I	SIO = %%%%%%%% CUA = %%%%%%%%%%%%%%%%%%%%
IST080I	%%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%%
IST081I	LINE NAME = %%%%%%%%, LINE GROUP = %%%%%%%%, MAJNOD = %%%%%%%%
IST082I	DEVTYPE = %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%

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Message Number	Text
IST084I	NETWORK NODES:
IST085I	DISPLAY FAILED - INFORMATION NOT AVAILABLE
IST087I	TYPE = %%%%%%%%%%%%%%%%%%%%, CONTROL = %%%%
IST089I	%%%%%%%% TYPE = %%%%%%%%%%%%%%%%%%%%, %%%%%%%%%% %%%%%%%%
IST092I	REQUESTED %%%%%%%%%% LESS THAN CURRENT ALLOCATION - REQUEST %%%%%%%%
IST093I	%%%%%%%% ACTIVE
IST095A	OPTION TO DUMP %%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,DUMPSTA=LINKSTANAME'
IST096I	%%%%%%%% FAILED - DUPLICATE %%%%%%% PARAMETERS SPECIFIED
IST097I	%%%%%%%% ACCEPTED
IST099I	%%%%%%%% FAILED - %%%%%%% NOT ALPHAMERIC
IST101I	%%%%%%%% FAILED - %%%%%%% NOT SPECIFIED
IST102I	VTAM IS NOW INACTIVE
IST105I	%%%%%%%% NODE NOW INACTIVE
IST107I	TIME AND DATE NOT SET IN %%%%%%% DUE TO INVALID TIMER IN HOST
IST109I	%%%%%%%% IS NOW TERMINATED
IST112I	VTAM INTERNAL TRACE MODIFY FAILED - CONFLICTING MODES
IST113I	%%%%%%%% IS A USERVAR WITH VALUE %%%%%%% IN NETWORK %%%%%%%
IST114I	SYNTAX ERROR IN %%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST115I	INSUFFICIENT STORAGE TO READ %%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST116I	MEMBER %%%%%%% NOT FOUND ON VTAM DEFINITION LIBRARY
IST117I	I/O ERROR READING %%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST118I	ERROR IN LIST = %% - ALL START PROCEDURE PARAMETERS IGNORED
IST119I	SYNTAX ERROR IN START PARM %%%%%%% - ALL PARMS IGNORED
IST120I	NODE %%%%%%% NOW HAS CONTROLLING LU %%%%%%%
IST122I	ATTACH OF VTAM SUBTASK %%%%%%% FAILED
IST124I	STOP COMMAND REJECTED - NOT SUPPORTED FOR VTAM
IST125A	ENTER VTAM PARAMETER OVERRIDES - EXCEPT LIST ID - OR DEFAULT
IST126I	%%%%%%%% MODE NOT SUPPORTED DUE TO LOADING FAILURE
IST127I	%%%%%%%% STILL ACTIVE - VTAM TERMINATION WAITING FOR %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST128I	HALT OF VTAM ALREADY IN PROGRESS
IST129I	UNRECOVERABLE OR FORCED ERROR ON NODE %%%%%%% - VARY INACT SCHED
IST130I	VTAM SUBTASK %%%%%%% INACTIVE - ABEND THRESHOLD EXCEEDED
IST132I	VTAM SUBTASK %%%%%%% NOT REATTACHED - CANNOT BE FOUND
IST133I	VTAM TERMINATION IN PROGRESS
IST134I	GROUP = %%%%%%%%, MAJOR NODE = %%%%%%%%
IST135I	PHYSICAL UNIT = %%%%%%%%%%%%%%%%%%%%
IST136I	%%%%%%%% SNA MAJOR NODE = %%%%%%%%
IST137I	CONFIG %%%%%%% BYPASSED - LOCAL ADDRESS OF LU %%%%%%% IS INVALID
IST142I	CONFIG %%%%%%% BYPASSED - PATH MACRO %%%%%%% ERROR, REASON CODE %
IST146I	LINE NAME = %%%%%%%%, STATUS = %%%%%
IST148I	DIAL OUT PATH INFORMATION FOR PHYSICAL UNIT %%%%%%%
IST149I	LINE GRP TELEPHONE NUMBER OR LINE NAME PID GID CNT
IST150I	RRT LOAD MODULE %%%%%%% DOES NOT CONTAIN RESOURCE SEGMENT %%%%%%%%
IST153I	PENDING DEACTIVATION OF %%%%%%% OVERRIDDEN

Message Number	Text
IST154I	EXPANSION FAILED FOR %% BUFFER POOL - CODE %
IST155I	SUBTASK %%%%%%%% HAS ABENDED, CODE %%%
IST159I	THE FOLLOWING NODES ARE IN A PENDING STATE
IST165I	CDRM %%%%%%%% HAS AN INVALID ELEMENT VALUE - 1 IS ASSUMED
IST167I	NO DIAL OUT PATH FOR %%%%%%%%
IST168I	%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%% %%% %%%
IST169I	DISCONNECTION CAUSED VARY %%%%% FOR PU = %%%%%%%%
IST170I	LINES:
IST171I	ACTIVE SESSIONS = %%%%%%%%%%, SESSION REQUESTS = %%%%%%%%%%
IST172I	NO %%%%%%%%%%%%%% %%%%%%%%
IST176I	%%%%%%%% FAILED - %%%%%%%% AND %%%%%%%% ARE CONFLICTING OPTIONS
IST180I	OPEN FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
IST181I	CLOSE FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
IST182I	UNABLE TO GET STORAGE FOR CKPT %%%%%%%% MAJOR NODE %%%%%%%%
IST183A	%%%%%%%% FOUND LOADED WITH %%%%%%%% - REPLY 'YES' TO REIPL OR 'NO' TO CONTINUE
IST184I	I/O ERROR ON CKPT DS %%%%%%%% MAJOR NODE %%%%%%%% RTNCD = %% %%
IST185I	LOGICAL ERROR ON CHECKPOINT DS %%%%%%%% MAJOR NODE %%%%%%%%
IST186I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES COLD - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
IST187I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
IST191I	%%%%%%%% SYNTAX ERROR
IST192I	POA MSG TRANSFER FAILED - INSUFFICIENT STORAGE
IST193I	REPLY %% IGNORED - REPLY TOO LONG FOR REQUESTOR
IST194I	REPLY %% NOT OUTSTANDING
IST195I	REPLY %% IGNORED - NON-DECIMAL ID
IST198I	VTAM INTERNAL TRACE ACTIVATION FAILED - GTF NOT ACTIVE
IST199I	OPTIONS = %%%
IST206I	SESSIONS:
IST208I	UNABLE TO TERMINATE SESSIONS FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST211I	NCP SLOWDOWN INITIATED FOR %%%%%%%%
IST212I	ACBNAME = %%%%%%%%
IST213I	ACBNAME FOR ID = %%%%%%%%
IST214I	NCP SLOWDOWN TERMINATED FOR %%%%%%%%
IST219I	I/O ERROR ON READ FOR %%%%%%%% - BYTECNT MISMATCH
IST221I	%%%%%%%% : %%%%%%%% IS INVALID, %, UNSUPPORTED OPTION - %%%%%%%%%%%%%%%%%
IST223I	MODIFY %%%%%%%% COMMAND COMPLETED
IST225I	%%%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST226I	%%%%%%%%%% FOR ID = %%%%%%%% NOT EFFECTIVE DURING CURRENT OR QUEUED SESSIONS
IST228I	ENCRYPTION = %%%%%%%%%
IST231I	%%%%%%%% MAJOR NODE = %%%%%%%%
IST232I	%%%%%%%%, %%%%%%%%%%%%%%%%%%%%%
IST234I	I/O ERROR %%%%%%%%%%%%%%%%%%%%%%%
IST238I	%%%%%%%%%% %%% FOR ID = %%%%%%%% RCVD %%
IST240A	WAIT STATE IN VTAM DUE TO INSUFFICIENT NUMBER OF I/O BUFFERS SPECIFIED BY USER

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Message Number	Text
IST241I	%%%%%%%%%% COMMAND COMPLETE FOR %%%%%%%%%%%%%%%%%
IST242I	%%%%%%%%%% COMMAND FAILED FOR ID = %%%%%%%% SENSE = %%%%%%%%
IST243I	FRAMES SENT = %%%%%, RCVD = %%%%%, RCVD WITHOUT ERRORS = %%%%%
IST244I	NCP %%%%%%%%%%% STORAGE FOR ID = %%%%%%%%
IST245I	%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST247I	LOAD/DUMP PROCEDURE STATUS = %%%%%
IST251I	CONFIG %%%%%%%% LUPOOL MACRO %%%%%%%% IGNORED - OWNER KEYWORD REQUIRED
IST252I	%%% %%%%%%%% %%%%%%%%% VTAM CODE %%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%
IST257I	VTAM SDUMP FAILED WITH RETURN CODE %%%%
IST258I	STMT IN ERROR = %%
IST259I	INOP RECEIVED FOR %%%%%%%% CODE = %% %%
IST260I	%%%%%%%% - %%%%%%%% SESSION LOST, SA %%%%%%%%%% CODE %%
IST262I	%%%%%%%% = %%%%%%%%, STATUS = %%%%%%%%%%
IST264I	REQUIRED %%%%%%%%%%%%% %%%%%%%% %%%%%%%%%%%%%%%
IST265I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUP %%%%%%%% HL %%%%%%%%
IST266I	%%%%%%%% STARTED
IST270I	LOAD OF %%%%%%%% COMPLETE - LOAD MODULE = %%%%%%%
IST271I	JOBNAME = %%%%%%%%, STEPNAME = %%%%%%%%
IST272A	NO INITIAL TEST FOR %%%%%%%% - REPLY 'U' TO BYPASS - OR CANCEL
IST278A	INVALID REPLY FOR ID = %%%%%%%% LOAD - ENTER 'U' - OR CANCEL
IST282A	INVALID REPLY FOR ID = %%%%%%%% %%%%%%%%%% %%%
IST284A	OPTION TO RELOAD %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,LOADSTA=LINKSTANAME'
IST285I	%%%%%%%% DUMP OF %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST301I	INSUFFICIENT VFBUF STORAGE FOR I/O TRACE TABLE
IST302I	INVALID DEFINITION TYPE IN MEMBER %%%%%%%% IN VTAM DEFINITION LIBRARY
IST303I	INSUFFICIENT STORAGE TO BUILD CONFIGURATION %%%%%%%%
IST309I	UNABLE TO LOAD MODULE %%%%%%%% FROM LIBRARY %%%%%%%%
IST310I	INVALID SPACE REQUEST FOR CONFIGURATION %%%%%%%%
IST311I	NCP LOAD MODULE LIBRARY %%%%%%%% - FAILED TO OPEN
IST314I	END
IST315I	VTAM INTERNAL TRACE ACTIVE - MODE = %%%, SIZE = %%%
IST316I	VTAM INTERNAL TRACE NOW INACTIVE
IST317I	VTAM INTERNAL TRACE ACTIVATION FAILED - INSUFFICIENT STORAGE
IST318I	VTAM INTERNAL TRACE ACTIVATION FAILED - UNABLE TO FIX STORAGE
IST319I	CONFIGURATION %%%%%%%% FIRST SPECIFICATION USED %%%%%%%%%%%%%%%%%%%%%%
IST320I	CONFIGURATION %%%%%%%% DEFINITION FAILED - %%%%%%%%%%%%%%%%%%%
IST321I	CONFIGURATION %%%%%%%% DEFAULT TAKEN - %%%%%%%%%%%%%%%%%%%%%%
IST322I	CONFIGURATION %%%%%%%% ERROR IGNORED - %%%%%%%%%%%%%%%%%%%%%%
IST323I	LABEL = %%%%%%%% - MACRO TYPE = %%%%%%%% - KEYWORD = %%%%%%%%
IST324I	%%%%%%%% IN PROGRESS WITH ID = %%%%%%%% DUE TO %%%%%%%%%% REQUEST
IST326I	REQUEST = %%%%%%%%%% FAILED FOR %%%%%%%% ID = %%%%%%%%, SENSE = %%%%%%%%
IST327I	%%%%%%%% ID = %%%%%%%% INCOMPLETE, REQUEST = %%%%%%%%%%, SENSE = %%%%%%%%
IST328I	COMMUNICATION WITH CDRM ID = %%%%%%%% LOST

Message Number	Text
IST329I	THIS NODE WAS NOT ORIGINALLY OWNED BY THIS HOST
IST330I	TABLE TYPE = %%%%%%%% NAME = %%%%%%%%
IST331I	CONFIG %%%%%%%% BYPASSED - 'MAXSUBA' VALUES CONFLICT
IST333I	CONFIG %%%%%%%% USING DUPLICATE RESOURCE NAME %%%%%%%% - CODE %
IST336I	THIS NCP MAJOR NODE WAS %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST339I	CONFIG %%%%%%%% BYPASSED - %%%%%%%% UNKNOWN TO THE NCP
IST348I	UNABLE TO PROCESS DISCONNECTION FOR PU = %%%%%%%% DUE TO LACK OF STORAGE
IST350I	DISPLAY TYPE = %%%%%%%%%%%%%%%%%%%%
IST351I	LOCAL 3270 MAJOR NODE = %%%%%%%%
IST352I	LOCAL SNA MAJOR NODE = %%%%%%%%
IST353I	SWITCHED SNA MAJOR NODE = %%%%%%%%
IST354I	PU T4/5 MAJOR NODE = %%%%%%%%
IST355I	LOGICAL UNITS:
IST359I	ATTACHMENT = %%%%%%%%
IST360I	APPLICATIONS:
IST361A	%%%%%%%%%%%%%%%%%%% FOUND LOADED WITH %%%%%%%%%%%%%%%%%%% REPLY 'YES' TO RELOAD OR 'NO' TO CANCEL ACTIVATION
IST362I	GROUP %%%%%%%% DEVICES UNAVAILABLE - MISSING SYSCNTRL OPTION
IST363I	CONFIG %%%%%%%% NODES AND SUBNODES SET UNAVAILABLE - %%%%%%%%%%%%%%%%%%%%%%
IST366I	CONFIG %%%%%%%% UNABLE TO DEFINE %%%%%%%% - MAXIMUM NUMBER OF NETWORK ADDRESSES FOR HOST SUBAREA EXCEEDED
IST367I	NO STORAGE TO DEFINE NODE %%%%%%%% CONFIG %%%%%%%%
IST368I	FUNCTION GROUP %%%%%%%% FAILED
IST380I	ERROR FOR ID = %%%%%%%% - REQUEST: %%%%%%%%%%, SENSE: %%%%%%%%
IST381I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CANNOT DEFINE NODE
IST382I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - STATE: %%%%% NOT VALID FOR REQUEST
IST383I	DEACTIVATION OF ID = %%%%%%%% FAILED - REQUEST: %%%%%%%%%% SENSE: %%%%%%%%
IST384I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED
IST388I	DYNAMIC CDRSC DEFINITION SUPPORT = %%%
IST389I	PREDEFINITION OF CDRSC = %%%
IST391I	ADJ LINK STATION = %%%%%%%%, LINE = %%%%%%%%, NODE = %%%%%%%%
IST393I	PU T4/5 MAJOR NODE %%%%%%%%, SUBAREA = %%%%%%%%%%
IST394I	ADJACENT LINK STATIONS NOT OWNED BUT AWAITING ACTIVATION
IST395I	%%
IST396I	LNKSTA STATUS CTG GTG ADJNODE ADJSA NETID
IST397I	%%%
IST398I	LOAD OF %%%%%%%% FAILED - %%%%%%%% HAS ZERO ENTRY POINT
IST399E	ISTSDCOS IS NOT A CLASS OF SERVICE TABLE - ISTSDCOS DELETED
IST400I	TERMINATION IN PROGRESS FOR APPLID %%%%%%%%
IST401I	%%%%%%%%%% INITIATED FOR ID = %%%%%%%%
IST403I	%%%%%%%% COMMAND FAILED - MULTIPLE OPTIONS FOR %%%%%%%% NOT ALLOWED
IST404I	%%%%%%%% PARAMETER IGNORED - MULTIPLE OPTIONS NOT ALLOWED
IST407I	MODIFY ATTACH FAILED - %%%%%%%% ALREADY ATTACHED
IST408I	MODIFY DETACH FAILED - %%%%%%%% NOT ATTACHED

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Message Number	Text
IST409I	MODIFY ATTACH FAILED - INSUFFICIENT STORAGE
IST410I	%% BUFFER POOL COULD NOT BE BUILT - CODE %
IST411I	%%%%%%%% COMMAND REJECTED DUE TO TERMINATION IN PROGRESS
IST412I	VTAM COMMAND PROCESSING TERMINATED
IST413I	VTAM DUMPING FOR %%%%%%%%%%%%%%%%%%%%%%%%%%
IST414I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PROCESS UNAVAILABLE
IST422I	I/O ERROR ON DS %%%%%%%% RTN CD = %%, %%
IST423I	UNABLE TO GET STORAGE FOR DS %%%%%%%%
IST424I	CLOSE FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST425I	OPEN FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST430I	%%%%%%%%%% FOR ID = %%%%%%%% DISCARDED
IST431I	%%%%%%%% NOT WITHIN ALLOWABLE RANGE OF VALUES
IST432I	TUNING STATISTICS NOT ACTIVE, SMF NOT IN SYSTEM
IST433I	COMMAND REJECTED - TUNING STATISTICS TASK NOT ATTACHED
IST435I	UNABLE TO RECORD ON SMF FILE, RETURN CODE = %%%%
IST436I	STORAGE NOT AVAILABLE FOR TUNING STATISTICS DATA
IST437I	I/O TRACE TABLE FULL
IST440I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST441I	DLRMAX = %%%%%%%% CHWR = %%%%%%%% CHRD = %%%%%%%%
IST442I	ATTN = %%%%%%%% RDATN = %%%%%%%% IPIU = %%%%%%%%
IST443I	OPIU = %%%%%%%% RDBUF = %%%%%%%% SLODN = %%%%%%%%
IST446I	I/O ERROR %%%, %%%%%%%%%%%%%%%%%%%%%%%%%, %%%%%%%%%%%%
IST447I	BUFFER SIZE WAS IGNORED FOR ONE OR MORE POOLS
IST448I	%%%%%%%% OPTION IGNORED - %%%%%%%%%%%%%%%%%%%%%%
IST449I	%%%%%%%%%%% = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST450I	INVALID %%%%%%%% COMMAND SYNTAX
IST451I	%%%%%%%% COMMAND UNRECOGNIZED
IST452I	%%%%%%%% PARAMETER EXTRANEOUS
IST453I	%%%%%%%% PARAMETER VALUE INVALID
IST454I	%%%%%%%% COMMAND FAILED, INSUFFICIENT STORAGE
IST455I	% SESSIONS ENDED
IST456I	%%%%%%%% REQUIRED PARAMETER OMITTED
IST457I	POSITIVE % COMMAND RESPONSE
IST458I	USS MESSAGE %%% NOT DEFINED
IST459I	%%%%%%%%%% FAILED - ID = %%%%%%%% - ADJ NODE %%%
IST460I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% FAILED: %%
IST461I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% STARTED
IST462I	ACTIVATION OF LINK STATION %%%%%%%% IS DEFERRED PENDING HIGHER LEVEL NODE ACTIVATION
IST464I	LINK STATION %%%%%%%% HAS CONTACTED %%%%%%%% SA %%%%%%%%%%
IST465I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NO %%%% STATION AVAILABLE
IST466I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - UNABLE TO DO %%

Message Number	Text
IST467I	CONTACTED ERROR TYPE %%% FOR ID = %%%%%%%%
IST468I	XID1=%%%
IST469I	%%
IST470I	XID2=%%%
IST471I	%%
IST473I	CONNECTIVITY TEST TO %%%%%%%% TERMINATED AFTER %%% ECHOES DUE TO I/O ERROR, SENSE = %%%%%%%%
IST474I	NO SUBTASK FOUND FOR THE ID SPECIFIED ON MODIFY MSG COMMAND
IST475I	%%%%%%%% FAILED FOR %%%%%%%% REQUEST %%%%%%%%%% SENSE %%%%%%%%
IST476I	CDRM TYPE = %%%%%%%%%%%%%%%%%%%%%%%%%
IST477I	CDRMS:
IST478I	CDRSCS:
IST479I	CDRM NAME = %%%%%%%%, VERIFY OWNER = %%%
IST482I	%%%%%%%% %%%%%, SA %%%%%%%%%%, EL %%%%%, NETID = %%%%%%%%
IST483I	%%%%%%%% %%%%%%%%%%, CDRM = %%%%%%%%, NETID = %%%%%%%%
IST484I	SUBAREA = %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%
IST486I	CURRENT STATE = %%%%%%%%%%, DESIRED STATE = %%%%%
IST487I	%%%%%%%%%% FOR ID = %%%%%%%% SCHEDULED BY %%%%%%%%%%
IST488I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUPLICATE NODE: %%%%%%%%
IST489I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - CANNOT DEFINE NODE: %%%%%%%%
IST490I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%% IN PROGRESS
IST493I	%%%%%%%%%% FOR ID = %%%%%%%% OVERRIDDEN BY %%%%%%%%%%
IST494I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - ALREADY IN DESIRED STATE
IST495I	%%%%%%%%%%% HAS BEEN SET TO %%%%%%%%
IST496E	%%%%%%%%%%%%%%%%%%%%%% FUNCTION INOPERATIVE DUE TO ABEND
IST499I	DISK FUNCTIONS FOR %%%%%%%% NOT PERFORMED
IST500I	NO TRFILE AVAILABLE - WRAP-MODE TRACE ONLY
IST501I	ATTACH OF TRACE I/O SUBTASK FAILED
IST502A	OPTION TO REPLACE TRFILE TAPE ON SYS001
IST503I	TRACE FILE UNUSABLE - CONTINUING IN WRAP-MODE
IST504I	VTAM TRACE SUBTASK STARTED
IST505I	VTAM TRACE SUBTASK ENDED
IST506I	%%%%% TRACE RECORDS LOST DURING %%%%%%%%
IST507I	%%%%%%%% NOT ACTIVE, TSO TRACE REQUEST IGNORED
IST510I	ROUTE TEST %%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST511I	TRACE REQUEST FAILED - %%%%%%%% INVALID
IST512I	TRACE TERMINATED FOR NODE = %%%%%%%%
IST513I	TRACE INITIATED FOR NODE %%%%%%%%
IST516I	DESTSUB ADJSUB ER ER STATUS VR(S)
IST517I	%%%%%%%%%% %%%%%%%%%% %% %%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST518I	%%%%%%%%%%%%%%%%%%%%%%%%
IST520I	UNABLE TO PROCESS %%
IST521I	GBIND %%%%%% FOR COS %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%
IST522I	%%%% %%%%% %%%%%%%% SA %%%%%%%%%% TO SA %%%%%%%%%% %%%%%%%

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Message Number	Text
IST523I	REASON = %%
IST524I	REVERSE ER MASK = %%%%
IST525I	REJECTING SA %%%%%%%%%% USING TG %%% ADJACENT SA %%%%%%%%%%
IST526I	ROUTE FAILED FROM %%%%%%%%%% TO %%%%%%%%%% - DSA %%%%%%%%%% - NETID %%%%%%%%
IST528I	VIRTUAL ROUTE NUMBER %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST529I	VR SELECTION EXIT %%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%
IST530I	%%%%%%%%%% PENDING %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST531I	%%
IST532I	EVENT CODE = %%%% EVENT ID = %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST533I	ER %% %%%%%%%% IN ROUTE TEST %%%
IST534I	%%%%%%%%%% %%% %%%%%%%%% %%%%%%%%% %%%
IST535I	ROUTE DISPLAY %%% FROM SA %%%%%%%%%% TO SA %%%%%%%%%%
IST536I	VR TP STATUS ER ADJSUB STATUS
IST537I	%% %% %%%%%% %% %%%%%%%%%% %%%%%%
IST538I	ROUTE TEST %%% IN PROGRESS
IST539I	DISPLAY ROUTE COMMAND FAILED, COS CANNOT BE RESOLVED
IST540I	DISPLAY ROUTE COMMAND FAILED, SENSE = %%%%%%%%
IST541I	FOLLOWING PATH DEFINITION IS IGNORED
IST542I	INVALID DESTSA %%%%%%%%% FOR PATH DEFINITION - IGNORED
IST543I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% IS REDEFINED AS FOLLOWS
IST544I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST546I	UNABLE TO PROCESS %%
IST547I	EXPLICIT ROUTE MASK %%%%
IST548I	%%%%%%%%%% FAILED %%
IST549I	LL2 TEST FOR ID = %%%%%%%% ENDED %%%%%%%%%%%%%%%%%%%%%%%%
IST561I	STORAGE UNAVAILABLE: %% BUFFER POOL
IST562I	STORAGE UNAVAILABLE: %%%%%%%%%% REACHED
IST563I	STORAGE UNAVAILABLE: MAXPVT REACHED FOR %%%%%%%% %%%%%%%%
IST564I	STORAGE UNAVAILABLE: COMMON AREA SUBPOOL %%%
IST565I	STORAGE UNAVAILABLE: VTAM PRIVATE AREA SUBPOOL %%%
IST566I	STORAGE UNAVAILABLE: %%%%%%%% %%%%%%%% SUBPOOL %%%
IST567I	%%%%%%%%%% OF %%%%%%%% FOR %%%%%%%% %%%%%%%%%%%%
IST571I	LOAD FAILED FOR ID = %%%%%%%% REQ: %%%%%%%%%%, SENSE: %%%%%%%%
IST572I	REJECTING TG ADJACENT ER MASK
IST573I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST574E	START I/O TIMEOUT OCCURRED FOR %%%%%%%%
IST576I	TSO TRACE = %%%
IST577I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST578I	CHNRM = %%%%%%%% CHMAX = %%%%%%%% RDBUF = %%%%%%%%
IST579I	ATTN = %%%%%%%% TIMERS = %%%%%%%% QDPTH = %%%%%%%%
IST580I	BUFCAP = %%%%%%%% PRI = %%%%%%%% SLODN = %%%%%%%%
IST581I	IPIU = %%%%%%%% OPIU = %%%%%%%% DLRMAX = %%%%%%%%
IST582I	'EVERY' INVALID FOR TRACE OF ID = %%%%%%%% - OPERAND IGNORED
IST583I	CONFIG %%%%%%%% NOT PROCESSED - SYSDEF TASK NOT ATTACHED

Message Number	Text
IST585E	VTAM UNABLE TO CLOSE %%%%%%%% - RESOURCES MAY BE LOST TO VTAM
IST587I	IRN STORAGE %%%%%%%% CAUSED BY SLOWDOWN OF NODE %%%%%%%%
IST588I	SIT TRACE STATUS = %%%%%
IST589I	ERROR FOR ID = %%%%%%%%, CODE = %, NET = %%%%%%%%
IST590I	CONNECT%%% %%%%%%%%%%% FOR PU %%%%%%%% ON LINE %%%%%%%%
IST591E	VTAM COMMAND CANCELED DUE TO VTAM TASK ABEND - %%% - RETRY COMMAND
IST592I	VTAM MAIN TASK ABEND - CODE %%% - VTAM IS BEING TERMINATED
IST593I	ISTPDCI.U %%%%%%%%%%%%%%%%% SESSION ENDED
IST594I	ISTPDCLU %%%%%%%%% FAILED %%% %%%
IST595I	IRNLIMIT = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST596I	IRN TRACE = %%%
IST597I	CAPABILITY-PLU %%%%%%%%,SLU %%%%%%%%,SESSION LIMIT %%%%%%%%
IST599I	REAL NAME = %%%%%%%%%%%%%%%%%
IST602I	%%%%%%%% FAILED ID = %%%%%%%% - HIGHER NODE HAS BECOME INACTIVE
IST605I	ERROR FOR ID = %%%%%%%% - %%%%%%%% : %%%%%%%%%%, DATA INVALID FOR THIS NODE
IST607I	%%%%%%%%%% FOR %%%%%%%%%%%%%%%%% FAILED - INVALID NODE TYPE OR STATE
IST608I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - HIGHER NODE: %%%%%%%% NOT ACTIVE
IST610I	LINE %%%%%%%% - STATUS %%%%%%%%%%
IST611I	ADJACENT SSCP TABLE FOR %%%%%%%% %%%%%%%%%%%
IST617I	DEACTIVATION IN PROGRESS FOR %%%%%%%%
IST619I	ID = %%%%%%%% FAILED - RECOVERY IN PROGRESS
IST621I	%%%%%%%%%%%%%%%%%%%%%% FOR NETWORK NODE %%%%%%%%
IST623I	DEFAULT ADJACENT SSCP TABLE %%%%%%%%%%%%
IST624I	%%%%%%%%
IST627I	%%%%%%%% - INSUFFICIENT STORAGE
IST634I	NAME STATUS SID SEND RECV VR TP NETID
IST635I	%%%
IST636I	CDRSCS OWNED BY %%%%%%%% -
IST637I	SUBAREA=%%%%%%%%%% ELEMENT=%%%%%
IST638I	ADJNETSA = %%%%%%%%%%, ADJNETEL = %%%%%
IST639I	GWN = %%%%%%%%, ADJNET = %%%%%%%%
IST640I	%%%%%%%% ADDR IN ADJNET - SA = %%%%%%%%%%, EL = %%%%%
IST641I	GATEWAY PATH SELECTION LIST -
IST642I	ADJNET GWN SUBAREA ELEM ADJNETSA ADJNETEL
IST643I	%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%% %%%%%%%%%% %%%%%
IST644I	%%%%%%%% TG %%%%%%%% %%%%%%%%
IST645I	%%%%%%%% DEFINITION FAILED - NO VALID %%%%%%%% MACRO
IST650I	POLL = %%%, NEGPOLL = %%%, SESSION(S) = %%%
IST652I	%%%% = IS A DUPLICATE KEYWORD WITHIN THE TRACE/NOTRACE OPTION
IST654I	I/O TRACE = %%%, BUFFER TRACE = %%%
IST655I	%%%% TRACE STATUS = %%%%%
IST656I	ACTIVATE REJECTED FROM UNDEFINED CDRM, SA %%%%%%%%%% EL %%%%%
IST658I	%%%%%%%% COMMAND FAILED - %%%%%%%% NOT FOUND
IST660I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PARM: %%%%%%%%%%%%%%% NOT VALID

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Message Number	Text
IST663I	%%%%%%%%% REQUEST %%%%%%%%%%%%%%%%%%%%%, SENSE=%%%%%%%%
IST664I	%%%%% %%%=%%%%%%%%%%%%%%%%%% %%%%% %%%=%%%%%%%%%%%%%%%%
IST670I	VARY %%%% PROCESSING FOR ID = %%%%%%%% COMPLETE
IST674I	%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - PARM: %%%%%%%%%%%%%% IGNORED
IST675I	VR = %%, TP = %%
IST678I	%%%%%%%% SUBTASK END NOT SCHEDULED, INSUFFICIENT STORAGE
IST679A	PLEASE DIAL LINE = %%%%%%%%, NUMBER = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST680I	CONNECTION REQUEST DENIED - ID = %%%%%%%% %%%%%%%%%%%%%%%%
IST683I	CONNECTION REQUEST DENIED, ID = %%%%%%%%
IST684I	I/O ERR, CSW = %%%%%%%%%%%%%%%%, SENSE = %%%%
IST688I	VARY FAILED FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST690I	CONNECTION REQUEST DENIED - INVALID STATION ID = %%%%%%%%%%%%
IST693I	UNABLE TO DISCONNECT ID = %%%%%%%%
IST700I	INVALID %%%%% - SKIPPING TO NEXT NETWORK STMT OR EOF
IST701I	CONFIG %%%%%%%% LABEL = %%%%%%%% STMT TYPE = %%%%%%%%
IST702I	CONFIG %%%%%%%% - UNEXPECTED %%%%%%%%%%%%%%%%%%%%%%%%
IST703I	CONFIG %%%%%%%% ADJSSCP DEFINITIONS IGNORED - NO ADJCDRM STMT
IST706I	ADJSSCP TABLE FOR %%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST707I	ADJSSCP TABLE BEING MODIFIED BY ACTIVATION OF %%%%%%%%
IST708I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%
IST709I	CONFIG %%%%%%%% FAILED-%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST710I	CONFIG = %%%%%%%% NETWORK = %%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST712I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - MISSING OPERANDS
IST713I	CONFIG %%%%%%%% GWPATH %%%%%%%% - %%%%%%%% OPERAND IGNORED
IST714I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - INVALID STMT
IST715I	CONFIG %%%%%%%% CDRM %%%%%%%% IGNORED - GWPATH STMT MISSING
IST716I	%%%%%%%%% FOR %%%%%%%% FAILED
IST717I	NETID %%%%%%%% ID %%%%%%%% SA %%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST718I	ADDRESS INVALID FOR NETID=%%%%%%%% CDRM=%%%%%%%% CODE=X'%%'
IST719I	%%%
IST720I	%%%%%%%% HAS CONTACTED %%%%%%%% IN %%%%%%%%, SA %%%%%%%%%
IST721I	SESSION SETUP FOR CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST723I	SSCPID %%%%%%%%%%% ALREADY IN USE BY CDRM %%%%%%%%
IST725I	GWN %%%%%%%%, SUBAREA %%%%%%%%%, CDRM ALIAS ELEMENT %%%%%
IST726I	ADJNET %%%%%%%%, ADJNETSA %%%%%%%%%, ADJNETEL %%%%%
IST727I	COMMUNICATION WITH CDRM %%%%%%%% LOST - REASON = X'%%'
IST728I	GWPATHS FOR GWN %%%%%%%% ARE NOW %%%%%%%% FOR THESE CDRMS
IST732I	%%%%%%%%% REJECTED DUE TO %%%%%%%%%%%%%%%%%%%%
IST734I	ACTIVATION OF CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST735I	NO ADDRESS TRANSFORMS - REQACTCDRM SENT
IST737I	DEFAULT VR LIST USED FOR CDRM %%%%%%%% USING GWN %%%%%%%%
IST740I	UNABLE TO FREE ALIAS ADDRESSES FOR CDRM %%%%%%%% GWN %%%%%%%%
IST742I	ACTIVATION OF CDRM %%%%%%%% %%%%%% - GWN PATH NOT AVAILABLE
IST744I	CROSS-NETWORK SESSION SETUP FAILED, NETWORK = %%%%%%%%

Message Number	Text
IST745I	ACTCDRM TO CDRM = %%%%%%%% FAILED, SENSE = %%%%%%%%
IST746I	BIND FAILED FROM %%%%%%%% TO %%%%%%%%, SENSE = %%%%%%%%
IST751I	SIO = %%%%%%%%, ERROR CT = %%%%%%%%, CUA = %%%
IST752I	GPT TRACE STATUS = %%%%
IST753I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - ID NOT OWNED BY SSCP
IST755I	ALERT FROM PU %%%%%%%% FOLLOWS
IST756E	ALERT FROM PU %%%%%%%% FOLLOWS
IST757E	MOSS UNAVAILABLE - HARDWARE ERROR
IST758E	MOSS RELOADED - HARDWARE ERROR
IST759E	MOSS DISKETTE UNUSABLE
IST760E	MOSS DISKETTE HARDWARE ERROR
IST761E	MOSS CONSOLE UNAVAILABLE
IST762I	MOSS IN MAINTENANCE MODE
IST763I	PHYSICAL UNIT RELOADED - HARDWARE ERROR
IST764I	PHYSICAL UNIT RELOADED - PRIOR ABEND CODE WAS %%%%%%%%
IST765E	CHANNEL ADAPTER %%%%%%%% UNAVAILABLE - HARDWARE ERROR
IST766I	DUMP FAILED - NO %%%% DUMP ON %%%%%%%% DISK(ETTE)
IST767E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE ERROR
IST768E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE ERROR
IST769E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE ERROR
IST770E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE ERROR
IST771E	SCANNER %%%%%%%% LINE %%%%%%%% UNAVAILABLE - HARDWARE ERROR
IST772I	UAC = %% %%
IST773I	SESSION WITH %%%%%%%% IN PROCESS OF BEING TERMINATED
IST778I	%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST784I	SESSION(S) EXIST(S) WITH UNKNOWN PARTNER
IST786I	%%%%%%%% COMMAND REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST787I	SSCP TAKEOVER FOR NODE %%%%%%%% IN PROGRESS
IST788I	MODIFY ATTACH FAILED - SUBTASK LIMIT EXCEEDED
IST789I	%%%%%%%%%% FAILED FOR ID = %%%%%%%%, CA / NCP CONFLICT
IST790I	MAXIMUM %%%%% USED = %%%%%%%K
IST792I	NO SUCH SESSION EXISTS
IST793E	SESSION MANAGEMENT ERROR, CODE %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST794I	VTAM START REJECTED - CANNOT LOAD %%%%%%%%
IST796I	HOSTSA VALUE EXCEEDS MAXSUBA
IST797I	FROM VIA ADJACENT DEST ER LENGTH
IST798I	%%%%%%%%
IST799I	%%%%%%%%%%%%%%% %%%% IN PROGRESS
IST803I	VTAM TERMINATION TASK TERMINATED-OPEN FAILED
IST804I	CLOSE IN PROGRESS FOR %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
IST805I	VTAM CLOSE COMPLETE FOR %%%%%%%%
IST806I	ABEND CLOSE IN PROGRESS - %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
IST807I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE IS IN TEST MODE
IST808I	ORIGIN PU = %%%%%%%% DEST PU = %%%%%%%% %%%%%%%%%%%%%%%%

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Message Number	Text
IST809I	XRF SESSIONS - PRIMARY = %%%% BACKUP = %%%%
IST810I	NAME = %%%%%%%, VALUE = %%%%%%%
IST811I	USERVAR(S)
IST812I	%%%%%%% COMMAND NOT ACCEPTED
IST813I	USERVAR %%%%%%% CHANGED FROM %%%%%%% TO %%%%%%%
IST814I	USERVAR %%%%%%% DELETED
IST815I	AUTOMATIC RECOVERY IS SUPPORTED
IST816I	%%%%%%%%% %%% %%%%%%%% %%%%
IST819I	CDRM %%%%%%% COMMUNICATION LOST - RECOVERY IN PROGRESS
IST820I	%%%% RSP DATA DISCARDED FOR ID = %%%%%%% - INSUFF STORAGE
IST821I	SUBTASK %%%%%%% TERMINATED, COMPLETION CODE %%%%%
IST822I	CDRM %%%%%%% RECOVERY FAILED - INSUFFICIENT STORAGE
IST823I	X.25 NETWORK ERROR %%%, %%%, %%%
IST824I	X.25 INCOMING CALL REJECTED - %%%, %%%
IST825I	USERVAR DEFINED - NAME = %%%%%%%, VALUE = %%%%%%%
IST826I	VTAM START REJECTED--START COMMAND NOT USED FOR VTAM INITIALIZATION
IST830I	ORIGINATING SSCP NAME = %%%%%%%, NETID = %%%%%%%
IST831I	DUPLICATE ADJCDRM NAME %%%%%%% IN %%%%%%%
IST832I	UNLABELED %%%%%%% STMT IN %%%%%%%
IST833I	SKIPPING TO NEXT %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST834I	%%%% BACKUP SESSION(S) EXIST(S) WITH UNKNOWN PARTNERS
IST835I	%%%%%%% COMMAND FAILED - NO USERVARS DEFINED
IST836I	X.25 NETWORK RESTART/RESET/CLEAR %%%, %%%, %%%, %%%
IST837I	X.25 DEFINITION ERROR %%%, %%%
IST838I	TRACE STATUS DISPLAY FOR ID = %%%%%%%
IST839I	PU NAME LINE NAME
IST840I	%%%%%%% %%%%%%%
IST841I	NO RESOURCES ARE BEING TRACED FOR %%%%%%%
IST842I	UNABLE TO FIND BUFFERS IN %% POOL - DUMP IN PROGRESS
IST844I	VTAM START REJECTED - %%%%%%% IS DUPLICATE NAME
IST845I	X.25 DIAGNOSTIC PACKET %%%, %%%
IST846I	REAL I/O NOT SUPPORTED BECAUSE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST849I	%%%%%%% INCONSISTENT WITH USE OF %%%%%%% IN %%%%%%%
IST860I	DEACTIVATION OF %%%%%%% INCOMPLETE - INSUFFICIENT STORAGE
IST861I	MODETAB=%%%%%%% USSTAB=%%%%%%% LOGTAB=%%%%%%%
IST862I	NETID = %%%%%%% COSTABLE = %%%%%%%%%%%%%%%%%%
IST863I	MODIFY TABLE COMMAND FAILED-%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST864I	NEWTAB=%%%%%%%, OLDTAB=%%%%%%%, OPT=%%%%%%%%, TYPE=%%%%%%%
IST865I	%%%%%%%%%%%% COMMAND COMPLETE-%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST866I	%%%%%%%% HAD NO EFFECT - %%
IST867I	SIT TRACE FOR %%%%%%% FAILED TO ACTIVATE
IST868I	%%%%%%% LU UNKNOWN TO VTAM - DUMMY LU DEFINED
IST869I	USERID = %%%%%%%
IST870I	NETWORK ADDRESS RECEIVED FOR %%%%%%% IN USE BY %%%%%%%

Message Number	Text
IST871I	RESOURCE %%%%%%%% %%%%%%%%%%
IST872I	DR MOVE MISMATCH DETECTED FOR %%%%%%%%
IST873I	PLU SLU SID STATUS
IST874I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% %%%%%%%%
IST875I	ADJSSCP TOWARDS %%% = %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%
IST876I	SIGNALS NEEDED TO COMPLETE SESSION %%%%%%%%
IST877I	%%%%%%%%%%%%%% %%%%%%%%%%%%%% %%%%%%%%%%%%%% %%%%%%%%%%%%%%
IST878I	NUMBER OF %%%%%%% SESSIONS = %%%%%%%%%%
IST879I	%%%%%%% REAL = %%%%%%%%%%%%%%%% ALIAS = %%%%%%%%%%%%%%%%
IST880I	SETUP STATUS = %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%
IST881I	%%%%%%%%%%%%%%%% LINK STATION %%%%%%%%
IST882I	WAITING FOR DEVICE END FROM DEVICE
IST883I	%%%%%%%% OF SAW BUFFERS USED %%%%%%%%%%%%%%%%%%%%%%%%%%
IST886I	%%%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%%% %%%%%%%%%%%% FAILED
IST887I	NO COS TABLE FOR %%%%%%%% - %%%%%%%%%%%%%%%% MAY BE USED
IST888I	ADDR + LENGTH VALUES EXCEED STORAGE - LENGTH SET TO %%%
IST889I	SID = %%%%%%%%%%%%%%%%
IST890I	AUTOLOGON SESSION SETUP FAILED
IST891I	%%%%%%%%%%%%%%%%%%%%%%%%%% GENERATED FAILURE NOTIFICATION
IST892I	%%%%%%%%%%%%%%%% ORIGINATED FAILURE NOTIFICATION
IST893I	ORIGINAL FAILING REQUEST IS %%%%%%%%%
IST894I	ADJSSCPS TRIED FAILURE SENSE ADJSSCPS TRIED FAILURE SENSE
IST895I	%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST896I	AUTOLOGON WILL BE RETRIED WHEN CONTROLLING PLU IS AVAILABLE
IST897I	LOAD OF %%%%%%% STARTED
IST899I	RETRY OF AUTOLOGON(S) TO %%%%%%%%%%%%%%%% %%%%%%%%%%%%%
IST900I	TRACE PRINT UTILITY STARTED
IST901A	'PRINT' OR 'CANCEL' MISSING - REENTER LINE
IST902A	INVALID PRINT OPTION - REENTER LINE
IST903A	INVALID PRINT NODENAME - REENTER LINE
IST904A	MAXIMUM OF 50 NODENAMES - ENTER ADDITIONAL OPTIONS
IST905A	ENTER TRACE PRINT OPTIONS OR 'CANCEL'
IST906A	ENTER ADDITIONAL OPTIONS OR 'CANCEL'
IST907A	SNAPSHOT MODE TPRINT? ENTER Y OR N
IST908A	OFFLINE MODE TPRINT? ENTER Y OR N
IST909A	INVALID INTERVAL SPECIFIED - REENTER LINE
IST910I	TRACE PRINT UTILITY ENDED
IST911I	TPRINT CANCELLED - INVALID SYS004 ASSIGNMENT
IST912I	TPRINT CANCELLED - VTAM TERMINATION IN PROGRESS
IST913I	TPRINT CANCELLED - ALREADY IN PROGRESS
IST914I	TPRINT EDITING OFFLINE FILE ON SYS004
IST915I	TRACE RECORDING SUSPENDED FOR ONLINE TPRINT
IST916I	SNAPSHOT TPRINT PROCEEDING - NO FILE PROVIDED
IST917I	RECORDS MISSING ON TRACE FILE

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Message Number	Text
IST918A	INVALID CLEAR OPTION - REENTER LINE
IST919I	NODE %%%%%%%% NO LONGER HAS CONTROLLING LU %%%%%%%%
IST920I	%%%% % % BUFF SIZE %%%%% EXP INCREMENT %%%%%
IST921I	TIMES EXP %%%%%%%%% EXP/CONT THRESH %%%%%/%%%%%
IST922I	CURR TOTAL %%%%%%%%%% CURR AVAILABLE %%%%%%%%%%
IST923I	MAX TOTAL %%%%%%%%% MAX USED %%%%%%%%%%
IST924I	----------
IST925I	DYNAMIC PATH DEFINITION %%%%%%% STATUS = %%%%%
IST926I	PATH FOR %%%%%%% IGNORED - NODE %%%%%%% NOT FOUND/INVALID
IST927I	ERROR FOR %%%%%%%%%%%%%%%% DSA %%%%%%%%% %%%%%%%%%%%%%% CODE %%
IST928I	DELETER KEYWORD FOR %%%%%%% IGNORED
IST929I	LOAD OF DYNAMIC PATH DEFINITION %%%%%%%%%%%%%%%% COMPLETE
IST930I	%%%%%%%%%%%%%%%% - %%%%%%%%%%%%%%%% SESSION USING %%%% OF %%BUF
IST932E	FAILURE OCCURRED DURING TAKEOVER OF %%%%%%%, SENSE=%%%%%%%%
IST933I	LOGMODE=%%%%%%%%, COS=%%%%%%%% %%%%%%%%%%
IST934I	DLOGMOD=%%%%%%%%
IST935I	ORIGIN=%%%%%%%%, NETID=%%%%%%%%, ID=%%%%%%%%
IST936I	ANSWER MODE = %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST937A	%%%%%%%% TIMESTAMP MISMATCH %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% REPLY 'YES' TO RELOAD OR 'NO' TOCANCEL ACTIVATION
IST939I	VARY NOLOGON COMMAND HAD NO EFFECT - %%%%%%%% NOT FOUND FOR %%%%%%%%
IST951I	DISPLAY DISK INFORMATION FOR %%%%%%%%
IST952I	DUMP NAME DATE TIME
IST953I	%%%%%%%% %%%%%%%% %%%%%%%%
IST954I	LOAD MODULE DATE TIME STORE STATUS %%%%%%
IST955I	%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%% %%%
IST956I	%%%% SAP=%%% MAC=%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST957I	NO NCP LOAD MODULE OR DUMP ON DISK
IST958I	INBND=%%%%% OUTBND=%%%%% PENDING=%%% ATTN=%%%%% CUA=%%%
IST959I	TIMESTAMP MISMATCH FOR %%%%%%% (NCP %%%%%%%%)
IST960I	TIMESTAMPS - %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%
IST961I	LOAD OF %%%%%%%% %%%%%%%%%%%% FAILED
IST962I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST963I	LOAD MODULE = %%%%%%%
IST965I	AUTO DUMP/LOAD: %%%
IST980I	%%%%%%%%%% LINE(S) AND %%%%%%%%% PHYSICAL UNIT(S) %%%%%%%%
IST981I	%%%%%%%% NOT %%%%%%%%%% - DOES NOT SUPPORT GIVEBACK
IST982I	%%%%%%%%%% %%%%%%%%%% REQUEST(S) PENDING TO SUBAREA %%%%%%%%%%
IST992I	UNABLE TO COMPLETE MESSAGE GROUP - CODE %
IST996I	%%% %%%%%%% %%%%%%%% PROGCK CODE %%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST997I	%%% %%%%%%% %%%%%%%% CANCEL CODE %%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST998E	VTAM MESSAGE %%%% ISSUED BUT DOES NOT EXIST
IST999E	VTAM MESSAGE LOST - INSUFFICIENT STORAGE

VSE Message Differences for Version 3 Release 1

This section lists the message numbers of all VSE messages that have been added, modified, or deleted since Version 2 of VTAM.

If a message is **new**, the message has been added in V3R1.

If a message is **modified**, the message text or message number has been changed since Version 2.

If the message is **deleted**, the message existed in Version 2 but does not exist in V3R1.

Also listed is the text of all messages as they appear for VSE in V3R1. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

Change	Message Number					
New	5A01I	5B85I	5B86I	5C89I	5D01I	5D10I
	5E49I	5E74I	5F74E	5F84I	5F87I	5F88I
	5F90I	5F93I	5F94I	5F98I	5F99I	5G10I
	5G11I	5G36I	5G58I	5G59I	5G63I	5H00I
	5H01I	5H02I	5H03I	5H06I	5H07I	5H10I
	5H11I	5H27I	5H55I	5H68E	5H69E	5H70E
	5H71E	5H93E	5H94I	5H96I	5H97I	5H98I
	5H99I	5I07I	5I08I	5I15I	5I16I	5I19I
	5I20I	5I22I	5I25I	5I27I	5I29I	5I30I
	5I31I	5I32I	5I33I	5I35I	5I38I	5I39I
	5I40I	5I41I	5I44I	5I49I	5I83I	5J95I

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Change	Message Number					
Modified	5A02I	5A09I	5A39I	5A44I	5A59I	5A77I
	5A82I	5A87I	5A95A	5B09I	5B13I	5B21I
	5B27I	5B35I	5B49I	5B50I	5B53I	5B68I
	5B71I	5B87I	5C23I	5C38I	5C52I	5C59I
	5C60I	5C66I	5C70I	5C78A	5C82A	5C84A
	5C85I	5C86I	5C87I	5C88I	5D14I	5D15I
	5D42I	5D45I	5D46I	5D52I	5D53I	5D54I
	5D56I	5D61A	5D62I	5D67I	5D68I	5D69I
	5D70I	5D71I	5D72I	5D73I	5D74I	5D75I
	5D76I	5D78I	5D83I	5D93I	5D96I	5D97I
	5E09I	5E40I	5E53I	5E59I	5E64I	5E65I
	5E69I	5E71I	5E73I	5E76I	5E82I	5E83I
	5E84I	5F10I	5F16I	5F20I	5F21I	5F22I
	5F25I	5F26I	5F28I	5F29I	5F30I	5F31I
	5F32I	5F33I	5F34I	5F35I	5F36I	5F37I
	5F40I	5F46I	5F48I	5F72I	5F73I	5F77I
	5F82I	5F85E	5F95I	5G17I	5G23I	5G24I
	5G34I	5G35I	5G45I	5G50I	5G55I	5G56I
	5G75I	5G78I	5G80I	5H84I	5I04I	5J92I
	5J96I	5J97I	5J98E	5J99E		
Deleted	5A03I	5A08I	5A46I	5A71I	5A86I	5A88I
	5B00I	5B39I	5B44I	5B45I	5B75I	5B99I
	5C25I	5C33I	5C46I	5C71I	5D11I	5D32I
	5D40I	5D44I	5D49I	5D79I	5D90I	5D99E
	5E02I	5E07I	5E08I	5E27I	5E28I	5E35I
	5E96E	5F27I	5F45I	5F68I	5F69I	5F70I
	5F83I	5H51I				

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Message Number	Text
5A01I	VTAM START REJECTED - FAILURE ATTEMPTING TO FIX STORAGE
5A02I	%%%%%%%% IS AN INVALID START PARM - ALL PARMS IGNORED
5A06I	VTAM START REJECTED - INSUFFICIENT STORAGE
5A09I	VTAM ALREADY ACTIVE - VTAM START REJECTED
5A10I	%%%%%%%% COMMAND INVALID
5A14I	DEVICE SUPPORT MAY BE UNAVAILABLE - SYS000 NOT ASSIGNED
5A15A	ERROR PROCESSING LIST IDENTIFIER - ENTER LIST ID OR BLANK
5A17I	UNABLE TO LOAD PHASE %%%%%%%%
5A18I	CONFIG COULD NOT BE INITIALIZED - VTAM START CONTINUES
5A19I	SYNTAX ERROR IN START OPTION %%%%%%%% - ENTER WHEN PROMPTED
5A20I	VTAM INITIALIZATION COMPLETE
5A32I	%%%%%%%% FAILED - FIRST CHARACTER OF %%%%%%%% NOT ALPHABETIC
5A33I	%%%%%%%% COMMAND CANCELLED
5A37I	%%%%%%%% FAILED - SYNTAX ERROR
5A38I	VARY FAILED FOR ID = %%%%%%%% - HOST CDRM IS NOT ACTIVE
5A39I	%%%%%%%% FAILED - CANNOT IDENTIFY COMMAND TYPE
5A40I	START PARAMETER SSCPID NOT PROCESSED - REENTER WHEN PROMPTED
5A42I	%%%%%%%% FAILED - TOO MANY OPERANDS
5A43I	%%%%%%%% INVALID VALUE FOR KEYWORD %%%%%%%%
5A44I	%%%%%%%% FAILED - INSUFFICIENT STORAGE
5A47I	%%%%%%% BUFFER SIZE TOO SMALL - DEFAULT VALUE USED
5A48I	VTAM START REJECTED - INSUFFICIENT STORAGE FOR BUFFERS
5A49I	VTAM START REJECTED - OPEN FOR VTAM ACB FAILED, ACB ERROR FLAG = %%
5A51A	ENTER VTAM START PARAMETERS
5A52I	%%%%%%%% IS AN INVALID START PARAMETER KEYWORD - IGNORED
5A54I	%%%%%% KEYWORD SEQUENCE ERROR IN START PARMS - KEYWORD IGNORED
5A55I	%%% IS AN INVALID CONFIGURATION ID - PARAMETER IGNORED
5A56A	LIST = %%% IS INVALID - ENTER LIST ID OR BLANK
5A57I	KEYWORD MISSING AFTER TRACE/NOTRACE OPTION ON START PARMS
5A58I	%%%%%%%%%% WILL NOT BE PROCESSED - INVALID START PARAMETER
5A59I	%%%%%%%%%%%%%%%%%%%% IGNORED - INSUFFICIENT STORAGE
5A61I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE UNKNOWN TO VTAM
5A66I	%%%%%%%%%% FAILED - CONFLICTING OR INVALID OPTIONS
5A72I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED DURING NETWORK DEFINITION
5A73I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - MORE POWERFUL REQUEST IN PROGRESS
5A74I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INSUFFICIENT STORAGE
5A75I	VTAM DISPLAY - NODE TYPE = %%%%%%%%%%%%%%%%
5A77I	SIO = %%%%%%%% CUA = %%%%%%%%%%%%%%%%%%%%
5A80I	%%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%%
5A81I	LINE NAME = %%%%%%%%, LINE GROUP = %%%%%%%%, MAJNOD = %%%%%%%%
5A82I	DEVTYPE = %%%%, CONTROLLING PLU = %%%%%%%%
5A84I	NETWORK NODES:
5A85I	DISPLAY FAILED - INFORMATION NOT AVAILABLE
5A87I	LINE TYPE = %%%%%%%%, LINE GROUP = %%%%%%%%, LNCTL = %%%%

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Message Number	Text
5A89I	******** TYPE = ****************, ********** *********
5A93I	******** ACTIVE
5A95A	OPTION TO DUMP ******** AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,DUMPSTA=LINKSTANAME'
5A96I	******** FAILED - DUPLICATE ******** PARAMETERS SPECIFIED
5A97I	******** ACCEPTED
5A98I	******** FAILED - ******** INCORRECT LENGTH
5A99I	******** FAILED - ******** NOT ALPHAMERIC
5B01I	******** FAILED - ******** NOT SPECIFIED
5B02I	VTAM IS NOW INACTIVE
5B05I	******** NODE NOW INACTIVE
5B07I	TIME AND DATE NOT SET IN ******** DUE TO INVALID TIMER IN HOST
5B09I	******** IS NOW TERMINATED
5B12I	VTAM INTERNAL TRACE MODIFY FAILED - CONFLICTING MODES
5B13I	******** IS A USERVAR WITH VALUE ******** ********************
5B14I	SYNTAX ERROR IN ******** MEMBER OF VTAM DEFINITION LIBRARY
5B15I	INSUFFICIENT STORAGE TO READ ******** MEMBER OF VTAM DEFINITION LIBRARY
5B16I	MEMBER ******** NOT FOUND ON VTAM DEFINITION LIBRARY
5B17I	I/O ERROR READING ******** MEMBER OF VTAM DEFINITION LIBRARY
5B18I	ERROR IN LIST = %% - ALL START PROCEDURE PARAMETERS IGNORED
5B19I	SYNTAX ERROR IN START PARM ******** - ALL PARMS IGNORED
5B20I	LOGON PROCESSING OF NODE ******** TO CONTROLLER ******** COMPLETE
5B21I	******** OF NODE ******** TO CONTROLLER ******** FAILED - CODE %%
5B22I	ATTACH OF VTAM SUBTASK ******** FAILED
5B25A	ENTER VTAM PARAMETER OVERRIDES - EXCEPT LIST ID - OR DEFAULT
5B26I	******** MODE NOT SUPPORTED DUE TO LOADING FAILURE
5B27I	******** STILL ACTIVE - VTAM TERMINATION WAITING **************************
5B28I	HALT OF VTAM ALREADY IN PROGRESS
5B29I	UNRECOVERABLE OR FORCED ERROR ON NODE ******** - VARY INACT SCHED
5B33I	VTAM TERMINATION IN PROGRESS
5B34I	MAJNOD = ********
5B35I	PHYSICAL UNIT = ********************
5B36I	******** SNA MAJOR NODE = ********
5B37I	CONFIG ******** BYPASSED - LOCAL ADDRESS OF LU ******** IS INVALID
5B42I	CONFIG ******** BYPASSED - PATH MACRO ******** ERROR REASON CODE %
5B46I	LINE NAME = ********, STATUS = *****
5B48I	DIAL OUT PATH INFORMATION FOR PHYSICAL UNIT ********
5B49I	LINE GRP TELEPHONE NUMBER OR LINE NAME PID GID CNT
5B50I	RRT LOAD MODULE ******** DOES NOT CONTAIN RESOURCE SEGMENT *********
5B53I	PENDING DEACTIVATION OF ******** OVERRIDDEN
5B54I	EXPANSION FAILED FOR %% BUFFER POOL - CODE %
5B59I	THE FOLLOWING NODES ARE IN A PENDING STATE
5B65I	CDRM ******** HAS AN INVALID ELEMENT VALUE - 1 IS ASSUMED
5B67I	NO DIAL OUT PATH FOR ********
5B68I	******** ********************************** ********** %%% %%%

Message Number	Text
5B69I	DISCONNECTION CAUSED VARY %%%%% FOR PU = %%%%%%%%
5B70I	LINES:
5B71I	ACTIVE SESSIONS = %%%%%, SESSION REQUESTS = %%%%%
5B72I	NO %%%%%%%%%%%%% %%%%%%%%
5B76I	%%%%%%%% FAILED - %%%%%%%% AND %%%%%%%% ARE CONFLICTING OPTIONS
5B80I	OPEN FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
5B83A	%%%%%%%% FOUND LOADED WITH %%%%%%%% REPLY 'YES' TO REIPL OR 'NO' TO CONTINUE
5B85I	LOGICAL ERROR ON CHECKPOINT DS %%%%%%%% MAJOR NODE %%%%%%%%
5B86I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES COLD - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
5B87I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
5B91I	%%%%%%%% SYNTAX ERROR
5B92I	POA MSG TRANSFER FAILED - INSUFFICIENT STORAGE
5B93I	REPLY %% IGNORED - REPLY TOO LONG FOR REQUESTOR
5B94I	REPLY %% NOT OUTSTANDING
5B95I	REPLY %% IGNORED - NON-DECIMAL ID
5C06I	SESSIONS:
5C08I	UNABLE TO TERMINATE SESSIONS FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
5C11I	NCP SLOWDOWN INITIATED FOR %%%%%%%%
5C12I	ACBNAME = %%%%%%%%
5C13I	ACBNAME FOR ID = %%%%%%%%
5C14I	NCP SLOWDOWN TERMINATED FOR %%%%%%%%
5C21I	%%%%%%%% : %%%%%%%% IS INVALID, %, UNSUPPORTED OPTION - %%%%%%%%%%%%%%%%%
5C23I	MODIFY %%%%%%%% COMMAND COMPLETED
5C31I	CA MAJOR NODE = %%%%%%%%
5C32I	%%%%%%%%, %%%%%%%%%%, CUA = %%%
5C34I	I/O ERROR %%%%%%%%%%%%%%%%%%%%%%%
5C38I	%%%%%%%%%% %%% FOR ID = %%%%%%%% RCVD %%
5C40A	WAIT STATE IN VTAM DUE TO INSUFFICIENT NUMBER OF I/O BUFFERS SPECIFIED BY USER
5C41I	%%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%%
5C42I	%%%%%%%% COMMAND FAILED FOR ID = %%%%%%%% SENSE = %%%%%%%%
5C43I	FRAMES SENT = %%%%%, RCVD = %%%%%, RCVD WITHOUT ERRORS = %%%%%
5C44I	NCP STORAGE FOR ID = %%%%%%%%
5C45I	%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
5C47I	LOAD/DUMP PROCEDURE STATUS = %%%%%
5C51I	CONFIG %%%%%%%% LUPOOL MACRO %%%%%%%% IGNORED - OWNER KEYWORD REQUIRED
5C52I	%%% %%%%%%%% %%%%%%%%% VTAM CODE %%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%
5C58I	STMT IN ERROR = %%
5C59I	INOP RECEIVED FOR %%%%%%%% CODE = %% %%
5C60I	%%%%%%%% - %%%%%%%% SESSION LOST, SA %%%%%%%%%% CODE %%
5C64I	SESSION SETUP FOR PLU = %%%%%%%% SLU = %%%%%%%% FAILED - REQUIRED %%%%%%%% %%%%%%%% %%%%%%%%%%
5C65I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUP %%%%%%%% HL %%%%%%%%

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Message Number	Text
5C66I	%%%%%%%% STARTED
5C70I	LOAD OF %%%%%%%% COMPLETE - LOAD MODULE = %%%%%%%
5C72A	NO INITIAL TEST FOR %%%%%%%% - REPLY 'U' TO BYPASS - OR CANCEL
5C73I	LOAD OF %%%%%%%% FAILED - PERMANENT I/O ERROR
5C74I	LOAD OF %%%%%%%% FAILED - INITIAL TEST HARDSTOP
5C78A	INVALID REPLY FOR ID = %%%%%%%% LOAD - ENTER 'U' - OR CANCEL
5C82A	INVALID REPLY FOR ID = %%%%%%%% %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5C84A	OPTION TO RELOAD %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,LOADSTA=LINKSTANAME'
5C85I	%%%%%%%% DUMP OF %%%%%%%% COMPLETE
5C86I	%%%%%%%% DUMP OF %%%%%%%% PARTIALLY COMPLETE
5C87I	%%%%%%%% DUMP OF %%%%%%%% FAILED - PERMANENT I/O ERROR
5C88I	%%%%%%%% DUMP OF %%%%%%%% FAILED - %%%%%%%% CANNOT BE OPENED
5C89I	%%%%%%%% DUMP OF %%%%%%%% FAILED - UNSUPPORTED DEVICE TYPE
5D01I	INSUFFICIENT VFBUF STORAGE FOR I/O TRACE TABLE
5D02I	INVALID DEFINITION TYPE IN MEMBER %%%%%%%% IN VTAM DEFINITION LIBRARY
5D03I	INSUFFICIENT STORAGE TO BUILD CONFIGURATION %%%%%%%%
5D09I	UNABLE TO LOAD MODULE %%%%%%%% FROM LIBRARY %%%%%%%%
5D10I	INVALID SPACE REQUEST FOR CONFIGURATION %%%%%%%%
5D14I	END
5D15I	VTAM INTERNAL TRACE ACTIVE - MODE = %%%, SIZE = %%%, OPTIONS = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5D16I	VTAM INTERNAL TRACE NOW INACTIVE
5D17I	VTAM INTERNAL TRACE ACTIVATION FAILED - INSUFFICIENT STORAGE
5D18I	VTAM INTERNAL TRACE ACTIVATION FAILED - UNABLE TO FIX STORAGE
5D19I	CONFIGURATION %%%%%%%% FIRST SPECIFICATION USED %%%%%%%%%%%%%%%%%%%%
5D20I	CONFIGURATION %%%%%%%% DEFINITION FAILED - %%%%%%%%%%%%%%%%%%%%
5D21I	CONFIGURATION %%%%%%%% DEFAULT TAKEN - %%%%%%%%%%%%%%%%%%%%%%%%
5D22I	CONFIGURATION %%%%%%%% ERROR IGNORED - %%%%%%%%%%%%%%%%%%%%%%%%
5D23I	LABEL = %%%%%%%% - MACRO TYPE = %%%%%%%% - KEYWORD = %%%%%%%%
5D24I	%%%%%%%% IN PROGRESS WITH ID = %%%%%%%% DUE TO %%%%%%%%%% REQUEST
5D26I	REQUEST = %%%%%%%%%% FAILED FOR %%%%%%%% ID = %%%%%%%%, SENSE = %%%%%%%%
5D27I	%%%%%%%% ID = %%%%%%%% INCOMPLETE, REQUEST = %%%%%%%%%%, SENSE = %%%%%%%%
5D28I	COMMUNICATION WITH CDRM ID = %%%%%%%% LOST
5D29I	THIS NODE WAS NOT ORIGINALLY OWNED BY THIS HOST
5D30I	CONFIGURATION %%%%%%%% BYPASSED - TABLE = %%%%%%%% IS INVALID
5D31I	CONFIG %%%%%%%% BYPASSED - 'MAXSUBA' VALUES CONFLICT
5D33I	CONFIG %%%%%%%% USING DUPLICATE RESOURCE NAME %%%%%%%% - CODE %
5D36I	THIS NCP MAJOR NODE WAS %%%%%%%%%%%%%%%%%%%%%%%%%%%%
5D39I	CONFIG %%%%%%%% BYPASSED - %%%%%%%% UNKNOWN TO THE NCP
5D42I	SLU %%%%%%%% HAS CONTROLLING PLU %%%%%%%% - NO SESSION - CODE = %%
5D43I	CONTROLLER %%%%%%%% ASSIGNED TO NODE %%%%%%%% LOGON COULD NOT BE COMPLETED
5D45I	TERMINATION OF SESSION BETWEEN %%%%%%%% AND %%%%%%%% FAILED
5D46I	UNABLE TO COMPLETE SESSION SETUP FOR %%%%%%%%, %%%%%%%% DUE TO INSUFFICIENT STORAGE
5D48I	UNABLE TO PROCESS DISCONNECTION FOR PU = %%%%%%%% DUE TO LACK OF STORAGE

Message Number	Text
5D50I	VTAM DISPLAY - DOMAIN TYPE = %%%%%%%%%%%%%%%%%%%
5D51I	LOCAL 3270 MAJOR NODE = %%%%%%%%
5D52I	LOCAL SNA MAJOR NODE = %%%%%%%%
5D53I	SWITCHED SNA MAJOR NODE = %%%%%%%%
5D54I	PU T4/5 MAJOR NODE = %%%%%%%%
5D55I	LOGICAL UNITS:
5D56I	%%%
5D59I	ATTACHMENT = %%%%%%%%
5D60I	APPLICATIONS:
5D61A	%%%%%%%%%%% FOUND LOADED WITH %%%%%%%%%%% - REPLY 'YES' TO RELOAD OR 'NO' TO CANCEL ACTIVATION
5D62I	GROUP %%%%%%%% DEVICES UNAVAILABLE - MISSING SYSCNTRL OPTION
5D63I	CONFIG %%%%%%%% NODES AND SUBNODES SET UNAVAILABLE - %%%%%%%%%%%%%%%%%%%%%%
5D66I	CONFIG %%%%%%%% UNABLE TO DEFINE %%%%%%%% - MAXIMUM NUMBER OF NETWORK ADDRESSES FOR HOST SUBAREA EXCEEDED
5D67I	NO STORAGE TO DEFINE NODE %%%%%%%% CONFIG %%%%%%%%
5D68I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TO/FROM OPERAND UNKNOWN
5D69I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TARGET RESOURCE NOT IN DR - ABLE NCP
5D70I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% IGNORED - INVALID TARGET RESOURCE TYPE
5D71I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% MISSING - NOT DELETED
5D72I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% CONFLICTS WITH TARGET - NOT DELETED
5D73I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% IMPROPER DELETE STATE - NOT DELETED
5D74I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO, CODE %
5D75I	DR ADD FUNCTION GROUP %%%%%%%% NOT INCLUDED
5D76I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INSUFFICIENT STORAGE
5D77I	CONFIG %%%%%%%% DR FUNCTION GROUP IGNORED %%%%%%%%%%%%%%%%%%
5D78I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO SEQUENCE
5D80I	ERROR FOR ID = %%%%%%%% - REQUEST: %%%%%%%%%%, SENSE: %%%%%%%%
5D81I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CANNOT DEFINE NODE
5D82I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - STATE: %%%%% NOT VALID FOR REQUEST
5D83I	DEACTIVATION OF ID = %%%%%%%% FAILED - REQUEST: %%%%%%%%%% SENSE: %%%%%%%%
5D84I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED
5D88I	DYNAMIC CDRSC DEFINITION SUPPORT = %%%
5D89I	PREDEFINITION OF CDRSC = %%%
5D91I	ADJ LINK STATION = %%%%%%%%, LINE = %%%%%%%%, NODE = %%%%%%%%
5D93I	PU T4/5 MAJOR NODE %%%%%%%%, SUBAREA = %%%%%%%%%%
5D94I	ADJACENT LINK STATIONS NOT OWNED BUT AWAITING ACTIVATION
5D95I	%%%
5D96I	LNKSTA STATUS CTG GTG ADJNODE ADJSA NETID
5D97I	%%%
5E01I	%%%%%%%%%% INITIATED FOR ID = %%%%%%%%

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Message Number	Text
5E03I	%%%%%%%% COMMAND FAILED - MULTIPLE OPTIONS FOR %%%%%%%% NOT ALLOWED
5E04I	%%%%%%%% PARAMETER IGNORED - MULTIPLE OPTIONS NOT ALLOWED
5E05I	%%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%%
5E09I	MODIFY ATTACH FAILED - INSUFFICIENT STORAGE
5E11I	%%%%%%%% COMMAND REJECTED DUE TO TERMINATION IN PROGRESS
5E12I	VTAM COMMAND PROCESSING TERMINATED
5E14I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PROCESS UNAVAILABLE
5E22I	I/O ERROR ON DS %%%%%%%% RTN CD = %%, %%
5E23I	UNABLE TO GET STORAGE FOR DS %%%%%%%%
5E24I	CLOSE FAILED ON DS %%%%%%%% RTN CD = %%, %%
5E25I	OPEN FAILED ON DS %%%%%%%% RTN CD = %%, %%
5E30I	%%%%%%%%%% FOR ID = %%%%%%%% DISCARDED
5E31I	%%%%%%%% NOT WITHIN ALLOWABLE RANGE OF VALUES
5E33I	COMMAND REJECTED - TUNING STATISTICS TASK NOT ATTACHED
5E36I	STORAGE NOT AVAILABLE FOR TUNING STATISTICS DATA
5E40I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
5E41I	DLRMAX = %%%%%%%% CHWR = %%%%%%%% CHRD = %%%%%%%%
5E42I	ATTN = %%%%%%%% RDATN = %%%%%%%% IPIU = %%%%%%%%
5E43I	OPIU = %%%%%%%% RDBUF = %%%%%%%% SLODN = %%%%%%%%
5E46I	I/O ERROR %%%, %%%%%%%%%%%%%%%%%%%%%%%%%, %%%%%%%%%%%%
5E47I	BUFFER SIZE WAS IGNORED FOR ONE OR MORE POOLS
5E48I	BUFFER POOL START OPTION INPUT FOR AN UNUSED POOL - IGNORED
5E49I	%%%%%%%%%%% = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
5E50I	INVALID %%%%%%%% COMMAND SYNTAX
5E51I	%%%%%%%% COMMAND UNRECOGNIZED
5E52I	%%%%%%%% PARAMETER UNRECOGNIZED
5E53I	%%%%%%%% PARAMETER VALUE INVALID
5E54I	%%%%%%%% COMMAND FAILED, INSUFFICIENT STORAGE
5E55I	% SESSIONS ENDED
5E56I	%%%%%%%% REQUIRED PARAMETER OMITTED
5E57I	POSITIVE % COMMAND RESPONSE
5E58I	USS MESSAGE %%% NOT DEFINED
5E59I	%%%%%%%%%% FAILED - ID = %%%%%%%% - ADJ NODE %%%
5E60I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% FAILED: %%
5E61I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% STARTED
5E62I	ACTIVATION OF LINK STATION %%%%%%%% IS DEFERRED PENDING HIGHER LEVEL NODE ACTIVATION
5E64I	LINK STATION %%%%%%%% HAS CONTACTED %%%%%%%% SA %%%%%%%%%%
5E65I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NO %%%% STATION AVAILABLE
5E66I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - UNABLE TO DO %%
5E67I	CONTACTED ERROR TYPE %%% FOR ID = %%%%%%%%
5E68I	XID1=%%%

Message Number	Text
5E69I	%%
5E70I	XID2=%%%
5E71I	%%
5E73I	CONNECTIVITY TEST TO %%%%%%%% TERMINATED AFTER %%% ECHOES DUE TO I/O ERROR, SENSE = %%%%%%%%
5E74I	NO SUBTASK FOUND FOR THE ID SPECIFIED ON MODIFY MSG COMMAND
5E75I	%%%%%%%% FAILED FOR ID = %%%%%%%%, REQUEST = %%%%%%%%%%, SENSE = %%%%%%%%
5E76I	CDRM TYPE = %%%%%%%% %%%%%%%%%%%%%%%%%
5E77I	CDRMS:
5E78I	CDRSCS:
5E79I	CDRM NAME = %%%%%%%%
5E82I	%%%%%%%% %%%%%, SA %%%%%%%%%%, EL %%%%% %%%%%%%%%%%%%%%%%
5E83I	%%%%%%%% %%%%%%%%%%, CDRM = %%%%%%%% %%%%%%%%%%%%%%%%%
5E84I	SUBAREA = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5E86I	NAME= %%%%%%%%, STATUS= %%%%%%%%%%%%%%%, DESIRED STATE= %%%%%
5E87I	%%%%%%%%%% FOR ID = %%%%%%%% SCHEDULED BY %%%%%%%%%%
5E88I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUPLICATE NODE: %%%%%%%%
5E89I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - CANNOT DEFINE NODE: %%%%%%%%
5E90I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%% IN PROGRESS
5E93I	%%%%%%%%%% FOR ID = %%%%%%%% OVERRIDDEN BY %%%%%%%%%%
5E94I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - ALREADY IN DESIRED STATE
5F00I	NO TRFILE AVAILABLE - WRAP-MODE TRACE ONLY
5F01I	ATTACH OF TRACE I/O SUBTASK FAILED
5F02A	OPTION TO REPLACE TRFILE TAPE ON SYS001
5F03I	TRACE FILE UNUSABLE - CONTINUING IN WRAP-MODE
5F04I	VTAM TRACE SUBTASK STARTED
5F05I	VTAM TRACE SUBTASK ENDED
5F06I	%%%%% TRACE RECORDS LOST DURING %%%%%%%%
5F10I	ROUTE TEST %%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F11I	TRACE REQUEST FAILED - ID = %%%%%%%% INVALID
5F12I	TRACE TERMINATED FOR NODE = %%%%%%%%
5F13I	TRACE INITIATED FOR NODE %%%%%%%%
5F16I	DESTSUB ADJSUB ER ER STATUS VR(S)
5F17I	%%%%%%%%%% %%%%%%%%%% %% %%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
5F18I	%%%%%%%%%%%%%%%%%%%%%%%%
5F20I	UNABLE TO PROCESS %%
5F21I	GBIND %%%%%% FOR COS %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%
5F22I	%%%% %%%%% %%%%%%%% SA %%%%%%%%%% TO SA %%%%%%%%%% %%%%%%%
5F23I	REASON = %%%
5F24I	REVERSE ER MASK = %%%%
5F25I	REJECTING SA %%%%%%%%%% USING TG %%% ADJACENT SA %%%%%%%%%%
5F26I	ROUTE FAILED FROM %%%%%%%%%% TO %%%%%%%%%% - DSA %%%%%%%%%% - NETID %%%%%%%%
5F28I	VIRTUAL ROUTE NUMBER %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F29I	VR SELECTION EXIT %%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%

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Message Number	Text
5F30I	%%%%%%%%%% PENDING %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F31I	%%%
5F32I	EVENT CODE = %%%% EVENT ID = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F33I	ER %% %%%%%%%% IN ROUTE TEST %%%
5F34I	%%%%%%%%%% %%% %%%%%%%%%% %%%%%%%%%% %%%
5F35I	ROUTE DISPLAY %%% FROM SA %%%%%%%%%% TO SA %%%%%%%%%%
5F36I	VR TP STATUS ER ADJSUB STATUS
5F37I	%% %% %%%%%% %% %%%%%%%%%% %%%%%%
5F38I	ROUTE TEST %%% IN PROGRESS
5F39I	DISPLAY ROUTE COMMAND FAILED, COS CANNOT BE RESOLVED
5F40I	DISPLAY ROUTE COMMAND FAILED, SENSE = %%%%%%%%
5F41I	FOLLOWING PATH DEFINITION IS IGNORED
5F42I	INVALID DEST SUBAREA VALUE %%% FOR PATH DEFINITION - IGNORED
5F43I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%% IS REDEFINED AS FOLLOWS
5F44I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F46I	UNABLE TO PROCESS %%
5F47I	EXPLICIT ROUTE MASK %%%%
5F48I	%%%%%%%%%% FAILED %%
5F49I	LL2 TEST FOR ID = %%%%%%%% ENDED %%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F61I	STORAGE UNAVAILABLE: %% BUFFER POOL
5F72I	REJECTING TG ADJACENT ER MASK
5F73I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F74E	START I/O TIMEOUT OCCURRED FOR %%%%%%%%
5F77I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
5F78I	CHNRM = %%%%%%%% CHMAX = %%%%%%%% RDBUF = %%%%%%%%
5F79I	ATTN = %%%%%%%% TIMERS = %%%%%%%% QDPTH = %%%%%%%%
5F80I	BUFCAP = %%%%%%%% PRI = %%%%%%%% SLODN = %%%%%%%%
5F81I	IPIU = %%%%%%%% OPIU = %%%%%%%% DLRMAX = %%%%%%%%
5F82I	'EVERY' INVALID FOR TRACE OF ID = %%%%%%%% - OPERAND IGNORED
5F84I	CA MAJOR NODE: NAME = %%%%%%%%
5F85E	VTAM UNABLE TO CLOSE %%%%%%%% - RESOURCES MAY BE LOST TO VTAM
5F87I	IRN STORAGE %%%%%%%% CAUSED BY SLOWDOWN OF NODE %%%%%%%%
5F88I	SIT TRACE STATUS = %%%%%
5F90I	CONNECTION %%%%%%%%%% FOR PU %%%%%%%% ON LINE %%%%%%%%
5F93I	ISTPDCLU %%%%%%%%%%%%%%%%%% SESSION ENDED
5F94I	ISTPDCLU %%%%%%%%% FAILED %%% %%%
5F95I	IRNLIMIT = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
5F96I	IRN TRACE = %%%
5F97I	CAPABILITY-PLU %%%%%%%%%,SLU %%%%%%%%%,SESSION LIMIT %%%%%%%%
5F98I	NETID = %%%%%%%%
5F99I	%%%%% NAME = %%%%%%%%, NETID = %%%%%%%%
5G02I	%%%%%%%% FAILED ID = %%%%%%%% - HIGHER NODE HAS BECOME INACTIVE
5G05I	ERROR FOR ID = %%%%%%%% - %%%%%%%% : %%%%%%%%%%, DATA INVALID FOR THIS NODE
5G07I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INVALID NODE TYPE OR STATE

Message Number	Text
5G08I	%%%%%%%%% FOR ID = %%%%%%% FAILED - HIGHER NODE: %%%%%%% NOT ACTIVE
5G10I	LINE %%%%%%% - STATUS %%%%%%%%%
5G11I	NETID = %%%%%%%, DESTINATION SSCP = %%%%%%%
5G17I	DEACTIVATION IN PROGRESS FOR %%%%%%%
5G19I	ID = %%%%%%% FAILED - RECOVERY IN PROGRESS
5G21I	RECOVERY SUCCESSFUL FOR NETWORK NODE %%%%%%%
5G23I	ADJACENT SSCPS - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5G24I	%%%%%%%
5G25I	%%%%%%% TRACE ALREADY ACTIVE
5G26I	%%%%%%% TRACE ALREADY INACTIVE
5G27I	%%%%%%% - INSUFFICIENT STORAGE
5G32I	BUFF BUFF CURR CURR MAX MAX TIMES EXP/CONT EXP
5G33I	ID SIZE TOTAL AVAIL TOTAL USED EXP THRESHOLD INCR
5G34I	NAME STATUS SESSION ID SEND RECV VRN TP %%%%%
5G35I	%%%
5G36I	CDRSCS OWNED BY %%%%%%% -
5G45I	%%%%%%% DEFINITION FAILED - NO VALID %%%%%%% MACRO
5G50I	POLL = %%%, NEGPOLL = %%%, SESSION(S) = %%%
5G52I	%%%% = IS A DUPLICATE KEYWORD WITHIN THE TRACE/NOTRACE OPTION
5G54I	I/O TRACE = %%%, BUFFER TRACE = %%%
5G55I	LINE TRACE STATUS = %%%%%%%%%%%%%%%%%%%%%%%%%%%%
5G56I	ACTIVATE REJECTED FROM UNDEFINED CDRM, SA %%%%%%%%% EL %%%%%
5G58I	%%%%%%% COMMAND FAILED - %%%%%%% NOT FOUND
5G59I	SESSION SETUP FAILED THROUGH ADJ SSCP %%%%%%%-CODE %%
5G60I	%%%%%%%%% FOR ID = %%%%%%% FAILED - PARM: %%%%%%%%%%%%%%% NOT VALID
5G63I	SESSION SETUP REQUEST %%%%%%%%% FAILED, SENSE = %%%%%%%
5G70I	VARY %%%% PROCESSING FOR ID = %%%%%%% COMPLETE
5G74I	%%%%%%%%% FOR ID = %%%%%%% CONTINUES - PARM: %%%%%%%%%%%%%%% IGNORED
5G75I	VR = %%, TP = %%
5G78I	%%%%%%% SUBTASK END NOT SCHEDULED, INSUFFICIENT STORAGE
5G79A	PLEASE DIAL LINE = %%%%%%%, NUMBER = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5G80I	CONNECTION REQUEST DENIED - ID = %%%%%%% %%%%%%%%%%%%%%%%%
5G83I	CONNECTION REQUEST DENIED, ID = %%%%%%%
5G84I	I/O ERR, CSW = %%%%%%%%%%%%%%%%, SENSE = %%%%
5G88I	VARY FAILED FOR ID = %%%%%%% - INSUFFICIENT STORAGE
5G90I	CONNECTION REQUEST DENIED - INVALID STATION ID = %%%%%%%%%%%%
5G93I	UNABLE TO DISCONNECT ID = %%%%%%%
5H00I	INVALID %%%%% - SKIPPING TO NEXT NETWORK STMT OR EOF
5H01I	CONFIG %%%%%%% LABEL = %%%%%%% STMT TYPE = %%%%%%%
5H02I	CONFIG %%%%%%% - UNEXPECTED %%%%%%%%%%%%%%%%%%%%%%%
5H03I	CONFIG %%%%%%% ADJSSCP DEFINITIONS IGNORED - NO ADJCDRM STMT
5H06I	ADJSSCP TABLE FOR %%%%%%% IGNORED - INSUFFICIENT STORAGE
5H07I	ADJSSCP TABLE FOR %%%%%%% BEING REPLACED
5H10I	CONFIG = %%%%%%% NETWORK = %%%%%%% %%%%%%%%%%%%%%%%%%

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Message Number	Text
5H11I	%%%%%%%%%%%%%%%% NETID %%%%%%%% NOT PROCESSED FOR %%%%%%%%
5H27I	COMMUNICATION WITH CDRM %%%%%%%% LOST - REASON = X'%%'
5H52I	GPT TRACE STATUS = %%%%%
5H55I	ALERT FROM PU %%%%%%%% FOLLOWS
5H56E	ALERT FROM PU %%%%%%%% FOLLOWS
5H57E	MOSS UNAVAILABLE - HARDWARE ERROR
5H58E	MOSS RELOADED - HARDWARE ERROR
5H59E	MOSS DISKETTE UNUSABLE
5H60E	MOSS DISKETTE HARDWARE ERROR
5H61E	MOSS CONSOLE UNAVAILABLE
5H62I	MOSS IN MAINTENANCE MODE
5H63I	PHYSICAL UNIT RELOADED - HARDWARE ERROR
5H64I	PHYSICAL UNIT RELOADED - PRIOR ABEND CODE WAS %%%%%%%%
5H65E	CHANNEL ADAPTER %%%%%%%% UNAVAILABLE - HARDWARE ERROR
5H66I	DUMP COMPLETED - %%%% DATA SET ON %%%%%%%% DISKETTE EMPTY
5H67E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE
5H68E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE
5H69E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE
5H70E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE
5H71E	SCANNER %%%%%%%% LINE %%%%%%%% UNAVAILABLE - HARDWARE ERROR
5H72I	UAC = %% %%
5H84I	SESSION(S) EXIST(S) WITH UNKNOWN PARTNER
5H88I	MODIFY ATTACH FAILED - SUBTASK LIMIT EXCEEDED
5H89I	%%%%%%%%%% FAILED FOR ID = %%%%%%%%, CA / NCP CONFLICT
5H92I	NO SUCH SESSION EXISTS
5H93E	SESSION MANAGEMENT ERROR, CODE %%%%%%%%%%%%%%%%%%%%%%%%%%%%
5H94I	VTAM START REJECTED - CANNOT LOAD %%%%%%%%
5H96I	HOSTSA VALUE EXCEEDS MAXSUBA
5H97I	FROM VIA ADJACENT DEST ER LENGTH
5H98I	%%%%%%%%
5H99I	%%%%%%%% DUMP IN PROGRESS
5I04I	VTAM CLOSE IN PROCESS FOR %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
5I05I	VTAM CLOSE COMPLETE FOR %%%%%%%%
5I07I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE IS IN TEST MODE
5I08I	ORIGIN PU = %%%%%%%% DEST PU = %%%%%%%% %%%%%%%%%%%%%%%%
5I10I	NAME = %%%%%%%%, VALUE = %%%%%%%%
5I11I	USERVAR(S)
5I13I	USERVAR %%%%%%%% CHANGED FROM %%%%%%%% TO %%%%%%%%
5I14I	USERVAR %%%%%%%% DELETED
5I15I	AUTOMATIC RECOVERY IS SUPPORTED
5I16I	%%%%%%%%%% %%% %%%%%%%%%% %%%%
5I19I	CDRM %%%%%%%% COMMUNICATION LOST - RECOVERY IN PROGRESS
5I20I	%%%%% RSP DATA DISCARDED FOR ID = %%%%%%%% - INSUFF STORAGE
5I22I	CDRM %%%%%%%% RECOVERY FAILED - INSUFFICIENT STORAGE

Message Number	Text
5I25I	USERVAR DEFINED - NAME = %%%%%%%%, VALUE = %%%%%%%%
5I27I	%%%%%%%%%% FOR %%%%%%%% FAILED - ADJSA %%%%%%%%%% INVALID
5I29I	IMPROPER TRANSLATION OF %%%%%%%% TO %%%%%%%% IN %%%%%%%%
5I30I	ORIGINATING SSCP NAME = %%%%%%%%, NETID = %%%%%%%%
5I31I	DUPLICATE ADJCDRM NAME %%%%%%%% IN %%%%%%%%
5I32I	UNLABELED %%%%%%%% STMT IN %%%%%%%%
5I33I	SKIPPING TO NEXT %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5I35I	%%%%%%%% COMMAND FAILED - NO USERVARS DEFINED
5I38I	TRACE STATUS DISPLAY FOR ID = %%%%%%%%
5I39I	PU NAME LINE NAME
5I40I	%%%%%%%% %%%%%%%%
5I41I	NO RESOURCES ARE BEING TRACED FOR %%%%%%%%
5I44I	VTAM START REJECTED - INVALID START OPTION VALUE %%%%%%%%
5I49I	%%%%%%%% INCONSISTENT WITH USE OF %%%%%%%% IN %%%%%%%%
5I60I	DEACTIVATION OF %%%%%%%% INCOMPLETE - INSUFFICIENT STORAGE
5I65I	%%%%%%%%%%%% COMMAND COMPLETE-%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5I83I	%%%%%%%%% OF SAW BUFFERS USED %%%%%%%%%%%%%%%%%%%%%%%%%%
5J92I	UNABLE TO COMPLETE MESSAGE GROUP - CODE %
5J95I	%%%%%%%% %%%%%%%% CANCELLED DUE TO THE TERMINATION OF VTAM
5J96I	%%% %%%%%%%% %%%%%%%%% PROGCK CODE %%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
5J97I	%%% %%%%%%%% %%%%%%%%% CANCEL CODE %%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
5J98E	VTAM MESSAGE %%%% ISSUED BUT DOES NOT EXIST
5J99E	VTAM MESSAGE LOST - INSUFFICIENT STORAGE

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VSE Message Differences for Version 3 Release 1.2

This section lists the message numbers of all VSE messages that have been added, modified, or deleted since Version 3 Release 1 of VTAM.

If a message is **new**, the message has been added in V3R1.2.

If a message is **modified**, the message text or message number has been changed since V3R1.

If the message is **deleted**, the message existed in V3R1 but does not exist in V3R1.2.

Also listed is the text of all messages as they appear for VSE in V3R1.2. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

Change	Message Number					
New	5B13I	5C62I	5C71I	5C96I	5E99I	5H72I
	5I46I	5I65I	5I67I	5I70I	5I83I	5I97I
	5J56I	5J58I				
Modified	5A39I	5B21I	5C31I	5C32I	5C42I	5C60I
	5C89I	5E64I	5E82I	5E86I	5F16I	5F17I
	5F18I	5F22I	5F25I	5F26I	5F48I	5F90I
	5G37I	5G38I	5G40I	5G42I	5G43I	5G55I
	5G56I	5H16I	5H17I	5H19I	5H20I	5H25I
	5H26I	5H55I	5H56E	5H66I	5H86I	5I23I
	5I24I	5I36I	5I37I	5I45I		
Deleted	5F84I	5H87I				

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Message Number	Text
5A02I	%%%%%%% IS AN INVALID START PARM - ALL PARMS IGNORED
5A06I	VTAM START REJECTED - INSUFFICIENT STORAGE
5A10I	%%%%%%% COMMAND INVALID
5A14I	DEVICE SUPPORT MAY BE UNAVAILABLE - SYS000 NOT UNASSIGNED
5A15A	ERROR PROCESSING LIST IDENTIFIER - ENTER LIST ID OR BLANK
5A17I	UNABLE TO LOAD PHASE %%%%%%%
5A18I	CONFIG COULD NOT BE INITIALIZED - VTAM START CONTINUES
5A19I	SYNTAX ERROR IN START OPTION %%%%%%% - ENTER WHEN PROMPTED
5A20I	VTAM INITIALIZATION COMPLETE
5A32I	%%%%%%% FAILED - FIRST CHARACTER OF %%%%%%% NOT ALPHABETIC
5A33I	%%%%%%% COMMAND CANCELLED
5A37I	%%%%%%% FAILED - SYNTAX ERROR
5A38I	VARY FAILED FOR ID = %%%%%%% - HOST CDRM IS NOT ACTIVE
5A39I	%%%%%%% FAILED - CANNOT IDENTIFY COMMAND TYPE
5A40I	START PARAMETER SSCPID NOT PROCESSED - REENTER WHEN PROMPTED
5A42I	%%%%%%% FAILED - TOO MANY OPERANDS
5A43I	%%%%%%% INVALID VALUE FOR KEYWORD %%%%%%%
5A44I	%%%%%%% FAILED - INSUFFICIENT STORAGE
5A46I	%%%%%%% THRESHOLD VALUE EXCEEDS NUMBER OF BUFFERS - NUMBER OF BUFFERS USED
5A47I	%%%%%%% BUFFER SIZE TOO SMALL - DEFAULT VALUE USED
5A48I	VTAM START REJECTED - INSUFFICIENT STORAGE FOR BUFFERS
5A49I	VTAM START REJECTED - OPEN FOR VTAM ACB FAILED, ACB ERROR FLAG = %%
5A51A	ENTER VTAM START PARAMETERS
5A52I	%%%%%%% IS AN INVALID START PARAMETER KEYWORD - IGNORED
5A54I	%%%%%% KEYWORD SEQUENCE ERROR IN START PARMS - KEYWORD IGNORED
5A55I	%%% IS AN INVALID CONFIGURATION ID - PARAMETER IGNORED
5A56A	LIST = %%% IS INVALID - ENTER LIST ID OR BLANK
5A57I	KEYWORD MISSING AFTER TRACE/NOTRACE OPTION ON START PARMS
5A58I	%%%%%%%%%% WILL NOT BE PROCESSED - INVALID START PARAMETER
5A59I	%%%%%%%%%%%%%%%%%%% IGNORED - INSUFFICIENT STORAGE
5A61I	%%%%%%%%% FOR ID = %%%%%%% FAILED - NODE UNKNOWN TO VTAM
5A66I	%%%%%%%%% FAILED - CONFLICTING OR INVALID OPTIONS
5A72I	%%%%%%%%% FOR ID = %%%%%%% FAILED DURING NETWORK DEFINITION
5A73I	%%%%%%%%% FOR ID = %%%%%%% FAILED - MORE POWERFUL REQUEST IN PROGRESS
5A74I	%%%%%%%%% FOR ID = %%%%%%% FAILED - INSUFFICIENT STORAGE
5A75I	VTAM DISPLAY - NODE TYPE = %%%%%%%%%%%%%%%%
5A77I	SIO = %%%%%%% CUA = %%%%%%%%%%%%%%%%%%%%
5A80I	%%%%%%% %%%%%%%%% %%%%%%% %%%%%%%%% %%%%%%% %%%%%%%%%
5A81I	LINE NAME = %%%%%%%, LINE GROUP = %%%%%%%, MAJNOD = %%%%%%%
5A82I	DEVTYPE = %%%%, CONTROLLING PLU = %%%%%%%
5A84I	NETWORK NODES:
5A85I	DISPLAY FAILED - INFORMATION NOT AVAILABLE
5A87I	LINE TYPE = %%%%%%%, LINE GROUP = %%%%%%%, LNCTL = %%%%
5A89I	%%%%%%% TYPE = %%%%%%%%%%%%%%%%%%, %%%%%%%%% %%%%%%%%

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Message Number	Text
5A93I	******** ACTIVE
5A95A	OPTION TO DUMP ******** AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,DUMPSTA=LINKSTANAME'
5A96I	******** FAILED - DUPLICATE ******** PARAMETERS SPECIFIED
5A97I	******** ACCEPTED
5A98I	******** FAILED - ******** INCORRECT LENGTH
5A99I	******** FAILED - ******** NOT ALPHAMERIC
5B01I	******** FAILED - ******** NOT SPECIFIED
5B02I	VTAM IS NOW INACTIVE
5B05I	******** NODE NOW INACTIVE
5B07I	TIME AND DATE NOT SET IN ******** DUE TO INVALID TIMER IN HOST
5B09I	******** IS NOW TERMINATED
5B12I	VTAM INTERNAL TRACE MODIFY FAILED - CONFLICTING MODES
5B13I	******** IS A USERVAR WITH VALUE ******** ********************
5B14I	SYNTAX ERROR IN ******** MEMBER OF VTAM DEFINITION LIBRARY
5B15I	INSUFFICIENT STORAGE TO READ ******** MEMBER OF VTAM DEFINITION LIBRARY
5B16I	MEMBER ******** NOT FOUND ON VTAM DEFINITION LIBRARY
5B17I	I/O ERROR READING ******** MEMBER OF VTAM DEFINITION LIBRARY
5B18I	ERROR IN LIST = %% - ALL START PROCEDURE PARAMETERS IGNORED
5B19I	SYNTAX ERROR IN START PARM ******** - ALL PARMS IGNORED
5B20I	LOGON PROCESSING OF NODE ******** TO CONTROLLER ******** COMPLETE
5B21I	******** OF NODE ******** TO CONTROLLER ******** FAILED - CODE %%
5B22I	ATTACH OF VTAM SUBTASK ******** FAILED
5B25A	ENTER VTAM PARAMETER OVERRIDES - EXCEPT LIST ID - OR DEFAULT
5B26I	******** MODE NOT SUPPORTED DUE TO LOADING FAILURE
5B27I	******** STILL ACTIVE - VTAM TERMINATION WAITING **********************************
5B28I	HALT OF VTAM ALREADY IN PROGRESS
5B29I	UNRECOVERABLE OR FORCED ERROR ON NODE ******** - VARY INACT SCHED
5B33I	VTAM TERMINATION IN PROGRESS
5B34I	MAJNOD = ********
5B35I	PHYSICAL UNIT = ********************
5B36I	******** SNA MAJOR NODE = ********
5B37I	CONFIG ******** BYPASSED - LOCAL ADDRESS OF LU ******** IS INVALID
5B42I	CONFIG ******** BYPASSED - PATH MACRO ******** ERROR REASON CODE %
5B46I	LINE NAME = ********, STATUS = *****
5B48I	DIAL OUT PATH INFORMATION FOR PHYSICAL UNIT ********
5B49I	LINE GRP TELEPHONE NUMBER OR LINE NAME PID GID CNT
5B50I	RRT LOAD MODULE ******** DOES NOT CONTAIN RESOURCE SEGMENT *********
5B53I	PENDING DEACTIVATION OF ******** OVERRIDDEN
5B54I	EXPANSION FAILED FOR %% BUFFER POOL - CODE %
5B59I	THE FOLLOWING NODES ARE IN A PENDING STATE
5B65I	CDRM ******** HAS AN INVALID ELEMENT VALUE - 1 IS ASSUMED
5B67I	NO DIAL OUT PATH FOR ********
5B68I	******** ********************************** ********** %%% %%%
5B69I	DISCONNECTION CAUSED VARY ***** FOR PU = ********

Message Number	Text
5B70I	LINES:
5B71I	ACTIVE SESSIONS = %%%%%, SESSION REQUESTS = %%%%%
5B72I	NO %%%%%%%%%%%%% %%%%%%%%
5B76I	%%%%%%%% FAILED - %%%%%%%% AND %%%%%%%% ARE CONFLICTING OPTIONS
5B80I	OPEN FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
5B81I	CLOSE FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
5B82I	UNABLE TO GET STORAGE FOR CKPT %%%%%%%% MAJOR NODE %%%%%%%%
5B83A	%%%%%%%% FOUND LOADED WITH %%%%%%%% REPLY 'YES' TO REIPL OR 'NO' TO CONTINUE
5B84I	I/O ERROR ON CKPT DS %%%%%%%% MAJOR NODE %%%%%%%% RTNCD = %% %%
5B85I	LOGICAL ERROR ON CHECKPOINT DS %%%%%%%% MAJOR NODE %%%%%%%%
5B86I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES COLD - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
5B87I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
5B91I	%%%%%%%% SYNTAX ERROR
5B92I	POA MSG TRANSFER FAILED - INSUFFICIENT STORAGE
5B93I	REPLY %% IGNORED - REPLY TOO LONG FOR REQUESTOR
5B94I	REPLY %% NOT OUTSTANDING
5B95I	REPLY %% IGNORED - NON-DECIMAL ID
5C06I	SESSIONS:
5C08I	UNABLE TO TERMINATE SESSIONS FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
5C11I	NCP SLOWDOWN INITIATED FOR %%%%%%%%
5C12I	ACBNAME = %%%%%%%%
5C13I	ACBNAME FOR ID = %%%%%%%%
5C14I	NCP SLOWDOWN TERMINATED FOR %%%%%%%%
5C21I	%%%%%%%% : %%%%%%%% IS INVALID, %, UNSUPPORTED OPTION - %%%%%%%%%%%%%%%%%
5C23I	MODIFY %%%%%%%% COMMAND COMPLETED
5C31I	%%%%%%%% MAJOR NODE = %%%%%%%%
5C32I	%%%%%%%%, %%%%%%%%%%%%%%%%%%%%%
5C34I	I/O ERROR %%%%%%%%%%%%%%%%%%%%%%%
5C38I	%%%%%%%%%% %%% FOR ID = %%%%%%%% RCVD %%
5C40A	WAIT STATE IN VTAM DUE TO INSUFFICIENT NUMBER OF I/O BUFFERS SPECIFIED BY USER
5C41I	%%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%%
5C42I	%%%%%%%%%% COMMAND FAILED FOR ID = %%%%%%%% SENSE = %%%%%%%%
5C43I	FRAMES SENT = %%%%%, RCVD = %%%%%, RCVD WITHOUT ERRORS = %%%%%
5C44I	NCP STORAGE FOR ID = %%%%%%%%
5C45I	%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
5C47I	LOAD/DUMP PROCEDURE STATUS = %%%%%
5C51I	CONFIG %%%%%%%% LUPOOL MACRO %%%%%%%% IGNORED - OWNER KEYWORD REQUIRED
5C58I	STMT IN ERROR = %%
5C59I	INOP RECEIVED FOR %%%%%%%% CODE = %% %%
5C60I	%%%%%%%% - %%%%%%%% SESSION LOST, SA %%%%%%%%%% CODE %%
5C62I	%%%%%%%% = %%%%%%%%, STATUS = %%%%%%%%%%
5C64I	SESSION SETUP FOR PLU = %%%%%%%% SLU = %%%%%%%% FAILED - REQUIRED %%%%%%%% %%%%%%%% %%%%%%%%%%

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Message Number	Text
5C65I	%%%%%%%%% FOR ID = %%%%%%% FAILED - DUP %%%%%%% HL %%%%%%%
5C66I	%%%%%%% STARTED
5C70I	LOAD OF %%%%%%% COMPLETE - LOAD MODULE = %%%%%%
5C71I	JOBNAME = %%%%%%%, STEPNAME = %%%%%%%
5C72A	NO INITIAL TEST FOR %%%%%%% - REPLY 'U' TO BYPASS - OR CANCEL
5C73I	LOAD OF %%%%%%% FAILED - PERMANENT I/O ERROR
5C74I	LOAD OF %%%%%%% FAILED - INITIAL TEST HARDSTOP
5C78A	INVALID REPLY FOR ID = %%%%%%% LOAD - ENTER 'U' - OR CANCEL
5C79I	LOAD OF %%%%%%% FAILED - I/O ERROR ON %%%%%%% - %%%%%%%
5C80I	LOAD FAILED - INVALID LUB NAME %%%%%%% FOR %%%%%%%
5C81I	LOAD OF %%%%%%% FAILED - PHASE %%%%%%% NOT LOADED
5C82A	INVALID REPLY FOR ID = %%%%%%% %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5C84A	OPTION TO RELOAD %%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,LOADSTA=LINKSTANAME'
5C85I	%%%%%%% DUMP OF %%%%%%% COMPLETE
5C86I	%%%%%%% DUMP OF %%%%%%% PARTIALLY COMPLETE
5C87I	%%%%%%% DUMP OF %%%%%%% FAILED - PERMANENT I/O ERROR
5C88I	%%%%%%% DUMP OF %%%%%%% FAILED - %%%%%%% CANNOT BE OPENED
5C89I	%%%%%%% DUMP OF %%%%%%% FAILED - UNUSPPORTED DEVICE TYPE
5C96I	LOAD OF %%%%%%% FAILED - UNEXPECTED CODE %%% FROM %%%%%%%
5D01I	INSUFFICIENT VFBUF STORAGE FOR I/O TRACE TABLE
5D02I	INVALID DEFINITION TYPE IN MEMBER %%%%%%% IN VTAM DEFINITION LIBRARY
5D03I	INSUFFICIENT STORAGE TO BUILD CONFIGURATION %%%%%%%
5D09I	UNABLE TO LOAD MODULE %%%%%%% FROM LIBRARY %%%%%%%
5D10I	INVALID SPACE REQUEST FOR CONFIGURATION %%%%%%%
5D14I	END
5D15I	VTAM INTERNAL TRACE ACTIVE - MODE = %%, SIZE = %%, OPTIONS = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5D16I	VTAM INTERNAL TRACE NOW INACTIVE
5D17I	VTAM INTERNAL TRACE ACTIVATION FAILED - INSUFFICIENT STORAGE
5D18I	VTAM INTERNAL TRACE ACTIVATION FAILED - UNABLE TO FIX STORAGE
5D19I	CONFIGURATION %%%%%%% FIRST SPECIFICATION USED %%%%%%%%%%%%%%%%%%%%
5D20I	CONFIGURATION %%%%%%% DEFINITION FAILED - %%%%%%%%%%%%%%%%%%
5D21I	CONFIGURATION %%%%%%% DEFAULT TAKEN - %%%%%%%%%%%%%%%%%%%%
5D22I	CONFIGURATION %%%%%%% ERROR IGNORED - %%%%%%%%%%%%%%%%%%%%
5D23I	LABEL = %%%%%%% - MACRO TYPE = %%%%%%% - KEYWORD = %%%%%%%
5D24I	%%%%%%% IN PROGRESS WITH ID = %%%%%%% DUE TO %%%%%%%%% REQUEST
5D26I	REQUEST = %%%%%%%%% FAILED FOR %%%%%%% ID = %%%%%%%, SENSE = %%%%%%%
5D27I	%%%%%%% ID = %%%%%%% INCOMPLETE, REQUEST = %%%%%%%%%, SENSE = %%%%%%%%
5D28I	COMMUNICATION WITH CDRM ID = %%%%%%% LOST
5D29I	THIS NODE WAS NOT ORIGINALLY OWNED BY THIS HOST
5D30I	CONFIGURATION %%%%%%% BYPASSED - TABLE = %%%%%%% IS INVALID
5D31I	CONFIG %%%%%%% BYPASSED - 'MAXSUBA' VALUES CONFLICT
5D33I	CONFIG %%%%%%% USING DUPLICATE RESOURCE NAME %%%%%%% - CODE %
5D36I	THIS NCP MAJOR NODE WAS %%%%%%%%%%%%%%%%%%%%%%%%%%

Message Number	Text
5D39I	CONFIG %%%%%%%% BYPASSED - %%%%%%%% UNKNOWN TO THE NCP
5D42I	SLU %%%%%%%% HAS CONTROLLING PLU %%%%%%%% - NO SESSION - CODE = %%
5D43I	CONTROLLER %%%%%%%% ASSIGNED TO NODE %%%%%%%% LOGON COULD NOT BE COMPLETED
5D45I	TERMINATION OF SESSION BETWEEN %%%%%%%% AND %%%%%%%% FAILED
5D46I	UNABLE TO COMPLETE SESSION SETUP FOR %%%%%%%%, %%%%%%%% DUE TO INSUFFICIENT STORAGE
5D48I	UNABLE TO PROCESS DISCONNECTION FOR PU = %%%%%%%% DUE TO LACK OF STORAGE
5D50I	VTAM DISPLAY - DOMAIN TYPE = %%%%%%%%%%%%%%%%%%%%
5D51I	LOCAL 3270 MAJOR NODE = %%%%%%%%
5D52I	LOCAL SNA MAJOR NODE = %%%%%%%%
5D53I	SWITCHED SNA MAJOR NODE = %%%%%%%%
5D54I	PU T4/5 MAJOR NODE = %%%%%%%%
5D55I	LOGICAL UNITS:
5D56I	%%%
5D59I	ATTACHMENT = %%%%%%%%
5D60I	APPLICATIONS:
5D61A	%%%%%%%%%%%% FOUND LOADED WITH %%%%%%%%%%%% - REPLY 'YES' TO RELOAD OR 'NO' TO CANCEL ACTIVATION
5D62I	GROUP %%%%%%%% DEVICES UNAVAILABLE - MISSING SYSCNTRL OPTION
5D63I	CONFIG %%%%%%%% NODES AND SUBNODES SET UNAVAILABLE - %%%%%%%%%%%%%%%%%%%%%%
5D66I	CONFIG %%%%%%%% UNABLE TO DEFINE %%%%%%%% - MAXIMUM NUMBER OF NETWORK ADDRESSES FOR HOST SUBAREA EXCEEDED
5D67I	NO STORAGE TO DEFINE NODE %%%%%%%% CONFIG %%%%%%%%
5D68I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TO/FROM OPERAND UNKNOWN
5D69I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TARGET RESOURCE NOT IN DR - ABLE NCP
5D70I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% IGNORED - INVALID TARGET RESOURCE TYPE
5D71I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% MISSING - NOT DELETED
5D72I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% CONFLICTS WITH TARGET - NOT DELETED
5D73I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% IMPROPER DELETE STATE - NOT DELETED
5D74I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO, CODE %
5D75I	DR ADD FUNCTION GROUP %%%%%%%% NOT INCLUDED
5D76I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INSUFFICIENT STORAGE
5D77I	CONFIG %%%%%%%% DR FUNCTION GROUP IGNORED %%%%%%%%%%%%%%%%%%
5D78I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO SEQUENCE
5D79I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TABLE %%%%%%%% IS INVALID, CODE %
5D80I	ERROR FOR ID = %%%%%%%% - REQUEST: %%%%%%%%%%, SENSE: %%%%%%%%
5D81I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CANNOT DEFINE NODE
5D82I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - STATE: %%%%% NOT VALID FOR REQUEST
5D83I	DEACTIVATION OF ID = %%%%%%%% FAILED - REQUEST: %%%%%%%%%% SENSE: %%%%%%%%
5D84I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED
5D88I	DYNAMIC CDRSC DEFINITION SUPPORT = %%%
5D89I	PREDEFINITION OF CDRSC = %%%

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Message Number	Text
5D91I	ADJ LINK STATION = %%%%%%%%, LINE = %%%%%%%%, NODE = %%%%%%%%
5D93I	PU T4/5 MAJOR NODE %%%%%%%%, SUBAREA = %%%%%%%%%
5D94I	ADJACENT LINK STATIONS NOT OWNED BUT AWAITING ACTIVATION
5D95I	%%%
5D96I	LNKSTA STATUS CTG GTG ADJNODE ADJSA NETID
5D97I	%%%
5D99E	ISTSDCOS IS NOT A CLASS OF SERVICE TABLE - ISTSDCOS DELETED
5E01I	%%%%%%%%% INITIATED FOR ID = %%%%%%%%
5E03I	%%%%%%%% COMMAND FAILED - MULTIPLE OPTIONS FOR %%%%%%%% NOT ALLOWED
5E04I	%%%%%%%% PARAMETER IGNORED - MULTIPLE OPTIONS NOT ALLOWED
5E05I	%%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%%
5E07I	MODIFY ATTACH FAILED - %%%%%%%% ALREADY ATTACHED
5E08I	MODIFY DETACH FAILED - %%%%%%%% NOT ATTACHED
5E09I	MODIFY ATTACH FAILED - INSUFFICIENT STORAGE
5E11I	%%%%%%%% COMMAND REJECTED DUE TO TERMINATION IN PROGRESS
5E12I	VTAM COMMAND PROCESSING TERMINATED
5E14I	%%%%%%%%% FOR ID = %%%%%%%% FAILED - PROCESS UNAVAILABLE
5E22I	I/O ERROR ON DS %%%%%%%% RTN CD = %%, %%
5E23I	UNABLE TO GET STORAGE FOR DS %%%%%%%%
5E24I	CLOSE FAILED ON DS %%%%%%%% RTN CD = %%, %%
5E25I	OPEN FAILED ON DS %%%%%%%% RTN CD = %%, %%
5E30I	%%%%%%%%% FOR ID = %%%%%%%% DISCARDED
5E31I	%%%%%%%% NOT WITHIN ALLOWABLE RANGE OF VALUES
5E33I	COMMAND REJECTED - TUNING STATISTICS TASK NOT ATTACHED
5E36I	STORAGE NOT AVAILABLE FOR TUNING STATISTICS DATA
5E37I	I/O TRACE TABLE FULL
5E40I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
5E41I	DLRMAX = %%%%%%%% CHWR = %%%%%%%% CHRD = %%%%%%%%
5E42I	ATTN = %%%%%%%% RDATN = %%%%%%%% IPIU = %%%%%%%%
5E43I	OPIU = %%%%%%%% RDBUF = %%%%%%%% SLODN = %%%%%%%%
5E46I	I/O ERROR %%
5E47I	BUFFER SIZE WAS IGNORED FOR ONE OR MORE POOLS
5E48I	BUFFER POOL START OPTION INPUT FOR AN UNUSED POOL - IGNORED
5E50I	INVALID %%%%%%%% COMMAND SYNTAX
5E51I	%%%%%%%% COMMAND UNRECOGNIZED
5E52I	%%%%%%%% PARAMETER UNRECOGNIZED
5E53I	%%%%%%%% PARAMETER VALUE INVALID
5E54I	%%%%%%%% COMMAND FAILED, INSUFFICIENT STORAGE
5E55I	% SESSIONS ENDED
5E56I	%%%%%%%% REQUIRED PARAMETER OMITTED
5E57I	POSITIVE % COMMAND RESPONSE
5E58I	USS MESSAGE %%% NOT DEFINED
5E59I	%%%%%%%%% FAILED - ID = %%%%%%%% - ADJ NODE
	%%%

Message Number	Text
5E60I	%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%% FAILED: %%
5E61I	%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%% STARTED
5E62I	ACTIVATION OF LINK STATION %%%%%%% IS DEFERRED PENDING HIGHER LEVEL NODE ACTIVATION
5E64I	LINK STATION %%%%%%% HAS CONTACTED %%%%%%% SA %%%%%%%%%
5E65I	%%%%%%%%% FOR ID = %%%%%%% FAILED - NO %%%% STATION AVAILABLE
5E66I	%%%%%%%%% FOR ID = %%%%%%% CONTINUES - UNABLE TO DO %%
5E67I	CONTACTED ERROR TYPE %%% FOR ID = %%%%%%%
5E68I	XID1=%%%
5E69I	%%%
5E70I	XID2=%%%
5E71I	%%%
5E73I	CONNECTIVITY TEST TO %%%%%%% TERMINATED AFTER %%% ECHOES DUE TO I/O ERROR, SENSE = %%%%%%%%
5E74I	NO SUBTASK FOUND FOR THE ID SPECIFIED ON MODIFY MSG COMMAND
5E75I	%%%%%%% FAILED FOR ID = %%%%%%%, REQUEST = %%%%%%%%%, SENSE = %%%%%%%
5E76I	CDRM TYPE = %%%%%%% %%%%%%%%%%%%%%%%%
5E77I	CDRMS:
5E78I	CDRSCS:
5E79I	CDRM NAME = %%%%%%%
5E82I	%%%%%%% %%%%%, SA %%%%%%%%%, EL %%%%% %%%%%%%%%%%%%%%
5E83I	%%%%%%% %%%%%%%%%, CDRM = %%%%%%% %%%%%%%%%%%%%%%%
5E84I	SUBAREA = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5E86I	NAME= %%%%%%%, STATUS= %%%%%%%%%, DESIRED STATE= %%%%%
5E87I	%%%%%%%%% FOR ID = %%%%%%% SCHEDULED BY %%%%%%%%%
5E88I	%%%%%%%%% FOR ID = %%%%%%% FAILED - DUPLICATE NODE: %%%%%%%
5E89I	%%%%%%%%% FOR ID = %%%%%%% CONTINUES - CANNOT DEFINE NODE: %%%%%%%
5E90I	%%%%%%%%% FOR ID = %%%%%%% FAILED - %%%%%%%%% IN PROGRESS
5E93I	%%%%%%%%% FOR ID = %%%%%%% OVERRIDDEN BY %%%%%%%%%
5E94I	%%%%%%%%% FOR ID = %%%%%%% FAILED - ALREADY IN DESIRED STATE
5E99I	%%% NOT CORRECT LEVEL - %%%%%%% DISK FUNCTIONS NOT PERFORMED
5F00I	NO TRFILE AVAILABLE - WRAP-MODE TRACE ONLY
5F01I	ATTACH OF TRACE I/O SUBTASK FAILED
5F02A	OPTION TO REPLACE TRFILE TAPE ON SYS001
5F03I	TRACE FILE UNUSABLE - CONTINUING IN WRAP-MODE
5F04I	VTAM TRACE SUBTASK STARTED
5F05I	VTAM TRACE SUBTASK ENDED
5F06I	%%%%% TRACE RECORDS LOST DURING %%%%%%%
5F10I	ROUTE TEST %%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F11I	TRACE REQUEST FAILED - ID = %%%%%%% INVALID
5F12I	TRACE TERMINATED FOR NODE = %%%%%%%
5F13I	TRACE INITIATED FOR NODE %%%%%%%
5F16I	DESTSUB ADJSUB ER ER STATUS VR(S)

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Message Number	Text
5F17I	%%%%%%%%%% %%%%%%%%%% %% %%%%%% %%%%%%%%%%%%%%%%%%%%%%
5F18I	%%%%%%%%%%%%%%%%%%%%%%%%
5F20I	UNABLE TO PROCESS %%
5F21I	GBIND %%%%%% FOR COS %%%%%%%% %%%%%%%%%%%%%%%%%%%%
5F22I	%%%% %%%%% %%%%%%%% SA %%%%%%%%%% TO SA %%%%%%%%%% %%%%%%%
5F23I	REASON = %%%
5F24I	REVERSE ER MASK = %%%%
5F25I	REJECTING SA %%%%%%%%%% USING TG %%% ADJACENT SA %%%%%%%%%%
5F26I	ROUTE FAILED FROM %%%%%%%%%% TO %%%%%%%%%% - DSA %%%%%%%%%% - NETID %%%%%%%%
5F28I	VIRTUAL ROUTE NUMBER %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F29I	VR SELECTION EXIT %%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%
5F30I	%%%%%%%%%% PENDING %%
5F31I	%%%
5F32I	EVENT CODE = %%%% EVENT ID = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F33I	ER %% %%%%%%%% IN ROUTE TEST %%%
5F34I	%%%%%%%%%% %%% %%%%%%%%%% %%%%%%%%%% %%%
5F35I	ROUTE DISPLAY %%% FROM SA %%%%%%%%%% TO SA %%%%%%%%%%
5F36I	VR TP STATUS ER ADJSUB STATUS
5F37I	%% %% %%%%%% %% %%%%%%%%%% %%%%%%
5F38I	ROUTE TEST %%% IN PROGRESS
5F39I	DISPLAY ROUTE COMMAND FAILED, COS CANNOT BE RESOLVED
5F40I	DISPLAY ROUTE COMMAND FAILED, SENSE = %%%%%%%%
5F41I	FOLLOWING PATH DEFINITION IS IGNORED
5F42I	INVALID DEST SUBAREA VALUE %%% FOR PATH DEFINITION - IGNORED
5F43I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%% IS REDEFINED AS FOLLOWS
5F44I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%
5F46I	UNABLE TO PROCESS %%
5F47I	EXPLICIT ROUTE MASK %%%%
5F48I	%%%%%%%%%% FAILED %%
5F49I	LL2 TEST FOR ID = %%%%%%%% ENDED %%%%%%%%%%%%%%%%%%%%%%%%
5F61I	STORAGE UNAVAILABLE: %% BUFFER POOL
5F71I	LOAD FAILED FOR ID = %%%%%%%% REQ: %%%%%%%%%%, SENSE: %%%%%%%%
5F72I	REJECTING TG ADJACENT ER MASK
5F73I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5F74E	START I/O TIMEOUT OCCURRED FOR %%%%%%%%
5F77I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
5F78I	CHNRM = %%%%%%%% CHMAX = %%%%%%%% RDBUF = %%%%%%%%
5F79I	ATTN = %%%%%%%% TIMERS = %%%%%%%% QDPTH = %%%%%%%%
5F80I	BUFCAP = %%%%%%%% PRI = %%%%%%%% SLODN = %%%%%%%%
5F81I	IPIU = %%%%%%%% OPIU = %%%%%%%% DLRMAX = %%%%%%%%
5F82I	'EVERY' INVALID FOR TRACE OF ID = %%%%%%%% - OPERAND IGNORED
5F85E	VTAM UNABLE TO CLOSE %%%%%%%% - RESOURCES MAY BE LOST TO VTAM
5F87I	IRN STORAGE %%%%%%%% CAUSED BY SLOWDOWN OF NODE %%%%%%%%
5F88I	SIT TRACE STATUS = %%%%%

Message Number	Text
5F89I	ERROR FOR ID = %%%%%%%%, CODE = %, NET = %%%%%%%%
5F90I	CONNECT%%% %%%%%%%%%%% FOR PU %%%%%%%% ON LINE %%%%%%%%
5F93I	ISTPDCLU %%%%%%%%%%%%%%%%% SESSION ENDED
5F94I	ISTPDCLU %%%%%%%%% FAILED %%% %%%
5F95I	IRNLIMIT = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
5F96I	IRN TRACE = %%%
5F97I	CAPABILITY-PLU %%%%%%%%%,SLU %%%%%%%%%,SESSION LIMIT %%%%%%%%
5F98I	NETID = %%%%%%%%
5F99I	%%%%% NAME = %%%%%%%%, NETID = %%%%%%%%
5G02I	%%%%%%%% FAILED ID = %%%%%%%% - HIGHER NODE HAS BECOME INACTIVE
5G05I	ERROR FOR ID = %%%%%%%% - %%%%%%%% : %%%%%%%%%%, DATA INVALID FOR THIS NODE
5G07I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INVALID NODE TYPE OR STATE
5G08I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - HIGHER NODE: %%%%%%%% NOT ACTIVE
5G10I	LINE %%%%%%%% - STATUS %%%%%%%%%%
5G11I	NETID = %%%%%%%%, DESTINATION SSCP = %%%%%%%%
5G17I	DEACTIVATION IN PROGRESS FOR %%%%%%%%
5G19I	ID = %%%%%%%% FAILED - RECOVERY IN PROGRESS
5G21I	RECOVERY SUCCESSFUL FOR NETWORK NODE %%%%%%%%
5G23I	ADJACENT SSCPS - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5G24I	%%%%%%%%
5G25I	%%%%%%%% TRACE ALREADY ACTIVE
5G26I	%%%%%%%% TRACE ALREADY INACTIVE
5G27I	%%%%%%%% - INSUFFICIENT STORAGE
5G32I	BUFF BUFF CURR CURR MAX MAX TIMES EXP/CONT EXP
5G33I	ID SIZE TOTAL AVAIL TOTAL USED EXP THRESHOLD INCR
5G34I	NAME STATUS SESSION ID SEND RECV VRN TP %%%%%
5G35I	%%%
5G36I	CDRSCS OWNED BY %%%%%%%% -
5G37I	SUBAREA = %%%%%%%%%%, ELEMENT = %%%%%
5G38I	ADJNETSA = %%%%%%%%%%, ADJNETEL = %%%%%
5G39I	GWN = %%%%%%%%, ADJNET = %%%%%%%%
5G40I	%%%%%%%% ADDR IN ADJNET - SA = %%%%%%%%%%, EL = %%%%%
5G41I	GATEWAY PATH SELECTION LIST -
5G42I	ADJNET GWN SUBAREA ELEM ADJNETSA ADJNETEL
5G43I	%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%% %%%%%%%%%% %%%%%
5G44I	%%%%%%%% TG %%%%%%%% %%%%%%%%
5G45I	%%%%%%%% DEFINITION FAILED - NO VALID %%%%%%%% MACRO
5G50I	POLL = %%%, NEGPOLL = %%%, SESSION(S) = %%%
5G52I	%%%% = IS A DUPLICATE KEYWORD WITHIN THE TRACE/NOTRACE OPTION
5G54I	I/O TRACE = %%%, BUFFER TRACE = %%%
5G55I	%%%% TRACE STATUS = %%%%%
5G56I	ACTIVATE REJECTED FROM UNDEFINED CDRM, SA %%%%%%%%%% EL %%%%%
5G58I	%%%%%%%% COMMAND FAILED - %%%%%%%% NOT FOUND
5G59I	SESSION SETUP FAILED THROUGH ADJ SSCP %%%%%%%%-CODE %%

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Message Number	Text
5G60I	%%%%%%%%% FOR ID = %%%%%%% FAILED - PARM: %%%%%%%%%%%%% NOT VALID
5G62I	DUPLICATE NAMES NOT ALLOWED - CROSS-NET RESOURCE %%%%%%%
5G63I	SESSION SETUP REQUEST %%%%%%%%% FAILED, SENSE = %%%%%%%
5G64I	%%%% LU = %%%%%%% SSCP = %%%%%%% NETID = %%%%%%%
5G70I	VARY %%%% PROCESSING FOR ID = %%%%%%% COMPLETE
5G74I	%%%%%%%%% FOR ID = %%%%%%% CONTINUES - PARM: %%%%%%%%%%%%% IGNORED
5G75I	VR = %%, TP = %%
5G78I	%%%%%%% SUBTASK END NOT SCHEDULED, INSUFFICIENT STORAGE
5G79A	PLEASE DIAL LINE = %%%%%%%, NUMBER = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5G80I	CONNECTION REQUEST DENIED - ID = %%%%%%% %%%%%%%%%%%%%%%%
5G83I	CONNECTION REQUEST DENIED, ID = %%%%%%%
5G84I	I/O ERR, CSW = %%%%%%%%%%%%%%%, SENSE = %%%%
5G88I	VARY FAILED FOR ID = %%%%%%% - INSUFFICIENT STORAGE
5G90I	CONNECTION REQUEST DENIED - INVALID STATION ID = %%%%%%%%%%%%
5G93I	UNABLE TO DISCONNECT ID = %%%%%%%
5H00I	INVALID %%%% - SKIPPING TO NEXT NETWORK STMT OR EOF
5H01I	CONFIG %%%%%%% LABEL = %%%%%%% STMT TYPE = %%%%%%%
5H02I	CONFIG %%%%%%% - UNEXPECTED %%%%%%%%%%%%%%%%%%%%%%%
5H03I	CONFIG %%%%%%% ADJSSCP DEFINITIONS IGNORED - NO ADJCDRM STMT
5H06I	ADJSSCP TABLE FOR %%%%%%% IGNORED - INSUFFICIENT STORAGE
5H07I	ADJSSCP TABLE FOR %%%%%%% BEING REPLACED
5H08I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%
5H09I	CONFIG %%%%%%% FAILED - NO VALID BUILD OR NETWORK MACRO
5H10I	CONFIG = %%%%%%%% NETWORK = %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%
5H11I	%%%%%%%%%%%%%%%% NETID %%%%%%%% NOT PROCESSED FOR %%%%%%%%
5H12I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - MISSING OPERANDS
5H13I	CONFIG %%%%%%%% GWPATH %%%%%%%% - %%%%%%%% OPERAND IGNORED
5H14I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - INVALID STMT
5H15I	CONFIG %%%%%%%% CDRM %%%%%%%% IGNORED - GWPATH STMT MISSING
5H16I	%%%%%%%%%% FOR %%%%%%%% FAILED
5H17I	NETID %%%%%%%% ID %%%%%%%% SA %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%
5H18I	ADDRESS INVALID FOR NETID=%%%%%%%% CDRM=%%%%%%%% CODE=X'%%'
5H19I	%%%
5H20I	%%%%%%%% HAS CONTACTED %%%%%%%% IN %%%%%%%%, SA %%%%%%%%%%
5H21I	SESSION SETUP FOR CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
5H22I	CONFLICTING GWCTL PARAMETERS
5H23I	SSCPID %%%%%%%%%%%% ALREADY IN USE BY CDRM %%%%%%%%
5H25I	GWN %%%%%%%%, SUBAREA %%%%%%%%%%, CDRM ALIAS ELEMENT %%%%%
5H26I	ADJNET %%%%%%%%, ADJNETSA %%%%%%%%%%, ADJNETEL %%%%%
5H27I	COMMUNICATION WITH CDRM %%%%%%%% LOST - REASON = X'%%'
5H28I	GWPATHS FOR GWN %%%%%%%% ARE NOW %%%%%%%% FOR THESE CDRMS
5H32I	%%%%%%%%%% REJECTED DUE TO %%%%%%%%%%%%%%%%%%%%
5H33I	GWPATH TO CDRM %%%%%%%% USING GWN %%%%%%%% NOT AVAILABLE
5H34I	ACTIVATION OF CDRM %%%%%%%% USING GWN %%%%%%%% FAILED

Message Number	Text
5H35I	NO ADDRESS TRANSFORMS - REQACTCDRM SENT
5H37I	DEFAULT VR LIST USED FOR CDRM %%%%%%%% USING GWN %%%%%%%%
5H38I	SESSIONS WITH %%%%%%%% NOT TERMINATED - INSUFFICIENT STORAGE
5H39I	LU DEFINED IN NETID = %%%%%%%%
5H40I	UNABLE TO FREE ALIAS ADDRESSES FOR CDRM %%%%%%%% GWN %%%%%%%%
5H42I	ACTIVATION OF CDRM %%%%%%%% %%%%%% - GWN PATH NOT AVAILABLE
5H44I	CROSS-NETWORK SESSION SETUP FAILED IN ADJNET = %%%%%%%%
5H45I	ACTCDRM TO CDRM = %%%%%%%% FAILED, SENSE = %%%%%%%%
5H46I	BIND FAILED FROM %%%%%%%% TO %%%%%%%%, SENSE = %%%%%%%%
5H51I	SIO = %%%%%%%%, ERROR CT = %%%%%%%%, CUA = %%%
5H52I	GPT TRACE STATUS = %%%%%
5H55I	ALERT FROM PU %%%%%%%% FOLLOWS
5H56E	ALERT FROM PU %%%%%%%% FOLLOWS
5H57E	MOSS UNAVAILABLE - HARDWARE ERROR
5H58E	MOSS RELOADED - HARDWARE ERROR
5H59E	MOSS DISKETTE UNUSABLE
5H60E	MOSS DISKETTE HARDWARE ERROR
5H61E	MOSS CONSOLE UNAVAILABLE
5H62I	MOSS IN MAINTENANCE MODE
5H63I	PHYSICAL UNIT RELOADED - HARDWARE ERROR
5H64I	PHYSICAL UNIT RELOADED - PRIOR ABEND CODE WAS %%%%%%%%
5H65E	CHANNEL ADAPTER %%%%%%%% UNAVAILABLE - HARDWARE ERROR
5H66I	DUMP COMPLETED - %%%% DATA SET ON %%%%%%%% DISK(ETTE) EMPTY
5H67E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE
5H68E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE
5H69E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE
5H70E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE
5H71E	SCANNER %%%%%%%% LINE %%%%%%%% UNAVAILABLE - HARDWARE ERROR
5H72I	UAC = %% %%
5H78I	%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
5H84I	SESSION(S) EXIST(S) WITH UNKNOWN PARTNER
5H85I	%%%%%%%% AND %%%%%%%%-CONFLICTING GWCTL OPTION FOR %%%%%%%%
5H86I	%%%%%%%% COMMAND REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%
5H88I	MODIFY ATTACH FAILED - SUBTASK LIMIT EXCEEDED
5H89I	%%%%%%%%%% FAILED FOR ID = %%%%%%%%, CA / NCP CONFLICT
5H92I	NO SUCH SESSION EXISTS
5H93E	SESSION MANAGEMENT ERROR, CODE %%%%%%%%%%%%%%%%%%%%%%%%%%%%
5H94I	VTAM START REJECTED - CANNOT LOAD %%%%%%%%
5H96I	HOSTSA VALUE EXCEEDS MAXSUBA
5H97I	FROM VIA ADJACENT DEST ER LENGTH
5H98I	%%%%%%%%
5H99I	%%%%%%%% DUMP IN PROGRESS
5I04I	VTAM CLOSE IN PROCESS FOR %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
5I05I	VTAM CLOSE COMPLETE FOR %%%%%%%%

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Message Number	Text
5I06I	ABEND CLOSE IN PROGRESS - %%%%%%% OPENED BY %%%%%%% %%%%%%%
5I07I	%%%%%%%%% FOR ID = %%%%%%% FAILED - NODE IS IN TEST MODE
5I08I	ORIGIN PU = %%%%%%% DEST PU = %%%%%%% %%%%%%%%%%%%%%
5I10I	NAME = %%%%%%%, VALUE = %%%%%%%
5I11I	USERVAR(S)
5I13I	USERVAR %%%%%%% CHANGED FROM %%%%%%% TO %%%%%%%
5I14I	USERVAR %%%%%%% DELETED
5I15I	AUTOMATIC RECOVERY IS SUPPORTED
5I16I	%%%%%%%%% %%% %%%%%%%%% %%%%
5I19I	CDRM %%%%%%% COMMUNICATION LOST - RECOVERY IN PROGRESS
5I20I	%%%% RSP DATA DISCARDED FOR ID = %%%%%%% - INSUFF STORAGE
5I22I	CDRM %%%%%%% RECOVERY FAILED - INSUFFICIENT STORAGE
5I23I	X.25 NETWORK ERROR %%%, %%%, %%%
5I24I	X.25 INCOMING CALL REJECTED = %%%, %%%
5I25I	USERVAR DEFINED - NAME = %%%%%%%, VALUE = %%%%%%%
5I27I	%%%%%%%%% FOR %%%%%%% FAILED - ADJSA %%%%%%%% INVALID
5I29I	IMPROPER TRANSLATION OF %%%%%%% TO %%%%%%% IN %%%%%%%
5I30I	ORIGINATING SSCP NAME = %%%%%%%, NETID = %%%%%%%
5I31I	DUPLICATE ADJCDRM NAME %%%%%%% IN %%%%%%%
5I32I	UNLABELED %%%%%%% STMT IN %%%%%%%
5I33I	SKIPPING TO NEXT %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5I35I	%%%%%%% COMMAND FAILED - NO USERVARS DEFINED
5I36I	X.25 NETWORK RESTART/RESET/CLEAR %%%, %%%, %%%, %%%
5I37I	X.25 DEFINITION ERROR %%%, %%%
5I38I	TRACE STATUS DISPLAY FOR ID = %%%%%%%
5I39I	PU NAME LINE NAME
5I40I	%%%%%%% %%%%%%%
5I41I	NO RESOURCES ARE BEING TRACED FOR %%%%%%%
5I43I	%%%%%%% NOT SPECIFIED - GATEWAY FUNCTIONS NOT SUPPORTED
5I44I	VTAM START REJECTED - INVALID START OPTION VALUE %%%%%%%
5I45I	X.25 DIAGNOSTIC PACKET %%%, %%%
5I46I	REAL I/O NOT SUPPORTED BECAUSE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5I49I	%%%%%%% INCONSISTENT WITH USE OF %%%%%%% IN %%%%%%%
5I60I	DEACTIVATION OF %%%%%%% INCOMPLETE - INSUFFICIENT STORAGE
5I65I	%%%%%%%%%%% COMMAND COMPLETE-%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5I67I	SIT TRACE FOR %%%%%%% FAILED TO ACTIVATE
5I70I	NETWORK ADDRESS RECEIVED FOR %%%%%%% IN USE BY %%%%%%%
5I83I	%%%%%%%% OF SAW BUFFERS USED %%%%%%%%%%%%%%%%%%%%%%%%
5I97I	LOAD OF %%%%%%% STARTED
5J56I	%%%% SAP=%%% MAC=%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%
5J58I	INBND=%%%%% OUTBND=%%%%% PENDING=%%% ATTN=%%%%% CUA=%%%
5J92I	UNABLE TO COMPLETE MESSAGE GROUP - CODE %
5J98E	VTAM MESSAGE %%%% ISSUED BUT DOES NOT EXIST
5J99E	VTAM MESSAGE LOST - INSUFFICIENT STORAGE

VSE Message Differences for Version 3 Release 2

This section lists the message numbers of all VSE messages that have been added, modified, or deleted since Version 3 Release 1.2 of VTAM.

If a message is **new**, the message has been added in V3R2.

If a message is **modified**, the message text or message number has been changed since V3R1.2.

If the message is **deleted**, the message existed in V3R1.2 but does not exist in V3R2.

Also listed is the text of all messages as they appear for VSE in V3R2. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

Change	Message Number					
New	IST001I	IST003I	IST004I	IST009I	IST011I	IST013I
	IST025I	IST050I	IST092I	IST124I	IST130I	IST132I
	IST155I	IST198I	IST199I	IST219I	IST225I	IST226I
	IST228I	IST252I	IST257I	IST311I	IST398I	IST400I
	IST410I	IST413I	IST432I	IST435I	IST449I	IST495I
	IST496E	IST507I	IST562I	IST563I	IST564I	IST565I
	IST566I	IST567I	IST576I	IST583I	IST591E	IST592I
	IST753I	IST773I	IST787I	IST790I	IST803I	IST809I
	IST812I	IST821I	IST826I	IST834I	IST842I	IST861I
	IST862I	IST863I	IST864I	IST866I	IST868I	IST869I
	IST871I	IST872I	IST873I	IST874I	IST875I	IST876I
	IST877I	IST878I	IST879I	IST880I	IST881I	IST882I
	IST886I	IST887I	IST888I	IST889I	IST890I	IST891I
	IST892I	IST893I	IST894I	IST895I	IST896I	IST899I
	IST900I	IST901A	IST902A	IST903A	IST904A	IST905A
	IST906A	IST907A	IST908A	IST909A	IST910I	IST911I
	IST912I	IST913I	IST914I	IST915I	IST916I	IST917I
	IST918A	IST919I	IST920I	IST921I	IST922I	IST923I
	IST924I	IST925I	IST926I	IST927I	IST928I	IST929I
	IST930I	IST932E	IST933I	IST934I	IST935I	IST936I
	IST937A	IST939I	IST951I	IST952I	IST953I	IST954I
	IST955I	IST957I	IST959I	IST960I	IST961I	IST962I
	IST963I	IST965I	IST980I	IST981I	IST982I	IST996I
	IST997I					

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Change	Message Number					
Modified	IST040I	IST054I	IST058I	IST059I	IST061I	IST075I
	IST082I	IST087I	IST113I	IST120I	IST127I	IST134I
	IST142I	IST171I	IST172I	IST183A	IST241I	IST244I
	IST264I	IST285I	IST315I	IST327I	IST330I	IST350I
	IST361A	IST368I	IST446I	IST448I	IST452I	IST475I
	IST476I	IST479I	IST482I	IST483I	IST484I	IST486I
	IST499I	IST511I	IST542I	IST543I	IST544I	IST546I
	IST599I	IST607I	IST611I	IST621I	IST623I	IST634I
	IST637I	IST663I	IST664I	IST707I	IST744I	IST766I
	IST767E	IST768E	IST769E	IST770E	IST799I	IST804I
	IST824I	IST844I	IST883I			
Deleted	IST006I	IST042I	IST044I	IST048I	IST098I	IST121I
	IST273I	IST274I	IST279I	IST280I	IST281I	IST286I
	IST287I	IST288I	IST289I	IST296I	IST342I	IST343I
	IST345I	IST346I	IST356I	IST369I	IST370I	IST371I
	IST372I	IST373I	IST374I	IST375I	IST376I	IST377I
	IST378I	IST379I	IST405I	IST598I	IST625I	IST626I
	IST632I	IST633I	IST659I	IST662I	IST711I	IST722I
	IST733I	IST738I	IST739I	IST785I	IST827I	IST829I
	IST843I					

Message Number	Text
IST001I	VTAM START REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST002I	%%%%%%%% IS AN INVALID START PARM - ALL PARMS IGNORED
IST003I	ABEND OCCURRED DURING NETWORK DEFINITION OF CONFIG %%%%%%%%, CODE = %%%
IST004I	VTAM MAIN TASK ABEND - START REJECTED
IST009I	VTAM ALREADY ACTIVE - START REJECTED
IST010I	%%%%%%%% COMMAND INVALID
IST011I	%%%%%%%%%% FOR %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST013I	I/O ERROR FOR %%%%%%%% IN %%%%%%%%
IST014I	DEVICE SUPPORT MAY BE UNAVAILABLE - SYS000 NOT UNASSIGNED
IST015A	ERROR PROCESSING LIST IDENTIFIER - ENTER LIST ID OR BLANK
IST017I	UNABLE TO LOAD PHASE %%%%%%%%
IST018I	CONFIG COULD NOT BE INITIALIZED - VTAM START CONTINUES
IST019I	SYNTAX ERROR IN START OPTION %%%%%%%% - ENTER WHEN PROMPTED
IST020I	VTAM INITIALIZATION COMPLETE
IST025I	BLDL FAILED FOR %%%%%%%% IN %%%%%%%%
IST032I	%%%%%%%% FAILED - FIRST CHARACTER OF %%%%%%%% NOT ALPHABETIC
IST033I	%%%%%%%% COMMAND CANCELLED
IST037I	%%%%%%%% FAILED - SYNTAX ERROR
IST038I	VARY FAILED FOR ID = %%%%%%%% - HOST CDRM IS NOT ACTIVE
IST039I	%%%%%%%% FAILED - CANNOT IDENTIFY COMMAND TYPE
IST040I	START OPTION %%%%%%%% REQUIRED - REENTER WHEN PROMPTED

Message Number	Text
IST043I	%%%%%%%% INVALID VALUE FOR KEYWORD %%%%%%%
IST046I	%%%%%%% THRESHOLD VALUE EXCEEDS NUMBER OF BUFFERS - NUMBER OF BUFFERS USED
IST047I	%%%%%%% BUFFER SIZE TOO SMALL - DEFAULT VALUE USED
IST049I	VTAM START REJECTED - OPEN FOR VTAM ACB FAILED, ACB ERROR FLAG = %%
IST050I	%%%%%%%% COMMAND REJECTED - OPEN FOR VTAM DATA SET %%%%%%%%%% FAILED
IST051A	ENTER VTAM START PARAMETERS
IST052I	%%%%%%%% IS AN INVALID START PARAMETER KEYWORD - IGNORED
IST054I	%%%%%%%% IN %%%%%%% %%%%%%%% - START PROCESSING CONTINUES
IST055I	%%% IS AN INVALID CONFIGURATION ID - PARAMETER IGNORED
IST056A	LIST = %%% IS INVALID - ENTER LIST ID OR BLANK
IST057I	KEYWORD MISSING AFTER TRACE/NOTRACE OPTION ON START PARMS
IST058I	%%%%%%%% AND %%%%%%%% OPTIONS HAVE DUPLICATE VALUES
IST059I	%%%%%%%%%%%%%%%%%%%%%%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST061I	%%%%%%%%%% FOR %%%%%%%%%%%%%%%% FAILED - NODE UNKNOWN TO VTAM
IST066I	%%%%%%%%%% FAILED - CONFLICTING OR INVALID OPTIONS
IST072I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED DURING NETWORK DEFINITION
IST073I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - MORE POWERFUL REQUEST IN PROGRESS
IST074I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INSUFFICIENT STORAGE
IST075I	NAME = %%%%%%%%%%%%%%%%%%, TYPE = %%%%%%%%%%%%%%%%%
IST077I	SIO = %%%%%%%% CUA = %%%%%%%%%%%%%%%%%%%%
IST080I	%%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%%
IST081I	LINE NAME = %%%%%%%%, LINE GROUP = %%%%%%%%, MAJNOD = %%%%%%%%
IST082I	DEVTYPE = %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST084I	NETWORK NODES:
IST085I	DISPLAY FAILED - INFORMATION NOT AVAILABLE
IST087I	TYPE = %%%%%%%%%%%%%%%%%%, CONTROL = %%%%%%%%%%%%%%%%%%%%%%
IST089I	%%%%%%%% TYPE = %%%%%%%%%%%%%%%%%%, %%%%%%%%%% %%%%%%%%%%
IST092I	REQUESTED %%%%%%%%%% LESS THAN CURRENT ALLOCATION - REQUEST %%%%%%%%
IST093I	%%%%%%%% ACTIVE
IST095A	OPTION TO DUMP %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,DUMPSTA=LINKSTANAME'
IST096I	%%%%%%%% FAILED - DUPLICATE %%%%%%%% PARAMETERS SPECIFIED
IST097I	%%%%%%%% ACCEPTED
IST099I	%%%%%%%% FAILED - %%%%%%%% NOT ALPHAMERIC
IST101I	%%%%%%%% FAILED - %%%%%%%% NOT SPECIFIED
IST102I	VTAM IS NOW INACTIVE
IST105I	%%%%%%%% NODE NOW INACTIVE
IST107I	TIME AND DATE NOT SET IN %%%%%%%% DUE TO INVALID TIMER IN HOST
IST109I	%%%%%%%% IS NOW TERMINATED
IST112I	VTAM INTERNAL TRACE MODIFY FAILED - CONFLICTING MODES
IST113I	%%%%%%%% IS A USERVAR WITH VALUE %%%%%%%% IN NETWORK %%%%%%%%
IST114I	SYNTAX ERROR IN %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST115I	INSUFFICIENT STORAGE TO READ %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST116I	MEMBER %%%%%%%% NOT FOUND ON VTAM DEFINITION LIBRARY
IST117I	I/O ERROR READING %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY

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Message Number	Text
IST118I	ERROR IN LIST = %% - ALL START PROCEDURE PARAMETERS IGNORED
IST119I	SYNTAX ERROR IN START PARM %%%%%%%% - ALL PARMS IGNORED
IST120I	NODE %%%%%%%% NOW HAS CONTROLLING LU %%%%%%%%
IST122I	ATTACH OF VTAM SUBTASK %%%%%%%% FAILED
IST124I	STOP COMMAND REJECTED - NOT SUPPORTED FOR VTAM
IST125A	ENTER VTAM PARAMETER OVERRIDES - EXCEPT LIST ID - OR DEFAULT
IST126I	%%%%%%%% MODE NOT SUPPORTED DUE TO LOADING FAILURE
IST127I	%%%%%%%% STILL ACTIVE - VTAM TERMINATION WAITING FOR %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST128I	HALT OF VTAM ALREADY IN PROGRESS
IST129I	UNRECOVERABLE OR FORCED ERROR ON NODE %%%%%%%% - VARY INACT SCHED
IST130I	VTAM SUBTASK %%%%%%%% INACTIVE - ABEND THRESHOLD EXCEEDED
IST132I	VTAM SUBTASK %%%%%%%% NOT REATTACHED - CANNOT BE FOUND
IST133I	VTAM TERMINATION IN PROGRESS
IST134I	GROUP = %%%%%%%%, MAJOR NODE = %%%%%%%%
IST135I	PHYSICAL UNIT = %%%%%%%%%%%%%%%%%%
IST136I	%%%%%%%% SNA MAJOR NODE = %%%%%%%%
IST137I	CONFIG %%%%%%%% BYPASSED - LOCAL ADDRESS OF LU %%%%%%%% IS INVALID
IST142I	CONFIG %%%%%%%% BYPASSED - PATH MACRO %%%%%%%% ERROR, REASON CODE %
IST146I	LINE NAME = %%%%%%%%, STATUS = %%%%%
IST148I	DIAL OUT PATH INFORMATION FOR PHYSICAL UNIT %%%%%%%%
IST149I	LINE GRP TELEPHONE NUMBER OR LINE NAME PID GID CNT
IST150I	RRT LOAD MODULE %%%%%%%% DOES NOT CONTAIN RESOURCE SEGMENT %%%%%%%%
IST153I	PENDING DEACTIVATION OF %%%%%%%% OVERRIDDEN
IST154I	EXPANSION FAILED FOR %% BUFFER POOL - CODE %
IST155I	SUBTASK %%%%%%%% HAS ABENDED, CODE %%%
IST159I	THE FOLLOWING NODES ARE IN A PENDING STATE
IST165I	CDRM %%%%%%%% HAS AN INVALID ELEMENT VALUE - 1 IS ASSUMED
IST167I	NO DIAL OUT PATH FOR %%%%%%%%
IST168I	%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%% %%% %%%
IST169I	DISCONNECTION CAUSED VARY %%%% FOR PU = %%%%%%%%
IST170I	LINES:
IST171I	ACTIVE SESSIONS = %%%%%%%%%%, SESSION REQUESTS = %%%%%%%%%%
IST172I	NO %%%%%%%%%%%%%% %%%%%%%%
IST176I	%%%%%%%% FAILED - %%%%%%%% AND %%%%%%%% ARE CONFLICTING OPTIONS
IST180I	OPEN FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
IST181I	CLOSE FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
IST182I	UNABLE TO GET STORAGE FOR CKPT %%%%%%%% MAJOR NODE %%%%%%%%
IST183A	%%%%%%%% FOUND LOADED WITH %%%%%%%% - REPLY 'YES' TO REIPL OR 'NO' TO CONTINUE
IST184I	I/O ERROR ON CKPT DS %%%%%%%% MAJOR NODE %%%%%%%% RTNCD = %% %%
IST185I	LOGICAL ERROR ON CHECKPOINT DS %%%%%%%% MAJOR NODE %%%%%%%%
IST186I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES COLD - CHECKPOINT DATA SET %%%%%%%%%%%%%%
IST187I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CHECKPOINT DATA SET %%%%%%%%%%%%%%
IST191I	%%%%%%%% SYNTAX ERROR
IST192I	POA MSG TRANSFER FAILED - INSUFFICIENT STORAGE

Message Number	Text
IST193I	REPLY %% IGNORED - REPLY TOO LONG FOR REQUESTOR
IST194I	REPLY %% NOT OUTSTANDING
IST195I	REPLY %% IGNORED - NON-DECIMAL ID
IST198I	VTAM INTERNAL TRACE ACTIVATION FAILED - GTF NOT ACTIVE
IST199I	OPTIONS = %%
IST206I	SESSIONS:
IST208I	UNABLE TO TERMINATE SESSIONS FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST211I	NCP SLOWDOWN INITIATED FOR %%%%%%%%
IST212I	ACBNAME = %%%%%%%%
IST213I	ACBNAME FOR ID = %%%%%%%%
IST214I	NCP SLOWDOWN TERMINATED FOR %%%%%%%%
IST219I	I/O ERROR ON READ FOR %%%%%%%% - BYTECNT MISMATCH
IST221I	%%%%%%%% : %%%%%%%% IS INVALID, %, UNSUPPORTED OPTION - %%%%%%%%%%%%%%%%%
IST223I	MODIFY %%%%%%%% COMMAND COMPLETED
IST225I	%%%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST226I	%%%%%%%%%% FOR ID = %%%%%%%% NOT EFFECTIVE DURING CURRENT OR QUEUED SESSIONS
IST228I	ENCRYPTION = %%%%%%%%%
IST231I	%%%%%%%% MAJOR NODE = %%%%%%%%
IST232I	%%%%%%%%, %%%%%%%%%%%%%%%%%%%%%
IST234I	I/O ERROR %%%%%%%%%%%%%%%%%%%%%%%
IST238I	%%%%%%%%%% %%% FOR ID = %%%%%%%% RCVD %%%
IST240A	WAIT STATE IN VTAM DUE TO INSUFFICIENT NUMBER OF I/O BUFFERS SPECIFIED BY USER
IST241I	%%%%%%%%%% COMMAND COMPLETE FOR %%%%%%%%%%%%%%%%%
IST242I	%%%%%%%%%% COMMAND FAILED FOR ID = %%%%%%%% SENSE = %%%%%%%%
IST243I	FRAMES SENT = %%%%%, RCVD = %%%%%, RCVD WITHOUT ERRORS = %%%%%
IST244I	NCP %%%%%%%%%%% STORAGE FOR ID = %%%%%%%%
IST245I	%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST247I	LOAD/DUMP PROCEDURE STATUS = %%%%%
IST251I	CONFIG %%%%%%%% LUPOOL MACRO %%%%%%%% IGNORED - OWNER KEYWORD REQUIRED
IST252I	%%% %%%%%%%% %%%%%%%%% VTAM CODE %%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%
IST257I	VTAM SDUMP FAILED WITH RETURN CODE %%%%
IST258I	STMT IN ERROR = %%%
IST259I	INOP RECEIVED FOR %%%%%%%% CODE = %% %%
IST260I	%%%%%%%% - %%%%%%%% SESSION LOST, SA %%%%%%%%%% CODE %%
IST262I	%%%%%%%% = %%%%%%%%, STATUS = %%%%%%%%%%
IST264I	REQUIRED %%%%%%%%%%%%% %%%%%%%% %%%%%%%%%%%%%%%
IST265I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUP %%%%%%%% HL %%%%%%%%
IST266I	%%%%%%%% STARTED
IST270I	LOAD OF %%%%%%%% COMPLETE - LOAD MODULE = %%%%%%%
IST271I	JOBNAME = %%%%%%%%, STEPNAME = %%%%%%%%
IST272A	NO INITIAL TEST FOR %%%%%%%% - REPLY 'U' TO BYPASS - OR CANCEL
IST278A	INVALID REPLY FOR ID = %%%%%%%% LOAD - ENTER 'U' - OR CANCEL

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Message Number	Text
IST282A	INVALID REPLY FOR ID = %%%%%%%% %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST284A	OPTION TO RELOAD %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,LOADSTA=LINKSTANAME'
IST285I	%%%%%%%% DUMP OF %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST301I	INSUFFICIENT VFBUF STORAGE FOR I/O TRACE TABLE
IST302I	INVALID DEFINITION TYPE IN MEMBER %%%%%%%% IN VTAM DEFINITION LIBRARY
IST303I	INSUFFICIENT STORAGE TO BUILD CONFIGURATION %%%%%%%%
IST309I	UNABLE TO LOAD MODULE %%%%%%%% FROM LIBRARY %%%%%%%%
IST310I	INVALID SPACE REQUEST FOR CONFIGURATION %%%%%%%%
IST311I	NCP LOAD MODULE LIBRARY %%%%%%%% - FAILED TO OPEN
IST314I	END
IST315I	VTAM INTERNAL TRACE ACTIVE - MODE = %%%, SIZE = %%%
IST316I	VTAM INTERNAL TRACE NOW INACTIVE
IST317I	VTAM INTERNAL TRACE ACTIVATION FAILED - INSUFFICIENT STORAGE
IST318I	VTAM INTERNAL TRACE ACTIVATION FAILED - UNABLE TO FIX STORAGE
IST319I	CONFIGURATION %%%%%%%% FIRST SPECIFICATION USED %%%%%%%%%%%%%%%%%%%%%%
IST320I	CONFIGURATION %%%%%%%% DEFINITION FAILED - %%%%%%%%%%%%%%%%%%
IST321I	CONFIGURATION %%%%%%%% DEFAULT TAKEN - %%%%%%%%%%%%%%%%%%%%
IST322I	CONFIGURATION %%%%%%%% ERROR IGNORED - %%%%%%%%%%%%%%%%%%%%
IST323I	LABEL = %%%%%%%% - MACRO TYPE = %%%%%%%% - KEYWORD = %%%%%%%%
IST324I	%%%%%%%% IN PROGRESS WITH ID = %%%%%%%% DUE TO %%%%%%%%%% REQUEST
IST326I	REQUEST = %%%%%%%%%% FAILED FOR %%%%%%%% ID = %%%%%%%%, SENSE = %%%%%%%%
IST327I	%%%%%%%% ID = %%%%%%%% INCOMPLETE, REQUEST = %%%%%%%%%%, SENSE = %%%%%%%%
IST328I	COMMUNICATION WITH CDRM ID = %%%%%%%% LOST
IST329I	THIS NODE WAS NOT ORIGINALLY OWNED BY THIS HOST
IST330I	TABLE TYPE = %%%%%%%% NAME = %%%%%%%%
IST331I	CONFIG %%%%%%%% BYPASSED - 'MAXSUBA' VALUES CONFLICT
IST333I	CONFIG %%%%%%%% USING DUPLICATE RESOURCE NAME %%%%%%%% - CODE %
IST336I	THIS NCP MAJOR NODE WAS %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST339I	CONFIG %%%%%%%% BYPASSED - %%%%%%%% UNKNOWN TO THE NCP
IST348I	UNABLE TO PROCESS DISCONNECTION FOR PU = %%%%%%%% DUE TO LACK OF STORAGE
IST350I	DISPLAY TYPE = %%%%%%%%%%%%%%%%%%%%%%
IST351I	LOCAL 3270 MAJOR NODE = %%%%%%%%
IST352I	LOCAL SNA MAJOR NODE = %%%%%%%%
IST353I	SWITCHED SNA MAJOR NODE = %%%%%%%%
IST354I	PU T4/5 MAJOR NODE = %%%%%%%%
IST355I	LOGICAL UNITS:
IST359I	ATTACHMENT = %%%%%%%%
IST360I	APPLICATIONS:
IST361A	%%%%%%%%%%%%%%%%%%%% FOUND LOADED WITH %%%%%%%%%%%%%%%%%%%% REPLY 'YES' TO RELOAD OR 'NO' TO CANCEL ACTIVATION
IST362I	GROUP %%%%%%%% DEVICES UNAVAILABLE - MISSING SYSCNTRL OPTION
IST363I	CONFIG %%%%%%%% NODES AND SUBNODES SET UNAVAILABLE - %%%%%%%%%%%%%%%%%%%%%%
IST366I	CONFIG %%%%%%%% UNABLE TO DEFINE %%%%%%%% - MAXIMUM NUMBER OF NETWORK ADDRESSES FOR HOST SUBAREA EXCEEDED

Message Number	Text
IST367I	NO STORAGE TO DEFINE NODE %%%%%%%% CONFIG %%%%%%%%
IST368I	FUNCTION GROUP %%%%%%%% FAILED
IST380I	ERROR FOR ID = %%%%%%%% - REQUEST: %%%%%%%%%%, SENSE: %%%%%%%%
IST381I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CANNOT DEFINE NODE
IST382I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - STATE: %%%%% NOT VALID FOR REQUEST
IST383I	DEACTIVATION OF ID = %%%%%%%% FAILED - REQUEST: %%%%%%%%%% SENSE: %%%%%%%%
IST384I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED
IST388I	DYNAMIC CDRSC DEFINITION SUPPORT = %%%
IST389I	PREDEFINITION OF CDRSC = %%%
IST391I	ADJ LINK STATION = %%%%%%%%, LINE = %%%%%%%%, NODE = %%%%%%%%
IST393I	PU T4/5 MAJOR NODE %%%%%%%%, SUBAREA = %%%%%%%%%
IST394I	ADJACENT LINK STATIONS NOT OWNED BUT AWAITING ACTIVATION
IST395I	%%%
IST396I	LNKSTA STATUS CTG GTG ADJNODE ADJSA NETID
IST397I	%%%
IST398I	LOAD OF %%%%%%%% FAILED - %%%%%%%% HAS ZERO ENTRY POINT
IST399E	ISTSDCOS IS NOT A CLASS OF SERVICE TABLE - ISTSDCOS DELETED
IST400I	TERMINATION IN PROGRESS FOR APPLID %%%%%%%%
IST401I	%%%%%%%%%% INITIATED FOR ID = %%%%%%%%
IST403I	%%%%%%%% COMMAND FAILED - MULTIPLE OPTIONS FOR %%%%%%%% NOT ALLOWED
IST404I	%%%%%%%% PARAMETER IGNORED - MULTIPLE OPTIONS NOT ALLOWED
IST407I	MODIFY ATTACH FAILED - %%%%%%%% ALREADY ATTACHED
IST408I	MODIFY DETACH FAILED - %%%%%%%% NOT ATTACHED
IST409I	MODIFY ATTACH FAILED - INSUFFICIENT STORAGE
IST410I	%% BUFFER POOL COULD NOT BE BUILT - CODE %
IST411I	%%%%%%%% COMMAND REJECTED DUE TO TERMINATION IN PROGRESS
IST412I	VTAM COMMAND PROCESSING TERMINATED
IST413I	VTAM DUMPING FOR %%%%%%%%%%%%%%%%%%%%%%%%
IST414I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PROCESS UNAVAILABLE
IST422I	I/O ERROR ON DS %%%%%%%% RTN CD = %%, %%
IST423I	UNABLE TO GET STORAGE FOR DS %%%%%%%%
IST424I	CLOSE FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST425I	OPEN FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST430I	%%%%%%%%%% FOR ID = %%%%%%%% DISCARDED
IST431I	%%%%%%%% NOT WITHIN ALLOWABLE RANGE OF VALUES
IST432I	TUNING STATISTICS NOT ACTIVE, SMF NOT IN SYSTEM
IST433I	COMMAND REJECTED - TUNING STATISTICS TASK NOT ATTACHED
IST435I	UNABLE TO RECORD ON SMF FILE, RETURN CODE = %%%%
IST436I	STORAGE NOT AVAILABLE FOR TUNING STATISTICS DATA
IST437I	I/O TRACE TABLE FULL
IST440I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST441I	DLRMAX = %%%%%%%% CHWR = %%%%%%%% CHRD = %%%%%%%%
IST442I	ATTN = %%%%%%%% RDATN = %%%%%%%% IPIU = %%%%%%%%
IST443I	OPIU = %%%%%%%% RDBUF = %%%%%%%% SLODN = %%%%%%%%

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Message Number	Text
IST446I	I/O ERROR %%%, %%%%%%%%%%%%%%%%%%%%%%%%%, %%%%%%%%%%%%
IST447I	BUFFER SIZE WAS IGNORED FOR ONE OR MORE POOLS
IST448I	%%%%%%%% OPTION IGNORED - %%%%%%%%%%%%%%%%%%%%%%
IST449I	%%%%%%%%%%% = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST450I	INVALID %%%%%%%% COMMAND SYNTAX
IST451I	%%%%%%%% COMMAND UNRECOGNIZED
IST452I	%%%%%%%% PARAMETER EXTRANEOUS
IST453I	%%%%%%%% PARAMETER VALUE INVALID
IST454I	%%%%%%%% COMMAND FAILED, INSUFFICIENT STORAGE
IST455I	% SESSIONS ENDED
IST456I	%%%%%%%% REQUIRED PARAMETER OMITTED
IST457I	POSITIVE % COMMAND RESPONSE
IST458I	USS MESSAGE %%% NOT DEFINED
IST459I	%%%%%%%%%% FAILED - ID = %%%%%%%% - ADJ NODE %%%
IST460I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% FAILED: %%
IST461I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% STARTED
IST462I	ACTIVATION OF LINK STATION %%%%%%%% IS DEFERRED PENDING HIGHER LEVEL NODE ACTIVATION
IST464I	LINK STATION %%%%%%%% HAS CONTACTED %%%%%%%% SA %%%%%%%%%%
IST465I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NO %%%% STATION AVAILABLE
IST466I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - UNABLE TO DO %%
IST467I	CONTACTED ERROR TYPE %%% FOR ID = %%%%%%%%
IST468I	XID1=%%%
IST469I	%%
IST470I	XID2=%%%
IST471I	%%
IST473I	CONNECTIVITY TEST TO %%%%%%%% TERMINATED AFTER %%% ECHOES DUE TO I/O ERROR, SENSE = %%%%%%%%
IST474I	NO SUBTASK FOUND FOR THE ID SPECIFIED ON MODIFY MSG COMMAND
IST475I	%%%%%%%% FAILED FOR %%%%%%%% REQUEST %%%%%%%%%% SENSE %%%%%%%%
IST476I	CDRM TYPE = %%%%%%%%%%%%%%%%%%%%%%%%%
IST477I	CDRMS:
IST478I	CDRSCS:
IST479I	CDRM NAME = %%%%%%%%, VERIFY OWNER = %%%
IST482I	%%%%%%%% %%%%%, SA %%%%%%%%%%, EL %%%%%, NETID = %%%%%%%%
IST483I	%%%%%%%% %%%%%%%%%%, CDRM = %%%%%%%%, NETID = %%%%%%%%
IST484I	SUBAREA = %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%
IST486I	CURRENT STATE = %%%%%%%%%%, DESIRED STATE = %%%%%
IST487I	%%%%%%%%%% FOR ID = %%%%%%%% SCHEDULED BY %%%%%%%%%%
IST488I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUPLICATE NODE: %%%%%%%%
IST489I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - CANNOT DEFINE NODE: %%%%%%%%
IST490I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%% IN PROGRESS

Message Number	Text
IST493I	%%%%%%%%%% FOR ID = %%%%%%%% OVERRIDDEN BY %%%%%%%%%%
IST494I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - ALREADY IN DESIRED STATE
IST495I	%%%%%%%%%%% HAS BEEN SET TO %%%%%%%%
IST496E	%%%%%%%%%%%%%%%%%%%%%% FUNCTION INOPERATIVE DUE TO ABEND
IST499I	DISK FUNCTIONS FOR %%%%%%%% NOT PERFORMED
IST500I	NO TRFILE AVAILABLE - WRAP-MODE TRACE ONLY
IST501I	ATTACH OF TRACE I/O SUBTASK FAILED
IST502A	OPTION TO REPLACE TRFILE TAPE ON SYS001
IST503I	TRACE FILE UNUSABLE - CONTINUING IN WRAP-MODE
IST504I	VTAM TRACE SUBTASK STARTED
IST505I	VTAM TRACE SUBTASK ENDED
IST506I	%%%%% TRACE RECORDS LOST DURING %%%%%%%%
IST507I	%%%%%%%% NOT ACTIVE, TSO TRACE REQUEST IGNORED
IST510I	ROUTE TEST %%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST511I	TRACE REQUEST FAILED - %%%%%%%% INVALID
IST512I	TRACE TERMINATED FOR NODE = %%%%%%%%
IST513I	TRACE INITIATED FOR NODE %%%%%%%%
IST516I	DESTSUB ADJSUB ER ER STATUS VR(S)
IST517I	%%%%%%%%%% %%%%%%%%%% %% %%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST518I	%%%%%%%%%%%%%%%%%%%%%%%%
IST520I	UNABLE TO PROCESS %%
IST521I	GBIND %%%%%% FOR COS %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%
IST522I	%%%% %%%%% %%%%%%%% SA %%%%%%%%%% TO SA %%%%%%%%%% %%%%%%%
IST523I	REASON = %%%
IST524I	REVERSE ER MASK = %%%%
IST525I	REJECTING SA %%%%%%%%%% USING TG %%% ADJACENT SA %%%%%%%%%%
IST526I	ROUTE FAILED FROM %%%%%%%%%% TO %%%%%%%%%% - DSA %%%%%%%%%% - NETID %%%%%%%%
IST528I	VIRTUAL ROUTE NUMBER %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST529I	VR SELECTION EXIT %%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%
IST530I	%%%%%%%%%% PENDING %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST531I	%%
IST532I	EVENT CODE = %%%% EVENT ID = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST533I	ER %% %%%%%%%%% IN ROUTE TEST %%%
IST534I	%%%%%%%%%% %%% %%%%%%%%%% %%%%%%%%%% %%%
IST535I	ROUTE DISPLAY %%% FROM SA %%%%%%%%%% TO SA %%%%%%%%%%
IST536I	VR TP STATUS ER ADJSUB STATUS
IST537I	%% %% %%%%%% %% %%%%%%%%%% %%%%%%
IST538I	ROUTE TEST %%% IN PROGRESS
IST539I	DISPLAY ROUTE COMMAND FAILED, COS CANNOT BE RESOLVED
IST540I	DISPLAY ROUTE COMMAND FAILED, SENSE = %%%%%%%%
IST541I	FOLLOWING PATH DEFINITION IS IGNORED
IST542I	INVALID DESTSA %%%%%%%%%% FOR PATH DEFINITION - IGNORED
IST543I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% IS REDEFINED AS FOLLOWS
IST544I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

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Message Number	Text
IST546I	UNABLE TO PROCESS %%
IST547I	EXPLICIT ROUTE MASK %%%%
IST548I	%%%%%%%%%% FAILED %%
IST549I	LL2 TEST FOR ID = %%%%%%%% ENDED %%%%%%%%%%%%%%%%%%%%%%%%
IST561I	STORAGE UNAVAILABLE: %% BUFFER POOL
IST562I	STORAGE UNAVAILABLE: %%%%%%%%%% REACHED
IST563I	STORAGE UNAVAILABLE: MAXPVT REACHED FOR %%%%%%%% %%%%%%%%
IST564I	STORAGE UNAVAILABLE: COMMON AREA SUBPOOL %%%
IST565I	STORAGE UNAVAILABLE: VTAM PRIVATE AREA SUBPOOL %%%
IST566I	STORAGE UNAVAILABLE: %%%%%%%% %%%%%%%% SUBPOOL %%%
IST567I	%%%%%%%%%% OF %%%%%%%% FOR %%%%%%%% %%%%%%%%%%%%
IST571I	LOAD FAILED FOR ID = %%%%%%%% REQ: %%%%%%%%%%, SENSE: %%%%%%%%
IST572I	REJECTING TG ADJACENT ER MASK
IST573I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST574E	START I/O TIMEOUT OCCURRED FOR %%%%%%%%
IST576I	TSO TRACE = %%%
IST577I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST578I	CHNRM = %%%%%%%% CHMAX = %%%%%%%% RDBUF = %%%%%%%%
IST579I	ATTN = %%%%%%%% TIMERS = %%%%%%%% QDPTH = %%%%%%%%
IST580I	BUFCAP = %%%%%%%% PRI = %%%%%%%% SLODN = %%%%%%%%
IST581I	IPIU = %%%%%%%% OPIU = %%%%%%%% DLRMAX = %%%%%%%%
IST582I	'EVERY' INVALID FOR TRACE OF ID = %%%%%%%% - OPERAND IGNORED
IST583I	CONFIG %%%%%%%% NOT PROCESSED - SYSDEF TASK NOT ATTACHED
IST585E	VTAM UNABLE TO CLOSE %%%%%%%% - RESOURCES MAY BE LOST TO VTAM
IST587I	IRN STORAGE %%%%%%%% CAUSED BY SLOWDOWN OF NODE %%%%%%%%
IST588I	SIT TRACE STATUS = %%%%%
IST589I	ERROR FOR ID = %%%%%%%%, CODE = %, NET = %%%%%%%%
IST590I	CONNECT%%% %%%%%%%%%% FOR PU %%%%%%%% ON LINE %%%%%%%%
IST591E	VTAM COMMAND CANCELED DUE TO VTAM TASK ABEND - %%% - RETRY COMMAND
IST592I	VTAM MAIN TASK ABEND - CODE %%% - VTAM IS BEING TERMINATED
IST593I	ISTPDCLU %%%%%%%%%%%%%%%% SESSION ENDED
IST594I	ISTPDCLU %%%%%%%% FAILED %%% %%%
IST595I	IRNLIMIT = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST596I	IRN TRACE = %%%
IST597I	CAPABILITY-PLU %%%%%%%%,SLU %%%%%%%%,SESSION LIMIT %%%%%%%%
IST599I	REAL NAME = %%%%%%%%%%%%%%%%
IST602I	%%%%%%%% FAILED ID = %%%%%%%% - HIGHER NODE HAS BECOME INACTIVE
IST605I	ERROR FOR ID = %%%%%%%% - %%%%%%%% : %%%%%%%%%%, DATA INVALID FOR THIS NODE
IST607I	%%%%%%%%%% FOR %%%%%%%%%%%%%%%% FAILED - INVALID NODE TYPE OR STATE
IST608I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - HIGHER NODE: %%%%%%%% NOT ACTIVE
IST610I	LINE %%%%%%%% - STATUS %%%%%%%%%%
IST611I	ADJACENT SSCP TABLE FOR %%%%%%%% %%%%%%%%%%
IST617I	DEACTIVATION IN PROGRESS FOR %%%%%%%%
IST619I	ID = %%%%%%%% FAILED - RECOVERY IN PROGRESS

Message Number	Text
IST621I	%%%%%%%%%%%%%%%%%%%% FOR NETWORK NODE %%%%%%%%
IST623I	DEFAULT ADJACENT SSCP TABLE %%%%%%%%%%%
IST624I	%%%%%%%%
IST627I	%%%%%%%% - INSUFFICIENT STORAGE
IST634I	NAME STATUS SID SEND RECV VR TP NETID
IST635I	%%%
IST636I	CDRSCS OWNED BY %%%%%%%% -
IST637I	SUBAREA=%%%%%%%%%% ELEMENT=%%%%%
IST638I	ADJNETSA = %%%%%%%%%%, ADJNETEL = %%%%%
IST639I	GWN = %%%%%%%%, ADJNET = %%%%%%%%
IST640I	%%%%%%%% ADDR IN ADJNET - SA = %%%%%%%%%%, EL = %%%%%
IST641I	GATEWAY PATH SELECTION LIST -
IST642I	ADJNET GWN SUBAREA ELEM ADJNETSA ADJNETEL
IST643I	%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%% %%%%%%%%%% %%%%%
IST644I	%%%%%%%% TG %%%%%%%% %%%%%%%%
IST645I	%%%%%%%% DEFINITION FAILED - NO VALID %%%%%%%% MACRO
IST650I	POLL = %%%, NEGPOLL = %%%, SESSION(S) = %%%
IST652I	%%%% = IS A DUPLICATE KEYWORD WITHIN THE TRACE/NOTRACE OPTION
IST654I	I/O TRACE = %%%, BUFFER TRACE = %%%
IST655I	%%%% TRACE STATUS = %%%%%
IST656I	ACTIVATE REJECTED FROM UNDEFINED CDRM, SA %%%%%%%%%% EL %%%%%
IST658I	%%%%%%%% COMMAND FAILED - %%%%%%%% NOT FOUND
IST660I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PARM: %%%%%%%%%%%%%%% NOT VALID
IST663I	%%%%%%%%%% REQUEST %%%%%%%%%%%%%%%%%%%%%%, SENSE=%%%%%%%%
IST664I	%%%%% %%%=%%%%%%%%%%%%%%%%%% %%%%% %%%=%%%%%%%%%%%%%%%%%%
IST670I	VARY %%%% PROCESSING FOR ID = %%%%%%%% COMPLETE
IST674I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - PARM: %%%%%%%%%%%%%%% IGNORED
IST675I	VR = %%, TP = %%
IST678I	%%%%%%%% SUBTASK END NOT SCHEDULED, INSUFFICIENT STORAGE
IST679A	PLEASE DIAL LINE = %%%%%%%%, NUMBER = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST680I	CONNECTION REQUEST DENIED - ID = %%%%%%%% %%%%%%%%%%%%%%%%%%
IST683I	CONNECTION REQUEST DENIED, ID = %%%%%%%%
IST684I	I/O ERR, CSW = %%%%%%%%%%%%%%%%, SENSE = %%%%
IST688I	VARY FAILED FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST690I	CONNECTION REQUEST DENIED - INVALID STATION ID = %%%%%%%%%%%%
IST693I	UNABLE TO DISCONNECT ID = %%%%%%%%
IST700I	INVALID %%%%% - SKIPPING TO NEXT NETWORK STMT OR EOF
IST701I	CONFIG %%%%%%%% LABEL = %%%%%%%% STMT TYPE = %%%%%%%%
IST702I	CONFIG %%%%%%%% - UNEXPECTED %%%%%%%%%%%%%%%%%%%%%%
IST703I	CONFIG %%%%%%%% ADJSSCP DEFINITIONS IGNORED - NO ADJCDRM STMT
IST706I	ADJSSCP TABLE FOR %%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST707I	ADJSSCP TABLE BEING MODIFIED BY ACTIVATION OF %%%%%%%%
IST708I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%
IST709I	CONFIG %%%%%%%% FAILED - NO VALID BUILD OR NETWORK MACRO

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Message Number	Text
IST710I	CONFIG = %%%%%%%% NETWORK = %%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST712I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - MISSING OPERANDS
IST713I	CONFIG %%%%%%%% GWPATH %%%%%%%% - %%%%%%%% OPERAND IGNORED
IST714I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - INVALID STMT
IST715I	CONFIG %%%%%%%% CDRM %%%%%%%% IGNORED - GWPATH STMT MISSING
IST716I	%%%%%%%%%% FOR %%%%%%%% FAILED
IST717I	NETID %%%%%%%% ID %%%%%%%% SA %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST718I	ADDRESS INVALID FOR NETID=%%%%%%%% CDRM=%%%%%%%% CODE=X'%%'
IST719I	%%%
IST720I	%%%%%%%% HAS CONTACTED %%%%%%%% IN %%%%%%%%, SA %%%%%%%%%%
IST721I	SESSION SETUP FOR CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST723I	SSCPID %%%%%%%%%%%% ALREADY IN USE BY CDRM %%%%%%%%
IST725I	GWN %%%%%%%%, SUBAREA %%%%%%%%%%, CDRM ALIAS ELEMENT %%%%%
IST726I	ADJNET %%%%%%%%, ADJNETSA %%%%%%%%%%, ADJNETEL %%%%%
IST727I	COMMUNICATION WITH CDRM %%%%%%%% LOST - REASON = X'%%'
IST728I	GWPATHS FOR GWN %%%%%%%% ARE NOW %%%%%%%% FOR THESE CDRMS
IST732I	%%%%%%%%%% REJECTED DUE TO %%%%%%%%%%%%%%%%%%%%
IST734I	ACTIVATION OF CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST735I	NO ADDRESS TRANSFORMS - REQACTCDRM SENT
IST737I	DEFAULT VR LIST USED FOR CDRM %%%%%%%% USING GWN %%%%%%%%
IST740I	UNABLE TO FREE ALIAS ADDRESSES FOR CDRM %%%%%%%% GWN %%%%%%%%
IST742I	ACTIVATION OF CDRM %%%%%%%% %%%%% - GWN PATH NOT AVAILABLE
IST744I	CROSS-NETWORK SESSION SETUP FAILED, NETWORK = %%%%%%%%
IST745I	ACTCDRM TO CDRM = %%%%%%%% FAILED, SENSE = %%%%%%%%
IST746I	BIND FAILED FROM %%%%%%%% TO %%%%%%%%, SENSE = %%%%%%%%
IST751I	SIO = %%%%%%%%, ERROR CT = %%%%%%%%, CUA = %%%
IST752I	GPT TRACE STATUS = %%%%%
IST753I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - ID NOT OWNED BY SSCP
IST755I	ALERT FROM PU %%%%%%%% FOLLOWS
IST756E	ALERT FROM PU %%%%%%%% FOLLOWS
IST757E	MOSS UNAVAILABLE - HARDWARE ERROR
IST758E	MOSS RELOADED - HARDWARE ERROR
IST759E	MOSS DISKETTE UNUSABLE
IST760E	MOSS DISKETTE HARDWARE ERROR
IST761E	MOSS CONSOLE UNAVAILABLE
IST762I	MOSS IN MAINTENANCE MODE
IST763I	PHYSICAL UNIT RELOADED - HARDWARE ERROR
IST764I	PHYSICAL UNIT RELOADED - PRIOR ABEND CODE WAS %%%%%%%%
IST765E	CHANNEL ADAPTER %%%%%%%% UNAVAILABLE - HARDWARE ERROR
IST766I	DUMP FAILED - NO %%%% DUMP ON %%%%%%%% DISK(ETTE)
IST767E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE ERROR
IST768E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE ERROR
IST769E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE ERROR
IST770E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE ERROR

Message Number	Text
IST771E	SCANNER %%%%%%%% LINE %%%%%%%% UNAVAILABLE - HARDWARE ERROR
IST772I	UAC = %% %%
IST773I	SESSION WITH %%%%%%%% IN PROCESS OF BEING TERMINATED
IST778I	%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST784I	SESSION(S) EXIST(S) WITH UNKNOWN PARTNER
IST786I	%%%%%%%% COMMAND REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%%%
IST787I	SSCP TAKEOVER FOR NODE %%%%%%%% IN PROGRESS
IST788I	MODIFY ATTACH FAILED - SUBTASK LIMIT EXCEEDED
IST789I	%%%%%%%%%% FAILED FOR ID = %%%%%%%%, CA / NCP CONFLICT
IST790I	MAXIMUM %%%%% USED = %%%%%%%K
IST792I	NO SUCH SESSION EXISTS
IST793E	SESSION MANAGEMENT ERROR, CODE %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST794I	VTAM START REJECTED - CANNOT LOAD %%%%%%%%
IST796I	HOSTSA VALUE EXCEEDS MAXSUBA
IST797I	FROM VIA ADJACENT DEST ER LENGTH
IST798I	%%%%%%%%
IST799I	%%%%%%%%%%%%%%% %%%% IN PROGRESS
IST803I	VTAM TERMINATION TASK TERMINATED-OPEN FAILED
IST804I	CLOSE IN PROGRESS FOR %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
IST805I	VTAM CLOSE COMPLETE FOR %%%%%%%%
IST806I	ABEND CLOSE IN PROGRESS - %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
IST807I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE IS IN TEST MODE
IST808I	ORIGIN PU = %%%%%%%% DEST PU = %%%%%%%% %%%%%%%%%%%%%%%%
IST809I	XRF SESSIONS - PRIMARY = %%%%% BACKUP = %%%%%
IST810I	NAME = %%%%%%%%, VALUE = %%%%%%%%
IST811I	USERVAR(S)
IST812I	%%%%%%%% COMMAND NOT ACCEPTED
IST813I	USERVAR %%%%%%%% CHANGED FROM %%%%%%%% TO %%%%%%%%
IST814I	USERVAR %%%%%%%% DELETED
IST815I	AUTOMATIC RECOVERY IS SUPPORTED
IST816I	%%%%%%%%%% %%% %%%%%%%%% %%%%
IST819I	CDRM %%%%%%%% COMMUNICATION LOST - RECOVERY IN PROGRESS
IST820I	%%%%% RSP DATA DISCARDED FOR ID = %%%%%%%% - INSUFF STORAGE
IST821I	SUBTASK %%%%%%%% TERMINATED, COMPLETION CODE %%%%%
IST822I	CDRM %%%%%%%% RECOVERY FAILED - INSUFFICIENT STORAGE
IST823I	X.25 NETWORK ERROR %%%%, %%%%, %%%
IST824I	X.25 INCOMING CALL REJECTED - %%%, %%%
IST825I	USERVAR DEFINED - NAME = %%%%%%%%, VALUE = %%%%%%%%
IST826I	VTAM START REJECTED--START COMMAND NOT USED FOR VTAM INITIALIZATION
IST830I	ORIGINATING SSCP NAME = %%%%%%%%, NETID = %%%%%%%%
IST831I	DUPLICATE ADJCDRM NAME %%%%%%%% IN %%%%%%%%
IST832I	UNLABELED %%%%%%%% STMT IN %%%%%%%%
IST833I	SKIPPING TO NEXT %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST834I	%%%% BACKUP SESSION(S) EXIST(S) WITH UNKNOWN PARTNERS

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Message Number	Text
IST835I	%%%%%%%% COMMAND FAILED - NO USERVARS DEFINED
IST836I	X.25 NETWORK RESTART/RESET/CLEAR %%%%, %%%%, %%%%, %%%
IST837I	X.25 DEFINITION ERROR %%%%, %%%
IST838I	TRACE STATUS DISPLAY FOR ID = %%%%%%%%
IST839I	PU NAME LINE NAME
IST840I	%%%%%%%% %%%%%%%%
IST841I	NO RESOURCES ARE BEING TRACED FOR %%%%%%%%
IST842I	UNABLE TO FIND BUFFERS IN %% POOL - DUMP IN PROGRESS
IST844I	VTAM START REJECTED - %%%%%%%% IS DUPLICATE NAME
IST845I	X.25 DIAGNOSTIC PACKET %%%%, %%%
IST846I	REAL I/O NOT SUPPORTED BECAUSE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST849I	%%%%%%%% INCONSISTENT WITH USE OF %%%%%%%% IN %%%%%%%%
IST860I	DEACTIVATION OF %%%%%%%% INCOMPLETE - INSUFFICIENT STORAGE
IST861I	MODETAB=%%%%%%%% USSTAB=%%%%%%%% LOGTAB=%%%%%%%%
IST862I	NETID = %%%%%%%% COSTABLE = %%%%%%%%%%%%%%%%%%
IST863I	MODIFY TABLE COMMAND FAILED-%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST864I	NEWTAB=%%%%%%%%, OLDTAB=%%%%%%%%, OPT=%%%%%%%%, TYPE=%%%%%%%
IST865I	%%%%%%%%%%%% COMMAND COMPLETE-%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST866I	%%%%%%%% HAD NO EFFECT - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST867I	SIT TRACE FOR %%%%%%%% FAILED TO ACTIVATE
IST868I	%%%%%%%% LU UNKNOWN TO VTAM - DUMMY LU DEFINED
IST869I	USERID = %%%%%%%%
IST870I	NETWORK ADDRESS RECEIVED FOR %%%%%%% IN USE BY %%%%%%%
IST871I	RESOURCE %%%%%%%% %%%%%%%%%%
IST872I	DR MOVE MISMATCH DETECTED FOR %%%%%%%%
IST873I	PLU SLU SID STATUS
IST874I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% %%%%%%%%
IST875I	ADJSSCP TOWARDS %%% = %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST876I	SIGNALS NEEDED TO COMPLETE SESSION %%%%%%%%
IST877I	%%%%%%%%%%%%%%% %%%%%%%%%%%%%%% %%%%%%%%%%%%%%% %%%%%%%%%%%%%%%
IST878I	NUMBER OF %%%%%%% SESSIONS = %%%%%%%%%%
IST879I	%%%%%%% REAL = %%%%%%%%%%%%%%%%%% ALIAS = %%%%%%%%%%%%%%%%%%
IST880I	SETUP STATUS = %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST881I	%%%%%%%%%%%%%%%%% LINK STATION %%%%%%%%
IST882I	WAITING FOR DEVICE END FROM DEVICE
IST883I	%%%%%%%%% OF SAW BUFFERS USED %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST886I	%%%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%%% %%%%%%%%%%%% FAILED
IST887I	NO COS TABLE FOR %%%%%%%% - %%%%%%%%%%%%%%%%% MAY BE USED
IST888I	ADDR + LENGTH VALUES EXCEED STORAGE - LENGTH SET TO %%%
IST889I	SID = %%%%%%%%%%%%%%%%
IST890I	AUTOLOGON SESSION SETUP FAILED
IST891I	%%%%%%%%%%%%%%%%%%%%%%%%%%%% GENERATED FAILURE NOTIFICATION
IST892I	%%%%%%%%%%%%%%%%% ORIGINATED FAILURE NOTIFICATION
IST893I	ORIGINAL FAILING REQUEST IS %%%%%%%%%%

Message Number	Text
IST894I	ADJSSCPS TRIED FAILURE SENSE ADJSSCPS TRIED FAILURE SENSE
IST895I	%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST896I	AUTOLOGON WILL BE RETRIED WHEN CONTROLLING PLU IS AVAILABLE
IST897I	LOAD OF %%%%%%%% STARTED
IST899I	RETRY OF AUTOLOGON(S) TO %%%%%%%%%%%%%%%% %%%%%%%%%%%%%
IST900I	TRACE PRINT UTILITY STARTED
IST901A	'PRINT' OR 'CANCEL' MISSING - REENTER LINE
IST902A	INVALID PRINT OPTION - REENTER LINE
IST903A	INVALID PRINT NODENAME - REENTER LINE
IST904A	MAXIMUM OF 50 NODENAMES - ENTER ADDITIONAL OPTIONS
IST905A	ENTER TRACE PRINT OPTIONS OR 'CANCEL'
IST906A	ENTER ADDITIONAL OPTIONS OR 'CANCEL'
IST907A	SNAPSHOT MODE TPRINT? ENTER Y OR N
IST908A	OFFLINE MODE TPRINT? ENTER Y OR N
IST909A	INVALID INTERVAL SPECIFIED - REENTER LINE
IST910I	TRACE PRINT UTILITY ENDED
IST911I	TPRINT CANCELLED - INVALID SYS004 ASSIGNMENT
IST912I	TPRINT CANCELLED - VTAM TERMINATION IN PROGRESS
IST913I	TPRINT CANCELLED - ALREADY IN PROGRESS
IST914I	TPRINT EDITING OFFLINE FILE ON SYS004
IST915I	TRACE RECORDING SUSPENDED FOR ONLINE TPRINT
IST916I	SNAPSHOT TPRINT PROCEEDING - NO FILE PROVIDED
IST917I	RECORDS MISSING ON TRACE FILE
IST918A	INVALID CLEAR OPTION - REENTER LINE
IST919I	NODE %%%%%%%% NO LONGER HAS CONTROLLING LU %%%%%%%%
IST920I	%%%% % % BUFF SIZE %%%%% EXP INCREMENT %%%%%
IST921I	TIMES EXP %%%%%%%%%% EXP/CONT THRESH %%%%%/%%%%%
IST922I	CURR TOTAL %%%%%%%%%% CURR AVAILABLE %%%%%%%%%%
IST923I	MAX TOTAL %%%%%%%%%% MAX USED %%%%%%%%%%
IST924I	----------
IST925I	DYNAMIC PATH DEFINITION %%%%%%%% STATUS = %%%%%
IST926I	PATH FOR %%%%%%%% IGNORED - NODE %%%%%%%% NOT FOUND/INVALID
IST927I	ERROR FOR %%%%%%%%%%%%%%%% DSA %%%%%%%%%% %%%%%%%%%%%%%%% CODE %%
IST928I	DELETER KEYWORD FOR %%%%%%%% IGNORED
IST929I	LOAD OF DYNAMIC PATH DEFINITION %%%%%%%%%%%%%%%% COMPLETE
IST930I	%%%%%%%%%%%%%%%% - %%%%%%%%%%%%%%%% SESSION USING %%%% OF %%BUF
IST932E	FAILURE OCCURRED DURING TAKEOVER OF %%%%%%%%, SENSE=%%%%%%%%
IST933I	LOGMODE=%%%%%%%%, COS=%%%%%%%% %%%%%%%%%%
IST934I	DLOGMOD=%%%%%%%%
IST935I	ORIGIN=%%%%%%%%, NETID=%%%%%%%%, ID=%%%%%%%%
IST936I	ANSWER MODE STATE = %%%%%%%%%%%%%%%%%%%%%%%%
IST937A	%%%%%%%% TIMESTAMP MISMATCH %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% REPLY 'YES' TO RELOAD OR 'NO' TOCANCEL ACTIVATION
IST939I	VARY NOLOGON COMMAND HAD NO EFFECT - %%%%%%%% NOT FOUND FOR %%%%%%%%

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Message Number	Text
IST951I	DISPLAY DISK INFORMATION FOR %%%%%%%
IST952I	DUMP NAME DATE TIME
IST953I	%%%%%%% %%%%%%% %%%%%%%
IST954I	LOAD MODULE DATE TIME STORE STATUS %%%%%
IST955I	%%%%%% %%%%%%% %%%%%%% %%%%%%% %%%
IST956I	%%%% SAP=%%% MAC=%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%
IST957I	NO NCP LOAD MODULE OR DUMP ON DISK
IST958I	INBND=%%%%% OUTBND=%%%%% PENDING=%%% ATTN=%%%%% CUA=%%%
IST959I	TIMESTAMP MISMATCH FOR %%%%%% (NCP %%%%%%%)
IST960I	TIMESTAMPS - %%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%
IST961I	LOAD OF %%%%%%% %%%%%%%%%% FAILED
IST962I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST963I	LOAD MODULE = %%%%%%%
IST965I	AUTO DUMP/LOAD: %%%
IST980I	%%%%%%%%%% LINE(S) AND %%%%%%%%%% PHYSICAL UNIT(S) %%%%%%%
IST981I	%%%%%%% NOT %%%%%%%%%% - DOES NOT SUPPORT GIVEBACK
IST982I	%%%%%%%%%% %%%%%%%%%% REQUEST(S) PENDING TO SUBAREA %%%%%%%%%
IST992I	UNABLE TO COMPLETE MESSAGE GROUP - CODE %
IST996I	%%% %%%%%%% %%%%%%% PROGCK CODE %%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST997I	%%% %%%%%%% %%%%%%% CANCEL CODE %%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST998E	VTAM MESSAGE %%%% ISSUED BUT DOES NOT EXIST
IST999E	VTAM MESSAGE LOST - INSUFFICIENT STORAGE

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VM Message Differences for Version 3 Release 1.1

This section lists the message numbers of all VM messages that have been added, modified, or deleted since Version 3 Release 1 of VTAM.

If a message is **new**, the message has been added in V3R1.1.

If a message is **modified**, the message text or message number has been changed since V3R1.

If the message is **deleted**, the message existed in V3R1 but does not exist in V3R1.1.

Also listed is the text of all messages as they appear for VM in V3R1.1. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

Change	Message Number					
New	IST001I	IST113I	IST181I	IST182I	IST184I	IST185I
	IST186I	IST262I	IST289I	IST507I	IST589I	IST590I
	IST598I	IST599I	IST610I	IST611I	IST623I	IST624I
	IST636I	IST637I	IST638I	IST639I	IST640I	IST641I
	IST642I	IST643I	IST644I	IST658I	IST659I	IST662I
	IST663I	IST664I	IST700I	IST701I	IST702I	IST703I
	IST706I	IST707I	IST708I	IST709I	IST710I	IST711I
	IST712I	IST713I	IST714I	IST715I	IST716I	IST717I
	IST718I	IST719I	IST720I	IST721I	IST722I	IST723I
	IST725I	IST726I	IST727I	IST728I	IST732I	IST733I
	IST734I	IST735I	IST737I	IST738I	IST739I	IST740I
	IST742I	IST744I	IST745I	IST746I	IST785I	IST786I
	IST789I	IST790I	IST793E	IST796I	IST797I	IST798I
	IST799I	IST807I	IST808I	IST809I	IST815I	IST816I
	IST819I	IST820I	IST822I	IST825I	IST827I	IST829I
	IST830I	IST831I	IST832I	IST833I	IST834I	IST835I
	IST838I	IST839I	IST840I	IST841I	IST843I	IST844I
	IST883I					

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Change	Message Number					
Modified	IST002I	IST003I	IST012I	IST013I	IST025I	IST039I
	IST044I	IST059I	IST077I	IST082I	IST087I	IST095A
	IST109I	IST121I	IST127I	IST130I	IST135I	IST149I
	IST150I	IST153I	IST168I	IST171I	IST187I	IST223I
	IST238I	IST259I	IST260I	IST270I	IST278A	IST282A
	IST284A	IST285I	IST286I	IST287I	IST288I	IST291I
	IST292I	IST293I	IST294I	IST295I	IST296I	IST297I
	IST298I	IST299I	IST311I	IST314I	IST315I	IST342I
	IST345I	IST346I	IST352I	IST353I	IST354I	IST356I
	IST361A	IST362I	IST367I	IST368I	IST369I	IST370I
	IST371I	IST372I	IST373I	IST374I	IST375I	IST376I
	IST378I	IST383I	IST396I	IST397I	IST398I	IST399E
	IST409I	IST413I	IST440I	IST449I	IST453I	IST459I
	IST464I	IST465I	IST469I	IST471I	IST473I	IST476I
	IST482I	IST483I	IST484I	IST496E	IST510I	IST516I
	IST520I	IST521I	IST522I	IST525I	IST526I	IST528I
	IST529I	IST530I	IST531I	IST532I	IST533I	IST534I
	IST535I	IST536I	IST537I	IST540I	IST546I	IST548I
	IST562I	IST563I	IST566I	IST571I	IST572I	IST573I
	IST574E	IST577I	IST582I	IST585E	IST591E	IST593I
	IST594I	IST595I	IST617I	IST634I	IST635I	IST645I
	IST650I	IST655I	IST656I	IST675I	IST678I	IST680I
	IST784I	IST804I	IST846I	IST992I	IST998E	IST999E
Deleted	IST045I	IST071I	IST088I	IST100I	IST199I	IST266I
	IST271I	IST332I	IST340I	IST349I	IST379I	IST390I
	IST393I	IST407I	IST408I	IST427I	IST428I	IST446I
	IST545I	IST568I	IST569I	IST570I	IST751I	IST753I
	IST783I	IST812I	IST821I	IST847I		

Message Number	Text
IST000I	VTAM NOT ACTIVE - COMMAND REJECTED
IST001I	VTAM START REJECTED - FAILURE ATTEMPTING TO FIX STORAGE
IST002I	%%%%%%%% IS AN INVALID START PARM - ALL PARMS IGNORED
IST003I	ABEND OCCURRED DURING NETWORK DEFINITION OF CONFIG %%%%%%%%, CODE = %%%
IST006I	VTAM START REJECTED - INSUFFICIENT STORAGE
IST010I	%%%%%%%% COMMAND INVALID
IST012I	VTAM START REJECTED - CANNOT LOCATE %%%%%%%% IN %%%%%%%%
IST013I	I/O ERROR FOR %%%%%%%% IN %%%%%%%%
IST015A	ERROR PROCESSING LIST IDENTIFIER - ENTER LIST ID OR BLANK
IST016I	VTAM START REJECTED - STAE FAILED
IST018I	CONFIG COULD NOT BE INITIALIZED - VTAM START CONTINUES
IST019I	SYNTAX ERROR IN START OPTION %%%%%%%% - ENTER WHEN PROMPTED
IST020I	VTAM INITIALIZATION COMPLETE

Message Number	Text
IST025I	BLDL FAILED FOR %%%%%%%% IN %%%%%%%%
IST032I	%%%%%%%% FAILED - FIRST CHARACTER OF %%%%%%%% NOT ALPHABETIC
IST033I	%%%%%%%% COMMAND CANCELLED
IST037I	%%%%%%%% FAILED - SYNTAX ERROR
IST038I	VARY FAILED FOR ID = %%%%%%%% - HOST CDRM IS NOT ACTIVE
IST039I	%%%%%%%% FAILED - CANNOT IDENTIFY COMMAND TYPE
IST040I	START PARAMETER SSCPID NOT PROCESSED - REENTER WHEN PROMPTED
IST042I	%%%%%%%% FAILED - TOO MANY OPERANDS
IST043I	%%%%%%%% INVALID VALUE FOR KEYWORD %%%%%%%%
IST044I	%%%%%%%% FAILED - INSUFFICIENT STORAGE
IST047I	%%%%%%% BUFFER SIZE TOO SMALL - DEFAULT VALUE USED
IST048I	VTAM START REJECTED - INSUFFICIENT STORAGE FOR BUFFERS
IST049I	VTAM START REJECTED - OPEN FOR VTAM ACB FAILED, ACB ERROR FLAG = %%
IST050I	%%%%%%%% COMMAND REJECTED - OPEN FOR VTAM DATA SET %%%%%%%%%% FAILED
IST051A	ENTER VTAM START PARAMETERS
IST052I	%%%%%%%% IS AN INVALID START PARAMETER KEYWORD - IGNORED
IST054I	%%%%%% KEYWORD SEQUENCE ERROR IN START PARMS - KEYWORD IGNORED
IST055I	%%% IS AN INVALID CONFIGURATION ID - PARAMETER IGNORED
IST056A	LIST = %%% IS INVALID - ENTER LIST ID OR BLANK
IST057I	KEYWORD MISSING AFTER TRACE/NOTRACE OPTION ON START PARMS
IST058I	%%%%%%%%%% WILL NOT BE PROCESSED - INVALID START PARAMETER
IST059I	%%%%%%%%%%%%%%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST061I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE UNKNOWN TO VTAM
IST066I	%%%%%%%%%% FAILED - CONFLICTING OR INVALID OPTIONS
IST072I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED DURING NETWORK DEFINITION
IST073I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - MORE POWERFUL REQUEST IN PROGRESS
IST074I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INSUFFICIENT STORAGE
IST075I	VTAM DISPLAY - NODE TYPE = %%%%%%%%%%%%%%%%
IST077I	SIO = %%%%%%%% CUA = %%%%%%%%%%%%%%%%%%%%
IST080I	%%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%%
IST081I	LINE NAME = %%%%%%%%, LINE GROUP = %%%%%%%%, MAJNOD = %%%%%%%%
IST082I	DEVTYPE = %%%%, CONTROLLING PLU = %%%%%%%%
IST084I	NETWORK NODES:
IST085I	DISPLAY FAILED - INFORMATION NOT AVAILABLE
IST087I	LINE TYPE = %%%%%%%%, LINE GROUP = %%%%%%%%, LNCTL = %%%%
IST089I	%%%%%%%% TYPE = %%%%%%%%%%%%%%%%%%, %%%%%%%%%% %%%%%%%%
IST092I	%%%%%%%% REQUESTED CSALIMIT LESS THAN CURRENT ALLOCATION REQUEST %%%%%%%%
IST093I	%%%%%%%% ACTIVE
IST095A	OPTION TO DUMP %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,DUMPSTA=LINKSTANAME'
IST096I	%%%%%%%% FAILED - DUPLICATE %%%%%%%% PARAMETERS SPECIFIED
IST097I	%%%%%%%% ACCEPTED
IST098I	%%%%%%%% FAILED - %%%%%%%% INCORRECT LENGTH
IST099I	%%%%%%%% FAILED - %%%%%%%% NOT ALPHAMERIC
IST101I	%%%%%%%% FAILED - %%%%%%%% NOT SPECIFIED

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Message Number	Text
IST102I	VTAM IS NOW INACTIVE
IST105I	%%%%%%%% NODE NOW INACTIVE
IST107I	TIME AND DATE NOT SET IN %%%%%%%% DUE TO INVALID TIMER IN HOST
IST109I	%%%%%%%% IS NOW TERMINATED
IST112I	VTAM INTERNAL TRACE MODIFY FAILED - CONFLICTING MODES
IST113I	%%%%%%%% IS A USERVAR WITH VALUE %%%%%%%% %%%%%%%%%%%%%%%%
IST114I	SYNTAX ERROR IN %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST115I	INSUFFICIENT STORAGE TO READ %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST116I	MEMBER %%%%%%%% NOT FOUND ON VTAM DEFINITION LIBRARY
IST117I	I/O ERROR READING %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST118I	ERROR IN LIST = %% - ALL START PROCEDURE PARAMETERS IGNORED
IST119I	SYNTAX ERROR IN START PARM %%%%%%%% - ALL PARMS IGNORED
IST120I	LOGON PROCESSING OF NODE %%%%%%%% TO CONTROLLER %%%%%%%% COMPLETE
IST121I	%%%%%%%% OF NODE %%%%%%%% TO CONTROLLER %%%%%%%% FAILED - CODE %%
IST122I	ATTACH OF VTAM SUBTASK %%%%%%%% FAILED
IST124I	STOP COMMAND REJECTED - NOT SUPPORTED FOR VTAM
IST125A	ENTER VTAM PARAMETER OVERRIDES - EXCEPT LIST ID - OR DEFAULT
IST126I	%%%%%%%% MODE NOT SUPPORTED DUE TO LOADING FAILURE
IST127I	%%%%%%%% STILL ACTIVE - VTAM TERMINATION WAITING %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST128I	HALT OF VTAM ALREADY IN PROGRESS
IST129I	UNRECOVERABLE OR FORCED ERROR ON NODE %%%%%%%% - VARY INACT SCHED
IST130I	VTAM SUBTASK %%%%%%%% INACTIVE - ABEND THRESHOLD EXCEEDED
IST132I	VTAM SUBTASK %%%%%%%% NOT REATTACHED - CANNOT BE FOUND
IST133I	VTAM TERMINATION IN PROGRESS
IST134I	MAJNOD = %%%%%%%%
IST135I	PHYSICAL UNIT = %%%%%%%%%%%%%%%%%%
IST136I	%%%%%%%% SNA MAJOR NODE = %%%%%%%%
IST137I	CONFIG %%%%%%%% BYPASSED - LOCAL ADDRESS OF LU %%%%%%%% IS INVALID
IST142I	CONFIG %%%%%%%% BYPASSED - PATH MACRO %%%%%%%% ERROR REASON CODE %
IST146I	LINE NAME = %%%%%%%%, STATUS = %%%%%
IST148I	DIAL OUT PATH INFORMATION FOR PHYSICAL UNIT %%%%%%%%
IST149I	LINE GRP TELEPHONE NUMBER OR LINE NAME PID GID CNT
IST150I	RRT LOAD MODULE %%%%%%%% DOES NOT CONTAIN RESOURCE SEGMENT %%%%%%%%
IST153I	PENDING DEACTIVATION OF %%%%%%%% OVERRIDDEN
IST154I	EXPANSION FAILED FOR %% BUFFER POOL - CODE %
IST155I	SUBTASK %%%%%%%% HAS ABENDED, CODE %%%
IST159I	THE FOLLOWING NODES ARE IN A PENDING STATE
IST165I	CDRM %%%%%%%% HAS AN INVALID ELEMENT VALUE - 1 IS ASSUMED
IST167I	NO DIAL OUT PATH FOR %%%%%%%%
IST168I	%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%% %%% %%%
IST169I	DISCONNECTION CAUSED VARY %%%%% FOR PU = %%%%%%%%
IST170I	LINES:
IST171I	ACTIVE SESSIONS = %%%%%, SESSION REQUESTS = %%%%%
IST172I	NO %%%%%%%%%%%% %%%%%%%%

Message Number	Text
IST176I	%%%%%%%% FAILED - %%%%%%%% AND %%%%%%%% ARE CONFLICTING OPTIONS
IST180I	OPEN FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
IST181I	CLOSE FAILED ON CKPT DS %%%%%%%% MAJ NODE %%%%%%%% RTNCD = %% %%
IST182I	UNABLE TO GET STORAGE FOR CKPT %%%%%%%% MAJOR NODE %%%%%%%%
IST183A	%%%%%%%% FOUND LOADED WITH %%%%%%%% REPLY 'YES' TO REIPL OR 'NO' TO CONTINUE
IST184I	I/O ERROR ON CKPT DS %%%%%%%% MAJOR NODE %%%%%%%% RTNCD = %% %%
IST185I	LOGICAL ERROR ON CHECKPOINT DS %%%%%%%% MAJOR NODE %%%%%%%%
IST186I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES COLD - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
IST187I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CHECKPOINT DATA SET %%%%%%%%%%%%%%%
IST191I	%%%%%%%% SYNTAX ERROR
IST192I	POA MSG TRANSFER FAILED - INSUFFICIENT STORAGE
IST193I	REPLY %% IGNORED - REPLY TOO LONG FOR REQUESTOR
IST194I	REPLY %% NOT OUTSTANDING
IST195I	REPLY %% IGNORED - NON-DECIMAL ID
IST198I	VTAM INTERNAL TRACE ACTIVATION FAILED - GTF NOT ACTIVE
IST206I	SESSIONS:
IST208I	UNABLE TO TERMINATE SESSIONS FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST211I	NCP SLOWDOWN INITIATED FOR %%%%%%%%
IST212I	ACBNAME = %%%%%%%%
IST213I	ACBNAME FOR ID = %%%%%%%%
IST214I	NCP SLOWDOWN TERMINATED FOR %%%%%%%%
IST219I	I/O ERROR ON READ FOR %%%%%%%% - BYTECNT MISMATCH
IST221I	%%%%%%%% : %%%%%%%% IS INVALID, %, UNSUPPORTED OPTION - %%%%%%%%%%%%%%%%%
IST223I	MODIFY %%%%%%%% COMMAND COMPLETED
IST225I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST231I	CA MAJOR NODE = %%%%%%%%
IST232I	%%%%%%%%, %%%%%%%%%%, CUA = %%%
IST234I	I/O ERROR %%%%%%%%%%%%%%%%%%%%%%%
IST238I	%%%%%%%%%% %%% FOR ID = %%%%%%%% RCVD %%
IST240A	WAIT STATE IN VTAM DUE TO INSUFFICIENT NUMBER OF I/O BUFFERS SPECIFIED BY USER
IST241I	%%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%%
IST242I	%%%%%%%% COMMAND FAILED FOR ID = %%%%%%%% SENSE = %%%%%%%%
IST243I	FRAMES SENT = %%%%%, RCVD = %%%%%, RCVD WITHOUT ERRORS = %%%%%
IST244I	NCP STORAGE FOR ID = %%%%%%%%
IST245I	%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST247I	LOAD/DUMP PROCEDURE STATUS = %%%%%
IST251I	CONFIG %%%%%%%% LUPOOL MACRO %%%%%%%% IGNORED - OWNER KEYWORD REQUIRED
IST257I	VTAM SDUMP FAILED WITH RETURN CODE %%%%
IST258I	STMT IN ERROR = %%
IST259I	INOP RECEIVED FOR %%%%%%%% CODE = %% %%
IST260I	%%%%%%%% - %%%%%%%% SESSION LOST, SA %%%%%%%%%% CODE %%
IST262I	%%%%%%%% = %%%%%%%%, STATUS = %%%%%%%%%%

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Message Number	Text
IST264I	SESSION SETUP FOR PLU = %%%%%%%% SLU = %%%%%%%% FAILED - REQUIRED %%%%%%%% %%%%%%%% %%%%%%%%%%
IST265I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUP %%%%%%%% HL %%%%%%%%
IST270I	LOAD OF %%%%%%%% COMPLETE - LOAD MODULE = %%%%%%%
IST272A	NO INITIAL TEST FOR %%%%%%%% - REPLY 'U' TO BYPASS - OR CANCEL
IST273I	LOAD OF %%%%%%%% FAILED - PERMANENT I/O ERROR
IST274I	LOAD OF %%%%%%%% FAILED - INITIAL TEST HARDSTOP
IST278A	INVALID REPLY FOR ID = %%%%%%%% LOAD - ENTER 'U' - OR CANCEL
IST282A	INVALID REPLY FOR ID = %%%%%%%% %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST284A	OPTION TO RELOAD %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,LOADSTA=LINKSTANAME'
IST285I	%%%%%%%% DUMP OF %%%%%%%% COMPLETE
IST286I	%%%%%%%% DUMP OF %%%%%%%% PARTIALLY COMPLETE
IST287I	%%%%%%%% DUMP OF %%%%%%%% FAILED - PERMANENT I/O ERROR
IST288I	%%%%%%%% DUMP OF %%%%%%%% FAILED - %%%%%%%% CANNOT BE OPENED
IST289I	%%%%%%%% DUMP OF %%%%%%%% FAILED - UNSUPPORTED DEVICE TYPE
IST291I	LOAD OF %%%%%%%% FAILED - LOADER FAILURE
IST292I	LOAD OF %%%%%%%% FAILED - %%%%%%%% BLDL ERROR
IST294I	LOAD OF %%%%%%%% FAILED - INVALID DEVICE TYPE DEFINITION
IST295I	LOAD OF %%%%%%%% FAILED - UNEXPECTED END OF FILE ON DATA SET
IST296I	LOAD OF %%%%%%%% FAILED - UNEXPECTED CODE %%% FROM IFLOADRN
IST297I	LOAD OF %%%%%%%% FAILED - LOAD MODULE %%%%%%%% IS TOO LARGE
IST298I	LOAD OF %%%%%%%% FAILED - PERMANENT I/O ERROR ON %%%%%%%%
IST299I	LOAD OF %%%%%%%% FAILED - %%%%%%%% COULD NOT BE OPENED
IST302I	INVALID DEFINITION TYPE IN MEMBER %%%%%%%% IN VTAM DEFINITION LIBRARY
IST303I	INSUFFICIENT STORAGE TO BUILD CONFIGURATION %%%%%%%%
IST309I	UNABLE TO LOAD MODULE %%%%%%%% FROM LIBRARY %%%%%%%%
IST310I	INVALID SPACE REQUEST FOR CONFIGURATION %%%%%%%%
IST311I	NCP LOAD MODULE LIBRARY %%%%%%%% - FAILED TO OPEN
IST314I	END
IST315I	VTAM INTERNAL TRACE ACTIVE - MODE = %%%, SIZE = %%%, OPTIONS = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST316I	VTAM INTERNAL TRACE NOW INACTIVE
IST317I	VTAM INTERNAL TRACE ACTIVATION FAILED - INSUFFICIENT STORAGE
IST318I	VTAM INTERNAL TRACE ACTIVATION FAILED - UNABLE TO FIX STORAGE
IST319I	CONFIGURATION %%%%%%%% FIRST SPECIFICATION USED %%%%%%%%%%%%%%%%%%%%
IST320I	CONFIGURATION %%%%%%%% DEFINITION FAILED - %%%%%%%%%%%%%%%%%%
IST321I	CONFIGURATION %%%%%%%% DEFAULT TAKEN - %%%%%%%%%%%%%%%%%%%%
IST322I	CONFIGURATION %%%%%%%% ERROR IGNORED - %%%%%%%%%%%%%%%%%%%%
IST323I	LABEL = %%%%%%%% - MACRO TYPE = %%%%%%%% - KEYWORD = %%%%%%%%
IST324I	%%%%%%%% IN PROGRESS WITH ID = %%%%%%%% DUE TO %%%%%%%%%% REQUEST
IST326I	REQUEST = %%%%%%%%%% FAILED FOR %%%%%%%% ID = %%%%%%%%, SENSE = %%%%%%%%
IST327I	%%%%%%%% ID = %%%%%%%% INCOMPLETE, REQUEST = %%%%%%%%%%, SENSE = %%%%%%%%
IST328I	COMMUNICATION WITH CDRM ID = %%%%%%%% LOST
IST329I	THIS NODE WAS NOT ORIGINALLY OWNED BY THIS HOST

Message Number	Text
IST330I	CONFIGURATION %%%%%%%% BYPASSED - TABLE = %%%%%%%% IS INVALID
IST331I	CONFIG %%%%%%%% BYPASSED - 'MAXSUBA' VALUES CONFLICT
IST333I	CONFIG %%%%%%%% USING DUPLICATE RESOURCE NAME %%%%%%%% - CODE %
IST336I	THIS NCP MAJOR NODE WAS %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST339I	CONFIG %%%%%%%% BYPASSED - %%%%%%%% UNKNOWN TO THE NCP
IST342I	SLU %%%%%%%% HAS CONTROLLING PLU %%%%%%%% - NO SESSION - CODE = %%
IST343I	CONTROLLER %%%%%%%% ASSIGNED TO NODE %%%%%%%% LOGON COULD NOT BE COMPLETED
IST345I	TERMINATION OF SESSION BETWEEN %%%%%%%% AND %%%%%%%% FAILED
IST346I	UNABLE TO COMPLETE SESSION SETUP FOR %%%%%%%%, %%%%%%%% DUE TO INSUFFICIENT STORAGE
IST348I	UNABLE TO PROCESS DISCONNECTION FOR PU = %%%%%%%% DUE TO LACK OF STORAGE
IST350I	VTAM DISPLAY - DOMAIN TYPE = %%%%%%%%%%%%%%%%%%%%
IST351I	LOCAL 3270 MAJOR NODE = %%%%%%%%
IST352I	LOCAL SNA MAJOR NODE = %%%%%%%%
IST353I	SWITCHED SNA MAJOR NODE = %%%%%%%%
IST354I	PU T4/5 MAJOR NODE = %%%%%%%%
IST355I	LOGICAL UNITS:
IST356I	%%%
IST359I	ATTACHMENT = %%%%%%%%
IST360I	APPLICATIONS:
IST361A	%%%%%%%%%%%% FOUND LOADED WITH %%%%%%%%%%%% - REPLY 'YES' TO RELOAD OR 'NO' TO CANCEL ACTIVATION
IST362I	GROUP %%%%%%%% DEVICES UNAVAILABLE - MISSING SYSCNTRL OPTION
IST363I	CONFIG %%%%%%%% NODES AND SUBNODES SET UNAVAILABLE - %%%%%%%%%%%%%%%%%%%%%%
IST366I	CONFIG %%%%%%%% UNABLE TO DEFINE %%%%%%%% - MAXIMUM NUMBER OF NETWORK ADDRESSES FOR HOST SUBAREA EXCEEDED
IST367I	NO STORAGE TO DEFINE NODE %%%%%%%% CONFIG %%%%%%%%
IST368I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TO/FROM OPERAND UNKNOWN
IST369I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TARGET RESOURCE NOT IN DR - ABLE NCP
IST370I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% IGNORED - INVALID TARGET RESOURCE TYPE
IST371I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% MISSING - NOT DELETED
IST372I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% CONFLICTS WITH TARGET - NOT DELETED
IST373I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% IMPROPER DELETE STATE - NOT DELETED
IST374I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO, CODE %
IST375I	DR ADD FUNCTION GROUP %%%%%%%% NOT INCLUDED
IST376I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST377I	CONFIG %%%%%%%% DR FUNCTION GROUP IGNORED %%%%%%%%%%%%%%%%%%
IST378I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO SEQUENCE
IST380I	ERROR FOR ID = %%%%%%%% - REQUEST: %%%%%%%%%%, SENSE: %%%%%%%%
IST381I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CANNOT DEFINE NODE
IST382I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - STATE: %%%%% NOT VALID FOR REQUEST
IST383I	DEACTIVATION OF ID = %%%%%%%% FAILED - REQUEST: %%%%%%%%%% SENSE: %%%%%%%%

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Message Number	Text
IST384I	%%%%%%%%% FOR ID = %%%%%%% FAILED
IST388I	DYNAMIC CDRSC DEFINITION SUPPORT = %%%
IST389I	PREDEFINITION OF CDRSC = %%%
IST391I	ADJ LINK STATION = %%%%%%%, LINE = %%%%%%%, NODE = %%%%%%%
IST394I	ADJACENT LINK STATIONS NOT OWNED BUT AWAITING ACTIVATION
IST395I	%%%
IST396I	LNKSTA STATUS CTG GTG ADJNODE ADJSA NETID
IST397I	%%%
IST398I	LOAD OF %%%%%%% FAILED - %%%%%%% HAS ZERO ENTRY POINT
IST399E	ISTSDCOS IS NOT A CLASS OF SERVICE TABLE - ISTSDCOS DELETED
IST400I	TERMINATION IN PROGRESS FOR APPLID %%%%%%%
IST401I	%%%%%%%%% INITIATED FOR ID = %%%%%%%
IST403I	%%%%%%% COMMAND FAILED - MULTIPLE OPTIONS FOR %%%%%%% NOT ALLOWED
IST404I	%%%%%%% PARAMETER IGNORED - MULTIPLE OPTIONS NOT ALLOWED
IST405I	%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%
IST409I	MODIFY ATTACH FAILED - INSUFFICIENT STORAGE
IST410I	%% BUFFER POOL COULD NOT BE BUILT - CODE %
IST411I	%%%%%%% COMMAND REJECTED DUE TO TERMINATION IN PROGRESS
IST412I	VTAM COMMAND PROCESSING TERMINATED
IST413I	VTAM DUMPING FOR %%%%%%%%%%%%%%%%%%%%%%%%%
IST414I	%%%%%%%%% FOR ID = %%%%%%% FAILED - PROCESS UNAVAILABLE
IST422I	I/O ERROR ON DS %%%%%%% RTN CD = %%, %%
IST423I	UNABLE TO GET STORAGE FOR DS %%%%%%%
IST424I	CLOSE FAILED ON DS %%%%%%% RTN CD = %%, %%
IST425I	OPEN FAILED ON DS %%%%%%% RTN CD = %%, %%
IST430I	%%%%%%%%% FOR ID = %%%%%%% DISCARDED
IST431I	%%%%%%% NOT WITHIN ALLOWABLE RANGE OF VALUES
IST433I	COMMAND REJECTED - TUNING STATISTICS TASK NOT ATTACHED
IST435I	UNABLE TO RECORD ON SMF FILE %%%%
IST436I	STORAGE NOT AVAILABLE FOR TUNING STATISTICS DATA
IST440I	TIME = %%%%%%% DATE = %%%%% ID = %%%%%%%
IST441I	DLRMAX = %%%%%%% CHWR = %%%%%%% CHRD = %%%%%%%
IST442I	ATTN = %%%%%%% RDATN = %%%%%%% IPIU = %%%%%%%
IST443I	OPIU = %%%%%%% RDBUF = %%%%%%% SLODN = %%%%%%%
IST447I	BUFFER SIZE WAS IGNORED FOR ONE OR MORE POOLS
IST448I	BUFFER POOL START OPTION INPUT FOR AN UNUSED POOL - IGNORED
IST449I	%%%%%%%%%% = %%%%%%%, CURRENT = %%%%%%%, MAXIMUM = %%%%%%%
IST450I	INVALID %%%%%%% COMMAND SYNTAX
IST451I	%%%%%%% COMMAND UNRECOGNIZED
IST452I	%%%%%%% PARAMETER UNRECOGNIZED
IST453I	%%%%%%% PARAMETER VALUE INVALID
IST454I	%%%%%%% COMMAND FAILED, INSUFFICIENT STORAGE
IST455I	% SESSIONS ENDED
IST456I	%%%%%%% REQUIRED PARAMETER OMITTED

Message Number	Text
IST457I	POSITIVE % COMMAND RESPONSE
IST458I	USS MESSAGE %%% NOT DEFINED
IST459I	%%%%%%%%%% FAILED - ID = %%%%%%%% - ADJ NODE %%%
IST460I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% FAILED: %%
IST461I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% STARTED
IST462I	ACTIVATION OF LINK STATION %%%%%%%% IS DEFERRED PENDING HIGHER LEVEL NODE ACTIVATION
IST464I	LINK STATION %%%%%%%% HAS CONTACTED %%%%%%%% SA %%%%%%%%%%
IST465I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NO %%%% STATION AVAILABLE
IST466I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - UNABLE TO DO %%
IST467I	CONTACTED ERROR TYPE %%% FOR ID = %%%%%%%%
IST468I	XID1=%%%
IST469I	%%
IST470I	XID2=%%%
IST471I	%%
IST473I	CONNECTIVITY TEST TO %%%%%%%% TERMINATED AFTER %%% ECHOES DUE TO I/O ERROR, SENSE = %%%%%%%%
IST475I	%%%%%%%% FAILED FOR ID = %%%%%%%%, REQUEST = %%%%%%%%%%, SENSE = %%%%%%%%
IST476I	CDRM TYPE = %%%%%%%% %%%%%%%%%%%%%%%%%
IST477I	CDRMS:
IST478I	CDRSCS:
IST479I	CDRM NAME = %%%%%%%%
IST482I	%%%%%%%% %%%%%, SA %%%%%%%%%%, EL %%%%% %%%%%%%%%%%%%%%%%
IST483I	%%%%%%%% %%%%%%%%%%, CDRM = %%%%%%%% %%%%%%%%%%%%%%%%%
IST484I	SUBAREA = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST486I	NAME= %%%%%%%%, STATUS= %%%%%%%%%%%%%%%, DESIRED STATE= %%%%%
IST487I	%%%%%%%%%% FOR ID = %%%%%%%% SCHEDULED BY %%%%%%%%%%
IST488I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUPLICATE NODE: %%%%%%%%
IST489I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - CANNOT DEFINE NODE: %%%%%%%%
IST490I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%% IN PROGRESS
IST493I	%%%%%%%%%% FOR ID = %%%%%%%% OVERRIDDEN BY %%%%%%%%%%
IST494I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - ALREADY IN DESIRED STATE
IST495I	VTAM CSALIMIT HAS BEEN SET TO %%%%%%%%
IST496E	%%%%%%%%%%%%%%%%%%%%%% FUNCTION INOPERATIVE DUE TO ABEND
IST507I	%%%%%%%% NOT ACTIVE, TSO TRACE REQUEST IGNORED
IST510I	ROUTE TEST %%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST511I	TRACE REQUEST FAILED - ID = %%%%%%%% INVALID
IST512I	TRACE TERMINATED FOR NODE = %%%%%%%%
IST513I	TRACE INITIATED FOR NODE %%%%%%%%
IST516I	DESTSUB ADJSUB ER ER STATUS VR(S)
IST517I	%%%%%%%%%% %%%%%%%%%% %% %%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST518I	%%%%%%%%%%%%%%%%%%%%%%%%

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Message Number	Text
IST520I	UNABLE TO PROCESS %%
IST521I	GBIND %%%%%% FOR COS %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%
IST522I	%%%% %%%%% %%%%%%%% SA %%%%%%%%%% TO SA %%%%%%%%%% %%%%%%%
IST523I	REASON = %%%
IST524I	REVERSE ER MASK = %%%%
IST525I	REJECTING SA %%%%%%%%%% USING TG %%% ADJACENT SA %%%%%%%%%%
IST526I	ROUTE FAILED FROM %%%%%%%%%% TO %%%%%%%%%% - DSA %%%%%%%%%% - NETID %%%%%%%%
IST528I	VIRTUAL ROUTE NUMBER %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST529I	VR SELECTION EXIT %%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%
IST530I	%%%%%%%%%% PENDING %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST531I	%%
IST532I	EVENT CODE = %%%% EVENT ID = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST533I	ER %% %%%%%%%%% IN ROUTE TEST %%%
IST534I	%%%%%%%%%% %%% %%%%%%%%%% %%%%%%%%%% %%%
IST535I	ROUTE DISPLAY %%% FROM SA %%%%%%%%%% TO SA %%%%%%%%%%
IST536I	VR TP STATUS ER ADJSUB STATUS
IST537I	%% %% %%%%%% %% %%%%%%%%%% %%%%%%
IST538I	ROUTE TEST %%% IN PROGRESS
IST539I	DISPLAY ROUTE COMMAND FAILED, COS CANNOT BE RESOLVED
IST540I	DISPLAY ROUTE COMMAND FAILED, SENSE = %%%%%%%%
IST541I	FOLLOWING PATH DEFINITION IS IGNORED
IST542I	INVALID DEST SUBAREA VALUE %%% FOR PATH DEFINITION - IGNORED
IST543I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%% IS REDEFINED AS FOLLOWS
IST544I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%
IST546I	UNABLE TO PROCESS %%%
IST547I	EXPLICIT ROUTE MASK %%%%
IST548I	%%%%%%%%%% FAILED %%
IST549I	LL2 TEST FOR ID = %%%%%%%% ENDED %%%%%%%%%%%%%%%%%%%%%%%%
IST561I	STORAGE UNAVAILABLE: %% BUFFER POOL
IST562I	STORAGE UNAVAILABLE: %%%%%%%%%%% REACHED
IST563I	STORAGE UNAVAILABLE: MAXPVT REACHED FOR %%%%%%%% %%%%%%%%
IST564I	STORAGE UNAVAILABLE: COMMON AREA SUBPOOL %%%
IST565I	STORAGE UNAVAILABLE: VTAM PRIVATE AREA SUBPOOL %%%
IST566I	STORAGE UNAVAILABLE: %%%%%%%% %%%%%%%% SUBPOOL %%%
IST571I	LOAD FAILED FOR ID = %%%%%%%% REQ: %%%%%%%%%%, SENSE: %%%%%%%%
IST572I	REJECTING TG ADJACENT ER MASK
IST573I	%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST574E	START I/O TIMEOUT OCCURRED FOR %%%%%%%%
IST577I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST578I	CHNRM = %%%%%%%% CHMAX = %%%%%%%% RDBUF = %%%%%%%%
IST579I	ATTN = %%%%%%%% TIMERS = %%%%%%%% QDPTH = %%%%%%%%
IST580I	BUFCAP = %%%%%%%% PRI = %%%%%%%% SLODN = %%%%%%%%
IST581I	IPIU = %%%%%%%% OPIU = %%%%%%%% DLRMAX = %%%%%%%%
IST582I	'EVERY' INVALID FOR TRACE OF ID = %%%%%%%% - OPERAND IGNORED

Message Number	Text
IST583I	CONFIG %%%%%%%% NOT PROCESSED - SYSDEF TASK NOT ATTACHED
IST584I	CA MAJOR NODE: NAME = %%%%%%%%
IST585E	VTAM UNABLE TO CLOSE %%%%%%%% - RESOURCES MAY BE LOST TO VTAM
IST587I	IRN STORAGE %%%%%%%% CAUSED BY SLOWDOWN OF NODE %%%%%%%%
IST588I	SIT TRACE STATUS = %%%%%
IST589I	ERROR FOR ID = %%%%%%%%, CODE = %, NET = %%%%%%%%
IST590I	CONNECTION %%%%%%%%%% FOR PU %%%%%%%% ON LINE %%%%%%%%
IST591E	VTAM COMMAND CANCELED DUE TO VTAM TASK ABEND - %%% - RETRY COMMAND
IST592I	VTAM MAIN TASK ABEND - CODE %%% - VTAM IS BEING TERMINATED
IST593I	ISTPDCLU %%%%%%%%%%%%%%%% SESSION ENDED
IST594I	ISTPDCLU %%%%%%%% FAILED %%% %%%
IST595I	IRNLIMIT = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST596I	IRN TRACE = %%%
IST597I	CAPABILITY-PLU %%%%%%%%%,SLU %%%%%%%%%,SESSION LIMIT %%%%%%%%
IST598I	NETID = %%%%%%%%
IST599I	%%%%% NAME = %%%%%%%%, NETID = %%%%%%%%
IST602I	%%%%%%%% FAILED ID = %%%%%%%% - HIGHER NODE HAS BECOME INACTIVE
IST605I	ERROR FOR ID = %%%%%%%% - %%%%%%%% : %%%%%%%%%%, DATA INVALID FOR THIS NODE
IST607I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INVALID NODE TYPE OR STATE
IST608I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - HIGHER NODE: %%%%%%%% NOT ACTIVE
IST610I	LINE %%%%%%%% - STATUS %%%%%%%%%%
IST611I	NETID = %%%%%%%%, DESTINATION SSCP = %%%%%%%%
IST617I	DEACTIVATION IN PROGRESS FOR %%%%%%%%
IST619I	ID = %%%%%%%% FAILED - RECOVERY IN PROGRESS
IST621I	RECOVERY SUCCESSFUL FOR NETWORK NODE %%%%%%%%
IST623I	ADJACENT SSCPS - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST624I	%%%%%%%%
IST625I	%%%%%%%% TRACE ALREADY ACTIVE
IST626I	%%%%%%%% TRACE ALREADY INACTIVE
IST627I	%%%%%%%% - INSUFFICIENT STORAGE
IST632I	BUFF BUFF CURR CURR MAX MAX TIMES EXP/CONT EXP
IST633I	ID SIZE TOTAL AVAIL TOTAL USED EXP THRESHOLD INCR
IST634I	NAME STATUS SESSION ID SEND RECV VRN TP %%%%%
IST635I	%%%
IST636I	CDRSCS OWNED BY %%%%%%%% -
IST637I	SUBAREA = %%%%%%%%%%, ELEMENT = %%%%%
IST638I	ADJNETSA = %%%%%%%%%%, ADJNETEL = %%%%%
IST639I	GWN = %%%%%%%%, ADJNET = %%%%%%%%
IST640I	%%%%%%%% ADDR IN ADJNET - SA = %%%%%%%%%%, EL = %%%%%
IST641I	GATEWAY PATH SELECTION LIST -
IST642I	ADJNET GWN SUBAREA ELEM ADJNETSA ADJNETEL
IST643I	%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%% %%%%%%%%%% %%%%%
IST644I	%%%%%%%% TG %%%%%%%% %%%%%%%%
IST645I	%%%%%%%% DEFINITION FAILED - NO VALID %%%%%%%% MACRO

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Message Number	Text
IST650I	POLL = %%%, NEGPOLL = %%%, SESSION(S) = %%%
IST652I	%%%% = IS A DUPLICATE KEYWORD WITHIN THE TRACE/NOTRACE OPTION
IST654I	I/O TRACE = %%%, BUFFER TRACE = %%%
IST655I	LINE TRACE STATUS = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST656I	ACTIVATE REJECTED FROM UNDEFINED CDRM, SA %%%%%%%%% EL %%%%%
IST658I	%%%%%%%% COMMAND FAILED - %%%%%%%%
5I119I	CDRM %%%%%%%% COMMUNICATION LOST - RECOVERY IN PROGRESS
5I120I	%%%%% RSP DATA DISCARDED FOR ID = %%%%%%%% - INSUFF STORAGE
5I122I	CDRM %%%%%%%% RECOVERY FAILED - INSUFFICIENT STORAGE
5I125I	USERVAR DEFINED - NAME = %%%%%%%%, VALUE = %%%%%%%%
5I127I	%%%%%%%%%% FOR %%%%%%%% FAILED - ADJSA %%%%%%%%% INVALID
5I129I	IMPROPER TRANSLATION OF %%%%%%%% TO %%%%%%%% IN %%%%%%%%
5I130I	ORIGINATING SSCP NAME = %%%%%%%%, NETID = %%%%%%%%
5I131I	DUPLICATE ADJCDRM NAME %%%%%%%% IN %%%%%%%%
5I132I	UNLABELED %%%%%%%% STMT IN %%%%%%%%
5I133I	SKIPPING TO NEXT %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
5I135I	%%%%%%%% COMMAND FAILED - NO USERVARS DEFINED
5I138I	TRACE STATUS DISPLAY FOR ID = %%%%%%%%
5I139I	PU NAME LINE NAME
5I140I	LOGON REQUEST DENIED, ID = %%%%%%%%
IST684I	I/O ERR, CSW = %%%%%%%%%%%%%%%%, SENSE = %%%%
IST688I	VARY FAILED FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST690I	CONNECTION REQUEST DENIED - INVALID STATION ID = %%%%%%%%%%%%
IST693I	UNABLE TO DISCONNECT ID = %%%%%%%%
IST700I	INVALID %%%%% - SKIPPING TO NEXT NETWORK STMT OR EOF
IST701I	CONFIG %%%%%%%% LABEL = %%%%%%%% STMT TYPE = %%%%%%%%
IST702I	CONFIG %%%%%%%% - UNEXPECTED %%%%%%%%%%%%%%%%%%%%%%%%
IST703I	CONFIG %%%%%%%% ADJSSCP DEFINITIONS IGNORED - NO ADJCDRM STMT
IST706I	ADJSSCP TABLE FOR %%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST707I	ADJSSCP TABLE FOR %%%%%%%% BEING REPLACED
IST708I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%
IST709I	CONFIG %%%%%%%% FAILED - NO VALID BUILD OR NETWORK MACRO
IST710I	CONFIG = %%%%%%%% NETWORK = %%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST711I	%%%%%%%%%%%%%%%% NETID %%%%%%%% NOT PROCESSED FOR %%%%%%%%
IST712I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - MISSING OPERANDS
IST713I	CONFIG %%%%%%%% GWPATH %%%%%%%% - %%%%%%%% OPERAND IGNORED
IST714I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - INVALID STMT
IST715I	CONFIG %%%%%%%% CDRM %%%%%%%% IGNORED - GWPATH STMT MISSING
IST716I	%%%%%%%%%% FOR %%%%%%%% FAILED
IST717I	NETID %%%%%%%% ID %%%%%%%% SA %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST718I	ADDRESS INVALID FOR NETID=%%%%%%%% CDRM=%%%%%%%% CODE=X'%%'
IST719I	%%%
IST720I	%%%%%%%% HAS CONTACTED %%%%%%%% IN %%%%%%%%, SA %%%%%%%%%%
IST721I	SESSION SETUP FOR CDRM %%%%%%%% USING GWN %%%%%%%% FAILED

Message Number	Text
IST722I	CONFLICTING GWCTL PARAMETERS
IST723I	SSCPID %%%%%%%%%%% ALREADY IN USE BY CDRM %%%%%%%
IST725I	GWN %%%%%%%, SUBAREA %%%%%%%%%, CDRM ALIAS ELEMENT %%%%
IST726I	ADJNET %%%%%%%, ADJNETSA %%%%%%%%%, ADJNETEL %%%%
IST727I	COMMUNICATION WITH CDRM %%%%%%% LOST - REASON = X'%%'
IST728I	GWPATHS FOR GWN %%%%%%% ARE NOW %%%%%%% FOR THESE CDRMS
IST732I	%%%%%%%%% REJECTED DUE TO %%%%%%%%%%%%%%%%%%%
IST733I	GWPATH TO CDRM %%%%%%% USING GWN %%%%%%% NOT AVAILABLE
IST734I	ACTIVATION OF CDRM %%%%%%% USING GWN %%%%%%% FAILED
IST735I	NO ADDRESS TRANSFORMS - REQACTCDRM SENT
IST737I	DEFAULT VR LIST USED FOR CDRM %%%%%%% USING GWN %%%%%%%
IST738I	SESSIONS WITH %%%%%%% NOT TERMINATED - INSUFFICIENT STORAGE
IST739I	LU DEFINED IN NETID = %%%%%%%
IST740I	UNABLE TO FREE ALIAS ADDRESSES FOR CDRM %%%%%%% GWN %%%%%%%
IST742I	ACTIVATION OF CDRM %%%%%%% %%%%%% - GWN PATH NOT AVAILABLE
IST744I	CROSS-NETWORK SESSION SETUP FAILED IN ADJNET = %%%%%%%
IST745I	ACTCDRM TO CDRM = %%%%%%% FAILED, SENSE = %%%%%%%
IST746I	BIND FAILED FROM %%%%%%% TO %%%%%%%, SENSE = %%%%%%%
IST752I	GPT TRACE STATUS = %%%%%
IST755I	ALERT FROM PU %%%%%%% FOLLOWS
IST756E	ALERT FROM PU %%%%%%% FOLLOWS
IST757E	MOSS UNAVAILABLE - HARDWARE ERROR
IST758E	MOSS RELOADED - HARDWARE ERROR
IST759E	MOSS DISKETTE UNUSABLE
IST760E	MOSS DISKETTE HARDWARE ERROR
IST761E	MOSS CONSOLE UNAVAILABLE
IST762I	MOSS IN MAINTENANCE MODE
IST763I	PHYSICAL UNIT RELOADED - HARDWARE ERROR
IST764I	PHYSICAL UNIT RELOADED - PRIOR ABEND CODE WAS %%%%%%%
IST765E	CHANNEL ADAPTER %%%%%%% UNAVAILABLE - HARDWARE ERROR
IST766I	DUMP COMPLETED - %%% DATA SET ON %%%%%%% DISKETTE EMPTY
IST767E	SCANNER %%%%%%% (%%%%%%%-%%%%%%%) UNAVAILABLE - HARDWARE
IST768E	SCANNER %%%%%%% (%%%%%%%-%%%%%%%) UNAVAILABLE - HARDWARE
IST769E	SCANNER %%%%%%% (%%%%%%%-%%%%%%%) UNAVAILABLE - SOFTWARE
IST770E	SCANNER %%%%%%% (%%%%%%%-%%%%%%%) UNAVAILABLE - SOFTWARE
IST771E	SCANNER %%%%%%% LINE %%%%%%% UNAVAILABLE - HARDWARE ERROR
IST772I	UAC = %% %%
IST778I	%%%%%%% %%%%%%% %%%%%%% %%%%%%% %%%%%%% %%%%%%%
IST784I	SESSION(S) EXIST(S) WITH UNKNOWN PARTNER
IST785I	%%%%%%% AND %%%%%%%-CONFLICTING GWCTL OPTION FOR %%%%%%%
IST786I	%%%%%%% COMMAND REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%
IST789I	%%%%%%%%% FAILED FOR ID = %%%%%%%, CA / NCP CONFLICT
IST790I	MAXIMUM %%%% USED = %%%%%%K
IST792I	NO SUCH SESSION EXISTS

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Message Number	Text
IST793E	SESSION MANAGEMENT ERROR, CODE %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST796I	HOSTSA VALUE EXCEEDS MAXSUBA
IST797I	FROM VIA ADJACENT DEST ER LENGTH
IST798I	%%%%%%%%
IST799I	%%%%%%%% DUMP IN PROGRESS
IST804I	VTAM CLOSE IN PROCESS FOR %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
IST805I	VTAM CLOSE COMPLETE FOR %%%%%%%%
IST807I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE IS IN TEST MODE
IST808I	ORIGIN PU = %%%%%%%% DEST PU = %%%%%%%% %%%%%%%%%%%%%%%%
IST809I	XRF SESSIONS - PRIMARY = %%%%% BACKUP = %%%%%
IST810I	NAME = %%%%%%%%, VALUE = %%%%%%%%
IST811I	USERVAR(S)
IST813I	USERVAR %%%%%%%% CHANGED FROM %%%%%%%% TO %%%%%%%%
IST814I	USERVAR %%%%%%%% DELETED
IST815I	AUTOMATIC RECOVERY IS SUPPORTED
IST816I	%%%%%%%%%% %%% %%%%%%%%%% %%%%
IST819I	CDRM %%%%%%%% COMMUNICATION LOST - RECOVERY IN PROGRESS
IST820I	%%%%% RSP DATA DISCARDED FOR ID = %%%%%%%% - INSUFF STORAGE
IST822I	CDRM %%%%%%%% RECOVERY FAILED - INSUFFICIENT STORAGE
IST825I	USERVAR DEFINED - NAME = %%%%%%%%, VALUE = %%%%%%%%
IST827I	%%%%%%%%%% FOR %%%%%%%% FAILED - ADJSA %%%%%%%%%% INVALID
IST829I	IMPROPER TRANSLATION OF %%%%%%%% TO %%%%%%%% IN %%%%%%%%
IST830I	ORIGINATING SSCP NAME = %%%%%%%%, NETID = %%%%%%%%
IST831I	DUPLICATE ADJCDRM NAME %%%%%%%% IN %%%%%%%%
IST832I	UNLABELED %%%%%%%% STMT IN %%%%%%%%
IST833I	SKIPPING TO NEXT %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST834I	%%%% BACKUP SESSION(S) EXIST(S) WITH UNKNOWN PARTNERS
IST835I	%%%%%%%% COMMAND FAILED - NO USERVARS DEFINED
IST838I	TRACE STATUS DISPLAY FOR ID = %%%%%%%%
IST839I	PU NAME LINE NAME
IST840I	%%%%%%%% %%%%%%%%
IST841I	NO RESOURCES ARE BEING TRACED FOR %%%%%%%%
IST842I	UNABLE TO FIND BUFFERS IN %% POOL - DUMP IN PROGRESS
IST843I	%%%%%%%% NOT SPECIFIED - GATEWAY FUNCTIONS NOT SUPPORTED
IST844I	VTAM START REJECTED - INVALID START OPTION VALUE %%%%%%%%
IST846I	REAL I/O NOT SUPPORTED BECAUSE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST849I	%%%%%%%% INCONSISTENT WITH USE OF %%%%%%%% IN %%%%%%%%
IST860I	DEACTIVATION OF %%%%%%%% INCOMPLETE - INSUFFICIENT STORAGE
IST865I	%%%%%%%%%%%% COMMAND COMPLETE-%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST869I	USERID = %%%%%%%%
IST883I	%%%%%%%%% OF SAW BUFFERS USED %%%%%%%%%%%%%%%%%%%%%%%%
IST992I	UNABLE TO COMPLETE MESSAGE GROUP - CODE %
IST998E	VTAM MESSAGE %%%% ISSUED BUT DOES NOT EXIST
IST999E	VTAM MESSAGE LOST - INSUFFICIENT STORAGE

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VM Message Differences for Version 3 Release 1.2

This section lists the message numbers of all VM messages that have been added, modified, or deleted since Version 3 Release 1.1 of VTAM.

If a message is **new**, the message has been added in V3R1.2.

If a message is **modified**, the message text or message number has been changed since V3R1.1.

If the message is **deleted**, the message existed in V3R1.1 but does not exist in V3R1.2.

Also listed is the text of all messages as they appear for VM in V3R1.2. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

Change	Message Number					
New	IST011I	IST262I	IST271I	IST499I	IST567I	IST823I
	IST824I	IST836I	IST837I	IST845I	IST867I	IST870I
	IST881I	IST882I	IST888I	IST897I	IST956I	IST958I
Modified	IST231I	IST232I	IST242I	IST285I	IST486I	IST590I
	IST655I	IST766I	IST799I			
Deleted	IST286I	IST287I	IST288I	IST289I	IST584I	

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Message Number	Text
IST001I	VTAM START REJECTED - FAILURE ATTEMPTING TO FIX STORAGE
IST002I	%%%%%%%% IS AN INVALID START PARM - ALL PARMS IGNORED
IST003I	ABEND OCCURRED DURING NETWORK DEFINITION OF CONFIG %%%%%%%%, CODE = %%%
IST006I	VTAM START REJECTED - INSUFFICIENT STORAGE
IST009I	VTAM ALREADY ACTIVE - START REJECTED
IST010I	%%%%%%%% COMMAND INVALID
IST011I	%%%%%%%%%% FOR %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%
IST012I	VTAM START REJECTED - CANNOT LOCATE %%%%%%%% IN %%%%%%%%
IST013I	I/O ERROR FOR %%%%%%%% IN %%%%%%%%
IST015A	ERROR PROCESSING LIST IDENTIFIER - ENTER LIST ID OR BLANK
IST016I	VTAM START REJECTED - STAE FAILED
IST018I	CONFIG COULD NOT BE INITIALIZED - VTAM START CONTINUES
IST019I	SYNTAX ERROR IN START OPTION %%%%%%%% - ENTER WHEN PROMPTED
IST020I	VTAM INITIALIZATION COMPLETE
IST025I	BLDL FAILED FOR %%%%%%%% IN %%%%%%%%
IST032I	%%%%%%%% FAILED - FIRST CHARACTER OF %%%%%%%% NOT ALPHABETIC
IST033I	%%%%%%%% COMMAND CANCELLED
IST037I	%%%%%%%% FAILED - SYNTAX ERROR
IST038I	VARY FAILED FOR ID = %%%%%%%% - HOST CDRM IS NOT ACTIVE
IST039I	%%%%%%%% FAILED - CANNOT IDENTIFY COMMAND TYPE
IST040I	START PARAMETER SSCPID NOT PROCESSED - REENTER WHEN PROMPTED
IST042I	%%%%%%%% FAILED - TOO MANY OPERANDS
IST043I	%%%%%%%% INVALID VALUE FOR KEYWORD %%%%%%%%
IST044I	%%%%%%%% FAILED - INSUFFICIENT STORAGE
IST047I	%%%%%%% BUFFER SIZE TOO SMALL - DEFAULT VALUE USED
IST048I	VTAM START REJECTED - INSUFFICIENT STORAGE FOR BUFFERS
IST049I	VTAM START REJECTED - OPEN FOR VTAM ACB FAILED, ACB ERROR FLAG = %%
IST050I	%%%%%%%% COMMAND REJECTED - OPEN FOR VTAM DATA SET %%%%%%%%%% FAILED
IST051A	ENTER VTAM START PARAMETERS
IST052I	%%%%%%%% IS AN INVALID START PARAMETER KEYWORD - IGNORED
IST054I	%%%%%% KEYWORD SEQUENCE ERROR IN START PARMS - KEYWORD IGNORED
IST055I	%%% IS AN INVALID CONFIGURATION ID - PARAMETER IGNORED
IST056A	LIST = %%% IS INVALID - ENTER LIST ID OR BLANK
IST057I	KEYWORD MISSING AFTER TRACE/NOTRACE OPTION ON START PARMS
IST058I	%%%%%%%%%% WILL NOT BE PROCESSED - INVALID START PARAMETER
IST059I	%%%%%%%%%%%%%%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST061I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE UNKNOWN TO VTAM
IST066I	%%%%%%%%%% FAILED - CONFLICTING OR INVALID OPTIONS
IST072I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED DURING NETWORK DEFINITION
IST073I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - MORE POWERFUL REQUEST IN PROGRESS
IST074I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INSUFFICIENT STORAGE
IST075I	VTAM DISPLAY - NODE TYPE = %%%%%%%%%%%%%%%%%%
IST077I	SIO = %%%%%%%% CUA = %%%%%%%%%%%%%%%%%%%%
IST080I	%%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%%%%% %%%%%%%%%%

Message Number	Text
IST081I	LINE NAME = %%%%%%%%, LINE GROUP = %%%%%%%%, MAJNOD = %%%%%%%%
IST082I	DEVTYPE = %%%%, CONTROLLING PLU = %%%%%%%%
IST084I	NETWORK NODES:
IST085I	DISPLAY FAILED - INFORMATION NOT AVAILABLE
IST087I	LINE TYPE = %%%%%%%%, LINE GROUP = %%%%%%%%, LNCTL = %%%%
IST089I	%%%%%%%% TYPE = %%%%%%%%%%%%%%%%%%, %%%%%%%%%% %%%%%%%%
IST092I	%%%%%%%% REQUESTED CSALIMIT LESS THAN CURRENT ALLOCATION REQUEST %%%%%%%%
IST093I	%%%%%%%% ACTIVE
IST095A	OPTION TO DUMP %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,DUMPSTA=LINKSTANAME'
IST096I	%%%%%%%% FAILED - DUPLICATE %%%%%%%% PARAMETERS SPECIFIED
IST097I	%%%%%%%% ACCEPTED
IST098I	%%%%%%%% FAILED - %%%%%%%% INCORRECT LENGTH
IST099I	%%%%%%%% FAILED - %%%%%%%% NOT ALPHAMERIC
IST101I	%%%%%%%% FAILED - %%%%%%%% NOT SPECIFIED
IST102I	VTAM IS NOW INACTIVE
IST105I	%%%%%%%% NODE NOW INACTIVE
IST107I	TIME AND DATE NOT SET IN %%%%%%%% DUE TO INVALID TIMER IN HOST
IST109I	%%%%%%%% IS NOW TERMINATED
IST112I	VTAM INTERNAL TRACE MODIFY FAILED - CONFLICTING MODES
IST113I	%%%%%%%% IS A USERVAR WITH VALUE %%%%%%%% %%%%%%%%%%%%%%%%
IST114I	SYNTAX ERROR IN %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST115I	INSUFFICIENT STORAGE TO READ %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST116I	MEMBER %%%%%%%% NOT FOUND ON VTAM DEFINITION LIBRARY
IST117I	I/O ERROR READING %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST118I	ERROR IN LIST = %% - ALL START PROCEDURE PARAMETERS IGNORED
IST119I	SYNTAX ERROR IN START PARM %%%%%%%% - ALL PARMS IGNORED
IST120I	LOGON PROCESSING OF NODE %%%%%%%% TO CONTROLLER %%%%%%%% COMPLETE
IST121I	%%%%%%%% OF NODE %%%%%%%% TO CONTROLLER %%%%%%%% FAILED - CODE %%
IST122I	ATTACH OF VTAM SUBTASK %%%%%%%% FAILED
IST124I	STOP COMMAND REJECTED - NOT SUPPORTED FOR VTAM
IST125A	ENTER VTAM PARAMETER OVERRIDES - EXCEPT LIST ID - OR DEFAULT
IST126I	%%%%%%%% MODE NOT SUPPORTED DUE TO LOADING FAILURE
IST127I	%%%%%%%% STILL ACTIVE - VTAM TERMINATION WAITING %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST128I	HALT OF VTAM ALREADY IN PROGRESS
IST129I	UNRECOVERABLE OR FORCED ERROR ON NODE %%%%%%%% - VARY INACT SCHED
IST130I	VTAM SUBTASK %%%%%%%% INACTIVE - ABEND THRESHOLD EXCEEDED
IST132I	VTAM SUBTASK %%%%%%%% NOT REATTACHED - CANNOT BE FOUND
IST133I	VTAM TERMINATION IN PROGRESS
IST134I	MAJNOD = %%%%%%%%
IST135I	PHYSICAL UNIT = %%%%%%%%%%%%%%%%%%
IST136I	%%%%%%%% SNA MAJOR NODE = %%%%%%%%
IST137I	CONFIG %%%%%%%% BYPASSED - LOCAL ADDRESS OF LU %%%%%%%% IS INVALID
IST142I	CONFIG %%%%%%%% BYPASSED - PATH MACRO %%%%%%%% ERROR REASON CODE %
IST146I	LINE NAME = %%%%%%%%, STATUS = %%%%%

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Message Number	Text
IST148I	DIAL OUT PATH INFORMATION FOR PHYSICAL UNIT %%%%%%%
IST149I	LINE GRP TELEPHONE NUMBER OR LINE NAME PID GID CNT
IST150I	RRT LOAD MODULE %%%%%%% DOES NOT CONTAIN RESOURCE SEGMENT %%%%%%%%
IST153I	PENDING DEACTIVATION OF %%%%%%% OVERRIDDEN
IST154I	EXPANSION FAILED FOR %% BUFFER POOL - CODE %
IST155I	SUBTASK %%%%%%% HAS ABENDED, CODE %%%
IST159I	THE FOLLOWING NODES ARE IN A PENDING STATE
IST165I	CDRM %%%%%%% HAS AN INVALID ELEMENT VALUE - 1 IS ASSUMED
IST167I	NO DIAL OUT PATH FOR %%%%%%%
IST168I	%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%% %%% %%%
IST169I	DISCONNECTION CAUSED VARY %%%% FOR PU = %%%%%%%
IST170I	LINES:
IST171I	ACTIVE SESSIONS = %%%%, SESSION REQUESTS = %%%%
IST172I	NO %%%%%%%%%%% %%%%%%%
IST176I	%%%%%%% FAILED - %%%%%%% AND %%%%%%% ARE CONFLICTING OPTIONS
IST180I	OPEN FAILED ON CKPT DS %%%%%%% MAJ NODE %%%%%%% RTNCD = %% %%
IST181I	CLOSE FAILED ON CKPT DS %%%%%%% MAJ NODE %%%%%%% RTNCD = %% %%
IST182I	UNABLE TO GET STORAGE FOR CKPT %%%%%%% MAJOR NODE %%%%%%%
IST183A	%%%%%%% FOUND LOADED WITH %%%%%%% REPLY 'YES' TO REIPL OR 'NO' TO CONTINUE
IST184I	I/O ERROR ON CKPT DS %%%%%%% MAJOR NODE %%%%%%% RTNCD = %% %%
IST185I	LOGICAL ERROR ON CHECKPOINT DS %%%%%%% MAJOR NODE %%%%%%%
IST186I	%%%%%%%%% FOR ID = %%%%%%% CONTINUES COLD - CHECKPOINT DATA SET %%%%%%%%%%%%%
IST187I	%%%%%%%%% FOR ID = %%%%%%% FAILED - CHECKPOINT DATA SET %%%%%%%%%%%%%
IST191I	%%%%%%% SYNTAX ERROR
IST192I	POA MSG TRANSFER FAILED - INSUFFICIENT STORAGE
IST193I	REPLY %% IGNORED - REPLY TOO LONG FOR REQUESTOR
IST194I	REPLY %% NOT OUTSTANDING
IST195I	REPLY %% IGNORED - NON-DECIMAL ID
IST198I	VTAM INTERNAL TRACE ACTIVATION FAILED - GTF NOT ACTIVE
IST206I	SESSIONS:
IST208I	UNABLE TO TERMINATE SESSIONS FOR ID = %%%%%%% - INSUFFICIENT STORAGE
IST211I	NCP SLOWDOWN INITIATED FOR %%%%%%%
IST212I	ACBNAME = %%%%%%%
IST213I	ACBNAME FOR ID = %%%%%%%
IST214I	NCP SLOWDOWN TERMINATED FOR %%%%%%%
IST219I	I/O ERROR ON READ FOR %%%%%%% - BYTECNT MISMATCH
IST221I	%%%%%%% : %%%%%%% IS INVALID, %, UNSUPPORTED OPTION - %%%%%%%%%%%%%%
IST223I	MODIFY %%%%%%% COMMAND COMPLETED
IST225I	%%%%%%%%% FOR ID = %%%%%%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST226I	%%%%%%%%% FOR ID = %%%%%%% NOT EFFECTIVE DURING CURRENT OR QUEUED SESSIONS
IST228I	ENCRYPTION = %%%%%%%%
IST231I	%%%%%%% MAJOR NODE = %%%%%%%
IST232I	%%%%%%%, %%%%%%%%%%%%%%%%%%%%
IST234I	I/O ERROR %%%%%%%%%%%%%%%%%%%%

Message Number	Text
IST238I	%%%%%%%%%% %%% FOR ID = %%%%%%%% RCVD %%
IST240A	WAIT STATE IN VTAM DUE TO INSUFFICIENT NUMBER OF I/O BUFFERS SPECIFIED BY USER
IST241I	%%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%%
IST242I	%%%%%%%%%% COMMAND FAILED FOR ID = %%%%%%%% SENSE = %%%%%%%%
IST243I	FRAMES SENT = %%%%%, RCVD = %%%%%, RCVD WITHOUT ERRORS = %%%%%
IST244I	NCP STORAGE FOR ID = %%%%%%%%
IST245I	%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST247I	LOAD/DUMP PROCEDURE STATUS = %%%%%
IST251I	CONFIG %%%%%%%% LUPOOL MACRO %%%%%%%% IGNORED - OWNER KEYWORD REQUIRED
IST257I	VTAM SDUMP FAILED WITH RETURN CODE %%%%
IST258I	STMT IN ERROR = %%
IST259I	INOP RECEIVED FOR %%%%%%%% CODE = %% %%
IST260I	%%%%%%%% - %%%%%%%% SESSION LOST, SA %%%%%%%%%% CODE %%
IST262I	%%%%%%%% = %%%%%%%%, STATUS = %%%%%%%%%%
IST264I	SESSION SETUP FOR PLU = %%%%%%%% SLU = %%%%%%%% FAILED - REQUIRED %%%%%%%% %%%%%%%% %%%%%%%%%%
IST265I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUP %%%%%%%% HL %%%%%%%%
IST266I	%%%%%%%% STARTED
IST270I	LOAD OF %%%%%%%% COMPLETE - LOAD MODULE = %%%%%%%
IST271I	JOBNAME = %%%%%%%%, STEPNAME = %%%%%%%%
IST272A	NO INITIAL TEST FOR %%%%%%%% - REPLY 'U' TO BYPASS - OR CANCEL
IST273I	LOAD OF %%%%%%%% FAILED - PERMANENT I/O ERROR
IST274I	LOAD OF %%%%%%%% FAILED - INITIAL TEST HARDSTOP
IST278A	INVALID REPLY FOR ID = %%%%%%%% LOAD - ENTER 'U' - OR CANCEL
IST282A	INVALID REPLY FOR ID = %%%%%%%% %%%%%%%%%% %%
IST284A	OPTION TO RELOAD %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,LOADSTA=LINKSTANAME'
IST285I	%%%%%%%% DUMP OF %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST291I	LOAD OF %%%%%%%% FAILED - LOADER FAILURE
IST292I	LOAD OF %%%%%%%% FAILED - %%%%%%%% BLDL ERROR
IST294I	LOAD OF %%%%%%%% FAILED - INVALID DEVICE TYPE DEFINITION
IST295I	LOAD OF %%%%%%%% FAILED - UNEXPECTED END OF FILE ON DATA SET
IST296I	LOAD OF %%%%%%%% FAILED - UNEXPECTED CODE %%% FROM %%%%%%%%
IST297I	LOAD OF %%%%%%%% FAILED - LOAD MODULE %%%%%%%% IS TOO LARGE
IST298I	LOAD OF %%%%%%%% FAILED - PERMANENT I/O ERROR ON %%%%%%%%
IST299I	LOAD OF %%%%%%%% FAILED - %%%%%%%% COULD NOT BE OPENED
IST302I	INVALID DEFINITION TYPE IN MEMBER %%%%%%%% IN VTAM DEFINITION LIBRARY
IST303I	INSUFFICIENT STORAGE TO BUILD CONFIGURATION %%%%%%%%
IST309I	UNABLE TO LOAD MODULE %%%%%%%% FROM LIBRARY %%%%%%%%
IST310I	INVALID SPACE REQUEST FOR CONFIGURATION %%%%%%%%
IST311I	NCP LOAD MODULE LIBRARY %%%%%%%% - FAILED TO OPEN
IST314I	END
IST315I	VTAM INTERNAL TRACE ACTIVE - MODE = %%%, SIZE = %%%, OPTIONS = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

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Message Number	Text
IST316I	VTAM INTERNAL TRACE NOW INACTIVE
IST317I	VTAM INTERNAL TRACE ACTIVATION FAILED - INSUFFICIENT STORAGE
IST318I	VTAM INTERNAL TRACE ACTIVATION FAILED - UNABLE TO FIX STORAGE
IST319I	CONFIGURATION %%%%%%%% FIRST SPECIFICATION USED %%%%%%%%%%%%%%%%%%%%
IST320I	CONFIGURATION %%%%%%%% DEFINITION FAILED - %%%%%%%%%%%%%%%%
IST321I	CONFIGURATION %%%%%%%% DEFAULT TAKEN - %%%%%%%%%%%%%%%%%%%%
IST322I	CONFIGURATION %%%%%%%% ERROR IGNORED - %%%%%%%%%%%%%%%%%%%%
IST323I	LABEL = %%%%%%%% - MACRO TYPE = %%%%%%%% - KEYWORD = %%%%%%%%
IST324I	%%%%%%%% IN PROGRESS WITH ID = %%%%%%%% DUE TO %%%%%%%%% REQUEST
IST326I	REQUEST = %%%%%%%%% FAILED FOR %%%%%%%% ID = %%%%%%%%, SENSE = %%%%%%%%
IST327I	%%%%%%%% ID = %%%%%%%% INCOMPLETE, REQUEST = %%%%%%%%%, SENSE = %%%%%%%%
IST328I	COMMUNICATION WITH CDRM ID = %%%%%%%% LOST
IST329I	THIS NODE WAS NOT ORIGINALLY OWNED BY THIS HOST
IST330I	CONFIGURATION %%%%%%%% BYPASSED - TABLE = %%%%%%%% IS INVALID
IST331I	CONFIG %%%%%%%% BYPASSED - 'MAXSUBA' VALUES CONFLICT
IST333I	CONFIG %%%%%%%% USING DUPLICATE RESOURCE NAME %%%%%%%% - CODE %
IST336I	THIS NCP MAJOR NODE WAS %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST339I	CONFIG %%%%%%%% BYPASSED - %%%%%%%% UNKNOWN TO THE NCP
IST342I	SLU %%%%%%%% HAS CONTROLLING PLU %%%%%%%% - NO SESSION - CODE = %%
IST343I	CONTROLLER %%%%%%%% ASSIGNED TO NODE %%%%%%%% LOGON COULD NOT BE COMPLETED
IST345I	TERMINATION OF SESSION BETWEEN %%%%%%%% AND %%%%%%%% FAILED
IST346I	UNABLE TO COMPLETE SESSION SETUP FOR %%%%%%%%, %%%%%%%% DUE TO INSUFFICIENT STORAGE
IST348I	UNABLE TO PROCESS DISCONNECTION FOR PU = %%%%%%%% DUE TO LACK OF STORAGE
IST350I	VTAM DISPLAY - DOMAIN TYPE = %%%%%%%%%%%%%%%%%%%%
IST351I	LOCAL 3270 MAJOR NODE = %%%%%%%%
IST352I	LOCAL SNA MAJOR NODE = %%%%%%%%
IST353I	SWITCHED SNA MAJOR NODE = %%%%%%%%
IST354I	PU T4/5 MAJOR NODE = %%%%%%%%
IST355I	LOGICAL UNITS:
IST356I	%%%
IST359I	ATTACHMENT = %%%%%%%%
IST360I	APPLICATIONS:
IST361A	%%%%%%%%%%%% FOUND LOADED WITH %%%%%%%%%%%% - REPLY 'YES' TO RELOAD OR 'NO' TO CANCEL ACTIVATION
IST362I	GROUP %%%%%%%% DEVICES UNAVAILABLE - MISSING SYSCNTRL OPTION
IST363I	CONFIG %%%%%%%% NODES AND SUBNODES SET UNAVAILABLE - %%%%%%%%%%%%%%%%%%%%
IST366I	CONFIG %%%%%%%% UNABLE TO DEFINE %%%%%%%% - MAXIMUM NUMBER OF NETWORK ADDRESSES FOR HOST SUBAREA EXCEEDED
IST367I	NO STORAGE TO DEFINE NODE %%%%%%%% CONFIG %%%%%%%%
IST368I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TO/FROM OPERAND UNKNOWN
IST369I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TARGET RESOURCE NOT IN DR - ABLE NCP
IST370I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% IGNORED - INVALID TARGET RESOURCE TYPE
IST371I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% MISSING - NOT DELETED

Message Number	Text
IST372I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% CONFLICTS WITH TARGET - NOT DELETED
IST373I	CONFIG %%%%%%%% DR FUNC GROUP %%%%%%%% ENTRY %%%%%%%% IMPROPER DELETE STATE - NOT DELETED
IST374I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO, CODE %
IST375I	DR ADD FUNCTION GROUP %%%%%%%% NOT INCLUDED
IST376I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST377I	CONFIG %%%%%%%% DR FUNCTION GROUP IGNORED %%%%%%%%%%%%%%%%%%%
IST378I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - INVALID MACRO SEQUENCE
IST379I	CONFIG %%%%%%%% DR FUNCTION GROUP %%%%%%%% IGNORED - TABLE %%%%%%%% IS INVALID, CODE %
IST380I	ERROR FOR ID = %%%%%%%% - REQUEST: %%%%%%%%%%, SENSE: %%%%%%%%
IST381I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CANNOT DEFINE NODE
IST382I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - STATE: %%%%% NOT VALID FOR REQUEST
IST383I	DEACTIVATION OF ID = %%%%%%%% FAILED - REQUEST: %%%%%%%%%% SENSE: %%%%%%%%
IST384I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED
IST388I	DYNAMIC CDRSC DEFINITION SUPPORT = %%%
IST389I	PREDEFINITION OF CDRSC = %%%
IST391I	ADJ LINK STATION = %%%%%%%%, LINE = %%%%%%%%, NODE = %%%%%%%%
IST393I	PU T4/5 MAJOR NODE %%%%%%%%, SUBAREA = %%%%%%%%%%
IST394I	ADJACENT LINK STATIONS NOT OWNED BUT AWAITING ACTIVATION
IST395I	%%
IST396I	LNKSTA STATUS CTG GTG ADJNODE ADJSA NETID
IST397I	%%%
IST398I	LOAD OF %%%%%%%% FAILED - %%%%%%%% HAS ZERO ENTRY POINT
IST399E	ISTSDCOS IS NOT A CLASS OF SERVICE TABLE - ISTSDCOS DELETED
IST400I	TERMINATION IN PROGRESS FOR APPLID %%%%%%%%
IST401I	%%%%%%%%%% INITIATED FOR ID = %%%%%%%%
IST403I	%%%%%%%% COMMAND FAILED - MULTIPLE OPTIONS FOR %%%%%%%% NOT ALLOWED
IST404I	%%%%%%%% PARAMETER IGNORED - MULTIPLE OPTIONS NOT ALLOWED
IST405I	%%%%%%%% COMMAND COMPLETE FOR ID = %%%%%%%%
IST407I	MODIFY ATTACH FAILED - %%%%%%%% ALREADY ATTACHED
IST408I	MODIFY DETACH FAILED - %%%%%%%% NOT ATTACHED
IST409I	MODIFY ATTACH FAILED - INSUFFICIENT STORAGE
IST410I	%% BUFFER POOL COULD NOT BE BUILT - CODE %
IST411I	%%%%%%%% COMMAND REJECTED DUE TO TERMINATION IN PROGRESS
IST412I	VTAM COMMAND PROCESSING TERMINATED
IST413I	VTAM DUMPING FOR %%%%%%%%%%%%%%%%%%%%%%%%%%
IST414I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PROCESS UNAVAILABLE
IST422I	I/O ERROR ON DS %%%%%%%% RTN CD = %%, %%
IST423I	UNABLE TO GET STORAGE FOR DS %%%%%%%%
IST424I	CLOSE FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST425I	OPEN FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST430I	%%%%%%%%%% FOR ID = %%%%%%%% DISCARDED
IST431I	%%%%%%%% NOT WITHIN ALLOWABLE RANGE OF VALUES

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Message Number	Text
IST432I	TUNING STATISTICS NOT ACTIVE, SMF NOT IN SYSTEM
IST433I	COMMAND REJECTED - TUNING STATISTICS TASK NOT ATTACHED
IST435I	UNABLE TO RECORD ON SMF FILE %%%%
IST436I	STORAGE NOT AVAILABLE FOR TUNING STATISTICS DATA
IST440I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST441I	DLRMAX = %%%%%%%% CHWR = %%%%%%%% CHRD = %%%%%%%%
IST442I	ATTN = %%%%%%%% RDATN = %%%%%%%% IPIU = %%%%%%%%
IST443I	OPIU = %%%%%%%% RDBUF = %%%%%%%% SLODN = %%%%%%%%
IST446I	I/O ERROR %%
IST447I	BUFFER SIZE WAS IGNORED FOR ONE OR MORE POOLS
IST448I	BUFFER POOL START OPTION INPUT FOR AN UNUSED POOL - IGNORED
IST449I	%%%%%%%%%%% = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST450I	INVALID %%%%%%%% COMMAND SYNTAX
IST451I	%%%%%%%% COMMAND UNRECOGNIZED
IST452I	%%%%%%%% PARAMETER UNRECOGNIZED
IST453I	%%%%%%%% PARAMETER VALUE INVALID
IST454I	%%%%%%%% COMMAND FAILED, INSUFFICIENT STORAGE
IST455I	% SESSIONS ENDED
IST456I	%%%%%%%% REQUIRED PARAMETER OMITTED
IST457I	POSITIVE % COMMAND RESPONSE
IST458I	USS MESSAGE %%% NOT DEFINED
IST459I	%%%%%%%%%% FAILED - ID = %%%%%%%% - ADJ NODE %%%
IST460I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% FAILED: %%
IST461I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% STARTED
IST462I	ACTIVATION OF LINK STATION %%%%%%%% IS DEFERRED PENDING HIGHER LEVEL NODE ACTIVATION
IST464I	LINK STATION %%%%%%%% HAS CONTACTED %%%%%%%% SA %%%%%%%%%%
IST465I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NO %%%% STATION AVAILABLE
IST466I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - UNABLE TO DO %%
IST467I	CONTACTED ERROR TYPE %%% FOR ID = %%%%%%%%
IST468I	XID1=%%%
IST469I	%%
IST470I	XID2=%%%
IST471I	%%
IST473I	CONNECTIVITY TEST TO %%%%%%%% TERMINATED AFTER %%% ECHOES DUE TO I/O ERROR, SENSE = %%%%%%%%
IST475I	%%%%%%%% FAILED FOR ID = %%%%%%%%, REQUEST = %%%%%%%%%%, SENSE = %%%%%%%%
IST476I	CDRM TYPE = %%%%%%%% %%%%%%%%%%%%%%%%%
IST477I	CDRMS:
IST478I	CDRSCS:
IST479I	CDRM NAME = %%%%%%%%
IST482I	%%%%%%%% %%%%%, SA %%%%%%%%%%, EL %%%%% %%%%%%%%%%%%%%%%%

Message Number	Text
IST483I	%%%%%%%% %%%%%%%%%%, CDRM = %%%%%%%% %%%%%%%%%%%%%%%%%
IST484I	SUBAREA = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST486I	NAME= %%%%%%%%, STATUS= %%%%%%%%%%, DESIRED STATE= %%%%%
IST487I	%%%%%%%%%% FOR ID = %%%%%%%% SCHEDULED BY %%%%%%%%%%
IST488I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUPLICATE NODE: %%%%%%%%
IST489I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - CANNOT DEFINE NODE: %%%%%%%%
IST490I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%% IN PROGRESS
IST493I	%%%%%%%%%% FOR ID = %%%%%%%% OVERRIDDEN BY %%%%%%%%%%
IST494I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - ALREADY IN DESIRED STATE
IST495I	VTAM CSALIMIT HAS BEEN SET TO %%%%%%%%
IST496E	%%%%%%%%%%%%%%%%%%%%%% FUNCTION INOPERATIVE DUE TO ABEND
IST499I	%%% NOT CORRECT LEVEL - %%%%%%%% DISK FUNCTIONS NOT PERFORMED
IST510I	ROUTE TEST %%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST511I	TRACE REQUEST FAILED - ID = %%%%%%%% INVALID
IST512I	TRACE TERMINATED FOR NODE = %%%%%%%%
IST513I	TRACE INITIATED FOR NODE %%%%%%%%
IST516I	DESTSUB ADJSUB ER ER STATUS VR(S)
IST517I	%%%%%%%%%% %%%%%%%%%% %% %%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST518I	%%%%%%%%%%%%%%%%%%%%%%%%
IST520I	UNABLE TO PROCESS %%
IST521I	GBIND %%%%%% FOR COS %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%
IST522I	%%%% %%%%% %%%%%%%% SA %%%%%%%%%% TO SA %%%%%%%%%% %%%%%%%
IST523I	REASON = %%%
IST524I	REVERSE ER MASK = %%%%
IST525I	REJECTING SA %%%%%%%%%% USING TG %%% ADJACENT SA %%%%%%%%%%
IST526I	ROUTE FAILED FROM %%%%%%%%%% TO %%%%%%%%%% - DSA %%%%%%%%%% - NETID %%%%%%%%
IST528I	VIRTUAL ROUTE NUMBER %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST529I	VR SELECTION EXIT %%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%
IST530I	%%%%%%%%%% PENDING %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST531I	%%
IST532I	EVENT CODE = %%%% EVENT ID = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST533I	ER %% %%%%%%%%% IN ROUTE TEST %%%
IST534I	%%%%%%%%%% %%% %%%%%%%%%% %%%%%%%%%% %%%
IST535I	ROUTE DISPLAY %%% FROM SA %%%%%%%%%% TO SA %%%%%%%%%%
IST536I	VR TP STATUS ER ADJSUB STATUS
IST537I	%% %% %%%%%% %% %%%%%%%%%% %%%%%%
IST538I	ROUTE TEST %%% IN PROGRESS
IST539I	DISPLAY ROUTE COMMAND FAILED, COS CANNOT BE RESOLVED
IST540I	DISPLAY ROUTE COMMAND FAILED, SENSE = %%%%%%%%
IST541I	FOLLOWING PATH DEFINITION IS IGNORED
IST542I	INVALID DEST SUBAREA VALUE %%% FOR PATH DEFINITION - IGNORED
IST543I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%% IS REDEFINED AS FOLLOWS
IST544I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%
IST546I	UNABLE TO PROCESS %%%

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Message Number	Text
IST547I	EXPLICIT ROUTE MASK %%%
IST548I	%%%%%%%%% FAILED %%%
IST549I	LL2 TEST FOR ID = %%%%%%%% ENDED %%%%%%%%%%%%%%%%%%%%%%%%
IST561I	STORAGE UNAVAILABLE: %% BUFFER POOL
IST562I	STORAGE UNAVAILABLE: %%%%%%%%%% REACHED
IST563I	STORAGE UNAVAILABLE: MAXPVT REACHED FOR %%%%%%%% %%%%%%%%
IST564I	STORAGE UNAVAILABLE: COMMON AREA SUBPOOL %%%
IST565I	STORAGE UNAVAILABLE: VTAM PRIVATE AREA SUBPOOL %%%
IST566I	STORAGE UNAVAILABLE: %%%%%%%% %%%%%%%% SUBPOOL %%%
IST567I	LOAD OF %%%%%%%% %%
IST571I	LOAD FAILED FOR ID = %%%%%%%% REQ: %%%%%%%%%%, SENSE: %%%%%%%%
IST572I	REJECTING TG ADJACENT ER MASK
IST573I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST574E	START I/O TIMEOUT OCCURRED FOR %%%%%%%%
IST577I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST578I	CHNRM = %%%%%%%% CHMAX = %%%%%%%% RDBUF = %%%%%%%%
IST579I	ATTN = %%%%%%%% TIMERS = %%%%%%%% QDPTH = %%%%%%%%
IST580I	BUFCAP = %%%%%%%% PRI = %%%%%%%% SLODN = %%%%%%%%
IST581I	IPIU = %%%%%%%% OPIU = %%%%%%%% DLRMAX = %%%%%%%%
IST582I	'EVERY' INVALID FOR TRACE OF ID = %%%%%%%% - OPERAND IGNORED
IST583I	CONFIG %%%%%%%% NOT PROCESSED - SYSDEF TASK NOT ATTACHED
IST585E	VTAM UNABLE TO CLOSE %%%%%%%% - RESOURCES MAY BE LOST TO VTAM
IST587I	IRN STORAGE %%%%%%%% CAUSED BY SLOWDOWN OF NODE %%%%%%%%
IST588I	SIT TRACE STATUS = %%%%%
IST589I	ERROR FOR ID = %%%%%%%%, CODE = %, NET = %%%%%%%%
IST590I	CONNECT%%% %%%%%%%%%% FOR PU %%%%%%%% ON LINE %%%%%%%%
IST591E	VTAM COMMAND CANCELED DUE TO VTAM TASK ABEND - %%% - RETRY COMMAND
IST592I	VTAM MAIN TASK ABEND - CODE %%% - VTAM IS BEING TERMINATED
IST593I	ISTPDCLU %%%%%%%%%%%%%%%% SESSION ENDED
IST594I	ISTPDCLU %%%%%%%%% FAILED %%% %%%
IST595I	IRNLIMIT = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST596I	IRN TRACE = %%%
IST597I	CAPABILITY-PLU %%%%%%%%%,SLU %%%%%%%%%,SESSION LIMIT %%%%%%%%
IST598I	NETID = %%%%%%%%
IST599I	%%%%% NAME = %%%%%%%%, NETID = %%%%%%%%
IST602I	%%%%%%%% FAILED ID = %%%%%%%% - HIGHER NODE HAS BECOME INACTIVE
IST605I	ERROR FOR ID = %%%%%%%% - %%%%%%%% : %%%%%%%%%%, DATA INVALID FOR THIS NODE
IST607I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - INVALID NODE TYPE OR STATE
IST608I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - HIGHER NODE: %%%%%%%% NOT ACTIVE
IST610I	LINE %%%%%%%% - STATUS %%%%%%%%%%
IST611I	NETID = %%%%%%%%, DESTINATION SSCP = %%%%%%%%
IST617I	DEACTIVATION IN PROGRESS FOR %%%%%%%%
IST619I	ID = %%%%%%%% FAILED - RECOVERY IN PROGRESS
IST621I	RECOVERY SUCCESSFUL FOR NETWORK NODE %%%%%%%%

Message Number	Text
IST623I	ADJACENT SSCPS - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST624I	%%%%%%%%
IST625I	%%%%%%%% TRACE ALREADY ACTIVE
IST626I	%%%%%%%% TRACE ALREADY INACTIVE
IST627I	%%%%%%%% - INSUFFICIENT STORAGE
IST632I	BUFF BUFF CURR CURR MAX MAX TIMES EXP/CONT EXP
IST633I	ID SIZE TOTAL AVAIL TOTAL USED EXP THRESHOLD INCR
IST634I	NAME STATUS SESSION ID SEND RECV VRN TP %%%%%
IST635I	%%%
IST636I	CDRSCS OWNED BY %%%%%%%% -
IST637I	SUBAREA = %%%%%%%%%%, ELEMENT = %%%%%
IST638I	ADJNETSA = %%%%%%%%%%, ADJNETEL = %%%%%
IST639I	GWN = %%%%%%%%, ADJNET = %%%%%%%%
IST640I	%%%%%%%% ADDR IN ADJNET - SA = %%%%%%%%%%, EL = %%%%%
IST641I	GATEWAY PATH SELECTION LIST -
IST642I	ADJNET GWN SUBAREA ELEM ADJNETSA ADJNETEL
IST643I	%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%% %%%%%%%%%% %%%%%
IST644I	%%%%%%%% TG %%%%%%%% %%%%%%%%
IST645I	%%%%%%%% DEFINITION FAILED - NO VALID %%%%%%%% MACRO
IST650I	POLL = %%%, NEGPOLL = %%%, SESSION(S) = %%%
IST652I	%%%% = IS A DUPLICATE KEYWORD WITHIN THE TRACE/NOTRACE OPTION
IST654I	I/O TRACE = %%%, BUFFER TRACE = %%%
IST655I	%%%% TRACE STATUS = %%%%%
IST656I	ACTIVATE REJECTED FROM UNDEFINED CDRM, SA %%%%%%%%% EL %%%%%
IST658I	%%%%%%%% COMMAND FAILED - %%%%%%%% NOT FOUND
IST659I	SESSION SETUP FAILED THROUGH ADJ SSCP %%%%%%%%-CODE %%
IST660I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PARM: %%%%%%%%%%%%%%% NOT VALID
IST662I	DUPLICATE NAMES NOT ALLOWED - CROSS-NET RESOURCE %%%%%%%%
IST663I	SESSION SETUP REQUEST %%%%%%%%%% FAILED, SENSE = %%%%%%%%
IST664I	%%%% LU = %%%%%%%% SSCP = %%%%%%%% NETID = %%%%%%%%
IST670I	VARY %%%% PROCESSING FOR ID = %%%%%%%% COMPLETE
IST674I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - PARM: %%%%%%%%%%%%%%% IGNORED
IST675I	VR = %%, TP = %%
IST678I	%%%%%%%% SUBTASK END NOT SCHEDULED, INSUFFICIENT STORAGE
IST679A	PLEASE DIAL LINE = %%%%%%%%, NUMBER = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST680I	CONNECTION REQUEST DENIED - ID = %%%%%%%% %%%%%%%%%%%%%%%%%%
IST683I	CONNECTION REQUEST DENIED, ID = %%%%%%%%
IST684I	I/O ERR, CSW = %%%%%%%%%%%%%%%%, SENSE = %%%%
IST688I	VARY FAILED FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST690I	CONNECTION REQUEST DENIED - INVALID STATION ID = %%%%%%%%%%%%
IST693I	UNABLE TO DISCONNECT ID = %%%%%%%%
IST700I	INVALID %%%%% - SKIPPING TO NEXT NETWORK STMT OR EOF
IST701I	CONFIG %%%%%%%% LABEL = %%%%%%%% STMT TYPE = %%%%%%%%
IST702I	CONFIG %%%%%%%% - UNEXPECTED %%%%%%%%%%%%%%%%%%%%%%

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Message Number	Text
IST703I	CONFIG %%%%%%%% ADJSSCP DEFINITIONS IGNORED - NO ADJCDRM STMT
IST706I	ADJSSCP TABLE FOR %%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST707I	ADJSSCP TABLE FOR %%%%%%%% BEING REPLACED
IST708I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%
IST709I	CONFIG %%%%%%%% FAILED - NO VALID BUILD OR NETWORK MACRO
IST710I	CONFIG = %%%%%%%% NETWORK = %%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST711I	%%%%%%%%%%%%%%%% NETID %%%%%%%% NOT PROCESSED FOR %%%%%%%%
IST712I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - MISSING OPERANDS
IST713I	CONFIG %%%%%%%% GWPATH %%%%%%%% - %%%%%%%% OPERAND IGNORED
IST714I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - INVALID STMT
IST715I	CONFIG %%%%%%%% CDRM %%%%%%%% IGNORED - GWPATH STMT MISSING
IST716I	%%%%%%%%%% FOR %%%%%%%% FAILED
IST717I	NETID %%%%%%%% ID %%%%%%%% SA %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST718I	ADDRESS INVALID FOR NETID=%%%%%%%% CDRM=%%%%%%%% CODE=X'%%'
IST719I	%%%
IST720I	%%%%%%%% HAS CONTACTED %%%%%%%% IN %%%%%%%%, SA %%%%%%%%%%
IST721I	SESSION SETUP FOR CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST722I	CONFLICTING GWCTL PARAMETERS
IST723I	SSCPID %%%%%%%%%%%% ALREADY IN USE BY CDRM %%%%%%%%
IST725I	GWN %%%%%%%%, SUBAREA %%%%%%%%%%, CDRM ALIAS ELEMENT %%%%%
IST726I	ADJNET %%%%%%%%, ADJNETSA %%%%%%%%%%, ADJNETEL %%%%%
IST727I	COMMUNICATION WITH CDRM %%%%%%%% LOST - REASON = X'%%'
IST728I	GWPATHS FOR GWN %%%%%%%% ARE NOW %%%%%%%% FOR THESE CDRMS
IST732I	%%%%%%%%%% REJECTED DUE TO %%%%%%%%%%%%%%%%%%%%
IST733I	GWPATH TO CDRM %%%%%%%% USING GWN %%%%%%%% NOT AVAILABLE
IST734I	ACTIVATION OF CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST735I	NO ADDRESS TRANSFORMS - REQACTCDRM SENT
IST737I	DEFAULT VR LIST USED FOR CDRM %%%%%%%% USING GWN %%%%%%%%
IST738I	SESSIONS WITH %%%%%%%% NOT TERMINATED - INSUFFICIENT STORAGE
IST739I	LU DEFINED IN NETID = %%%%%%%%
IST740I	UNABLE TO FREE ALIAS ADDRESSES FOR CDRM %%%%%%%% GWN %%%%%%%%
IST742I	ACTIVATION OF CDRM %%%%%%%% %%%%%% - GWN PATH NOT AVAILABLE
IST744I	CROSS-NETWORK SESSION SETUP FAILED IN ADJNET = %%%%%%%%
IST745I	ACTCDRM TO CDRM = %%%%%%%% FAILED, SENSE = %%%%%%%%
IST746I	BIND FAILED FROM %%%%%%%% TO %%%%%%%%, SENSE = %%%%%%%%
IST751I	SIO = %%%%%%%%, ERROR CT = %%%%%%%%, CUA = %%%
IST752I	GPT TRACE STATUS = %%%%%
IST755I	ALERT FROM PU %%%%%%%% FOLLOWS
IST756E	ALERT FROM PU %%%%%%%% FOLLOWS
IST757E	MOSS UNAVAILABLE - HARDWARE ERROR
IST758E	MOSS RELOADED - HARDWARE ERROR
IST759E	MOSS DISKETTE UNUSABLE
IST760E	MOSS DISKETTE HARDWARE ERROR
IST761E	MOSS CONSOLE UNAVAILABLE

Message Number	Text
IST762I	MOSS IN MAINTENANCE MODE
IST763I	PHYSICAL UNIT RELOADED - HARDWARE ERROR
IST764I	PHYSICAL UNIT RELOADED - PRIOR ABEND CODE WAS %%%%%%%
IST765E	CHANNEL ADAPTER %%%%%%% UNAVAILABLE - HARDWARE ERROR
IST766I	DUMP COMPLETED - %%%% DATA SET ON %%%%%%% DISK(ETTE) EMPTY
IST767E	SCANNER %%%%%%% (%%%%%%%-%%%%%%%) UNAVAILABLE - HARDWARE
IST768E	SCANNER %%%%%%% (%%%%%%%-%%%%%%%) UNAVAILABLE - HARDWARE
IST769E	SCANNER %%%%%%% (%%%%%%%-%%%%%%%) UNAVAILABLE - SOFTWARE
IST770E	SCANNER %%%%%%% (%%%%%%%-%%%%%%%) UNAVAILABLE - SOFTWARE
IST771E	SCANNER %%%%%%% LINE %%%%%%% UNAVAILABLE - HARDWARE ERROR
IST772I	UAC = %% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST778I	%%%%%%% %%%%%%% %%%%%%% %%%%%%% %%%%%%% %%%%%%%
IST784I	SESSION(S) EXIST(S) WITH UNKNOWN PARTNER
IST785I	%%%%%%% AND %%%%%%%-CONFLICTING GWCTL OPTION FOR %%%%%%%
IST786I	%%%%%%% COMMAND REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%
IST788I	MODIFY ATTACH FAILED - SUBTASK LIMIT EXCEEDED
IST789I	%%%%%%%%% FAILED FOR ID = %%%%%%%, CA / NCP CONFLICT
IST790I	MAXIMUM %%%%% USED = %%%%%%K
IST792I	NO SUCH SESSION EXISTS
IST793E	SESSION MANAGEMENT ERROR, CODE %%%%%%%%%%%%%%%%%%%%%%%%
IST796I	HOSTSA VALUE EXCEEDS MAXSUBA
IST797I	FROM VIA ADJACENT DEST ER LENGTH
IST798I	%%%%%%%
IST799I	%%%%%%%%%%%%% DUMP IN PROGRESS
IST804I	VTAM CLOSE IN PROCESS FOR %%%%%%% OPENED BY %%%%%%% %%%%%%%
IST805I	VTAM CLOSE COMPLETE FOR %%%%%%%
IST807I	%%%%%%%%% FOR ID = %%%%%%% FAILED - NODE IS IN TEST MODE
IST808I	ORIGIN PU = %%%%%%% DEST PU = %%%%%%% %%%%%%%%%%%%%%
IST809I	XRF SESSIONS - PRIMARY = %%%%% BACKUP = %%%%%
IST810I	NAME = %%%%%%%, VALUE = %%%%%%%
IST811I	USERVAR(S)
IST812I	%%%%%%% COMMAND NOT ACCEPTED
IST813I	USERVAR %%%%%%% CHANGED FROM %%%%%%% TO %%%%%%%
IST814I	USERVAR %%%%%%% DELETED
IST815I	AUTOMATIC RECOVERY IS SUPPORTED
IST816I	%%%%%%%%% %%% %%%%%%%%% %%%%
IST819I	CDRM %%%%%%% COMMUNICATION LOST - RECOVERY IN PROGRESS
IST820I	%%%%% RSP DATA DISCARDED FOR ID = %%%%%%% - INSUFF STORAGE
IST821I	SUBTASK %%%%%%% TERMINATED, COMPLETION CODE %%%%%%
IST822I	CDRM %%%%%%% RECOVERY FAILED - INSUFFICIENT STORAGE
IST823I	X.25 NETWORK ERROR %%%%, %%%%, %%%
IST824I	X.25 INCOMING CALL REJECTED = %%%%, %%%
IST825I	USERVAR DEFINED - NAME = %%%%%%%, VALUE = %%%%%%%
IST827I	%%%%%%%%% FOR %%%%%%% FAILED - ADJSA %%%%%%%%% INVALID

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Message Number	Text
IST829I	IMPROPER TRANSLATION OF %%%%%%%% TO %%%%%%%% IN %%%%%%%%
IST830I	ORIGINATING SSCP NAME = %%%%%%%%, NETID = %%%%%%%%
IST831I	DUPLICATE ADJCDRM NAME %%%%%%%% IN %%%%%%%%
IST832I	UNLABELED %%%%%%%% STMT IN %%%%%%%%
IST833I	SKIPPING TO NEXT %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST834I	%%%% BACKUP SESSION(S) EXIST(S) WITH UNKNOWN PARTNERS
IST835I	%%%%%%%% COMMAND FAILED - NO USERVARS DEFINED
IST836I	X.25 NETWORK RESTART/RESET/CLEAR %%%%, %%%%, %%%%, %%%
IST837I	X.25 DEFINITION ERROR %%%%, %%%
IST838I	TRACE STATUS DISPLAY FOR ID = %%%%%%%%
IST839I	PU NAME LINE NAME
IST840I	%%%%%%%% %%%%%%%%
IST841I	NO RESOURCES ARE BEING TRACED FOR %%%%%%%%
IST842I	UNABLE TO FIND BUFFERS IN %% POOL - DUMP IN PROGRESS
IST843I	%%%%%%%% NOT SPECIFIED - GATEWAY FUNCTIONS NOT SUPPORTED
IST844I	VTAM START REJECTED - INVALID START OPTION VALUE %%%%%%%%
IST845I	X.25 DIAGNOSTIC PACKET %%%%, %%%
IST846I	REAL I/O NOT SUPPORTED BECAUSE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST849I	%%%%%%%% INCONSISTENT WITH USE OF %%%%%%%% IN %%%%%%%%
IST860I	DEACTIVATION OF %%%%%%%% INCOMPLETE - INSUFFICIENT STORAGE
IST865I	%%%%%%%%%%%% COMMAND COMPLETE-%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST867I	SIT TRACE FOR %%%%%%%% FAILED TO ACTIVATE
IST869I	USERID = %%%%%%%%
IST870I	NETWORK ADDRESS RECEIVED FOR %%%%%%%% IN USE BY %%%%%%%%
IST881I	%%%%%%%% CONTACT LINKSTATION %%%%%%%%
IST882I	WAITING FOR DEVICE END FROM DEVICE
IST883I	%%%%%%%% OF SAW BUFFERS USED %%%%%%%%%%%%%%%%%%%%%%%%
IST888I	ADDR + LENGTH VALUES EXCEED STORAGE - LENGTH SET TO %%%
IST897I	LOAD OF %%%%%%%% STARTED
IST956I	%%%% SAP=%%% MAC=%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST958I	INBND=%%%%% OUTBND=%%%%% PENDING=%%% ATTN=%%%%% CUA=%%%
IST992I	UNABLE TO COMPLETE MESSAGE GROUP - CODE %
IST998E	VTAM MESSAGE %%%% ISSUED BUT DOES NOT EXIST
IST999E	VTAM MESSAGE LOST - INSUFFICIENT STORAGE

VM Message Differences for Version 3 Release 2

This section lists the message numbers of all VM messages that have been added, modified, or deleted since Version 3 Release 1.2 of VTAM.

If a message is **new**, the message has been added in V3R2.

If a message is **modified**, the message text or message number has been changed since V3R1.2.

If the message is **deleted**, the message existed in V3R1.2 but does not exist in V3R2.

Also listed is the text of all messages as they appear for VM in V3R2. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

Change	Message Number					
New	IST004I	IST014I	IST017I	IST046I	IST199I	IST252I
	IST301I	IST437I	IST474I	IST500I	IST501I	IST502A
	IST503I	IST504I	IST505I	IST506I	IST507I	IST576I
	IST753I	IST773I	IST787I	IST794I	IST803I	IST806I
	IST826I	IST861I	IST862I	IST863I	IST864I	IST866I
	IST868I	IST871I	IST872I	IST873I	IST874I	IST875I
	IST876I	IST877I	IST878I	IST879I	IST880I	IST886I
	IST887I	IST889I	IST890I	IST891I	IST892I	IST893I
	IST894I	IST895I	IST896I	IST899I	IST900I	IST901A
	IST902A	IST903A	IST904A	IST905A	IST906A	IST907A
	IST908A	IST909A	IST910I	IST911I	IST912I	IST913I
	IST914I	IST915I	IST916I	IST917I	IST918A	IST919I
	IST920I	IST921I	IST922I	IST923I	IST924I	IST925I
	IST926I	IST927I	IST928I	IST929I	IST930I	IST932E
	IST933I	IST934I	IST935I	IST936I	IST937A	IST939I
	IST951I	IST952I	IST953I	IST954I	IST955I	IST957I
	IST959I	IST960I	IST961I	IST962I	IST963I	IST965I
	IST980I	IST981I	IST982I	IST996I	IST997I	

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Change	Message Number					
Modified	IST001I	IST040I	IST054I	IST058I	IST059I	IST061I
	IST075I	IST082I	IST087I	IST092I	IST113I	IST120I
	IST127I	IST134I	IST142I	IST171I	IST172I	IST183A
	IST225I	IST241I	IST244I	IST264I	IST315I	IST327I
	IST330I	IST350I	IST361A	IST368I	IST435I	IST446I
	IST448I	IST452I	IST475I	IST476I	IST479I	IST482I
	IST483I	IST484I	IST486I	IST495I	IST499I	IST511I
	IST542I	IST543I	IST544I	IST546I	IST567I	IST599I
	IST607I	IST611I	IST621I	IST623I	IST634I	IST637I
	IST663I	IST664I	IST707I	IST744I	IST766I	IST767E
	IST768E	IST769E	IST770E	IST799I	IST804I	IST824I
	IST844I	IST881I	IST883I			
Deleted	IST006I	IST012I	IST016I	IST042I	IST044I	IST048I
	IST098I	IST121I	IST273I	IST274I	IST291I	IST292I
	IST294I	IST295I	IST296I	IST297I	IST298I	IST299I
	IST342I	IST343I	IST345I	IST346I	IST356I	IST369I
	IST370I	IST371I	IST372I	IST373I	IST374I	IST375I
	IST376I	IST377I	IST378I	IST379I	IST405I	IST598I
	IST625I	IST626I	IST632I	IST633I	IST659I	IST662I
	IST711I	IST722I	IST733I	IST738I	IST739I	IST785I
	IST827I	IST829I	IST843I			

Message Number	Text
IST001I	VTAM START REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST002I	%%%%%%%% IS AN INVALID START PARM - ALL PARMS IGNORED
IST003I	ABEND OCCURRED DURING NETWORK DEFINITION OF CONFIG %%%%%%%%, CODE = %%%
IST004I	VTAM MAIN TASK ABEND - START REJECTED
IST009I	VTAM ALREADY ACTIVE - START REJECTED
IST010I	%%%%%%%% COMMAND INVALID
IST011I	%%%%%%%%%% FOR %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST013I	I/O ERROR FOR %%%%%%%% IN %%%%%%%%
IST014I	DEVICE SUPPORT MAY BE UNAVAILABLE - SYS000 NOT UNASSIGNED
IST015A	ERROR PROCESSING LIST IDENTIFIER - ENTER LIST ID OR BLANK
IST017I	UNABLE TO LOAD PHASE %%%%%%%%
IST018I	CONFIG COULD NOT BE INITIALIZED - VTAM START CONTINUES
IST019I	SYNTAX ERROR IN START OPTION %%%%%%%% - ENTER WHEN PROMPTED
IST020I	VTAM INITIALIZATION COMPLETE
IST025I	BLDL FAILED FOR %%%%%%%% IN %%%%%%%%
IST032I	%%%%%%%% FAILED - FIRST CHARACTER OF %%%%%%%% NOT ALPHABETIC
IST033I	%%%%%%%% COMMAND CANCELLED
IST037I	%%%%%%%% FAILED - SYNTAX ERROR
IST038I	VARY FAILED FOR ID = %%%%%%%% - HOST CDRM IS NOT ACTIVE
IST039I	%%%%%%%% FAILED - CANNOT IDENTIFY COMMAND TYPE

Message Number	Text
IST040I	START OPTION %%%%%%% REQUIRED - REENTER WHEN PROMPTED
IST043I	%%%%%%% INVALID VALUE FOR KEYWORD %%%%%%%
IST046I	%%%%%% THRESHOLD VALUE EXCEEDS NUMBER OF BUFFERS - NUMBER OF BUFFERS USED
IST047I	%%%%%% BUFFER SIZE TOO SMALL - DEFAULT VALUE USED
IST049I	VTAM START REJECTED - OPEN FOR VTAM ACB FAILED, ACB ERROR FLAG = %%
IST050I	%%%%%%% COMMAND REJECTED - OPEN FOR VTAM DATA SET %%%%%%%%%% FAILED
IST051A	ENTER VTAM START PARAMETERS
IST052I	%%%%%%% IS AN INVALID START PARAMETER KEYWORD - IGNORED
IST054I	%%%%%%% IN %%%%%%% %%%%%%% - START PROCESSING CONTINUES
IST055I	%%% IS AN INVALID CONFIGURATION ID - PARAMETER IGNORED
IST056A	LIST = %%% IS INVALID - ENTER LIST ID OR BLANK
IST057I	KEYWORD MISSING AFTER TRACE/NOTRACE OPTION ON START PARMS
IST058I	%%%%%%% AND %%%%%%% OPTIONS HAVE DUPLICATE VALUES
IST059I	%%%%%%%%%%%%%%%%%%%%%%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST061I	%%%%%%%%%% FOR %%%%%%%%%%%%%%%% FAILED - NODE UNKNOWN TO VTAM
IST066I	%%%%%%%%%% FAILED - CONFLICTING OR INVALID OPTIONS
IST072I	%%%%%%%%%% FOR ID = %%%%%%% FAILED DURING NETWORK DEFINITION
IST073I	%%%%%%%%%% FOR ID = %%%%%%% FAILED - MORE POWERFUL REQUEST IN PROGRESS
IST074I	%%%%%%%%%% FOR ID = %%%%%%% FAILED - INSUFFICIENT STORAGE
IST075I	NAME = %%%%%%%%%%%%%%%%%%, TYPE = %%%%%%%%%%%%%%%%%%
IST077I	SIO = %%%%%%%% CUA = %%%%%%%%%%%%%%%%%%%%
IST080I	%%%%%%% %%%%%%%%%% %%%%%%% %%%%%%%%%% %%%%%%% %%%%%%%%%%
IST081I	LINE NAME = %%%%%%%%, LINE GROUP = %%%%%%%%, MAJNOD = %%%%%%%%
IST082I	DEVTYPE = %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST084I	NETWORK NODES:
IST085I	DISPLAY FAILED - INFORMATION NOT AVAILABLE
IST087I	TYPE = %%%%%%%%%%%%%%%%%%%%, CONTROL = %%%%%%%%%%%%%%%%%%%%%%
IST089I	%%%%%%%% TYPE = %%%%%%%%%%%%%%%%%%, %%%%%%%%%% %%%%%%%%%%
IST092I	REQUESTED %%%%%%%%%% LESS THAN CURRENT ALLOCATION - REQUEST %%%%%%%%
IST093I	%%%%%%%% ACTIVE
IST095A	OPTION TO DUMP %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,DUMPSTA=LINKSTANAME'
IST096I	%%%%%%%% FAILED - DUPLICATE %%%%%%%% PARAMETERS SPECIFIED
IST097I	%%%%%%%% ACCEPTED
IST099I	%%%%%%%% FAILED - %%%%%%%% NOT ALPHAMERIC
IST101I	%%%%%%%% FAILED - %%%%%%%% NOT SPECIFIED
IST102I	VTAM IS NOW INACTIVE
IST105I	%%%%%%%% NODE NOW INACTIVE
IST107I	TIME AND DATE NOT SET IN %%%%%%%% DUE TO INVALID TIMER IN HOST
IST109I	%%%%%%%% IS NOW TERMINATED
IST112I	VTAM INTERNAL TRACE MODIFY FAILED - CONFLICTING MODES
IST113I	%%%%%%%% IS A USERVAR WITH VALUE %%%%%%%% IN NETWORK %%%%%%%%
IST114I	SYNTAX ERROR IN %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST115I	INSUFFICIENT STORAGE TO READ %%%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST116I	MEMBER %%%%%%%% NOT FOUND ON VTAM DEFINITION LIBRARY

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Message Number	Text
IST117I	I/O ERROR READING %%%%%%% MEMBER OF VTAM DEFINITION LIBRARY
IST118I	ERROR IN LIST = %% - ALL START PROCEDURE PARAMETERS IGNORED
IST119I	SYNTAX ERROR IN START PARM %%%%%%% - ALL PARMS IGNORED
IST120I	NODE %%%%%%% NOW HAS CONTROLLING LU %%%%%%%
IST122I	ATTACH OF VTAM SUBTASK %%%%%%% FAILED
IST124I	STOP COMMAND REJECTED - NOT SUPPORTED FOR VTAM
IST125A	ENTER VTAM PARAMETER OVERRIDES - EXCEPT LIST ID - OR DEFAULT
IST126I	%%%%%%% MODE NOT SUPPORTED DUE TO LOADING FAILURE
IST127I	%%%%%%% STILL ACTIVE - VTAM TERMINATION WAITING FOR %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST128I	HALT OF VTAM ALREADY IN PROGRESS
IST129I	UNRECOVERABLE OR FORCED ERROR ON NODE %%%%%%% - VARY INACT SCHED
IST130I	VTAM SUBTASK %%%%%%% INACTIVE - ABEND THRESHOLD EXCEEDED
IST132I	VTAM SUBTASK %%%%%%% NOT REATTACHED - CANNOT BE FOUND
IST133I	VTAM TERMINATION IN PROGRESS
IST134I	GROUP = %%%%%%%, MAJOR NODE = %%%%%%%
IST135I	PHYSICAL UNIT = %%%%%%%%%%%%%%%%%%
IST136I	%%%%%%% SNA MAJOR NODE = %%%%%%%
IST137I	CONFIG %%%%%%% BYPASSED - LOCAL ADDRESS OF LU %%%%%%% IS INVALID
IST142I	CONFIG %%%%%%% BYPASSED - PATH MACRO %%%%%%% ERROR, REASON CODE %
IST146I	LINE NAME = %%%%%%%, STATUS = %%%%%
IST148I	DIAL OUT PATH INFORMATION FOR PHYSICAL UNIT %%%%%%%
IST149I	LINE GRP TELEPHONE NUMBER OR LINE NAME PID GID CNT
IST150I	RRT LOAD MODULE %%%%%%% DOES NOT CONTAIN RESOURCE SEGMENT %%%%%%%%
IST153I	PENDING DEACTIVATION OF %%%%%%% OVERRIDDEN
IST154I	EXPANSION FAILED FOR %% BUFFER POOL - CODE %
IST155I	SUBTASK %%%%%%% HAS ABENDED, CODE %%%
IST159I	THE FOLLOWING NODES ARE IN A PENDING STATE
IST165I	CDRM %%%%%%% HAS AN INVALID ELEMENT VALUE - 1 IS ASSUMED
IST167I	NO DIAL OUT PATH FOR %%%%%%%
IST168I	%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%% %%% %%%
IST169I	DISCONNECTION CAUSED VARY %%%% FOR PU = %%%%%%%
IST170I	LINES:
IST171I	ACTIVE SESSIONS = %%%%%%%%%, SESSION REQUESTS = %%%%%%%%%
IST172I	NO %%%%%%%%%%%%% %%%%%%%
IST176I	%%%%%%% FAILED - %%%%%%% AND %%%%%%% ARE CONFLICTING OPTIONS
IST180I	OPEN FAILED ON CKPT DS %%%%%%% MAJ NODE %%%%%%% RTNCD = %% %%
IST181I	CLOSE FAILED ON CKPT DS %%%%%%% MAJ NODE %%%%%%% RTNCD = %% %%
IST182I	UNABLE TO GET STORAGE FOR CKPT %%%%%%% MAJOR NODE %%%%%%%
IST183A	%%%%%%% FOUND LOADED WITH %%%%%%% - REPLY 'YES' TO REIPL OR 'NO' TO CONTINUE
IST184I	I/O ERROR ON CKPT DS %%%%%%% MAJOR NODE %%%%%%% RTNCD = %% %%
IST185I	LOGICAL ERROR ON CHECKPOINT DS %%%%%%% MAJOR NODE %%%%%%%
IST186I	%%%%%%%%% FOR ID = %%%%%%% CONTINUES COLD - CHECKPOINT DATA SET %%%%%%%%%%%%%
IST187I	%%%%%%%%% FOR ID = %%%%%%% FAILED - CHECKPOINT DATA SET %%%%%%%%%%%%%
IST191I	%%%%%%% SYNTAX ERROR

Message Number	Text
IST192I	POA MSG TRANSFER FAILED - INSUFFICIENT STORAGE
IST193I	REPLY %% IGNORED - REPLY TOO LONG FOR REQUESTOR
IST194I	REPLY %% NOT OUTSTANDING
IST195I	REPLY %% IGNORED - NON-DECIMAL ID
IST198I	VTAM INTERNAL TRACE ACTIVATION FAILED - GTF NOT ACTIVE
IST199I	OPTIONS = %%%
IST206I	SESSIONS:
IST208I	UNABLE TO TERMINATE SESSIONS FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST211I	NCP SLOWDOWN INITIATED FOR %%%%%%%%
IST212I	ACBNAME = %%%%%%%%
IST213I	ACBNAME FOR ID = %%%%%%%%
IST214I	NCP SLOWDOWN TERMINATED FOR %%%%%%%%
IST219I	I/O ERROR ON READ FOR %%%%%%%% - BYTECNT MISMATCH
IST221I	%%%%%%%% : %%%%%%%% IS INVALID, %, UNSUPPORTED OPTION - %%%%%%%%%%%%%%%%%
IST223I	MODIFY %%%%%%%% COMMAND COMPLETED
IST225I	%%%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST226I	%%%%%%%%%% FOR ID = %%%%%%%% NOT EFFECTIVE DURING CURRENT OR QUEUED SESSIONS
IST228I	ENCRYPTION = %%%%%%%%%
IST231I	%%%%%%%% MAJOR NODE = %%%%%%%%
IST232I	%%%%%%%%, %%%%%%%%%%%%%%%%%%%%%
IST234I	I/O ERROR %%%%%%%%%%%%%%%%%%%%%%%
IST238I	%%%%%%%%%% %%% FOR ID = %%%%%%%% RCVD %%
IST240A	WAIT STATE IN VTAM DUE TO INSUFFICIENT NUMBER OF I/O BUFFERS SPECIFIED BY USER
IST241I	%%%%%%%%%% COMMAND COMPLETE FOR %%%%%%%%%%%%%%%%%
IST242I	%%%%%%%%%% COMMAND FAILED FOR ID = %%%%%%%% SENSE = %%%%%%%%
IST243I	FRAMES SENT = %%%%%, RCVD = %%%%%, RCVD WITHOUT ERRORS = %%%%%
IST244I	NCP %%%%%%%%%%% STORAGE FOR ID = %%%%%%%%
IST245I	%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST247I	LOAD/DUMP PROCEDURE STATUS = %%%%%
IST251I	CONFIG %%%%%%%% LUPOOL MACRO %%%%%%%% IGNORED - OWNER KEYWORD REQUIRED
IST252I	%%% %%%%%%%% %%%%%%%%% VTAM CODE %%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%
IST257I	VTAM SDUMP FAILED WITH RETURN CODE %%%%
IST258I	STMT IN ERROR = %%
IST259I	INOP RECEIVED FOR %%%%%%%% CODE = %% %%
IST260I	%%%%%%%% - %%%%%%%% SESSION LOST, SA %%%%%%%%%% CODE %%
IST262I	%%%%%%%% = %%%%%%%%, STATUS = %%%%%%%%%%
IST264I	REQUIRED %%%%%%%%%%%%% %%%%%%%% %%%%%%%%%%%%%%%
IST265I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUP %%%%%%%% HL %%%%%%%%
IST266I	%%%%%%%% STARTED
IST270I	LOAD OF %%%%%%%% COMPLETE - LOAD MODULE = %%%%%%%
IST271I	JOBNAME = %%%%%%%%, STEPNAME = %%%%%%%%
IST272A	NO INITIAL TEST FOR %%%%%%%% - REPLY 'U' TO BYPASS - OR CANCEL

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Message Number	Text
IST278A	INVALID REPLY FOR ID = %%%%%%%% LOAD - ENTER 'U' - OR CANCEL
IST282A	INVALID REPLY FOR ID = %%%%%%%% %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST284A	OPTION TO RELOAD %%%%%%%% AVAILABLE - REPLY 'YES' OR 'NO' OR 'YES,LOADSTA=LINKSTANAME'
IST285I	%%%%%%%% DUMP OF %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST301I	INSUFFICIENT VFBUF STORAGE FOR I/O TRACE TABLE
IST302I	INVALID DEFINITION TYPE IN MEMBER %%%%%%%% IN VTAM DEFINITION LIBRARY
IST303I	INSUFFICIENT STORAGE TO BUILD CONFIGURATION %%%%%%%%
IST309I	UNABLE TO LOAD MODULE %%%%%%%% FROM LIBRARY %%%%%%%%
IST310I	INVALID SPACE REQUEST FOR CONFIGURATION %%%%%%%%
IST311I	NCP LOAD MODULE LIBRARY %%%%%%%% - FAILED TO OPEN
IST314I	END
IST315I	VTAM INTERNAL TRACE ACTIVE - MODE = %%%, SIZE = %%%
IST316I	VTAM INTERNAL TRACE NOW INACTIVE
IST317I	VTAM INTERNAL TRACE ACTIVATION FAILED - INSUFFICIENT STORAGE
IST318I	VTAM INTERNAL TRACE ACTIVATION FAILED - UNABLE TO FIX STORAGE
IST319I	CONFIGURATION %%%%%%%% FIRST SPECIFICATION USED %%%%%%%%%%%%%%%%%%%%%%
IST320I	CONFIGURATION %%%%%%%% DEFINITION FAILED - %%%%%%%%%%%%%%%%%%
IST321I	CONFIGURATION %%%%%%%% DEFAULT TAKEN - %%%%%%%%%%%%%%%%%%%%
IST322I	CONFIGURATION %%%%%%%% ERROR IGNORED - %%%%%%%%%%%%%%%%%%%%
IST323I	LABEL = %%%%%%%% - MACRO TYPE = %%%%%%%% - KEYWORD = %%%%%%%%
IST324I	%%%%%%%% IN PROGRESS WITH ID = %%%%%%%% DUE TO %%%%%%%%% REQUEST
IST326I	REQUEST = %%%%%%%%% FAILED FOR %%%%%%%% ID = %%%%%%%%, SENSE = %%%%%%%%
IST327I	%%%%%%%% ID = %%%%%%%% INCOMPLETE, REQUEST = %%%%%%%%%, SENSE = %%%%%%%%
IST328I	COMMUNICATION WITH CDRM ID = %%%%%%%% LOST
IST329I	THIS NODE WAS NOT ORIGINALLY OWNED BY THIS HOST
IST330I	TABLE TYPE = %%%%%%%% NAME = %%%%%%%%
IST331I	CONFIG %%%%%%%% BYPASSED - 'MAXSUBA' VALUES CONFLICT
IST333I	CONFIG %%%%%%%% USING DUPLICATE RESOURCE NAME %%%%%%%% - CODE %
IST336I	THIS NCP MAJOR NODE WAS %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST339I	CONFIG %%%%%%%% BYPASSED - %%%%%%%% UNKNOWN TO THE NCP
IST348I	UNABLE TO PROCESS DISCONNECTION FOR PU = %%%%%%%% DUE TO LACK OF STORAGE
IST350I	DISPLAY TYPE = %%%%%%%%%%%%%%%%%%%%%%
IST351I	LOCAL 3270 MAJOR NODE = %%%%%%%%
IST352I	LOCAL SNA MAJOR NODE = %%%%%%%%
IST353I	SWITCHED SNA MAJOR NODE = %%%%%%%%
IST354I	PU T4/5 MAJOR NODE = %%%%%%%%
IST355I	LOGICAL UNITS:
IST359I	ATTACHMENT = %%%%%%%%
IST360I	APPLICATIONS:
IST361A	%%%%%%%%%%%%%%%%%%%% FOUND LOADED WITH %%%%%%%%%%%%%%%%%%%% REPLY 'YES' TO RELOAD OR 'NO' TO CANCEL ACTIVATION
IST362I	GROUP %%%%%%%% DEVICES UNAVAILABLE - MISSING SYSCNTRL OPTION
IST363I	CONFIG %%%%%%%% NODES AND SUBNODES SET UNAVAILABLE - %%%%%%%%%%%%%%%%%%%%%%
IST366I	CONFIG %%%%%%%% UNABLE TO DEFINE %%%%%%%% - MAXIMUM NUMBER OF NETWORK ADDRESSES FOR HOST SUBAREA EXCEEDED

Message Number	Text
IST367I	NO STORAGE TO DEFINE NODE %%%%%%%% CONFIG %%%%%%%%
IST368I	FUNCTION GROUP %%%%%%%% FAILED
IST380I	ERROR FOR ID = %%%%%%%% - REQUEST: %%%%%%%%%%, SENSE: %%%%%%%%
IST381I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - CANNOT DEFINE NODE
IST382I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - STATE: %%%%% NOT VALID FOR REQUEST
IST383I	DEACTIVATION OF ID = %%%%%%%% FAILED - REQUEST: %%%%%%%%%% SENSE: %%%%%%%%
IST384I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED
IST388I	DYNAMIC CDRSC DEFINITION SUPPORT = %%%
IST389I	PREDEFINITION OF CDRSC = %%%
IST391I	ADJ LINK STATION = %%%%%%%%, LINE = %%%%%%%%, NODE = %%%%%%%%
IST393I	PU T4/5 MAJOR NODE %%%%%%%%, SUBAREA = %%%%%%%%%%
IST394I	ADJACENT LINK STATIONS NOT OWNED BUT AWAITING ACTIVATION
IST395I	%%
IST396I	LNKSTA STATUS CTG GTG ADJNODE ADJSA NETID
IST397I	%%%
IST398I	LOAD OF %%%%%%%% FAILED - %%%%%%%% HAS ZERO ENTRY POINT
IST399E	ISTSDCOS IS NOT A CLASS OF SERVICE TABLE - ISTSDCOS DELETED
IST400I	TERMINATION IN PROGRESS FOR APPLID %%%%%%%%
IST401I	%%%%%%%%%% INITIATED FOR ID = %%%%%%%%
IST403I	%%%%%%%% COMMAND FAILED - MULTIPLE OPTIONS FOR %%%%%%%% NOT ALLOWED
IST404I	%%%%%%%% PARAMETER IGNORED - MULTIPLE OPTIONS NOT ALLOWED
IST407I	MODIFY ATTACH FAILED - %%%%%%%% ALREADY ATTACHED
IST408I	MODIFY DETACH FAILED - %%%%%%%% NOT ATTACHED
IST409I	MODIFY ATTACH FAILED - INSUFFICIENT STORAGE
IST410I	%% BUFFER POOL COULD NOT BE BUILT - CODE %
IST411I	%%%%%%%% COMMAND REJECTED DUE TO TERMINATION IN PROGRESS
IST412I	VTAM COMMAND PROCESSING TERMINATED
IST413I	VTAM DUMPING FOR %%%%%%%%%%%%%%%%%%%%%%%%%%
IST414I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PROCESS UNAVAILABLE
IST422I	I/O ERROR ON DS %%%%%%%% RTN CD = %%, %%
IST423I	UNABLE TO GET STORAGE FOR DS %%%%%%%%
IST424I	CLOSE FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST425I	OPEN FAILED ON DS %%%%%%%% RTN CD = %%, %%
IST430I	%%%%%%%%%% FOR ID = %%%%%%%% DISCARDED
IST431I	%%%%%%%% NOT WITHIN ALLOWABLE RANGE OF VALUES
IST432I	TUNING STATISTICS NOT ACTIVE, SMF NOT IN SYSTEM
IST433I	COMMAND REJECTED - TUNING STATISTICS TASK NOT ATTACHED
IST435I	UNABLE TO RECORD ON SMF FILE, RETURN CODE = %%%%
IST436I	STORAGE NOT AVAILABLE FOR TUNING STATISTICS DATA
IST437I	I/O TRACE TABLE FULL
IST440I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST441I	DLRMAX = %%%%%%%% CHWR = %%%%%%%% CHRD = %%%%%%%%
IST442I	ATTN = %%%%%%%% RDATN = %%%%%%%% IPIU = %%%%%%%%
IST443I	OPIU = %%%%%%%% RDBUF = %%%%%%%% SLODN = %%%%%%%%

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Message Number	Text
IST446I	I/O ERROR %%%, %%%%%%%%%%%%%%%%%%%%%%%%%, %%%%%%%%%%%%
IST447I	BUFFER SIZE WAS IGNORED FOR ONE OR MORE POOLS
IST448I	%%%%%%%% OPTION IGNORED - %%%%%%%%%%%%%%%%%%%%%%
IST449I	%%%%%%%%%%% = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST450I	INVALID %%%%%%%% COMMAND SYNTAX
IST451I	%%%%%%%% COMMAND UNRECOGNIZED
IST452I	%%%%%%%% PARAMETER EXTRANEOUS
IST453I	%%%%%%%% PARAMETER VALUE INVALID
IST454I	%%%%%%%% COMMAND FAILED, INSUFFICIENT STORAGE
IST455I	% SESSIONS ENDED
IST456I	%%%%%%%% REQUIRED PARAMETER OMITTED
IST457I	POSITIVE % COMMAND RESPONSE
IST458I	USS MESSAGE %%% NOT DEFINED
IST459I	%%%%%%%%%% FAILED - ID = %%%%%%%% - ADJ NODE %%%
IST460I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% FAILED: %%
IST461I	%%%%%%%%%% FOR U/RNAME ENTRY ID = %%%%%%%% STARTED
IST462I	ACTIVATION OF LINK STATION %%%%%%%% IS DEFERRED PENDING HIGHER LEVEL NODE ACTIVATION
IST464I	LINK STATION %%%%%%%% HAS CONTACTED %%%%%%%% SA %%%%%%%%%%
IST465I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NO %%%% STATION AVAILABLE
IST466I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - UNABLE TO DO %%
IST467I	CONTACTED ERROR TYPE %%% FOR ID = %%%%%%%%
IST468I	XID1=%%%
IST469I	%%
IST470I	XID2=%%%
IST471I	%%
IST473I	CONNECTIVITY TEST TO %%%%%%%% TERMINATED AFTER %%% ECHOES DUE TO I/O ERROR, SENSE = %%%%%%%%
IST474I	NO SUBTASK FOUND FOR THE ID SPECIFIED ON MODIFY MSG COMMAND
IST475I	%%%%%%%% FAILED FOR %%%%%%%% REQUEST %%%%%%%%%% SENSE %%%%%%%%
IST476I	CDRM TYPE = %%%%%%%%%%%%%%%%%%%%%%%%
IST477I	CDRMS:
IST478I	CDRSCS:
IST479I	CDRM NAME = %%%%%%%%, VERIFY OWNER = %%%
IST482I	%%%%%%%% %%%%%, SA %%%%%%%%%%, EL %%%%%, NETID = %%%%%%%%
IST483I	%%%%%%%% %%%%%%%%%%, CDRM = %%%%%%%%, NETID = %%%%%%%%
IST484I	SUBAREA = %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%
IST486I	CURRENT STATE = %%%%%%%%%%, DESIRED STATE = %%%%%
IST487I	%%%%%%%%%% FOR ID = %%%%%%%% SCHEDULED BY %%%%%%%%%%
IST488I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - DUPLICATE NODE: %%%%%%%%
IST489I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - CANNOT DEFINE NODE: %%%%%%%%
IST490I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - %%%%%%%%%% IN PROGRESS

Message Number	Text
IST493I	%%%%%%%%% FOR ID = %%%%%%% OVERRIDDEN BY %%%%%%%%
IST494I	%%%%%%%%% FOR ID = %%%%%%% FAILED - ALREADY IN DESIRED STATE
IST495I	%%%%%%%%% HAS BEEN SET TO %%%%%%%
IST496E	%%%%%%%%%%%%%%%%%%%%%%% FUNCTION INOPERATIVE DUE TO ABEND
IST499I	DISK FUNCTIONS FOR %%%%%%% NOT PERFORMED
IST500I	NO TRFILE AVAILABLE - WRAP-MODE TRACE ONLY
IST501I	ATTACH OF TRACE I/O SUBTASK FAILED
IST502A	OPTION TO REPLACE TRFILE TAPE ON SYS001
IST503I	TRACE FILE UNUSABLE - CONTINUING IN WRAP-MODE
IST504I	VTAM TRACE SUBTASK STARTED
IST505I	VTAM TRACE SUBTASK ENDED
IST506I	%%%% TRACE RECORDS LOST DURING %%%%%%%
IST507I	%%%%%%% NOT ACTIVE, TSO TRACE REQUEST IGNORED
IST510I	ROUTE TEST %%% FAILED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST511I	TRACE REQUEST FAILED - %%%%%%% INVALID
IST512I	TRACE TERMINATED FOR NODE = %%%%%%%
IST513I	TRACE INITIATED FOR NODE %%%%%%%
IST516I	DESTSUB ADJSUB ER ER STATUS VR(S)
IST517I	%%%%%%%%% %%%%%%%%% %% %%%%%% %%%%%%%%%%%%%%%%%%%%
IST518I	%%%%%%%%%%%%%%%%%%%%
IST520I	UNABLE TO PROCESS %%
IST521I	GBIND %%%%%% FOR COS %%%%%%% %%%%%%%%%%%%%%%%%%%%
IST522I	%%%% %%%%% %%%%%%% SA %%%%%%%%% TO SA %%%%%%%%% %%%%%%%
IST523I	REASON = %%%
IST524I	REVERSE ER MASK = %%%%
IST525I	REJECTING SA %%%%%%%%% USING TG %%% ADJACENT SA %%%%%%%%%
IST526I	ROUTE FAILED FROM %%%%%%%%% TO %%%%%%%%% - DSA %%%%%%%%% - NETID %%%%%%%
IST528I	VIRTUAL ROUTE NUMBER %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST529I	VR SELECTION EXIT %%%%%%%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%
IST530I	%%%%%%%%% PENDING %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST531I	%%
IST532I	EVENT CODE = %%%% EVENT ID = %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST533I	ER %% %%%%%%%% IN ROUTE TEST %%%
IST534I	%%%%%%%%% %%% %%%%%%%%% %%%%%%%%% %%%
IST535I	ROUTE DISPLAY %%% FROM SA %%%%%%%%% TO SA %%%%%%%%%
IST536I	VR TP STATUS ER ADJSUB STATUS
IST537I	%% %% %%%%%% %% %%%%%%%%% %%%%%%
IST538I	ROUTE TEST %%% IN PROGRESS
IST539I	DISPLAY ROUTE COMMAND FAILED, COS CANNOT BE RESOLVED
IST540I	DISPLAY ROUTE COMMAND FAILED, SENSE = %%%%%%%
IST541I	FOLLOWING PATH DEFINITION IS IGNORED
IST542I	INVALID DESTSA %%%%%%%%% FOR PATH DEFINITION - IGNORED
IST543I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% IS REDEFINED AS FOLLOWS
IST544I	PATH %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

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Message Number	Text
IST546I	UNABLE TO PROCESS %%
IST547I	EXPLICIT ROUTE MASK %%%%
IST548I	%%%%%%%%%% FAILED %%
IST549I	LL2 TEST FOR ID = %%%%%%%% ENDED %%%%%%%%%%%%%%%%%%%%%%%%
IST561I	STORAGE UNAVAILABLE: %% BUFFER POOL
IST562I	STORAGE UNAVAILABLE: %%%%%%%%%% REACHED
IST563I	STORAGE UNAVAILABLE: MAXPVT REACHED FOR %%%%%%%% %%%%%%%%
IST564I	STORAGE UNAVAILABLE: COMMON AREA SUBPOOL %%%
IST565I	STORAGE UNAVAILABLE: VTAM PRIVATE AREA SUBPOOL %%%
IST566I	STORAGE UNAVAILABLE: %%%%%%%% %%%%%%%% SUBPOOL %%%
IST567I	%%%%%%%%%% OF %%%%%%%% FOR %%%%%%%% %%%%%%%%%%%%
IST571I	LOAD FAILED FOR ID = %%%%%%%% REQ: %%%%%%%%%%, SENSE: %%%%%%%%
IST572I	REJECTING TG ADJACENT ER MASK
IST573I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST574E	START I/O TIMEOUT OCCURRED FOR %%%%%%%%
IST576I	TSO TRACE = %%%
IST577I	TIME = %%%%%%%% DATE = %%%%% ID = %%%%%%%%
IST578I	CHNRM = %%%%%%%% CHMAX = %%%%%%%% RDBUF = %%%%%%%%
IST579I	ATTN = %%%%%%%% TIMERS = %%%%%%%% QDPTH = %%%%%%%%
IST580I	BUFCAP = %%%%%%%% PRI = %%%%%%%% SLODN = %%%%%%%%
IST581I	IPIU = %%%%%%%% OPIU = %%%%%%%% DLRMAX = %%%%%%%%
IST582I	'EVERY' INVALID FOR TRACE OF ID = %%%%%%%% - OPERAND IGNORED
IST583I	CONFIG %%%%%%%% NOT PROCESSED - SYSDEF TASK NOT ATTACHED
IST585E	VTAM UNABLE TO CLOSE %%%%%%%% - RESOURCES MAY BE LOST TO VTAM
IST587I	IRN STORAGE %%%%%%%% CAUSED BY SLOWDOWN OF NODE %%%%%%%%
IST588I	SIT TRACE STATUS = %%%%%
IST589I	ERROR FOR ID = %%%%%%%%, CODE = %, NET = %%%%%%%%
IST590I	CONNECT%%% %%%%%%%%%% FOR PU %%%%%%%% ON LINE %%%%%%%%
IST591E	VTAM COMMAND CANCELED DUE TO VTAM TASK ABEND - %%% - RETRY COMMAND
IST592I	VTAM MAIN TASK ABEND - CODE %%% - VTAM IS BEING TERMINATED
IST593I	ISTPDCLU %%%%%%%%%%%%%%%% SESSION ENDED
IST594I	ISTPDCLU %%%%%%%%% FAILED %%% %%%
IST595I	IRNLIMIT = %%%%%%%%, CURRENT = %%%%%%%%, MAXIMUM = %%%%%%%%
IST596I	IRN TRACE = %%%
IST597I	CAPABILITY-PLU %%%%%%%%%,SLU %%%%%%%%%,SESSION LIMIT %%%%%%%%
IST599I	REAL NAME = %%%%%%%%%%%%%%%%%%
IST602I	%%%%%%%% FAILED ID = %%%%%%%% - HIGHER NODE HAS BECOME INACTIVE
IST605I	ERROR FOR ID = %%%%%%%% - %%%%%%%% : %%%%%%%%%%, DATA INVALID FOR THIS NODE
IST607I	%%%%%%%%%% FOR %%%%%%%%%%%%%%%% FAILED - INVALID NODE TYPE OR STATE
IST608I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - HIGHER NODE: %%%%%%%% NOT ACTIVE
IST610I	LINE %%%%%%%% - STATUS %%%%%%%%%%
IST611I	ADJACENT SSCP TABLE FOR %%%%%%%% %%%%%%%%%%
IST617I	DEACTIVATION IN PROGRESS FOR %%%%%%%%
IST619I	ID = %%%%%%%% FAILED - RECOVERY IN PROGRESS

Message Number	Text
IST621I	%%%%%%%%%%%%%%%%%%%%%% FOR NETWORK NODE %%%%%%%%
IST623I	DEFAULT ADJACENT SSCP TABLE %%%%%%%%%%%%
IST624I	%%%%%%%%
IST627I	%%%%%%%% - INSUFFICIENT STORAGE
IST634I	NAME STATUS SID SEND RECV VR TP NETID
IST635I	%%%
IST636I	CDRSCS OWNED BY %%%%%%%% -
IST637I	SUBAREA=%%%%%%%%%% ELEMENT=%%%%%
IST638I	ADJNETSA = %%%%%%%%%%, ADJNETEL = %%%%%
IST639I	GWN = %%%%%%%%, ADJNET = %%%%%%%%
IST640I	%%%%%%%% ADDR IN ADJNET - SA = %%%%%%%%%%, EL = %%%%%
IST641I	GATEWAY PATH SELECTION LIST -
IST642I	ADJNET GWN SUBAREA ELEM ADJNETSA ADJNETEL
IST643I	%%%%%%%% %%%%%%%% %%%%%%%%%% %%%%% %%%%%%%%%% %%%%%
IST644I	%%%%%%%% TG %%%%%%%% %%%%%%%%
IST645I	%%%%%%%% DEFINITION FAILED - NO VALID %%%%%%%% MACRO
IST650I	POLL = %%%, NEGPOLL = %%%, SESSION(S) = %%%
IST652I	%%%% = IS A DUPLICATE KEYWORD WITHIN THE TRACE/NOTRACE OPTION
IST654I	I/O TRACE = %%%, BUFFER TRACE = %%%
IST655I	%%%% TRACE STATUS = %%%%%
IST656I	ACTIVATE REJECTED FROM UNDEFINED CDRM, SA %%%%%%%%%% EL %%%%%
IST658I	%%%%%%%% COMMAND FAILED - %%%%%%%% NOT FOUND
IST660I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - PARM: %%%%%%%%%%%%%%% NOT VALID
IST663I	%%%%%%%%%% REQUEST %%%%%%%%%%%%%%%%%%%%%%, SENSE=%%%%%%%%
IST664I	%%%%% %%%=%%%%%%%%%%%%%%%%%% %%%%% %%%=%%%%%%%%%%%%%%%%%%
IST670I	VARY %%%% PROCESSING FOR ID = %%%%%%%% COMPLETE
IST674I	%%%%%%%%%% FOR ID = %%%%%%%% CONTINUES - PARM: %%%%%%%%%%%%%%% IGNORED
IST675I	VR = %%, TP = %%
IST678I	%%%%%%%% SUBTASK END NOT SCHEDULED, INSUFFICIENT STORAGE
IST679A	PLEASE DIAL LINE = %%%%%%%%, NUMBER = %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST680I	CONNECTION REQUEST DENIED - ID = %%%%%%%% %%%%%%%%%%%%%%%%%%
IST683I	CONNECTION REQUEST DENIED, ID = %%%%%%%%
IST684I	I/O ERR, CSW = %%%%%%%%%%%%%%%%, SENSE = %%%%
IST688I	VARY FAILED FOR ID = %%%%%%%% - INSUFFICIENT STORAGE
IST690I	CONNECTION REQUEST DENIED - INVALID STATION ID = %%%%%%%%%%%%
IST693I	UNABLE TO DISCONNECT ID = %%%%%%%%
IST700I	INVALID %%%%% - SKIPPING TO NEXT NETWORK STMT OR EOF
IST701I	CONFIG %%%%%%%% LABEL = %%%%%%%% STMT TYPE = %%%%%%%%
IST702I	CONFIG %%%%%%%% - UNEXPECTED %%%%%%%%%%%%%%%%%%%%%%
IST703I	CONFIG %%%%%%%% ADJSSCP DEFINITIONS IGNORED - NO ADJCDRM STMT
IST706I	ADJSSCP TABLE FOR %%%%%%%% IGNORED - INSUFFICIENT STORAGE
IST707I	ADJSSCP TABLE BEING MODIFIED BY ACTIVATION OF %%%%%%%%
IST708I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%
IST709I	CONFIG %%%%%%%% FAILED - NO VALID BUILD OR NETWORK MACRO

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Message Number	Text
IST710I	CONFIG = %%%%%%%% NETWORK = %%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST712I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - MISSING OPERANDS
IST713I	CONFIG %%%%%%%% GWPATH %%%%%%%% - %%%%%%%% OPERAND IGNORED
IST714I	CONFIG %%%%%%%% GWPATH %%%%%%%% IGNORED - INVALID STMT
IST715I	CONFIG %%%%%%%% CDRM %%%%%%%% IGNORED - GWPATH STMT MISSING
IST716I	%%%%%%%%%% FOR %%%%%%%% FAILED
IST717I	NETID %%%%%%%% ID %%%%%%%% SA %%%%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
IST718I	ADDRESS INVALID FOR NETID=%%%%%%%% CDRM=%%%%%%%% CODE=X'%%'
IST719I	%%%
IST720I	%%%%%%%% HAS CONTACTED %%%%%%%% IN %%%%%%%%, SA %%%%%%%%%%
IST721I	SESSION SETUP FOR CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST723I	SSCPID %%%%%%%%%%%% ALREADY IN USE BY CDRM %%%%%%%%
IST725I	GWN %%%%%%%%, SUBAREA %%%%%%%%%%, CDRM ALIAS ELEMENT %%%%%
IST726I	ADJNET %%%%%%%%, ADJNETSA %%%%%%%%%%, ADJNETEL %%%%%
IST727I	COMMUNICATION WITH CDRM %%%%%%%% LOST - REASON = X'%%'
IST728I	GWPATHS FOR GWN %%%%%%%% ARE NOW %%%%%%%% FOR THESE CDRMS
IST732I	%%%%%%%%%% REJECTED DUE TO %%%%%%%%%%%%%%%%%%%%
IST734I	ACTIVATION OF CDRM %%%%%%%% USING GWN %%%%%%%% FAILED
IST735I	NO ADDRESS TRANSFORMS - REQACTCDRM SENT
IST737I	DEFAULT VR LIST USED FOR CDRM %%%%%%%% USING GWN %%%%%%%%
IST740I	UNABLE TO FREE ALIAS ADDRESSES FOR CDRM %%%%%%%% GWN %%%%%%%%
IST742I	ACTIVATION OF CDRM %%%%%%%% %%%%%% - GWN PATH NOT AVAILABLE
IST744I	CROSS-NETWORK SESSION SETUP FAILED, NETWORK = %%%%%%%%
IST745I	ACTCDRM TO CDRM = %%%%%%%% FAILED, SENSE = %%%%%%%%
IST746I	BIND FAILED FROM %%%%%%%% TO %%%%%%%%, SENSE = %%%%%%%%
IST751I	SIO = %%%%%%%%, ERROR CT = %%%%%%%%, CUA = %%%
IST752I	GPT TRACE STATUS = %%%%%
IST753I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - ID NOT OWNED BY SSCP
IST755I	ALERT FROM PU %%%%%%%% FOLLOWS
IST756E	ALERT FROM PU %%%%%%%% FOLLOWS
IST757E	MOSS UNAVAILABLE - HARDWARE ERROR
IST758E	MOSS RELOADED - HARDWARE ERROR
IST759E	MOSS DISKETTE UNUSABLE
IST760E	MOSS DISKETTE HARDWARE ERROR
IST761E	MOSS CONSOLE UNAVAILABLE
IST762I	MOSS IN MAINTENANCE MODE
IST763I	PHYSICAL UNIT RELOADED - HARDWARE ERROR
IST764I	PHYSICAL UNIT RELOADED - PRIOR ABEND CODE WAS %%%%%%%%
IST765E	CHANNEL ADAPTER %%%%%%%% UNAVAILABLE - HARDWARE ERROR
IST766I	DUMP FAILED - NO %%%% DUMP ON %%%%%%%% DISK(ETTE)
IST767E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE ERROR
IST768E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - HARDWARE ERROR
IST769E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE ERROR
IST770E	SCANNER %%%%%%%% (%%%%%%%%-%%%%%%%%) UNAVAILABLE - SOFTWARE ERROR

Message Number	Text
IST771E	SCANNER %%%%%%%% LINE %%%%%%%% UNAVAILABLE - HARDWARE ERROR
IST772I	UAC = %% %%
IST773I	SESSION WITH %%%%%%%% IN PROCESS OF BEING TERMINATED
IST778I	%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST784I	SESSION(S) EXIST(S) WITH UNKNOWN PARTNER
IST786I	%%%%%%%% COMMAND REJECTED - %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST787I	SSCP TAKEOVER FOR NODE %%%%%%%% IN PROGRESS
IST788I	MODIFY ATTACH FAILED - SUBTASK LIMIT EXCEEDED
IST789I	%%%%%%%%%% FAILED FOR ID = %%%%%%%%, CA / NCP CONFLICT
IST790I	MAXIMUM %%%%% USED = %%%%%%%K
IST792I	NO SUCH SESSION EXISTS
IST793E	SESSION MANAGEMENT ERROR, CODE %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST794I	VTAM START REJECTED - CANNOT LOAD %%%%%%%%
IST796I	HOSTSA VALUE EXCEEDS MAXSUBA
IST797I	FROM VIA ADJACENT DEST ER LENGTH
IST798I	%%%%%%%%
IST799I	%%%%%%%%%%%%%%% %%%% IN PROGRESS
IST803I	VTAM TERMINATION TASK TERMINATED-OPEN FAILED
IST804I	CLOSE IN PROGRESS FOR %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
IST805I	VTAM CLOSE COMPLETE FOR %%%%%%%%
IST806I	ABEND CLOSE IN PROGRESS - %%%%%%%% OPENED BY %%%%%%%% %%%%%%%%
IST807I	%%%%%%%%%% FOR ID = %%%%%%%% FAILED - NODE IS IN TEST MODE
IST808I	ORIGIN PU = %%%%%%%% DEST PU = %%%%%%%% %%%%%%%%%%%%%%%%
IST809I	XRF SESSIONS - PRIMARY = %%%%% BACKUP = %%%%%
IST810I	NAME = %%%%%%%%, VALUE = %%%%%%%%
IST811I	USERVAR(S)
IST812I	%%%%%%%% COMMAND NOT ACCEPTED
IST813I	USERVAR %%%%%%%% CHANGED FROM %%%%%%%% TO %%%%%%%%
IST814I	USERVAR %%%%%%%% DELETED
IST815I	AUTOMATIC RECOVERY IS SUPPORTED
IST816I	%%%%%%%%%% %%% %%%%%%%%% %%%%
IST819I	CDRM %%%%%%%% COMMUNICATION LOST - RECOVERY IN PROGRESS
IST820I	%%%%% RSP DATA DISCARDED FOR ID = %%%%%%%% - INSUFF STORAGE
IST821I	SUBTASK %%%%%%%% TERMINATED, COMPLETION CODE %%%%%%
IST822I	CDRM %%%%%%%% RECOVERY FAILED - INSUFFICIENT STORAGE
IST823I	X.25 NETWORK ERROR %%%%, %%%%, %%%
IST824I	X.25 INCOMING CALL REJECTED - %%%, %%%
IST825I	USERVAR DEFINED - NAME = %%%%%%%%, VALUE = %%%%%%%%
IST826I	VTAM START REJECTED--START COMMAND NOT USED FOR VTAM INITIALIZATION
IST830I	ORIGINATING SSCP NAME = %%%%%%%%, NETID = %%%%%%%%
IST831I	DUPLICATE ADJCDRM NAME %%%%%%%% IN %%%%%%%%
IST832I	UNLABELED %%%%%%%% STMT IN %%%%%%%%
IST833I	SKIPPING TO NEXT %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST834I	%%%% BACKUP SESSION(S) EXIST(S) WITH UNKNOWN PARTNERS

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Message Number	Text
IST835I	%%%%%%%% COMMAND FAILED - NO USERVARS DEFINED
IST836I	X.25 NETWORK RESTART/RESET/CLEAR %%%%, %%%%, %%%%, %%%
IST837I	X.25 DEFINITION ERROR %%%%, %%%
IST838I	TRACE STATUS DISPLAY FOR ID = %%%%%%%%
IST839I	PU NAME LINE NAME
IST840I	%%%%%%%% %%%%%%%%
IST841I	NO RESOURCES ARE BEING TRACED FOR %%%%%%%%
IST842I	UNABLE TO FIND BUFFERS IN %% POOL - DUMP IN PROGRESS
IST844I	VTAM START REJECTED - %%%%%%%% IS DUPLICATE NAME
IST845I	X.25 DIAGNOSTIC PACKET %%%%, %%%
IST846I	REAL I/O NOT SUPPORTED BECAUSE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST849I	%%%%%%%% INCONSISTENT WITH USE OF %%%%%%%% IN %%%%%%%%
IST860I	DEACTIVATION OF %%%%%%%% INCOMPLETE - INSUFFICIENT STORAGE
IST861I	MODETAB=%%%%%%%% USSTAB=%%%%%%%% LOGTAB=%%%%%%%%
IST862I	NETID = %%%%%%%% COSTABLE = %%%%%%%%%%%%%%%%%%
IST863I	MODIFY TABLE COMMAND FAILED-%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST864I	NEWTAB=%%%%%%%%, OLDTAB=%%%%%%%%, OPT=%%%%%%%%, TYPE=%%%%%%%
IST865I	%%%%%%%%%%%% COMMAND COMPLETE-%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST866I	%%%%%%%% HAD NO EFFECT - %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST867I	SIT TRACE FOR %%%%%%%% FAILED TO ACTIVATE
IST868I	%%%%%%%% LU UNKNOWN TO VTAM - DUMMY LU DEFINED
IST869I	USERID = %%%%%%%%
IST870I	NETWORK ADDRESS RECEIVED FOR %%%%%%%% IN USE BY %%%%%%%%
IST871I	RESOURCE %%%%%%%% %%%%%%%%%%
IST872I	DR MOVE MISMATCH DETECTED FOR %%%%%%%%
IST873I	PLU SLU SID STATUS
IST874I	%%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% %%%%%%%%
IST875I	ADJSSCP TOWARDS %%% = %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST876I	SIGNALS NEEDED TO COMPLETE SESSION %%%%%%%%
IST877I	%%%%%%%%%%%%%%% %%%%%%%%%%%%%%% %%%%%%%%%%%%%%% %%%%%%%%%%%%%%%
IST878I	NUMBER OF %%%%%%% SESSIONS = %%%%%%%%%%
IST879I	%%%%%%% REAL = %%%%%%%%%%%%%%%%%% ALIAS = %%%%%%%%%%%%%%%%%%
IST880I	SETUP STATUS = %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST881I	%%%%%%%%%%%%%%%%%% LINK STATION %%%%%%%%
IST882I	WAITING FOR DEVICE END FROM DEVICE
IST883I	%%%%%%%%% OF SAW BUFFERS USED %%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST886I	%%%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%%% %%%%%%%%%%%% FAILED
IST887I	NO COS TABLE FOR %%%%%%%% - %%%%%%%%%%%%%%%% MAY BE USED
IST888I	ADDR + LENGTH VALUES EXCEED STORAGE - LENGTH SET TO %%%
IST889I	SID = %%%%%%%%%%%%%%%%
IST890I	AUTOLOGON SESSION SETUP FAILED
IST891I	%%%%%%%%%%%%%%%%%%%%%%%%%% GENERATED FAILURE NOTIFICATION
IST892I	%%%%%%%%%%%%%%%%%% ORIGINATED FAILURE NOTIFICATION
IST893I	ORIGINAL FAILING REQUEST IS %%%%%%%%%%

Message Number	Text
IST894I	ADJSSCPS TRIED FAILURE SENSE ADJSSCPS TRIED FAILURE SENSE
IST895I	%%%%%%%% %%%%%%%% %%%%%%%% %%%%%%%%
IST896I	AUTOLOGON WILL BE RETRIED WHEN CONTROLLING PLU IS AVAILABLE
IST897I	LOAD OF %%%%%%%% STARTED
IST899I	RETRY OF AUTOLOGON(S) TO %%%%%%%%%%%%%%%% %%%%%%%%%%%%%
IST900I	TRACE PRINT UTILITY STARTED
IST901A	'PRINT' OR 'CANCEL' MISSING - REENTER LINE
IST902A	INVALID PRINT OPTION - REENTER LINE
IST903A	INVALID PRINT NODENAME - REENTER LINE
IST904A	MAXIMUM OF 50 NODENAMES - ENTER ADDITIONAL OPTIONS
IST905A	ENTER TRACE PRINT OPTIONS OR 'CANCEL'
IST906A	ENTER ADDITIONAL OPTIONS OR 'CANCEL'
IST907A	SNAPSHOT MODE TPRINT? ENTER Y OR N
IST908A	OFFLINE MODE TPRINT? ENTER Y OR N
IST909A	INVALID INTERVAL SPECIFIED - REENTER LINE
IST910I	TRACE PRINT UTILITY ENDED
IST911I	TPRINT CANCELLED - INVALID SYS004 ASSIGNMENT
IST912I	TPRINT CANCELLED - VTAM TERMINATION IN PROGRESS
IST913I	TPRINT CANCELLED - ALREADY IN PROGRESS
IST914I	TPRINT EDITING OFFLINE FILE ON SYS004
IST915I	TRACE RECORDING SUSPENDED FOR ONLINE TPRINT
IST916I	SNAPSHOT TPRINT PROCEEDING - NO FILE PROVIDED
IST917I	RECORDS MISSING ON TRACE FILE
IST918A	INVALID CLEAR OPTION - REENTER LINE
IST919I	NODE %%%%%%%% NO LONGER HAS CONTROLLING LU %%%%%%%%
IST920I	%%%% % % BUFF SIZE %%%%% EXP INCREMENT %%%%%
IST921I	TIMES EXP %%%%%%%%%% EXP/CONT THRESH %%%%%/%%%%%
IST922I	CURR TOTAL %%%%%%%%%% CURR AVAILABLE %%%%%%%%%%
IST923I	MAX TOTAL %%%%%%%%%% MAX USED %%%%%%%%%%
IST924I	----------
IST925I	DYNAMIC PATH DEFINITION %%%%%%%% STATUS = %%%%%
IST926I	PATH FOR %%%%%%%% IGNORED - NODE %%%%%%%% NOT FOUND/INVALID
IST927I	ERROR FOR %%%%%%%%%%%%%%%% DSA %%%%%%%%%% %%%%%%%%%%%%%%%% CODE %%
IST928I	DELETER KEYWORD FOR %%%%%%%% IGNORED
IST929I	LOAD OF DYNAMIC PATH DEFINITION %%%%%%%%%%%%%%%% COMPLETE
IST930I	%%%%%%%%%%%%%%%% - %%%%%%%%%%%%%%%% SESSION USING %%%% OF %%BUF
IST932E	FAILURE OCCURRED DURING TAKEOVER OF %%%%%%%%, SENSE=%%%%%%%%
IST933I	LOGMODE=%%%%%%%%, COS=%%%%%%%% %%%%%%%%%%
IST934I	DLOGMOD=%%%%%%%%
IST935I	ORIGIN=%%%%%%%%, NETID=%%%%%%%%, ID=%%%%%%%%
IST936I	ANSWER MODE STATE = %%%%%%%%%%%%%%%%%%%%%%%%
IST937A	%%%%%%%% TIMESTAMP MISMATCH %%%%%%%%%%%%%%%% %%%%%%%%%%%%%%%% REPLY 'YES' TO RELOAD OR 'NO' TOCANCEL ACTIVATION
IST939I	VARY NOLOGON COMMAND HAD NO EFFECT - %%%%%%%% NOT FOUND FOR %%%%%%%%

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Message Number	Text
IST951I	DISPLAY DISK INFORMATION FOR %%%%%%%
IST952I	DUMP NAME DATE TIME
IST953I	%%%%%%% %%%%%%% %%%%%%%
IST954I	LOAD MODULE DATE TIME STORE STATUS %%%%%
IST955I	%%%%%% %%%%%%% %%%%%%% %%%%%%% %%%
IST956I	%%%% SAP=%%% MAC=%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST957I	NO NCP LOAD MODULE OR DUMP ON DISK
IST958I	INBND=%%%%% OUTBND=%%%%% PENDING=%%% ATTN=%%%%% CUA=%%%
IST959I	TIMESTAMP MISMATCH FOR %%%%%% (NCP %%%%%%%)
IST960I	TIMESTAMPS - %%%%%%%%%%%%%% %%%%%%%%%%%%%%
IST961I	LOAD OF %%%%%%% %%%%%%%%%% FAILED
IST962I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
IST963I	LOAD MODULE = %%%%%%
IST965I	AUTO DUMP/LOAD: %%%
IST980I	%%%%%%%%% LINE(S) AND %%%%%%%%% PHYSICAL UNIT(S) %%%%%%%
IST981I	%%%%%%% NOT %%%%%%%%%% - DOES NOT SUPPORT GIVEBACK
IST982I	%%%%%%%%% %%%%%%%%% REQUEST(S) PENDING TO SUBAREA %%%%%%%%%
IST992I	UNABLE TO COMPLETE MESSAGE GROUP - CODE %
IST996I	%%% %%%%%%% %%%%%%% PROGCK CODE %%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST997I	%%% %%%%%%% %%%%%%% CANCEL CODE %%%%%%%%%%%% %%%%%%%%%%%%%%%%%%%%
IST998E	VTAM MESSAGE %%%% ISSUED BUT DOES NOT EXIST
IST999E	VTAM MESSAGE LOST - INSUFFICIENT STORAGE

VM VSCS Message Differences for Version 3 Release 1.1

This section lists the message numbers of all VSCS messages that have been added since Version 3 Release 1 of VTAM.

If a message is **new**, the message has been added in V3R1.1.

If a message is **modified**, the message text or message number has been changed since V3R1.

If the message is **deleted**, the message existed in V3R1 but does not exist in V3R1.1.

Also listed is the text of all messages as they appear for VSCS in V3R1.1. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

Change	Message Number
New	DTIS01I DTIS02I DTIS03I DTIS04I DTIS05I DTIS06I DTIS51I DTIS52I DTIS53I DTIS54I DTIS60I DTIS61I DTIS62I DTIS63I DTIS64I DTIS65I DTIS66I DTIS67I DTIS68I DTIS69I DTIS70I
Modified	None
Deleted	None

Message Number	Text
DTIC00I	INVALID MESSAGE ID ISSUED, ID=%%%, ADDRESS OF ISSUING MODULE = %%%%%%%%
DTIC01I	%%%%%%%% VSCS IUCV INITIALIZATION IS IN PROGRESS
DTIC02I	%%%%%%%% VSCS IUCV INITIALIZATION COMPLETE
DTIC03I	%%%%%%%% VSCS INITIALIZATION FAILED--INSUFFICIENT STORAGE AVAILABLE
DTIC04I	%%%%%%%% VSCS INITIALIZATION FAILED--UNRECOVERABLE ERROR DETECTED %%%%%%%%%%%%%%
DTIC05I	%%%%%%%% VSCS INITIALIZATION FAILED--IUCVINI SET MACRO FAILED WITH RETURN CODE %%%%%%%%%%%%
DTIC06I	%%%%%%%% VSCS SEND OF VTAM USERID TO CCS FAILED
DTIC07I	%%%%%%%% VSCS INITIALIZATION FAILED --GLOBAL CONNECT FAILURE , IPTYPE= %%
DTIC08I	%%%%%%%% VSCS IUCV TERMINATION IN PROGRESS
DTIC09I	%%%%%%%% IUCV GLOBAL CONNECT FAILURE, RETURN CODE %%%%%%%%%%%%
DTIC10I	%%%%%%%% UNEXPECTED MESSAGE RECEIVED FROM CCS - REQUEST TYPE = %% - REQUEST IGNORED.
DTIC12I	%%%%%%%% IUCVINI CLR MACRO FAILED WITH RETURN CODE = %%%%%%%%%%%%
DTII03I	DTIITASK COMMUNICATION SERVICES INITIALIZATION FAILED. VSCS TERMINATING.
DTII04I	DTIITASK ATTACH FAILED FOR %%%%%%%% VSCS TERMINATING
DTII06I	DTIITASK IDENTIFY FAILED FOR %%%%%%%% RETURN CODE = %%
DTII07I	USING INITIALIZATION PARAMETERS IN CSECT %%%%%%%%

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Message Number	Text
DTII08I	INITIALIZATION CSECT %%%%%%% NOT FOUND OR INVALID
DTII09I	INVALID INITIALIZATION START PARAMETER
DTII10I	DEFAULT INITIALIZATION PARAMETERS BEING USED
DTII12I	%%%%%%% VSCS TERMINATION COMPLETE
DTII13I	%%%%%%% NORMAL TERMINATION OF VSCS HAS BEEN INITIATED BY %%%%%%%
DTII14I	%%%%%%% ABNORMAL TERMINATION OF VSCS IS IN PROGRESS INITIATED BY %%%%%%%
DTIP01I	%%%%%%% IUCV REPLY ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIP02I	%%%%%%% IUCV SEND ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIP03I	%%%%%%% IUCV CONNECT FAILURE, IUCV RETURN CODE = %%%%%%%%%%%
DTIP10I	%%%%%%% INCORRECT VTAM BIND DEFINITION FOR %%%%%%% -SESSION CONTINUES
DTIP14I	%%%%%%% LOGICAL UNIT %%%%%%% CONNECTION REJECTED BY CCS, RC = %%
DTIP15I	%%%%%%% IUCV RECEIVE FAILURE, IUCV RETURN CODE = %%%%%%%%%%%
DTIP16I	%%%%%%% AN UNSUPPORTED IUCV EXTERNAL INTERRUPT CODE RECEIVED, CODE = %%
DTIP17I	%%%%%%% BREAK EXPECTED FOR LU %%%%%%% NOT RECEIVED, PURGE INITIATED.
DTIP18I	%%%%%%% QUERY REPLY RECEIVED FROM LU %%%%%%% IS OUT OF SEQUENCE. LOGON TERMINATED
DTIP20I	MSG FROM VSCS: PLEASE LOGOFF NOW. HALT IS IN PROGRESS FOR ACF/VTAM.
DTIP21I	%%%%%%% PURGE INITIATED FOR LOGICAL UNIT %%%%%%% BY %%%%
DTIP22I	%%%%%%% LOGICAL UNIT PURGE FAILED FOR %%%%%%%
DTIP25I	%%%%%%% PRINTER REQUEST FAILED FOR %%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%
DTIP26I	DTIPSSNO HAS BEEN CALLED BY %%%%%%%
DTIS01I	DTISLCMD IUCV REPLY ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIS02I	DTISLCMD IUCV SEND ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIS03I	DTISLCMD IUCV CONNECT ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIS10I	%%%%%%% GETMAIN REQUEST FAILED
DTIS13I	%%%%%%% GETMAIN REQUEST SUCCESSFUL
DTIS25I	UNABLE TO GET STORAGE FOR TRACE TABLE. TURNING TRACE OFF
DTIS31I	%%%%%%% DUMP REQUEST FOR MODULE %%%%%%% HAS BEEN PROCESSED, DUMP ID NUMBER = %%
DTIS32I	%%%%%%% VSCS RECOVERY ENVIRONMENT NOT ESTABLISHED FOR - %%%% %%%%% RETURN CODE = %%%%%%%
DTIS34I	%%%%%%% DUMP REQUESTED BY %%%%%%% FAILED RETURN CODE = %%
DTIS35I	%%%%%%% UTILITY TASK ABEND - VSCS PROCESSING CONTINUES
DTIS36I	%%%%%%% CONNECTION FOR LOGICAL UNIT %%%%%%% BEING PURGED BECAUSE OF ABEND
DTIS38I	%%%%%%% VSCS ABEND FOR %% TASK - SYSTEM COMPLETION CODE = %%%%
DTIS39I	%%%%%%% VSCS ATTEMPTING ABEND RECOVERY
DTIS45I	%%%%%%% UTILITY TASK PROGRAM CHECK - VSCS PROCESSING CONTINUES
DTIS46I	%%%%%%% CONNECTION FOR LOGICAL UNIT %%%%%%% BEING PURGED BECAUSE OF PROGRAM CHECK
DTIS48I	%%%%%%% VSCS PROGRAM CHECK FOR %% TASK -- DUMP BEING ATTEMPTED
DTIS51I	FORCE COMMAND ACCEPTED
DTIS52I	FORCE INITIATED FOR %%%%%%% BY OPERATOR
DTIS53I	%%%%%%% FORCE HAS COMPLETED
DTIS54I	%%%%%%% SPECIFIED FOR FORCE COMMAND NOT FOUND
DTIS55I	UNABLE TO INITIATE FORCE FOR %%%%%%% %%%%%%%%%%%%
DTIS60I	DISPLAY COMMAND ACCEPTED
DTIS61I	LU NAME = %%%%%%% DEVICE TYPE = %%%% MODEL = % %%%%%%%

Message Number	Text
DTIS62I	LU TYPE = % DEVICE FEATURES = %%%% APL(%%%) %%%%% %%%%%%
DTIS63I	SCREEN SIZE = %% BY %%% ALTERNATE SIZE = %% BY %%% PACE = %%%%
DTIS64I	LINESIZE = %%% PACE = %%%%
DTIS65I	IUCV PATHIDS %%%% %%%% CURRENT RPL COMMAND = %%%%%%%
DTIS66I	CURRENT STATES: PS = %%% VS = %%%% %%%%%%%%%%
DTIS67I	LOGON TIME = %%:%%:%%
DTIS68I	SEND COUNT = %%%%%%% RECEIVE COUNT = %%%%%%%
DTIS69I	DISPLAY COMMAND REQUEST REJECTED %%%%%%% NOT FOUND
DTIS70I	%%%%%%%% COMMAND SYNTAX ERROR
DTIS71I	VSCS ALREADY ACTIVE, START REJECTED.
DTIS73I	INVALID VSCS COMMAND: %%%%%%%
DTIS74I	TRACE TABLE STARTS AT %%%%%%%, ENDS AT %%%%%%%
DTIS75I	VSCS INTERNAL TRACE TABLE NOT ALLOCATED
DTIS76I	VSCS DUMP PROCESSING IS %%%%%%%
DTIS77I	VSCS COMMAND PROCESSING COMPLETE
DTIS78I	BUFFER DEQUEUE IS IN %%%%%%%%%%%%%%%%%%%
DTIS79I	%%%%%%% REQUEST IGNORED BECAUSE NO OPERAND SPECIFIED
DTIS80I	SELECTIVE TRACE REQUEST IGNORED FOR LOGICAL UNIT %%%%%%%
DTIS81I	ALL VSCS TRACING INACTIVE
DTIS82I	NON-SELECTIVE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% TRACE ACTIVE
DTIS83I	NON-SELECTIVE TRACE INACTIVE
DTIS84I	SELECTIVE TRACE ACTIVE FOR LOGICAL UNIT %%%%%%%
DTIS85I	SELECTIVE TRACE INACTIVE FOR LOGICAL UNIT %%%%%%%
DTIS86I	SELECTIVE TRACE WAS NOT ACTIVE FOR LOGICAL UNIT %%%%%%%
DTIS87I	SELECTIVE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% TRACE ACTIVE FOR %%%%%%%%%% LU(S)
DTIS88I	VSCS HALT/QUIT COMMAND IGNORED BECAUSE TERMINATION IS ALREADY IN PROGRESS
DTIS89I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% TRACE INACTIVE
DTIS90I	INVALID COMBINATION OF TRACE OPERANDS: % AND %%%%%%% , COMMAND IGNORED
DTIS91I	LOGICAL UNIT NAME %%%%%%%% TOO LONG, COMMAND IGNORED
DTIS92I	% MUST BE FIRST OPERAND FOR TRACE COMMAND, COMMAND IGNORED
DTIS93I	VSCS EXTERNAL TRACE IS %%%%%%%
DTIS94I	VSCS HAS ENABLED THE GCS EXTERNAL TRACE
DTIS95I	WARNING: CPTRAP MUST BE ENABLED TO ALLOW EXTERNAL TRACING
DTIS96I	%%%%%%%%%% MORE MAY BE ACTIVATED
DTIS99I	INTERNAL VSCS ERROR %%%%%%% %%%%
DTIV01I	%%%%%%% FAILURE FOR %%%%%%% RETURN CODE = %% %%
DTIV03I	%%%%%%% LOGON FOR %%%%%%% FAILED - OPNDST RETURN CODE = %%%% SENSE = %%%% USER SENSE = %%%%
DTIV04I	%%%%%%% VSCS VTAM SERVICES INITIALIZATION COMPLETED
DTIV05I	DTIVRECA ALL RECEIVE RPLS NOW INACTIVE - VSCS TERMINATING
DTIV06I	%%%%%%% VSCS VTAM SERVICES INITIALIZATION FAILED, SHOWCB MACRO ERROR RTN CODES: R15 = %%%%%%% R0 = %%%%%%%
DTIV07I	%%%%%%% VSCS INITIALIZATION FAILED-OPEN ACB FAILURE, ACBERFLG = %%
DTIV08I	%%%%%%% VSCS OPEN ACB FAILURE, ACBERFLG = %% - ATTEMPTING RETRY

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Message Number	Text
DTIV09I	%%%%%%%% VSCS VTAM SERVICES GENCB MACRO FAILURE FOR %%%%%%%% RTN CODES: R15 = %%%%%%%% R0 = %%%%%%%%
DTIV10I	%%%%%%%% LOGON REQUEST FOR LOGICAL UNIT - %%%%%%%% ISSUED
DTIV11I	%%%%%%%% LOGON REQUEST FOR LOGICAL UNIT - %%%%%%%% FAILED %%%%%%%% RETURN CODE = %% %%
DTIV12I	%%%%%%%% LOGON REJECTED FOR %%%%%%%%
DTIV13I	%%%%%%%% INQUIRE FAILURE FOR %%%%%%%% RETURN CODE = %% %% - LOGON REJECTED
DTIV14I	%%%%%%%% VSCS TERMINATION IN PROGRESS. %%%%%%%% LOGON REJECTED
DTIV15I	%%%%%%%% LOGICAL UNIT TYPE OF %%%%%%%% NOT SUPPORTED - LOGON REJECTED
DTIV16I	%%%%%%%% ERROR IN SYNCHRONOUS CLSDST FOR %%%%%%%%, RETURN CODE = %% %%
DTIV17I	%%%%%%%% FAILED NOTIFYING COMMUNICATION SERVICES OF VTAM USERID
DTIV19I	%%%%%%%% INPUT DATA FROM %%%%%%%% EXCEEDS MAXIMUM ALLOWED
DTIV20I	%%%%%%%% CLSDST FAILED FOR LU %%%%%%%% RPLRTNCD = %% RPLFDB2 = %%
DTIV21I	%%%%%%%% VTAM LOSTERM EXIT SCHEDULED WITH UNEXPECTED REASON CODE %%%%%%%%%%
DTIV22I	%%%%%%%% FAILURE TO CLOSE THE ACB, ACBERFLG = %%
DTIV25I	%%%%%%%% PURGE FAILED FOR LOGICAL UNIT %%%%%%%% REQUESTED BY %%%%%%%%
DTIV26I	%%%%%%%% PURGE IN PROGRESS FOR LOGICAL UNIT %%%%%%%% REQUESTED BY %%%%%%%%
DTIV28I	%%%%%%%% PURGE IN PROGRESS FOR LU %%%%%%%% RPLRTNCD %%, RPLFDB2 %% REQUESTED BY %%%%%%%%
DTIV30I	%%%%%%%% UNRECOVERABLE SITUATION HAS OCCURRED FOR LU %%%%%%%% REQUEST IGNORED.

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VM VSCS Message Differences for Version 3 Release 2

This section lists the message numbers of all VSCS messages that have been added or modified since Version 3 Release 1.1 of VTAM.

If a message is **new**, the message has been added in V3R2.

If a message is **modified**, the message text or message number has been changed since V3R1.1.

If the message is **deleted**, the message existed in V3R1.1 but does not exist in V3R2.

Also listed is the text of all messages as they appear for VSCS in V3R2. Within the message text, a percent sign ("%") represents a character (byte) that is reserved for variable information. A count of adjacent percent signs may be used to determine the maximum length of the variable information placed within the message text. For certain messages, after placement of the variable information, suppression of trailing blanks may cause the rest of the message text to shift left.

Change	Message Number
New	DTIS07I DTIS08I DTIS09I DTIS15I DTIS16I DTIS17I DTIS18I DTIS19I DTIS20I DTIS21I DTIS22I
Modified	DTIS65I DTIS99I
Deleted	None

Message Number	Text
DTIC00I	INVALID MESSAGE ID ISSUED, ID=%%%, ADDRESS OF ISSUING MODULE = %%%%%%%%
DTIC01I	%%%%%%%% VSCS IUCV INITIALIZATION IS IN PROGRESS
DTIC02I	%%%%%%%% VSCS IUCV INITIALIZATION COMPLETE
DTIC03I	%%%%%%%% VSCS INITIALIZATION FAILED--INSUFFICIENT STORAGE AVAILABLE
DTIC04I	%%%%%%%% VSCS INITIALIZATION FAILED--UNRECOVERABLE ERROR DETECTED %%%%%%%%%%%%%%
DTIC05I	%%%%%%%% VSCS INITIALIZATION FAILED--IUCVINI SET MACRO FAILED WITH RETURN CODE %%%%%%%%%%%
DTIC06I	%%%%%%%% VSCS SEND OF VTAM USERID TO CCS FAILED
DTIC07I	%%%%%%%% VSCS INITIALIZATION FAILED --GLOBAL CONNECT FAILURE , IPTYPE= %%
DTIC08I	%%%%%%%% VSCS IUCV TERMINATION IN PROGRESS
DTIC09I	%%%%%%%% IUCV GLOBAL CONNECT FAILURE, RETURN CODE %%%%%%%%%%%
DTIC10I	%%%%%%%% UNEXPECTED MESSAGE RECEIVED FROM CCS - REQUEST TYPE = %% - REQUEST IGNORED.
DTIC12I	%%%%%%%% IUCVINI CLR MACRO FAILED WITH RETURN CODE = %%%%%%%%%%%
DTII03I	DTIITASK COMMUNICATION SERVICES INITIALIZATION FAILED. VSCS TERMINATING.
DTII04I	DTIITASK ATTACH FAILED FOR %%%%%%%% VSCS TERMINATING
DTII06I	DTIITASK IDENTIFY FAILED FOR %%%%%%%% RETURN CODE = %%
DTII07I	USING INITIALIZATION PARAMETERS IN CSECT %%%%%%%%
DTII08I	INITIALIZATION CSECT %%%%%%%% NOT FOUND OR INVALID
DTII09I	INVALID INITIALIZATION START PARAMETER

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Message Number	Text
DTII10I	DEFAULT INITIALIZATION PARAMETERS BEING USED
DTII12I	%%%%%%%% VSCS TERMINATION COMPLETE
DTII13I	%%%%%%%% NORMAL TERMINATION OF VSCS HAS BEEN INITIATED BY %%%%%%%%
DTII14I	%%%%%%%% ABNORMAL TERMINATION OF VSCS IS IN PROGRESS INITIATED BY %%%%%%%%
DTIP01I	%%%%%%%% IUCV REPLY ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIP02I	%%%%%%%% IUCV SEND ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIP03I	%%%%%%%% IUCV CONNECT FAILURE, IUCV RETURN CODE = %%%%%%%%%%%
DTIP10I	%%%%%%%% INCORRECT VTAM BIND DEFINITION FOR %%%%%%%% -SESSION CONTINUES
DTIP14I	%%%%%%%% LOGICAL UNIT %%%%%%%% CONNECTION REJECTED BY CCS, RC = %%
DTIP15I	%%%%%%%% IUCV RECEIVE FAILURE, IUCV RETURN CODE = %%%%%%%%%%%
DTIP16I	%%%%%%%% AN UNSUPPORTED IUCV EXTERNAL INTERRUPT CODE RECEIVED, CODE = %%
DTIP17I	%%%%%%%% BREAK EXPECTED FOR LU %%%%%%%% NOT RECEIVED, PURGE INITIATED.
DTIP18I	%%%%%%%% QUERY REPLY RECEIVED FROM LU %%%%%%%% IS OUT OF SEQUENCE. LOGON TERMINATED
DTIP20I	MSG FROM VSCS: PLEASE LOGOFF NOW. HALT IS IN PROGRESS FOR ACF/VTAM.
DTIP21I	%%%%%%%% PURGE INITIATED FOR LOGICAL UNIT %%%%%%%% BY %%%%
DTIP22I	%%%%%%%% LOGICAL UNIT PURGE FAILED FOR %%%%%%%%
DTIP25I	%%%%%%%% PRINTER REQUEST FAILED FOR %%%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%
DTIP26I	DTIPSSNO HAS BEEN CALLED BY %%%%%%%%
DTIS01I	DTISLCMD IUCV REPLY ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIS02I	DTISLCMD IUCV SEND ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIS03I	DTISLCMD IUCV CONNECT ERROR, IUCV RETURN CODE = %%%%%%%%%%%
DTIS07I	DTISLCMD TOO MANY PARAMETERS ON START COMMAND
DTIS08I	DTISLCMD PARM= ONLY VALID START COMMAND PARAMETER
DTIS09I	DTISLCMD INVALID PARM=%. ONLY 0-9 ALLOWED
DTIS10I	%%%%%%%% GETMAIN REQUEST FAILED
DTIS13I	%%%%%%%% GETMAIN REQUEST SUCCESSFUL
DTIS15I	DYNAMIC STORAGE UTILIZATION %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
DTIS16I	RCVBFRL - %%%%%%%% DPXMTL - %%%%%%%% KPXMTL - %%%%%%%%
DTIS17I	RPLNUM - %% VSAMLM - %% VEIBS - %%%%%%%%
DTIS18I	BLKMULT - %% STCHKTM - %%%%%%%% STRELTM - %%%%%%%%
DTIS19I	GETMAIN - %%%%%%%% FREEMAIN - %%%%%%%% SWAP - %%%%%%%%
DTIS20I	VTAMSES - %%%%%%%% CPCONNS - %%%%%%%% CPMAX - %%%%%%%%
DTIS21I	POOL HIGHWATER/VTAMSES CURRENT AVAILABLE
DTIS22I	%% %%%%%%%%/%%%%%%%% %%%%%%%% %%%%%%%%
DTIS25I	UNABLE TO GET STORAGE FOR TRACE TABLE. TURNING TRACE OFF
DTIS31I	%%%%%%%% DUMP REQUEST FOR MODULE %%%%%%%% HAS BEEN PROCESSED, DUMP ID NUMBER = %%
DTIS32I	%%%%%%%% VSCS RECOVERY ENVIRONMENT NOT ESTABLISHED FOR - %%%% %%%%% RETURN CODE = %%%%%%%%
DTIS34I	%%%%%%%% DUMP REQUESTED BY %%%%%%%% FAILED RETURN CODE = %%
DTIS35I	%%%%%%%% UTILITY TASK ABEND - VSCS PROCESSING CONTINUES
DTIS36I	%%%%%%%% CONNECTION FOR LOGICAL UNIT %%%%%%%% BEING PURGED BECAUSE OF ABEND
DTIS38I	%%%%%%%% VSCS ABEND FOR %% TASK - SYSTEM COMPLETION CODE = %%%%
DTIS39I	%%%%%%%% VSCS ATTEMPTING ABEND RECOVERY
DTIS45I	%%%%%%%% UTILITY TASK PROGRAM CHECK - VSCS PROCESSING CONTINUES

Message Number	Text
DTIS46I	%%%%%%%% CONNECTION FOR LOGICAL UNIT %%%%%%%% BEING PURGED BECAUSE OF PROGRAM CHECK
DTIS48I	%%%%%%%% VSCS PROGRAM CHECK FOR %% TASK -- DUMP BEING ATTEMPTED
DTIS51I	FORCE COMMAND ACCEPTED
DTIS52I	FORCE INITIATED FOR %%%%%%%% BY OPERATOR
DTIS53I	%%%%%%%% FORCE HAS COMPLETED
DTIS54I	%%%%%%%% SPECIFIED FOR FORCE COMMAND NOT FOUND
DTIS55I	UNABLE TO INITIATE FORCE FOR %%%%%%%% %%%%%%%%%%%%
DTIS60I	DISPLAY COMMAND ACCEPTED
DTIS61I	LU NAME = %%%%%%%% DEVICE TYPE = %%%% MODEL = % %%%%%%%%
DTIS62I	LU TYPE = % DEVICE FEATURES = %%%% APL(%%%) %%%%% %%%%%%
DTIS63I	SCREEN SIZE = %% BY %%% ALTERNATE SIZE = %% BY %%% PACE = %%%%
DTIS64I	LINESIZE = %%% PACE = %%%%
DTIS65I	IUCV PATHIDS %%%% %%%% CURRENT RPL COMMAND = %%%%%% %%%%
DTIS66I	CURRENT STATES: PS = %%% VS = %%%% %%%%%%%%%%
DTIS67I	LOGON TIME = %%:%%:%%
DTIS68I	SEND COUNT = %%%%%%%% RECEIVE COUNT = %%%%%%%%
DTIS69I	DISPLAY COMMAND REQUEST REJECTED %%%%%%%% NOT FOUND
DTIS70I	%%%%%%%% COMMAND SYNTAX ERROR
DTIS71I	VSCS ALREADY ACTIVE, START REJECTED.
DTIS73I	INVALID VSCS COMMAND: %%%%%%%%
DTIS74I	TRACE TABLE STARTS AT %%%%%%%%, ENDS AT %%%%%%%%
DTIS75I	VSCS INTERNAL TRACE TABLE NOT ALLOCATED
DTIS76I	VSCS DUMP PROCESSING IS %%%%%%%%
DTIS77I	VSCS COMMAND PROCESSING COMPLETE
DTIS78I	BUFFER DEQUEUE IS IN %%%%%%%%%%%%%%%%%%%%
DTIS79I	%%%%%%%% REQUEST IGNORED BECAUSE NO OPERAND SPECIFIED
DTIS80I	SELECTIVE TRACE REQUEST IGNORED FOR LOGICAL UNIT %%%%%%%%
DTIS81I	ALL VSCS TRACING INACTIVE
DTIS82I	NON-SELECTIVE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% TRACE ACTIVE
DTIS83I	NON-SELECTIVE TRACE INACTIVE
DTIS84I	SELECTIVE TRACE ACTIVE FOR LOGICAL UNIT %%%%%%%%
DTIS85I	SELECTIVE TRACE INACTIVE FOR LOGICAL UNIT %%%%%%%%
DTIS86I	SELECTIVE TRACE WAS NOT ACTIVE FOR LOGICAL UNIT %%%%%%%%
DTIS87I	SELECTIVE %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% TRACE ACTIVE FOR %%%%%%%%%% LU(S)
DTIS88I	VSCS HALT/QUIT COMMAND IGNORED BECAUSE TERMINATION IS ALREADY IN PROGRESS
DTIS89I	%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% TRACE INACTIVE
DTIS90I	INVALID COMBINATION OF TRACE OPERANDS: % AND %%%%%%%% , COMMAND IGNORED
DTIS91I	LOGICAL UNIT NAME %%%%%%%% TOO LONG, COMMAND IGNORED
DTIS92I	% MUST BE FIRST OPERAND FOR TRACE COMMAND, COMMAND IGNORED
DTIS93I	VSCS EXTERNAL TRACE IS %%%%%%%%
DTIS94I	VSCS HAS ENABLED THE GCS EXTERNAL TRACE
DTIS95I	WARNING: CPTRAP MUST BE ENABLED TO ALLOW EXTERNAL TRACING
DTIS96I	%%%%%%%%%%% MORE MAY BE ACTIVATED
DTIS99I	INTERNAL VSCS ERROR %%%%%%%% %%%% %%%%%%%%

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Message Number	Text
DTIV01I	%%%%%%%% FAILURE FOR %%%%%%%% RETURN CODE = %% %%
DTIV03I	%%%%%%%% LOGON FOR %%%%%%%% FAILED - OPNDST RETURN CODE = %%%% SENSE = %%%% USER SENSE = %%%%
DTIV04I	%%%%%%%% VSCS VTAM SERVICES INITIALIZATION COMPLETED
DTIV05I	DTIVRECA ALL RECEIVE RPLS NOW INACTIVE - VSCS TERMINATING
DTIV06I	%%%%%%%% VSCS VTAM SERVICES INITIALIZATION FAILED, SHOWCB MACRO ERROR RTN CODES: R15 = %%%%%%%% R0 = %%%%%%%%
DTIV07I	%%%%%%%% VSCS INITIALIZATION FAILED-OPEN ACB FAILURE, ACBERFLG = %%
DTIV08I	%%%%%%%% VSCS OPEN ACB FAILURE, ACBERFLG = %% - ATTEMPTING RETRY
DTIV09I	%%%%%%%% VSCS VTAM SERVICES GENCB MACRO FAILURE FOR %%%%%%%% RTN CODES: R15 = %%%%%%%% R0 = %%%%%%%%
DTIV10I	%%%%%%%% LOGON REQUEST FOR LOGICAL UNIT - %%%%%%%% ISSUED
DTIV11I	%%%%%%%% LOGON REQUEST FOR LOGICAL UNIT - %%%%%%%% FAILED %%%%%%%% RETURN CODE = %% %%
DTIV12I	%%%%%%%% LOGON REJECTED FOR %%%%%%%%
DTIV13I	%%%%%%%% INQUIRE FAILURE FOR %%%%%%%% RETURN CODE = %% %% - LOGON REJECTED
DTIV14I	%%%%%%%% VSCS TERMINATION IN PROGRESS. %%%%%%%% LOGON REJECTED
DTIV15I	%%%%%%%% LOGICAL UNIT TYPE OF %%%%%%%% NOT SUPPORTED - LOGON REJECTED
DTIV16I	%%%%%%%% ERROR IN SYNCHRONOUS CLSDST FOR %%%%%%%%, RETURN CODE = %% %%
DTIV17I	%%%%%%%% FAILED NOTIFYING COMMUNICATION SERVICES OF VTAM USERID
DTIV19I	%%%%%%%% INPUT DATA FROM %%%%%%%% EXCEEDS MAXIMUM ALLOWED
DTIV20I	%%%%%%%% CLSDST FAILED FOR LU %%%%%%%% RPLRTNCD = %% RPLFDB2 = %%
DTIV21I	%%%%%%%% VTAM LOSTERM EXIT SCHEDULED WITH UNEXPECTED REASON CODE %%%%%%%%%%
DTIV22I	%%%%%%%% FAILURE TO CLOSE THE ACB, ACBERFLG = %%
DTIV25I	%%%%%%%% PURGE FAILED FOR LOGICAL UNIT %%%%%%%% REQUESTED BY %%%%%%%%
DTIV26I	%%%%%%%% PURGE IN PROGRESS FOR LOGICAL UNIT %%%%%%%% REQUESTED BY %%%%%%%%
DTIV28I	%%%%%%%% PURGE IN PROGRESS FOR LU %%%%%%%% RPLRTNCD %%, RPLFDB2 %% REQUESTED BY %%%%%%%%
DTIV30I	%%%%%%%% UNRECOVERABLE SITUATION HAS OCCURRED FOR LU %%%%%%%% REQUEST IGNORED.

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Bibliography

VTAM Publications

The following paragraphs briefly describe the library of manuals for VTAM V3R2. Several of these manuals also contain information about VTAM V3R1.2 for VM and VSE, V3R1.1 for MVS and VM, and V3R1 for VSE.

VTAM Installation and Resource Definition (SC23-0111)

This manual enables a system programmer to install VTAM, define the resources in the network to VTAM, code start options, and test VTAM definitions. The appendixes in this manual enable system programmers to quickly locate the detailed syntax of the macroinstructions and definition statements used to define a network to VTAM, as well as VTAM start options.

VTAM Customization (LY30-5614)

The objective of this manual is to enable a system programmer to customize VTAM and tune it for better performance. It discusses modifying VTAM messages; modifying VTAM USS commands, installation exit routines, and replaceable modules; and tuning VTAM.

VTAM Directory of Programming Interfaces for Customers (GC31-6403)

This publication provides a directory of all programming interfaces provided by VTAM for use by customers. It also identifies and specifies limitations on the use of certain "product-sensitive" interfaces, which are dependent on the detailed design and implementation of VTAM.

VTAM Operation (SC23-0113)

This is a reference manual for VTAM network operators. It is also a guide for system programmers who must supply operators with the detailed information that they need to run the VTAM network.

This manual includes an introduction to operating VTAM, a description of VTAM commands, and a description of how to use VTAM commands to perform network control functions.

VTAM Messages and Codes (SC23-0114)

This manual contains, in alphanumerical order, all messages and codes issued by VTAM. These messages include VTAM messages for network operators, TSO/VTAM messages for network operators, TSO/VTAM messages for terminal users, USS messages for terminal users, and VSCS messages.

This manual can be inserted into the operating system messages manual, if desired, or used as a stand-alone manual.

VTAM Programming (SC23-0115)

This manual describes how to use VTAM macroinstructions to send data to and receive data from (1) a terminal in either the same or a different domain, or (2) another application program in either the same or a different domain. Also included is a dictionary of VTAM macroinstructions. This manual assumes that the reader is familiar with assembler language and the programming facilities of the operating system.

VTAM Programming for LU 6.2 (SC30-3400)

This manual describes VTAM's LU 6.2 programming interface for host application programs. This manual pertains to programs that use only LU 6.2 sessions or that use LU 6.2 sessions along with other session types. (Only LU 6.2 sessions are covered in this manual, however.)

VTAM Diagnosis (LY30-5601)

This manual assists system programmers in identifying a VTAM problem, classifying it, and collecting information about the problem in preparation for calling the IBM Support Center. The information collected includes traces, dumps, and other problem documentation.

VTAM Data Areas for MVS (LY30-5592)

VTAM Data Areas for VM (LY30-5593)

VTAM Data Areas for VSE (LY30-5594)

These manuals describe VTAM data areas and can be used to read a VTAM dump. They are intended for IBM programming service representatives and customer personnel who are diagnosing problems with VTAM.

VTAM Reference Summary (LY30-5600)

This manual is designed as a quick reference for system programmers and network programmers. This manual contains selected reference information that includes VTAM and VSCS commands, VTAM definition statements, VTAM start options, VTAM macroinstructions, VTAM and VSCS trace formats, and selected SNA reference data.

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VTAM V3R1.2 Publications

VTAM Expanded Network Capabilities Support (LD21-0019)

This supplement is available as a stand-alone manual for V3R1.2; the information has also been included in the V3R2 manuals.

VTAM Directory of Programming Interfaces for Customers (GC31-6402)

This publication provides a directory of all programming interfaces provided by VTAM for use by customers. It also identifies and specifies limitations on the use of certain "product-sensitive" interfaces, which are dependent on the detailed design and implementation of VTAM.

VTAM V3R1.1 Publications

You may order additional copies of the VTAM V3R1.1 publications by the following order numbers:

VTAM Installation and Resource Definition (SC23-0111)

VTAM Customization (SC23-0112)

VTAM Operation (SC23-0113)

VTAM Message and Codes (ST23-0114)

VTAM Programming (SC23-0115)

VTAM Diagnosis Guide (SC23-0116)

VTAM Diagnosis Reference (LY30-5582)

VTAM Data Areas for MVS (LY30-5584)

VTAM Data Areas for VM (LY30-5583)

VTAM Reference Summary (SC23-0135)

VTAM V3R1 Publications

You may order additional copies of the VTAM V3R1 publications by using the following pseudonumbers:

VTAM Installation and Resource Definition (ST23-0110)

VTAM Customization (ST23-0112)

VTAM Operation (ST23-0113)

VTAM Programming (ST23-0115)

VTAM Diagnosis Reference (LT70-5582)

VTAM Message and Codes (ST23-0114)

The following VTAM V3R1 publications are still orderable by their original order numbers:

VTAM Messages and Codes for VM (SC30-3275)

VTAM Data Areas for MVS (LY30-5581)

VTAM Data Areas for VM (LY30-5580)

VTAM Data Areas for VSE (LY30-5579)

VTAM Library Supplement for X.21 SHM/MPS (SD21-0010)

Other Network Program Products Publications

For more information about the manuals listed in this section, see the *Network Program Products Bibliography and Master Index*.

The following list shows the cross-product manuals for VTAM, NetView, NCP, SSP, and NetView/PC.

Network Program Products General Information (GC30-3350)

Network Program Products Planning (SC30-3351)

Network Program Products Samples (SC30-3352)

Network Program Products Bibliography and Master Index (GC30-3353)

Network Program Products Storage Estimates (SC30-3403)

NetView Publications

The following list shows the publications associated with Release 2 of the NetView program.

Learning about NetView (SK2T-0292)

NetView Installation and Administration Guide (SC30-3476)

NetView Administration Reference (SC30-3361)

NetView Customization (SC30-3462)

NetView Directory of Programming Interfaces for Customers (GC31-6005)

NetView Command Lists (SC30-3423)

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NetView Operation Primer (SC30-3363)

NetView Operation (SC30-3364)

NetView Messages (SC30-3365)

NetView Operation Scenarios (SC30-3376)

NetView Command Summary (SX27-3620)

NetView Diagnosis (LY30-5587)

NetView Hardware Problem Determination Reference (SC30-3366)

NetView Problem Determination Supplement for Management Services Major Vectors 0001 and 0025 (LD21-0023)

NetView 5822 Supplement (SD21-0016)

Automated Operations Publications

Automated Operations Planning Guide (SC30-3474)

Automated Operations Using NetView Command Lists (SC30-3477)

NetView/PC Publications

The following list shows the publications for the NetView/PC program.

NetView/PC Planning and Operation Guide (SC30-3408)

NetView/PC Installation Guide (SC30-3482)

NetView/PC Application Program Interface/Communications Services Reference (SC30-3313)

NCP V4R2 Publications

The following list shows the publications for NCP V4R2 and SSP V3R2.

NCP and SSP Generation and Loading Guide (SC30-3348)

NCP and SSP Migration (SC30-3252)

NCP and SSP Resource Definition Guide (SC30-3349)

NCP and SSP Resource Definition Reference (SC30-3254)

NCP and EP Reference Summary and Data Areas (LY30-5570)

NCP and SSP Customization (LY30-5571)

NCP and SSP Messages and Codes (SC30-3169)

NCP and SSP Diagnosis Guide (LY30-5591)

NCP Reference (LY30-5569)

SSP Diagnosis Reference (LY30-5564)

EP Installation, Resource Definition, and Diagnosis (SC30-3338)

NCP V4R3 Publications

The following list shows the publications for NCP V4R3 and SSP V3R3.

NCP, SSP, and EP Generation and Loading Guide (SC30-3348)

NCP Migration Guide (SC30-3252)

NCP, SSP, and EP Resource Definition Guide (SC30-3349)

NCP, SSP, and EP Resource Definition Reference (SC30-3254)

NCP and EP Reference Summary and Data Areas (LY30-5570)

NCP Customization Guide (LY30-5571)

NCP Customization Reference (LY30-5612)

SSP Customization (LY43-0021)

NCP and Related Products Directory of Programming Interfaces for Customers (GC31-6202)

NCP, SSP, and EP Messages and Codes (SC30-3169)

NCP, SSP, and EP Diagnosis Guide (LY30-5591)

NCP and EP Reference (LY30-5569)

NCP Version 5 Publications

The following list shows the publications for NCP Version 5 and SSP V3R3.

NCP, SSP, and EP Generation and Loading Guide (SC30-3348)

NCP Migration Guide (SC30-3440)

NCP, SSP, and EP Resource Definition Guide (SC30-3447)

NCP, SSP, and EP Resource Definition Reference (SC30-3448)

NCP and EP Reference Summary and Data Areas (LY30-5603)

NCP Customization Guide (LY30-5606)

NCP Customization Reference (LY30-5607)

SSP Customization (LY43-0021)

NCP and Related Products Directory of Programming Interfaces for Customers (GC31-6202)

NCP, SSP, and EP Messages and Codes (SC30-3169)

NCP, SSP, and EP Diagnosis Guide (LY30-5591)

NCP and EP Reference (LY30-5605)

Other Related Publications

MVS/370 Publications

OS/VS2 System Programming Library: Service Aids (GC28-0674)

OS/VS2 System Programming Library: Initialization and Tuning Guide (MVS/SP) (GC28-1029)

MVS/XA Publications

MVS/XA System Programming Library: Service Aids (GC28-1159)

MVS/XA System Programming Library: Initialization and Tuning (GC28-1149)

MVS/XA System Management Facilities (SMF) (GC28-1153)

VM/SP Publications

VM/SP Group Control System Command and Macro Reference (SC24-5250)

VM/SP Installation Guide (SC24-5237)

VM/SP Operator's Guide (SC19-6202)

VSE/Advanced Functions Publications

VSE/Advanced Functions System Control Statements (SC33-6095)

MVS TSO and TSO/VTAM Publications

Each of the following books is referred to as *TSO Guide to Writing a Terminal Monitor Program*. Use the one that applies to your operating system.

OS/VS2 TSO Guide to Writing a Terminal Monitor Program or a Command Processor (GC28-0648)

MVS/XA TSO Guide to Writing a Terminal Monitor Program or Command Processor (GC28-1295)

MVS/XA TSO Extensions TSO Guide to Writing a Terminal Monitor Program or a Command Processor (SC28-1136)

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Glossary

This glossary defines important NCP, NetView, NetView/PC, SSP, and VTAM abbreviations and terms. It includes information from the *IBM Vocabulary for Data Processing, Telecommunications, and Office Systems*, GC20-1699. Definitions from the *American National Dictionary for Information Processing* are identified by an asterisk (*). Definitions from draft proposals and working papers under development by the International Standards Organization, Technical Committee 97, Subcommittee 1 are identified by the symbol **(TC97)**. Definitions from the *CCIT Sixth Plenary Assembly Orange Book, Terms and Definitions* and working documents published by the Consultative Committee on International Telegraph and Telephone of the International Telecommunication Union, Geneva, 1980 are preceded by the symbol **(CCITT/ITU)**. Definitions from published sections of the *ISO Vocabulary of Data Processing*, developed by the International Standards Organization, Technical Committee 97, Subcommittee 1 and from published sections of the *ISO Vocabulary of Office Machines*, developed by subcommittees of ISO Technical Committee 95, are preceded by the symbol **(ISO)**.

For abbreviations, the definition usually consists only of the words represented by the letters; for complete definitions, see the entries for the words.

Reference Words Used in the Entries

The following reference words are used in this glossary:

Deprecated term for. Indicates that the term should not be used. It refers to a preferred term, which is defined.

Synonymous with. Appears in the commentary of a preferred term and identifies less desirable or less specific terms that have the same meaning.

Synonym for. Appears in the commentary of a less desirable or less specific term and identifies the preferred term that has the same meaning.

Contrast with. Refers to a term that has an opposed or substantively different meaning.

See. Refers to multiple-word terms that have the same last word.

See also. Refers to related terms that have similar (but not synonymous) meanings.

abend. Abnormal end of task.

abnormal end of task (abend). Termination of a task before its completion because of an error condition that cannot be resolved by recovery facilities while the task is executing.

ACB. (1) In VTAM, application control block. (2) In NCP, adapter control block.

ACB name. (1) The name of an ACB macroinstruction. (2) A name specified in the ACBNAME parameter of a VTAM APPL statement. Contrast with *network name*.

accept. For a VTAM application program, to establish a session with a logical unit (LU) in response to a CINIT request from a system services control point (SSCP). The session-initiation request may begin when a terminal user logs on, a VTAM application program issues a macroinstruction, or a VTAM operator issues a command. See also *acquire (1)*.

accounting exit routine. In VTAM, an optional installation exit routine that collects statistics about session initiation and termination.

ACF. Advanced Communications Function.

ACF/NCP. Advanced Communications Function for the Network Control Program. Synonym for *NCP*.

ACF/SSP. Advanced Communications Function for the System Support Programs. Synonym for *SSP*.

ACF/VTAM. Advanced Communications Function for the Virtual Telecommunications Access Method. Synonym for *VTAM*.

acquire. (1) For a VTAM application program, to initiate and establish a session with another logical unit (LU). The acquire process begins when the application program issues a macroinstruction. See also *accept*. (2) To take over resources that were formerly controlled by an access method in another domain, or to resume control of resources that were controlled by this domain but released. Contrast with *release*. See also *resource takeover*.

activate. To make a resource of a node ready to perform the functions for which it was designed. Contrast with *deactivate*.

active. (1) The state a resource is in when it has been activated and is operational. Contrast with *inactive, pending*, and *inoperative*. (2) Pertaining to a major or minor node that has been activated by VTAM. Most resources are activated as part of VTAM start processing or as the result of a VARY ACT command.

active application. The application subsystem currently in an extended recovery facility (XRF) session with a terminal user. See *alternate application.*

adapter. Hardware card that allows a device, such as a PC, to communicate with another device, such as a monitor, a printer, or other I/O device.

adapter control block (ACB). In NCP, a control block that contains line control information and the states of I/O operations for BSC lines, SS lines, or SDLC links.

adaptive session pacing. Synonym for *adaptive session-level pacing.*

adaptive session-level pacing. A form of session-level pacing in which session components exchange pacing windows that may vary in size during the course of a session. This allows transmission to adapt dynamically to variations in availability and demand of buffers on a session by session basis. Session pacing occurs within independent stages along the session path according to local congestion at the intermediate nodes. Synonymous with *adaptive session pacing.* See *pacing, session-level pacing,* and *virtual route pacing.*

adjacent SSCP table. A table containing lists of the system services control points (SSCPs) that VTAM can be in session with or can use to reach destination SSCPs in the same network or in other networks. The table is filed in the VTAM definition library.

adjacent subareas. Two subareas connected by one or more links with no intervening subareas. See also *subarea.*

Advanced Communications Function (ACF). A group of IBM licensed programs (principally VTAM, TCAM, NCP, and SSP) that use the concepts of Systems Network Architecture (SNA), including distribution of function and resource sharing.

Advanced Program-to-Program Communication (APPC). A synonym for logical unit (LU) 6.2 and its implementations.

alert. (1) In SNA, a record sent to a system problem management focal point to communicate the existence of an alert condition. (2) In the NetView program, a high priority event that warrants immediate attention. This data base record is generated for certain event types that are defined by user-constructed filters.

alias name. A name defined in a host used to represent a logical unit name, logon mode table name, or class-of-service name in another network. This name is defined to a name translation program when the alias name does not match the real name. The alias name translation program is used to associate the real and alias names.

alias name translation facility. A function for converting logical unit names, logon mode table names, and class-of-service names used in one network into equivalent names to be used in another network. Available with NetView or NCCF licensed programs.

allocate. A logical unit (LU) 6.2 application program interface (API) verb used to assign a session to a conversation for the conversation's use. Contrast with *deallocate.*

alternate application. The subsystem that is prepared to take over a particular active application's extended recovery facility (XRF) sessions with terminal users in case the application fails. See *active application.*

any-mode. In VTAM: (1) The form of a RECEIVE request that obtains input from any one (unspecified) session. (2) The form of an ACCEPT request that completes the establishment of a session by accepting any one (unspecified) queued CINIT request. Contrast with *specific-mode.* See *continue-any mode.* See also *accept.*

APPC. Advanced Program-to-Program Communication.

application control block (ACB). A control block that links an application program to VSAM or VTAM.

application program. (1) A program written for or by a user that applies to the user's work. (2) A program used to connect and communicate with stations in a network, enabling users to perform application-oriented activities.

application program interface (API). (1) The formally defined programming language interface between an IBM system control program or licensed program and its user. (2) The interface through which an application program interacts with an access method. In VTAM, it is the language structure used in control blocks so that application programs can reference them and be identified to VTAM.

ASCII. American National Standard Code for Information Interchange.

authorization exit routine. In VTAM, an optional installation exit routine that approves or disapproves requests for session initiation.

automatic logon. (1) A process by which VTAM automatically creates a session-initiation request to establish a session between two logical units (LUs). The session will be between a designated primary logical unit (PLU) and a secondary logical unit (SLU) that is neither queued for nor in session with another PLU. See also *controlling application program* and *controlling logical unit.* (2) In VM, a process by which a virtual machine is initiated by other than the user of

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that virtual machine. For example, the primary VM operator's virtual machine is activated automatically during VM initialization.

available. In VTAM, pertaining to a logical unit that is active, connected, enabled, and not at its session limit.

back-level. Pertaining to an earlier release of an IBM product, which may not support a particular, current function.

backup session. The session that replaces the failing primary extended recovery facility (XRF) session between a terminal user and the active subsystem.

BASE disk. The virtual disk that contains the text decks and macroinstructions for VTAM and VM SNA console support (VSCS). It also contains control files and sample files used when running VTAM on the VM operating system. See *DELTA disk*, *MERGE disk*, *RUN disk*, and *ZAP disk*.

base set. The set of functions, including verbs, parameters, return codes, and what-received indications that is supported by all products that implement a particular architecture. See also *option set*.

bidder. In SNA, the LU-LU half-session defined at session activation as having to request and receive permission from the other LU-LU half-session to begin a bracket. Contrast with *first speaker*. See also *bracket protocol* and *contention*.

binary synchronous communication (BSC). (1) Communication using binary synchronous line discipline. (2) A uniform procedure, using a standardized set of control characters and control character sequences, for synchronous transmission of binary-coded data between stations.

bind. In SNA, a request to activate a session between two logical units (LUs). See also *session activation request*. Contrast with *UNBIND*.

BIU segment. In SNA, the portion of a basic information unit (BIU) that is contained within a path information unit (PIU). It consists of either a request/response header (RH) followed by all or a portion of a request/response unit (RU), or only a portion of an RU.

blocking of PIUs. In SNA, an optional function of path control that combines multiple path information units (PIUs) into a single basic transmission unit (BTU).

boundary function. (1) A capability of a subarea node to provide protocol support for attached peripheral nodes, such as: (a) interconnecting subarea path control and peripheral path control elements, (b) performing session sequence numbering for low-function peripheral nodes, and (c) providing session-level pacing support. (2) The component that provides these capabilities. See also *boundary node*, *network addressable unit (NAU)*, *peripheral path control*, *subarea node*, and *subarea path control*.

boundary node. (1) A subarea node with boundary function. See *subarea node* (including illustration). See also *boundary function*. (2) The programming component that performs FID2 (format identification type 2) conversion, channel data link control, pacing, and channel or device error recovery procedures for a locally attached station. These functions are similar to those performed by a network control program for an NCP-attached station.

bracket protocol. In SNA, a data flow control protocol in which exchanges between the two LU-LU half-sessions are achieved through the use of brackets, with one LU designated at session activation as the first speaker and the other as the bidder. The bracket protocol involves bracket initiation and termination rules. See also *bidder* and *first speaker*.

BSC. Binary synchronous communication.

buffer. A portion of storage for temporarily holding input or output data.

CCS. Console communication services.

CDRM. Cross-domain resource manager.

CDRSC. Cross-domain resource.

chain. See *RU chain*.

channel. * A path along which signals can be sent, for example, data channel, output channel. See *data channel* and *input/output channel*. See also *link*.

channel adapter. A communication controller hardware unit used to attach the controller to a System/360 or a System/370 channel.

channel-attached. Pertaining to the attachment of devices directly by System 370 input-output channels to a host processor.

channel-attachment major node. (1) A major node that includes an NCP that is channel-attached to a data host. (2) A major node that may include minor nodes that are the line groups and lines that represent a channel attachment to an adjacent (channel-attached) host. (3) In VM or VSE operating systems, a major node that may include minor nodes that are resources (host processors, NCPs, line groups, lines, SNA physical units and logical units, cluster controllers, and terminals) attached through a communication adapter.

channel link. A System/370 I/O channel to control unit interface that has an SNA network address. A channel

link can be either a subarea link or a peripheral link. See also *link* and *subarea link*.

character-coded. Synonym for *unformatted*.

CICS. Customer Information Control System.

CID. Communication identifier.

CINIT. A network services request sent from a system services control point (SSCP) to a logical unit (LU) asking that LU to establish a session with another LU and to act as the primary end of the session.

class of service (COS). In SNA, a designation of the path control network characteristics, such as path security, transmission priority, and bandwidth, that apply to a particular session. The end user designates class of service at session initiation by using a symbolic name that is mapped into a list of virtual routes, any one of which can be selected for the session to provide the requested level of service.

cleanup. A network services request, sent by a system services control unit (SSCP) to a logical unit (LU), that causes a particular LU-LU session with that LU to be ended immediately and without the participation of either the other LU or its SSCP.

cluster controller. A device that can control the input/output operations of more than one device connected to it. A cluster controller may be controlled by a program stored and executed in the unit; for example, the IBM 3601 Finance Communication Controller. Or it may be controlled entirely by hardware; for example, the IBM 3272 Control Unit.

CMS. Conversational Monitor System.

CNM. Communication network management.

command. (1) A request from a terminal for the performance of an operation or the execution of a particular program. (2) In SNA, any field set in the transmission header (TH), request header (RH), and sometimes portions of a request unit (RU), that initiates an action or that begins a protocol; for example: (a) Bind Session (session-control request unit), a command that activates an LU-LU session, (b) the change-direction indicator in the RH of the last RU of a chain, (c) the virtual route reset window indicator in a FID4 transmission header. See also *VTAM operator command*.

command processor. A program that performs an operation specified by a command.

communication adapter. An optional hardware feature, available on certain processors, that permits communication lines to be attached to the processors.

communication controller. A type of communication control unit whose operations are controlled by one or more programs stored and executed in the unit; for example, the IBM 3725 Communication Controller. It manages the details of line control and the routing of data through a network.

communication identifier (CID). In VTAM, a key for locating the control blocks that represent a session. The key is created during the session-establishment procedure and deleted when the session ends.

communication line. Deprecated term for *telecommunication line* and *transmission line*.

communication macroinstructions. In VTAM, the set of RPL-based macroinstructions used to communicate during a session.

communication management configuration host node. The type 5 host processor in a communication management configuration that does all network-control functions in the network except for the control of devices channel-attached to data hosts. Synonymous with *communication management host*. Contrast with *data host node*.

communication management host. Synonym for *communication management configuration host node*. Contrast with *data host*.

communication network management (CNM). The process of designing, installing, operating, and managing the distribution of information and controls among end users of communication systems.

communication network management (CNM) application program. A VTAM application program that issues and receives formatted management services request units for physical units. For example, NetView.

communication network management (CNM) interface. The interface that the access method provides to an application program for handling data and commands associated with communication system management. CNM data and commands are handled across this interface.

communication network management (CNM) processor. A program that manages one of the functions of a communications system. A CNM processor is executed under control of NetView.

composite end node (CEN). A group of nodes made up of a single type 5 node and its subordinate type 4 nodes that together support type 2.1 protocols. To a type 2.1 node, a CEN appears as one end node. For example, NCP and VTAM act as a composite end node.

configuration. (1) (TC97) The arrangement of a computer system or network as defined by the nature,

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number, and the chief characteristics of its functional units. The term may refer to a hardware or a software configuration. (2) The devices and programs that make up a system, subsystem, or network. (3) In CCP, the arrangement of controllers, lines, and terminals attached to an IBM 3710 Network Controller. Also, the collective set of item definitions that describe such a configuration.

configuration restart. In VTAM, the recovery facility that can be used after a failure or deactivation of a major node, VTAM, or the host processor to restore the domain to its status at the time of the failure or deactivation.

configuration services. In SNA, one of the types of network services in the control point (CP) and in the physical unit (PU); configuration services activate, deactivate, and maintain the status of physical units, links, and link stations. Configuration services also shut down and restart network elements and modify path control routing tables and address-translation tables. See also *maintenance services*, *management services*, *network services*, and *session services*.

connected. In VTAM, pertaining to a physical unit (PU) or logical unit (LU) that has an active physical path to the host processor containing the system services control point (SSCP) that controls the PU or LU.

connection. Synonym for *physical connection*.

console communications services (CCS). The SNA facility that acts as an interface between the control program and the VSCS component of VTAM for VM.

contention. A situation in which two logical units (LUs) that are connected by an LU 6.2 session both attempt to allocate the session for a conversation at the same time. The control operator assigns "winner" and "loser" status to the LUs so that processing may continue on an orderly basis. The contention loser requests permission from the contention winner to allocate a conversation on the session, and the contention winner either grants or rejects the request. See also *bidder*.

continue-any mode. In VTAM, the state of a session or conversation that allows its input to satisfy a RECEIVE request issued in any-mode. While this state exists, input on the session or conversation can also satisfy RECEIVE requests issued in specific-mode. For conversations, continue-any mode is further qualified as either *buffer continue-any* or *logical record continue-any*. This specifies whether VTAM is to receive the data in terms of logical records or buffers. Contrast with *continue-specific mode*.

continue-specific mode. In VTAM, the state of a session or conversation that allows its input to satisfy only RECEIVE requests issued in specific-mode. Contrast with *continue-any mode*.

control block. (ISO) A storage area used by a computer program to hold control information.

control point (CP). (1) A system services control point (SSCP) that provides hierarchical control of a group of nodes in a network. (2) A control point (CP) local to a specific node that provides control of that node, either in the absence of SSCP control (for type 2.1 nodes engaged in peer to peer communication) or to supplement SSCP control.

control program (CP). The VM operating system that manages the real processor's resources and is responsible for simulating System/370s for individual users.

controlling application program. In VTAM, an application program with which a secondary logical unit (other than an application program) is automatically put in session whenever the secondary logical unit is available. See also *automatic logon* and *controlling logical unit*.

controlling logical unit. In VTAM, a logical unit with which a secondary logical unit (other than an application program) is automatically put in session whenever the secondary logical unit is available. A controlling logical unit can be either an application program or a device-type logical unit. See also *automatic logon* and *controlling application program*.

control statement. A statement in a command list that controls the processing sequence of the command list or allows the command list to send messages to the operator and receive input from the operator.

conversation. In SNA, a logical connection between two transaction programs using an LU 6.2 session. Conversations are delimited by brackets to gain exclusive use of a session.

Conversational Monitor System (CMS). A VM application program for general interactive time sharing, problem solving, and program development.

converted command. An intermediate form of a character-coded command produced by VTAM through use of an unformatted system services definition table. The format of a converted command is fixed; the unformatted system services definition table must be constructed in such a manner that the character-coded command (as entered by a logical unit) is converted into the predefined, converted command format. See also *unformatted*.

COS. Class of service.

CP. (1) Control program. (2) Control point.

cross-domain. In SNA, pertaining to control of resources involving more than one domain.

cross-domain resource (CDRSC). A resource owned by a cross-domain resource manager (CDRM) in another domain but known by the CDRM in this domain by network name and associated CDRM.

cross-domain resource manager (CDRM). In VTAM, the function in the system services control point (SSCP) that controls initiation and termination of cross-domain sessions.

cross-network. In SNA, pertaining to control or resources involving more than one SNA network.

cross-network session. An LU-LU or SSCP-SSCP session whose path traverses more than one SNA network.

cryptographic. Pertaining to the transformation of data to conceal its meaning. See also *encipher* and *decipher*.

Customer Information Control System (CICS). A licensed program that enables transactions entered at remote terminals to be processed concurrently by user-written application programs. It also includes facilities for building, using, and maintaining data bases.

data channel. Synonym for *input/output channel*. See *channel*.

data host. Synonym for *data host node*. Contrast with *communication management configuration host*.

data host node. In a communication management configuration, a type 5 host node that is dedicated to processing applications and does not control network resources, except for its channel-attached or communication adapter-attached devices. Synonymous with *data host*. Contrast with *communication management configuration host node*.

data link. In SNA, synonym for *link*.

data link control (DLC) layer. In SNA, the layer that consists of the link stations that schedule data transfer over a transmission medium connecting two nodes and perform error control for the link connection. Examples of data link control are SDLC for serial-by-bit link connection and data link control for the System/370 channel.

data link control protocol. In SNA, a set of rules used by two nodes on a data link to accomplish an orderly exchange of information. Synonymous with *line control*.

DBCS. Double-byte character set.

deactivate. To take a resource of a node out of service, rendering it inoperable, or to place it in a state in which it cannot perform the functions for which it was designed. Contrast with *activate*.

deallocate. A logical unit (LU) 6.2 application program interface (API) verb that terminates a conversation, thereby freeing the session for a future conversation. Contrast with *allocate*.

decipher. To convert enciphered data into clear data. Contrast with *encipher*. Synonymous with *decrypt*.

decrypt. To convert encrypted data into clear data. Contrast with *encrypt*. Synonym for *decipher*.

decryption. The unscrambling of data using an algorithm which works under the control of a key. The key allows data to be protected even when the algorithm is unknown. Data is unscrambled after transmission. Contrast with *encryption*.

default SSCP list. A list of system services control points (SSCPs), either in VTAM's network or another network, that can be used when no predefined cross-domain resource (CDRSC) or name translation function is provided specifying an LU's owning cross-domain resource manager (CDRM). This list is filed as a part of an adjacent SSCP table in the VTAM definition library.

definite response (DR). In SNA, a value in the form-of-response-requested field of the request header. The value directs the receiver of the request to return a response unconditionally, whether positive or negative, to that request. Contrast with *exception response* and *no response*.

definition statement. (1) In VTAM, the statement that describes an element of the network. (2) In NCP, a type of instruction that defines a resource to the NCP. See Figure 82, Figure 83 on page 417, and Figure 84 on page 417. See also *macroinstruction*.

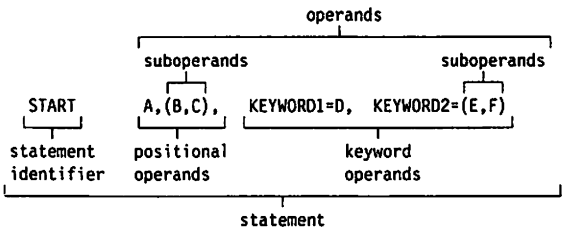

Figure 82. Example of a Language Statement

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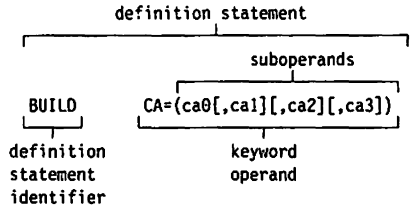

Figure 83. NCP Examples

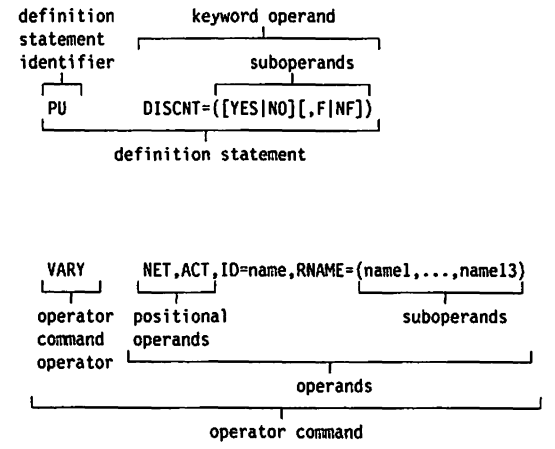

Figure 84. VTAM Examples

DELTA disk. The virtual disk in a VM operating system that contains program temporary fixes (PTFs) that have been installed but not merged. See *BASE disk*, *MERGE disk*, *RUN disk*, and *ZAP disk*.

dependent LU. Any logical unit (LU) that receives an ACTLU over a link. Such LUs can act only as secondary logical units (SLUs) and can have only one LU-LU session at a time. Contrast with *independent LU*.

destination logical unit (DLU). The logical unit to which data is to be sent. Contrast with *origin logical unit (OLU)*.

dial-out. Refers to the direction in which a switched connection is requested by a host or an NCP.

directory. In VM, a control program (CP) disk that defines each virtual machine's normal configuration.

disabled. In VTAM, pertaining to a logical unit (LU) that has indicated to its system services control point (SSCP) that it is temporarily not ready to establish LU-LU sessions. An initiate request for a session with a disabled logical unit (LU) can specify that the session be queued by the SSCP until the LU becomes enabled. The LU can separately indicate whether this applies to its ability to act as a primary logical unit (PLU) or a secondary logical unit (SLU). See also *enabled* and *inhibited*.

disconnection. The termination of a physical connection.

discontiguous shared segment. An area of virtual storage outside the address range of a virtual machine. It can contain read-only data or reentrant code. It connects discontiguous segments to a virtual machine's address space so programs can be fetched.

display. (1) To present information for viewing, usually on a terminal screen or a hard-copy device. (2) A device or medium on which information is presented, such as a terminal screen. (3) Deprecated term for *panel*.

DLC. Data link control.

DLU. Destination logical unit.

domain. (1) An access method, its application programs, communication controllers, connecting lines, modems, and attached terminals. (2) In SNA, a system services control point (SSCP) and the physical units (PUs), logical units (LUs), links, link stations, and all the associated resources that the SSCP has the ability to control by means of activation requests and deactivation requests. See *system services control point domain* and *type 2.1 node control point domain*. See also *single-domain network* and *multiple-domain network*

domain operator. In a multiple-domain network, the person or program that controls the operation of the resources controlled by one system services control point. Contrast with *network operator* (2).

double-byte character set (DBCS). A set of graphic characters where two bytes are used to represent the character set of such languages as Chinese and Japanese. The shift-in (SI) and shift-out (SO) control codes are used when DBCS is mixed with standard one-byte character sets.

downstream. In the direction of data flow from the host to the end user. Contrast with *upstream*.

Downstream Load Utility (DSLU). A licensed program that uses the communication network management (CNM) interface to support the load requirements of certain type 2 physical units, such as the IBM 3644 Automatic Data Unit and the IBM 8775 Display Terminal.

DR. (1) In NCP and CCP, dynamic reconfiguration. (2) In SNA, definite response.

DRDS. Dynamic reconfiguration data set.

dump. (1) Computer printout of storage. (2) To write the contents of all or part of storage to an external medium as a safeguard against errors or in connection with debugging. (3) (ISO) Data that have been dumped.

dynamic reconfiguration (DR). The process of changing the network configuration (peripheral PUs and LUs) without regenerating complete configuration tables.

dynamic reconfiguration data set (DRDS). In VTAM, a data set used for storing definition data that can be applied to a generated communication controller configuration at the operator's request. A dynamic reconfiguration data set can be used to dynamically add PUs and LUs, delete PUs and LUs, and move PUs. It is activated with the VARY DRDS operator command. See also *dynamic reconfiguration*.

EBCDIC. * Extended binary-coded decimal interchange code. A coded character set consisting of 8-bit coded characters.

element. (1) A field in the network address. (2) The particular resource within a subarea identified by the element address. See also *subarea*.

element address. In SNA, a value in the element address field of the network address identifying a specific resource within a subarea. See *subarea address*.

emulation mode. The function of a network control program that enables it to perform activities equivalent to those performed by a transmission control unit. Contrast with *network control mode*.

Emulation Program (EP). An IBM control program that allows a channel-attached 3705 or 3725 communication controller to emulate the functions of an IBM 2701 Data Adapter Unit, an IBM 2702 Transmission Control, or an IBM 2703 Transmission Control. See also *network control program*.

enabled. In VTAM, pertaining to a logical unit (LU) that has indicated to its system services control point (SSCP) that it is now ready to establish LU-LU sessions. The LU can separately indicate whether this prevents it from acting as a primary logical unit (PLU) or as a secondary logical unit (SLU). See also *disabled* and *inhibited*.

encipher. (1) To scramble data or convert it, before transmission, to a secret code that masks the meaning of the data to any unauthorized recipient. (2) In VTAM, to convert clear data into enciphered data. Contrast with *decipher*. Synonymous with *encrypt*.

encrypt. Synonym for *encipher*.

encryption. The scrambling or encoding of data using an algorithm which works under the control of a key. The key allows data to be protected even when the algorithm is unknown. Data is scrambled prior to transmission. Contrast with *decryption*.

end node. A type 2.1 node that does not provide any intermediate routing or session services to any other node. For example, APPC/PC is an end node. See *composite end node*, *node*, and *type 2.1 node*.

entry point. An SNA node that provides distributed network management support. It may be a type 2, type 2.1, type 4, or type 5 node. It sends SNA-formatted network management data about itself and the resources it controls to a focal point for centralized processing, and it receives and executes focal point initiated commands to manage and control its resources.

EP. Emulation Program.

ER. (1) Explicit route. (2) Exception response.

ESTAE. Extended specify task abnormal exit. .

event. (1) In the NetView program, a record indicating irregularities of operation in physical elements of a network. (2) An occurrence of significance to a task; typically, the completion of an asynchronous operation, such as an input/output operation.

exception response (ER). In SNA, a value in the form-of-response-requested field of a request header (RH). An exception response is sent only if a request is unacceptable as received or cannot be processed. Contrast with *definite response* and *no response*. See also *negative response*.

exchange identification (XID). A data link control command and response passed between adjacent nodes that allows the two nodes to exchange identification and other information necessary for operation over the data link.

EXEC. In a VM operating system, a user-written command file that contains CMS commands, other user-written commands, and execution control statements, such as branches.

exit list (EXLST). In VSAM and VTAM, a control block that contains the addresses of routines that receive control when specified events occur during execution; for example, routines that handle session-establishment request processing or I/O errors.

exit routine. Any of several types of special-purpose user-written routines. See *accounting exit routine*, *authorization exit routine*, *logon-interpret routine*, *virtual route selection exit routine*, *EXLST exit routine*, and *RPL exit routine*.

EXLST exit routine. In VTAM, a routine whose address has been placed in an exit list (EXLST) control block. The addresses are placed there with the EXLST macro-

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instruction, and the routines are named according to their corresponding operand; hence DFASY exit routine, TPEND exit routine, RELREQ exit routine, and so forth. All exit list routines are coded by the VTAM application programmer. Contrast with *RPL exit routine*.

explicit route (ER). In SNA, the path control network elements, including a specific set of one or more transmission groups, that connect two subarea nodes. An explicit route is identified by an origin subarea address, a destination subarea address, an explicit route number, and a reverse explicit route number. Contrast with *virtual route (VR)*. See also *path* and *route extension*.

explicit route length. In SNA, the number of transmission groups in an explicit route.

extended network addressing. The network addressing system that splits the address into an 8-bit subarea and a 15-bit element portion. The subarea portion of the address is used to address host processors or communication controllers. The element portion is used to permit processors or controllers to address resources.

extended recovery facility (XRF). Software designed to minimize the effect of failures in MVS, VTAM, the host processor, or IMS/VS on sessions between IMS/VS and designated terminals. It provides an alternate subsystem to take over failing sessions.

extended specify task abnormal exit (ESTAE). An MVS macroinstruction that provides recovery capability and gives control to the user-specified exit routine for processing, diagnosing an abend, or specifying a retry address.

feature. A particular part of an IBM product that a customer can order separately.

field-formatted. Pertaining to a request or response that is encoded into fields, each having a specified format such as binary codes, bit-significant flags, and symbolic names. Contrast with *character-coded*.

first speaker. In SNA, the LU-LU half-session defined at session activation as: (1) able to begin a bracket without requesting permission from the other LU-LU half-session to do so, and (2) winning contention if both half-sessions attempt to begin a bracket simultaneously. Contrast with *bidder*. See also *bracket protocol*.

flow control. In SNA, the process of managing the rate at which data traffic passes between components of the network. The purpose of flow control is to optimize the rate of flow of message units, with minimum congestion in the network; that is, to neither overflow the buffers at the receiver or at intermediate routing nodes, nor leave the receiver waiting for more message units. See also *adaptive session-level pacing*, *pacing*, *session-level pacing*, and *virtual route pacing*.

formatted system services. A portion of VTAM that provides certain system services as a result of receiving a field-formatted command, such as an Initiate or Terminate command. Contrast with *unformatted system services (USS)*. See also *field-formatted*.

frame. (1) The unit of transmission in some local area networks, including the IBM Token-Ring Network. It includes delimiters, control characters, information, and checking characters. (2) In SDLC, the vehicle for every command, every response, and all information that is transmitted using SDLC procedures.

full-screen mode. A form of panel presentation in NetView where the contents of an entire terminal screen can be displayed at once. Full-screen mode can be used for fill-in-the-blanks prompting. Contrast with *line mode*.

function management profile. In SNA, a specification of various data flow control protocols (such as RU chains and data flow control requests) and function management data (FMD) options (such as use of function management headers, compression, and alternate codes) supported for a particular session. Each function management profile is identified by a number.

gateway. The combination of machines and programs that provide address translation, name translation, and system services control point (SSCP) rerouting between independent SNA networks to allow those networks to communicate. A gateway consists of one gateway NCP and at least one gateway SSCP.

gateway NCP. An NCP that performs address translation to allow cross-network session traffic. The gateway NCP connects two or more independent SNA networks. Synonymous with *gateway node*.

gateway node. Synonym for *gateway NCP*.

gateway SSCP. An SSCP that is capable of cross-network session initiation, termination, takedown, and session outage notification. A gateway SSCP is in session with the gateway NCP; it provides network name translation and assists the gateway NCP in setting up alias network addresses for cross-network sessions.

GCS. Group control system.

generalized path information unit trace (GPT). A record of the flow of path information units (PIUs) exchanged between the network control program and its attached resources. PIU trace records consist of up to 44 bytes of transmission header (TH), request/response header (RH), and request/response unit (RU) data.

generation. The process of assembling and link editing definition statements so that resources can be identified to all the necessary programs in a network.

generic unbind. Synonym for *session deactivation request*.

GPT. Generalized path information unit trace.

group. In the NetView/PC program, to identify a set of application programs that are to run concurrently.

group control system (GCS). A component of VM that provides multi-programming and shared memory support to virtual machines. It is a saved system intended for use with SNA products.

half-session. In SNA, a component that provides function management data (FMD) services, data flow control, and transmission control for one of the sessions of a network addressable unit (NAU). See also *primary half-session* and *secondary half-session*.

hard copy. A printed copy of machine output in a visually readable form; for example, printed reports, listings, documents, summaries, or network logs.

help panel. An online display that tells you how to use a command or another aspect of a product. See *task panel*.

High Performance Option (HPO). A licensed program that is an extension of VM/SP. It provides performance and operation enhancements for large system environments.

hierarchy. In the NetView program, the resource types, display types, and data types that make up the organization, or levels, in a network.

host node. A node providing an application program interface (API) and a common application interface. See *boundary node*, *node*, *peripheral node*, *subarea host node*, and *subarea node*. See also *boundary function* and *node type*.

host processor. (1) (TC97) A processor that controls all or part of a user application network. (2) In a network, the processing unit in which the data communication access method resides.

HPO. High Performance Option.

IMR. Intensive mode recording.

IMS. Information Management System/Virtual Storage. Synonymous with *IMS/VS*.

IMS/VS. Information Management System/Virtual Storage. Synonym for *IMS*.

inactive. Describes the state of a resource that has not been activated or for which the VARY INACT command has been issued. Contrast with *active*. See also *inoperative*.

independent LU. A logical unit (LU) that does not receive an ACTLU over a link. Such LUs can act as primary logical units (PLUs) or secondary logical units (SLUs) and can have one or more LU-LU sessions at a time. Contrast with *dependent LU*.

Information/Management. A feature of the Information/System licensed program that provides interactive systems management applications for problem, change, and configuration management.

Information Management System (IMS). A general purpose system whose full name is Information Management System/Virtual Storage (IMS/VS). It enhances the capabilities of OS/VS for batch processing and telecommunication and allows users to access a computer-maintained data base through remote terminals.

inhibited. In VTAM, pertaining to a logical unit (LU) that has indicated to its system services control point (SSCP) that it is not ready to establish LU-LU sessions. An initiate request for a session with an inhibited LU will be rejected by the SSCP. The LU can separately indicate whether this applies to its ability to act as a primary logical unit (PLU) or as a secondary logical unit (SLU). See also *enabled* and *disabled*.

initiate. A network services request sent from a logical unit (LU) to a system services control point (SSCP) requesting that an LU-LU session be established.

inoperative. The condition of a resource that has been active, but is not. The resource may have failed, received an INOP request, or is suspended while a reactivate command is being processed. See also *inactive*.

input/output channel. (1) **(ISO).** In a data processing system, a functional unit that handles the transfer of data between internal and peripheral equipment. (2) In a computing system, a functional unit, controlled by a processor, that handles the transfer of data between processor storage and local peripheral devices. Synonymous with *data channel*. See *channel*. See also *link*.

intensive mode recording (IMR). An NCP function that forces recording of temporary errors for a specified resource.

interconnected networks. SNA networks connected by gateways.

interconnection. See *SNA network interconnection*.

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interface. * A shared boundary. An interface might be a hardware component to link two devices or it might be a portion of storage or registers accessed by two or more computer programs.

intermediate routing node (IRN). In SNA, a subarea node with intermediate routing function.

interpret table. In VTAM, an installation-defined correlation list that translates an argument into a string of eight characters. Interpret tables can be used to translate logon data into the name of an application program for which the logon is intended.

inter-user communication vehicle (IUCV). A VM facility for passing data between virtual machines and VM components.

IRN. Intermediate routing node.

item. In CCP, any of the components, such as communication controllers, lines, cluster controllers, and terminals, that comprise an IBM 3710 Network Controller configuration.

IUCV. Inter-user communication vehicle.

Kanji. A character set of symbols used for Japanese ideograms. See also *double-byte character set.*

Katakana. A character set of symbols used in one of the two common Japanese phonetic alphabets.

keyword. (1) **(TC97)** A lexical unit that, in certain contexts, characterizes some language construction. (2) * One of the predefined words of an artificial language. (3) One of the significant and informative words in a title or document that describes the content of that document. (4) A name or symbol that identifies a parameter. (5) A part of a command operand that consists of a specific character string (such as DSNAME=). See also *definition statement* and *keyword operand.* Contrast with *positional operand.*

keyword operand. An operand that consists of a keyword followed by one or more values (such as DSNAME=HELLO). See also *definition statement.* Contrast with *positional operand.*

keyword parameter. (1) A parameter that consists of a keyword followed by one or more values.

large message performance enhancement outbound (LMPEO). In VTAM, a facility in which VTAM reformats function management data (FMD) that exceed the maximum request unit (RU) size (as specified in the BIND) into a chain or partial chain of RUs.

line. See *communication line.*

line mode. A form of screen presentation in which the information is presented a line at a time in the message area of the terminal screen. Contrast with *full-screen mode.*

line control. Synonym for *data link control protocol.*

line group. One or more telecommunication lines of the same type that can be activated and deactivated as a unit.

line speed. The number of binary digits that can be sent over a telecommunication line in one second, expressed in bits per second (bps).

link. In SNA, the combination of the link connection and the link stations joining network nodes; for example: (1) a System/370 channel and its associated protocols, (2) a serial-by-bit connection under the control of Synchronous Data Link Control (SDLC). A link connection is the physical medium of transmission. A link, however, is both logical and physical. Synonymous with *data link.* See Figure 85 on page 422.

link connection segment. A portion of the configuration that is located between two resources listed consecutively in the service point command service (SPCS) query link configuration request list.

link station. (1) In SNA, the combination of hardware and software that allows a node to attach to and provide control for a link. (2) In VTAM, a named resource within a subarea node that represents another subarea node that is attached by a subarea link. In the resource hierarchy, the link station is subordinate to the subarea link.

LMPEO. Large message performance enhancement outbound.

load module. (ISO) A program unit that is suitable for loading into main storage for execution; it is usually the output of a linkage editor.

local address. In SNA, an address used in a peripheral node in place of an SNA network address and transformed to or from an SNA network address by the boundary function in a subarea node.

local area network (LAN). (1) A network in which a set of devices are connected to one another for communication and that can be connected to a larger network. See also *token ring.* (2) A network in which communications are limited to a moderately sized geographic area such as a single office building, warehouse, or campus, and which do not generally extend across public rights-of-way. Contrast with *wide area network.*

local non-SNA major node. In VTAM, a major node whose minor nodes are channel-attached non-SNA terminals.

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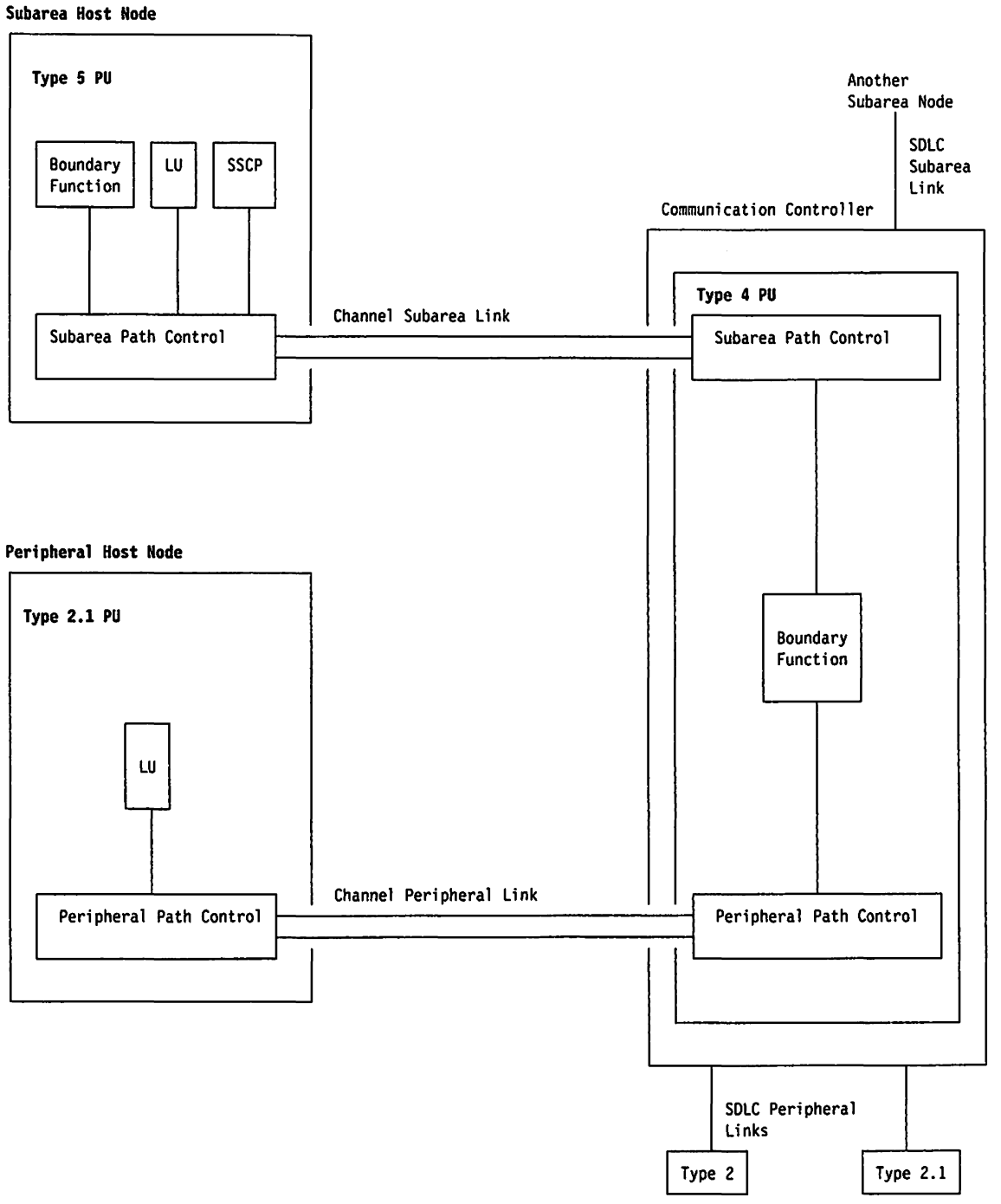

Figure 85. Links and Path Controls

local SNA major node. In VTAM, a major node whose minor nodes are channel-attached peripheral nodes.

logical unit (LU). In SNA, a port through which an end user accesses the SNA network and the functions provided by system services control points (SSCPs). An LU can support at least two sessions—one with an SSCP and one with another LU—and may be capable of supporting many sessions with other LUs. See also *network addressable unit (NAU)*, *peripheral LU*, *physical unit (PU)*, *system services control point (SSCP)*, *primary logical unit (PLU)*, and *secondary logical unit (SLU)*.

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logical unit (LU) services. In SNA, capabilities in a logical unit to: (1) receive requests from an end user and, in turn, issue requests to the system services control point (SSCP) in order to perform the requested functions, typically for session initiation; (2) receive requests from the SSCP, for example to activate LU-LU sessions via Bind Session requests; and (3) provide session presentation and other services for LU-LU sessions. See also *physical unit (PU) services*.

logical unit (LU) 6.2. A type of logical unit that supports general communication between programs in a distributed processing environment. LU 6.2 is characterized by (1) a peer relationship between session partners, (2) efficient utilization of a session for multiple transactions, (3) comprehensive end-to-end error processing, and (4) a generic application program interface (API) consisting of structured verbs that are mapped into a product implementation.

logmode table. Synonym for *logon mode table*.

logoff. In VTAM, an unformatted session termination request.

log on. To initiate a session.

logon. In VTAM, an unformatted session initiation request for a session between two logical units. See *automatic logon* and *simulated logon*. See also *session-initiation request*.

logon data. In VTAM: (1) The user data portion of a field-formatted or unformatted session-initiation request. (2) The entire logon sequence or message from a logical unit (LU). Synonymous with *logon message*.

logon message. Synonym for *logon data*.

logon mode. In VTAM, a subset of session parameters specified in a logon mode table for communication with a logical unit. See also *session parameters*.

logon mode table. In VTAM, a set of entries for one or more logon modes. Each logon mode is identified by a logon mode name. Synonymous with *logmode table*.

logon-interpret routine. In VTAM, an installation exit routine, associated with an interpret table entry, that translates logon information. It may also verify the logon.

LU. Logical unit.

LU type. In SNA, the classification of an LU-LU session in terms of the specific subset of SNA protocols and options supported by the logical units (LUs) for that session, namely:

The mandatory and optional values allowed in the session activation request.

The usage of data stream controls, function management headers (FMHs), request unit (RU) parameters, and sense codes.

Presentation services protocols such as those associated with FMH usage.

LU types 0, 1, 2, 3, 4, 6.1, 6.2, and 7 are defined.

LU-LU session. In SNA, a session between two logical units (LUs) in an SNA network. It provides communication between two end users, or between an end user and an LU services component.

LU-LU session type. A deprecated term for *LU type*.

LU 6.2. Logical unit 6.2.

macroinstruction. (1) An instruction that when executed causes the execution of a predefined sequence of instructions in the same source language. (2) In assembler programming, an assembler language statement that causes the assembler to process a predefined set of statements called a macro definition. The statements normally produced from the macro definition replace the macroinstruction in the program. See also *definition statement*.

maintain system history program (MSHP). A program that facilitates the process of installing and servicing a VSE system.

maintenance and operator subsystem (MOSS). A subsystem of an IBM communication controller, such as the 3725 or the 3720, that contains a processor and operates independently of the rest of the controller. It loads and supervises the controller, runs problem determination procedures, and assists in maintaining both hardware and software.

maintenance services. In SNA, one of the types of network services in system services control points (SSCPs) and physical units (PUs). Maintenance services provide facilities for testing links and nodes and for collecting and recording error information. See also *configuration services*, *management services*, *network services*, and *session services*.

major node. In VTAM, a set of resources that can be activated and deactivated as a group. See *node* and *minor node*.

management services. In SNA, one of the types of network services in control points (CPs) and physical units (PUs). Management services are the services provided to assist in the management of SNA networks, such as problem management, performance and accounting management, configuration management and change management. See also *configuration ser-*

vices, maintenance services, network services, and *session services.*

maximum SSCP rerouting count. The maximum number of times a session initiation request will be rerouted to intermediate system services control points (SSCPs) before the request reaches the destination SSCP. This count is used to prevent endless rerouting of session initiation requests.

MERGE disk. The virtual disk in the VM operating system that contains program temporary fixes (PTFs) after the VMFMERGE EXEC is invoked. See *BASE disk, DELTA disk, RUN disk,* and *ZAP disk.*

message. (1) (TC97) A group of characters and control bit sequences transferred as an entity. (2) In VTAM, the amount of function management data (FMD) transferred to VTAM by the application program with one SEND request.

migration. Installing a new version or release of a program when an earlier version or release is already in place.

minor node. In VTAM, a uniquely-defined resource within a major node. See *node* and *major node.*

mode name. A symbolic name for a set of session characteristics. For LU 6.2, a mode name and a partner LU name together define a group of parallel sessions having the same characteristics.

MOSS. Maintenance and operator subsystem.

MSHP. Maintain system history program.

multiple-domain network. In SNA, a network with more than one system services control point (SSCP). Contrast with *single-domain network.*

Multiple Virtual Storage (MVS). An IBM licensed program whose full name is the Operating System/Virtual Storage (OS/VS) with Multiple Virtual Storage/System Product for System/370. It is a software operating system controlling the execution of programs.

Multiple Virtual Storage for Extended Architecture (MVS/XA). An IBM licensed program whose full name is the Operating System/Virtual Storage (OS/VS) with Multiple Virtual Storage/System Product for Extended Architecture. Extended architecture allows 31-bit storage addressing. MVS/XA is a software operating system controlling the execution of programs.

MVS. Multiple Virtual Storage operating system.

MVS/XA. Multiple Virtual Storage for Extended Architecture operating system.

name translation. In SNA network interconnection, converting logical unit names, logon mode table names, and class-of-service names used in one network into equivalent names to be used in another network. This function can be provided through NetView and invoked by a gateway system services control point (SSCP) when necessary. See also *alias name.*

native network. The network in which a gateway NCP's resources reside.

NAU. Network addressable unit.

NCCF. Network Communications Control Facility.

NCP. (1) Network Control Program (IBM licensed program). Its full name is Advanced Communications Function for the Network Control Program. Synonymous with *ACF/NCP.* (2) Network control program (general term).

NCP major node. In VTAM, a set of minor nodes representing resources, such as lines and peripheral nodes, controlled by a network control program. See *major node.*

negative response (NR). In SNA, a response indicating that a request did not arrive successfully or was not processed successfully by the receiver. Contrast with *positive response.* See *exception response.*

negotiable BIND. In SNA, a capability that allows two LU-LU half-sessions to negotiate the parameters of a session when the session is being activated.

NetView. A system 370-based IBM licensed program used to monitor a network, manage it, and diagnose its problems.

NetView/PC. A PC-based IBM licensed program through which application programs can be used to monitor, manage, and diagnose problems in IBM Token-Ring networks, non-SNA communication devices, and voice networks.

network. (1) (TC97) An interconnected group of nodes. (2) In data processing, a user application network. See *path control network, public network, SNA network, subarea network, type 2.1 network,* and *user-application network.*

network address. In SNA, an address, consisting of subarea and element fields, that identifies a link, a link station, or a network addressable unit. Subarea nodes use network addresses; peripheral nodes use local addresses. The boundary function in the subarea node to which a peripheral node is attached transforms local addresses to network addresses and vice versa. See *local address.* See also *network name.*

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network addressable unit (NAU). In SNA, a logical unit, a physical unit, or a system services control point. It is the origin or the destination of information transmitted by the path control network. Each NAU has a network address that represents it to the path control network. See also *network name*, *network address*, and *path control network*.

Network Communications Control Facility (NCCF). An IBM licensed program that is a base for command processors that can monitor, control, automate, and improve the operations of a network. Its function is included and enhanced in NetView's command facility.

network control (NC). In SNA, an RU category used for requests and responses exchanged for such purposes as activating and deactivating explicit and virtual routes and sending load modules to adjacent peripheral nodes. See also *data flow control layer* and *session control*.

network control mode. The functions of a network control program that enable it to direct a communication controller to perform activities such as polling, device addressing, dialing, and answering. Contrast with *emulation mode*.

Network Control Program (NCP). An IBM licensed program that provides communication controller support for single-domain, multiple-domain, and interconnected network capability. Its full name is Advanced Communications Function for the Network Control Program.

network control program. A program, generated by the user from a library of IBM-supplied modules, that controls the operation of a communication controller.

network controller. A concentrator and protocol converter used with SDLC links. By converting protocols, which manage the way data is sent and received, the IBM 3710 Network Controller allows the use of non-SNA devices with an SNA host processor.

network identifier (network ID). The network name defined to NCPs and hosts to indicate the name of the network in which they reside. It is unique across all communicating SNA networks. communication among domains.

Network Logical Data Manager (NLDM). An IBM licensed program that collects and correlates session-related data and provides online access to this information. It runs as an NCCF communication network management (CNM) application program. Its function is included and enhanced in NetView's session monitor.

network management vector transport (NMVT). A management services request/response unit (RU) that flows over an active session between physical unit management services and control point management services (SSCP-PU session).

network name. (1) In SNA, the symbolic identifier by which end users refer to a network addressable unit (NAU), a link, or a link station. See also *network address*. (2) In a multiple-domain network, the name of the APPL statement defining a VTAM application program is its network name and it must be unique across domains. Contrast with *ACB name*. See *uninterpreted name*.

network operator. (1) A person or program responsible for controlling the operation of all or part of a network. (2) The person or program that controls all the domains in a multiple-domain network. Contrast with *domain operator*.

Network Problem Determination Application (NPDA). An IBM licensed program that helps you identify network problems, such as hardware, software, and microcode, from a central control point using interactive display techniques. It runs as an NCCF communication network management (CNM) application program. Its function is included and enhanced in NetView's hardware monitor.

Network Routing Facility (NRF). An IBM licensed program that resides in the NCP, which provides a path for messages between terminals, and routes messages over this path without going through the host processor.

network services (NS). In SNA, the services within network addressable units (NAUs) that control network operation through SSCP-SSCP, SSCP-PU, and SSCP-LU sessions. See *configuration services, maintenance services, management services*, and *session services*.

network services (NS) header. In SNA, a 3-byte field in a function management data (FMD) request/response unit (RU) flowing in an SSCP-LU, SSCP-PU, or SSCP-SSCP session. The network services header is used primarily to identify the network services category of the request unit (RU) (for example, configuration services, session services) and the particular request code within a category.

Network Terminal Option (NTO). An IBM licensed program used in conjunction with NCP that allows certain non-SNA devices to participate in sessions with SNA application programs in the host processor. NTO converts non-SNA protocol to SNA protocol when data is sent to the host from a non-SNA device and reconverts SNA protocol to non-SNA protocol when data is sent back to the device.

NIB. Node initialization block.

NLDM. Network Logical Data Manager.

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NMVT. Network management vector transport.

node. (1) In SNA, an endpoint of a link or junction common to two or more links in a network. Nodes can be distributed to host processors, communication controllers, cluster controllers, or terminals. Nodes can vary in routing and other functional capabilities. See *boundary node*, *host node*, *peripheral node*, and *subarea node* (including illustration). (2) In VTAM, a point in a network defined by a symbolic name. See *major node* and *minor node*.

node initialization block (NIB). In VTAM, a control block associated with a particular node or session that contains information used by the application program to identify the node or session and to indicate how communication requests on a session are to be handled by VTAM.

node name. In VTAM, the symbolic name assigned to a specific major or minor node during network definition.

node type. In SNA, a designation of a node according to the protocols it supports and the network addressable units (NAUs) that it can contain. Five types are defined: 1, 2.0, 2.1, 4, and 5. Type 1, type 2.0, and type 2.1 nodes are peripheral nodes; type 4 and type 5 nodes are subarea nodes. See also *type 2.1 node*.

no response. In SNA, a value in the form-of-response-requested field of the request header (RH) indicating that no response is to be returned to the request, whether or not the request is received and processed successfully. Contrast with *definite response* and *exception response*.

notify. A network services request that is sent by an SSCP to a logical unit (LU) to inform the LU of the status of a procedure requested by the LU.

NPDA. Network Problem Determination Application.

NRF. Network Routing Facility.

NTO. Network Terminal Option.

OLU. Origin logical unit.

online. Stored in a computer and accessible from a terminal.

operand. (1) **(ISO)** An entity on which an operation is performed. (2) * That which is operated upon. An operand is usually identified by an address part of an instruction. (3) Information entered with a command name to define the data on which a command processor operates and to control the execution of the command processor. (4) An expression to whose value an operator is applied. See also *definition statement*, *keyword*, *keyword parameter*, and *parameter*.

operator. (1) In a language statement, the lexical entity that indicates the action to be performed on operands. (2) A person who operates a machine. See *network operator*. See also *definition statement*.

operator profile. In the NetView program, the resources and activities a network operator has control over. The statements defining these resources and activities are stored in a file that is activated when the operator logs on.

option set. A set of functions that may be supported by products that implement a particular architecture. A product may support any number of option sets or none. For each option set supported, all functions in that set are supported. See *base set*.

origin logical unit (OLU). The logical unit from which data is sent. Contrast with *destination logical unit (DLU)*.

pacing. In SNA, a technique by which a receiving component controls the rate of transmission of a sending component to prevent overrun or congestion. See *session-level pacing*, *send pacing*, and *virtual route (VR) pacing*. See also *flow control*.

pacing group. In SNA, (1) The path information units (PIUs) that can be transmitted on a virtual route before a virtual-route pacing response is received, indicating that the virtual route receiver is ready to receive more PIUs on the route. Synonymous with *window*. (2) The requests that can be transmitted on the normal flow in one direction on a session before a session-level pacing response is received, indicating that the receiver is ready to accept the next group of requests.

pacing group size. In SNA, (1) The number of path information units (PIUs) in a virtual route pacing group. The pacing group size varies according to traffic congestion along the virtual route. Synonymous with *window size*. (2) The number of requests in a session-level pacing group.

pacing response. In SNA, an indicator that signifies a receiving component's readiness to accept another pacing group; the indicator is carried in a response header (RH) for session-level pacing, and in a transmission header (TH) for virtual route pacing.

packet switching. (TC97) The process of routing and transferring data by means of addressed packets so that a channel is occupied only during the transmission of a packet; upon completion of the transmission, the channel is made available for the transfer of other packets.

page. (1) The portion of a panel that is shown on a display surface at one time. (2) To move back and forth among the pages of a multiple-page panel. See also *scroll*. (3) (ISO) In a virtual storage system, a

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fixed-length block that has a virtual address and that can be transferred between real storage and auxiliary storage. (4) To transfer instructions, data, or both between real storage and external page or auxiliary storage.

panel. (1) A formatted display of information that appears on a terminal screen. See also *help panel* and *task panel*. Contrast with *screen*. (2) In computer graphics, a display image that defines the locations and characteristics of display fields on a display surface.

parameter. (1) **(ISO)** A variable that is given a constant value for a specified application and that may denote the application. (2) An item in a menu for which the user specifies a value or for which the system provides a value when the menu is interpreted. (3) Data passed to a program or procedure by a user or another program, namely as an operand in a language statement, as an item in a menu, or as a shared data structure. See also *keyword*, *keyword parameter*, and *operand*.

parallel sessions. In SNA, two or more concurrently active sessions between the same two logical units (LUs) using different pairs of network addresses. Each session can have independent session parameters.

path. (1) In SNA, the series of path control network components (path control and data link control) that are traversed by the information exchanged between two network addressable units (NAUs). See also *explicit route (ER)*, *route extension*, and *virtual route (VR)*. (2) In VTAM when defining a switched major node, a potential dial-out port that can be used to reach that node. (3) In the NetView/PC program, a complete line in a configuration that contains all of the resources in the service point command service (SPCS) query link configuration request list.

path control (PC). The function that routes message units between network addressable units (NAUs) in the network and provides the paths between them. It converts the BIUs from transmission control (possibly segmenting them) into path information units (PIUs) and exchanges basic transmission units (BTUs) and one or more PIUs with data link control. Path control differs for peripheral nodes, which use local addresses for routing, and subarea nodes, which use network addresses for routing. See *peripheral path control* and *subarea path control*. See also *link*, *peripheral node*, and *subarea node*.

path control (PC) layer. In SNA, the layer that manages the sharing of link resources of the SNA network and routes basic information units (BIUs) through it. See also *BIU segment*, *blocking of PIUs*, *data link control layer*, and *transmission control layer*.

path control (PC) network. In SNA, the part of the SNA network that includes the data link control and path control layers. See *SNA network* and *user application network*. See also *boundary function*.

path information unit (PIU). In SNA, a message unit consisting of a transmission header (TH) alone, or of a TH followed by a basic information unit (BIU) or a BIU segment. See also *transmission header*.

PC. (1) Path control. (2) Personal Computer. Its full name is the IBM Personal Computer.

PCID. Procedure-correlation identifier.

peripheral host node. A node that provides an application program interface (API) for running application programs but does not provide SSCP functions and is not aware of the network configuration. The peripheral host node does not provide subarea node services. It has boundary function provided by its adjacent subarea. See *boundary node*, *host node*, *node*, *peripheral node*, *subarea host node*, and *subarea node*. See also *boundary function* and *node type*.

peripheral LU. In SNA, a logical unit representing a peripheral node.

peripheral node. In SNA, a node that uses local addresses for routing and therefore is not affected by changes in network addresses. A peripheral node requires boundary-function assistance from an adjacent subarea node. A peripheral node is a physical unit (PU) type 1, 2.0, or 2.1 node connected to a subarea node with boundary function within a subarea. See *boundary node*, *host node*, *node*, *peripheral host node*, *subarea host node*, and *subarea node*. See also *boundary function* and *node type*.

peripheral path control. The function in a peripheral node that routes message units between units with local addresses and provides the paths between them. See *path control* and *subarea path control*. See also *boundary function*, *peripheral node*, and *subarea node*.

peripheral PU. In SNA, a physical unit representing a peripheral node.

Personal Computer (PC). The IBM Personal Computer line of products including the 5150 and subsequent models.

physical connection. In VTAM, a point-to-point connection or multipoint connection. Synonymous with *connection*.

physical unit (PU). In SNA, a type of network addressable unit (NAU). A physical unit (PU) manages and monitors the resources (such as attached links) of a node, as requested by a system services control point (SSCP) through an SSCP-PU session. An SSCP activates a session with the physical unit in order to indirectly manage, through the PU, resources of the node

such as attached links. See also *peripheral PU* and *subarea PU*.

physical unit (PU) services. In SNA, the components within a physical unit (PU) that provide configuration services and maintenance services for SSCP-PU sessions. See also *logical unit (LU) services*.

PIU. Path information unit.

PLU. Primary logical unit.

polling. (1) * Interrogation of devices for purposes such as to avoid contention, to determine operational status, or to determine readiness to send or receive data. (2) (TC97) The process whereby stations are invited, one at a time, to transmit.

positional operand. An operand in a language statement that has a fixed position. See also *definition statement*. Contrast with *keyword operand*.

positive response. A response indicating that a request was received and processed. Contrast with *negative response*.

PPO. Primary program operator application program.

primary half-session. In SNA, the half-session that sends the session activation request. See also *primary logical unit*. Contrast with *secondary half-session*.

primary logical unit (PLU). In SNA, the logical unit (LU) that contains the primary half-session for a particular LU-LU session. Each session must have a PLU and secondary logical unit (SLU). The PLU is the unit responsible for the bind and is the controlling LU for the session. A particular LU may contain both primary and secondary half-sessions for different active LU-LU sessions. Contrast with *secondary logical unit (SLU)*.

primary program operator application program (PPO). A program operator application program that is authorized to receive unsolicited messages. When the PPO is active, all unsolicited messages will go to the PPO. Conversely, when the PPO is inactive, unsolicited messages will go to the system console. There can be only one PPO in any domain.

primary session. An extended recovery facility (XRF) session between the active application subsystem and a terminal user.

problem determination. The process of identifying the source of a problem; for example, a program component, a machine failure, telecommunication facilities, user or contractor-installed programs or equipment, an environment failure such as a power loss, or a user error.

procedure-correlation identifier (PCID). In SNA, a value used by a control point to correlate requests and replies.

profile. In the Conversational Monitor System (CMS) or the group control system (GCS), the characteristics defined by a PROFILE EXEC file that executes automatically after the system is loaded into a virtual machine. See also *operator profile*.

program temporary fix (PTF). A temporary solution or bypass of a problem diagnosed by IBM in a current unaltered release of the program.

protection key. An indicator that appears in the current program status word whenever an associated task has control of the system. This indicator must match the storage keys of all main storage locks that the task is to use.

protocol. (1) (CCITT/ITU) A specification for the format and relative timing of information exchanged between communicating parties. (2) (TC97) The set of rules governing the operation of functional units of a communication system that must be followed if communication is to be achieved. (3) In SNA, the meanings of, and the sequencing rules for, requests and responses used for managing the network, transferring data, and synchronizing the states of network components. See also *bracket protocol*. Synonymous with *line control discipline* and *line discipline*. See also *link protocol*.

PTF. Program temporary fix.

PU. Physical unit.

public network. A network established and operated by communication common carriers or telecommunication Administrations for the specific purpose of providing circuit-switched, packet-switched, and leased-circuit services to the public. Contrast with *user-application network*.

PU-PU flow. In SNA, the exchange between physical units (PUs) of network control requests and responses.

real name. The name by which a logical unit (LU), logon mode table, or class-of-service (COS) table is known within the SNA network in which it resides.

real network address. The address by which a logical unit (LU) is known within the SNA network in which it resides.

receive pacing. In SNA, the pacing of message units that the component is receiving. See also *send pacing*.

RECFMS. Record formatted maintenance statistics.

RECMS. Record maintenance statistics.

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Recommendation X.21 (Geneva 1980). A Consultative Committee on International Telegraph and Telephone (CCITT) recommendation for a general purpose interface between data terminal equipment and data circuit equipment for synchronous operations on a public data network.

Recommendation X.25 (Geneva 1980). A Consultative Committee on International Telegraph and Telephone (CCITT) recommendation for the interface between data terminal equipment and packet-switched data networks. See also *packet switching*.

record formatted maintenance statistics (RECFMS). A statistical record built by an SNA controller and usually solicited by the host.

record maintenance statistics (RECMS). An SNA error event record built from an NCP or line error and sent unsolicited to the host.

release. For VTAM, to relinquish control of resources (communication controllers or physical units). See also *resource takeover*. Contrast with *acquire (2)*.

remote. Concerning the peripheral parts of a network not centrally linked to the host processor and generally using telecommunication lines with public right-of-way.

request header (RH). In SNA, control information preceding a request unit (RU). See also *request/response header (RH)*.

request parameter list (RPL). In VTAM, a control block that contains the parameters necessary for processing a request for data transfer, for establishing or terminating a session, or for some other operation.

request unit (RU). In SNA, a message unit that contains control information, end-user data, or both.

request/response header (RH). In SNA, control information, preceding a request/response unit (RU), that specifies the type of RU (request unit or response unit) and contains control information associated with that RU.

request/response unit (RU). In SNA, a generic term for a request unit or a response unit. See also *request unit (RU)* and *response unit*.

resource. (1) Any facility of the computing system or operating system required by a job or task, and including main storage, input/output devices, the processing unit, data sets, and control or processing programs. (2) In the NetView program, any hardware or software that provides function to the network.

resource takeover. In VTAM, action initiated by a network operator to transfer control of resources from one domain to another. See also *acquire (2)* and *release*. See *takeover*.

response header (RH). In SNA, a header, optionally followed by a response unit (RU), that indicates whether the response is positive or negative and that may contain a pacing response. See also *negative response, pacing response*, and *positive response*.

response time. (1) The amount of time it takes after a user presses the enter key at the terminal until the reply appears at the terminal. (2) For response time monitoring, the time from the activation of a transaction until a response is received, according to the response time definition coded in the performance class.

response unit (RU). In SNA, a message unit that acknowledges a request unit; it may contain prefix information received in a request unit. If positive, the response unit may contain additional information (such as session parameters in response to Bind Session), or if negative, contains sense data defining the exception condition.

return code. * A code [returned from a program] used to influence the execution of succeeding instructions.

RH. Request/response header.

ring. A network configuration where a series of attaching devices are connected by unidirectional transmission links to form a closed path.

route. See *explicit route* and *virtual route*.

route extension (REX). In SNA, the path control network components, including a peripheral link, that make up the portion of a path between a subarea node and a network addressable unit (NAU) in an adjacent peripheral node. See also *path, explicit route (ER)*, and *virtual route (VR)*.

RPL. Request parameter list.

RPL exit routine. In VTAM, an application program exit routine whose address has been placed in the EXIT field of a request parameter list (RPL). VTAM invokes the routine to indicate that an asynchronous request has been completed. See *EXLST exit routine*.

RU. Request/response unit.

RU chain. In SNA, a set of related request/response units (RUs) that are consecutively transmitted on a particular normal or expedited data flow. The request RU chain is the unit of recovery: if one of the RUs in the chain cannot be processed, the entire chain is discarded. Each RU belongs to only one chain, which has a beginning and an end indicated by means of control bits in request/response headers within the RU chain. Each RU can be designated as first-in-chain (FIC), last-

in-chain (LIC), middle-in-chain (MIC), or only-in-chain (OIC). Response units and expedited-flow request units are always sent as only-in-chain.

RUN disk. The virtual disk that contains the VTAM and VM SNA console support (VSCS) load libraries, program temporary fixes (PTFs) and user-written modifications from the ZAP disk. See *BASE disk*, *DELTA disk*, *MERGE disk*, and *ZAP disk*.

scanner. (1) A device capable of electronically reviewing amounts of data and translating the data into a machine readable form. (2) For the 3725 communication controller, a processor dedicated to controlling a small number of telecommunication lines. It provides the connection between the line interface coupler hardware and the central control unit.

scanner interface trace (SIT). A record of the activity within the communication scanner processor (CSP) for a specified data link between a 3725 Communication Controller and a resource.

screen. An illuminated display surface; for example, the display surface of a CRT or plasma panel. Contrast with *panel*.

scroll. To move all or part of the display image vertically to display data that cannot be observed within a single display image. See also *page (2)*.

SCS. SNA character string.

SDLC. Synchronous Data Link Control.

secondary half-session. In SNA, the half-session that receives the session-activation request. See also *secondary logical unit (SLU)*. Contrast with *primary half-session*.

secondary logical unit (SLU). In SNA, the logical unit (LU) that contains the secondary half-session for a particular LU-LU session. An LU may contain secondary and primary half-sessions for different active LU-LU sessions. Contrast with *primary logical unit (PLU)*.

secondary logical unit (SLU) key. A key-encrypting key used to protect a session cryptography key during its transmission to the secondary half-session.

secondary program operator application program (SPO). A program operator application program that is not authorized to receive unsolicited messages. An SPO can receive only the messages generated by commands it issued. There can be more than one SPO in a domain in addition to a primary program operator application program (PPO). Contrast with *primary program operator application program*.

segment. See *link connection segment*.

send pacing. In SNA, pacing of message units that a component is sending. See also *receive pacing*.

service point (SP). An entry point that supports applications that provide network management for resources not under the direct control of itself as an entry point. Each resource is either under the direct control of another entry point or not under the direct control of any entry point. A service point accessing these resources is not required to use SNA sessions (unlike a focal point). A service point is needed when entry point support is not yet available for some network management function.

service reminder (SR). In the NetView/PC program, a notification set by the operator that is displayed on a panel and logs a specified message.

session. In SNA, a logical connection between two network addressable units (NAUs) that can be activated, tailored to provide various protocols, and deactivated, as requested. Each session is uniquely identified in a transmission header (TH) by a pair of network addresses, identifying the origin and destination NAUs of any transmissions exchanged during the session. See *half-session*, *LU-LU session*, *SSCP-LU session*, *SSCP-PU session*, and *SSCP-SSCP session*. See also *LU-LU session type* and *PU-PU flow*.

session activation request. In SNA, a request that activates a session between two network addressable units (NAUs) and specifies session parameters that control various protocols during session activity; for example, BIND and ACTPU. Contrast with *session deactivation request*.

session awareness (SAW) data. Data collected by NetView about a session that includes the session type, the names of session partners, and information about the session activation status. It is collected for LU-LU, SSCP-LU, SSCP-PU, and SSCP-SSCP sessions and for non-SNA terminals not supported by NTO. It can be displayed in various forms, such as most recent sessions lists.

session control (SC). In SNA, (1) One of the components of transmission control. Session control is used to purge data flowing in a session after an unrecoverable error occurs, to resynchronize the data flow after such an error, and to perform cryptographic verification. (2) A request unit (RU) category used for requests and responses exchanged between the session control components of a session and for session activation and deactivation requests and responses.

session deactivation request. In SNA, a request that deactivates a session between two network addressable units (NAUs); for example, UNBIND and DACTPU. Synonymous with *generic unbind*. Contrast with *session activation request*.

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session-establishment request. In VTAM, a request to an LU to establish a session. For the primary logical unit (PLU) of the requested session, the session-establishment request is the CINIT sent from the system services control point (SSCP) to the PLU. For the secondary logical unit (SLU) of the requested session, the session-establishment request is the BIND sent from the PLU to the SLU.

session-initiation request. In SNA, an Initiate or logon request from a logical unit (LU) to a control point (CP) that an LU-LU session be activated.

session-level pacing. In SNA, a flow control technique that permits a receiver to control the data transfer rate (the rate at which it receives request units) on the normal flow. It is used to prevent overloading a receiver with unprocessed requests when the sender can generate requests faster than the receiver can process them. See also *pacing* and *virtual route pacing*.

session limit. (1) In SNA, (a) the maximum number of concurrently active LU-LU sessions a particular logical unit can support; (b) the limit that determines how many sessions may be active between two logical units (LUs) that are using LU 6.2 protocols and a given mode name. Each partner LU is allocated a minimum share of contention-winner sessions within this limit. (2) In the network control program, the maximum number of concurrent line-scheduling sessions on a non-SDLC, multipoint line.

session management exit routine. An installation-supplied VTAM exit routine that performs authorization, accounting, and gateway path selection functions.

session parameters. In SNA, the parameters that specify or constrain the protocols (such as bracket protocol and pacing) for a session between two network addressable units. See also *logon mode*.

session partner. In SNA, one of the two network addressable units (NAUs) having an active session.

session services. In SNA, one of the types of network services in the control point (CP) and in the logical unit (LU). These services provide facilities for an LU or a network operator to request that the SSCP initiate or terminate sessions between logical units. See *configuration services*, *maintenance services*, and *management services*.

shared. Pertaining to the availability of a resource to more than one use at the same time.

simulated logon. A session-initiation request generated when a VTAM application program issues a SIMLOGON macroinstruction. The request specifies a logical unit (LU) with which the application program wants a session in which the requesting application program will act as the primary logical unit (PLU).

single-domain network. In SNA, a network with one system services control point (SSCP). Contrast with *multiple-domain network*.

SIT. Scanner interface trace.

SLU. Secondary logical unit.

SMF. System management facility.

SNA. Systems Network Architecture.

SNA character string (SCS). A character string composed of EBCDIC controls, optionally intermixed with end-user data, that is carried within a request/response unit.

SNA network. The part of a user-application network that conforms to the formats and protocols of Systems Network Architecture. It enables reliable transfer of data among end users and provides protocols for controlling the resources of various network configurations. The SNA network consists of network addressable units (NAUs), boundary function components, and the path control network.

SNA network interconnection. The connection, by gateways, of two or more independent SNA networks to allow communication between logical units in those networks. The individual SNA networks retain their independence.

solicited message. A response from VTAM to a command entered by a program operator. Contrast with *unsolicited message*.

SP. Service point.

specific-mode. In VTAM: (1) The form of a RECEIVE request that obtains input from one specific session. (2) The form of an accept request that completes the establishment of a session by accepting a specific queued CINIT request. Contrast with *any-mode*. See *continue-specific mode*.

SPO. Secondary program operator application program.

SR. Service reminder.

SS. Start-stop.

SSCP. System services control point.

SSCP ID. In SNA, a number that uniquely identifies a system services control point (SSCP). The SSCP ID is used in session activation requests sent to physical units (PUs) and other SSCPs.

SSCP rerouting. In SNA network interconnection, the technique used by the gateway system services control point (SSCP) to send session-initiation request units (RUs), by way of a series of SSCP-SSCP sessions, from one SSCP to another, until the owning SSCP is reached.

SSCP-LU session. In SNA, a session between a system services control point (SSCP) and a logical unit (LU); the session enables the LU to request the SSCP to help initiate LU-LU sessions.

SSCP-PU session. In SNA, a session between a system services control point (SSCP) and a physical unit (PU); SSCP-PU sessions allow SSCPs to send requests to and receive status information from individual nodes in order to control the network configuration.

SSCP-SSCP session. In SNA, a session between the system services control point (SSCP) in one domain and the SSCP in another domain. An SSCP-SSCP session is used to initiate and terminate cross-domain LU-LU sessions.

SSP. System Support Programs (IBM licensed program). Its full name is Advanced Communications Function for System Support Programs. Synonymous with *ACF/SSP*.

ST. Session configuration screen abbreviation.

start option. In VTAM, a user-specified or IBM-supplied option that determines certain conditions that are to exist during the time a VTAM system is operating. Start options can be predefined or specified when VTAM is started.

statement. A language syntactic unit consisting of an operator, or other statement identifier, followed by one or more operands. See *definition statement*.

station. (1) One of the input or output points of a network that uses communication facilities; for example, the telephone set in the telephone system or the point where the business machine interfaces with the channel on a leased private line. (2) One or more computers, terminals, or devices at a particular location.

statistic. In the NetView program, a resource-generated data base record that contains recoverable error counts, traffic, and other significant data about a resource.

subarea. A portion of the SNA network consisting of a subarea node, any attached peripheral nodes, and their associated resources. Within a subarea node, all network addressable units, links, and adjacent link stations (in attached peripheral or subarea nodes) that are addressable within the subarea share a common subarea address and have distinct element addresses.

subarea address. In SNA, a value in the subarea field of the network address that identifies a particular subarea. See also *element address*.

subarea host node. A host node that provides both subarea function and an application program interface (API) for running application programs. It provides system services control point (SSCP) functions, subarea node services, and is aware of the network configuration. See *boundary node*, *communication management configuration host node*, *data host node*, *host node*, *node*, *peripheral node*, and *subarea node*. See also *boundary function* and *node type*.

subarea link. In SNA, a link that connects two subarea nodes. See *channel link* and *link*.

subarea node. In SNA, a node that uses network addresses for routing and whose routing tables are therefore affected by changes in the configuration of the network. Subarea nodes can provide gateway function, and boundary function support for peripheral nodes. Type 4 and type 5 nodes are subarea nodes. See *boundary node*, *host node*, *node*, *peripheral node*, and *subarea host node*. See also *boundary function* and *node type*.

subarea path control. The function in a subarea node that routes message units between network addressable units (NAUs) and provides the paths between them. See *path control* and *peripheral path control*. See also *boundary function*, *peripheral node*, and *subarea node*.

subarea PU. In SNA, a physical unit (PU) in a subarea node.

supervisor. The part of a control program that coordinates the use of resources and maintains the flow of processing unit operations.

switched major node. In VTAM, a major node whose minor nodes are physical units and logical units attached by switched SDLC links.

Synchronous Data Link Control (SDLC). A discipline for managing synchronous, code-transparent, serial-by-bit information transfer over a link connection. Transmission exchanges may be duplex or half-duplex over switched or nonswitched links. The configuration of the link connection may be point-to-point, multipoint, or loop. SDLC conforms to subsets of the Advanced Data Communication Control Procedures (ADCCP) of the American National Standards Institute and High-Level Data Link Control (HDLC) of the International Standards Organization.

system management facility (SMF). A standard feature of MVS that collects and records a variety of system and job-related information.

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system services control point (SSCP). In SNA, a central location point within an SNA network for managing the configuration, coordinating network operator and problem determination requests, and providing directory support and other session services for end users of the network. Multiple SSCPs, cooperating as peers, can divide the network into domains of control, with each SSCP having a hierarchical control relationship to the physical units and logical units within its domain.

system services control point (SSCP) domain. The system services control point and the physical units (PUs), logical units (LUs), links, link stations and all the resources that the SSCP has the ability to control by means of activation requests and deactivation requests.

Systems Network Architecture (SNA). The description of the logical structure, formats, protocols, and operational sequences for transmitting information units through and controlling the configuration and operation of networks.

System Support Programs (SSP). An IBM licensed program, made up of a collection of utilities and small programs, that supports the operation of the NCP.

TAF. Terminal access facility.

takeover. The process by which the failing active subsystem is released from its extended recovery facility (XRF) sessions with terminal users and replaced by an alternate subsystem. See *resource takeover.*

task. A basic unit of work to be accomplished by a computer. The task is usually specified to a control program in a multiprogramming or multiprocessing environment.

task panel. Online display from which you communicate with the program in order to accomplish the program's function, either by selecting an option provided on the panel or by entering an explicit command. See *help panel.*

TCAS. Terminal control address space.

telecommunication line. Any physical medium such as a wire or microwave beam, that is used to transmit data. Synonymous with *transmission line.*

teletypewriter exchange service (TWX). Teletypewriter service in which suitably arranged teletypewriter stations are provided with lines to a central office for access to other such stations throughout the U.S. and Canada. Both baudot and ASCII-coded machines are used. Business machines may also be used with certain restrictions.

terminal. A device that is capable of sending and receiving information over a link; it is usually equipped with a keyboard and some kind of display, such as a screen or a printer.

terminal access facility (TAF). In the NetView program, a facility that allows a network operator to control a number of subsystems. In a full-screen or operator control session, operators can control any combination of such subsystems simultaneously.

terminal control address space (TCAS). The part of TSO/VTAM that provides logon services for TSO/VTAM users.

TERMINATE. In SNA, a request unit that is sent by a logical unit (LU) to its system services control point (SSCP) to cause the SSCP to start a procedure to end one or more designated LU-LU sessions.

TG. Transmission group.

TH. Transmission header.

threshold. In the NetView program, refers to a percentage value set for a resource and compared to a calculated error-to-traffic ratio.

time sharing option (TSO). An optional configuration of the operating system that provides conversational time sharing from remote stations.

time sharing option for VTAM (TSO/VTAM). An optional configuration of the operating system that provides conversational time sharing from remote stations in a network using VTAM.

token. A sequence of bits passed from one device to another along the token ring. When the token has data appended to it, it becomes a frame.

token ring. A network with a ring topology that passes tokens from one attaching device to another. For example, the IBM Token-Ring Network.

transmission control (TC) layer. In SNA, the layer within a half-session that synchronizes and paces session-level data traffic, checks session sequence numbers of requests, and enciphers and deciphers end-user data. Transmission control has two components: the connection point manager and session control. See also *half-session.*

transmission group (TG). In SNA, a group of links between adjacent subarea nodes, appearing as a single logical link for routing of messages. A transmission group may consist of one or more SDLC links (parallel links) or of a single System/370 channel.

transmission header (TH). In SNA, control information, optionally followed by a basic information unit (BIU) or a BIU segment, that is created and used by path control

to route message units and to control their flow within the network. See also *path information unit*.

transmission line. Synonym for *telecommunication line*.

transmission priority. In SNA, a rank assigned to a path information unit (PIU) that determines its precedence for being selected by the transmission group control component of path control for forwarding to the next subarea node of the route used by the PIU.

transmission services (TS) profile. In SNA, a specification in a session activation request (and optionally, in the responses) of transmission control (TC) protocols (such as session-level pacing and the usage of session-level requests) to be supported by a particular session. Each defined transmission services profile is identified by a number.

TSO. Time sharing option.

TSO/VTAM. Time sharing option for VTAM.

TWX. Teletypewriter exchange service.

type 2.1 node (T2.1 node). A node that can attach to an SNA network as a peripheral node using the same protocols as type 2.0 nodes. Type 2.1 nodes can be directly attached to one another using peer-to-peer protocols. See *end node*, *node*, and *subarea node*. See also *node type*.

type 2.1 node (T2.1 node) control point domain. The CP, its logical units (LUs), links, link stations, and all resources that it activates and deactivates.

UNBIND. In SNA, a request to deactivate a session between two logical units (LUs). See also *session deactivation request*. Contrast with *BIND*.

unformatted. In VTAM, pertaining to commands (such as LOGON or LOGOFF) entered by an end user and sent by a logical unit in character form. The character-coded command must be in the syntax defined in the user's unformatted system services definition table. Synonymous with *character-coded*. Contrast with *field-formatted*.

unformatted system services (USS). In SNA products, a system services control point (SSCP) facility that translates a character-coded request, such as a logon or logoff request into a field-formatted request for processing by formatted system services and translates field-formatted replies and responses into character-coded requests for processing by a logical unit. Contrast with *formatted system services*. See also *converted command*.

uninterpreted name. In SNA, a character string that a system services control point (SSCP) is able to convert into the network name of a logical unit (LU). Typically, an uninterpreted name is used in a logon or Initiate request from a secondary logical unit (SLU) to identify the primary logical unit (PLU) with which the session is requested.

unsolicited message. A message, from VTAM to a program operator, that is unrelated to any command entered by the program operator. Contrast with *solicited message*.

upstream. In the direction of data flow from the end user to the host. Contrast with *downstream*.

user. Anyone who requires the services of a computing system.

user-application network. A configuration of data processing products, such as processors, controllers, and terminals, established and operated by users for the purpose of data processing or information exchange, which may use services offered by communication common carriers or telecommunication Administrations. Contrast with *public network*.

user exit. A point in an IBM-supplied program at which a user routine may be given control.

USERVAR. Contains an application name used to route a session-establishment request to the currently active application subsystem.

USS. Unformatted system services.

value. (1) **(TC97)** A specific occurrence of an attribute, for example, "blue" for the attribute "color." (2) A quantity assigned to a constant, a variable, a parameter, or a symbol.

variable. In the NetView program, a character string beginning with & that is coded in a command list and is assigned a value during execution of the command list.

verb. (1) In SNA, the general name for a transaction program's request for communication services. (2) In VTAM, a programming language element in the logical unit (LU) 6.2 application program interface (API) that causes an LU 6.2 function to be performed.

virtual machine. A functional simulation of a computer and its associated devices.

Virtual Machine (VM). A licensed program whose full name is the Virtual Machine/System Product (VM/SP). It is a software operating system that manages the resources of a real processor to provide virtual machines to end users. As a time-sharing system control program, it consists of the virtual machine control program (CP), the conversational monitor system (CMS), the group control system (GCS), and the interactive problem control system (IPCS).

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virtual route (VR). In SNA, a logical connection (1) between two subarea nodes that is physically realized as a particular explicit route, or (2) that is contained wholly within a subarea node for intranode sessions. A virtual route between distinct subarea nodes imposes a transmission priority on the underlying explicit route, provides flow control through virtual-route pacing, and provides data integrity through sequence numbering of path information units (PIUs). See also *explicit route (ER)*, *path*, and *route extension*.

virtual route (VR) pacing. In SNA, a flow control technique used by the virtual route control component of path control at each end of a virtual route to control the rate at which path information units (PIUs) flow over the virtual route. VR pacing can be adjusted according to traffic congestion in any of the nodes along the route. See also *pacing* and *session-level pacing*.

virtual route pacing response (VRPRS). A non-sequenced, supervisory path information unit (PIU) that flows at network priority. It may overtake VR-sequenced PIUs and consists of a transmission header with no basic information unit (BIU) data.

virtual route selection exit routine. In VTAM, an optional installation exit routine that modifies the list of virtual routes associated with a particular class of service before a route is selected for a requested LU-LU session.

virtual storage. (ISO) The notion of storage space that may be regarded as addressable main storage by the user of a computer system in which virtual addresses are mapped into real addresses. The size of virtual storage is limited by the addressing scheme of the computer system and by the amount of auxiliary storage available, not by the actual number of main storage locations.

Virtual Storage Extended (VSE). An IBM licensed program whose full name is the Virtual Storage Extended/Advanced Function. It is a software operating system controlling the execution of programs.

Virtual Telecommunications Access Method (VTAM). An IBM licensed program that controls communication and the flow of data in an SNA network. It provides single-domain, multiple-domain, and interconnected network capability.

VIT. VTAM internal trace.

VM. Virtual Machine operating system. Its full name is Virtual Machine/System Product. Synonymous with *VM/SP*.

VM SNA console support (VSCS). A VTAM component for the VM environment that provides Systems Network Architecture (SNA) support. It allows SNA terminals to be virtual machine consoles.

VM/SP. Virtual Machine/System Product operating system. Synonym for *VM*.

VR. Virtual route.

VSCS. VM SNA console support.

VSE. Virtual Storage Extended operating system. Synonymous with *VSE/AF*.

VSE/AF. Virtual Storage Extended/Advanced Function operating system. Synonym for *VSE*.

VTAM. Virtual Telecommunications Access Method (IBM licensed program). Its full name is Advanced Communications Function for the Virtual Telecommunications Access Method. Synonymous with *ACF/VTAM*.

VTAM application program. A program that has opened an ACB to identify itself to VTAM and can now issue VTAM macroinstructions.

VTAM definition. The process of defining the user application network to VTAM and modifying IBM-defined characteristics to suit the needs of the user.

VTAM definition library. The operating system files or data sets that contain the definition statements and start options filed during VTAM definition.

VTAM internal trace (VIT). A trace used in VTAM to collect data on channel I/O, use of locks, and storage management services.

VTAM operator. A person or program authorized to issue VTAM operator commands. See *domain operator*, *program operator*, and *network operator (2)*.

VTAM operator command. A command used to monitor or control a VTAM domain. See also *definition statement*.

VTAM Terminal I/O Coordinator (VTIOC). The part of TSO/VTAM that converts TSO TGET, TPUT, TPG, and terminal control macroinstructions into SNA request units.

VTIOC. VTAM Terminal I/O Coordinator.

wide area network. A network that provides data communication capability in geographic areas larger than those serviced by local area networks. Wide area networks may extend across public rights-of-way. Contrast with *local area network*.

window. (1) In SNA, synonym for *pacing group*. (2) On a visual display terminal, a small amount of information in a framed-in area on a panel that overlays part of the panel.

window size. In SNA, synonym for *pacing group size*.

wrap. In general, to go from the maximum to the minimum in computer storage. For example, the continuation of an operation from the maximum value in storage to the first minimal value.

XID. Exchange identification.

XRF. Extended recovery facility.

X.21. See *Recommendation X.21 (Geneva 1980)*.

X.25. See *Recommendation X.25 (Geneva 1980)*.

ZAP disk. The virtual disk in the VM operating system that contains the user-written modifications to VTAM code. See *BASE disk*, *DELTA disk*, *MERGE disk*, and *RUN disk*.

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