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Program Product

MVS/Extended Architecture Message Library: System Codes

MVS/System Product:

JES3 Version 2	**5665-291**
JES2 Version 2	**5740-XC6**

IBM

Sixth Edition (June, 1987)

This is a major revision of, and obsoletes, GC28-1157-4 and Technical Newsletter GN28-1141. See the Summary of Amendments following the Contents for a summary of the changes made to this manual. Technical changes or additions to the text and illustrations are indicated by a vertical line to the left of the change.

This edition applies to Version 2 Release 2.0 of MVS/System Product 5665-291 or 5740-XC6 and to all subsequent releases until otherwise indicated in new editions or Technical Newsletters. Changes are made periodically to the information herein; before using this publication in connection with the operation of IBM systems, consult the latest *IBM System/370 Bibliography*, GC20-0001, for the editions that are applicable and current.

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Preface

This publication lists and describes:

- The completion codes issued by the MVS/Extended Architecture operating system when it uses an ABEND macro instruction to terminate abnormally a task or address space.
- The wait state codes placed in the program status word (PSW) when the system begins a wait state.
- Causes of uncoded wait states.
- The wait state codes placed in the last four bytes of the PSW when the stand-alone dump program (SADMP) enters a wait state.
- Causes of loops.

The descriptions suggest responses by the operator and, where appropriate, by the programmer. Many descriptions state that an error record is written to the SYS1.LOGREC data set. This error record is described in *MVS/Extended Architecture System Programming Library: SYS1.LOGREC Error Recording*, GC28-1162, and in *MVS/Extended Architecture Debugging Handbook*, Volume 1, LC28-1164.

The description of most codes ends with a problem determination paragraph, which lists suggested actions as items in tables; the problem determination tables are at the back of the publication. You should perform the actions for the items listed in the code description before asking for programming or hardware support.

The sections on system completion codes and wait state codes begin with information useful to those receiving these codes. Remember to read these introductions.

The appendix lists the modules that detect and issue system completion codes and wait state codes.

Who Should Use this Publication

This publication is needed by operators, system programmers, and applications programmers.

Associated Publications

Many system completion and wait state codes refer to messages. See *MVS/Extended Architecture Message Library: System Messages*, Volume 1, GC28-1376, and Volume 2, GC28-1377. These volumes contain the message text and explanation for many system messages and list the publications containing all other system messages.

Publications cited in this book or containing procedures or concepts mentioned include the following. References often use a shortened title; the list correlates the referenced titles with the full titles and the order numbers.

Referenced Title	Full Title, Order Number
Principles of Operation	*IBM System/370 Extended Architecture Principles of Operation*, SA22-7085
Print Services Facility Messages	*Print Services Facility Messages*, SH35-0060
—	*IBM Graphics Access Method/System Product: Messages and Codes*, SC33-0143
—	*IBM 3203/3211 Printer and 3811 Control Unit Component Descriptions*, GA24-3343
—	*MVS/Extended Architecture System Programming Library: JES3 User Modifications and Macros*, LC28-1372
System Generation Reference	*MVS/Extended Architecture System Generation Reference*, GC26-4009
—	*VTAM Macro Language Reference*, GC27-6995
Initialization and Tuning	*MVS/Extended Architecture System Programming Library: Initialization and Tuning*, GC28-1149
System Macros and Facilities	*MVS/Extended Architecture System Programming Library: System Macros and Facilities*, Volumes 1 and 2, GC28-1150 and GC28-1151
System Modifications	*MVS/Extended Architecture System Programming Library: System Modifications*, GC28-1152
Supervisor Services and Macro Instructions	*MVS/Extended Architecture Supervisor Services and Macro Instructions*, GC28-1154
31-Bit Addressing	*MVS/Extended Architecture System Programming Library: 31-Bit Addressing*, GC28-1158
Service Aids	*MVS/Extended Architecture System Programming Library: Service Aids*, GC28-1159
TCAM System Programmer's Guide	*OS/VS TCAM System Programmer's Guide*, GC30-2051
—	*Advanced Communications Function for TCAM Version 2 Support for IBM Subsystems*, SC30-3152
Debugging Handbook	*MVS/Extended Architecture Debugging Handbook*, Volumes 1 through 6, LC28-1164 through LC28-1169
Service Aids Logic	*MVS/Extended Architecture Service Aids Logic*, LY28-1189
Diagnostic Techniques	*MVS/Extended Architecture Diagnostic Techniques*, LY28-1199

System Logic Library	*MVS/Extended Architecture System Logic Library: Master Table of Contents and Index*, SY28-1600 (This book contains the full titles and order numbers of each volume in the System Logic Library.)
—	*Resource Access Control Facility (RACF) Program Logic Manual*, LY28-0730

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Summary of Amendments

Summary of Amendments
for GC28-1157-5
as updated June 1987

This edition contains changes to support MVS/System Product Version 2 Release 2.0, as follows:

- System completion codes 03F, 068, 088, 08B, 33F, 43F, 53F, 81A, 91A, A1A, and B1A have been added.
- System completion codes 028, 054, 09A, 0A0, 0B0, 0F8, 12A, 13F, 157, 23F, 50D, 60D, 8FB, A05, A0A, A78, and D23 have been updated.
- Wait state codes 025, 028, 035, 053, 054, 055, and 079 have been added.
- Wait state codes 071, 072, 074, and 200 have been updated.
- Item 56 has been added to Problem Determination Table I.
- Maintenance updates have been made.

Summary of Amendments
for GC28-1157-4
as updated August 1, 1986
by TNL GN28-1141

This technical newsletter contains the following service updates:

- Wait State Code A2B is new.
- Wait State Code A22 has been updated.

Summary of Amendments
for GC28-1157-4
as updated June 1986

This revision contains the following information:

- Updates to system completion code 0B7 and wait state code 020 in support of MVS/System Product Version 2 Release 1.7.
- This revision also contains maintenance updates.

System Completion Codes

Completion codes are issued by the system or by a problem program when either uses an ABEND macro instruction to terminate abnormally a task or address space. The code indicates why the task or address space was terminated.

The system issues an ABEND when it determines that a task or address space cannot continue processing and produce valid results. For example, a task may try an invalid operation. Or, an input/output operation may fail.

A problem program issues an ABEND when it determines that it cannot continue processing and produce valid results. For example, a problem program may be calculating a total by successive additions. After each addition, the new total is checked against a limit. If the total exceeds the limit, the problem program issues an ABEND macro instruction to terminate abnormally and, perhaps, to ask for a diagnostic dump.

Completion Code Format

The system and user completion codes appear together in the task completion code field (TCBCMP) of the task control block (TCB) for the terminated task.

For abnormal termination by the system, the system completion code is a three-digit hexadecimal number, which is listed in this publication, and the user code is 0000.

For abnormal termination by the problem program, the system completion code is 000 and the user code is supplied by the problem program as a four-digit decimal number coded in the ABEND macro instruction.

Note: Only the system completion codes appear in this publication. User codes are meaningful only for the specific application.

Abnormal Termination of Subtasks

When the highest level task in a job step terminates abnormally, the job step will terminate abnormally.

When a subtask terminates abnormally, only the subtask itself and its subtasks are terminated. Subtask termination is indicated by the completion code in the event control block (ECB) specified when the subtask was attached and in the TCBCMP field of the TCB for the subtask.

A low level subtask that terminates abnormally can indirectly cause the entire job step to terminate abnormally. To do so, each subtask in the job step's task chain must terminate itself abnormally when it finds an ABEND completion code from one of its subtasks. To terminate the job step with the completion code indicating the error in the failing subtask, each subtask must use the completion code from its subtask as its own completion code.

A subtask can cause abnormal termination of the entire job step if the STEP operand was specified in the ABEND macro instruction.

001

Explanation: An input/output error condition was encountered during BDAM, BISAM, BPAM, BSAM, QISAM, or QSAM processing.

This completion code can be issued if CLOSE processing called end-of-volume (EOV), and EOV processing detected an out-of-space condition. Refer to the explanation of message IEC020I in *System Messages* for information about the task that was terminated.

Programmer Response: Respond as indicated for message IEC020I.

Problem Determination: Table I, items 1, 2, 3, 5a, 15, 29.

002

Explanation: For all return codes except 2C, the error occurred while the control program was processing a sequential data set with BSAM or QSAM, or creating a direct organization data set. This system completion code is accompanied by message IEC036I. Refer to the explanation of message IEC036I for complete information about the task that was terminated and for an explanation of the return code found in register 15.

For return code 2C, the error occurred while the control program was opening an ISAM data set for QISAM load mode. Too many tracks were specified for cylinder overflow, or DCB BLKSIZE was not a multiple of DCB LRECL, or DCB BLKSIZE was greater than the track size.

System Action: For all return codes except 2C, pertinent control blocks are written to the GTF trace data set, the user's DCB ABEND exit is taken if one is provided, and message IEC036I is issued.

Programmer Response: See message IEC036I for the appropriate responses for each return code except 2C. For return code 2C, change the CYLOFL operand of the DCB macro instruction to reflect the correct number of tracks, or correct the DCB BLKSIZE.

Problem Determination: Table I, items 1, 3, 5a, 15, 29. Table II, format 3.

003

Explanation: The error occurred during end-of-block processing using either BSAM or QSAM. The error occurred because the I/O macro instructions for a 3525-associated data set were not executed in the proper sequence.

The contents of register 15 indicate the nature of the error:

Register 15 Contents in Hexadecimal	Explanation
01	A READ sequence error
02	A PUNCH sequence error
03	A PRINT sequence error

System Action: The system terminates the task.

Programmer Response: Specify the I/O macro instructions in the proper sequence, and rerun the job.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

004

Explanation: The error occurred during OPEN processing using either BSAM or QSAM because a conflicting or invalid DCB parameter (FUNC or related parameter) is specified. The contents of register 15 indicate the nature of the error:

Register 15 Contents in Hexadecimal	Explanation
01	Invalid DCB FUNC parameter specified.
02	Invalid combination of DCB FUNC parameter and CNTRL macro specified.
03	Conflicting access methods specified.
04	Invalid DCB specified for 3505 or 3525.
05	Invalid format card or an invalid device specified with Optical Mark Read (OMR).
06	Data protection image not found in the SYS1.IMAGELIB data set, volume containing SYS1.IMAGELIB not mounted, or SYS1.IMAGELIB data set not cataloged.

System Action: In all cases, the system terminates the task.

Programmer Response: In all cases, correct the invalid fields of the DCB macro instruction and rerun the job.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

005

Explanation: The error occurred because of an invalid DECB during READ processing using BSAM. This system completion code is accompanied by message IEC041I. Refer to the explanation of message IEC041I for complete information about the task that was terminated and for an explanation of the return code, rc in the message text.

System Action: The task is terminated.

Programmer Response: Make sure that the RBL type of read is used and that the area address and header address parameters are specified so that the DECB is valid.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

008

Explanation: The error occurred during execution of a SYNAD routine. The routine was given control following execution of a BSAM CHECK macro instruction.

The SYNAD routine returned control to the control program for the CHECK macro instruction.

Programmer Response: Correct the SYNAD routine so that the control program save area is not destroyed. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

013

Explanation: The error occurred during execution of an OPEN macro instruction. This system completion code is accompanied by message IEC141I. Refer to the explanation of message IEC141I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC141I.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

014

Explanation: An error occurred during execution of a CLOSE macro instruction for a BDAM data set. This completion code is accompanied by message IEC208I. Refer to the explanation of message IEC208I for complete information about the task that was terminated and for an explanation of the return code in register 15 (see *rc* in the message text).

Programmer Response: Respond as indicated for message IEC208I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

020

Explanation: The error occurred during execution of a BDAM OPEN macro instruction.

The control program found that the DCBMACRF field of the data control block did not contain an A, K, or I, or an attempt was made to open a BDAM data set that contained zero extents.

System Action: The system terminates the task.

Programmer Response: In the first case, make sure that A, K, or I is specified in the MACRF operand of the DCB macro instruction. Verify that the DCBMACRF field was correctly modified by the problem program before the opening process. After making corrections, reassemble the program and execute the job step again.

In the second case, create the data set before attempting to open it as a BDAM file.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

021

Explanation: A caller of the ASCBCHAP routine passed to ASCBCHAP an ASCB address that had bits set to one in its high order byte.

System Action: Module IEAVEACO discovered that the bits in the high order byte of the ASCB address are set to one. The system terminates the caller of the ASCBCHAP routine with the 021 system completion code.

Programmer Response: If you call the ASCBCHAP routine, make sure that the ASCB address you pass has the high order byte set to zero.

Problem Determination: Table I, item 18.

022

Explanation: The VPSS encountered a missing device end condition on control port 0. The VPSS cannot continue processing or respond to operator commands.

System Action: The VPSS missing interruption handler exit abnormally terminates the VPSS monitor address space with system completion code 022. Message IGF991I identifies the 3838 Array Processor that caused the VPSS monitor address space to terminate.

Programmer Response: Determine why the 3838 Array Processor is not responding with a device end. You may let the system operator restart the VPSS so that the operator may enter VPSS commands for other 3838 devices.

Problem Determination: Table 1, items 2, 16, 18, and 30.

023

Explanation: LNKLST lookaside (LLA) could not obtain all the LNKLST directory entries. This system completion code is accompanied by message CSV221I. Message CSV221I identifies the data set causing the error and explains the reason code in register 15.

System Action: If the error occurs during an initial build of the LLA directory, LLA terminates and issues message CSV222I or CSV218E. For a refresh build, LLA abandons refresh processing but remains available.

Programmer Response: Respond as indicated for message CSV221I.

024

Explanation: Abnormal termination occurred in Print Services Facility (PSF). The PSF ESTAE routines determine whether PSF can be restarted and the recovery termination manager requests a PSF restart. This system completion code and a PSF abend reason code are contained in either message APS050I or APS521I. APS050I, APS521I, and the PSF abend reason codes are documented in *Print Services Facility Messages.*

Programmer Response: Respond as indicated for messages APS050I or APS521I.

Problem Determination: Table 1, items 2, 16, and 29.

027

Explanation: Abnormal termination occurred in Print Services Facility (PSF). The PSF ESTAE routines determine whether PSF can be restarted but the recovery termination manager does not request a PSF restart. This system completion code and a PSF abend reason code are contained in either message APS050I or APS521I. APS050I, APS521I, and the PSF abend reason codes are documented in *Print Services Facility Messages.*

Programmer Response: Respond as indicated for messages APS050I or APS521I.

Problem Determination: Table 1, items 2, 16, and 29.

028

Explanation: A paging operation did not complete successfully for one of the following reasons:

1. A permanent I/O error occurred during a page-in or swap-in operation. The data being paged in or swapped in is lost.
2. A page cannot be accessed on auxiliary storage because of a previous I/O error.
3. A real storage management (RSM) routine or a system routine performing a service for RSM suffered an indeterminable error. The function is terminated.
4. The operator canceled a TSO user before the TSO logon completed.
5. An RSM paging service routine detected an internal RSM error. Register 15 contains a reason code.
6. An address space referred to a pageable link pack area (PLPA) page that contains noncontiguous code or large constant areas. Paging initialization processing had already detected this error and issued message IEA928I. See message IEA928I.
7. An auxiliary storage management (ASM) routine found an unexpected error while processing a swap-in or swap-out request. The error is described by a reason code placed in register 6 by the CALLRTM macro.
8. The only current copy of the page resides in a defective frame on extended storage. An error occurred when the system tried to bring the page into real storage from the defective frame.
9. An I/O error occurred when the system wrote the page to auxiliary storage.

See the RSM section of the *System Logic Library* for an explanation of the reason codes for cases 1 through 5, 8 and 9. See the ASM section for an explanation of the reason codes for case 7.

System Action: The system terminates the affected task or address space.

Programmer Response: Determine the module and CSECT in control at the time of the error, using the 028 ABEND record in SYS1.LOGREC. Determine the component to which the module and CSECT belong and continue problem determination at the component level. An RSM 028 ABEND is usually caused by an unexpected error while RSM is in control. Consult *Diagnostic Techniques* for a diagnostic approach.

Problem Determination: Table I, items 1, 2, 5a, 15, 18, 29.

029

Explanation: An invalid virtual input/output (VIO) request was detected by the page operations starter routine of the auxiliary storage manager (ASM).

The SYS1.LOGREC error record for this abnormal termination contains a hexadecimal reason code:

Reason Code	Explanation
0004	The requested VIO logical group number is greater than the maximum allowable logical group number.
0008	The requested VIO logical group number is not assigned to any logical group.
000C	The user does not have access to the requested VIO logical group.
0010	The requested VIO logical group cannot accept new work because work is already pending for that logical group.
0014	The requested VIO page number is greater than the number of pages in the VIO data set.
0018	The requested VIO page does not exist.

0020 The routine could not create tables in storage for the requested VIO pages.

0024 The requested VIO page previously suffered an I/O error.

0028 The system does not contain a valid auxiliary storage copy of the requested VIO page.

System Action: This error does not directly cause an SVC dump. The ASM writes an error record to SYS1.LOGREC and indicates to the real storage manager (RSM) that an error has occurred. The SYS1.LOGREC error record contains the hexadecimal reason code and the invalid VIO request.

Programmer Response: None.

Problem Determination: Table I, items 5a, 16, 18.

02A

Explanation: The error occurred during execution of a data management request for a spool data set. JES2 found that the data management control blocks were no longer valid or that the JES2 UBUF control block was no longer valid.

Programmer Response: Verify that the problem program did not modify data management control blocks or the JES2 UBUF control block. After making the correction, execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 16 and 29.

02B

Explanation: A user exit routine issued a return code that is higher than the maximum return code value specified in the &MAXRC parameter of the $EXITnnn macro instruction.

System Action: The system abnormally terminates the user task and issues a dump.

Operator Response: Use the $TEXIT command to disable EXITnnn.

Programmer Response: If the exit routine is issuing an incorrect return code, correct the routine. If the routine is issuing the correct return code, change the maximum return code value specified on the $EXITnnn macro instruction. Then rerun the job.

Problem Determination: Table I, items 13 and 16.

02C

Explanation: An error occurred in JES2 support of a functional subsystem address space.

When this system completion code appears without a JES2 message the following information applies.

Explanation: During a hot start, either (1) HASPWARM found an active Functional Subsystem (FSS) with no active FSA, or (2) JES2 found that the FSS address space was being connected with no active FSA.

System Action: HASPWARM uses CALLRTM macros to abnormally terminate the FSS address space.

Operator Response: Issue a $S PRT command to restart the FSS.

Programmer Response: This condition occurred because either a functional subsystem printer (1) was drained or (2) started during a JES2 hot start. HASPWARM terminated the FSS address space in case the printer initialization parameter was changed across hot start.

One of the following messages may also accompany this system completion code:

$HASP413
During a hot start, JES2 did not reestablish the cross-memory interface required to support a functional subsystem address space. HASPWARM detected the error.

System Action: HASPWARM uses CALLRTM macros to terminate abnormally the functional subsystem and the functional subsystem application (FSA). The functional subsystem and

FSA are in a separate address space. All devices associated with the functional subsystem are drained.

Operator Response: Notify the system programmer. To restart the functional subsystem, issue the $S PRT command. If the functional subsystem devices are also supported directly by JES2, restart them by issuing the $T command with MODE=JES and then starting the devices with the $S command.

Programmer Response: Determine why the ATSET system service failed. ATSET was invoked with an authorization index value in the $SVTAXV field of the subsystem vector table (SSVT). See *Supervisor Services and Macro Instructions* for a description of ATSET.

$HASP415

During a hot start, HASPWARM did not find a JES2 device with the same device name and device number as the device previously supported by the active functional subsystem application (FSA). $HASP415 gives the name and address of the previously supported device.

System Action: HASPWARM uses a CALLRTM macro to terminate abnormally the FSA task, which is in the functional subsystem address space.

Operator Response: Notify the system programmer.

Programmer Response: Probable cause is invalid JES2 initialization parameters. If necessary, change the parameters and stop and restart JES2.

$HASP750

A catastrophic error occurred in the JES2 module HASPFSSM, which consists of the functional subsystem interface (FSI) support routines; because of the error, JES2 issued a $ERROR macro. The $ERROR macro invoked the HASPFSSM catastrophic error routine, FSMCATER, which issued message $HASP750.

In the message, the CODE=cde field is one of the following:

cde	Explanation
$F00	A GETCELL services error occurred in the FSMGETQC routine of module HASPFSSM. Register 15 and the RC=rc field in $HASP750 contain a hexadecimal reason code:

rc	Meaning
00000001	The number of cells requested via $GETQC in register 1 is less than or equal to 0 or greater than QCTLIMIT.
xxxx0002	A SETLOCK RELEASE request failed. xxxx is the return code from SETLOCK.
xxxx0003	The GETCELL service failed. xxxx is the return code from GETCELL, as follows: 0004 No available cells. 0008 Chain pointers destroyed. 000C Invalid cell pool format. 0010 Invalid cell pool ID.

$F01 A FREECELL services error occurred in the FSMFREQC routine of module HASPFSSM. Register 15 and the RC=rc field of $HASP750 contain a hexadecimal reason code:

rc	Meaning
00000001	The number of cells requested via $FREQC in register 1 is less than or equal to 0 or greater than QCTLIMIT.
xxxx0002	The FREECELL service failed. xxxx is the return code from FREECELL, as follows: 0004 The cell was not allocated from the subpool indicated by the specified cell pool ID. 0008 Cell address is invalid.

000C No cell pool.
0010 Invalid cell pool ID.

$F02 A GETCELL extension error occurred in the FSMBLDQC routine of module HASPFSSM. Register 15 and the RC=rc field of $HASP750 contain a hexadecimal reason code:

rc	Meaning
xxxx0005	The BLDCPOOL service failed. xxxx is the return code from BLDCPOOL, as follows: 0004 GETMAIN failed. 0008 Invalid cell pool ID. 000C Nonglobal subpool. 0010 Cell size greater than pool size. 0014 A DELETE subpool was in progress for the pool.
xxxx0006	The GETMAIN request for the additional cell pool failed. xxxx is the return code from GETMAIN.

$F03 A QUICKCELL initialization error occurred in the FSMQCT routine of module HASPFSSM. Register 15 and the RC=rc field of $HASP750 contain a hexadecimal reason code:

rc	Meaning
xxxx0001	A GETMAIN request failed. xxxx is the return code from GETMAIN.

$F04 An error occurred in a SJF request on GETDS; the error was detected in the FSMSWBRD routine of module HASPFSSM. Register 15 and the RC=rc field of $HASP750 contain a hexadecimal reason code:

rc	Meaning
xxxx0001	An SJF EXTRACT request in subroutine FSWBEXT failed. xxxx is the return code from the SJF request.
xxxx0002	An SJF UPDATE request failed. xxxx is the return code from the SJF request.
xxxx0004	An SJF TERMINATE request in subroutine FSMSJTER failed. xxxx is the return code from the SJF request.
xxxx0005	An SJF PUTSWB request in subroutine FDSPLSWB failed. xxxx is the return code from the SJF request.

$F05 An error occurred in a SJF request on RELDS; the error was detected in the FSMSWBDL routine of module HASPFSSM. Register 15 and the RC=rc field of $HASP750 contain a hexadecimal reason code:

rc	Meaning
xxxx0001	The SJF DELETE request failed. xxxx is the return code from the SJF request.
xxxx0004	An SJF TERMINATE request in subroutine FSMSJTER failed. xxxx is the return code from the SJF request.

System Action: The functional subsystem ESTAE recovery routine may attempt recovery or may terminate the functional subsystem address space. If the recovery is successful, JES2 processing continues from the point of recovery. If the address space is terminated, JES2 processing continues but the device operated by the failed functional subsystem and FSA is drained.

Operator Response: Notify the system programmer. If the functional subsystem address space is terminated and the device drained, issue a $S command to try to restart the device.

If the device does not restart or fails again and if the device can be managed directly by JES2, then issue a $Tdev,MODE=JES command, followed by $Sdev commands, to switch the device to JES mode.

If recovery is successful, no operator response is needed.

Programmer Response: Analyze the messages and dumps. If the reason code 15 indicates that insufficient storage was available, provide more storage and restart the device.

Problem Determination: Table 1, items 2, 7, 16. For $HASP750, items 18 and 33 also.

02D

Explanation: The JES2 main task has abnormally terminated. One of the following events caused the termination.

- The operator issued a $PJES2,ABEND command, which terminated JES2.
- A JES2 catastrophic error/abend has occurred. For further details concerning the abend, see message $HASP095.

System Action: The system invokes JES2 recovery/termination processing.

Operator Response: Notify your system programmer.

Programmer Response: To help you determine the nature of the problem, refer to error messages $HASP088 and $HASP095.

Problem Determination: Table I, items 2 and 16.

02E

Explanation: The availability manager issued an abend in response to a detected error. At the time of abnormal termination the following areas may contain a four-byte reason code:

- Register 15 in the SDWA or RTM2WA data areas at the time of the error.
- The SDWACRC field in the SDWA data area.
- Message AVM010E.

The reason code is in the form 'mmrrssss'.

mm The identification of the availability manager entry point that issued the abnormal termination.

rr An associated hexadecimal error indicator.

ssss The related system service completion codes.

The hexadecimal error indicators **rr** and their associated programmer responses are as follows:

Error Indicator	Explanation
2	Entry point AVFTGLUE could not be located in the nucleus. **Programmer Response**: Check the installation of the availability manager and make sure that the availability manager's load modules contain all of the correct CSECTS. (See the availability manager's sysgen macro, SGAVM).
12	Load module AVFMHTRM could not be located. **Programmer Response**: Check the installation of the availability manager and make sure that the load libraries contain all of the correct load modules. For information on the availability manager's load modules, see the Availability

Manager component of the *System Logic Library*.

18 The primary availability manager load module (AVFMNBLD) was not started by started task control (i.e. a START command).

Programmer Response: Do not try to start the availability manager under an initiator. You can only use the START command.

19 Invalid parameters were received through the "START AVM" command. The availability manager checks for one of the following values in the MODE parameter: OPERATOR, THINLAYER, or RESTART.

Programmer Response: When you issue the "START AVM" operator command, omit the Mode parameter, since its default value is OPERATOR.

28,2A
2B,48 The availability manager continues to run normally. However, no additional subsystems may connect to it until an equal number of current subsystem users disconnect. The availability manager has reached the maximum number of subsystems that it can handle.

34,35,37 The availability manager received an error return code from the I/O supervisor. The IOS return code is located in the third byte of the availability manager reason code. The fourth byte of the availability manager reason code contains an associated IOS reason code. The error indicator specifies which IOS service the availability manager was trying to use:

34	PREVENTIO
35	IOPIDENT-RELEASE
37	IOPIDENT-OBTAIN

39 The availability manager could not access subsystem owned storage to store the results of a CALLAVM request. Most likely, from the time the availability manager verified the CALLAVM request to the time it completed the request, the subsystem has freed the storage.

Programmer Response: Find the failing program and correct it.

The following error indicators specify an internal error in the availability manager and, in most cases, result in abnormal termination of the availability manager address space:

- 01
- 03-11
- 13-17
- 1A-27
- 29
- 2C-33
- 38
- 3A-47
- 49

Operator Response: Contact your system programmer.

Programmer Response: For those error indicators which specify an internal error in the availability manager, see the Availability Manager section of the *System Logic Library* to collect diagnostic information. Then contact your programming support personnel.

030

Explanation: The error occurred during execution of a BISAM or QISAM OPEN macro instruction.

The control program found that the DCBMACRF field of the data control block (DCB) did not indicate a valid mode of operation for BISAM or QISAM. The DCBMACRF field is set up by the MACRF operand of the DCB macro instruction or by the problem program before the data control block is opened.

Programmer Response: Make sure that a valid mode of operation is specified in the MACRF operand of the DCB macro instruction. Verify that the DCBMACRF field was not incorrectly set up or modified by the problem program. After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

031

Explanation: An input/output error occurred during processing using QISAM. The control program attempted to pass control to an error analysis (SYNAD) routine, but found that (1) the DCBSYNAD field of the data control block did not contain the address of a valid SYNAD routine, or (2) the error occurred after a CLOSE macro instruction was executed by task termination (the problem program returned control to the supervisor without executing a CLOSE macro instruction). The task was abnormally terminated. The DCBEXCD1 and DCBEXCD2 fields of the data control block indicate the possible causes of the original error:

DCBEXCD1:

Bit	Explanation
0	Record not found.
1	Invalid actual address for lower limit.
2	Space not found.
3	Invalid request.
4	Uncorrectable input error.
5	Uncorrectable output error.
6	Block could not be reached (input).
7	Block could not be reached (update).

DCBEXCD2:

Bit	Explanation
0	Sequence check.
1	Duplicate record.
2	DCB closed when error detected.
3	Overflow record.
4	PUT: length of field greater than length indicated in DCBLRECL field of the data control block.
5-7	(Reserved bits).

Programmer Response: Examine the DCBEXCD1 and DCBEXCD2 fields of the data control block to determine the cause of the error. Specify the address of an error analysis routine to be given control when an input/output error is detected and, for errors occurring during CLOSE, execute a QISAM CLOSE macro instruction prior to returning control to the supervisor. For errors occurring during the execution of a QISAM CLOSE macro instruction, respond as indicated by message IEC011I or IEC203I.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

032

Explanation: The error occurred during execution of a BISAM or QISAM OPEN macro instruction.

The control program found that the DCBMACRF field of the data control block (DCB) did not contain valid information for ISAM.

Programmer Response: Make sure that valid information is specified in the MACRF operand of the DCB macro instruction. Verify that the DCBMACRF field was not incorrectly modified by the problem program before the opening process.

After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

033 to 034

033

Explanation: The error occurred during execution of an OPEN macro instruction for an indexed sequential data set. If the error occurred during the execution of an ISAM OPEN executor, register 15 contains a hexadecimal reason code.

Reason Code	Explanation
01	An input/output error occurred while reading the highest level index.
02	An input/output error occurred while searching for the end-of-file mark following the last data record in the prime area. The DCBLPDA field of the data control block (DCB) contains the address of the last record in the prime area.
03	An input/output error occurred while searching for the end-of-file mark following the last data record in the independent overflow area. The DCBLIOV field of the data control block (DCB) contains the address of the last record in the independent overflow area.
04	The DCBMSHI field of the data control block (DCB) contained an address that either specified a location outside the boundaries of the virtual storage assigned to the task or had a storage protection key other than that specified in the task control block (TCB).
05	An input/output error occurred while reading the last prime data block during open processing for resume load.
•	All volumes of a multivolume ISAM data set were not mounted.

Programmer Response: Verify that the DCBLPDA, DCBLIOV, and DCBMSHI fields were not incorrectly specified or modified by the problem program. At the time of the abnormal termination, register 4 contains the address of the DCB. After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

034

Explanation: The error occurred during execution of a BISAM OPEN macro instruction. For variable length records, the control program found that the address in DCBMSWA was not valid. Either the address is outside the boundaries of virtual storage or the protection key of that address is not the same as the protection key in the TCB.

The control program found that the fields of the data control block (DCB) indicated a virtual storage area too small to contain the highest level index for the data set. The size of the virtual storage area that should be reserved for the highest level index is placed in the DCBNCBHI field of the data control block at OPEN exit time.

Programmer Response: The error can be corrected by one of the following:

- Specify a valid address in the MSWA operand of the DCB. Verify that this field has not been incorrectly modified.
- Provide a sufficient virtual storage area by proper specification of the DCBSMSI and DCBMSHI fields.
- Provide no virtual storage area and either do not specify the contents of the DCBSMSI and DCBMSHI fields or set the fields to zero. The highest level index can then be processed without being loaded into virtual storage.

After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

035

Explanation: The error occurred during execution of a BISAM OPEN macro instruction.

The control program found that new records were to be added to the data set, but the DCBMSWA and DCBSMSW fields of the data control block (DCB) indicated a virtual storage area too small to contain one track from the prime area.

Programmer Response: The error can be corrected by one of the following:

- Provide a sufficient area by proper specification of the DCBMSWA and DCBSMSW fields. The minimum DCBSMSW field must indicate one track capacity plus one record.
- For fixed-length records, provide no virtual storage area and either do not specify the contents of the DCBMSWA and DCBSMSW fields or set the fields to zero. A virtual storage work area is required only for variable-length records.

After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

036

Explanation: The error occurred during execution of a BISAM or QISAM OPEN macro instruction.

The control program found that no space was allocated on a direct access device as the prime area for the data set:

- In QISAM load mode, during data set generation, the SPACE parameter of the DD statement did not specify a primary quantity.
- The data set control block (DSCB) for the data set was incorrectly modified by the problem program.

Programmer Response: In the first case, the data set should be dumped sequentially and recreated using QISAM load mode. The job should be restarted with a primary quantity specified in the SPACE parameter of the DD statement. If the prime area is to span more than one volume, the number of volumes and the number of units required should be specified.

In the second case, verify that the data set control block was not incorrectly modified by the problem program. After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

037

Explanation: The error occurred during execution of a BISAM or QISAM OPEN macro instruction. The control program found that the buffers supplied by the programmer were inadequate for the records to be processed:

- If the buffers were acquired by use of the BUILD macro instruction, either the BUFNO operand of the DCB macro instruction was not specified or the BUFL operand specified too small a value.
- If the buffers were acquired by use of the GETPOOL macro instruction, the buffer length operand specified too small a value.

Programmer Response: Specify the buffers correctly. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

038

Explanation: The error occurred during execution of an OPEN macro instruction for QISAM load mode.

The control program found that the space on a direct access device that had been allocated for the index area was either exhausted or occupied more than one volume. The index for an ISAM data set must reside on one volume.

Programmer Response: If a new data set is being created, the job must be restarted with larger space allocation specified in the SPACE parameter of the DD statement.

If an old data set is being updated, the data set should be dumped sequentially, the old data set scratched, and the data set recreated from the sequential data set using QISAM load mode. The job should be restarted with larger space allocation specified in the SPACE parameter of the DD statement.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

039

Explanation: The error occurred in scanning a data set using QISAM.

The end of the data set (EOD) was reached. The control program found that the DCBEODAD field of the data control block (DCB) did not contain an end-of-data-set exit routine address.

Programmer Response: Make sure that the address of a routine to be given control when the end of the data set is reached is specified either in the EODAD operand of the DCB macro instruction or in the problem program before the end of the data set is reached. Then reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

03A

Explanation: The error occurred during execution of a BISAM or QISAM CLOSE macro instruction.

A format 2 data set control block (DSCB), read from a direct access device into virtual storage, was updated from various fields of the data control block (DCB). When an attempt was made to write the updated data set control block back to the direct access device, an input/output error occurred.

When the ISAM interface is used to process a VSAM data set, this system completion code can be accompanied by message IEC251I. If it is, refer to the explanation of message IEC251I for information about the task that terminated.

Programmer Response: Determine the data set for which the problem occurred and the nature of the problem.

If this system completion code is accompanied by message IEC251I, respond as indicated by message IEC251I.

At the time of the ABEND, register 4 points to the OPEN/CLOSE/END-OF-VOLUME work area. At X'64' in the work area is the address of the job file control block (JFCB) whose contents begin with the 44 character data set name. The address of the unit control block (UCB), which contains the device address for the data set, is located and X'230'in the work area. The address of the user's DCB which contains the address of the data event block (DEB) is located at X'238' in the work area. Correct the problem with the data set and rerun the job.

Problem Determination: Table I, items 1, 3, 5a, 15, 25b, 29.

03B

Explanation: The error occurred during execution of an OPEN macro instruction for an indexed sequential data set. If register 15 does not contain a hexadecimal reason code, then no records could be processed because:

- The block size (DCBBLKSI) is less than the logical record length (DCBLRECL).
- The block size (DCBBLKSI) is not a multiple of the logical record length.

If the error occurred during the execution of an ISAM OPEN executor, register 15 contains a hexadecimal reason code. No records could be processed because:

Reason Code	Explanation
01	The format-2 data set control block (DSCB) indicated that the data set had not been created (DS2STIND is not equal to X'20 '), or the format-2 DSCB indicated that the data control block (DCB) had not been closed after the data set had been created.
03	For variable length records, the relative key position (DCBRKP) field in the data control block (DCB) is less than four.
04	The relative key position (DCBRKP) plus the key length (DCBKEYLE) is greater than the logical record length (DCBLRECL).
05	The DCBKEYLE field of the data control block contained zero.
06	The DCBKEYLE field of the data control block (DCB) does not equal the value in the DS1KEYL field of the format-1 DSCB.
07	A QISAM data control block was being opened in preparation for a PUT operation, but the OPEN macro instruction had not been issued for output.
09	The logical record length in the data control block (DCBLRECL) is zero.
0A	The record format in the format-1 DSCB (DS1RECFM) indicates fixed blocked records, but the block size (DCBBLKSI) equals the logical record length (DCBLRECL).
0B	The block size (DCBBLKSI) differs from the format-1 DSCB block size (DS1BLKL).
0C	The logical record length (DCBLRECL) differs for the format-1 DSCB logical record length (DS1LRECL).
0D	QISAM data control block was being opened in preparation for a PUT operation and DISP=SHR was coded in the JCL.
0E	The value for the record format (DCBRECFM) is zero.
0F	The value for the record format (DCBRECFM) is not the same as the record format value specified when the data set was created (DS1RECFM).

Register 2 contains the address of the DCB for which the abend was issued.

When the ISAM interface is used to process a VSAM data set, this system completion code can be accompanied by message IEC161I. If it is, refer to message IEC161I for information about the task that terminated. The ISAM interface of VSAM issues system completion code 03B for one of the following reasons:

- The access method service's and DCB values for LRECL, KEYLE, RKP do not match.
- DISP=OLD was specified and the DCB was opened for output and the number of logical records is greater than zero (RELOAD is implied).
- An OPEN ACB error code 116 was returned for a request to open a VSAM structure.

Programmer Response: Take the following actions depending on the reason code you received:

Reason Code	Response
01	Make sure that the data set has been properly created and that the creating task closes the data control block.

03	If variable length records are used, make sure that the value of the DCBRKP field is not less than four.
04	Make sure that the value of the DCBRKP field of the data control block, when added to the value of in the DCBKEYLE field, does not exceed the value in the DCBLRECL field.
05, 06	Correct the DCBKEYLE field. For an existing ISAM data set, omit the KEYLEN operand on the DCB macro instruction. This allows the data set control block to supply the key length value.
07	Make sure that OUTPUT is specified as option 1 in the OPEN macro instruction.
09, 0A, 0B, 0C	Make sure that the block size (BLKSIZE) and logical record length (LRECL) have been specified correctly on the data control block (DCB) and that they are compatible.
0D	Code DISP=OLD in the JCL for the QISAM data control block that is being opened for a PUT operation.
0E, 0F	Make sure that the record format has been specified correctly. For an existing ISAM data set, list the VTOC to determine the correct format of the data set.

If register 15 does not contain a hexadecimal reason code, then make sure that:

1. the blocksize (BLKSIZE) and logical record length (LRECL) have been specified correctly on the data control block (DCB).
2. the BLKSIZE and LRECL are compatible.

In cases when the ISAM interface issued an ABEND, make sure that a valid mode of operation is specified in the MACRF operand of the DCB macro. Additionally, make sure that the DCB is not being opened for load mode while there are records in the data set.

In all cases, execute the job step again.

If message IEC161I accompanies this system completion code, respond as indicated for message IEC161I.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

03D

Explanation: The error occurred during execution of (1) a QISAM or BISAM OPEN macro instruction or (2) a BDAM OPEN macro instruction.

One of the following occurred:

- In case (1), the DD statement did not specify an indexed sequential organization (which can be specified by a DSORG=IS or DSORG=ISU subparameter of the DCB parameter).
- In case (1), if the data set resides on multiple volumes, either the volume serial numbers in the SER subparameter of the VOLUME parameter of the DD statement were not in proper sequence, or not all volume serial numbers were specified. The serial number of the volume containing the index must be listed first. The number of volumes and the number of units allocated must be the same, and all volumes must be mounted.
- In case (2), the volume serial numbers in the SER subparameter of the VOLUME parameter of the DD statement were not in proper sequence.
- In case (2), the DCB DSORG=DA and the DD statement specifies an indexed sequential data set name.

This system completion code is sometimes accompanied by message IEC156I. If so, refer to the explanation of message IEC156I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Correct the DCB parameter or SER subparameter, as necessary, and execute the job step again.

If this system completion code is accompanied by message IEC156I, respond as indicated for the message.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

03E

Explanation: The error occurred during execution of a QISAM OPEN macro instruction. The position of the last prime data record indicated that there is no room to add records with resume load.

The loading of an indexed sequential data set must be completed during the initial OPEN/PUT/CLOSE cycle for that data set. An indexed sequential data set that has been opened and closed for loading may be subsequently loaded if no data was created.

Possibly, an attempt was made to add records with resume load to the prime area of an ISAM data set that had no space available for additional records.

Programmer Response: Either load the data set again with a larger space allocation, or add records using BISAM.

After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

03F

Explanation: An error has been detected during checkpoint restart processing. This completion code is accompanied by message IHJxxxI and the appropriate reason code.

System Action: The job is abnormally terminated and a dump is produced.

Programmer Response: Respond as indicated in the accompanying message.

Problem Determination: Table I, items 2, 5a.

040

Explanation: The error occurred during execution of an OPEN macro instruction for a TCAM line group data set.

System Action: The error code is inserted into register 0 if the user has coded an address in the EXLST= operand of the line group DCB macro instruction. The exit routine may examine the code in register 0. If no user exit is specified, an indication of the error type may be found in the explanation of console message IED008I.

Programmer Response: See the documentation of message IED008I for the appropriate responses.

041

Explanation: The error occurred during execution of an OPEN macro instruction for a TCAM message queue data set.

System Action: The error code is inserted into register 0 if the user has coded an address in the EXLST= operand of the message queue DCB macro instruction. The exit routine may examine the code in register 0. If no user exit is specified, an indication of the error type may be found in the explanation of console message IED008I.

Programmer Response: See the documentation of message IED008I for the appropriate responses. If your system has the ACF/TCAM program product installed, refer to the appropriate ACF/TCAM messages book. Otherwise, refer to *System Messages*.

043

Explanation: The error occurred during execution of an OPEN macro instruction for a TCAM application program data set.

043

Register 0 contains a hexadecimal reason code:

Reason Code	Explanation
01	An OPEN macro for a TCAM application program data set has been issued but there is no Message Control Program (MCP) active in the system.
02	The QNAME= parameter of a DD statement associated with an application program is not the name of a process entry defined in the terminal table, or the QUEUES= operand appeared in the TPROCESS macro instruction when an application program DCB was being opened for output only, or the QUEUES= operand was not specified when an application program DCB was being opened for input.
03	A process entry named by the QNAME= parameter of a DD statement associated with an application program is currently being used by another application program.
04	Insufficient virtual storage was available in the MCP to build internal control blocks, or the PGFN macro failed for the process entry work area.
05	Insufficient virtual storage was available in the application program area to build internal control blocks.
06	The application program attempted to open a secured queue. The system operator rejected the request.
07	The application program is not an authorized program, but the user has either coded AUTHA=YES or taken YES as the default value for AUTHA parameter on the TCAM INTRO macro instruction.
08	Page control block (PCB) error. OPEN was issued for a TPROCESS entry while its PCB was in use by another task.

System Action: If a user ABEND exit is provided in the EXLST= operand of the DCB macro for the data set, the routine is given control. If it returns, or if no user ABEND exit is provided, the system abnormally terminates the task. Message IED015I may accompany this system completion code.

Programmer Response: No action is required if a user ABEND exit has been provided in the EXLST= operand of the DCB macro for the application program data set. The contents of register 0 indicates the action to be taken:

Register 0	Response
01	Make sure that an MCP is active before attempting to start an application program.
02	Recode the QNAME= parameter specifying the name of a valid process entry.
03	Recode the QNAME= parameter specifying the name of a valid process entry.
04	Specify a larger region or partition size on the JOB statement for the MCP, or restart the system specifying a larger system queue space.
05	Specify a larger partition size on the JOB statement for the application program.
06	Recode the SECURE=YES operand associated with the queue, or instruct the system operator to allow the queue to be opened.
07	Link edit the application program as an authorized program into an authorized library, or specify AUTHA=NO on the TCAM INTRO macro instruction.
08	Open all TPROCESS entries for the PCB in the same application program.

044

Explanation: The error occurred during execution of the FE Common Write (COMWRITE) task. The COMWRITE task has been terminated.

The contents of register 3 indicates the nature of the error:

Register 3 Contents in Hexadecimal	Explanation
01	Permanent I/O error on output device. Register 7 contains user ID; register 8 contains address of failing DECB.
02	STAE routine failed. Register 15 contains the return code.
03	User parameter list is incorrect, and output required was specified. Register 7 contains the address of the parameter list saved in COMWRITE. Register 11 contains the address of the error message.
05	The output DCB failed to open.
06	For one of the traces specified, the size of one half of the trace table is larger than the maximum block size specified for the trace data set.

Programmer Response: Response depends upon the contents of register 3:

Register 3 Contents in Hexadecimal	Response
01	Check the status of the recording medium. If it is valid, call your hardware support personnel.
02	Call your hardware support personnel.
03	Check the parameter list.
05	Missing DD statement. Include the DD statement and rerun the job.
06	Ensure that the size of one half of the trace table does not exceed the maximum block size specified for the trace data set.

045

Explanation: The error occurred during execution of a TCAM Message Control Program (MCP). The MCP terminates.

The contents of the low-order byte of register 15 indicates the nature of the error:

Register 15 Contents in Hexadecimal	Explanation
01	I/O has been requested on a nonreusable disk record that is beyond the capacity of the data set. The nonreusable disk data set cannot be wrapped.
02	Logical read error caused by the reusable disk receiving a heavy burst of new traffic. This traffic causes unsent messages to be overlaid before being copied to the alternate destination queue.
03	Logical read error while trying to fetch a message for transmission to a terminal.
04	The copy subtask needed to copy messages from one data set to another has not been loaded by the disk OPEN. A multiple-route or distribution list message has been enqueued to go to dissimilar message queue types. The copy subtask is needed to put the message on the queue. Caused by failure to open successfully a disk message queue DCB.

05	I/O has been requested on an unopened disk message queue data set.
06	FEATURE=(,,NOTIMER) has been specified on the INTRO macro instruction, but a function requiring the system timer has been called.
07	A message longer than the reusable disk data set has been entered.
08	A disk read error occurred. It was a hardware error, not a logical read error.
09	Either insufficient space was allocated for the checkpoint data set, or a read error occurred when attempting to read records from the checkpoint data set during a restart.

Programmer Response: Except for return code 08, probable user error. To determine the action for a specific reason code, follow these procedures based on the contents of the low-order byte of register 15:

Register 15 Contents in Hexadecimal	**Response**
01	Either specify a larger data set or request that close down occur at an earlier point.
02,03,07	Specify a larger data set or one that occupies more than one extent. For further suggested corrections, refer to *TCAM System Programmer's Guide.*
04,05	Before issuing the OPEN macro instructions for the lines, test for successful open of the message queue data set.
06	Specify FEATURE=(,,TIMER); reassemble and rerun the MCP.
09	Message issued to operator just before ABEND describes the cause of failure, and message description provides response.

Problem Determination: For return code 08, see Table I, items 1, 2, 4, 5a, 18, 30. For all other return codes, see Table I, items 5a, 10, 29. Obtain a listing of the message queue data set.

046

Explanation: The TCAM MCP has been terminated but an application program data set is still open. The application program data set is scheduled to be terminated with a system completion code of 046.

System Action: The application program is terminated.

Programmer Response: Follow the programmer response for the system completion code provided with the termination of the MCP.

047

Explanation: An unauthorized program requested a restricted SVC.

The PSW indicates the last SVC issued. If SVC 102 (66) was the last issued by an unauthorized TCAM application program, the TCAM MCP program must specify on the INTRO macro instruction, AUTHA=NO. If SVC 102 was issued by other than a TCAM application program, the program must be authorized.

If SVC 104 (68) was last issued, the program must be an authorized TCAM MCP.

Operator Response: Notify the installation manager or system programmer immediately. Hold all output relevant to the job.

Programmer Response: Run the job again.

048

Explanation: A subsystem address space supported by ACF/TCAM had an error condition. An ACF/TCAM subsystem has determined that recovery could not occur. The subsystem terminates. Register 0 contains one of the following failure codes:

001 The RPL address was invalid when the subsystem interface was not running with authorized path.

002 Abnormal termination occurred before the subsystem was notified of FRR recovery.

System Action: Restart the subsystem.

Programmer Response: Print the SVC dump, which was stored in the SYS1.DUMP data set. For further detail, refer to *ACF/TCAM Support for IBM Subsystems.*

Problem Determination: Table I, items 10, 13, 18, 32, 33, 49.

049

Explanation: A subsystem address space or TCAM appendage supported by ACF/TCAM had an error condition. The FRR was unable to recover the subsystem. A SYS1.LOGREC entry has been created that explains why recovery could not occur. An SVC dump was written to SYS1.DUMP.

System Action: Restart the subsystem.

Programmer Response: Print the dump and LOGREC entry. Refer to *ACF/TCAM Support for IBM Subsystems.*

Problem Determination: Table I, items 10, 13, 18, 32, 33, 49.

04B

Explanation: An invalid operation code was passed to a TSO linkage assist routine (LAR). Register 15 contains a hexadecimal code that indicates the reason for the termination.

Register 15 Contents in Hexadecimal	Explanation
004	The LAR (IKJEFTSL) for the terminal monitor program received an invalid function number.
008	The service routine's LAR (IKJTSLAR) was invoked at IKJTSLAR, which is an invalid service routine entry point.

System Action: TSO does not perform the requested service.

Programmer Response: Determine the calling routine and correct the operation code.

Problem Determination: Table I, items 4, 5a, 13, 16, 18, 29.

04C

Explanation: System completion code 04C is the expected ABEND when both of the following occur:

- a user invokes the TMP (terminal monitor program) at entry point IKJEFT1A and
- the TMP detaches a program that completed with a nonzero completion code. The nonzero completion code is in register 15.

System Action: The system does not change the user return code.

Operator Response: None.

Programmer Response: None.

Problem Determination: None.

04E

Explanation: When the system detects an error in internal IBM DATABASE 2 (DB2) processing, it will abnormally terminate a connected user task (TCB) or one of its own internal tasks.

System Action: The system abnormally terminates the connected user task or the DB2 internal task.

Programmer Response: Check register 15 of the SDWA section 'General Purpose Registers at Time of Error', and locate the accompanying reason code. In addition, check the information displayed at the user's terminal, and in the corresponding SYS1.LOGREC entry. For further information see *IBM DATABASE 2 Messages and Codes, SC26-4113.*

Problem Determination: Table I, items 1, 2, 4, 18, 29, 33, 49

04F

Explanation: To avoid data integrity problems, the subsystem abnormally terminates; one or more 04E system completion codes will usually precede the termination. During DB2 abnormal termination, a user task with an active DB2 connection can be abnormally terminated with a 04F system completion code; in rare instances, the entire connected address will be terminated (MEMTERM). However, if the subsystem terminates an address space after numerous cancel attempts, this is not a DB2 internal error.

System Action: The subsystem abnormally terminates DB2.

Operator Response: Message DSNV086E should appear on your console screen. First, copy this message and the accompanying subsystem termination reason code. Second, notify the system programmer.

Programmer Response: If the subsystem abnormally terminates DB2, then record the subsystem termination reason code that is displayed in message DSNV086E. In addition, you should be aware of the following situations.

1. If you received any 04E system completion codes prior to this subsystem termination, perform the following actions. Check register 15 of the SDWA section 'General Purpose Registers at Time of Error', and locate the accompanying reason code. In addition, check the information displayed at the user's terminal, and in the corresponding SYS1.LOGREC entry. For further information see *IBM DATABASE 2 Messages and Codes, SC26-4113.*

2. If you did not receive any X'04E' system completion codes prior to the subsystem termination, you will need an SVC dump, which is entitled 'DB2 SUBSYSTEM TERMINATION REQUESTED - REASON=xxxxxxxx.' The reason code in the message and the one found in the MVS operator message will be the same. Use the standard AMDPRDMP facility to print the subsystem termination dump. AMDPRDMP printing options should include those recommended for regular DB2 system dumps. In addition, you should include "PRINT CSA." For additional information concerning "PRINT CSA" refer to the *Service Aids* for MVS/370 and MVS/XA. For additional information regarding the subsystem termination refer to *IBM DATABASE 2 Messages and Codes, SC26-4113* .

Problem Determination: Table I, items 1, 2, 4, 18, 29, 33, 49

050

Explanation: There was a failure in the service processor damage monitor, module IEAVSPDM. IEAVSPDM issued an ESTAE macro instruction and the ESTAE routine returned an unidentified or failing return code to IEAVSPDM. Register 2 contains the return code.

System Action: The task terminates.

Operator Response: None.

Programmer Response: Examine the contents of register 2.

Problem Determination: None.

052

Explanation: A program requested a program call/authorization (PC/AUTH) service or a program call linkage service, but the caller's request was invalid. Register 15 contains a hexadecimal reason code in the form xxyy, where xx identifies the service that was called, and yy identifies the error.

System Action: The program that called the service abnormally terminates.

Programmer Response: Find and correct the error. Rerun the program.

Reason Code **Explanation**

01yy The program issued the LXRES macro instruction to call the linkage index reserve service (IEAVXLRE). Register 15 contains one of the following reason codes:

- **0101** A reserved field in the parameter list is not zero. Register 5 contains the first word of the parameter list.
- **0102** The format number field in the parameter list is invalid. Register 5 contains the first word of the parameter list.
- **0103** The request count in the linkage index list is invalid. Register 5 contains the first word of the parameter list.
- **0104** A jobstep attempted to establish PC services, but a prior jobstep owned space-switch entry tables. (Subsequent jobsteps are not permitted to establish PC services.)

02yy The program issued the LXFRE macro instruction to call the linkage index free service (IEAVXLFR). Register 15 contains one of the following reason codes:

- **0201** A reserved field in the parameter list is not zero Register 5 contains the first word of the parameter list.
- **0202** The format number field in the parameter list is invalid. Register 5 contains the first word of the parameter list.
- **0203** The request count in the linkage index list is invalid. Register 5 contains the first word of the parameter list.
- **0211** A linkage index (LX) is invalid. Register 5 contains the invalid linkage index.
- **0212** A linkage index is not owned by the home address space. Register 5 contains the invalid linkage index.
- **0213** A linkage index is invalid because it is a system linkage index. Register 5 contains the linkage index.
- **0214** A linkage index has one or more entry tables connected and FORCE=YES was not specified.
- **0215** A linkage index appeared more than once in the linkage index list.

03yy The program issued the ETCRE macro instruction to call the entry table create service (IEAVXECR). Register 15 contains one of the following reason codes:

- **0301** A reserved field is not equal to zero in the header of the entry table description (ETD) specified in the ENTRIES parameter.
- **0302** The format number field in the entry table description (ETD) is invalid.

0303 The request count in the ETDNUM field is invalid.

0304 The caller passed a nonzero value in register 1. (Register 1 is reserved for future use.)

0311 A reserved field is not equal to zero in one of the 20-byte description elements in the entry table description (ETD). Register 2 contains the entry index (EX) associated with the description element.

0312 The program identified in one of the 20-byte description elements could not be found. Register 2 contains the entry index (EX) associated with the description element.

0313 The entry indexes are not in ascending order. Register 2 contains the entry index (EX) that was not in ascending order.

0314 A jobstep attempted to establish PC services, but a prior jobstep owned space-switch entry tables. (Subsequent jobsteps are not permitted to establish PC services.)

04yy The program issued the ETDES macro instruction to call the entry table destroy service (IEAVXEDE). Register 15 contains the following reason codes:

0401 A reserved input field in the parameter list is not zero.

0402 The format number field in the parameter list is invalid.

0411 The specified token is invalid.

0412 The program specified a token for a system entry table but did not specify PURGE=YES.

0413 The specified token is for an entry table that the home address space does not own.

0414 The program specified a token for an entry table that is in use, but the program did not specify PURGE=YES

05yy The program issued the ETCON macro instruction to call the entry table connect service (IEAVXECO). Register 15 contains one of the following reason codes:

0501 A reserved input field is not zero.

0502 The format number field is invalid.

0503 The token list count or the linkage index list count is invalid.

0511 The token list count and the linkage index list count are not equal.

0512 A specified linkage index is already in use. Register 2 contains the invalid linkage index.

0513 A specified linkage index is not reserved. Register 2 contains the invalid linkage index.

0514 A specified token is invalid.

0515 A specified token is for an entry table that is already connected to the home address space's linkage table. Register 2 contains the invalid token.

0516 A specified token is for an entry table that is not authorized for connection. Register 2 contains the invalid token.

0517 An entry table and the corresponding linkage index are not owned by the same address space. Register 2 contains the linkage index.

0519 A token appeared more than once in the token list. Register 2 contains the token.

051A A linkage index appeared more than once in the linkage index list.

06yy The program issued the ETDIS macro instruction to call the entry table disconnect service (IEAVXEDI). Register 15 contains one of the following reason codes:

0603 The token count is invalid. Register 2 contains the invalid count.

0604 The caller passed a nonzero value in register 1. Register 2 contains the value.

0611 A specified token is invalid. Register 2 contains the token.

0612 The specified token is for a system entry table. Register 2 contains the token.

0613 A specified token is for an entry table that is not connected. Register 2 contains the token.

0614 A token appears more than once in the token list. Register 2 contains the token.

0615 The linkage index free service called the entry table disconnect service and passed an invalid ASID. Register 2 contains the invalid ASID.

07yy A program issued the AXRES macro instruction to call the authorization index reserve service (IEAVXRFE). Register 15 contains one of the following reason codes:

0703 The request count is invalid. Register 4 contains the request count.

0704 The caller passed a nonzero value in register 1.

0705 A jobstep attempted to establish PC services, but a prior jobstep owned space-switch entry tables. (Subsequent jobsteps are not permitted to establish PC services.)

08yy A program issued the AXFRE macro instruction to call the authorization index free service (IEAVXRFE). Register 15 contains one of the following reason codes:

0803 The request count is invalid. Register 4 contains the request count.

0804 The caller passed a nonzero value in register 1.

0813 An authorization index (AX) is not reserved by the home address space. Register 4 contains the AX.

0814 An authorization index (AX) is still in use. Register 4 contains the address of the ASCB using the AX. Register 5 contains the AX.

0817 An authorization index (AX) appeared more than once in the authorization index list. Register 4 contains the duplicate AX.

0823 An authorization index (AX) equal to 0 or 1 appears in the authorization index list. An AX of 0 or 1 cannot be freed. Register 4 contains the AX.

09yy A program issued the AXEXT macro instruction to call the authorization index extract service (IEAVXRFE). Register 15 contains one of the following reason codes:

- **0901** A reserved input field is not zero.
- **0904** The caller passed a nonzero value in register 1.
- **0918** The ASID passed as input is not the ID of an active address space. Register 4 contains the ASID.

0Ayy The program issued the AXFRE macro instruction to call the authorization index set service (IEAVXSET). Register 15 contains one of the following reason codes:

- **0A01** A reserved input field is not zero.
- **0A04** The caller passed a non-zero value in register 1.
- **0A19** The authorization index is not within the authorization index allocation table (AXAT). Register 4 contains the authorization index.
- **0A20** The authorization index is not reserved. Register 4 contains the authorization index.
- **0A21** The home address space has one or more connected space switch entry tables that could cause an address space switch.

0Byy The program issued the ATSET macro instruction to call the authorization table set service (IEAVXSET). Register 15 contains one of the following reason codes:

- **0B01** A reserved input field is not zero.
- **0B04** The caller passed a nonzero value in register 1.
- **0B19** The authorization index (AX) specified is not within the authorization index allocation table (AXAT). The second halfword of register 4 contains the AX value. The content of the first halfword of register 4 is undefined and unpredictable.
- **0B20** The authorization index specified is not reserved. Register 4 contains the AX.
- **0B22** The specified authorization index (AX) is for a predefined authorization table entry. Register 4 contains the AX.

11yy The program issued the PCLINK macro instruction with the STACK parameter (IEAVXSTK). Register 15 may contain the following reason code:

- **1112** The program held one or more locks that prevented PCLINK processing from getting the SALLOC lock. Register 2 contains a mask showing which locks the program held.

12yy The program issued the PCLINK macro instruction with the UNSTACK parameter (IEAVXSTK). Register 15 contains one of the following reason codes:

- **1211** The macro instruction included the UNSTACK,THRU or the UNSTACK,TO parameter, but the current PCLINK stack element chain was empty.
- **1212** The specified token was for a PCLINK stack element (STKE) that is not on the PCLINK stack element chain. Register 2 contains the token.

13yy The program issued the PCLINK macro instruction with the EXTRACT parameter (IEAVXSTK). Register 15 contains one of the following reason codes:

1313 The specified token was for a PCLINK stack element (STKE) that is not the current element (the most recently stacked element).

Register 2 contains the token of the current element. (Either a user error or a system error can cause this condition.)

1314 The specified token is not valid. Register 2 contains the invalid token.

053

Explanation: A program issued a macro instruction to call a program call authorization (PC/AUTH) service or a program call linkage service, but an error prevented the service from completing normally. Register 15 contains a reason code in the form xxyy, where xx identifies the service that was called and yy identifies the error. The registers are recorded in SDWAGRSV.

System Action: The PC/AUTH functional recovery routine takes an SDUMP and writes an error record to SYS1.LOGREC. The program that called the service abnormally terminates unless the service requests a retry.

Programmer Response: Find and correct the error.

Problem Determination: Table I, items 2, 7, 18, and 33.

Reason Code **Explanation**

01yy The program issued the LXRES macro instruction to call the linkage index reserve service (IEAVXLRE). Register 15 contains one of the following reason codes:

0101 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 5 contains the GETMAIN return code.

0105 The service issued a GETMAIN for a new linkage index allocation table (LXAT) in the pageable storage of the program call/authorization (PC/AUTH) address space. The GETMAIN failed; register 5 contains the GETMAIN return code.

0109 The service issued a FREEMAIN for an old linkage index allocation table (LXAT) in the program call/authorization (PC/AUTH) address space's pageable storage. The FREEMAIN failed; register 5 contains the FREEMAIN return code.

010A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 5 contains the FREEMAIN return code.

0111 The service could not reserve one or more linkage indexes (LXs) because the maximum number of LXs the system supports would be exceeded. Register 5 contains the number of LXs that are currently unreserved.

0112 The maximum system LX limit was exceeded. Register 5 contains the number of remaining free system LXs.

0197 An unexpected error occurred.

0198 The program call/authorization (PC/AUTH) services are inoperable.

0199 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 5 contains the expected acronym.

02yy The program issued the LXFRE macro instruction to call the linkage index free service (IEAVXLFR). Register 15 contains one of the following reason codes:

0201 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 5 contains the GETMAIN return code.

0205 The service issued a GETMAIN for a new force disconnect queue block (FDQB) in the program call/authorization (PC/AUTH) address space's pageable storage. The GETMAIN failed; register 5 contains the GETMAIN return code.

0209 The service issued a FREEMAIN for a force disconnect queue block (FDQB) in the program call/authorization (PC/AUTH) address space's pageable storage. The FREEMAIN failed; register 5 contains the FREEMAIN return code.

020A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 5 contains the FREEMAIN return code.

0211 The service was building the force disconnect queue (FDQ) to process a FORCE request. The service found more than one connection description (ETIXCD) with the same ASID/LX (address space ID/linkage index) values while searching the ETIB (entry table information block) chain.

0297 An unexpected error occurred.

0298 The program call/authorization (PC/AUTH) services are inoperable.

0299 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 5 contains the expected acronym.

03yy The program issued the ETCRE macro instruction to call the entry table create service (IEAVXECR). Register 15 contains one of the following reason codes:

0301 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 2 contains the GETMAIN return code.

0302 The service issued a GETMAIN for storage in the SQA, but the GETMAIN failed; register 2 contains the GETMAIN return code.

0303 The service issued a GETMAIN for storage in the PC/AUTH address space's LSQA. The GETMAIN failed; register 2 contains the GETMAIN return code.

0305 The service issued a GETMAIN for storage in the PC/AUTH address space's pageable storage. The GETMAIN failed; register 2 contains the GETMAIN return code.

0306 The service issued a FREEMAIN for storage in the SQA, but the FREEMAIN failed; register 2 contains the FREEMAIN return code.

0307 The service issued a FREEMAIN for storage in the PC/AUTH address space's LSQA. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

0309 The service issued a FREEMAIN for storage in the PC/AUTH address space's pageable storage. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

030A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 2 contains the FREEMAIN return code.

0397 An unexpected error occurred.

0398 The program call/authorization (PC/AUTH) services are inoperable.

0399 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 2 contains the expected acronym.

04yy The program issued the ETDES macro instruction to call the entry table destroy service (IEAVXEDE). Register 15 contains one of the following reason codes:

0401 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 2 contains the GETMAIN return code.

0406 The service issued a FREEMAIN for storage in the SQA, but the FREEMAIN failed; register 2 contains the FREEMAIN return code.

0407 The service issued a FREEMAIN for storage in the PC/AUTH address space's LSQA. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

0409 The service issued a FREEMAIN for storage in the PC/AUTH address space's pageable storage. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

040A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 2 contains the FREEMAIN return code.

0497 An unexpected error occurred.

0498 The program call/authorization (PC/AUTH) services are inoperable.

0499 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 2 contains the expected acronym.

05yy The program issued the ETCON macro instruction to call the entry table connect service (IEAVXECO). Register 15 contains one of the following reason codes:

0501 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 2 contains the GETMAIN return code.

0503 The service issued a GETMAIN for storage in the PC/AUTH address space's LSQA. The GETMAIN failed; register 2 contains the GETMAIN return code.

0505 The service issued a GETMAIN for storage in the PC/AUTH address space's pageable storage. The GETMAIN failed; register 2 contains the GETMAIN return code.

0507 The service issued a FREEMAIN for storage in the PC/AUTH address space's LSQA. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

050A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 2 contains the FREEMAIN return code.

0597 An unexpected error occurred.

0598 The program call/authorization (PC/AUTH) services are inoperable.

0599 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 2 contains the expected acronym.

06yy The program issued the ETDIS macro instruction to call the entry table disconnect service (IEAVXEDI). Register 15 contains one of the following reason codes:

0601 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 2 contains the GETMAIN return code.

0609 The service issued a FREEMAIN for storage in the PC/AUTH address space's pageable storage. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

060A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 2 contains the FREEMAIN return code.

0697 An unexpected error occurred.

0698 The program call/authorization (PC/AUTH) services are inoperable.

0699 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 2 contains the expected acronym.

07yy The program issued the AXRES macro instruction to call the authorization index reserve service (IEAVXRFE). Register 15 contains one of the following reason codes:

0701 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

0705 The service issued a GETMAIN for storage in the PC/AUTH address space's pageable storage. The GETMAIN failed; register 4 contains the GETMAIN return code.

0709 The service issued a FREEMAIN for storage in the PC/AUTH address space's pageable storage. The FREEMAIN failed; register 4 contains the FREEMAIN return code.

070A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0712 The service cannot satisfy the request because the authorization index (AX) count would cause the total number of AXs to exceed the maximum number that the system supports. Register 4 contains the AX count for the request.

0797 An unexpected error occurred.

0798 The program call/authorization (PC/AUTH) services are inoperable.

0799 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

08yy The program issued the AXFRE macro instruction to call the authorization index free service (IEAVXRFE). Register 15 contains one of the following reason codes:

0801 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

080A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0897 An unexpected error occurred.

0898 The program call/authorization (PC/AUTH) services are inoperable.

0899 The acronym at the beginning of program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

09yy The program issued the AXEXT macro instruction to call the authorization index extract service (IEAVXRFE). Register 15 contains one of the following reason codes:

0901 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

090A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0997 An unexpected error occurred.

0998 The program call/authorization (PC/AUTH) services are inoperable.

0999 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

0Ayy The program issued the AXFRE macro instruction to call the authorization index free service (IEAVXRFE). Register 15 contains one of the following reason codes:

0A01 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

0A0A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0A30 An unexpected error occurred before the service set the authorization index (AX) of the home address space.

0A31 An unexpected error occurred after the service set the authorization index (AX) of the home address space, but before the bind break routine could break all binds to other address spaces.

0A32 An unexpected error occurred after the service set the authorization index (AX) of the home address space and the bind break routine broke all binds to other address spaces.

0A97 An unexpected error occurred.

0A98 The program call/authorization (PC/AUTH) services are inoperable.

0A99 The acronym at the beginning of program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

0Byy The program issued the ATSET macro instruction to call the authorization table set service (IEAVXSET). Register 15 contains one of the following reason codes:

0B01 The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

0B03 The service issued a GETMAIN for storage in the PC/AUTH address space's LSQA. The GETMAIN failed; register 4 contains the GETMAIN return code.

0B07 The service issued a FREEMAIN for storage in the PC/AUTH address space's LSQA. The FREEMAIN failed; register 4 contains the FREEMAIN return code.

0B0A The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0B30 An unexpected error occurred before the service set the authorization bits in the authorization table (AT) of the home address space.

0B31 An unexpected error occurred after the service set the authorization bits in the authorization table (AT) of the home address space, but before the bind break routine broke all binds to other address spaces.

0B32 An unexpected error occurred after the service set the authorization bits in the authorization table (AT) of the home address space and the bind break routine broke all binds to other address spaces.

0B97 An unexpected error occurred.

0B98 The program call/authorization (PC/AUTH) services are inoperable.

0B99 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

0Cyy The PC/AUTH (program call/authorization) resource manager, IEAVXPAM, detected an error. Register 15 contains one of the following reason codes:

0C01 The resource manager issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 2 contains the GETMAIN return code.

0C06 The resource manager issued a FREEMAIN for storage in the SQA, but the FREEMAIN failed; register 2 contains the FREEMAIN return code.

0C07 The resource manager issued a FREEMAIN for storage in the PC/AUTH address space's LSQA. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

0C09 The resource manager issued a FREEMAIN for storage in the PC/AUTH address space's pageable storage. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

0C0A The resource manager issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 2 contains the FREEMAIN return code.

0C97 An unexpected error occurred.

0C99 The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 2 contains the expected acronym.

0CC1 The ASCBAXR count for the terminating address space was too low.

0CC2 The ASCBLXR count for the terminating address space was too low.

0CC3 The bind break routine issued a nonzero return code.

0Dyy IEAVXPCR, the program call authorization functional recovery routine (PC/AUTH FRR), detected an error. For any yy value except 88 and 89, the PC/AUTH FRR detected an invalid service-in-control code and cannot determine which PC/AUTH service is running; the dump title contains PCRAEERC =nnnn, where nnnn is the value in the PCRAEERC field of the PCRA (program call recovery area) at the time the FRR got control. If register 15 contains 0D88 or 0D89, the explanation is:

0D88 The FRR received return code X'18'from IEAVEQV1, the single-threaded queue verification routine.

0D89 The FRR received return code X'18'from IEAVEQV3, double-threaded queue verification routine.

11yy The program issued the PCLINK macro instruction with the STACK parameter (IEAVXSTK). Register 15 contains the following reason code:

1110 PCLINK processing issued a GETMAIN for storage in the CSA. The GETMAIN failed; register 2 contains the GETMAIN return code. The system does not take an SDUMP and does not write a record to SYS1.LOGREC.

12yy The program issued the PCLINK macro instruction with the UNSTACK parameter (IEAVXSTK). Register 15 contains one of the following reason codes:

1211 On the stack element queue, one of the pointers to the next stack element (STKE) is invalid. Register 2 contains the invalid pointer.

1212 On the stack element queue, one of the fields containing the ASID of the next stack element (STKE) is invalid. Register 2 contains the invalid ASID.

1297 The cause of the error is unknown. The variable recording area of the system diagnostic work area (SDWA) contains the first completion code and reason code that the

PCLINK macro processing issued. The completion code is in the VRAOA field and the reason code is in the VRAOR15 field.

14yy A PC/AUTH (program call/authorization) initialization routine (IEAVNPF5 or IEAVXMAS) detected the error. The system does not take an SDUMP and does not record the error in SYS1.LOGREC. Register 15 contains one of the following return codes:

1411 The routine received a nonzero return code from the system address space create routine (IEEMB881). Registers 2 and 0 contain, respectively, the return code that IEEMB881 passed in register 15 and the reason code that IEEMB881 passed in register 0.

1412 The routine received a nonzero return code from the system address space initialization wait/post routine (IEEMB883). Registers 2 and 3 contain, respectively, the return code that IEEMB883 passed in register 15 and the reason code IEEMB883 passed in register 0.

1413 The routine called IEAVXEPM (the nucleus entry point module search routine), but IEAVXEPM was unable to process the request. Register 2 contains the return code from IEAVXEPM. Register 3 contains the parameter that IEAVNPF5 or IEAVXMAS passed to IEAVXEPM in register 1.

1414 The sum of the highest linkage index (LX) value in the system function table (SFT) and the value in the SVTNSLX field of the system vector table (SVT) is greater than decimal 1023. This condition indicates that the SFT or the SVT was incorrectly modified. Register 2 contains the highest LX value in the SFT, and register 3 contains the value in the SVTNSLX field.

1415 The routine received an invalid return code from IEAVEBBR, the bind break routine. Register 2 contains the return code.

054

Explanation: A scheduler JCL facility (SJF) routine found an unrecoverable error. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
01	An SJF routine failed to obtain enough storage from the preallocated SJF storage area.
02	A storage pointer in an SJF routine pointed to an area outside the preallocated SJF storage area.
03	The SJF JDVT definition routine returned an unexpected return or reason code to the SJF JDVT initialization routine.
04	While trying to build a verb hash table, an SJF routine found a duplicate keyword defined for a verb.
05	While trying to build a verb hash table, an SJF routine found a duplicate text unit key defined for a verb.
100	An SJF routine found an error in the translation of an SVA address.

Programmer Response: The SJF storage area or parameter list might have been overlaid.

Problem Determination: Table I, items 16, 18, 29, 33.

055

Explanation: An error was detected during the processing of an event notification facility (ENF) request.

System Action: One of the following reason codes is placed in register 15 to indicate the cause of the error:

Register 15 Contents in Hexadecimal	Explanation
24	The requestor's event parameter list was destroyed after initial validation.
28	There is an error in the listen queue for the event being processed.

Programmer Response: Probable system error. The storage containing the event parameter list or the listen queue might have been inadvertently overlaid.

Problem Determination: Table I, items 2, 16, 18, 29, and 33.

056

Explanation: The error occurred during execution of the graphic attention service routine for the IBM 2250 Display Unit. The routine referred to an invalid unit control block (UCB). The routine obtained the reference to the unit control block through a data control block (DCB). The user gives the routine the addresses of data control blocks through the poll list address in the first operand of the ANALYZ macro instruction or the address of a data control block through the list item address in the first operand of the GSERV macro instruction. The DCBDEBAD field in the data control block points to a data extent block (DEB), which in turn points to the unit control block. The unit control block is used by the control program to obtain information about an input/output device; each unit control block is associated with one input/output device.

Programmer Response: Check the first operand in the ANALYZ or GSERV macro instruction to make sure that it correctly specified the poll list address or list item address. If the first operand was correct, make sure that the macro expansion and the data control block were not incorrectly modified by program errors. After correcting the error, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

057

Explanation: The error occurred during execution of the graphic attention service routine for the IBM 2250 Display Unit. The routine referred to a unit control block (UCB) that was associated with a device other than a graphic device. The routine obtained the reference to the unit control block through a data control block (DCB). The user gives the routine the addresses of data control blocks through the poll list address in the first operand of the ANALYZ macro instruction or the address of one data control block through the list item address in the first operand of the GSERV macro instruction. The DCBDEBAD field in the data control block points to a data extent block (DEB), which in turn points to the unit control block. The unit control block is used by the control program to obtain information about an input/output device; each unit control block is associated with one input/output device.

Programmer Response: Check the first operand in the ANALYZ or GSERV macro instruction to make sure that it correctly specified the poll list address or list item address. If the first operand was correct, make sure that the macro expansion and the data control block were not incorrectly modified by program errors. After correcting the error, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

058

Explanation: A supervisor control routine has detected an error situation. Register 15 contains a hexadecimal reason code.

Register 15 Contents in Hexadecimal	Explanation
00	IEAVECMS detected an invalid CMSET RESET,CHKAUTH=YES request. The request tried to establish a primary ASID that is invalid for cross memory access and is not the home ASID. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
04	IEAVECMS detected an invalid CMSET RESET,CHKAUTH=YES request. The request tried to establish a primary ASID whose job step task has terminated. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
08	IEAVECMS detected an invalid CMSET RESET,CHKAUTH=YES request. The request tried to establish a primary ASID but there is no address space with the specified ASID. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
0C	IEAVECMS detected an invalid CMSET RESET,CHKAUTH=YES request. The request tried to establish a secondary ASID whose job step task has terminated. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
10	IEAVECMS detected an invalid CMSET RESET,CHKAUTH=YES request. The request tried to establish a secondary ASID, but there is no address space with the specified ASID. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
14	IEAVESSE detected the error. A reserved input field is not zero. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
18	IEAVESSE detected the error. The caller is not authorized to set the space switch indicator. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
1C	IEAVESSE detected the error. The caller passed an invalid ASID as input. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
20	IEAVECMS detected the error. The dispatcher (IEAVEDS0) issued the CMSET macro instruction with the RESET option to restore the cross memory environment of a task or an SRB. A program interruption occurred while IEAVECMS was executing. The task or SRB is abnormally terminated.
24	IEAVECMS detected the error. The external FLIH (first level interrupt handler), IEAVEEXT, issued the CMSET macro with the RESET option to restore the cross memory environment of the task or SRB that was interrupted. The error occurred while IEAVECMS was executing.

The interrupted program is abnormally terminated.

28 IEAVECMS detected a CMSET SET request to an invalid ASCB (address space control block) address. Register 12 contains the invalid ASCB address.

2C IEAVECMS detected an invalid CMSET RESET,CHKAUTH=NO request. The request tried to establish a primary ASID but there is no address space with the specified ASID. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.

30 IEAVECMS detected an invalid CMSET RESET,CHKAUTH=NO request. The request tried to establish a secondary ASID but there is no address space with the specified ASID. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.

34 IEAVECMS detected a CMSET SSARTO request to an invalid ASCB (address space control block) address. Register 12 contains the invalid ASCB address.

38 IEAVECMS detected an invalid CMSET SSARBACK request. The request tried to establish a secondary ASID but there is no address space with the specified ASID. Register 12 contains the invalid SSARBACK TOKEN.

System Action: The program that called the supervisor function abnormally terminates.

Programmer Response: Find and correct the error.

Problem Determination: Table I, items 16, 18, and 29.

059

Explanation: The stop/reset service routine (IEAVESRT) detected an error. Register 15 contains a hexadecimal reason codes:

Reason Code	Explanation
00	The stop service received a disabled input PSW.
08	An unrecoverable error occurred within the stop/reset service routine.
0C	STOP processing detected a request to stop an unlocked TCB that was already stopped.
10	RESET processing detected a request to reset a locked TCB that did not hold a local lock or CML (cross memory local) lock.
14	RESET processing detected a request to reset a locked TCB, and the ASCB lock word did not contain a suspend id value (X'7FFFFFFF').
18	The following occurred during STOP processing: A module requested to have FRRs (functional recovery routines) deleted from the normal stack but the module is not currently executing with the normal stack. That is, the current stack is not the normal stack (PSACSTK is not equal to PSANSTK).

System Action: The program that called the stop/reset service routine is abnormally terminated.

Programmer Response: The error is a system or subsystem error. Contact your system programmer.

System Programmer Response: If the problem persists, contact programming support personnel.

Problem Determination: Table I, items 16, 18, 19, and 29.

05A

Explanation: The FREESRB or the FREESSRB routine detected an error in the input it received. Register 15 contains one of these hexadecimal reason codes:

Reason Code	Explanation
00	FREESRB received the address of an SRB that was not from the supervisor SRB pool or that had an invalid SRBID field.
04	FREESSRB received the address of an SSRB that was not from the supervisor SSRB pool or that had an invalid SSRBID field.

System Action: The program that called the FREESRB or the FREESSRB routine abnormally terminates.

Programmer Response: The error is a system or subsystem error. Contact your programming support personnel.

Problem Determination: Table I, items 16, 18, 19, and 29.

05B

Explanation: A system service running in SRB mode issued the SRBTIMER macro instruction, and the time limit established on the SRBTIMER has expired.

System Action: The system service abnormally terminates.

Programmer Response: The appropriate response depends on your reason for setting the time limit. This abend is 'retryable'. You can write a recovery routine to continue processing; your routine could issue the SRBTIMER macro instruction again.

05C

Explanation: An allocation module detected an error. Register 15 contains a decimal reason code:

Reason Code	Explanation
001	System address space initialization denied the request to create the allocation address space.
002	The allocation address space received a nonzero return code from GETMAIN processing.
003	The display allocation tables manager received a request which, if processed, would cause the DALTUSE count to be less than zero.
004	An allocation module issued the POST macro instruction, and the macro processing has entered the routine specified on the ERRET parameter.
005	An allocation module issued the ESTAE macro instruction, and the return code from ESTAE processing was not zero.
101	The ATTACH macro instruction was issued for the eligible device table (EDT) verification routine during allocation initialization processing. The return code from the ATTACH routine was not zero.
201	Allocation was invoked during DDR SWAP to update the unit control block (UCB) pointer list (UPL) so that the UPL would reflect the swapped UCBs. However, one or both of the swapped UCB addresses is not in the UPL.
301	At the end of processing all allocation requests for a job step, an unsatisfied request is detected. An incorrectly modified eligible device table (EDT) or specifying VSAM parameters for a non-VSAM data set is the probable cause.

701 The scheduler JCL facility (SJF) returned an unexpected return code or reason code.

System Action: The system inserts this abend code and the reason code into the ABEND=cde, REASON=rc fields of message IEF100I and issues the message.

Operator Response: Notify the system programmer.

Programmer Response: Probable system error. Consult the *System Logic Library* for help in diagnosis. If necessary, contact programming support personnel.

Problem Determination: Table I, items 3, 4, 5, 13, 16, 50.

05D

Explanation: A program has issued the branch entry CALLDISP macro instruction, but the request is invalid. Register 15 contains one of these hexadecimal reason codes:

Reason Code	Explanation
00	The program is disabled and has super bits set.
04	The current FRR stack is not the normal FRR stack.
08	The program specified FRRSTK=SAVE while holding a lock, or the program specified FRRSTK=NOSAVE while holding a lock other than the LOCAL lock or the CML lock.
0C	The program is RTM1, a service invoked by RTM1, or an FRR.
10	The program was not in TCB mode.
14	Register 0, on input, contained an invalid function code.
18	Register 1, on input, did not contain 0.
1C	The program specified FRRSTK=SAVE while holding the LOCAL lock or CML lock, but no EUT functional recovery routines (FRRs) exist on the normal FRR stack.

System Action: The program that issued the CALLDISP abnormally terminates.

Programmer Response: Correct the error and rerun the program.

Problem Determination: Table I, items 3, 4, 13, 18, 19, and 29.

05E

Explanation: A program issued the SRBSTAT macro instruction, but an error condition exists. Register 15 contains one of the following hexadecimal reason codes:

Reason Code	Explanation
00	The program holds a lock.
04	The current FRR stack is not the normal FRR stack.
08	The program has super bits set.
0C	The program is not in SRB mode.
10	The program is disabled.
14	RTM1, a service that RTM1 invoked, or an FRR used the RESTORE parameter on the SRBSTAT macro instruction.
18	The PCLINK stack header was not zero on entry to RESTORE processing.
1C	The program specified RESTORE or MODIFY, and the status save area does not contain valid status.
20	RESTORE processing scheduled an SRB to obtain correct processor affinity, but the SRB was unable to run.

24 The program specified MODIFY, but register 0 contains an invalid MODIFY identifier code.

System Action: The program that issued the SRBSTAT abnormally terminates.

Programmer Response: Correct the error and rerun the program.

Problem Determination: Table I, items 3, 4, 13, 18, 19, and 29.

05F

Explanation: The VSPC address space encountered an error.

System Action: The VSPC address space and all address spaces that depend on the VSPC address space are abnormally terminated.

Operator Response: Notify the system programmer.

Problem Determination: Table 1, items 1, 2, 4, 5, 13, 16, 18, 29.

061

Explanation: The error was detected during execution of a CLOSE macro instruction for a graphic data control block.

The graphic CLOSE executor issued a DAR macro instruction for a graphic attention control block (GACB) that was not specified (via a SPAR macro instruction) by the closing task.

System Action: Abnormal termination occurred for the task that issued the SPAR macro instruction for the graphic attention control block.

Programmer Response: Issue a DAR macro instruction, for the graphic attention control block, in the task that issued the SPAR macro instruction, before the closing task issues the CLOSE macro instruction. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

062

Explanation: The error occurred during execution of a routine of the graphic subroutine package (GSP) for FORTRAN IV, COBOL, and PL/I.

A condition was encountered that produced a return code equal to or greater than the absolute value specified by the programmer as the 'null' argument in the call to the INGSP subroutine. The GSPARRAY field in the GSPCB identifies the return code produced, register 2 contains the address of the status table entry last invoked, and register 3 contains the address of the GSPARRAY field.

Programmer Response: Determine the condition that caused the job step to be abnormally terminated and change the program accordingly. Then, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

063

Explanation: During execution of a graphic program, the 2250 operator pressed the CANCEL key on the alphameric keyboard of the display unit. The 2250 operator selected either the TERMINATE option or the DUMP option on the termination option display. The problem program was terminated either with or without a dump.

Programmer Response: Determine from the 2250 operator the condition that caused him to terminate the program, and respond accordingly.

064

Explanation: An address space that holds a cross memory local lock (CML lock) terminated abnormally before it freed the lock.

System Action: The functional recovery routines associated with CML lock processing are given control. Other system processing continues.

Programmer Response: Determine why the address space terminated and correct the error.

Problem Determination: Table I, items 3, 4, 13, 15, and 29.

065

Explanation: A program issued the SSAFF macro instruction to call IEAVESSI, the TCB subsystem affinity service routine. IEAVESSI detected an error. Register 15 contains one of the following reason codes:

Reason Code	Explanation
04	The index into the SSAT (subsystem affinity table), specified on the SSAFF macro instruction, is greater than the number of subsystems currently defined.
08	The caller is not in TCB mode.
0C	There is insufficient LSQA storage to build the SSAT (subsystem affinity table).
10	The specified TCB is invalid. It does not include the TCB acronym.
14	The caller is disabled.
1C	The caller's current addressability was not to the home address space.
20	The specified TCB is not the currently active TCB or a subtask of the currently active TCB.

System Action: The program that issued the SSAFF macro instruction is abnormally terminated.

Programmer Response: For reason codes 04, 08, 10, 14, 1C, and 20, probable user error. Correct the error and resubmit the job.

For reason code 0C, probable system error. Contact your programming support personnel.

Problem Determination: Table I, items 5a, 13, 16, 18, and 29.

066

Explanation: An error condition was encountered during the execution of the MVS dispatcher (IEAVEDS0). Register 15 contains one of the following hexadecimal reason codes:

Reason Code	Explanation:
04	A completed SRB held a system lock when it returned to the dispatcher.
0C	An SSRB holds the CML (cross memory local) lock of a failing address space. (The ASCBFAIL bit is on.)
10	The SRBASCB field of an SRB or an SSRB points to an ASCB that does not have a valid acronym.
14	A task holds the CML lock of a failing address space. (The ASCBFAIL bit is on.)

System Action: The system records the error in SYS1.LOGREC.

Programmer Response: Notify the system programmer.

Problem Determination: Table I, items 2, 4, 5a, 18, and 29.

068

Explanation: A JES2 subtask has abnormally terminated; the contents of register 15 determine the identity of the abending subtask.

Register 15 Contents in Hexadecimal	Abending Subtask Name
100	HASPCKAP - Checkpoint Application copy failed

System Action: The subtask will recover and recopy the entire checkpoint data set next time the data set is posted. Application programs looking at the checkpoint data can detect this abend by looking at the bad copy indicator.

Operator Response: Notify your system programmer.

Programmer Response: Determine the reason for the copy failure. If the problem persists, disable the application copy of the checkpoint.

Problem Determination: Table 1, items 2, 7, and 16.

069

Explanation: An error occurred in the system address space create routine (IEEMB881) after an ASCB was created for the new address space.

System Action: The system uses the CALLRTM macro instruction with the MEMTERM parameter to abnormally terminate the new address space with a system completion code of 069.

Programmer Response: Determine why IEEMB881 failed and correct the error.

Problem Determination: Table I, items 2, 13, 16, 18, and 29.

06A

Explanation: An SRB's FRR (functional recovery routine) issued the SETRP macro instruction with the SERIAL=YES option to request serial percolation to its related task. RTM (recovery termination management) issued a GETMAIN for storage in the task's LSQA to record the registers and the PSW at the time of error. The GETMAIN failed; the task cannot determine what the registers contained, or what the PSW was, when the error occurred.

System Action: RTM abnormally terminates the task.

Programmer Response: Determine why the GETMAIN failed. (Check for the possibility of an LSQA GETMAIN loop.)

Problem Determination: Table I, items 5, 13, 15, 16, 18, and 50.

06C

Explanation: The RTM/SLIP processor (IEAVTSLP) detected one of the following conditions:

- While processing a PER interrupt, the routine being monitored issued a Move Long (MVCL) instruction that would overlay low storage.
- The environment indicators that control the RTM/SLIP processor were overlaid or invalid for some other reason.

System Action: RTM/SLIP processing terminates for the current event. The status of PER in the system and of the existing SLIP traps is unchanged.

Programmer Response: If the routine being monitored caused the problem, correct the program.

Problem Determination: Table I, item 29.

06D

Explanation: RTM/SLIP processing found that an invalid parameter list was passed to the SLIP indirect address convert routine (IEAVTADR).

System Action: RTM/SLIP processing terminates for the current event. The status of PER in the system and of the existing SLIP traps is unchanged.

Programmer Response: Contact your programming support personnel.

Problem Determination: Table I, item 2, 16, 29.

06E

Explanation: One of the following conditions has occurred during SLIP processing:

- The SLIP global PER activation/deactivation routine (IEAVTGLB) received a nonzero return code from BLDCPOOL macro processing, indicating that an error has occurred.

- The SLIP local PER activation/deactivation routine (IEAVTLCL) received a return code other than 0 or 20 from FREECELL macro processing, indicating that an error has occurred.

System Action: SLIP processing terminates.

Programmer Response: Contact your programming support personnel.

Problem Determination: Table I, items 2, 16, 29.

06F

Explanation: RTM was entered after a match was found for a SLIP PER trap that was defined with the RECOVERY option.

System Action: The job being monitored enters normal recovery processing. SLIP processing continues.

Programmer Response: None.

070

Explanation: A program issued the SUSPEND, RESUME, or TCTL macro instruction but an error condition existed. Register 15 contains one of the following hexadecimal reason codes:

Reason Code	Explanation
0C	The program issued the RESUME macro instruction with the RETURN=N parameter, but the program was not in SRB mode.
10	The program issued the RESUME macro instruction, but the specified TCB was invalid.
14	The program issued the RESUME macro instruction, but could not address the specified ASCB.
18	The program issued the RESUME macro instruction with the RETURN=N parameter, but the program was not in home addressing mode.
1C	The program issued the RESUME macro instruction with the RETURN=N parameter while holding one or more locks or while running with a PCLINK stack that was not empty.
20	The program issued the TCTL macro instruction, but was not in SRB mode.
24	The program issued the TCTL macro instruction, but was not in home addressing mode.
28	The program issued the TCTL macro instruction while holding one or more locks or while running with a PCLINK stack that was not empty.
2C	The program issued the RESUME macro instruction with the MODE=UNCOND parameter and the ASYNC=N parameter, but the program held the local lock of an address space other than the target address space.
30	The program issued the SUSPEND macro instruction, but the RB suspend count was not zero.
34	The program issued the SUSPEND macro instruction with the RB=PREVIOUS parameter, but no previous RB existed.
38	RESUME processing detected a request to resume an RB that had a suspend count other than 0 or 1.
3C	A RESUME with the unconditional synchronous options required the local lock. The issuer was disabled and did not hold the necessary local lock.
40	RESUME processing detected a request from the RESET service (IEAVESRT) to resume an RB. The RB does not exist on a specified TCB's RB chain.

System Action: The program that issued the macro instruction abnormally terminates.

Programmer Response: Correct the error and rerun the program.

Problem Determination: Table I, items 16, 23.

071

Explanation: The operator selected a RESTART option on the SCP/RAS operator frame of the console to initiate system recovery and/or termination. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	The operator selected RESTART option 0 because the currently executing program was in a noncancelable loop or wait state.
04	The operator selected RESTART option 1 to initiate system diagnosis and repair.
08	A programming error caused the currently executing program to branch directly to the restart interruption handler.
0C	The operator selected RESTART option 0 on a processor that is in a valid spin waiting for a global resource held by a second processor that is in an invalid disabled loop. A DSGNL RESTART directed to the second processor had failed.

System Action: For reason codes 00, 08, and 0C, the system abnormally terminates the currently executing program.

For reason code 04, the system detects and repairs, where possible, errors in critical system areas. The system refreshes selected system control blocks and validates and repairs selected system resources. The old values of some refreshed control block fields are logged in the variable recording area (VRA) of the SDWA; the system writes these old values in the SYS1.LOGREC error record. Then the system returns control to the interrupted program.

Programmer Response: For reason code 00, correct the cause of the loop, and resubmit the job.

For reason code 04, none is needed.

For reason code 08, correct the problem that caused the erroneous branch.

For reason code 0C, notify the system programmer. Resubmit the job.

Problem Determination: Table I, items 3, 4, 5, 13, 16, 50.

072

Explanation: A task or SRB (service request block) has been terminated because the processor on which it can run is offline.

Programmer Response: Resubmit the job when the job's processor affinity requirements are met.

073

Explanation: The lock manager detected an error during SETLOCK OBTAIN or SETLOCK RELEASE processing. Register 12 contains the PSASUPER bits at the time of the ABEND. Register 13 contains the current locks held string (PSACLHS) that was current when the lock request was made. Register 14 contains a pointer to the caller of the lock manager. The contents of register 15 indicate the nature of the error as follows:

Register 15 Contents in Hexadecimal	Explanation
00	While spinning for a disabled spin lock, the lock manager found that the lockword contains an invalid processor ID. Register 10 contains the invalid lockword value.
04	Invalid serialization. A disabled caller requested the LOCAL, CML, or CMS lock unconditionally and the lock was not immediately available.

08 Hierarchy violation. If a SETLOCK OBTAIN request was being processed, one of the following occurred:

- The requested lock was lower in the locking hierarchy than the locks currently held.
- Another lock of the same type was already held.
- A CMS lock was requested but a local lock was not held.

If a SETLOCK RELEASE request was being processed, one of the following occurred:

- A local lock was specified while a CMS lock was still held.
- All CMS locks were specified but not all CMS locks were held.

0C A caller requesting a CML (cross memory local) lock passed an invalid ASCB address. Register 11 contains the ASCB address.

10 The caller requested another address space's CML (cross memory local) lock but did not establish an active bind to that address space. Register 11 contains the ASCB address.

14 The caller specified an ASCB for an address space that was being terminated. Register 11 contains the ASCB address.

18 The caller requested the CML (cross memory local) lock of an address space that was not dispatchable. Register 11 contains the ASCB address.

1C The caller requested the CML lock of the master address space or the WAIT address space.

20 A request has been made for a lock type that is no longer supported.

24 A requestor requested the RSM (real storage manager) or TRACE lock in one of the following invalid ways:

- With SCOPE=SHR (share), but the requestor holds the lock with SCOPE=EXCL (exclusive)
- With SCOPE=EXCL, but the requestor holds the lock with SCOPE=SHR

28 A requestor unconditionally requested a class lock that was held by the processor as a class lock at a different level of the lock hierarchy.

2C A requestor requested to release locks according to a bit string mask in register 11. However, the requestor does not hold all the locks that the mask specifies.

System Action: The program that requested SETLOCK processing abnormally terminates.

Programmer Response: Check the program issuing the SETLOCK request to be sure the request was made correctly.

Problem Determination: Table I, items 3, 4, 11, 13, 16, 29, 33.

074

Explanation: An invalid lockword address was specified or the SETLOCK function was unable to complete. One of the following was detected:

- Lockword address is not on a fullword boundary
- Page fault encountered using the specified lockword address
- A machine check occurred in a user-supplied lockword

Programmer Response: In the first two cases, make sure the source is correct. For the last case, probable hardware error. The function may be retried. If the problem recurs, determine if the function is necessary for continuing system operation, and if so, do the following:

- Place system in wait state with an assigned wait state code.
- If function is not a critical resource, continue system operation without the resource.

Problem Determination: Table I, items 3, 4, 13, 18, 29 or 30.

075

Explanation: The SRBASCB field of the SRB that was being scheduled did not point to a valid ASCB.

System Action: The routine is terminated.

Programmer Response: Supervisor state key 0 program has scheduled an SRB that does not point to a valid ASCB because the acronym check failed. Correct the error and resubmit the job.

Problem Determination: Table I, items 2, 3, 4, 18, 19, 29, and 31.

076

Explanation: An error occurred while attempting to create a new address space, or an unexpected abnormal termination occurred in address space create or address space initialization.

System Action: Address space termination deletes the partially created address space. Message IEA890I is issued to identify which command was terminated as a result of the failure.

Programmer Response: Notify the system programmer of this ABEND.

Problem Determination: Table I, items 2, 7, 29.

077

Explanation: An error occurred while processing a console communications task request. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	In a request to start or stop MONITOR JOBNAMES, STATUS, or SESSIONS processing, the caller passed to module IEAVMNTR a console ID or address space ID (ASID) that is invalid for a terminal user.
04	The parameter list passed to module IEAVC700 was invalid.
08	Module IEAVC700 found that a caller requested deletion of a nonexistent command queue buffer (CQB).
0C	Module IEAVC700 could not establish an ESTAE environment.
10	The parameter list passed to module IEAVQ700 was invalid.
14	The caller of IEAVQ700 was not executing in the communications task's address space.
18	Module IEAVMWSV or IEE8B03D of the console communications task was not able to obtain a console queue element (CQE).
1C	The subsystem console service routine, IEAVG700, could not process a console request because of conflicting requests in the subsystem console service routine parameter list.
20	The subsystem console service routine, IEAVG700, could not process a console request because of incomplete or invalid data in the subsystem console service routine parameter list.

24 The subsystem console service routine, IEAVG700, could not process a console request because the specified console was not dedicated to the requesting system component.

System Action: If the error occurred during MONITOR or STOPMN command processing, the MONITOR function is not changed. Otherwise, the system abnormally terminates the calling routine.

Operator Response: If the error occurred during MONITOR command processing, reissue the MONITOR or STOPMN command.

For code X'18', look for a message backlog on one or more consoles. Ease the backlog by allowing the messages to roll off the screen or by rerouting the messages to SYSLOG with the CONTROL Q command.

Otherwise, notify the system programmer.

Programmer Response: For reason code 1C, 20, or 24, verify that the system component that is requesting services of the subsystem console service routine has properly specified the request in the subsystem console service routine parameter list.

For other reason codes, contact your programming support personnel.

Problem Determination: Table I, items 2, 13, 16, 29, 43.

078

Explanation: RCT processing has received an unacceptable return code from an invoked routine and cannot continue processing.

System Action: RCT recovery receives control and does the following:

- Records the error in SYS1.LOGREC.
- Performs resource clean-up.
- Requests a SYS1.DUMP of the address space.
- Requests address space termination.

Programmer Response: None.

Problem Determination: Save the module/function information in the record written to SYS1.LOGREC. Table I, items 16, 29.

079

Explanation: RCT attention exit processing has encountered an unacceptable return code from an invoked routine and cannot continue processing.

System Action: RCT recovery code receives control and takes the following action:

- Records the error in SYS1.LOGREC.
- Performs resource clean-up.
- Issues an error message to the terminal indicating that the attention request was ignored or requests a SYS1.DUMP of the address space.

Programmer Response: If an error message is issued to the terminal, either continue processing without regenerating the attention interrupt, or regenerate an attention interrupt to either the same attention level or a different level. If a SYS1.DUMP was taken, no response is possible.

Problem Determination: Save the module/function information recorded on SYS1.LOGREC. Table I, items 16, 29.

07A

Explanation: RCT recovery processing has detected that it was invoked as the result of an unrecoverable error. To avoid an address space interlock, RCT issued CALLRTM to terminate the address space. The conditions that will cause CALLRTM are:

- An SIRB failure
- A serious error during swap-out processing

System Action: The address space-related resources are not cleaned up and the address space is abnormally terminated. A record may or may not be written to SYS1.LOGREC.

Operator Response: None.

Problem Determination: Table I, items 16, 18, 29.

07B

Explanation: An interprocessor communication (IPC) routine has detected an error. Register 15 contains a hexadecimal reason code.

Register 15 Contents in Hexadecimal	Explanation
00	IEAVERI, the remote immediate signal (RISGNL) service routine, was supplied with an invalid PCCA address. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
04	IEAVERP, the remote pendable signal (RPSGNL) service routine, was supplied with an invalid PCCA address. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
08	IEAVEDR, the direct signal (DSGNL) service routine, was supplied with an invalid PCCA address. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
0C	IEAVERI, the remote immediate signal (RISGNL) service routine, detected that the caller's serial receiving routine abnormally terminated on the processor processing the emergency signal interrupt. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
10	IEAVEES, the emergency signal SLIH (second level interrupt handler), detected second level recursion.
14	IEAVEDR, the direct signal (DSGNL) service routine, was supplied with an order code for the SIGP instruction, which is not supported by this service.

System Action: For reason codes 00, 04, 08, 0C, and 14, the program that invoked the IPC function is abnormally terminated. For reason codes 10 and 18, the error is recorded in SYS1.LOGREC.

Programmer Response: For reason codes 00, 04, 08, 0C, and 14, find and correct the error. For reason codes 10 and 18, contact the systems programmer.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

07C

Explanation: Supervisor control recovery has detected a recursive SVC 13 (ABEND) loop. Field ASCBARC of the ASCB contains a hexadecimal reason code:

Reason Code	Explanation
0	Module IEAVESPR abnormally terminated the task or the address space.
4	Module IEAVESVR abnormally terminated the address space.

System Action: Depending on the detecting module, the system terminated either the current task or the current address space.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 2, 13, 29.

07D

Explanation: The error occurred during the execution of a SETFRR macro instruction to add an FRR to one of the FRR recovery stacks. The particular recovery stack, against which the SETFRR was issued, could not hold any more FRRs since all available slots were filled.

System Action: The task associated with this stack overflow condition is abnormally terminated provided recovery (FRRs, ESTAEs, etc.) for the task is unsuccessful.

Programmer Response: Probable error in non-IBM, key 0 code. Consult your system programmer to determine if any non-IBM, key 0 programs are contained in the control system and used by the problem program. Such code is either adding FRRs without deleting them, or is in a SETFRR loop.

Problem Determination: Table I, items 5a, 13, 15, 18, 23, 29. Table II, format I: TRACE=SYS,DSP.

07E

Explanation: The device path-test subroutine, IEEVDEV, cannot continue processing for one of the following reasons:

- The UCB address, passed by IEEVDEV's caller, did not point to the common segment of the UCB.
- Unrecoverable error occurred during IEEVDEV processing.
- An invalid function code was passed by IEEVDEV's caller.

System Action: One of the following reason codes will be found in register 15, indicating the cause of the error:

Reason Code	Explanation
04	Invalid UCB address.
0C	Invalid function code passed to IEEVDEV.
14	Return code was received from IECVIOPM indicating that an unrecoverable program error or hardware error occurred.

Programmer Response: Verify the UCB address of the UCB common segment. For reason code 14, if the intent is to bring the device online, try to vary the individual paths to the device online.

Note: IEEVDEV is called only by system functions. An abnormal termination will activate the calling function's recovery routines and the caller will be the one to decide if the system operator should be notified.

07F

Explanation: During recovery, verification of the TCB queue associated with the terminated address space resulted in an empty TCB queue.

System Action: The address space or job is terminated.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 2, 13, 15, 18, 23, and 29.

080

Explanation: An unexpected error occurred during RSM (real storage management) processing. For diagnostic purposes, a reason code is provided (see the RSM section of the System Logic Library for an explanation of each of the reason codes).

System Action: The address space on whose behalf RSM was processing is terminated.

Problem Determination: Table I, items 2, 4, 5a, 16, 29.

081 to 085

081

Explanation: GETMAIN has passed an incorrect virtual address. A system function, GETMAIN or RSM, is in error.

System Action: The request for an LSQA or SQA real storage frame is denied.

Programmer Response: None.

Problem Determination: Table I, items 1, 5a, 16, 29.

083

Explanation: Auxiliary storage manager (ASM) was unable to convert a logical slot identifier (LSID) to a full seek address. The relative byte address (RBA) is outside the range of the extension data block (EDB) entries.

System Action: The ASM I/O request area (AIA) being processed is marked in error. A software error record containing a copy of the AIA and EDB is written to SYS1.LOGREC, and processing continues.

Operator Response: None.

Problem Determination: Table I, items 2, 18, 29.

084

Explanation: The I/O subsystem of ASM (auxiliary storage management) detected one of the following hexadecimal reason codes in register 15:

Reason Code	Explanation
04	The I/O termination routine has received control with I/O requests that are not marked with a X'45' code from IOS and that have not been processed by the disabled interrupt exit (DIE) or the abnormal end appendage.
12	The anchor in the page activity reference table (PART) or swap activity reference table (SART) entry for the ASM IORB-IOSB-SRB is zero.

Page data sets on drums and swap data sets have more than one IORB-IOSB-SRB. Therefore, the loss of one IORB-IOSB-SRB may not cause this completion code to be issued.

System Action: For return code 4, a software error record is written to SYS1.LOGREC, and the I/O is retried. Processing continues. For return code 12, an attempt is made to obtain a new IORB-IOSB-SRB, and processing continues:

- If no storage is available for a new IORB-IOSB-SRB, message ILR009I is issued, and the data set referred to in message ILR009I is no longer used. Processing continues, if possible.
- If processing cannot continue, message ILR008W will be issued. A software error record will be written to SYS1.LOGREC.

Operator Response: None.

Problem Determination: Table I, items 2, 18, 28, 29, 30.

085

Explanation: The VIO SAVE operator could not convert a relative page number (RPN) to a logical-to-physical mapping entry (LPME) in a retrieved auxiliary storage page correspondence table (ASPCT).

System Action: A software error record is written to SYS1.LOGREC, and processing continues.

Operator Response: None.

Problem Determination: Table I, items 2, 18, 29.

086

Explanation: The VIO SAVE or ACTIVATE operator received an error from VSAM during an I/O operation attempt.

System Action: A software error record is written to SYS1.LOGREC, and processing continues.

Operator Response: None.

Programmer Response: Probable hardware error.

Problem Determination: Table I, items 2, 18, 24, 29, 30.

087

Explanation: Routine ILRAFS00 received an error return from FREEMAIN while attempting to free the virtual storage containing an auxiliary storage page correspondence table (ASPCT).

System Action: A software error record is written to SYS1.LOGREC, and processing continues.

Operator Response: None.

Problem Determination: Table I, items 2, 18, 29.

088

Explanation: An error occurred in an installation-supplied UIM.

System Action: The system will usually issue system completion code 088 when an error occurs in internal MVS configuration program processing including errors in installation-supplied UIMs. Errors in input statements usually will not cause an ABEND.

The last three numbers of each reason code match the number of the corresponding MVS configuration program message.

Reason Code	Explanation
104	A module that was invoked by the MVS Configuration program tried to remove a diagnostic stack entry that did not belong to it.
105	The MVS configuration program control routine was invoked with a DDNAME list that was too long.
106	An invalid attempt to add an entry to the diagnostic stack was made. The entry was already on the stack.
111	Invalid file code specified in CBPZRWPL
112	An MVS configuration program routine attempted to issue a message while the Message Log File was closed.
140	The ACON length parm was not 3 or 4 on a call of CBPMRTLB.
141	An ACON address contained in the RLCB (Relocation List CB) was not within the table associated with the ACON.
142	The value at an ACON is not contained within one of the tables of the module associated with the ACON.
146	A second call to CBPMRTLB was made to queue a module and a CSECT that were already defined to the relocation table list builder.
147	ATTACH processing for the linkage editor failed.
251	A UIM attempted to cause a DIT to be built for a generic which already had a corresponding DIT.
252	The report routine was attempting to find the device type for a device which was represented in the EDT but did not have a DFT.

253 The EDT Build Routine Part One was attempting to find the device information table for the specified generic, but no DIT exists.

254 Two UIMs specified the same generic priority.

255 A UIM specified a compatible list that contained duplicate devices.

332 No DIT could be found associated with the generic specified by a UIM in the DFP.

334 A UIM specified an invalid UCB segment type for an ACON position pointer.

335 A UIM specified an invalid UCB segment type for an ACON relocation pointer

336 Multiple Resident ERP names were specified for a Resident ERP Table index value.

338 A UIM specified an invalid offset within a UCB segment for an ACON position pointer.

339 The device class associated with a UCB was not found on the DCQ.

341 The size of the IIT is greater than 4K.

342 A UIM specified a device number in the relocation information that is greater than the maximum number allowed.

343 A UIM specified a device number that was not defined on an IODEVICE statement.

344 Two different sets of DCT information were specified for the same DASD type.

345 A UIM specified a length for a DCT entry that was greater than the maximum possible length.

346 A UIM attempted to add a DCT entry which would cause the size of the DCT to exceed the maximum possible size.

347 Two different sets of MLT name list information were specified for the same MLT name.

348 A UIM specified either more than 5 MLTs or no MLTs for a device.

349 A UIM specified more than 256 bytes of device dependent information.

354 A UIM recognized more than 64 features.

355 A UIM did not cause any DFTs to be built for an IODEVICE statement for which no errors were detected.

Operator Response: None.

Programmer Response: Correct the error indicated by the reason code.

089

Explanation: A paging I/O operation for the auxiliary storage manager (ASM) resulted in a permanent I/O error caused by either hardware or software problems.

System Action: If the I/O error occurred during a read operation, ASM writes a SYS1.LOGREC error record, which contains the variable recording area (VRA). See the ASM section in the *System Logic Library*. Then ASM indicates the error to the real storage manager (RSM). RSM issues a 028 system completion code for the task that required the page.

If the I/O error occurred during a write operation, ASM retries the write to a different location in the page data set. ASM also writes an error record in SYS1.LOGREC.

If the I/O error was caused by hardware problems, SYS1.LOGREC may contain a second error record, an outboard record (OBR) written by the DASD error recovery procedures (ERP).

Programmer Response: Probable system error.

Problem Determination: Table I, items 5a, 16, 18.

08A

Explanation: The auxiliary storage manager (ASM) received an I/O interruption for a paging I/O operation and detected an invalid channel command word (CCW) address in the subchannel status word (SCSW). ASM issues the 08A ABEND, but the problem may have been caused by either the hardware or the software.

Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	A program controlled interruption (PCI) or suspend interruption containing an invalid CCW address in the SCSW was detected in the PCI appendage of ILRCMP.
01	An interruption with an invalid CCW address in the SCSW was detected in the normal-end appendage of ILRCMP.
02	An interruption with an invalid CCW address in the SCSW was detected in the abnormal-end appendage of ILRCMP.

System Action: ASM writes a SYS1.LOGREC error record, which contains the variable recording area (VRA). See the ASM section in the *System Logic Library*.

For reason code 00, any completed I/O will be processed on the next valid PCI or the final channel-end/device-end interruption.

For reason code 01, all ASM I/O request areas (AIA) on that I/O request block (IORB) will be marked for retry.

For reason code 02, the first AIA anchored in the IORB will be marked for retry and the remainder, if any, will be retried through the I/O supervisor (IOS).

Programmer Response: Probable system error.

Problem Determination: Table I, items 5a, 16, 18.

08B

Explanation: The system issues this code when a programming error or an error of indeterminate origin occurs while processing a data-in-virtual request. The two low-order bytes in register 15 contain a reason code that further explains the error:

Reason Code (Hexadecimal)	Explanation
0001	An unknown service was requested.
0002	Unknown parameter list format.
0003	The input parameter list cannot be addressed.
0004	The storage specified in the parameter list cannot be addressed.
0005	The parameter list contains a reserved field which does not contain binary zeroes.
0006	The caller is not running in task mode.
0007	The caller is in cross memory mode.
0008	An invalid TYPE is specified.
0009	The ID supplied by the user is either an invalid ID or an ID that the caller cannot use.
000A	There is another data-in-virtual service currently executing with the specified ID.
000B	The data-in-virtual object is already accessed with the specified ID.
000C	The caller does not have the proper RACF authorization to the requested data-in-virtual object. (Or, the caller is attempting to use a password-protected data set for a data-in-virtual object. Data-in-virtual does not support passwords.)

000D The range specified exceeds the maximum allowable size for the object.

000E A data-in-virtual object is not currently accessed for the specified ID.

000F The specified range overlaps with a range already mapped for the ID.

0010 The virtual range specified overlaps with an already mapped virtual range in the address space.

0011 An undetermined system or user error occurred while attempting to access data from the data-in-virtual object; all data was not retained.

0012 The virtual storage specified does not begin on a 4K boundary.

0013 The virtual storage specified is not in a pageable private area subpool.

0014 The virtual storage specified cannot be used to map a data-in-virtual object (for example, virtual may contain storage assigned to VIO).

0015 The specified range of virtual storage contains at least one page that was not in a virtual range obtained via the GETMAIN service.

0016 The virtual storage specified contains at least one page in a range that is specified on a current PAGE FIX request; however, RETAIN=YES was not specified.

0017 Portions of virtual storage which mapped the object were not addressable, and could not be saved. There was either a paging error or data occupied a bad real storage frame.

0018 The caller does not have UPDATE ACCESS to the object.

0019 A page in a range to be saved or reset was marked as non-pageable (i.e., a PAGE FIX was outstanding against the page).

001A The specified range does not encompass any mapped area of the data-in-virtual object.

001B The virtual storage area specified to be unmapped is not currently mapped.

001C The data-in-virtual object cannot be accessed at the current time; the object data set is in use.

001D The accessed data-in-virtual object is not a VSAM linear data set, and thus does not have the correct control interval size that is implicit for a VSAM linear data set.

001E The length of the DDNAME exceeds the maximum size allowed.

001F The caller's storage protect key is not the same as when the IDENTIFY was issued.

0020 A task that does not own the specified ID attempted an ACCESS.

0021 Portions of the object on permanent storage could not be accessed; therefore, all data was not retained.

0022 The virtual storage specified to be mapped is not owned by the task that did the IDENTIFY. For authorized programs, the storage is not owned by that task or one of its subtasks.

0023 Part or all of the specified storage to be mapped is not in the user's key.

0024 The caller requested a data-in-virtual service while holding the local lock.

0025 The caller requested a data-in-virtual service while in an environment that precludes the use of SVCs.

0026 The caller requested a data-in-virtual service, but was not in a 31-bit addressing mode.

0027 The specified OFFSET and SPAN describe a range that exceeds the maximum supported object size.

0801 The storage available was insufficient for building the necessary data-in-virtual control block structure.

0802 There was an I/O driver failure.

0803 A required page table could not be read into real storage.

0804 The catalog update failed.

0805 An undetermined system error occurred; refer to *MVS/XA System Logic Library: Data In Virtual* for more information.

0806 An I/O error occurred.

0807 Media damage may be present in the allocated DASD space that is currently beyond the saved portion of the data-in-virtual object. Media damage means the destruction of the permanent data on the object, rather than actual hardware damage to the disk device.

0808 I/O from a previous request has not been completed.

08F

Explanation: An error occurred during execution of the CHANGKEY macro instruction.

Register 0 contains a reason code. See the RSM section of the System Logic Library for an explanation of the reason code.

Register 15 contains an error code:

Register 15 Contents in Hexadecimal	Explanation
04	One of the following is true: • The beginning address of the virtual storage range specified on the CHANGKEY macro instruction is greater than the ending address (also known as address wrap around). • At least one page in the specified virtual storage range is in an unauthorized subpool. All pages processed by the CHANGKEY macro instruction before the error are restored to their previous key.
0C	The user's parameter list, specified by the LISTAD parameter, was not in nonpageable storage. All pages processed by the CHANGKEY macro instruction before the error are restored to their previous key.
14	An unexpected internal error occurred. All pages processed by the CHANGKEY macro instruction before the error are restored to their previous key.
18	A request was made to change a key to 0. All pages processed by the CHANGKEY macro instruction before the error are restored to their previous key.
2C	One of the following is true: • The beginning address of the virtual storage range specified on the CHANGKEY macro instruction is greater than the ending address (also known as wrap around). • At least one page in the specified virtual storage range is in an unauthorized subpool.

Not all pages processed by the CHANGKEY macro instruction before the error are restored to their previous key.

34 The user's parameter list, specified by the LISTAD parameter, was not in nonpageable storage.

Not all pages processed by the CHANGKEY macro instruction before the error are restored to their previous key. An unexpected internal error occurred.

Not all pages processed by the CHANGKEY macro instruction before the error are restored to their previous key.

3C An unexpected internal error occurred.

Not all pages processed by the CHANGEKEY macro instruction before the error are restored to their previous key.

System Action: The invoker of CHANGKEY is abnormally terminated.

Programmer Response: For return code 04, 18, 0C, 2C, or 34, correct the error condition indicated.

For return code 14 or 3C, execute the job step again.

Problem Determination: Table I, items 1, 4, 5a, 16, 18, 29.

090

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found that a device other than a communications device was allocated to the data control block (DCB) being opened; that is, the device class code in the unit control block (UCB) for the device allocated to the data control block was not equal to hexadecimal 40.

Programmer Response: Either the UNIT parameter of the DD statement for the communications device is incorrect or the unit control block generated during system generation is invalid. Check for improper specification of the UNIT parameter or the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. After correcting the error, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

091

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found an invalid or unsupported type of transmission control unit specified in the unit control block (UCB) for the device allocated to the data control block (DCB) being opened.

Programmer Response: Check for improper specification of the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. After correcting the error, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

092

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found an invalid or unsupported type of terminal control or terminal adapter specified in the unit control block (UCB) for the device allocated to the data control block (DCB) being opened.

Programmer Response: Check for improper specification of the ADAPTER parameter in the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

093

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found an invalid or unsupported type of terminal specified in the unit control block (UCB) for the device allocated to the data control block (DCB) being opened.

Programmer Response: Check for improper specification of the UNIT parameter in the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

094

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found an invalid or unsupported optional feature or mode of operation specified in the unit control block (UCB) for the device allocated to the data control block (DCB) being opened.

Programmer Response: Check for improper specification of the FEATURE parameter in the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

095

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found that the lines allocated to the line group did not have identical terminal types and/or optional features.

Programmer Response: Determine which line group contains different terminals and redefine its lines through DD statements or a new system generation.

Problem Determination: Table I, items 1, 3, 5a, 29.

096

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found that dynamic buffer allocation had been specified in the DCBBFTEK field of the data control block (DCB). However, the OPEN routine could not dynamically allocate buffers because the data control block specified neither the address of a buffer pool control block (in the DCBBUFCB field) nor the number and length of the buffers (in the DCBBUFNO and DCBBUFL fields).

Programmer Response: Correct the error by (1) providing a buffer pool and specifying the address of its control block in the DCBBUFCB field, (2) specifying the number and length of the buffers in the DCBBUFNO and DCBBUFL fields, or (3) handling buffering in the program and deleting the BFTEK=D operand in the DCB macro instruction or DCB parameter of the DD statement. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

097

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. The open routine required an additional entry in the device I/O directory; however, the directory was already full. Since the last system start, the maximum number of device types has already been opened. Normally, the maximum number of device types is 30.

Programmer Response: Additional space in the device I/O directory can be provided by changing one statement in the read/write routine. The statement following the one labeled IOD must be changed. The duplication factor must be increased to correspond to the number of different device types being used. The new read/write routine must be reassembled and link edited to SVCLIB.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

098

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. Dual Communication Interface B or Dual Code Feature B was specified. However, the transmission control unit was not a 2701, the transmission control unit was not the Dual Communication Interface, or the Dual Code Feature was not specified in the unit control block (UCB).

Programmer Response: Correct program errors, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

099

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found that dynamic buffering was being initiated while the BTAM application was running V=V. BTAM dynamic buffering is not supported for V=V.

Programmer Response: Add the ADDRSPC=REAL operand to the job statement and initiate the BTAM application again (V=R).

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

09A

Explanation: An error occurred during execution of a global resource serialization function. The two low-order bytes of register 15 contain mmff, where mm is a one-byte hexadecimal code identifying the module that issued the ABEND and ff is a one-byte hexadecimal code identifying the function that the module was performing. The possible values for mm are:

mm Module

22 ISGNTASC
23 ISGNASIM
25 ISGNWMSI
26 ISGNGRSP
41 ISGCMDI
42 ISGCMDR
43 ISGCRST
44 ISGCQSC
45 ISGCPRG
46 ISGCDSP
47 ISGMSG00
48 ISGCQMRG
61 ISGBDR
62 ISGBCI
63 ISGBSR
64 ISGBTC
65 ISGBRF
66 ISGBSM
81 ISGSALC
82 ISGSDAL
A1 ISGQSCAN
A2 ISGQSCNR
C1 ISGGQWB0
E1 ISGJFE
E2 ISGGRP00
E3 ISGJENF0

If the ff field contains a hexadecimal value of 40 through FF, the meaning of that ff value is the same for all values of mm and is defined as follows:

ff Function

44 GQSCAN
46 ISGMSG00
48 ISGGRNLV
86 ISGGQS03
A0 ADDSYS
A2 BUFRECV
A4 BUFSEND
A6 DELSYS
A8 SENDCMD (message broadcast)
AA SENDCMD (message request)
AC SENDCMD (quiesce)
AE SENDCMD (assist in restart request)
B0 SENDCMD (initiate restart request)
B2 SERRELS
B4 SNAPSHOT
B6 STARTPOP (no communication)
B8 STARTPOP (with communication)
B9 STARTPOP (with permission)
BA SUBSYS
BB GETCCS
BC RELCCS
E0 ATTACH
EC MSGSERV (get line)
EE GETMAIN
FA MSGSERV (write message)
FC WTO (multiple line)

If the ff field contains a hexadecimal value of 00 through 3F, the meaning of the ff value is different for each module identified by mm:

mmff Meaning

22xx Module ISGNTASC issued the ABEND.

2204 IEEMB881, the system address space create routine, did not execute successfully.

23xx Module ISGNASIM issued the ABEND.

2304 ISGNASIM tried unsuccessfully to use the event notification facility (ENF) to establish ISGNPGIM as a listener for the availability of timer and console services.

2308 ISGNASIM tried unsuccessfully to establish a recovery environment with the ESTAE macro instruction.

230C The ATTACH for ISGNWMSI was unsuccessful. ISGNWMSI is the routine that waits for master scheduler initialization to complete.

2310 The ATTACH for ISGCMDR was unsuccessful. ISGCMDR is the global resource serialization command router.

2314 The ATTACH for ISGGRP00 was unsuccessful. ISGGRP00 is the global resource serialization processor.

2318 ISGGRP00, which is the global resource serialization processor, did not successfully complete initialization.

231C The ATTACH for ISGBTC was unsuccessful. ISGBTC is the global resource serialization ring processing control task.

2320 ISGBTC, which is the global resource serialization ring processing control task, did not successfully complete initialization.

2324 The ATTACH for ISGNGRSP was unsuccessful. ISGNGRSP is the global resource serialization option processor.

2328 ISGGRP00, which is the global resource serialization processor, abnormally terminated.

232C ISGBTC, which is the global resource serialization ring processing control task, abnormally terminated.

2330 ISGNGRSP, which is the global resource serialization option processor, abnormally terminated.

25xx Module ISGNWMSI issued the ABEND.

2504 IEEMB883, which is the system address space initialization WAIT/POST routine, did not execute successfully.

41xx Module ISGCMDI issued the ABEND.

4104 The ATTACH for ISGCDSP was unsuccessful. ISGCDSP is the global resource serialization DISPLAY processor.

42xx Module ISGCMDR, which is the global resource serialization command router, issued the ABEND.

4204 ISGCMDR found a command request block (CRB) that had an invalid request type.

4208 No resources were found on the command clean-up queue for the command request most recently processed.

46xx Module ISGCDSP issued the ABEND.

4644 ISGCDSP received an unexpected return code from the GQSCAN macro.

47xx Module ISGMSG00 issued the ABEND.

4704 The caller provided an invalid message ID.

4708 The caller provided a message option that is invalid for the specified message.

470C The caller requested an informational message but specified the ID of a reply message, or requested a reply message but specified the ID of an informational message.

48xx Module ISGCQMRG issued the ABEND.

4804 The version of global resource serialization in this system is not compatible with the version in the rest of the global resource serialization complex.

4808 The inclusion resource name list defined for this system is not identical to the list that the active global resource serialization systems are using.

480C The exclusion resource name list defined for this system is not identical to the list that the active global resource serialization systems are using.

4810 The RESERVE conversion resource name list defined for this system is not identical to the list that the active global resource serialization systems are using.

4814 A request from this system for a particular resource is not in the queue information provided by the active system. Possibly there is queue damage in the global resource serialization queues of this system or the system assisting in bringing this system into the complex.

4818 A request from this system for a particular resource is missing from this system's global resource serialization queues. Possibly there is queue damage in the global resource serialization queues of this system or the system assisting in bringing this system into the complex.

481C The active global resource serialization system that provided this system with queue information indicated that all data has been sent, but this system still expects more data. That is, ISGCQMRG expected to receive more data, but ISGBCI showed that a buffer length of zero was received.

4820 Internal queue update processing lost track of the type of item currently being processed.

4824 Internal queue update processing found data in its buffer or in the ring's buffer that it did not expect to find.

4828 Internal queue update processing expected to find more data (RIBE) in its buffer, but the buffer was empty.

482C Internal queue update processing reached the end of the ring's buffer before it reached the logical end of the data in the buffer.

4834 Internal queue update processing found more data in the ring's buffer than it expected to find.

4838 Internal queue update processing found a ring buffer that did not contain as many RIBs or RIBEs as indicated by the counts returned by GQSCAN services.

61xx Module ISGBDR issued the ABEND.

6104 ISGBDR attempted to queue a residence timer queue element (TQE) for a ring-processing system authority message (RSA), but a RSA residence TQE was already queued.

6108 The Store Clock instruction (STCK) failed.

62xx Module ISGBCI issued the ABEND.

6201 A system wanted to release the CCS resource but did not own that resource.

6202 A time-out occurred during the processing of the RSCFRCCS function.

6203 ENQ for a system-wide serialization received an unexpected return code.

6204 Module ISGBCI issued an STIMER WAIT for a negative time interval or for a single pause longer than 2 minutes.

6205 During a GETCCS request, a mainring clean-up was attempted unsuccessfully.

620C A channel end status was not received for an immediate write command to a channel-to-channel (CTC) link; this error caused a SNAPSHOT operation to fail. The time allowed for the channel end was: *a* times *b* times 0.01 seconds, where *a* is the value in GVTICRRC and *b* is the value in GVTICRRP. The time is 2 seconds, if the installation has not modified the GVT fields. Register 2 points to the ring-processing system link control block (RSL) that represents the CTC link that did not respond with the channel end.

63xx Module ISGBSR issued the ABEND.

6301 The ring-processing system authority message (RSA) that was received had an invalid format.

6302 The RSVWLOCK field of the ring-processing system vector table (RSV) contains an invalid value.

6303 Entry point ISGJGVBF in module ISGJFE gave a nonzero return code to ISGBSRSR.

6304 Entry point ISGJSNBF in module ISGJFE gave a nonzero return code to ISGBSRSR.

6305 Entry point ISGBSRRM, the resource management termination routine (RMTR) for ring-processing system request blocks (SRB), was entered.

6306 The ring-processing system authority message (RSA) that was received did not agree with the in-storage fields in the ring-processing system vector table (RSV). The received RSA was the second RSA of an ENQ/DEQ request that did not fit in one RSA, but the RSV indicated the RSA was the first RSA of the ENQ/DEQ request. Or, the received RSA was the first RSA of the ENQ/DEQ request, but the RSV indicated the RSA was the second.

6321 The ring-processing system authority identity message (RSAIRCD) that was received had an invalid format.

6322 The RSLWLOCK field of the ring-processing system link control block (RSL) had a invalid value.

6323 Entry point ISGJGVBF in module ISGJFE gave a return code that indicates an error condition to ISGBSRRI.

6324 Entry point ISGJSNBF in module ISGJFE gave a return code that indicates an error condition to ISGBSRRI.

64xx ISGBTC issued the ABEND.

6404 ISGBTC called ISGBDR to establish the missing-event checking routine, but the system clock was not working properly.

65xx Module ISGBRF issued the abend.

6504 Module ISGBRF attempted an STIMER WAIT for a negative time interval, or for a single pause longer than two minutes.

650C A channel end status was not received for an immediate write command to a CTC (channel-to-channel) LINK that caused a SNAPSHOT operation to fail. The time allowed for the channel end was: *a* times *b* times 0.01 seconds, where *a* is the value in GVT ICRRC, and *b* is the value in GVT ICRRP. However, the time allowed was two seconds if the installation has not modified the GVT fields. Register 2 points to the ring-processing system link control block (RSL) that represents the CTC LINK that did not respond with the channel end.

66xx Module ISGBSM issued the abend.

6601 The ring-processing system authority message (RSA) that was received had an invalid format.

6602 The RSVWLOCK field of the ring-processing system vector table (RSV) contains an invalid value.

6603 Entry point ISGJGVBF in module ISGJFE gave a nonzero return code to ISGBSRSR.

6604 Entry point ISGJSNBF in module ISGJFE gave a nonzero return code to ISGBSRSR.

6606 The ring-processing system authority message (RSA) that was received did not agree with the in-storage fields in the ring-processing system vector table (RSV). The received RSA was the second RSA of an ENQ/DEQ request that did not fit in one RSA, but the RSV indicated the RSA was the first RSA of the ENQ/DEQ request. Or, the received RSA was the first RSA of the ENQ/DEQ request, but the RSV indicated the RSA was the second.

81xx Module ISGSALC issued the ABEND.

8104 ISGSALC cannot build a new pool extent block (PEXB) because there are no available pages in the resource queue area.

8108 ISGSALC cannot build a new pool extent block (PEXB) because there are no available pages in the extended resource queue area (ERQA).

810C The caller does not hold the CMS ENQ/DEQ lock. This lock serializes the pool extent block (PEXB) that contains the cells the caller requested.

8110 The caller does not hold the global resource serialization local lock. This lock serializes the pool extent block (PEXB) that contains the cells the caller requested.

8114 A caller in 24-bit addressing mode requests that the global resource serialization storage manager allocate cells in the pool extent block (PEXB) in the extended resource queue area (ERQA).

82xx Module ISGSDAL issued the abend.

820C The caller does not hold the CMS ENQ/DEQ lock. This lock serializes the pool extent block (PEXB) that contains the cells the caller wanted deallocated.

8210 The caller does not hold the global resource serialization local lock. This lock serializes the pool extent block (PEXB) that contains the cells the caller wanted deallocated.

8214 A caller in 24-bit addressing mode requests that the global resource serialization storage manager deallocate cells in the pool extent block (PEXB) in the extended resource queue area (ERQA).

8218 ISGSDAL cannot free the cells that the caller requested because the cells are not in either the resource queue area (RQA) or the extended resource queue area (ERQA).

A1xx ISGQSCAN issued the ABEND.

A104 A program attempted to execute the GQSCAN macro instruction before the global resource serialization address space was active.

A108 The area size specified in the AREA parameter is too small for ISGQSCAN to copy a RIB and RIBE.

A10C The specified combination of the RESERVE, RESNAME, and SYSNAME parameters included mutually exclusive parameters.

A110 A program holding a local lock other than the one for the global resource serialization address space specified SCOPE=GLOBAL, SCOPE=SYSTEMS, or SCOPE=ALL, thereby preventing ISGQSCAN from obtaining the global resource serialization local lock.

A114 The GQSCAN macro instruction includes one of these specification errors:

- The RESNAME parameter includes the rname subparameter or the rname length subparameter, but omits the qname subparameter.
- The RESNAME parameter includes the rname length subparameter, but omits the rname subparameter.

A118 The SYSNAME parameter on the GQSCAN macro instruction includes an asid subparameter, but omits the sysname addr subparameter.

A11C The GQSCAN macro instruction includes the REQCNT parameter and either the OWNERCT or the WAITCNT parameter.

A12C The value specified on the TOKEN parameter on the GQSCAN macro instruction is invalid.

A130 An unauthorized program specified SCOPE=LOCAL or SCOPE=GLOBAL.

A134 The QUIT=YES parameter is specified without a TOKEN parameter.

A138 The QUIT=YES and the TOKEN parameters are specified with other parameters.

A2xx ISGQSCNR, which is ISGQSCAN's functional recovery routine, converted the ABEND.

A220 An undefined error occurred during execution of ISGQSCAN, which is the GQSCAN service routine.

A228 The parameter list passed to ISGQSCAN, which is the GQSCAN service routine, was not in the caller's storage protection key.

C1xx ISGGQWB0 issued the ABEND.

C104 Entry point ISGGQWB1 in module ISGGQWB0 found that the RSA is invalid. The RSA is invalid because (1) ISGGQWB1 found a non-compressed QWB in the RSA when it expected to find a compressed QWB or (2) ISGGQWB1 found a compressed QWB in the RSA when it expected to find a non-compressed QWB.

E1xx ISGJFE issued the ABEND.

E104 ISGBTC tried to make a system request block (SRB) available to the channel-to-channel (CTC) driver, but the CTC driver already had control of the SRB.

E2xx ISGGRP00 issued the ABEND.

E200 ISGGRP00 received an undefined queue work block (QWB).

E3xx Module ISGJENF0 issued the ABEND.

E304 Entry point ISGJENF1 in ISGJENF0 failed to establish an ESTAE recovery environment.

E308 Entry point ISGJENF2 in ISGJENF0 failed to establish an ESTAE recovery environment.

E30C Entry point ISGJENF3 in ISGJENF0 failed to establish an ESTAE recovery environment.

System Action: The system writes a software error record to SYS1.LOGREC for these abnormal terminations, except the following mmff values:

- 22xx issued by ISGNTASC
- 25xx issued by ISGNWMSI
- A1xx issued by ISGQSCAN
- A228 issued by ISGQSCNR

Other system processing continues.

Programmer Response: If mmff is 4808, 480C, 4810, A1xx, or A228, probable user error. Correct the problem and resubmit the job.If mmff is some other value, probable system error. Contact your programming support personnel.

Problem Determination: Table I, items 2, 7, 18, 29, 33, 43, 55.

09D

Explanation: A system trace service routine detected a user error. Register 15 contains a hexadecimal reason code to describe the error. The reason codes that follow are of the format mmxx, where mm is the module that detected the error, and xx is the reason code.

For example, 11xx indicates that module IEAVETRC detected errors with reason code xx.

Register 15 Contents in Hexadecimal	Explanation
11xx	Module IEAVETRC detected errors.
1151	Input register 1 of the PTRACE issuer contains an invalid register range. Register 2 contains the invalid register range that was input in register 1.
1152	The user parameter area of the PTRACE issuer contains more than 1024 words of data to be traced. Register 2 contains the address of the user parameter area (input register 1). Register 3 contains the number of words of data to be traced from the user parameter area.

System Action: The task is terminated.

Programmer Response: Correct the system trace request and submit the job again.

Problem Determination: Table I, item 5a.

09E

Explanation: An error was detected during the execution of a system trace routine. Register 15 contains a hexadecimal reason code in the format: mmxx, where mm is the module that detected the error and xx is the reason code.

mmxx Meaning

02xx IEAVETAC issued the ABEND.

0251 Module IEEMB881 determined that the trace address space could not be created. IEAVETAC placed the nonzero return code from IEEMB881 in register 2 and the reason code in register 3.

0252 Module IEAVETAI determined that the trace function could not be initialized. IEAVETAC placed the nonzero return code from IEAVETAI in register 2.

0261 IEAVETAC issued an ESTAE macro, but the macro failed to establish a recovery environment. IEAVETAC placed the nonzero return code from ESTAE in register 2.

03xx IEAVETAI issued the ABEND.

0351 Module IEEMB883 determined that an error occurred while waiting for the master address space to complete initialization. IEEMB883 passed a nonzero return code in register 15 and reason code in register 0. IEAVETAI placed the return code from IEEMB883 in register 2 and the reason code in register 3.

0361 Module IEAVETAI issued an ESTAE macro, but the macro failed to establish a recovery environment. IEAVETAI placed the nonzero return code from ESTAE in register 2.

12xx IEAVETIH issued the ABEND.

1211 Module IEAVETIH detected an invalid control block acronym. Register 2 contains the real address of the control block. Register 3 contains the expected acronym.

1212 Module IEAVETIH detected an invalid control block level number. Register 2 contains the real address of the control block. Register 3 contains the acronym of the control block. Register 4 contains the detected and expected level numbers.

21xx IEAVETSI issued the ABEND.

2100 The request for a system trace, ALTRTRC MODE=TRACEON,CPU=ALL, was not issued in task mode.

2101 The trace request is invalid because the ALTRTRC MODE option is not TRACEON, TRACEOFF, TRACEFIX, SUSPEND, RESUME, or PSTART. IEAVETSI receives the request in register 1 and places it in register 2.

2102 The trace request is invalid because the VERFYTRC request type is not indirect, direct, or DIE. IEAVETSI receives the request in register 0 and places it in register 2.

22xx IEAVETEA issued the ABEND.

2201 The trace request is invalid for one of the following reasons:

- Register 0 did not contain the address of a PCCA or X'FFFFFFFF'.
- The request type in register 1 was not TRACEON, TRACEOFF, or TRACEFIX.

IEAVETEA receives the request input in registers 0 and 1 and places the detected request in registers 2 and 3.

2202 Trace requests conflict for one of the following reasons:

- A single processor request specified a change in the trace options or number of buffers.
- Both ON and OFF were requested for the AS, BR, or EX options.
- The reserved bits were not zero.

IEAVETEA receives the request input in registers 0 and 1 and places the detected request in registers 2 and 3.

2211 Module IEAVETEA found an invalid acronym in the system trace option block (TOB). Register 2 contains the address of the TOB. Register 3 contains the detected acronym.

2212 Module IEAVETEA found an invalid level number in the system trace option block (TOB). Register 2 contains the address of the TOB. Register 3 contains the detected and expected level numbers.

23xx IEAVETPA issued the ABEND.

2301 Module IEAVETPA found an invalid acronym in the system trace services parameter list (TRSP). Register 2 contains the address of the TRSP. Register 3 contains the detected acronym.

2302 Module IEAVETPA found an invalid level number in the system trace services parameter list (TRSP). Register 2 contains the address of the TRSP. Register 3 contains the detected and expected level numbers.

2311 Module IEAVETPA found an invalid acronym in the system trace option block (TOB). Register 2 contains the address of the TOB. Register 3 contains the detected acronym.

2312 Module IEAVETPA found an invalid level number in the system trace option block (TOB). Register 2 contains the address of the TOB. Register 3 contains the detected and expected level numbers.

2313 Module IEAVETPA found an invalid acronym in a system trace buffer vector table (TBVT). Register 2 contains the address of the TBVT. Register 3 contains the detected acronym.

2314 Module IEAVETPA found an invalid level number in a system trace buffer vector table (TBVT). Register 2 contains the address of the TBVT. Register 3 contains the detected and expected level numbers.

24xx IEAVETSP issued the ABEND.

2401 Module IEAVETSP could not recognize the trace request. The ALTRTRC MODE option is not SUSPEND, RESUME, or PSTART. IEAVETSP received the request in register 1 and placed it in register 2.

2411 Module IEAVETSP found an invalid acronym in the system trace option block (TOB). Register 2 contains the address of the TOB. Register 3 contains the detected acronym.

2412 Module IEAVETSP found an invalid level number in the system trace option block (TOB). Register 2 contains the address of the TOB. Register 3 contains the detected and expected level numbers.

2413 Module IEAVETSP found an invalid acronym in a system trace buffer vector table (TBVT). Register 2 contains the address of the TBVT. Register 3 contains the detected acronym.

2414 Module IEAVETSP found an invalid level number in a system trace buffer vector table (TBVT). Register 2 contains the address of the TBVT. Register 3 contains the detected and expected level numbers.

25xx IEAVETSN issued the ABEND.

2501 Module IEAVETSN found an invalid acronym in the system trace SNAPTRC parameter list (TRSN). Register 2 contains the address of the TRSN. Register 3 contains the detected acronym.

2502 Module IEAVETSN found an invalid level number in the system trace SNAPTRC parameter list (TRSN). Register 2 contains the address of the TRSN. Register 3 contains the detected and expected level numbers.

2503 Module IEAVETSN found an invalid request type in the system trace SNAPTRC parameter list (TRSN). The request type is not one of the expected constants: TRSNSNAP, TRSNFREE, TRSNTKFR, or TRSNASFR. Register 2 contains the address of the TRSN. Register 3 contains the detected request type.

26xx IEAVETPS issued the ABEND.

2601 Module IEAVETPS found an invalid acronym in the system trace services parameter list (TRSP). Register 2 contains the address of the TRSP. Register 3 contains the detected acronym.

2602 Module IEAVETPS found an invalid level number in the system trace services parameter list (TRSP). Register 2 contains the address of the TRSP. Register 3 contains the detected and expected level numbers.

27xx IEAVETRR issued the ABEND.

2701 Module IEAVETRR found an invalid acronym in the system trace services parameter list (TRSP). Register 2 contains the address of the TRSP. Register 3 contains the detected acronym.

2702 Module IEAVETRR found an invalid level number in the system trace services parameter list (TRSP). Register 2 contains the address of the TRSP. Register 3 contains the detected and expected level numbers.

28xx IEAVETSD issued the ABEND.

2801 Module IEAVETSD found an invalid acronym in the system trace COPYTRC parameter list (TRCT). Register 2 contains the address of the TRCT. Register 3 contains the detected acronym.

2802 Module IEAVETSD found an invalid level number in the system trace COPYTRC parameter list (TRCT). Register 2 contains the address of the TRCT. Register 3 contains the detected and expected level numbers.

2811 Module IEAVETSD found an invalid acronym in a system trace table snapshot copy header (TTCH). Register 2 contains the address of the TTCH. Register 3 contains the detected acronym.

2812 Module IEAVETSD found an invalid level number in a system trace table snapshot copy header (TTCH). Register 2 contains the address of the TTCH. Register 3 contains the detected and expected level numbers.

29xx IEAVETTF issued the ABEND.

2901 Module IEAVETTF found an invalid acronym in the system trace SNAPTRC parameter list (TRSN). Register 2 contains the address of the TRSN. Register 3 contains the detected acronym.

2902 Module IEAVETTF found an invalid level number in the system trace SNAPTRC parameter list (TRSN). Register 2 contains the address of the TRSN. Register 3 contains the detected and expected level numbers.

2911 Module IEAVETTF found an invalid acronym in a system trace table snapshot copy header (TTCH). Register 2 contains the address of the TTCH. Register 3 contains the detected acronym.

2912 Module IEAVETTF found an invalid level number in a system trace table snapshot copy header (TTCH). Register 2 contains the address of the TTCH. Register 3 contains the detected and expected level numbers.

41xx IEECB924 issued the ABEND.

4101 Module IEECB924 found an invalid acronym in a parameter. Register 3 contains the control block address. Register 4 contains the expected acronym. Register 5 contains the detected acronym.

4102 Module IEECB924 found an invalid level number in a parameter. Register 3 contains the control block address. Register 4 contains the acronym of the control block. Register 5 contains the detected and expected level numbers.

42xx IEECB925 issued the ABEND.

4201 Module IEECB925 found an invalid acronym in a parameter. Register 3 contains the control block address. Register 4 contains the expected acronym. Register 5 contains the detected acronym.

4202 Module IEECB925 found an invalid level number in a parameter. Register 3 contains the control block address. Register 4 contains the acronym of the control block. Register 5 contains the detected and expected level numbers.

4203 Module IEECB925 detected an invalid parameter. Register 3 contains the control block address. Register 4 contains the acronym of the invalid control block. Register 5 contains the offset into the control block of the error. Register 6 contains the content of the invalid field.

51xx IEAVETFC issued the ABEND.

5101 Module IEAVETFC found an invalid acronym in the system trace table format request parameter list (TRFM). Register 2 contains the address of the TRFM. Register 3 contains the detected acronym.

5102 Module IEAVETFC found an invalid level number in the system trace table format request parameter list (TRFM). Register 2 contains the address of the TRFM. Register 3 contains the detected and expected level numbers.

5151 Module IEAVETFC found that the address of the current system trace table entry (TTE) is past the expected end of data in the buffer for the current processor. Register 2 contains the address of the TTE. Register 3 contains the address of the expected end of data. Register 4 contains the processor index into the trace formatter work area (TFWA).

5161 Module IEAVETFC issued an ESTAE macro to establish a recovery environment. The ESTAE failed. Register 2 contains the ESTAE return code.

52xx IEAVETEF issued the ABEND.

5201 Module IEAVETEF found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5202 Module IEAVETEF found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

53xx IEAVETFA issued the ABEND.

5301 Module IEAVETFA found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5302 Module IEAVETFA found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

54xx IEAVETVP issued the ABEND.

5401 Module IEAVETVP found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5402 Module IEAVETVP found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

55xx IEAVETNP issued the ABEND.

5501 Module IEAVETNP found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5502 Module IEAVETNP found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

56xx IEAVETPW issued the ABEND.

5601 Module IEAVETPW found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5602 Module IEAVETPW found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

57xx IEAVETRW issued the ABEND.

5701 Module IEAVETRW found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5702 Module IEAVETRW found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

5703 Module IEAVETRW found that a request to refill the work buffer for a processor was made while the processor's end of trace data bit was turned on. Register 2 contains the address of the trace formatter work area (TFWA). Register 3 contains the processor index into the TFWA. Register 4 contains the physical address of the processor.

58xx ITRFHEX issued the ABEND.

5801 Module ITRFHEX found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5802 Module ITRFHEX found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

59xx ITRFBR issued the ABEND.

5901 Module ITRFBR found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5902 Module ITRFBR found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

5Axx ITRF0001 issued the ABEND.

5A01 Module ITRF0001 found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5A02 Module ITRF0001 found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

5Bxx ITRF0003 issued the ABEND.

5B01 Module ITRF0003 found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5B02 Module ITRF0003 found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

5Cxx ITRF0005 issued the ABEND.

5C01 Module ITRF0005 found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5C02 Module ITRF0005 found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

5Dxx ITRF0007 issued the ABEND.

5D01 Module ITRF0007 found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5D02 Module ITRF0007 found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

5Exx ITRF0009 issued the ABEND.

5E01 Module ITRF0009 found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5E02 Module ITRF0009 found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

5Fxx ITRF000B issued the ABEND.

5F01 Module ITRF000B found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

5F02 Module ITRF000B found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

61xx ITRF000F issued the ABEND.

6101 Module ITRF000F found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

6102 Module ITRF000F found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

63xx ITRF0013 issued the ABEND.

6301 Module ITRF0013 found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

6302 Module ITRF0013 found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

64xx ITRF0015 issued the ABEND.

6401 Module ITRF0015 found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

6402 Module ITRF0015 found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

65xx ITRF0017 issued the ABEND.

6501 Module ITRF0017 found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

6502 Module ITRF0017 found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

66xx ITRF0019 issued the ABEND.

6601 Module ITRF0019 found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

6602 Module ITRF0019 found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

67xx ITRF001B issued the ABEND.

6701 Module ITRF001B found an invalid acronym in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected acronym.

6702 Module ITRF001B found an invalid level number in the trace formatter work area (TFWA). Register 2 contains the address of the TFWA. Register 3 contains the detected and expected level numbers.

74xx IEAVETCV issued the ABEND.

7451 Module IEAVETCV found an invalid acronym in the system trace vector table (TRVT). A CALLRTM TYPE=MEMTERM had been issued for the trace address space.

7452 Module IEAVETCV found an invalid level number in the system trace vector table (TRVT). A CALLRTM TYPE=MEMTERM had been issued for the trace address space.

7461 Module IEAVETCV found an invalid acronym in the system trace option block (TOB). A CALLRTM TYPE=MEMTERM had been issued for the trace address space.

7462 Module IEAVETCV found an invalid level number in the system trace option block (TOB). A CALLRTM TYPE=MEMTERM had been issued for the trace address space.

7470 Module IEAVETCV found errors in the system trace control blocks or queues. The functional recovery routine (FRR) IEAVETRR, entry point IEAVETFR, records the errors.

75xx IEAVETPV issued the ABEND.

7501 Module IEAVETPV found an invalid acronym in the system trace services parameter list (TRSP). Register 2 contains the address of the TRSP. Register 3 contains the detected acronym.

7502 Module IEAVETPV found an invalid level number in the system trace services parameter list (TRSP). Register 2 contains the address of the TRSP. Register 3 contains the detected and expected level numbers.

System Action: The system may terminate the task. The system may also terminate the trace address space. System recovery records the error in SYS1.LOGREC and, if appropriate, writes a dump.

Message IEA133E may accompany this completion code.

Operator Response: If necessary, issue the TRACE command to restart the trace address space. Notify the system programmer.

Problem Determination: Table I, items 13, 16, 18, 29, 33.

The TFWA is described in *System Logic Library: Trace*, under system trace explicit TTE formatter routines.

09F

Explanation: A program issued a vector instruction, but MVS can not create the proper environment for the vector operation. Register 15 contains a hexadecimal reason code that further describes the error condition.

Reason Code	Explanation
00	The program issued the vector operation in the SRB mode, and the vector SLIH (IEAVEVS) detects the error.
04	The program issued the vector operation while disabled, and the vector SLIH (IEAVEVS) detects the error.
08	None of the online processors with an attached Vector Facility (VF) meet the task's affinity requirements.
0C	The program cannot create the vector environment. The vector SLIH (IEAVEVS) detects the error.
10	The vector SLIH (IEAVEVS) failed due to a system error.
14	The system encounters an invalid vector environment. The dispatcher (IEAVEDS0), Stop/Reset (IEAVESRT) or the vector SLIH (IEAVEVS) may issue this system completion code.
18	A machine check in the VF causes the vector status for a task to be lost. The dispatcher (IEAVEDS0), Stop/Reset (IEAVESRT) or the vector SLIH (IEAVEVS) may issue this system completion code.
1C	The issuing task holds a local lock.
20	The system encounters an invalid Secondary TCB (STCB).
24	No VF capability exists in the complex.

System Action: The system terminates the TCB or SRB that issued the vector instruction.

Programmer Response: For reason codes 00, 04 and 1C ensure that the program issues the vector instructions in the proper mode. For reason code 08, it is not recommended that a program requiring a VF specify affinity requirements. For all other reason codes, contact the system programmer.

0A0

Explanation: During IPL, an error occurred while the system was starting the master scheduler. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
01	Module IEFSD161 detected a converter, interpreter, or system error during master scheduler initialization.
02	Module IEFSD164 detected an allocation error, an OPEN catalog error, or a locked catalog error during master scheduler initialization.
03	Module IEFSD263 could not obtain a special region for the master scheduler.

System Action: The system does not start the master scheduler; the IPL is terminated.

Programmer Response: If the master JCL, MSTJCLxx, data set was updated recently, check that the changes are correct. Respond to messages issued by the converter, interpreter, or allocation.

Problem Determination: Table I, items 2, 16, 26c, 29.

0A1

Explanation: An invalid condition was detected by the Graphics Access Method/System Product (GAM/SP) OPEN executor routine, IGG0193Y. The error occurred in either GAM/SP or the operating system.

System Action: A message appears on the system console that identifies the cause of the error; and GAM/SP produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/ System Product: Messages and Codes.*
2. Get a listing of the system dump.
3. Contact your programming support personnel.

0A2

Explanation: An invalid condition was detected by the Graphics Access Method/System Product (GAM/SP) CLOSE executor routine, IGG0203Y. The error occurred in either GAM/SP or the operating system.

System Action: A message appears on the system console that identifies the cause of the error and GAM/SP produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes*
2. Get a listing of the system dump.
3. Contact your programming support personnel.

0A3

Explanation: An error was detected in the Graphics Access Method/System Product (GAM/SP) attention handler module, IGG019OE. The error may have originated in the GAM/SP OPEN executor, IGG0193Y. It could also be caused by modules IGG019OE and IGG0193Y being at inconsistent maintenance levels.

System Action: A message appears on the system console that describes the error. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*
2. Check the module identifiers and PTF levels for modules IGG019OE and IGG0193Y.
3. Get a listing of the system dump.
4. Contact your programming support personnel.

0A4

Explanation: An error occurred either in the Graphics Access Method/System Product (GAM/SP) or in the operating system.

This completion code is issued when:

1. A program check or abnormal termination occurs in the Graphics Access Method/System Product (GAM/SP) attention handler module, IGG019OE.
2. IGG019OE detects an invalid condition.

System Action: A message appears on the system console, accompanied by a reason code identifying the area of processing in which the error occurred. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response: You should take the following actions:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*

2. Get a listing of the system dump.

3. Contact your programming support personnel.

0A5

Explanation: A program check or abnormal termination occurred within the Graphics Access Method/System Product (GAM/SP) attention handler module, IGG019OE. The recovery routine for IGG019OE determined that the problem was caused by an application error.

System Action: Message GAB333 appears on the system console and diagnostic data is provided. The message and the diagnostic data are described in *IBM Graphics Access Method/System Product: Messages and Codes.*

Programmer Response: Check for messages identifying the cause of the problem. Using the message and other diagnostic information, correct the application program. *IBM Graphics Access Method/System Product: Messages and Codes* contains information on application recovery from this problem.

0A7

Explanation: During Z NET,CANCEL command processing, VTAM found that a user did not specify a TPEND exit routine, or VTAM was unable to schedule a user's TPEND exit routine.

System Action: The user's task terminates abnormally.

0A8

Explanation: The error occurred during execution of a user's application program and was detected by VTAM. The contents of the two low-order bytes of register 15 indicate the cause of the error:

Register 15 Contents in Hexadecimal	Explanation
2101	A VTAM validity check of the user's request parameter list (RPL) failed because the RPL does not have the same protection key as the application program's TCB.
7001	The user's request parameter list (RPL) control block, or event control block (ECB) is invalid.

Register 15 and its contents can be found in RTM2WA, which is formatted when the workareas are available, or SYS1.LOGREC (LOGDATA option of AMDPRDMP). The GTF trace record, SVC trace (comprehensive), also displays the contents of register 15.

System Action: The task abnormally terminates.

Programmer Response: Verify that the RPL and ECB pointers are correct and execute the job step again.

Problem Determination: Table I, items 1, 2, 3, 5a, 13, 15, 16, 27, 29.

0A9

Explanation: Either a HALT NET,CANCEL command was entered or an error occurred during execution of a VTAM module. The contents of the two low-order bytes of register 15 indicate the cause of the error:

Register 15 Contents in Hexadecimal	Explanation
0000	A HALT NET,CANCEL command has been processed.
3100	There are not enough I/O buffers to satisfy a VTAM storage request.
3111	A VTAM module finished processing before it released a lock.

3141	A VTAM destination vector table (DVT) entry is invalid for the defined attachment.
7002	A VTAM request for storage failed.
7003	A VTAM request to release storage failed because the storage had already been released.
7004	VTAM could not obtain a local memory lock.
7009	ACF/VTAM was unable to restore its registers after a user exit routine returned control to ACF/VTAM.
7071	A RELSTORE was issued for a previously freed buffer.
7141	Control cannot be passed to the proper VTAM module. Either a VTAM destination vector table entry is invalid for the defined attachment or VTAM storage has been altered.

System Action: The task that initiated the VTAM request abnormally terminates.

Programmer Response: None.

Problem Determination: Table I, items 1, 2, 4, 5a, 13, 16, 18, 29.

0AA

Explanation: An ABEND condition occurred during execution of VTAM. VTAM's Functional Recovery Routines (FRR's) were unable to associate the failure with any particular TCB in the address space.

System Action: All the tasks in the address space are abnormally terminated.

Programmer Response: None.

Problem Determination: Table I, items 1, 2, 5a, 13, 16, 27, 29.

0AB

Explanation: The error occurred while TSO/VTAM time sharing was in operation and a VTIOC module was executing a VTAM macro instruction. The contents of the two low-order bytes of register 15 indicate the cause of the error:

Register 15 Contents in Hexadecimal	Explanation
0101	The terminal input manager for IBM 3767, IBM 3770, and other LU1 type terminals (IKTIMLU1) encountered an unrecoverable error while executing a VTAM macro instruction that uses a request parameter list (RPL).
0102	The terminal output manager for IBM 3767, IBM 3770, and other LU1 type terminals (IKTOMLU1) encountered an unrecoverable error while executing a VTAM macro instruction that uses an RPL.
0103	The terminal input manager for IBM 3270 systems network architecture (SNA) or other LU2 type terminals (IKTIMLU2) encountered an unrecoverable error while executing a VTAM macro instruction that uses an RPL. For non-SNA or LU0 type terminals, IKTOMLU0 encountered the error.
0104	The terminal output manager for IBM 3270 systems network architecture (SNA) or other LU2 type terminals (IKTOMLU2) encountered an unrecoverable error while executing a VTAM macro instruction that uses an RPL. For non-SNA or LU0 type terminals, IKTOMLU0 encountered the error.

0105 The VTIOC LOSTERM exit routine encountered an error during execution of a SNA BIND or UNBIND command that used an RPL.

0201 The error occurred during initialization of a TSO/VTAM user address space. An application ID problem was encountered while executing a VTAM OPEN macro instruction.

0202 The error occurred during execution of a VTAM OPEN macro instruction. The ERROR field of the ACB indicates the problem. The values that can be set in the ERROR field are listed in *VTAM Macro Language Reference*.

0203 The error occurred during execution of a VTAM CLOSE macro instruction. The code in the ERROR field of the ACB is X'42:7', indicating that the ACB has been closed but a VTAM error has prevented the successful disconnection of one or more TSO terminals.

System Action: In most cases, the error is recorded in SYS1.LOGREC. For the following cases, the error is not recorded:

1. SNA terminals, sense code X'00000200' - DEVICE END
2. Non-SNA terminals, sense code X'08310000' - LU DISCONNECTED

In all cases, the terminal session in which the error occurred terminates.

Programmer Response: None.

Problem Determination: Table I, items 2, 13, 16, 18, 27.

0AC

Explanation: The terminal control address space (TCAS) was unable to continue its normal processing due to an error. The two low-order bytes of register 15 and TCAS work area (TWAR) field TWARSON both contain the reason code that indicates the cause of the error:

Reason Code in Hexadecimal	Explanation
10	The TCAS main task was unable to attach the VTAM interface subtask.
14	The TCAS main task was unable to attach the user interface subtask.
18	The TCAS main task was unable to attach the console communication subtask.
1C	TCAS was unable to obtain storage for the TCAS table (TCAST) in the common service area (CSA).
20	The TCAS main task abnormally terminated and was unable to recover.
30	The VTAM interface subtask abnormally terminated and was unable to recover.
34	The user interface subtask abnormally terminated and was unable to recover.
38	The console communication subtask abnormally terminated and was unable to recover.

System Action: TCAS abnormally terminates.

Operator Response: Reply 'DUMP' to TCAS termination message IKT012D to obtain a dump.

Problem Determination: Table I, items 2, 4, 13, 16, 33.

0AD

Explanation: The error occurred while TSO/VTAM time sharing was in operation and VTIOC's queue manager was executing a GETCELL or FREECELL macro instruction. The contents of the two low-order bytes of register 15 indicate the cause of the error:

Register 15 Contents in Hexadecimal	Explanation
0108	The cell address supplied to the FREECELL macro instruction was invalid.
010C	No cell pool existed for the FREECELL request.
0110	An invalid cell pool ID was specified for the FREECELL request.
020C	No cell pool existed for the GETCELL request.
0210	An invalid cell pool ID was specified for the GETCELL request.

System Action: The queue manager abnormally terminates, and the terminal session in which the error occurred terminates.

Programmer Response: None.

Problem Determination: Table I, items 2, 13, 16, 18, 27.

0AE

Explanation: IOS support of system restart processing has found the I/O purge module (IGC0001F) waiting for the completion of an I/O request.

System Action: All the tasks in the address space (in which the I/O purge module was waiting) are abnormally terminated, and the address space is terminated.

Programmer Response: None.

Problem Determination: Table I, items 13, 16, 23 and 29.

0AF

Explanation: The TSO Interactive Data Transmission Facility detected a system error during the processing of a TRANSMIT or RECEIVE command. Register 15 contains a hexadecimal reason code.

Register 15 Contents in Hexadecimal	Explanation
0025	The RECEIVE command encountered an error while invoking the JES subsystem interface. The RECEIVE command was issued to determine if any Interactive Data Transmission Facility files were available for you to receive. The JES subsystem request was not successful. Reason code 0025 is associated with message INMR037I.
0043	The TRANSMIT command was issued with the DATASET or DSNAME keyword and the OBTAIN SVC was issued to get information about the data set. The OBTAIN SVC set a return code other than 0 (successful termination), 8 (data set not on volume), or 12 (VTOC I/O error). Reason code 042B is associated with message INMX067I.
0053	The TRANSMIT command attempted to OPEN a data set previously written by the IEBCOPY utility or the AMS REPRO command. The OPEN failed. The data set is a temporary data set the TRANSMIT command allocates to contain intermediate data. Normally, the TRANSMIT command reads, transmits, and

deletes the temporary data set. Reason code 043B is associated with message INMX083I.

007F The RECEIVE command attempted to allocate a spool file and JES returned an allocation error code. The RECEIVE command obtained the name of the spool file from JES via the process sysout subsystem interface. However, when RECEIVE attempted to allocate the spool file, JES considered the name invalid. The name should be considered valid. This error should not occur if RECEIVE and JES are working properly. Reason code 007F is associated with message INMR127I.

0084 The RECEIVE command was issued with the INDATASET or INDSNAME keyword.

The data set specified with the keyword failed to OPEN. The data set was allocated successfully. Reason code 0084 is associated with message INMR132I.

0085 The RECEIVE command attempted to OPEN a file for incoming network files from the JES spool, but the OPEN failed. The process sysout subsystem interface successfully selected a name for the spool file and the dynamic allocation SVC successfully allocated the spool file. Reason code 0085 is associated with message INMR133I.

0086 The RECEIVE command attempted to deallocate a data set using SVC 99, and the deallocation failed. The data set was a JES input file or was specified by an INDATASET or INDSNAME keyword. Reason code 0086 is associated with message INMR134I.

0089 The RECEIVE command encountered an error while attempting to terminate the external writer interface with JES. After all files have been processed or after a unrecoverable error, the RECEIVE command invokes the process sysout subsystem interface, specifying that this is the final call to the subsystem interface. The subsystem returned a nonzero return code indicating an error. Reason code 0089 is associated with message INMR137I.

00CC The TRANSMIT command processor encountered an error while opening the JES output file. Reason code 0204 is associated with message INMX204I.

00D2 The TRANSMIT command processor encountered an error while opening the output data set. Reason code 0210 is associated with message INMX210I.

System Action: The system issues a system dump.

Programmer Response: Print the dump data set.

Operator Response: None.

Problem Determination: Table I, items 16, and 29; save a hardcopy of the TSO session if possible.

0B0

Explanation: An uncorrectable error was detected by the SWA manager. The exact nature of the error is indicated by the code in register 15:

Register 15 Contents in Hexadecimal	Explanation
04	The routine that called SWA manager requested an invalid function.
08	The routine that called SWA manager passed an invalid SVA (SWA virtual address). The SVA does not point to the beginning of a SWA prefix or the SWA prefix has been destroyed.
0C	A SWA manager routine has attempted to read a record not yet written into SWA.
10	Either IEFQB550 (move mode module) has attempted to read or write a block that is not 176 bytes or IEFQB555 (locate mode module) has attempted to assign a block with a specified length of 0 or a negative number.
14	The routine that called SWA manager has specified an invalid count field. For move mode, an invalid count is 0 for a READ, WRITE, or ASSIGN function, and 00 for WRITE/ASSIGN.
18	The routine that called SWA manager by issuing the QMNGRIO macro instruction specified both or neither of the READ or WRITE options.
1C	The routine that called SWA manager was attempting to write into a SWA block for the first time and has either passed a nonexistent ID, or has failed to pass an ID at all and the block does not have an embedded ID.
20	IEFQB555 has attempted to write a block using an invalid pointer to the block.
24	An error occurred while the system was translating an SVA for an SWA block that is above 16 megabytes.

System Action: The task is terminated.

Operator Response: Notify your system programmer.

Programmer Response: If the program that abnormally terminated is a started task, and the code in register 15 is X'08' or X'0C', check the JCL for this task. For all started tasks, the JCL must either:

- refer to existing data sets that are cataloged in the master catalog; or
- include unit and volume information on the DD statements for existing data sets.

Modify the JCL to meet one of these requirements, and resubmit the job.

Problem Determination: Table I, items 3, 4, 16, 29.

0B1

Explanation: The error occurred when a master subsystem module detected invalid parameters being passed to it from another module, while starting either the master scheduler or a subsystem.

System Action: The START process is ended.

Programmer Response: None

Problem Determination: Table I, items 2, 16, 29.

0B2 to 0B7

0B2

Explanation: The error occurred when the Master Subsystem JCL-to-JCLs conversion routine detected an invalid card in the MSTRJCL data set. The MSTRJCL could not be converted and the Master Scheduler was not started.

System Action: The Master Scheduler is not started. The IPL is terminated at this point.

Programmer Response: If the MSTRJCL data set in the LINKLIB has been updated manually since the system was generated, check it for a card without a // in columns 1 and 2. Also check to insure that the MSTRJCL is delimited by a /* or a // (null) card.

Problem Determination: Table I, items 2, 16, 29.

0B3

Explanation: The error occurred when a caller of the Master Subsystem incore access method attempted an invalid, or not serviceable access request via the RPL/ACB interface.

System Action: The task using the access method is abnormally terminated.

Programmer Response: None

Problem Determination: Table I, items 2, 16, 29.

0B4

Explanation: The Master Subsystem could not make use of the SYS1.PROCLIB data set defined by the IEFPDSI card in the MSTRJCL. This occurred for one of the following reasons:

- The Master Subsystem was unable to OPEN the PROCLIB data set.
- The blocksize of the opened SYS1.PROCLIB data set was not a multiple of 80.

System Action: Without an open SYS1.PROCLIB DCB, the converter cannot be operated; therefore, the subsystem requested is not started.

Programmer Response: Check for a valid data set name on the IEFPDSI card in the MSTRJCL data set. Also, check for a valid blocksize either on the IEFPDSI card or in the data set's format DSCB in the VTOC.

Problem Determination: Table I, items 2, 16, 29.

0B5

Explanation: The Master Subsystem was unable to ATTACH the converter.

System Action: ATTACH passed a nonzero code back to the master subsystem in register 15. The subsystem requested is not started.

Programmer Response: None

Problem Determination: Table I, items 2, 16, 29.

0B7

Explanation: During processing of a reconfiguration command, a reconfiguration module issued ABEND 0B7. Register 15 contains diagnostic information in the format X'xxxxmmrr'. The mm field identifies the module that issued the ABEND. Most modules place a reason code in the rr field. When an error occurs in some other system module or component, a return code may be put in the xxxx field.

The possible values, in hexadecimal, of mm, rr, and xxxx are:

mm Module

02 IEEVCPR

rr	Explanation
02	IEEVCPR called IEEVMESS for message processing other than requesting a message buffer, but IEEVMESS failed. The message ID, the function code passed to IEEVMESS, and the return code from IEEVMESS are in the system diagnostic work area (SDWA) built by IEEVCPR's ESTAE routine.

The possible values for IEEVMESS' return codes are:

04 The message insert is too long or the index into a table of message inserts is invalid.

08 No reply was received from a WTOR.

0C Wrong number of message inserts was specified.

10 IEEVMESS could not establish an ESTAE environment.

06 Unexpected return code from the service processor call SVC. The possible values for the return code are explained in *System Logic Library: Supervisor Control.*

04 IEEVSTGP

IEEVSTGP sets xxxx to 0000.

rr Explanation

01 The service processor was executing a CONFIG STOR ONLINE command. The service processor varied the storage physically online, but was unable to vary the storage logically online. The service processor then tried unsuccessfully to vary the storage physically offline.

02 Unexpected return code from RSM. (IARXRCF)

03 Unexpected response code from the service processor for an internal vary storage online command or vary storage offline command.

04 Unexpected return code from the service processor call SVC routine. (IEAVMSF)

05 Unexpected response code from the service processor for an internal command to obtain storage element information.

06 An unexpected return code was received from the ESTAE macro. A recovery environment could not be established.

05 IEEVSTEL

IEEVSTEL sets xxxx to 0000.

rr Explanation

01 Unexpected return code from the service processor call SVC routine. (IEAVMSF)

02 Unexpected response code from the service processor for an internal vary storage element online or offline command.

03 Unexpected response code from the service processor for an internal command to obtain storage element information.

04 Unexpected response code from the service processor for an internal command to copy and reassign storage.

05 An unexpected return code was received from the ESTAE macro. A recovery environment could not be established.

06 IEEVSTFA

IEEVSTFA sets xxxx to 0000.

rr Explanation

01 Unexpected return code from RSM. (IARXRCF)

02 An unexpected return code was received from the ESTAE macro. A recovery environment could not be established.

03 An unexpected return code was received from the reconfiguration message module. (IEEVMESS)

07 IEEVSTGL

IEEVSTGL sets xxxx to 0000.

rr	Explanation
01	Unexpected return code from RSM when requesting storage status. (IARXRCF or IARERCF)
02	Unexpected return code from RSM when requesting that storage be varied online logically. (IARXRCF or IARERCF)
03	When requesting that storage be varied offline logically, a return code of 8 was received from RSM. This code indicates that the requested storage range contains permanently resident storage. (IARXRCF)
04	Unexpected return code from RSM when requesting that storage be varied offline logically. (IARXRCF or IARERCF)
05	An unexpected return code was received from the ESTAE macro. A recovery environment could not be established.
06	The service processor returned an unexpected response code for a Store Extended Storage Usability Map command.
07	The service processor call SVC returned an unexpected return code for a Store Extended Storage Usability Map command.

0B IEEMPDM

rr	Explanation
01	IEEMPDM received a nonzero return code from module IARXRCF.
02	Module IEEMPDM attempted to issue a message whose text was not in IEEMPDMM.
04	The ESTAE macro returned the nonzero code xxxx.

0C IEEVCONF

rr	Explanation
01	The ID of the processor on which the request is executing cannot be found in the SCPINFO table.
02	IEEVMESS returned a nonzero return code to IEEVCONF.

0D IEECB927

rr	Explanation
01	An ESTAE environment was not established.

0E IEEVMESS

IEEVMESS sets xxxx to 0000.

rr	Explanation
01	An invalid address for the message buffer was passed to IEEVMESS.

10 IEEVPTH

rr	Explanation
01	IEEVPTH received an unidentified or failing return code, xxxx, from the message module, IEEVMESS. The possible values for xxxx are documented in module IEEVMESS.

12 IEEVCHPR

rr	Explanation
01	IEEVCHPR received an invalid return code from IEEVDEV.
02	IEEVCHPR received an invalid return code from the I/O supervisor (IOS) vary service.
03	IEEVCHPR found an invalid CHP specified in the CONFIG CHP request.

05 IEEVCHPR received an invalid return code from the message module, IEEVMESS.

06 IEEVCHPR received an invalid return code or data from the service processor call SVC.

15 IEEVPTHR

rr **Explanation**

01 IEEVPTHR received an unexpected return code, xxxx, from the I/O supervisor (IOS) vary service, which was processing a request to take a device path offline. Possible values of xxxx are documented in module IOSVVARY.

02 IEEVPTHR received an unexpected return code, xxxx, from the I/O supervisor (IOS) vary service in response to a request to bring online a TP device with active I/O. Possible values of xxxx are documented in module IOSVVARY.

03 In response to a request from IEEVPTHR to bring a path online, the return code, rc, from module IECVIOPM indicated one of the following errors:

rc **Explanation**

12 An error occurred during IECVIOPM processing. Register 0 contains a zero, meaning that IECVIOPM was unable to obtain enough storage to process the online request.

24 An unrecoverable program error was encountered in IECVIOPM.

04 The operator replied CANCEL to message IEE717D and one of the following occurred:

- IECVIOPM encountered an internal programming error, return code 24, while processing a request to bring online a path.
- IEEVPTHR encountered an internal programming error and the pointer to the current vary request block is zero.

05 IEEVPTHR received an unidentified or failing return code, xxxx, from the message module, IEEVMESS. Possible values of xxxx are documented in module IEEVMESS.

16 IEEVCHPF

rr **Explanation**

01 A GETMAIN failure occurred during processing. xxxx is the GETMAIN return code.

02 An unidentified internal error occurred in module IEEVCHPF. xxxx is the last return code encountered.

03 An service processor failure occurred. xxxx is the last service processor response code.

04 A service processor command is invalid. xxxx is zero.

05 IEEVCHPF received an unidentified service processor response code, xxxx.

06 The service processor took more than 45 seconds to process the request. xxxx is the last service processor call return code.

17 IEEVIOSD

rr **Explanation**

01 A GETMAIN failure occurred during processing. xxxx is the GETMAIN return code.

02 A service processor failure occurred. xxxx is the service processor response code.

18 IEEDMDEV

rr	Explanation
01	IEEDMDEV received a nonzero return code, xxxx, from the ESTAE macro.

19 IEEDMSTR

rr	Explanation
04	IEEDMSTR received a nonzero return code, xxxx, from the ESTAE macro.

1A IEEDMCPU

rr	Explanation
01	IEEDMCPU received a nonzero return code, xxxx, from the ESTAE macro.
02	An IEEDMCPU call to the service processor did not return information. The response code from the service processor is xxxx.

1B IEEDMCHP

rr	Explanation
01	IEEDMCHP received a nonzero return code, xxxx, from the ESTAE macro.
02	An IEEDMCHP call to the service processor did not provide CHP information. The response code from the service processor is xxxx.

1C IEEMPDEV

rr	Explanation
01	IEEMPDEV received a nonzero return code, xxxx, from the ESTAE macro.
02	An IEEMPDEV call to the service processor failed. The response code from the service processor is xxxx.

20 IEEDMMSG

IEEDMMSG does not return a code in xxxx.

rr	Explanation
01	IEEDMMSG could not set up an ESTAE environment.
02	IEEDMMSG could not find the message ID received in the parameters.
03	IEEDMMSG found that the number of inserts received in the parameters does not match the message definition.
04	IEEDMMSG found that the message specified in the parameters does not fit into the 72-byte buffer.
05	IEEDMMSG found that the parameters specified more than 4 bytes for the length of a table insert or a hexadecimal or decimal insert.
06	IEEDMMSG found that the parameters specified a table insert that was beyond the insert table in the message definition.

21 IEEVORGI

rr	Explanation
1C	The call to the service processor did not return information; the reason and response codes were either not recognized or expected. The reason or response codes are **xxxx**. IEEVORGI records diagnostic information and returns control to the caller with a return code of decimal 28.
20	The GETMAIN macro returned a non zero return code **xxxx**. IEEVORGI records diagnostic information and returns control to the caller with a return code of decimal 32.
28	IEEVORGI received an invalid request and detected one of the following errors. • The parameter list control block identifier or version number was incorrect.

- The function code was unrecognized.
- The side information block control block identifier or version number was incorrect.

In the preceding three error conditions **xxxx** is set to 0.

2C IEEVORGI was executing on a machine that does not support the service processor architecture. **xxxx** is set to zero.

22 IEEDMSID

rr **Explanation**

01 IEEDMSID received a nonzero return code from the ESTAE macro and **xxxx** is the return code.

02 IEEDMSID received an invalid function code **xxxx**.

81 IEEDMSID received a nonzero return code **xxxx** from IEEVORGI.

82 IEEDMSID received a nonzero return code **xxxx** from the GETMAIN macro.

C1 IEEDMSID received a nonzero return code **xxxx** from the service processor call SVC routine.

C2 IEEDMSID received an unexpected service processor response. **xxxx** is the service processor response.

System Action: The command frees all related resources and may be invoked again. The system writes an error record to the SYS1.LOGREC data set.

Under certain circumstances, either message IEE174I or IEE521I will be issued after the dump. If one is issued, it will appear in SYSLOG.

Operator Response: Retry the command.

Problem Determination: Table I, items 18, 29.

0B8

Explanation: The error occurred when a start task control routine detected one of the following situations while processing a START, MOUNT, or LOGON command. The reason code is in register 15 at the time the ABEND is issued:

Register 15 Contents in Hexadecimal	Explanation
04	Module IEEPRWI2 or IEFJSWT detected an invalid command code in the CSCB. The command code was incorrect for a START, MOUNT, or LOGON command.
08	Module IEESB605 invoked IEFAB4FC (an allocation routine) to build a TIOT for the START, MOUNT, or LOGON task. IEFAB4FC returned control to IEESB605 with a return code indicating failure.
0C	Module IEESB605 invoked IEFJSWT (an STC routine) to write the internal JCL text for the START, MOUNT, or LOGON command into the STCINRDR or TSOINRDR internal reader data set. IEFJSWT returned control to IEESB605 with a return code indicating that it failed in its attempt to open the data set.
10	The system address space initialization routine passed an undefined return code to IEEPRWI2. The defined codes are 0 and 4.
14	Module IEEPRWI2 requested a SYSEVENT TRANSWAP (via the POST macro instruction) and received a nonzero completion code in the ECB (event control block). This indicates that the address space cannot be made nonswappable.

18	Module IEEPRWI2 issued a REQSWAP SYSEVENT that failed.
1C	Module IEEMB883, the system address space WAIT/POST routine, passed a nonzero return code to module IEEPRWI2. This means that the system address space did not initialize completely.

If the command is START or MOUNT, message IEE824I is issued; the START, MOUNT, or LOGON task is terminated.

Programmer Response: None.

Problem Determination: Table I, items 2, 7c, 16, 18, 29.

0B9

Explanation: The error occurred when the started task control received an invalid return code from the master subsystem when the request was issued to determine if a subsystem was being started.

System Action: If the command is START or MOUNT, message IEE824I is issued; the START, MOUNT, or LOGON task is terminated.

Programmer Response: None

Problem Determination: Table I, items 2, 7c, 16, 18, 29.

0BA

Explanation: The error occurred when the started task control or the initiator received an invalid return code from the subsystem interface when a subsystem request was issued.

System Action: In started task control, if the command is START or MOUNT, message IEE824I is issued; the START, MOUNT, or LOGON task is terminated. In the initiator, message IEF187I is issued and the job is terminated.

Programmer Response: None

Problem Determination: Table I, items 2, 7c, 16, 18, 29.

0BB

Explanation: The initiator was unable to ATTACH the job step task, started task, or LOGON task.

System Action: The initiator is abnormally terminated causing failure of the job, START or LOGON. The return code from ATTACH is found in register 15.

Programmer Response: None

Problem Determination: Table I, items 3, 4, 16, 29.

0BD

Explanation: The parameter list for master trace processing is incorrect; either the parameter list itself could not be accessed, or the data pointed to by the parameter list could not be accessed.

System Action: Master trace processing terminates. There is no change in the status of the master tracing facility.

Operator Response: Save any accompanying dump and notify the system programmer.

Programmer Response: Contact your programming support personnel.

Problem Determination: Table I, items 2, 16, 29.

0BE

Explanation: An error occurred while processing a FREEMAIN macro instruction during master trace create/deactivate processing. This completion code is accompanied by message IEE480I or IEE481I and by message IEE839I.

System Action: Master trace create/deactivate processing terminates. The status of the master tracing facility is described by message IEE839I.

Operator Response: Save any accompanying dump and notify the system programmer.

Programmer Response: Contact your programming support personnel.

Problem Determination: Table I, items 2, 16, 29.

0BF

Explanation: The master tracing facility failed during a recovery attempt. This completion code is accompanied by message IEE480I or IEE481I.

System Action: The status of master tracing is described in message IEE480I or IEE481I.

Operator Response: Save any accompanying dump and notify the system programmer.

Programmer Response: Contact your programming support personnel.

Problem Determination: Table I, items 2, 16, 29.

0Cx

Explanation: A program interruption occurred, but no routine had been specified to handle this type of interruption. Refer to the instruction description in the *Principles of Operation* to find out how the instruction stops execution for the error condition.

The last digit of this completion code is a hexadecimal number that indicates the cause of the program interruption. Each 0Cx system completion code has a reason code, which is equal to its program interrupt code.

Last Digit	Program Interruption Cause
1	Operation exception. The reason code is 1.
2	Privileged-operation exception. The reason code is 2.
3	Execute exception. The reason code is 3.
4	One of the following exceptions occurred: • Protection exception. The reason code is 4. • Segment-translation exception. The reason code is 10. • Page-translation exception. The reason code is 11.
5	Addressing exception. The reason code is 5.
6	Specification exception. The reason code is 6.
7	Data exception. The reason code is 7.
8	Fixed-point-overflow exception. The reason code is 8.
9	Fixed-point-divide exception. The reason code is 9.
A	Decimal-overflow exception. The reason code is A.
B	Decimal-divide exception. The reason code is B.
C	Exponent-overflow exception. The reason code is C.
D	Exponent-underflow exception. The reason code is D.
E	Significance exception. The reason code is E.
F	Floating-point-divide exception. The reason code is F.

System Action: The system abnormally terminates the task, unless a recovery routine was provided to handle the interruption. The hardware action is given in the *Principles of Operation*.

Programmer Response: Determine if the problem program or control program was in error. If the problem program contained an error, correct it, and execute the job step again.

0D2 to 0D6

0D2

Explanation: A program check was detected; an interruption code of X'12' (translation specification error) has occurred. There is invalid data in either control registers zero or one, or a segment or page table. The error is a result of a hardware error, or a program running in key zero has caused data damage.

System Action: An attempt is made to terminate the task suffering this error. If task termination cannot be processed because of the translation problems, an attempt is made to terminate the address space. If this fails, the system is placed in a disabled wait state.

Programmer Response: Correct the error and rerun the program.

Problem Determination: Table I, item 29.

0D3

Explanation: A program check, interruption code X'13' (special operation error) has occurred. For additional information concerning the error see *IBM System/370 Extended Architecture Principles of Operations.*

System Action: The task is terminated.

Programmer Response: Remove the set system mask instruction. This instruction is not valid in MVS.

Problem Determination: Table I, item 29.

0D4

Explanation: A program issued the PC, PT, or SSAR instruction, but an address space number (ASN) translation specification exception occurred. (The address space number translation exception is also known as an address space ID (ASID) translation exception.) The program interruption code is X'17'. Either the address space first table (AFT) or the address space second table (AST) contains invalid data.

System Action: The program that issued the PC, PT, or SSAR instruction is abnormally terminated.

Programmer Response: Probable system error. If necessary, contact your programming support personnel.

Problem Determination: Table I, items 5, 11, 13, 15 16, 18, 29, and 33.

0D5

Explanation: A program issued a PC, PT, or SSAR instruction, and an address space first table index (AFX) translation exception (program interruption code X'20') or an address space second table index (ASX) translation exception (program interruption code X'21') occurred. The value in the address space first table (AFT) or the address space second table (AST) corresponding to the ASID is invalid. Either there is no such address space or the address space is swapped out.

System Action: The system attempts to correct any errors in the AFT. The program that issued the PC, PT or SSAR instruction abnormally terminates.

Programmer Response: Determine why the ASID is invalid. Correct the error and resubmit the program.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 29 and 33.

0D6

Explanation: The program issued the PC instruction with an invalid PC number. One of the following describes the error:

- A linkage index (LX) translation exception (program interruption code X'22') or an entry table (EX) translation exception (program interruption code X'23') has occurred.
- The entry table field that the PC number identifies is not defined by the address space that owns the entry table. Register 14 contains the next sequential instruction after the PC instruction.

System Action: The program that issued the PC instruction abnormally terminates.

Programmer Response: Determine why the PC number is invalid. Correct the error and resubmit the program.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 29, and 33.

0D7

Explanation: One of the following occurred:

- A program issued the PT instruction, but a primary authority exception occurred. The primary address space is not authorized to issue a PT instruction to the target address space. Either the authorization index (AX) is greater than the number of elements in the target address space's authorization table (AT) or the P bit is off in the target address space's AT. The program interruption code is X'24'.
- A program issued the SSAR instruction, but a secondary authority exception occurred. The primary address space is not authorized to issue an SSAR instruction to the target address space. Either the authorization index (AX) is greater than the number of elements in the target address space's authorization table (AT) or the S bit is off in the target address space's AT. The program interruption code is X'25'.

System Action: The program that issued the PT or the SSAR instruction abnormally terminates.

Programmer Response: Correct the error and resubmit the program.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 29, and 33.

0D8

Explanation: A space switch exception occurred. A program issued the PC or PT instruction, but the cross memory resource ownership task in the target address space has terminated. The target address space is not the home address space of the program that issued the PC or PT instruction. Program interruption code X'1C' is associated with the error.

System Action: The program that issued the PC or PT instruction abnormally terminates.

Programmer Response: Correct the error and resubmit the program.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 29, and 33.

ABEND

0D9

Explanation: A program check occurred. Either a hardware problem caused the error or a program running in PSW key zero caused data damage.

System Action: The system abnormally terminates the task.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, item 29.

0DA

Explanation: A program issued the PC instruction, and a PC translation specification exception occurred. The program interruption code is X'1F'. Either the linkage table (LT) or the entry tables (ETs) contain incorrect data.

System Action: The program that issued the PC instruction is abnormally terminated.

Programmer Response: Probable system error. Resubmit the program. If the error continues to occur, contact your programming support personnel.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 18, 29, and 33.

0DB

Explanation: A program check was detected. An interruption code of X'15', an operand exception, has occurred.

System Action: The task terminates.

Programmer Response: This is a system error. Run the job again.

Problem Determination: Table I, items 1, 3, 5, 13, 15, 16, 29.

0DC to 0E1

0DC

Explanation: This completion code is found only in address space control blocks (ASCBs). The recovery termination manager (RTM) encountered an unrecoverable error in its processing of a functional recovery routine (FRR) stack. Field ASCBARC of the ASCB contains a hexadecimal reason code:

Reason Code	Explanation
4	The super FRR for RTM received control after RTM FRR processing encountered an unrecoverable error and abnormally terminated the address space.
8	RTM FRR processing that is not covered by an FRR encountered an unrecoverable error. RTM's default recovery received control and abnormally terminated the address space.

0E0

Explanation: A program interrupt occurred, and the system issues this system completion code and a hexadecimal reason code equal to the program interrupt code.

Reason Code	Explanation
1D	A square root exception occurred.
1E	An unnormalized operand exception occurred.

System Action: The system abnormally terminates the task, unless a recovery routine was provided to handle the interruption.

Programmer Response: Determine if the problem program or control program was in error. If the problem program contained an error, correct it, and execute the job step again.

Problem Determination: Table I, items 5a, 16, 23 and 29.

0E1

Explanation: An error was encountered while processing the first EXCP against a virtual I/O (VIO) data set. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
05B	The LGCB (IDAVBPL) chain is invalid. The address space IDs (ASID) in the LGCB and the address space control block (ASCB) do not match.
1xx	The system was unable to fix or free the page containing the VIO control block (VCB) for the real storage manager (RSM).

Last Two Digits	Explanation
04	The operation was abnormally terminated. The operation could not be completed because of an invalid address in the virtual subarea list; the system posted the event control block (ECB).
10	The operation was abnormally terminated. The virtual subarea list entry or the address of the event control block (ECB) was invalid; the system did not post an ECB.

Reason Code	Explanation
2xx	RSM was unable to 'assign null' the virtual track buffer or the DSPCT map.

Last Two Digits	Explanation
04	An assign (move-in) error occurred. The page identified by the VCBVSA field is not available.
08	A write (move-out) error occurred. The page identified by the VCBVSA field is fixed in real storage and cannot be

written to the data set in auxiliary storage.

0C The request was invalid; it was not an assign or a write request.

10 The page identified by the VCBVSA field is not written to the data set because it was not brought into real storage by the prior read request or because data in the page has not been modified.

20 The page identified by the VCBVSA field belongs to an LPID other than the LPID in the VCBLPID field.

40 The virtual storage address in the VCBVSA field was invalid. A GETMAIN macro was not issued for the page identified by the VCBVSA field.

80 An assign error occurred. The page identified by the VCBVSA field was read previously but was not disconnected by a move-out or move-out-null request before the current read (assign) operation.

3xx The auxiliary storage manager (ASM) was unable to ASSIGN a logical group for this VIO data set.

Last Two Digits	Explanation
1C	One of the following occurred: • ASM could not obtain storage to process the request. • ASM ran out of paging slots to create VIO data sets. The maximum number, 1600, of LGNs was exceeded. If the primary console has received warning messages that indicate a shortage of paging space or heavy VIO activity, increase the constant ASMSLOTV, as described in *Initialization and Tuning*, and then re-IPL

ABEND

System Action: The input parm list (IDAVOP1), the DSPCT header (IDAVBPH) and SWA are dumped to the SYS1.DUMP data set. ASCB and the LGCB (IDAVBPL) chain are also dumped if the reason code was X'05B'.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 2, 4, 5a, 7d, 9b with MEMBER=IDDWI, 18, 29, 33.

0E2

Explanation: The error was detected while processing the first EXCP for the VIO data set after a restart. Register 15 contains one of the following reason codes:

Reason Code in Hexadecimal	Explanation
05B	The LGCB (IDAVBPL) chain is invalid. The ASIDs in the LGCB and the ASCB do not match.
1xx	Unable to fix or free the page containing the parameter list (VCB) for RSM. Refer to code 0E1 for an explanation of xx.
2xx	RSM was unable to 'assign null' the virtual track buffer or the DSPCT map. Refer to code 0E1 for an explanation of xx.

System Action: The input parm list (IDAVOP1), DSPCT header (IDAVBPH) and SWA are dumped to the SYS1.DUMP data set. If the reason code is X'05B', ASCB and the LGCB (IDAVBPL) are also dumped.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER=IDDWI, 18, 29, 33.

0E3

Explanation: The error occurred while processing a VIO data set. Register 15 contains one of the following reason codes:

Reason Code in Hexadecimal	Explanation
004	An invalid RBA was passed to VBP. Probable causes of error code are (1) DEB with extent descriptions that do not fall within the allocated extents as described in the virtual data set control block (VDSCB) (2) EXCP was issued to read the format 1 DSCB on the volume.
1xx	Unable to fix or free the page containing the parameter list (VCB) for RSM. Refer to code 0E1 for an explanation of xx.
2xx	RSM was unable to assign or move out pages in the virtual track buffer. Refer to code 0E1 for an explanation of xx.

System Action: The following are dumped to the SYS1.DUMP data set:

- Input parameter list (IDABUFC)
- DSPCT header (IDAVBPH)
- SWA
- LSQA
- The region (in some cases)

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER=IDDWI, 18, 29, 33.

0E4

Explanation: The error occurred while trying to scratch a VIO data set.

Register 15 contains one of the following reason codes:

Reason Code in Hexadecimal	Explanation
008	The ASIDs in the LGCB and ASCB do not match indicating an error in the LGCB chain.
3xx	ASM could not RELEASE the logical group for this data set.

Last Two Digits	Explanation
04	Invalid LGN.
1C	Unable to obtain storage to process request.
20	Invalid operation code is supplied in the auxiliary storage manager control area (ACA).
28	Invalid identifier type when an LGN was given, but 'S' type symbol is required.

System Action: The ASCB and LGCB chain DSPCT header, and SWA are dumped on SYS1.DUMP data set.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER=IDDWI, 18, 29, 33.

0E5

Explanation: Unable to disconnect the virtual track buffer from the VIO data set.

Register 15 contains one of the following reason codes:

Reason Code in Hexadecimal	Explanation
1xx	Unable to fix or free the page containing the parameter list (VCB) for RSM. Refer to code 0E1 for an explanation of xx.
2xx	RSM was unable to 'MOVE OUT' pages in the virtual track buffer. Refer to code 0E1 for an explanation of xx.

System Action: The DSPCT header and SWA are dumped to the SYS1.DUMP data set.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER=IDDWI, 18, 29, 33.

0E6

Explanation: Unable to process against a data set that has already been scratched.

System Action: The VDSCB (IDDVDSCB) is dumped to the SYS1.DUMP data set.

Programmer Response: Do not access a scratched data set.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER=IDDWI, 18, 29, 33.

0E7

Explanation: The error occurred while journaling the DSPCT header (IDAVBPH) at step termination or at checkpoint. Register 15 contains one of the following reason codes:

Reason Code in Hexadecimal	Explanation
008	Scheduler module IEFXB500 returned an unsuccessful completion code for a request to write to the job journal.
05B	The LGCB (IDAVBPL) chain is invalid. The ASIDs of the LGCB (in the LGCB chain) and the ASCB did not match.
1xx	Unable to fix or free the page containing the parameter list (VCB) for RSM. Refer to code 0E1 for explanation of xx.
2xx	RSM was unable to ASSIGN or MOVE OUT pages in the virtual track buffer. Refer to code 0E1 for explanation of xx.
3xx	ASM was unable to 'SAVE' the logical group for this data set.

Last Two Digits	Explanation
04	Invalid LGN.
14	Unrecoverable error occurred while writing to SYS1.STGINDEX.
1C	Unable to obtain storage to process request.

	20	Invalid operation code is supplied in the auxiliary storage manager control area (ACA).
	2C	Indeterminate error has occurred.
408		Unable to obtain the local lock. The lockword id does not match the caller's id.

System Action: The DSPCT header (IDAVBPH) and SWA are dumped on the SYS1.DUMP data set.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER=IDDWI, 18, 29, 33.

0E8

Explanation: The error occurred while processing the VIO data sets for the job after an abnormal system or job step task failure. Register 15 contains one of the following reason codes:

Reason Code in Hexadecimal	**Explanation**
004	Unable to free the LGCB.
051	The ASID in the LGCB chain and the ASCB do not match.
3xx	ASM was unable to release the logical group for this data set. See code 0E4 for an explanation of xx.
408	Unable to obtain the local lock. The lockword id does not match the caller's id.

System Action: The input parm list (RMPL), the ASCB and the LGCB (IDAVBPL) chain are dumped to the SYS1.DUMP data set.

Programmer Response: System Error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER=IDDWI, 18, 29, 33.

0F0

Explanation: An error occurred while processing a machine check interruption with the machine check handler's FRR stack active. In an attempt to recover the system, the control program has terminated the task that was interrupted.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 2, 16, 29, 30.

0F2

Explanation: The error occurred during I/O interrupt processing. An I/O recovery routine failed.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 5a, 7d, 13, 16, 18, 29, 31, 32.

0F3

Explanation: The control program was able to initiate termination of the current task after a machine-check interruption.

System Action: The system initiates termination of the current task because of a machine check interruption.

Programmer Response: Probable hardware error. If the data on external storage devices is still valid, execute the job step again.

Problem Determination: Table I, items 2, 18, 30.

0F6

Explanation: The error occurred during the processing of the SETEVENT service, acting on behalf of GTF. The contents of register 15 indicate the nature of the error:

Register 15 Contents in Hexadecimal	Explanation
00	The caller of the SETEVENT service was not authorized via APF, protect key 0-7, or supervisor state.
04	The parameter list passed to SETEVENT was invalid.
08	An invalid monitor call queue element (MCQE) address was passed to SETEVENT.
0C	The monitor call queue element (MCQE) at the address passed to SETEVENT is invalid for the function requested.
20	The call to SETEVENT attempted to add elements to an existing event directory or would have resulted in multiple MCQEs.

System Action: The caller of SETEVENT is terminated with the above completion code.

Programmer Response: Make sure that the caller of SETEVENT has the proper authorization for its use: protect key 0-7, supervisor state, or authorized via APF. If it does not, correct this condition and restart the failing component.

Problem Determination: Table I, items 1, 2, 4, 5a, 7d, 13, 16, 29.

0F8

Explanation: The issuer of an SVC was in a mode where SVCs are not allowed. The reason code accompanying this abend indicates the type of mode error:

Reason Code	Explanation
04	The issuer was in a mode other than TCB mode.
08	The issuer held a lock.
0C	The issuer was disabled.
10	The issuer was in cross memory mode.
14	The issuer had established an enabled, unlocked task mode FRR (i.e., an FRR for which EUT = YES was specified on the SETFRR macro).

System Action: The program that issued the SVC abnormally terminates.

Programmer Response: Probable error in an SVC routine or SRB routine attempting to issue an SVC. See the SVC error entry in the trace table. Correct the error and rerun the program.

Problem Determination: Table I, items 29 and 31.

0F9

Explanation: The error occurred while attempting to acquire or release an SVRB.

Programmer Response: Probable user error, but not necessarily in the program that was abnormally terminated. If the return code in register 15 is 0, the LSQA has been exhausted and the SVRB space is not available to honor an SVC request in the address space. This may be caused by a loop in the program issuing the SVC. If the return code in register 15 is 4, an SVRB is being freed that cannot be identified as belonging to the SVRB pool. Correct the error and resubmit the job.

Problem Determination: Table I, items 23, 29.

0FB to 102

0FB

Explanation: A translation exception has occurred. Control register 0 was detected as having invalid contents.

Programmer Response: If control register 0 is being manipulated, check the contents being placed in this register. If not manipulating control register 0, then it is a system problem.

Problem Determination: Table I, items 16, 29.

0FC

Explanation: A translation error occurred while the job was referencing data in an address space other than its home address space. That address space either has invalid data in its DAT (dynamic address translation) tables or has an incorrect segment table origin address.

System Action: The job is abnormally terminated.

Programmer Response: Probable system error. Contact your programming support personnel.

Problem Determination: Table I, items 16, 18, and 29.

0FD

Explanation: The error occurred when a Type 6 SVC requested the SVC first level interrupt handler to schedule a cross memory SRB.

Programmer Response: Probable user error in the SVC routine. The type 6 SVC routine issued the T6EXIT macro with a schedule SRB request, but the SRBASCB address is not the same as the current memory address. Correct the error and resubmit the job.

Problem Determination: Table I, items 16, 23.

0FE

Explanation: An error was detected while RMF was sampling data about the state of the system.

System Action: All RMF measurement collection is terminated. Reinstatement of RMF can be attempted, and, if successful, RMF continues under the control of the original options. If reinstatement fails, RMF is terminated.

Programmer Response: None.

Problem Determination: Table I, items 5a, 16, 18, and 29.

101

Explanation: The error occurred during execution of a WAIT macro instruction.

The problem program specified more events than there were event control blocks (ECBs).

Programmer Response: Change the number of events specified so that it is less than or equal to the number of event control blocks. If the specification was correct, make sure it was not incorrectly modified. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

102

Explanation: The error occurred during execution of a POST macro instruction.

The control program found an invalid event control block (ECB) address. Register 15 contains a reason code that provides further detail:

Register 15 Contents in Hexadecimal	Explanation
00	For a POST in the user's key.
04	For XMPOST (cross memory POST).

Programmer Response: Make sure that the ECB (event control block) address specified is a valid virtual storage address and that the address was not incorrectly modified. Make sure that the program issuing the POST macro instruction has a storage protection key that allows it to update the ECB. Correct the error and rerun the job step.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

104

Explanation: An error occurred during the execution of an EU, LU, or VU form of the GETMAIN macro instruction. The GETMAIN requested virtual storage that requires more real storage than is available. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	There is not enough real storage available to back a request for space in a system queue area subpool.
08	There is not enough real storage available to back a request for space in a fixed common service area subpool.
0C	There is not enough real storage available to back a request for space in a local system queue area subpool.
1C	The request for a local system queue area subpool could not be satisfied. The page table for the segment describing the area to be obtained was paged out.
20	The request for an authorized private area subpool could not be satisfied. The page table for the segment describing the area to be obtained was paged out.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the program issuing the GETMAIN macro instruction is not requesting unnecessarily large amounts of real storage. If this code occurs frequently, installation action is required to increase the available real storage on the system.

Problem Determination: Table I, items 2, 11, and 29.

106

Explanation: The error occurred during execution of a LINK, LOAD, ATTACH, or XCTL macro instruction.

An error was detected by the control program when it attempted to fetch the requested program into virtual storage. The hexadecimal contents of register 15 indicate the nature of the error; and the hexadecimal contents of register 0 provide further information:

Register 15	Explanation
0B	An error occurred during FETCH processing or in one of the routines that gets control as a result of FETCH processing.
0C	Not enough storage was available for FETCH to do a GETMAIN for the module or control blocks.

Register 0	Explanation
04	No storage for DATD.
08	No storage for DEB.
0C	No storage for IOSB.
10	No storage for EXLIST.
14	No storage for module.

	18	Unable to fix storage.
0D	The control program found an invalid record type in the load module.	
0E	The control program found an invalid address in the load module.	
	Register 0	**Explanation**
	20	Error converting TTR.
	24	Block is outside of the module.
	28	the address constant location is invalid.
0F	Either an uncorrectable input/output error occurred or an error in the load module caused the channel program to fail.	
	Register 0	**Explanation**
	40	I/O error on a PDS.
	44	Error on a virtual DS.
	48	Seek address outside extent.
10	The control program detected a relocation error in the load module.	

System Action: The system issues message CSV011I. The task is terminated unless ERRET was specified on the macro instruction.

Programmer Response: If register 15 contains either a X'D' or X'E', it is a probable user error. Ensure that the load request in the problem program was specified correctly and was not incorrectly modified. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 10c, 29. Table II, Format 1: trace option - TRACE=SYS. If register 15 contains a X'F', resubmit the job, and see Table I, item 30, and Table II, Format 1: trace option - TRACE=IO.

10A

Explanation: The error occurred during the execution of an R form GETMAIN macro instruction. The program requested virtual storage that required more real storage than is available. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	There is not enough real storage available to support a request for space in a system queue area subpool.
08	There is not enough real storage available to support a request for space in a fixed common service area subpool.
0C	There is not enough real storage available to support a request for space in a local system queue area subpool.
1C	The request for a local system queue area subpool could not be satisfied. The page table for the segment describing the area to be obtained was paged out.
20	The request for an authorized private area subpool could not be satisfied. The page table for the segment describing the area to be obtained or freed was paged out.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the calling program is not asking for unnecessarily large amounts of real storage. If this code occurs frequently, installation action is required

to increase the available real storage on the system.

Problem Determination: Table I, items 2, 11, and 29.

10B

Explanation: The error occurred in the TIME service routine. An error was found in the input parameters.

Programmer Response: Check the parameters that were used on the TIME macro instruction. If MIC or STCK was specified, the area specified by address must have the caller's storage protect key.

10D

Explanation: This completion code is found only in the jobstep tasks. It occurs when a jobstep task abnormally terminates and has a jobstep task as a subtask that is in STEP MUST COMPLETE status.

Note: The original ABEND code is found in the mother task that abnormally terminated.

System Action: The job step subtask is abnormally terminated.

Programmer Response: Rerun the job with the original ABEND corrected.

Problem Determination: Table I, items 1, 5a, 16, 19, 23, 29.

10E

Explanation: The error occurred during execution of the SPIE macro instruction. The PICA address is invalid.

Programmer Response: Correct the PICA address specified, ensuring that it is a valid virtual storage address assigned to the jobstep. Execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 19, 29.

110

Explanation: During processing for a PURGE macro, the SVC 16 routine received a protection check when the routine tried to move the purge parameter list into a work area. The storage protection key of the list is not the same as the key for the program that issued the SVC 16 instruction.

System Action: The system terminates the SVC 16 routine and abnormally terminates the program that issued the SVC 16 instruction.

Programmer Response: Correct the pointer to the purge parameter list or make sure that the pointer is not incorrectly modified.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

112

Explanation: Invalid input was passed to SVC 18 by the BLDL or FIND macro instruction. This system completion code is accompanied by message IEC908I. Refer to the explanation of message IEC908I for complete information about the task that was terminated and for an explanation of the return code found in register 15.

System Action: For return codes 13 and 14, the DCB was written to the GTF trace data set.

Programmer Response: Correct the BLDL or FIND macro instruction. For return codes 03, 13, 04, and 14, make sure that the DCB is not being overlaid, in particular, the fields DCBEBAD and DCBPOINT. Recompile the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29. Table II, format 3.

113

Explanation: The error occurred during execution of an OPEN macro instruction or an OPEN macro instruction with a TYPE=J operand. This system completion code is accompanied by message IEC142I. Refer to the explanation of message IEC142I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC142I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

115

Explanation: The error occurred during the execution of SVC 21 (STOW). The DCB did not point to a valid DEB, or the DEB did not point back to the DCB.

System Action: An unsuccessful attempt was made to invoke the STOW task recovery routine.

Programmer Response: Verify that register 1 contained the correct DCB address prior to issuing SVC 21, and that the DCB has not been overlaid since it was opened.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

117

Explanation: The error occurred during execution of a BSAM CLOSE macro instruction with a TYPE=T operand. This system completion code is accompanied by message IEC218I. Refer to the explanation of message IEC218I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC218I.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

118

Explanation: Invalid parameters were passed to DEVTYPE (SVC 24). This system completion code is accompanied by message IEC912I. Refer to the explanation of message IEC912I for complete information about the task that was terminated and for an explanation of the return code found in register 15.

Programmer Response: Correct the DEVTYPE macro instruction, recompile the program, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

119

Explanation: Invalid input was passed to SVC 25. This system completion code is accompanied by message IEC914I. Refer to the explanation of message IEC914I for complete information about the task that was terminated and for an explanation of the return code found in register 15.

System Action: For return codes 12 and 13, the DCB is written to the GTF trace data set. For return code 14, both the DCB and IOB are written.

Programmer Response: Make sure that your program does not overlay the DCB and IOB fields described by the error code. Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29. Table II, format 3.

11A

Explanation: The error occurred trying to store into a user-supplied OS/VS CAMLST work area.

System Action: SVC 26 received a protection check because the protect key of the supplied work area did not match the user's protect key.

Programmer Response: Correct the pointer in the OS/VS LOCATE parameter list to the LOCATE work area, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

121

Explanation: A module issued SVC 33 (IOHALT) with the low order bit of register 1 off. This is a programming error. The module issuing SVC 33 used an obsolete SVC interface.

System Action: The system abnormally terminates the module that issued SVC 33.

Programmer Response: Change the module that issued SVC 33 so that it uses the correct interface. The interface was changed to support 3-byte UCB addresses.

Problem Determination: Table I, items 3, 5A, 16, 23, and 29.

122

Explanation: The operator canceled the job and requested a dump. The job may have been canceled because it appeared to be in a loop or because it was waiting for resources that were not immediately available (for example, direct access space or devices). Perhaps the job was canceled to correct a system interlock condition (for example, two tasks enqueued on a resource without an intervening dequeue), or the job may have violated a procedure established for your installation. There are many reasons why an operator might cancel a job. There may be nothing wrong with your program.

System Action: The system terminates the job and produces a dump to the data set described by the SYSABEND or SYSUDUMP DD statement in the canceled job step.

Programmer Response: Find out why the operator canceled your job. Make any necessary corrections, and resubmit the job.

Problem Determination: Table I, items 1, 2, 5a or b, 16, 23, 29.

128

Explanation: The error was detected during execution of an EXTRACT macro instruction.

The address of the list in which the control program was to store the requester fields was invalid. The beginning address for the list did not define a fullword boundary, or the list did not begin and end within the storage assigned to the job step. (The beginning address of the list is specified in the first operand of the macro instruction; the length of the list is determined by the number of fields requested.)

Programmer Response: Determine if the first operand of the macro instruction was specified correctly or if program errors had incorrectly modified the EXTRACT macro expansion. After making corrections, recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

12A

Explanation: The error was detected during execution of an ATTACH macro instruction. In a GSPV or GSPL operand, the macro instruction specified that a subpool was to be given to the subtask being created. The reason code issued explains why the subpool could not be given to the subtask.

Reason Code	Explanation
00	The attaching task owned the subpool, but had previously shared it with other subtasks through SHSPV and/or SHSPL operands. A task is not permitted to give an owned subpool to a subtask if that task has shared the subpool with one or more other subtasks.
04	The specified subpool contains Data in Virtual mapped storage; such a subpool cannot be specified with GSPV or GSPL.

Programmer Response: Change the ATTACH macro instruction to specify the subpool in an SHSPV or SHSPL operand. Recompile the program, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

12C

Explanation: The error was detected during execution of a CHAP macro instruction.

The address of the task control block (TCB) for the subtask whose priority was to be changed was invalid. This address is contained in the fullword addressed by the second operand of a CHAP macro instruction. The address was invalid for one of the following reasons:

- It was not a valid TCB address.
- The valid task control block at the address was not associated with a subtask of the task issuing the macro instruction.
- It was not a multiple of 4.
- The valid task has terminated.

Programmer Response: Change the address specification and ensure that it and the task control block were not incorrectly modified by the problem program. Recompile the program, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

12D

Explanation: The error occurred during execution of an overlay program.

The overlay supervisor found that words 3 and 4 of the segment table were incorrect.

Programmer Response: Check for program errors that caused the segment table to be incorrectly modified. After making corrections, assemble, link edit, and execute the program again.

Problem Determination: Table I, items 1, 5a, 9, 29.

12E

Explanation: The error occurred in the TTIMER service routine. An error was found in the input parameters.

Programmer Response: Check the parameters specified on the TTIMER macro instruction. If 'MIC' is specified, the area specified by address must have the caller's storage protect key.

12F

Explanation: An error was found in the input parameters for the STIMER service routine. Register 15 contains a return code that indicates the nature of the error:

Register 15 Contents in Hexadecimal	**Explanation**
04	The GMT or TOD parameter was specified for a TASK type STIMER request.
0C	The value specified for the GMT or TOD parameter was greater than 2400.

The STIMER routine produces a tailored dump that provides the following information:

- The control blocks associated with the task that issued the STIMER request
- The register contents for the task that issued the STIMER request
- The virtual subpools that contain the parameter list passed to STIMER

Programmer Response: Check the parameters specified on the STIMER macro instruction. Consult *Supervisor Services and Macro Instructions* for format and restrictions.

130

Explanation: The error occurred during execution of a DEQ macro instruction.

The DEQ macro instruction specified a resource not previously specified by an ENQ macro instruction under the same task. That is, the program had not requested control of a resource it was attempting to release. The DEQ macro instruction did not contain a RET=HAVE operand.

Programmer Response: Check the DEQ macro instruction for incorrect qname or rname operands, or specify RET=HAVE in the DEQ macro instruction, or add an ENQ macro instruction before the DEQ macro instruction. Recompile and execute the program again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

133

Explanation: An unauthorized caller has invoked SVC Dump via the SDUMP macro. If the caller requested linkage by SVC 51, the caller was not authorized by APF or was not running under a control program key. If the caller tried to do a branch entry to SDUMP, the caller did not meet these criteria:

1. The caller must be in key-0, supervisor state.
2. One of the following must be true:
   - The caller is in SRB mode.
   - The caller owns a lock.
   - The caller is disabled and has a PSASUPER bit set on.
   - The caller is in enabled unlocked task mode (EUT mode). That is, EUT=YES was specified on the SETFRR macro instruction.

Generally, those modules that cannot issue SVCs can do a branch entry to SDUMP.

System Action: The caller is abnormally terminated. If a recovery routine is available, it is given control.

Programmer Response: Authorize the calling routine of SVC Dump. If the calling routine cannot be authorized, use the SNAP dump function. If the branch entry is being invalidly used, correct the error or use the SVC entry.

Problem Determination: Table I, items 5ab, 7c, 13, 19, 27, 29.

135

Explanation: An error occurred during the processing associated with SVC 53, which obtains and releases exclusive control of a resource associated with a BDAM data set. The task recovery routine for this SVC determined that all user control blocks required as input to the SVC were in the user's region and key, hence the error could not be ascribed to any user control block.

System Action: Message IEC903I is issued.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 4, 5a, 13, 16, 29.

137

Explanation: The error occurred at an end-of-volume on a magnetic tape. This system completion code is accompanied by message IEC022I. Refer to the explanation of message IEC022I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC022I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

138

Explanation: The error occurred during execution of an ENQ macro instruction. One of the following is true:

1. One ENQ macro instruction was issued for a list of resources. The same resource appears more than once in the list.

2. Two ENQ macro instructions were issued for the same resource in the same task without an intervening DEQ macro instruction. The second ENQ macro instruction did not specify TEST, USE, or HAVE in its RET operand.

Programmer Response: If the error is as described in number 1 above, delete duplicate resources from the list on the ENQ macro instruction.

If the error is as described in number 2 above, specify RET=TEST, RET=USE, or RET=HAVE in the second ENQ macro instruction, or add a DEQ macro instruction between the two ENQ macro instructions, or delete one of the ENQ macro instructions.

Recompile and execute the program again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

139

Explanation: An error occurred during the processing associated with SVC 57, which frees a buffer or extends the unscheduled test (via the FREEDBUF macro issued either by the user or the system). The BDAM task recovery routine for this SVC determined that all user control blocks required as input to the SVC were in the user's region and key, hence the error could not be ascribed to any user control block.

System Action: Message IEC905I is issued.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 4, 5a, 13, 16, 29.

13C

Explanation: An invalid request has been detected. If register 15 contains '04', an invalid ESTAR request has been detected because of one of the following reasons:

- Requestor is not authorized via APF or is not in key 0-7 or is not in supervisor mode.
- An EXIT address of zero has been specified.
- ESTAR CT has been specified and an exit already exists.
- ESTAR OV has been specified and the most recent exit is not an ESTAR exit.

If register 15 contains '08', an invalid ESTAI request has been detected because of one of the following reasons:

- Caller is not ATTACH.
- An EXIT address of zero has been specified with CT.
- OV has been specified.
- TCB address missing or invalid.

If register 15 contains '0C', an invalid branch entry has been detected because of one of the following reasons:

- Requestor is not running under an SVRB.
- Request is not for ESTAE.
- The local lock was not obtained before entry.

If register 15 contains X'10', one of the following invalid TOKEN requests has been detected:

- The TOKEN parameter was specified on a macro instruction other than the ESTAE macro instruction.
- The requestor is not authorized to issue an ESTAE macro instruction with the TOKEN parameter.

If register 15 contains X'14', a program executing in 31-bit addressing mode (AMODE) is requesting the STAE function. This is not valid.

System Action: The caller is abnormally terminated. If a recovery routine is available, it is given control.

Programmer Response: Rewrite the program that issues ESTAE or modifies the parameter list built by the ESTAE macro, to correct the failing request. If register 15 contains X'10', be sure that the TOKEN parameter is specified only by authorized programs and only on the ESTAE macro instruction.

Note: The LSQS dump option is specified with the ABEND macro instruction.

Problem Determination: Table I, items 5a, 16, 19, 29.

13E

Explanation: The task that created a subtask has issued a DETACH for that subtask, specifying STAE=NO, before that subtask has terminated.

System Action: The subtask is abnormally terminated to force its completion.

Note: This may or may not be an error, depending on the intent of the user. Consequently, the task issuing the DETACH is not terminated.

Programmer Response: If the subtask must complete its processing before being detached, synchronization must be achieved by use of the ECB or the EXTR operand on the ATTACH macro instruction creating the subtask.

Problem Determination: Table I, items 1, 16, 23, 29.

13F

Explanation: An error has been detected during checkpoint restart processing. This completion code is accompanied by message IHJxxxI with the appropriate reason code.

System Action: The job is abnormally terminated, and if a SYSABEND card was included in the job, a dump is produced.

Programmer Response: Respond as indicated in the accompanying message.

Problem Determination: Table I, items 2, 5a.

144

Explanation: The error occurred during the execution of SYNADAF, where it was determined that an invalid access method code was specified in the high order byte of register 15.

Programmer Response: Make sure that the ACSMETH parameter on the SYNADAF macro instruction is correctly coded, or that the high order byte of register 15 contains a valid access method code before issuing SVC 68.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

145

Explanation: The error occurred during the execution of SVC 69 (BSP). Register 15 contains a return code indicating the cause of the error. See message IEC916I for a complete description of the possible return codes and their meanings.

System Action: The backspace task recovery routine has been invoked. If the caller's DCB, main IOB, and first ICB for chained scheduling, or first IOB for normal scheduling are in his region, an attempt was made to trace them to the SYS1.TRACE data set.

Programmer Response: Verify that register 1 contained the correct DCB address prior to issuing BSP and that the DCB has not been overlaid since being opened. If the DCB is valid, verify that it contains the correct IOB and/or ICB addresses and that neither the IOBs and/or ICBs have been overlaid.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29. Table II, format 3.

147

Explanation: A program check or abnormal termination occurred in the Graphics Access Method/System Product (GAM/SP) buffer management routine, IGC0007A. The error occurred either in GAM/SP or in the operating system.

System Action: Message GAB260 appears on the system console, identifying the cause of the error and the original system completion code. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*
2. Perform any corrective actions associated with the original system completion code.
3. Get a listing of the system dump.
4. Contact your programming support personnel.

149

Explanation: An error occurred in either the Graphics Access Method/System Product (GAM/SP), or the operating system.

This completion code appears when:

1. A program check or abnormal termination occurs in the GAM/SP specify-attention (SPAR) routine, IGC0007C.
2. IGC0007C detects an invalid condition.

System Action: A message appears on the system console, accompanied by a reason code identifying the area of processing where the error occurred. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*
2. Get a listing of the system dump.
3. Contact your programming support personnel.

14A

Explanation: An error occurred in either the Graphics Access Method/System Product (GAM/SP), or the operating system.

This completion code appears when:

1. A program check or abnormal termination occurs in the GAM/SP delete-attention (DAR) routine, IGC0007D.
2. IGC0007D detects an invalid condition.

System Action: A message appears on the system console, accompanied by a reason code identifying the area of processing where the error occurred. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*
2. Get a listing of the system dump.
3. Contact your programming support personnel.

14B

Explanation: An error occurred in either the Graphics Access Method/System Product (GAM/SP), or the operating system.

This completion code appears when:

1. A program check or abnormal termination occurs in the GAM/SP attention inquiry (ATTNINQ) routine, IGC0007E.
2. IGC0007E detects an invalid condition.

System Action: A message appears on the system console, accompanied by a reason code identifying the area of processing where the error occurred. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*
2. Get a listing of the system dump.
3. Contact your programming support personnel.

14F

Explanation: An error was detected during the execution of the STATUS macro instruction. Register 15 contains one of the following reason codes describing the error.

Register 15 Contents in Hexadecimal	Explanation
04	An invalid function code is specified. Register 2 contains the function code.
08	Only a program with PSW key 0-7 can request the requested STATUS function.
0C	It is invalid to specify an ASID (address space identifier) for the requested STATUS function.
10	You cannot specify the MC parameter on the STATUS macro instruction because the MC count is already 255. 255 is the allowable maximum. (MC is must complete.)
14	You cannot specify STOP because the STOP count is already 255. 255 is the allowable maximum.
18	The mask of nondispatchability bits specified with SD includes TCBSTPP. This nondispatchability bit can be set only by specifying STATUS STOP. (SD is secondary nondispatchable.)
1C	The mask of nondispatchability bits specified with ND includes TCBSTP. This nondispatchability bit can only be set by specifying MC or MC,STEP. (ND is primary nondispatchable.)
20	An SRB (service request block) cannot set a step nondispatchable.
24	In the parameter list on a SET or RESET request, the caller specified an invalid TCB address.
30	The STATUS service routine detected an overlaid or invalid TCB because the task did not pass acronym check.

System Action: If no recovery routine is specified, the system terminates the issuer of the STATUS macro instruction.

Programmer Response: Correct the error and resubmit the job.

Problem Determination: Table I, items 1, 3, 5a, 15, and 29.

151 to 15B

151

Explanation: The error occurred during the execution of SETPRT. The parameter list whose address was passed to SETPRT in register 1 was not in the user's region.

System Action: Message IEC918I is issued.

Programmer Response: Make sure that the SETPRT macro instruction is correctly coded. Correct the error and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

153

Explanation: An error occurred while SMF was processing a record. SMF was unable to handle the new record because of buffer contention.

System Action: The task or SRB that attempted to write an SMF record using the SMFWTM or SMFEWTM macro instruction terminates abnormally. An SVC dump is scheduled.

Programmer Response: Contact your programming support personnel.

Problem Determination: Table I, items 2, 7a, 7d, 29,33.

157

Explanation: An error occurred during execution of SVC 87, DOM (delete operator message) macro. Register 15 contains a hexadecimal reason code. The meaning of each reason code is given below:

Hexadecimal Reason Code	Meaning
04	The caller passed an invalid value in register 0.
08	The issuer of the DOM request was neither a task in the same job step and address space as the issuer of the WTOR, nor was the DOM issuer a privileged task (supervisor mode or key 0-7 or APF authorized).
0C	A program check occurred while the system was verifying that the caller could access each byte of a multiple DOM-id parameter list.
10	An unauthorized caller tried to delete a WTO that was not under the caller's ASID and TCB.
14	An unauthorized program requested one of the authorized delete-operator-message (DOM) keywords.
18	An unauthorized caller tried to delete a message that was issued on another system.

System Action: The DOM request is ignored. The DOM parameter list and the failing message id are shown on the dump. Any other message ids in the parameter list were also ignored.

Programmer Response: Make sure that the correct message id is being used in the DOM request or make sure that the DOM issuer is in the same job step as the WTOR issuer.

Problem Determination: Table I, items 1, 2, 5a, 16, 23, 29.

15B

Explanation: SVC 91 (VOLSTAT) was issued by an unauthorized program. (The error was detected after execution of a TESTAUTH macro instruction. The program that issued SVC 91 (VOLSTAT) was not an APF authorized program, or was not in supervisor state, or was not executing under storage protection key 0 through 7.

System Action: The program that issued restricted SVC 91 terminates abnormally.

Programmer Response: Correct the program so that SVC 91 is only issued by an authorized system routine.

15C

Explanation: An SVC 92 was issued and EXCP processing found that the program issuing the request was not running in supervisor state.

System Action: The task is abnormally terminated.

Programmer Response: Ensure that the user is authorized for use of SVC 92 (XDAP) or issue SVC 0 (EXCP).

Problem Determination: Table I, items 1, 2, 11 and 29 if stopped on the address of ABTERM entry; otherwise, items 16 and 29.

15D

Explanation: User specified an invalid data area to SVC 93 (TGET/TPUT).

System Action: The user is abnormally terminated and processing continues.

Programmer Response: Supply a data area for access by the program invoking SVC 93. A TPUT request requires read access, a TGET request requires write access.

Problem Determination: Table I, items 15, 16, 29.

15F

Explanation: Invalid invocation of the system resources manager has occurred. During processing of a SYSEVENT, one of several possible error conditions was discovered. Register 15 contains one of the following reason codes:

Register 15 Contents in Hexadecimal	Explanation
04	Invalid ASID, SYSEVENT code, or input parameter.
08	Program was not authorized to issue the SYSEVENT.
0C	A page fault occurred in referencing a data area assumed to be fixed.
10	Protection check - program did not have the correct storage key for storing in parameter data area.
14	SRM lock held prior to SRM invocation.
18	See the explanation for system completion code 25F. (SRM's recovery routine converts this reason code to completion code 25F.)
1C	A SYSEVENT TRANSWAP (or REQSWAP) with an ECB was issued when the maximum allowed number of pending TRANSWAPs (or REQSWAPs) with ECBs, had already been reached.

System Action: The program issuing the SYSEVENT in which the error was detected is terminated.

Programmer Response: Determine whether the error was the result of an invalid invocation of the system resources manager by a problem program. If the system resources manager was invoked by a system component and the error recurs, see the problem determination section below.

Problem Determination: Table I, items 1, 4, 5a, 18, 29.

169

Explanation: The error occurred during the execution of IMGLIB with the CLOSE option. The DCB address passed to IMGLIB in register 1 was invalid. This system completion code is accompanied by message IEC919I. Refer to the explanation of message IEC919I for complete information about the task that was terminated and for an explanation of the return code in register 15.

Programmer Response: Make sure that the IMGLIB CLOSE macro instruction is correctly coded. Make sure that the DCB address passed to IMGLIB is the same address returned to your program by a previous IMGLIB OPEN, and that your program has not issued a prior IMGLIB CLOSE specifying this DCB address. Correct the error and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29. Table II, format 3.

16B

Explanation: The error occurred during execution of a MODESET macro instruction. The control program found that the parameter list created from the macro instruction was invalid.

Programmer Response: Correct the specification of the macro instruction or the program errors that incorrectly modified the parameter list. Recompile and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 23, 29.

16D

Explanation: The error occurred during the processing of one of the extended SVCs, 109, 116, 122, or 137. An invalid ESR code was detected in register 15.

This error is the result of:

- The function invoked not being included in the system.
- The ESR code passed by SVC 109, 116, 122, or 137, has no related function.

Programmer Response: In the first case, make sure that the item being invoked has been included in the system. In the second case, correct the ESR code, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

16E

Explanation: The system control program issued a DEBCHK macro for the data extent block (DEB) pointed to in the DCBDEBAD field of a data control block (DCB) passed by the program. The DEBCHK function could not be performed. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	The DEB pointer is not in the DEB table. A DEB whose address is not in the DEB table cannot be verified, deleted, or purged.
08	The TYPE specified in the DEBCHK macro is invalid. The TYPE must be VERIFY, ADD, DELETE, or PURGE.
0C	A DEBCHK macro that specified a TYPE other than VERIFY was issued by a program that is not authorized.
10	The system found that the DEBDCBAD field in the DEB does not point to a DCB. DEBDCBAD must point to a DCB when TYPE is VERIFY, ADD, or DELETE.
14	AM value in the DEBCHK macro does not equal the DEBAMTYP value in the DEB. When a DEB pointer is added to the DEB table, the access method (AM) value, if given, is placed in the DEBAMTYP field of the DEB. If no AM value is coded, a 0 is inserted in DEBAMTYP. Subsequent DEBCHKs issued to verify or delete that DEB pointer must either specify the same AM value or omit the operand. When the operand is omitted, no comparison is made.
18	The DEBCHK macro specified TYPE=ADD; however, the DEB was not queued on the TCB DEB chain. Before the DEB pointer can be added to the table, the DEB itself must be queued on the current TCB DEB chain. The TCBDEB field points to the first DEB in the chain.

1C The DEBCHK macro specified TYPE=ADD, but the DEBCHK routine found one of the following:

- The DEBAMTYP or DEBTBLOF field in the DEB contains zero.
- The DEB table already contains a pointer to the DEB.
- The DEB to be added is in fetch-protected main storage.

20 The DEBCHK macro specified TYPE=ADD; however, the DEB table contains 32760 bytes, which is its maximum size. The current DEB table does not have space for this new DEB pointer.

Programmer Response: Correct the error indicated by the reason code.

171

Explanation: The real storage manager was invoked with a request for a PGFIX, PGFREE, PGLOAD, PGOUT, or PGANY service and the request was illegal or invalid. The request is considered to be illegal if the storage range specified by the input parameters does not exist, (a GETMAIN was not issued for it).

The following register contents are supplied for diagnostic purposes:

Register 0 Reason code (see the RSM section of the System Logic Library, for an explanation of the reason code).

Register 3 If an SVC entry, the contents of register 3 are destroyed.

Register 4 If LIST-FORMAT input, address of the user's parameter list entry (VSL), in error, If REGISTER-FORMAT input, register 4 contains zero.

Registers 5-9 If branch entry, registers 5-9 are the same as the user's input registers. If SVC entry, registers 5-9 contain zero.

Register 10 If the error is page related, address of the page in error. If the error is not page related, register 10 contains zero.

Register 11 If LIST-FORMAT entry, address of the user's first VSL entry. If REGISTER-FORMAT entry, register 11 contains 0.

Register 12 Address of the input ECB. If no ECB address was supplied, register 12 contains zero.

Registers 13-14 The VSL entry in error. If the VSL was in pageable storage or if the VSL storage key did not match a nonzero key user's storage key, registers 13-14 contain zero.

Register 15 Hexadecimal error code as follows:

Hex Error Code	Explanation
04	This is a PAGE-FIX request and the user did not obtain the VSL storage using a GETMAIN macro instruction.
10	The input ECB, TCB, or PSL/SSL failed to pass the validity checks of the page services interface. See the RSM section of the System Logic Library for an explanation of the accompanying reason codes.

Programmer Response: Correct the program and rerun the job. If PGFIX or PGFREE was requested and the call was not authorized, obtain proper authorization from the installation manager and rerun the job.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

172

Explanation: EXCP processing found that an unauthorized user has issued SVC 114 (EXCPVR). One of the following conditions must be present for the user to be authorized:

- The program issuing the request is running under system protection key 0 through 7.
- The program issuing the request is in supervisor state.
- The SVC 114 authorization bit is set in the JSCB.
- The SVC 114 authorization bit is set in the DEB.

System Action: The task is abnormally terminated.

Programmer Response: Ensure that the user is authorized to issue SVC 114 (EXCPVR) or SVC 0 (EXCP).

If a dump was written, look at the task control block (TCB) field TCBEXCPD at offset X'C0'; it points to the EXCP debugging area (XDBA). The XDBA contains diagnostic data associated with the EXCP processor at abnormal termination. See the *Debugging Handbook* for a description of the XDBA.

Problem Determination: Table I, items 1, 2, 11, 29.

177

Explanation: The TESTAUTH routine detected invalid input parameters. One of the following invalid parameters was detected:

- An invalid bit mask in register 1.
- RBLEVEL=2 but RB is the last RB chained or out of range.
- The function code is greater than 256 or out of range.
- The authorization code is greater than 256 or out of range.

Programmer Response: Make sure that the parameter list to TESTAUTH is valid. The only valid IBM-supplied authorization or function code is one (1). If the user's system supplied an authorization matrix, check to see that the function and authorization codes fall within the range of the user-defined codes.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

178

Explanation: The error occurred during the execution of an RU or VRU form GETMAIN macro instruction. The program requested virtual storage that requires more real storage than is available. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	There is not enough real storage available to support a request for space in a system queue area subpool.
08	There is not enough real storage available to support a request for space in a fixed common service area subpool.
0C	There is not enough real storage available to support a request for space in a local system queue area subpool.
1C	The request for a local system queue area subpool could not be satisfied. The page table for the segment describing the area to be obtained was paged out.
20	The request for an authorized private area subpool could not be satisfied. The page table for the segment describing the area to be obtained was paged out.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that the program issuing the GETMAIN macro instruction is not asking for unnecessarily large amounts of real storage. If this code occurs frequently, installation action is required to increase the available real storage.

Problem Determination: Table I, items 2, 11, and 29.

179

Explanation: During initial request processing, an error was discovered in the parameters associated with an I/O request. At the time of the ABEND, register 3 contains a pointer to the IOMB and register 2 contains a reason code as follows:

Register 2 Contents in Hexadecimal	Explanation
04	Error return from SETLOCK macro.
08	Invalid AMB or IOMB.
0C	Invalid CPA.
10	Error return from page fix.
14	Invalid buffer address. This error may appear as reason code 10.
18	Invalid addresses in chain CCW's.
1C	Blocksize is not 4K for track overflow.

System Action: Processing continues.

Programmer Response: Make sure that the problem program did not incorrectly modify the control block structure or associated parameters. After making necessary corrections, recompile and execute the job step again.

17A

Explanation: The error occurred during execution of an EVENTS macro instruction for either a table creation or deletion. The control program found that an invalid EVENTS table address was specified.

Programmer Response: Make sure an EVENTS macro was issued to construct the EVENTS table in question. Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

17B

Explanation: The PURGEDQ SVC was issued and an invalid ASID was specified on the ASID= parameter. The specified address space does not exist.

Programmer Response: A supervisor state, key 0, or authorized program has specified an invalid ASID parameter as input to the PURGEDQ SVC routine. Check for invalid coding of PURGEDQ input.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

17D

Explanation: The error occurred during execution of an EVENTS macro instruction for a wait request. The control program found that an invalid EVENTS table address was specified.

Programmer Response: Make sure an EVENTS macro was issued to construct the EVENTS table in question. Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

182

Explanation: RACF was not successful at establishing an ESTAE recovery environment when processing the RACHECK SVC.

System Action: The task is terminated.

Programmer Response: Register 15 contains the nonzero return code passed back from ESTAE. Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33. Also refer to the publications *System Macros and Facilities* and *Supervisor Services and Macro Instructions.*

183

Explanation: RACF was not successful at establishing an ESTAE recovery environment when processing the RACINIT SVC.

System Action: The task is terminated.

Programmer Response: Register 15 contains the nonzero return code passed back from ESTAE. Identify and correct the indicated error.

Problem Determination: (See code 182.)

185

Explanation: RACF was not successful at establishing an ESTAE recovery environment when processing the RACDEF SVC.

System Action: The task is terminated.

Programmer Response: Register 15 contains the nonzero return code passed back from ESTAE. Identify and correct the indicated error.

Problem Determination: (See code 182.)

18A

Explanation: A requestor invalidly requested RSM (real storage management) to do a PAGE-FIX, PAGE-FREE, PAGE-LOAD, PAGE-OUT, PAGE-RELEASE, or PAGE-ANYWHERE. The requestor used the interface to page services with 31-bit parameters. The following register contents are supplied for diagnostic purposes:

Register 0 Reason code (see the RSM section of the System Logic Library, for an explanation of the reason code).

Register 4 If LIST-FORMAT input, address of the user's parameter list entry (PSL/SSL), in error. If REGISTER-FORMAT input, register 4 contains zero.

Registers 5-7 If SSL format entry, registers 5-7 contain the user's input registers.

If PSL format SVC entry, registers 5-7 contain zero.

If PSL format branch entry, registers 5-7 are irrelevant.

Register 8 If SSL format entry, register 8 is the same as the user's input register.

If PSL format SVC entry, register 8 contains zero.

If PSL format branch entry, register 8 contains the user's input TCB address, or, if no TCB address was supplied, register 8 contains zero.

Register 9 If PSL format entry, address of the input ECB. If no ECB address was supplied, register 9 contains zero.

If SSL format entry, register 9 is the same as the user's input register.

Register 10 If the error is page related, address of the page in error. If the error is not page related, register 10 contains zero.

Register 11 If LIST-FORMAT entry, address of the user's first PSL/SSL entry. If REGISTER-FORMAT entry, register 11 contains 0.

Registers 12-14 If PSL format entry, the PSL entry in error. If the PSL was in pageable storage or if the PSL storage key did not match a nonzero key user's storage key, registers 12-14 contain zero.

If SSL format entry, register 12 contains zero. Registers 13-14 contain the SSL entry in error, or, if the SSL was in pageable storage, registers 13-14 contain zero.

Register 15 Hexadecimal error code as follows:

Hex Error Code	Explanation
04	This is a PAGE-FIX request and the user did not obtain the PSL storage using a GETMAIN macro instruction.
10	The input ECB, TCB, or PSL/SSL failed to pass the validity checks of the page services interface. See the RSM section of the System Logic Library for an explanation of the accompanying reason codes.

Programmer Response: Correct the program and rerun the job.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

18B

Explanation: The common VTOC access facility (CVAF) encountered one of the following conditions:

- A structure error in the VTOC index
- The CVAF return code is not consistent with the CVAF status code.

ABEND

System Action: A dump is written to SYS1.DUMP and an error record is written to SYS1.LOGREC. The task is not terminated. If CVAF encountered a structure error in the VTOC index:

- Message IEC606I is issued.
- CVAF disables the VTOC index.
- If the caller of CVAF requests a read or write of a format 1 or 4 DSCB, CVAF performs the function and returns a code of yes to its caller.
- If the caller of CVAF requested a CVAF function that requires the VTOC index, CVAF returns an error return code to its caller. This may cause the caller to terminate.

If the CVAF return code is not consistent with the CVAF status code, CVAF returns an I/O error return code to its caller. This may cause the caller to terminate.

Programmer Response: If a structure error in the VTOC index was encountered and the program terminated, it may be rerun if it does not depend upon the VTOC index. Execute the IEHLIST utility to list the VTOC and the disabled VTOC index. An inconsistency between the CVAF return code and status code indicates a logic error in CVAF. You may not be able to successfully run the job until the problem is corrected.

Problem Determination: Table I, items 2, 13, 18, 25b, 29, and 33.

1FA to 1FB

1FA

Explanation: The error occurred during execution of a data management request for a spool data set. JES2 found one of the following:

- The data management control blocks are no longer valid
- The JES2 UBUF control block is no longer valid.

Programmer Response: Probable use error. Verify that the problem program did not modify the data management control blocks or the JES2 UBUF control block. After making the correction, execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

1FB

Explanation: JES3 module IATDMEB issued one of the following messages because of the indicated error:

Message	Error
IAT1601	The user is trying to perform I/O to a data set that is closed.
—	An invalid IATYDAT was found on the data buffer block (DAT) queue.

JES3 module IATSIAD issued one of the following messages because of the indicated error:

Message	Error
IAT1602	One of the following control blocks either (1) could not be validated or (2) contains invalid data: IATYDAT, IATYDMC, IATYDSB or IATYDSS.
IAT1603	A JES3 module passed, as a parameter to IATDMEB, a code that requested an invalid data management function.
IAT1604 and IAT1605	A start I/O operation in the user's storage returned an error code.
IAT1606	IATDMEB found an invalid unprotected buffer (IATYDAT) address or the associated IATYDMC address was invalid.
IAT1607	IATDMEB could not allocate an unprotected buffer.
IAT1608	An invalid storage key was found.

JES3 module IATDMEB or IATSIAD issued one of the following messages because of the indicated error:

Message	Error
IAT1609	One of the following occurred: • When IATDMEB or IATSIAD attempted to set up a data management WAIT, the module found a data management function already waiting. • When IATDMEB or IATSIAD attempted to set up a subsystem interface WAIT, the module found a subsystem function already waiting.
IAT1610	During ENDREQ processing, a request for IATYJDS failed.
IAT1611	The JES3 SSVT was either (1) invalid or (2) could not be found.
IAT1803	An attempt to move data from a JES3 protected buffer in the JES3 auxiliary address space to a user storage unprotected buffer failed.

JES3 module IATSIOR, IATSIAD, or IATSICC issued one of the following messages because of the indicated error:

Message **Error**

IAT6700 During deallocation, when attempting to update the JDSENTRY, the module could not find a job data set (JDS) entry.

IAT6702 During OPEN processing, an error occurred in the spool record address allocation routine.

IAT6703 When the module attempted communication, an error that disrupted operations occurred in the global processor.

IAT6704 OPEN could not allocate a user address space buffer to a data set.

IAT6706 No storage was available for the global interface for the external writer data set.

IAT6707 At deallocation of the external writer data set, the module could not find an output scheduling element (OSE).

IAT6708 A permanent I/O error occurred on an output data set.

IAT6711 A SSISERV macro sent invalid data to the global processor; the request could not be serviced.

IAT6716 A SYSOUT data set, which several tasks were processing, failed to open properly.

JES3 module IATDMDM found an invalid IFGACB, IATYDSS, or IATYDSB control block. A message may not be issued in this case.

System Action: For IATDMEB, the system terminates the job step. For IATSIOR, IATSIAD, or IATSICC, the system terminates the user address space.

Programmer Response: If the problem occurred in an I/O operation, correct any I/O errors in your program. Then rerun the job. Otherwise, notify your system programmer, supplying a SYSABEND dump.

Problem Determination: See Table I, item 5A. If IATDMEB caused this system completion code, register 15 in the dump points to a copy of the data set block (DSB). Offset X'8A' into the DSB (field DSBMSGCD) contains the message code that IATDMEB passed to the ABEND routines. Use this message code to determine the cause of the error. For example, for I/O operations, the message code identifies which issuance of the IATXSIO macro resulted in the error.

1FC

Explanation: A system error occurred during the execution of the SVC first level interrupt handler. In an attempt to recover the system, the supervisory control program has abnormally terminated the task that issued the SVC request.

System Action: The active task abnormally terminated.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 1, 3, 5b, 15 16, 29.

200

Explanation: EXCP processing encountered one of the following errors when checking the validity of an I/O request:

- The storage protection key of the input/output block (IOB), the event control block (ECB), or the data control block (DCB) was not the same as the storage protection key in the caller's request block (RB).
- A segment exception occurred when EXCP processing referenced the data control block (DCB) address field in the IOB passed by the caller.
- A segment exception occurred when EXCP processing referenced the data extent block (DEB) address field in the DCB.

Note: A segment exception can occur if control blocks are prematurely freed or overlaid, or if the data set is not open.

System Action: The task is abnormally terminated.

Programmer Response: Verify that the data set was opened and that the control blocks were correctly modified by the problem program. If the EXCP access method is being used, make sure that the IOB and the ECB are correctly built. After making corrections, execute the job step again.

If a dump was written, look at the task control block (TCB) field TCBEXCPD at offset X'C0'; it points to the EXCP debugging area (XDBA). The XDBA contains diagnostic data associated with the EXCP processor at abnormal termination. See the *Debugging Handbook* for a description of the XDBA.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

201

Explanation: The error occurred during execution of a WAIT macro instruction.

The macro expansion contained an invalid event control block (ECB) address or the program issuing the WAIT macro instruction was not running under the same storage protection key as the storage containing the ECB.

Programmer Response: Make sure that the event control block address specified is a valid virtual storage address and that it was not incorrectly modified.

Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

202

Explanation: The POST macro instruction encountered an error while processing an ECB (event control block). Register 15 contains a reason code (rc) that provides further detail:

Register 15 Contents in Hexadecimal	Explanation
00	The control program found an invalid request block (RB) address in the 3 low-order bytes of the event control block (ECB) specified by the problem program. The address of the request block is placed in the event control block during execution of a WAIT macro instruction. This address must remain in the event control block until a POST macro instruction places a post code or zeros in the event control block. The request block is a control block used for internal purposes by the control program.
04	The waiting RB is not enabled. That is, the waiting RB is not allowing interrupts.
08	For a POST in a user key and a WAIT in a system key, the ECB to be posted does not match any ECB being waited on.
0C	For a WAIT in a user key, the ECB address is invalid.

Programmer Response: Make sure that the contents of the event control block were not modified after the WAIT macro instruction and before the POST macro instruction.

Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

204

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC or VU form GETMAIN macro instruction. During request processing, the system attempted to get local system queue area storage, to support the request, but no real storage is available to back the local system queue area storage.

System Action: The address space abnormally terminates.

Programmer Response: Execute the job step again. If this code occurs frequently, notify your system programmer.

Problem Determination: Table I, items 2, 11, and 29.

205

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC or VU form FREEMAIN macro instruction. During request processing, the system attempted to get local system queue area storage, to support the request, but no real storage is available to back the local system queue area storage.

System Action: The address space abnormally terminates.

Programmer Response: Execute the job step again. If this code occurs frequently, notify your system programmer.

Problem Determination: Table I, items 2, 11, and 29.

206

Explanation: The error occurred during execution of a LINK, LOAD, XCTL, DELETE, or SYNCH macro instruction. The control program detected one of these errors:

- The address of the parameter list specified in the macro instruction was erroneous.
- The address of the name (if EP or EPLOC was specified), or the address of the directory entry (if DE was specified) was erroneous.
- The parameter list pointed to by the macro instruction contains a nonzero value in an undefined field.
- The caller is not authorized to use the options specified in the macro instruction.
- The LOAD macro instruction includes conflicting options.
- The LOAD macro instruction includes the ADDR=addr parameter, but addr is not a doubleword boundary.
- An invalid alias name was detected.

The following reason codes provide further detail concerning system completion code 206:

Reason Code	Explanation
04	A LOAD macro instruction was issued with conflicting options. One of the following occurred: • The EOM (delete module at end of memory) keyword, with the GLOBAL keyword omitted. The EOM keyword applies only if the module is loaded into CSA storage. • The GLOBAL and ADDR keywords are both specified. • The ADDR and LOADPT keywords are both specified.
08	An unauthorized program attempted to execute a LOAD macro instruction that had the load to global feature (GLOBAL keyword).
0C	An unauthorized program attempted to execute a LOAD macro instruction that had the explicit load option (ADDR keyword).
10	An unauthorized program attempted to execute a SYNCH macro having the KEYADDR, STATE, or KEYMASK operands. These operands are available

only to programs running in supervisor state.

14 The requested name is an alias for another, already loaded, alias.

18 A LOAD macro was issued with the ADDR keyword but the value of the ADDR keyword, the address, is not a doubleword boundary.

System Action: The following table associates the reason code that the system issues with the message that the system issues:

Reason Code	Message
04	CSV010I
08	CSV014I
0C	CSV018I
10	CSV012I
14	CSV023I
18	CSV022I

Programmer Response: Check for program errors that incorrectly modify the parameter list. If the DE operand is specified, check that the macro instruction is correct for the attributes of the requested module. Ensure that the address specified in the EP, EPLOC or DE operand is not incorrectly specified or modified. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

20A

Explanation: The error occurred during the execution of an R form GETMAIN/FREEMAIN macro instruction. During request processing, the system attempted to get local system queue area storage, to support the request, but no real storage is available to back the local system queue area storage.

System Action: The address space abnormally terminates.

Programmer Response: Execute the job step again. If this code occurs frequently, notify your system programmer.

Problem Determination: Table I, items 2, 11, and 29.

20B

Explanation: The error occurred in the TIME service routine. No usable time-of-day clock was available in the system from which to obtain the correct time.

Programmer Response: None. Probable hardware error with the system time-of-day clocks.

Problem Determination: Table I, items 18, 30.

20D

Explanation: This completion code is found only in jobstep tasks. It indicates that an error occurred while a subtask was operating in STEP = MUST COMPLETE status, or that a subtask issued an ABEND macro with the STEP option. As a result, the abnormal termination was extended to encompass the entire jobstep.

Note: The original completion code is found in the TCB of the subtask which caused the error.

System Action: The jobstep tree is terminated.

Programmer Response: Correct the original error.

Problem Determination: Table I, items 5, 16, 19, 29.

20E

Explanation: The error occurred during execution of the SPIE macro instruction. The PIE address is invalid.

Programmer Response: Correct the PIE address specified, ensuring that it is a valid virtual storage address assigned to the job step. Execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

20F

Explanation: A module not in supervisor state requested usage of SVC 15 in IOS. SVC 15 is intended only for supervisor state modules. No other requestor is authorized.

Operator Response: Notify installation manager or system programmer immediately. Hold all output relevant to the job.

212

Explanation: An error occurred during the execution of SVC 18; the error could not be attributed to invalid user input. This system completion code is accompanied by message IEC909I. Refer to the explanation of message IEC909I for complete information about the task that was terminated and for an explanation of the return code in register 15.

System Action: Message IEC909I is issued indicating whether a dump was taken to the SYS1.DUMP data set.

Programmer Response: Make sure that the BLDL or FIND macro instruction is correctly coded, and that the parameter list and control blocks involved are not modified by your program during the execution of SVC 18.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

213

Explanation: The error occurred during execution of an OPEN macro instruction for a direct access device. This system completion code is accompanied by message IEC143I. Refer to the explanation of message IEC143I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated to the applicable message.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

214

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on magnetic tape. This system completion code is accompanied by message IEC210I. Refer to the explanation of message IEC210I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC210I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

215

Explanation: The error occurred during the execution of SVC 21 (STOW). This system completion code is accompanied by message IEC910I. Refer to the explanation of message IEC910I for complete information about the task that was terminated and for an explanation of the return code in register 15.

System Action: The STOW task recovery routine has been invoked. If the caller's DCB is in his region, an attempt was made to trace it to the SYS1.TRACE data set.

Programmer Response: For return codes 01, 02, and 03, verify that register 1 contained the correct DCB address prior to issuing SVC 21 and that the DCB has not been overlaid since being opened. For return code 04, verify that register 0 contained the correct parameter list address and that the list is within the caller's region prior to issuing SVC 21.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29. Table II, format 3.

218

Explanation: An error occurred during the execution of DEVTYPE (SVC 24) that could not be attributed to invalid user input. This system completion code is accompanied by message IEC913I.

Refer to the explanation of message IEC913I for complete information about the task that was terminated and for an explanation of the return code in register 15.

Programmer Response: Make sure that the DEVTYPE macro instruction is correctly coded, and that the areas passed to DEVTYPE are not freed by your program during the execution of SVC 24.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

219

Explanation: An error occurred during the execution of SVC 25 that could not be attributed to invalid user input. This system completion code is accompanied by message IEC915I. Refer to the explanation of message IEC915I for complete information about the task that was terminated and for an explanation of the return code in register 15.

System Action: Message IEC915I is issued to indicate whether a dump was taken to the SYS1.DUMP data set.

Programmer Response: Make sure that your program does not alter the DCB or IOB during the execution of SVC 25.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

222

Explanation: The operator or an authorized TSO user with operator capability canceled the job. The job may have been canceled because it appeared to be in a loop or because it was waiting for resources that were not immediately available (for example, direct access space or devices). Perhaps the job was canceled to correct a system interlock condition (for example, two tasks enqueued on a resource without an intervening dequeue). Or the job may have violated a procedure established for your installation. There are many reasons why the operator or an authorized TSO user with operator capability might cancel a job. There may be nothing wrong with your program.

System Action: The system terminates the job; the system might produce a dump even though a dump was not requested, depending on which system routine has control.

Programmer Response: Find out why the operator or the authorized TSO user canceled your job; make any necessary corrections. If you want a dump but a dump was not produced, have the operator resubmit the job and then cancel it using the command CANCEL jobname, DUMP.

Problem Determination: Table I, items 1, 2, 5a or b, 16, 23, 29.

228

Explanation: The error was detected during execution of an EXTRACT macro instruction. The location of the input parameter list was invalid. (The input parameter list, ordinarily created through expansion of the standard or MF=L form of the EXTRACT macro instruction, describes the function to be performed.) The starting address provided, indicated that the parameter list did not begin either on a fullword boundary or within the area of storage assigned to the job step.

Programmer Response: Correct the program so that the address of the input parameter list is valid, recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

22A

Explanation: The error was detected during execution of an ATTACH macro instruction.

Register 15 Contents in Hexadecimal	Explanation
00	The issuer of the ATTACH macro instruction specified the GSPV, GSPL, SHSPV, or SHSPL parameter with a subpool ID greater than 127.

System Action: The task terminates.

Programmer Response: Change the macro instruction to specify a problem program subpool (1 through 127). If the macro instruction is specified correctly, check for program errors that incorrectly modify it. Recompile the program and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29. Table II, Format 2: trace option keyword(s) - (TRACE=SVCP), event keyword(s) - (SVC=42,END).

22C

Explanation: The error occurred during execution of a CHAP macro instruction.

The address of the fullword specified in the second operand of the CHAP macro instruction is invalid. This fullword contains the address of the TCB for the subtask whose priority was to be changed. The address was invalid for one of the following reasons:

- It was not a multiple of 4.
- The addressed virtual storage has not been allocated.
- The storage key of the fullword does not match the protection key of the issuer of the CHAP macro.

Programmer Response: Change the CHAP macro instruction to specify a valid fullword address. Ensure that this fullword will contain the address of the TCB at the time the CHAP macro instruction is executed. Also, ensure that the problem program does not incorrectly modify the specification. Recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29. Table II, Format 2: trace option keyword(s) - *TRACE=SVCP*, event keyword(s) - *SVC=44,END*.

22D

Explanation: The error occurred during execution of an overlay program.

The overlay supervisor found an invalid address in the segment table or the entry table. The address pointed to a location outside the boundaries of the virtual storage assigned to the job step.

Programmer Response: Check for program errors that caused the segment table or entry table to be incorrectly modified. Correct the program; link-edit and execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 16, 29.

22E

Explanation: The error occurred in the TTIMER service routine. No usable time-of-day clock was available in the system from which to obtain the correct time.

Programmer Response: None. Probable hardware error with the system time-of-day clocks.

Problem Determination: Table I, items 18, 30.

22F

Explanation: No usable combination of time-of-day clock and clock comparator (REAL or WAIT type request) or no usable CPU timer (TASK type request) is available.

Programmer Response: Probable hardware error with the system clocks. None.

Problem Determination: Table I, items 18, 30.

230 to 235

230

Explanation: The error occurred during execution of a DEQ macro instruction.

An invalid length was specified for the name representing a resource. The length was specified in the rname length operand of the DEQ macro instruction, was supplied by the assembler program, or was contained in the byte immediately preceding the resource name.

Programmer Response: Correct the invalid macro instruction or the program errors that incorrectly modified the length. Recompile the program and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

233

Explanation: Invalid parameters have been passed to SVC dump. The contents of register 15 indicate the nature of the error:

Register 15 Contents in Hexadecimal	Explanation
04	The address of the parameter list is zero.
08	The parameter list is not a valid SVC dump or snap parameter list for MVS.
0C	The caller supplied data set is on an unsupported device.
10	In a user supplied storage range, the start address is greater than or equal to the end address.
14	The user supplied data (for HDR= or HDRAD=) is greater than 100 characters.
18	The 4K SQA buffer has been requested (BUFFER=YES) but it is not serialized (by setting on the high order bit in the CVTSDBF).
1C	The parameter list or what it points to is in the 4K SQA buffer.
20	The user supplied a DCB address and the DCB is not open, or the DCB address is invalid.
28	An ASID specified in the ASIDLST, ASID, or SUBPLST parameter is syntactically invalid. The ASID is less than zero, or greater than the maximum value.
38	The caller specified the 4K SQA buffer (BUFFER=YES) but an SVC dump was already in progress.
44	The caller specified a subpool greater than the maximum value allowed (255).

System Action: The caller is abnormally terminated. If a recovery routine is available, it is given control.

Operator Response: Inform the system programmer.

Programmer Response: Correct the invalid parameters and reissue the SDUMP macro instruction.

Problem Determination: Table I, items 5ab, 7c, 13, 19, 29.

235

Explanation: An error occurred during processing associated with SVC 53, which obtains and releases exclusive control of a resource associated with a BDAM data set. The task recovery routine for this SVC determined that a control block required as input to SVC 53 was not in the user's region and/or key. This system completion code is accompanied by message IEC902I. Refer to the explanation of message IEC902I for complete information about the task that was terminated and for an explanation of the return code in register 15.

System Action: Message IEC902I is issued, specifying a cleanup code that indicates the results of the cleanup of resources attempted by the recovery routine.

Programmer Response: Insure the validity of the control block from which the address of the block in error was taken. For example, make sure that the input specified in the RELEX macro, the BLKREF address, is valid and in the correct format and that the DCB address passed is valid. If a RELEX macro was not issued, make sure that the IOB related to the exclusive control request is correct and contains the correct DECB address (IOBECBPT) and DCB address (IOBDCBPT).

In addition, check the DCBEBAD field in the DCB to ensure that it contains the correct DEB address, and that the DEB (DEBDCBAD) points back to this DCB. If the next IOB is found to be in error, find the entry in the read exclusive list associated with the requested block and ensure that the RDXIOBUQ field is correct.

Problem Determination: Table I, items 4, 5b, 16. Table II, item 3.

237

Explanation: The error occurred at an end-of-volume. This system completion code is accompanied by message IEC023I. Refer to the explanation of message IEC023I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC023I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 19, 29.

238

Explanation: The error occurred during execution of an ENQ macro instruction. An invalid length was specified for the name representing the resource. This length was specified in the rname length operand of the ENQ macro instruction, was supplied by the assembler program, or was contained in the byte immediately preceding the resource name.

Programmer Response: Correct the invalid macro instruction or the program errors that incorrectly modified the length. Recompile the program, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

239

Explanation: An error occurred during the processing associated with SVC 57, which frees a buffer or extends the unscheduled text (via the FREEDBUF macro issued either by the user or the system). The BDAM task recovery routine for this SVC determined that a control block required as input to SVC 57 was not in the user's region and/or key. This system completion code is accompanied by message IEC902I. Refer to the explanation of message IEC902I for complete information about the task that was terminated and for an explanation of the return code in register 15.

System Action: Message IEC902I is issued, specifying a cleanup code that indicates the results of the cleanup of resources attempted by the recovery routine.

Programmer Response: Insure the validity of the control block from which the address of the block in error was taken. The DECB and DCB were specified in the FREEDBUF macro as input to the SVC. Make sure that the DCBBUFCB field in the DCB contains the correct address of the buffer control block and the DCBDYNB field contains the correct address of the unscheduled list (if address space was virtual). The BCB or USL contain the address of the next IOB waiting to get a buffer,

if one was not available. Ensure that this address has not been overlaid. Make sure also that the input DECB contains the address of the buffer being freed (DECAREA field) and, if a buffer was requested for keys also, that the DECKYADR field contains the correct address.

Problem Determination: Table I, items 4, 5b, 16, 29. Table II, format 3.

23E

Explanation: The error was detected during execution of a DETACH macro instruction. Either 1) the parameter passed to DETACH in register 1 was not a fullword address, 2) the storage key of that address did not match that of the issuer of the DETACH, or 3) the parameter contained in the addressed fullword of the issuer was not the address of a subtask of the issuer of the DETACH.

System Action: The issuer of the DETACH is abnormally terminated.

Programmer Response: Probable user error. Change the DETACH macro instruction to specify a valid address of the TCB, and make sure that it was not incorrectly modified by the problem program. Recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

23F

Explanation: A security violation has been detected during checkpoint restart processing. This completion code is accompanied by message IHJxxxI with the appropriate reason code.

System Action: The job is abnormally terminated.

Programmer Response: Respond as indicated in the accompanying message.

Problem Determination: Table I, items 2, 5a.

240

Explanation: The error occurred during execution of a RDJFCB macro instruction. This system completion code is accompanied by message IEC155I. Refer to the explanation of message IEC155I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC155I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

244

Explanation: The error occurred during the execution of SYNADAF. It was determined that the register savearea provided by the user was invalid.

Programmer Response: Probable user error. Make sure that when SYNADAF (SVC 68) is issued, register 13 points to a register savearea within the user's region. If SYNADAF is issued from a SYNAD routine, make sure that register 13 has not been altered since the SYNAD routine was entered, and that register 13 contained the address of a valid register savearea when the last data management macro was issued.

Correct the error and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

245

Explanation: An error occurred during the execution of SVC 69 (BSP) that could not be attributed to invalid user input. This system completion code is accompanied by message IEC917I. Refer to the explanation of message IEC917I for complete information about the task that was terminated and for an explanation of the return code in register 15.

System Action: The backspace task recovery routine has been invoked. Low real storage and the caller's region have been dumped to the SYS1.DUMP data set. The caller's input register 1 and his DCB have been written to the SYS1.LOGREC data set.

Programmer Response: Make sure that the BSP instruction is correctly coded, and that the DCB and IOBs and/or ICBs for the data set being processed are not overlaid by your program during the execution of SVC 69.

Problem Determination: Table I, items 1, 2, 3, 7ab, 11, 13, 15, 18, 29.

247

Explanation: An error occurred in either the Graphics Access Method/System Product (GAM/SP), or the operating system. This completion code appears when an invalid condition is detected by the GAM/SP buffer management routine, IGC0007A.

System Action: A message appears on the system console that identifies the cause of the error. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*
2. Get a listing of the system dump.
3. Contact your programming support personnel.

251

Explanation: The error occurred during the execution of SETPRT. A user-provided area was determined to be invalid. This system completion code is accompanied by message IEC918I. Refer to the explanation of message IEC918I for complete information about the task that was terminated and for an explanation of the return code in register 15.

System Action: Message IEC918I is issued.

Programmer Response: Make sure that the last entry in the exit list has a high-order bit set to B'1'. Make sure that any FCB image entry in the exit list points to a valid FCB image, that the image is within the user's region, that any FCB image has a valid length field and that it is terminated by an end-of-FCB image indicator. Correct the error and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

253

Explanation: A recursive error occurred while SMF recording was writing to the SMF data sets; the system determined that SMF recording should be terminated.

System Action: The system terminates the SMF address space and releases the resources used by SMF.

Operator Response: Notify the system programmer. If SMF recording is essential for the system, restart the SMF address space using the SMF SET command as soon as the problem is corrected.

Programmer Response: Check error messages and the SVC dump produced as a result of any previous abnormal terminations.

Problem Determination: Table I, items 2, 16, 29.

25F

Explanation: A system failure (machine check or random store, for example) has destroyed data used by the system resource manager in controlling this address space.

System Action: If the terminated task is the master scheduler command processor, and the system resource manager has been processing a NEWIPS sysevent, the new IPS may have been lost.

In all other cases, data pertaining to the address space's swap status or performance characteristics may have been lost and the system resource manager may no longer be able to control the address space according to its previously assigned performance specification.

The system does the following:

- Writes a record to SYS1.LOGREC describing the error
- Inserts 'worst case' substitute values in place of the lost address space characteristics in case the STAE routine or the terminated task requests retry
- Terminates the controlling task of the address space or system component affected by the data loss

Problem Determination: Table I, items 1, 2, 4, 5a, 18, 29.

260

Explanation: The STAX SVC detected an invalid user parameter. Register 15 contains a reason code that gives further detail:

Register 15 Contents in Hexadecimal	Explanation
00	A parameter list address is invalid.
04	The input buffer size is greater than 32K.
08	The input buffer address is invalid.
0C	The output buffer size is greater than 32K.
10	Both DEFER bits are on.
14	The format number of the parameter list is invalid.

269

Explanation: An error occurred during the execution of IMGLIB that could not be attributed to invalid input to IMGLIB. Register 15 contains a return code that indicates whether a dump was taken to the SYS1.DUMP data set.

System Action: The IMGLIB task recovery routine has attempted to take a storage dump to the SYS1.DUMP data set; the result of the dump attempt is indicated by the return code in register 15. See message IEC920I for a complete description of the possible return codes and their meanings. Additional diagnostic information was written to the SYS1.LOGREC data set.

Programmer Response: Make sure that the IMGLIB macro instruction is correctly coded.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

271

Explanation: The user is not authorized to request a PAGE-FIX or PAGE-FREE service with the 24-bit parameters interface to RSM (real storage management).

System Action: The requested service is denied.

User Response: Correct the program or obtain proper authorization from installation management.

Problem Determination: Table I, items 1, 5a, 16, 25c, 29.

278

Explanation: The error occurred during the execution of an RC, RU, VRC, or VRU form GETMAIN or RC or RU form FREEMAIN macro instruction. The system attempted to get local system queue area storage, to support the request, but no real storage is available to back the local system queue area storage.

System Action: The address space abnormally terminates.

Programmer Response: Execute the job step again. If this code occurs frequently, notify your system programmer.

Problem Determination: Table I, items 2, 11, and 29.

279

Explanation: An error was discovered in the parameters associated with an I/O request. The error was discovered during I/O request termination processing. At the time of abnormal termination, register 3 contains a pointer to the IOMB and register 2 contains a reason code as follows:

Reason Code in Hexadecimal	Explanation
4	Invalid BUFC. The virtual storage originally assigned to a BUFC no longer belongs to the user.
14	An invalid buffer address was discovered while attempting I/O (a protection check occurred).

System Action: Processing continues.

Programmer Response: Make sure that the problem program did not incorrectly modify the control block structure or associated parameters. After making necessary corrections, recompile and execute the job step again.

Problem Determination: Table I, items 1, 2, 4, 5a, 18, 29.

27B

Explanation: An error occurred in the FESTAE issued by PURGEDQ while attempting to establish the recovery environment for PURGEDQ processing. The error was not the result of any action on the part of the current task but was a result of an environmental error.

System Action: The task that issued the PURGEDQ macro instruction is abnormally terminated.

Operator Response: Rerun the job.

Problem Determination: Table I, items 5a, 16, 18, and 29.

282

Explanation: An error was detected by RACF in the parameters passed to RACF for RACHECK SVC processing.

System Action: The task is terminated.

Programmer Response: Register 15 contains the reason code describing the problem found:

Reason Code	Meaning
04	Invalid parameter list length.
10	APF authorization, or system key 0-7, or supervisor state required for CSA, LOG, PROFILE, or ACEE option.
14	Invalid ATTR option specified.
18	Volume serial required but not supplied.
1C	Inconsistent PROFILE/ENTITY flag settings.
20	No resource name or PROFILE specified.
24	No CLASS name specified.
2C	Invalid LOG option specified.
30	Volume serial specified for class other than DATASET.

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

283

Explanation: An error was detected by RACF in the parameters passed to RACF for RACINIT SVC processing.

System Action: The task is terminated.

Programmer Response: Register 15 contains the reason code describing the problem found:

Reason Code	Explanation
04	Invalid parameter list length.
14	ENVIR data specified was invalid.
18	USERID specified did not conform to length requirements.
1C	PASSWRD specified did not conform to length requirements.
20	GROUP specified did not conform to length requirements.
24	NEWPASS specified did not conform to length requirements.
28	OIDCARD specified had length field=0.
30	Invalid combination of ENVIR keyword data and USERID, PASSWRD, NEWPASS, START, OIDCARD, TERMID, or APPL specified.
34	Invalid combination of ENVIR keyword data and GROUP specified.
38	ENVIR = CHANGE specified but no ACEE exits.

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

285

Explanation: RACF detected an error in the parameters passed to it for RACDEF SVC processing.

System Action: The task is terminated.

Programmer Response: Register 15 contains the reason code describing the problem found:

Register 15 Contents in Hexadecimal	Meaning
04	Invalid parameter list length.
08	Invalid level number.
0C	Invalid TYPE option specified.
10	Resource name required.
12	Invalid UACC value.
14	New data set name or old volume serial specified but addr is zero.
18	Volume serial required but not specified.
1C	New data set name and old volume serial flags both set.
24	Inconsistent parameters for class other than DATASET, that is: model name supplied, model volume serial supplied. VSAM data set bit on, old volume serial supplied or new data set name supplied.
28	Model resource information supplied with type other than DEFINE for DATASET class.
2C	Model name supplied but model volume serial not supplied.
30	Unqualified data set name specified.
34	Old volser is absent for CHGVOL request.
38	Unit field has invalid length.

3C	Invalid AUDIT value.
40	Invalid OWNER specified.

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

28A

Explanation: A user requested a PAGE-FIX or PAGE-FREE service that has the 31-bit parameters interface to RSM (real storage management) page services, but the user is not authorized to make such a request.

System Action: The system does not perform the requested service.

User Response: Correct your program or obtain proper authorization from installation management.

Note: PGSER is the macro instruction for the 31-bit interface.

Problem Determination: Table I, items 1, 5a, 16, 25c, and 29.

2F3

Explanation: The job was running when a system failure occurred. A system restart was performed; a system job queue entry for the job existed at the time of failure.

Programmer Response: If results of the job are unsatisfactory, resubmit the job or job steps, as desired.

2FB

Explanation: The JES3 or FSS address space has abnormally terminated at one of the following points in processing:

1. A critical error occurred early in JES3 or FSS initialization or late in JES3 termination. The JES3 ESTAE environment had not yet been established or had been deleted, so no JES3-formatted ABEND dump is available.
2. Once JES3 initialization has successfully established the JES3 ESTAE routine (IATABMN), the retry routine (IATABRT) uses this ABEND code to return to IATABMN in order to percolate.

An MVS dump will always appear for a 2FB ABEND, regardless of the original ABEND code. The original ABEND code is shown in message IAT3713 to the operator and in the JES3-formatted dump. The 2FB dump by itself does not tell whether the failing JES3 function recovered or had to be terminated.

Note: An MVS dump with a 2FB ABEND means that IATABRT or a routine used by IATABRT failed, thereby producing the 2FB ABEND.

System Action: In the first case, JES3 writes message IAT3702 to the operator and to a dump data set of the type specified during JES3 initialization. This message details critical debugging information. The system writes an ABEND dump of the type specified during JES3 initialization.

Operator Response: In the first case, respond to message IAT3nnn.

Programmer Response: In the second case, analyze the ABEND dump to find the cause of the error.

Problem Determination: Table I, items 2, 5, 16. Table III, items 4, 5, 6, 20.

2FC

Explanation: An error occurred during the execution of the I/O first level interrupt handler. In an attempt to recover the system, the supervisory control program has abnormally terminated the task that took the I/O interrupt.

System Action: The active task abnormally terminated.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

300

Explanation: EXCP processing found one of the following errors while processing an I/O request:

- The data extent block (DEB) validity check routine (IFGDEBCK) returned a nonzero return code to EXCP processing because of one of the following:
  - The DEBTABLE does not exist.
  - The DEBTBLOF value in the DEB is less than one or greater than the number of entries in the DEBTABLE.
  - The DEB address that was obtained from the data control block (DCB) does not match any entry in the DEBTABLE.
- The IOBM field in the input/output block (IOB) is higher than the maximum extent count (DEBNMEXT) in the DEB.

System Action: The system abnormally terminates the task.

Programmer Response: Verify that the DCB contains the address of the DEB. Correct the error, and execute the job step again.

If a dump was written, look at the task control block (TCB) field TCBEXCPD at offset X'CO'; it points to the EXCP debugging area (XDBA). The XDBA contains diagnostic data associated with the EXCP processor at abnormal termination. See the *Debugging Handbook* for a description of the XDBA.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

301

Explanation: The error occurred during execution of a WAIT macro instruction.

The macro instruction specified an event control block (ECB) whose wait flag was already on. This indicated that a previous WAIT macro instruction was already waiting for posting of the event control block.

Programmer Response: Change the problem program to eliminate a double wait on a single event. If no double wait is found, make sure that the program did not incorrectly modify the event control block. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

305

Explanation: The error occurred during the execution of an EU, LU, or VU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
08	SQA (system queue area) storage is not in the subpool specified.
0C	CSA (common service area) storage is not in the subpool specified.
10	LSQA (local system queue area) storage is not in the subpool specified.
14	Private area storage is not in the subpool specified.
18	Private area subpool not found.
1C	Zero length is not specified on a subpool FREEMAIN. Zero length must be specified on a subpool FREEMAIN. *Note:* If this error is detected, the calling program is abnormally terminated even though EC, LC, or VC is specified on the FREEMAIN macro instruction.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: In response to this system completion code take the following actions:

- Make sure that the FREEMAIN operands A and LV do not specify either a different (1) subpool and/or (2) key than the subpool or key of the storage you are trying to free.
- Make sure that the TCB specified on the FREEMAIN request is the same one specified on the corresponding GETMAIN request.
- If a caller running in supervisor state and key 0 made the original GETMAIN request, then make sure that the corresponding FREEMAIN request is also issued in supervisor state key 0.

  If a caller in supervisor state and key 0 requests storage in subpool 0 or 250, the system will satisfy this request with storage from a different subpool. This situation is described in *MVS/XA Debugging Handbook*, under the storage subpools topic.
- Check for program errors that incorrectly modify the FREEMAIN macro expansion.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

306

Explanation: The error occurred during execution of LINK, XCTL, ATTACH, or LOAD service routines.

An invalid load to global request was attempted, or the authorized routine requested a module that could not be found in an authorized library. The module was found either in an unauthorized library or already loaded in storage but marked as coming from an unauthorized library.

Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	A LOAD macro instruction requested, by the load to global option, a module residing in a library that is not APF authorized.
08	A LOAD macro instruction requested, by the load to global option, a module that is not reentrant.
0C	An authorized program requested, by a LINK, LOAD, XCTL or ATTACH macro instruction, a module not in an APF authorized library.
10	A LOAD macro instruction requested, using the GLOBAL=(YES,F) keyword, a module that requires page alignment.
20	A job step module was found in a LNKLST data set that was not APF authorized; an APF authorized module was required.
24	An authorized service attempted, via a LINK, LOAD XCTL, or ATTACH macro instruction, to access a copy of a load module which is non-reentrant and loaded from an authorized library by an unauthorized caller. Another copy of the module could not be found.
30	The user requested access to a controlled program but is not authorized by the System Authorization Facility (SAF) to access that program.
34	The user requested access to a program while a program access data set (PDAS) was open.

System Action: The following table associates the reason codes with the messages that the system issues:

Reason Code	Message
04	CSV013I
08	CSV015I
0C	CSV019I
10	CSV020I
20	CSV024I
24	CSV027I
30	CSV025I
34	CSV026I

Programmer Response: If the requested module could not be found, make sure the module exists on a system or user-defined authorized library. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 22, 25c, 29.

30A

Explanation: The error occurred during the execution of an R form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
08	SQA (system queue area) storage is not in the subpool specified.
0C	CSA (common service area) storage is not in the subpool specified.
10	LSQA (local system queue area) storage is not in the subpool specified.
14	Private area storage is not in the subpool specified.
18	Private area subpool not found.
1C	Zero length is not specified on a subpool FREEMAIN. Zero length must be specified on a subpool FREEMAIN.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: In response to this system completion code take the following actions:

- Make sure that the FREEMAIN operands A and LV do not specify either a different (1) subpool and/or (2) key than the subpool or key of the storage you are trying to free.
- Make sure that the TCB specified on the FREEMAIN request is the same one specified on the corresponding GETMAIN request.
- If a caller running in supervisor state and key 0 made the original GETMAIN request, then make sure that the corresponding FREEMAIN request is also issued in supervisor state, key 0.

  If a caller in supervisor state and key 0 requests storage in subpool 0 or 250, the system will satisfy this request with storage from a different subpool. This situation is described in *MVS/XA Debugging Handbook*, under the storage subpools topic.
- Check for program errors that incorrectly modify the FREEMAIN macro expansion.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

30E

Explanation: The error occurred during the execution of the SPIE macro instruction.

- An unauthorized program attempted to specify program interruption code 17.
- SPIE caller in supervisor state (SPIE must be issued in problem state).
- SPIE caller's PSW key does not match the caller's TCB key.

- A program running in 31 bit mode issues an SPIE macro.

Programmer Response: For the first case, recode the macro instruction to delete the specification of interrupt code 17, or contact the system programmer to have authorization assigned to your program through the authorized program facility (APF). For the second case, make sure SPIE was issued in problem state. For the third case, make sure the PSW key matches the TCB key, and in the final case a program running in 31 bit mode uses an ESPIE macro. Then execute the job step again.

Problem Determination: Table I, items 1, 5a, 15, 16, 19, 29.

312

Explanation: The system terminated LNKLST lookaside (LLA) because it detected an error while LLA was executing. This system completion code is accompanied by message CSV222I or CSV218E.

System Action: If LLA's ESTAE routine was invoked and completed, the routine wrote an SVC dump and an error record to SYS1.LOGREC. Either LLA issues message CSV222I, then initiates automatic restart processing, or LLA issues CSV218E.

Programmer Response: Respond as indicated for message CSV222I or CSV218E.

313

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC144I. Refer to the explanation of message IEC144I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC144I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

314

Explanation: The error occurred during the execution of a CLOSE macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC211I. Refer to the explanation of message IEC211I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC211I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

315

Explanation: An error occurred during the execution of SVC 21 (STOW) that could not be attributed to invalid user input. This completion code is accompanied by message IEC911I. Refer to the explanation of message IEC911I for complete information about the task that was terminated and for an explanation of the return code in register 15.

System Action: The STOW task recovery routine has been invoked. Low real storage and the caller's region have been dumped to the SYS1.DUMP data set. The caller's input registers 0 and 1, and his DCB have been included in a software error record written to the SYS1.LOGREC data set.

Programmer Response: Make sure that the STOW macro instruction is correctly coded, and that the parameter list and DCB involved are not modified by your program during the execution of SVC 21.

Problem Determination: Table I, items 1, 2, 3, 7ab, 11, 13, 15, 18, 29.

317

Explanation: The error occurred during execution of a BSAM CLOSE macro instruction with a TYPE=T operand for a data set on a direct access device. This system completion code is accompanied by message IEC220I. Refer to the explanation of message IEC220I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC220I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

322

Explanation: Execution of a job, job step, or cataloged procedure step took longer than the time specified in:

- The TIME parameter of the EXEC or JOB statement
- The standard time limit specified in the job entry subsystem

System Action: The system abnormally terminates the job, job step, procedure, or procedure step.

Programmer Response: Check for program errors, such as endless loops, that would cause the job step, procedure, or procedure step to take too long. Correct any such errors. If no errors are found, specify a longer time in the TIME parameter. Then execute the job again.

Problem Determination: Table I, items 1, 5a, 7b, 26d, 29.

328

Explanation: The error was detected during execution of an EXTRACT macro instruction.

The task control block (TCB) specified in the second operand of the macro instruction was not for a subtask of the task issuing the EXTRACT macro instruction.

Programmer Response: Change the EXTRACT macro instruction to specify a task control block for a subtask. If the macro instruction was specified correctly, check for program errors that incorrectly modified the EXTRACT macro expansion. After making corrections, recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

32D

Explanation: The error occurred during execution of an overlay program.

A record of an incorrect length was found or an uncorrectable input/output error occurred in loading a segment from the library.

Programmer Response: Link-edit the program again, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 29.

32E

Explanation: A TIMER service routine has detected an invalid STIMERM macro request. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
010C	The GMT or TOD parameter specified in a STIMERM SET macro exceeds 24 hours.
0110	The TIMER service routine received an invalid STIMERM SET macro parameter.

011C The current request would exceed the limit of concurrent STIMERM SET macro requests per task.

0120 The TIMER service routine cannot access the storage containing the user-specified parameter(s) for the STIMERM SET macro.

0210 The TIMER service routine received an invalid STIMERM TEST macro parameter.

0220 The TIMER service routine cannot access the storage containing the user-specified parameter(s) for the STIMERM TEST macro.

0224 The TIMER service routine received an invalid STIMERM ID number from an STIMERM TEST macro; the number was either 0 or greater than the highest ID assigned by the system.

0310 The TIMER service routine received an invalid STIMERM CANCEL macro parameter.

0320 The TIMER service routine cannot access the storage containing the user-specified parameter(s) for the STIMERM CANCEL macro.

0324 The TIMER service routine received an invalid STIMERM ID number from an STIMERM CANCEL macro; the number was either 0 or greater than the highest ID assigned by the system.

System Action: The system abnormally terminates the task that issued the macro.

Programmer Response: Check and correct the parameters specified on the STIMERM macro. Consult *Supervisor Services and Macro Instructions* for format and restrictions.

32F

Explanation: A TIMER service routine has detected a system problem that prevents an STIMERM request from being completed successfully. Register 15 contains a hexadecimal reason code:

ABEND

Reason Code	Explanation
0108	An STIMERM SET macro failed because none of the time-of-day clocks in the system was working.
0118	An STIMERM SET macro failed because none of the clock comparators in the system was working.
0208	An STIMERM TEST macro failed because none of the time-of-day clocks in the system was working.
0308	An STIMERM CANCEL macro failed because none of the time-of-day clocks in the system was working.

System Action: The system writes an SVC dump, records the error in SYS1.LOGREC, and abnormally terminates the task that issued the macro.

Programmer Response: Analyze the dump and the SYS1.LOGREC record to determine the cause of the failure.

Problem Determination: Table I, items 2, 7, 8, 18, 33.

330

Explanation: An unauthorized task attempted to use authorized options of the DEQ macro instruction.

Programmer Response: Correct the macro instruction; then recompile and run the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

333 to 337

333

Explanation: During execution of an SVC dump module, an unexpected error was detected. Register 15 contains a hexadecimal reason code:

Reason Code	Module and Explanation
04	IEAVTSDG in subroutine SDADDADR detected a start address that is higher than the end address for a storage range.
08	IEAVTVSM in subroutine SDADDADR detected a start address that is higher than the end address for a storage range.
0C	IEAVTSDH in subroutine SDADDADR detected a start address that is higher than the end address for a storage range.
10	IEAVTSDL in subroutine SDADDADR detected a start address that is higher than the end address for a storage range.
14	Before ENQing on the SDUMP resource, IEAVTSDT found itself in an address space that is not in the current SDUMP.
18	After ENQing on the SDUMP resource, IEAVTSDT found itself in an address space that is not in the current SDUMP.
1C	IEAVTSDT found itself in an invalid environment.

System Action: The system writes an error record to SYS1.LOGREC, abnormally terminates the attempt to write a dump, and gives control to RTM to clean up resources.

Programmer Response: Notify the system programmer. To get more information than the SYS1.LOGREC record, set a SLIP trap on 333 ABENDs with an action of wait. Instruct the operator to execute a stand-alone dump when the SLIP trap occurs.

Note: Do not request a dump by specifying an action of SVCD in your SLIP trap; an SVC dump is already in progress when the trap occurs.

335

Explanation: SVC 35, which obtains and releases exclusive control of a resource associated with a BDAM data set, found that the block for which acquisition or release of exclusive control was requested was not in the data set.

Programmer Response: If the RELEX macro was issued the user should ensure that the BLKREF address supplied in the RELEX macro points to a valid address within the data set described by the input DCB. Make sure also that the address format is compatible with the addressing scheme specified in the DCBOPTCD field of the DCB. If the RELEX macro was not issued, the block ID was taken from the IOBSEEK field, or in the case of write-add requests, the IOBDNCRF field. These addresses are derived from conversion of the block ID pointed to by the DECRECPT field of the DECB. Make sure that this address is correct and that the format of the block ID is compatible with that specified in the DCBOPTCD field of the DCB and that the format of the block ID is left-aligned.

Problem Determination: Table I, items 5b, 16, 25a, 29.

337

Explanation: The error occurred when the end of a data set was reached. This system completion code is accompanied by message IEC024I. Refer to the explanation of message IEC024I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC024I.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 21, 29.

338

Explanation: An unauthorized task attempted to use authorized options of the ENQ macro instruction.

Programmer Response: Correct the macro instruction; then recompile and run the job step again.

339

Explanation: SVC 57, which frees a buffer or extends the unscheduled list (via a FREEDBUF macro issued either by the user or by the system) found that the DEB pointed to by the input DCB (DCBDEBAD) was not on any DEB chain associated with that job step TCB, or did not point back to that DCB, or the request was issued for a data set that was neither BDAM or ISAM.

Programmer Response: Make sure that the input DCB address is correct and that the DCBDEBAD field of the input DCB has not been overlaid.

Problem Determination: Table I, items 5b, 16, 29.

33E

Explanation: A DETACH macro instruction specifying the STAE=YES operand has been issued by the originating task, but the specified subtask has not completed execution.

System Action: The subtask is abnormally terminated. If the STAE macro instruction was issued by the subtask, the specified exit routine will be given control during abnormal termination processing. However, if the STAE exit routine specified a retry routine, the retry routine will not be given control.

Programmer Response: This may or may not be an error, depending on the programmer's intent. If the subtask should complete processing before it is detached, synchronization should be achieved by use of the ECB or EXTR operand on the ATTACH macro instruction that creates the subtask.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

33F

Explanation: An error has been detected during checkpoint restart processing. This completion code is accompanied by message IHJxxxI with the appropriate reason code.

System Action: No dump is produced; the system attempts to retry to the cleanup address.

Programmer Response: Respond as indicated in the accompanying message.

Problem Determination: Table I, items 2, 5a.

344

Explanation: The error occurred during the execution of SYNADAF, where it was determined that the DCB address was invalid.

Programmer Response: Register 15 contains the DCB address in error. For BDAM, BPAM, QSAM, BISAM, and QISAM, the DCB address should be passed to SYNADAF as the PARM1 operand on the SYNADAF macro instruction. (For BDAM, BPAM, BSAM, and QSAM, the DCB address is in register 1 on entry to the user's SYNAD routine.) For EXCP access method, verify that the IOBDCBPT field contains the correct DCB address. Correct the error and rerun the job.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

351

Explanation: An error was detected during the execution of SETPRT that could not be attributed to invalid macro instruction invocation or invalid control blocks. This system completion code is accompanied by message IEC918I. Refer to the explanation of message IEC918I for complete information about the task that was terminated and for an explanation of the return code in register 15.

Programmer Response: Make sure that the SETPRT macro instruction is correctly coded, and that the parameter list and DCB involved are not modified by your program during the execution of SVC 81.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

353

Explanation: The address of the SMF record passed to the system management facilities (SMF) writer was above 16 megabytes.

System Action: SMF abnormally terminates the task.

Programmer Response: Probable error of the task that issued the SMFWTM or SMFEWTM macro. While the SMFWTM or SMFEWTM macro can be issued by a task running in 31-bit addressing mode, the storage for the SMF record passed to SMF must be below the 16-megabyte line. See *31-Bit Addressing*.

Problem Determination: Table I, items 1, 3, 4, 5a, 13, 15, 16.

35F

Explanation: An address space became nonswappable before it could be swapped out for the SYSEVENT TRANSWAP. The initiator requested the TRANSWAP before attaching a nonswappable program or a V=R job step.

System Action: The initiator fails the job.

Programmer Response: Probable system error. Resubmit the job.

Problem Determination: Table I, items 1, 2, 4, 5a, 18, and 29.

36D

Explanation: An error was detected in communications between RMF and the System Resources Manager while attempting to initialize, collect, or reinitialize workload activity measurements.

System Action: All RMF measurement collection is terminated. Reinstatement can be attempted and, if successful, RMF will continue under the control of the original options. If reinstatement fails, RMF is terminated. Register 15 contains the return code from the System Resources Manager depending on the function attempted by RMF:

Byte	Attempted Function
0	N/A
1	Reinitialization of workload activity measurement collection after a change in the Installation Performance Specification (IPS).
2	Collection of workload activity measurements.
3	Initialization of workload activity measurements.

Problem Determination: Table I, items 4, 5a, 16, 18, and 29.

36F

Explanation: One of the following errors occurred during processing of a job entry subsystem SVC 111:

- An invalid entry code was passed to SVC 111.
- DEBCHK processing found that the DEB (data extent block) was invalid.
- The DEB was not a subsystem DEB.

System Action: The program issuing the SVC terminates.

Programmer Response: Be sure the program is authorized to use SVC 111 and check that the SVC is issued at the correct point in the program. Correct the error and rerun the job.

Problem Determination: Table I, items 5a, 16, 29.

378

Explanation: The error occurred during the execution of an RU or VRU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
08	SQA (system queue area) storage is not in the subpool specified.
0C	CSA (common service area) storage is not in the subpool specified.
10	LSQA (local system queue area) storage is not in the subpool specified.
14	Private area storage is not in the subpool specified.
18	Private area subpool not found.
1C	Zero length is not specified on a subpool FREEMAIN. Zero length must be specified on a subpool FREEMAIN.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: In response to this system completion code take the following actions:

- Make sure that the FREEMAIN operands A and LV do not specify either a different (1) subpool and/or (2) key than the subpool or key of the storage you are trying to free.
- Make sure that the TCB specified on the FREEMAIN request is the same one specified on the corresponding GETMAIN request.
- If a caller running in supervisor state and key 0 made the original GETMAIN request, then make sure that the corresponding FREEMAIN request is also issued in supervisor state, key 0.

  If a caller in supervisor state and key 0 requests storage in subpool 0 or 250, the system will satisfy this request with storage from a different subpool. This situation is described in *MVS/XA Debugging Handbook*, under the storage subpools topic.
- Check for program errors that incorrectly modify the FREEMAIN macro expansion.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

37A

Explanation: The error occurred during the execution of an EVENTS macro instruction. The control program found that the EVENTS table specified on the EVENTS macro was currently being waited on.

Programmer Response: Make sure that only one task at one time can wait on the EVENTS table in question. Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

37D

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that the EVENTS table specified on the EVENTS macro was currently being waited on.

Programmer Response: Make sure that only one task at one time can wait on the EVENTS table in question. Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

382

Explanation: The pre-processing or post-processing installation-written exit routine called by RACF during RACHECK SVC processing passed back an invalid return code to RACF. The code was not part of the defined interface.

System Action: The system abnormally terminates the task.

Programmer Response: Register 15 contains the return code from the exit routine. Verify that the exit routine is using valid return codes.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

383

Explanation: The pre-processing or post-processing installation-written exit routine called by RACF during RACINIT SVC processing passed back an invalid return code to RACF. The code was not part of the defined interface.

System Action: The system abnormally terminates the task.

Programmer Response: Register 15 contains the return code from the exit routine. Verify that the exit routine is using valid return codes.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

385

Explanation: The installation-written exit routine called by RACF during RACDEF SVC processing passed back an invalid return code to RACF. The code was not part of the defined interface.

System Action: The system abnormally terminates the task.

Programmer Response: Register 15 contains the return code from the exit routine. Verify that the exit routine is using valid return codes.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

3FB

Explanation: JES3 module IATSIAD could not obtain enough storage from subpool 230 to build a data set block (DSB) or from subpool 241 to build a data set status block (DSS).

System Action: The system terminates the user address space.

Programmer Response: Rerun the job with a SYSABEND DD statement. The problem may not recur. If it does, notify your system programmer.

3FC

Explanation: An error occurred during the execution of the external first level interrupt handler. In an attempt to recover the system, the supervisory control program has abnormally terminated the task or SRB that took the external interrupt.

Register 15 contains one of the following hexadecimal reason codes:

Reason Code	Explanation
00	The first level interrupt handler (FLIH) detected (but does not support) a third recursion.
04	An error occurred during FLIH mainline processing.
08	An error occurred during a first recursion.
0C	An error occurred during a second recursion.

System Action: The active task is abnormally terminated. The system writes an error to SYS1.LOGREC.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

400

Explanation: EXCP processing found an error while processing an I/O request: the address for the data control block (DCB) in the data extent block (DEB) is not the same as the DCB address in the caller's input/output block (IOB). This situation can occur if the data set is not open or if the control blocks are prematurely freed or overlaid.

System Action: The system abnormally terminates the task.

Programmer Response: Verify that the data set was opened and that the control blocks were handled correctly in the problem program. Rerun the job.

If a dump was written, look at the task control block (TCB) field TCBEXCPD at offset X'CO'; it points to the EXCP debugging area (XDBA). The XDBA contains diagnostic data associated with the EXCP processor at abnormal termination. See the *Debugging Handbook* for a description of the XDBA.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

402

Explanation: The EVENTS POST macro instruction routine encountered an error while processing an ECB (event control block). Register 15 contains a reason code that provides further detail:

Register 15 Contents in Hexadecimal	Explanation
00	The control program found an invalid EVENTS table address in the three low-order bytes of the extended format ECB (event control block) that was specified.
04	The waiting RB (request block) is not enabled. That is, the waiting RB is not allowing interrupts.
08	For a WAIT or POST in a user key, the ECB address is invalid.

Programmer Response: Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, and 29.

406

Explanation: The error occurred during execution of a LINK, ATTACH, or XCTL macro instruction.

The requested program was marked by the linkage editor as only loadable. The program was produced by a linkage editor execution for which the EXEC statement contained OL in the PARM parameter field.

System Action: The system issues message CSV009I. The task is terminated unless ERRET is specified on the macro instruction.

Programmer Response: Rewrite the problem program so that it specifies only loading, but not execution, of the only loadable program. Then recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

40A

Explanation: The error occurred during the execution of an R form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	Attempting to FREEMAIN a subpool that cannot be subpool FREEMAINed
08	A problem program is trying to free subpool zero.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: If you intended the FREEMAIN macro instruction to release subpool zero, remove it from the program. The control program releases subpool zero when a job step terminates. If you did not intend the FREEMAIN macro instruction to release subpool zero, check for program errors that incorrectly modify the FREEMAIN macro expansion.

Only subpools defined as eligible for subpool FREEMAIN may be freed as an entire subpool. All other subpool storage areas must be freed by individual requests explicitly describing the area. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

40D

Explanation: This completion code is found only in address space control blocks (ASCBs). Because recursive errors occurred during task termination, the recovery termination manager (RTM) terminated the address space. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
0	At the time of the recursive abnormal termination, only the critical error recursion exit was established. RTM could determine only that the error was not due to a problem identified by the other reason codes.
4	IEAVTRTC found a critical error in IEAVTRTE.
8	RTM suffered another error while processing a recursive error. IEAVTRTE was unable to obtain the RTM work area associated with the original error.
C	IEAVTRT2 could not obtain the previous RTM work area because the pointer to it was invalid.
10	No virtual storage was available in subpool 255 for the RTM work area.
14	IEAVTRT2 detected that an RTM GETMAIN or FREEMAIN request abnormally terminated.
18	RTM was entered recursively after it had completed end-of-task processing.
1C	IEAVTRT2 could not find the previous error request block (RB) on a recursive entry.
20	IEAVTRT2 could not find the previous error RB when processing an RTM-initiated abnormal termination of a daughter task of an abnormally terminated mother task.
24	The exit handler in module IEAVTRTE was entered but no exit flag was on to indicate which exit to take.
28	IEAVTSKT suffered an unrecoverable recursive error while terminating a daughter task of the current task.

System Action: RTM terminates the address space and requests a dump be written to a SYS1.DUMP data set.

Programmer Response: Correct the original error.

Problem Determination: Table I, items 1, 5, 11, 16, 19, 29.

413

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on magnetic tape or on a direct access device. This system completion code is accompanied by message IEC145I. Refer to the explanation of message IEC145I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC145I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

414

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC212I. Refer to the explanation of message IEC212I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC212I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

417

Explanation: The error occurred during execution of a BSAM CLOSE macro instruction with a TYPE=T operand for a data set on a direct access device. This system completion code is accompanied by message IEC221I. Refer to the explanation of message IEC221I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC221I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

42A

Explanation: The error was detected during execution of an ATTACH macro instruction.

The ECB operand specified an invalid address for the event control block (ECB) to be posted when the subtask terminates. The address was invalid for one of the following reasons:

- It was not on a fullword boundary.
- The addressed virtual storage is not allocated, or the storage key does not match the protection key of the issuer of the ATTACH.

Programmer Response: Change the ATTACH macro instruction to specify the correct ECB, and ensure that the specification was not incorrectly modified by the problem program. Recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

42D

Explanation: An error occurred during the execution of an overlay program; the error occurred while processing a SEGLD macro instruction.

Note: An overlay program can run only in 24-bit addressing mode, not in 31-bit addressing mode.

Programmer Response: Check the subtask completion code in the SEGLD ECB which is located at offset X"14" in the SEGTAB. Register 12 contains the address of the SEGTAB. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 29.

430

Explanation: The error occurred during execution of a DEQ macro instruction.

The control program found that the parameter list created from the macro instruction was invalid.

Programmer Response: Correct the DEQ macro instruction specification or the program errors that incorrectly modified the parameter list. Recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

435

Explanation: SVC 53, which obtains and releases exclusive control of a resource associated with a BDAM data set found that:

- The DEB pointed to by the input DCB (DCBDEBAD) was not on any DEB chain associated with the job step TCB, or did not point back to that DCB, or was not for a BDAM data set.
- The IOB has been altered by other than a system routine.

Programmer Response: Make sure that the input DCB address is correct and that the DCBDEBAD field of the input DCB has not been overlaid.

Problem Determination: Table I, items 5b, 16, 29.

437

Explanation: The error occurred at an end-of-volume. This system completion code is accompanied by message IEC025I. Refer to the explanation of message IEC025I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC025I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

438

Explanation: The error occurred during execution of an ENQ macro instruction.

The control program found that the parameter list created from the macro instruction was invalid.

Programmer Response: Correct the specification of the macro instruction or the program errors that incorrectly modified the parameter list. Recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

43E

Explanation: The ECB address specified with the ECB parameter on the ATTACH macro instruction that created a task was not valid at the time of termination of the task.

System Action: The ECB is not posted. The originating task of the task having the invalid ECB address (which address is contained in field TCBECB of the subtask's TCB) is abnormally terminated.

Programmer Response: Determine if the area containing the ECB was freed before the subtask completed processing. Correct the error and run the job again.

Note: The ECB in question is specified at the time of the ATTACH macro, and is validity checked at that time. An invalid ECB at the time of DETACH of the subtask or at the end-of-task would probably occur through FREEMAIN of the storage containing the ECB.

Problem Determination: Table I, items 5a, 16, 19, 23, 29.

43F

Explanation: An error has been detected during checkpoint restart processing. This completion code is accompanied by message IHJxxxI with the appropriate reason code.

System Action: The system produces a dump, and retries to the address in register 14.

Programmer Response: Respond as indicated in the accompanying message.

Problem Determination: Table I, items 2, 5a.

444

Explanation: The error occurred during the execution of SYNADAF, where it was determined that the DECB address was invalid.

Programmer Response: Register 15 contains the DECB address in error:

- For BDAM, BPAM, and BSAM, the DECB address should be passed to SYNADAF as the PARM2 operand on the macro instruction. For these access methods, the DECB address was in register 0 on entry to the user's SYNAD routine.
- For BISAM, the IOBECBPT field of the IOB in error should contain the DECB address. Make sure that the PARM2 operand on the SYNADAF macro instruction (the address of the first sense byte within the IOB) is correctly specified, and that the IOBECBPT has not been overlaid.

Correct the error and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

451

Explanation: The error occurred during the execution of SETPRT. Either the DCB whose address was passed in the SETPRT parameter list is invalid, the DEB address located through the DCB was invalid, the DCB EXIT LIST address located through the DEB was invalid, or the IOBs located through the DCB are invalid.

This system completion code is accompanied by message IEC918I. Refer to the explanation of message IEC918I for complete information about the task that was terminated and for an explanation of the return code in register 15.

Programmer Response:

- For return code 01, make sure that DCBEXLIST points to a valid exit list in your region.
- For return code 02, make sure that the DCB fields DCBIOBAD and DCBIOBA have not been overlaid since the DCB was opened. Make sure that the IOB or ICB link fields have not been overlaid.
- For return code 03, make sure that the DCB field DCBDEBAD has not been overlaid since the DCB was opened.
- For return code 04, make sure that the SETPRT macro instruction correctly specifies the address of an open DCB within your region.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

45F

Explanation: Quiesce (SYSEVENT 18) failed while a TRANSWAP (SYSEVENT 14) or REQSWAP (SYSEVENT 43) was pending, and retry was not possible.

System Action: The address space being swapped is terminated.

Programmer Response: Probable system error. Resubmit the job or restart the terminated function.

Problem Determination: Table I, items 1, 2, 4, 5a, 18, and 29.

46D

Explanation: Module IEAVTESP issues this ESPIE service routine system completion code. The accompanying reason code (rc) provides further detail:

rc	Explanation
04	The user passed an invalid function code in GPR 0 (general purpose register 0). A code indicating SET, RESET, or TEST is required.
08	The user passed an invalid SET or TEST parameter list in GPR 1 (general purpose register 1).

GPR 1 specifies one of the following:

- An area that is not aligned on a fullword boundary
- An area that was not obtained by the GETMAIN macro instruction
- An area that is protected from the caller

0C The contents of the SET parameter list are invalid. The parameter list specified an invalid exit routine address. The high or low order address bits are not zero, or, if the caller is in 24-bit addressing mode, the high order byte is not zero.

10 The user tried to delete a SPIE or ESPIE that was not created by the user's RB (request block).

14 The user passed an invalid RESET parameter in GPR 1 (general purpose register 1). The token is invalid or the exit that the token represents has been deleted.

18 The user is executing in a mode that is invalid for the ESPIE service. Invalid ESPIE service modes are:

- Supervisor state
- The storage key not equal to the TCB (task control block) key

1C There is an invalid pointer to the PIE (program interrupt exit) control block. The PIE control block has probably been erroneously freed by a FREEMAIN macro instruction.

20 An unauthorized program tried to establish an ESPIE exit for page faults.

System Action: The task terminates.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 19, and 29.

478

Explanation: The error occurred during the execution of an RC or RU form FREEMAIN macro instruction.

A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	Attempting to FREEMAIN a subpool that cannot be subpool FREEMAINed
08	A problem program is trying to free subpool zero.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: If you intended the FREEMAIN macro instruction to release subpool zero, remove it from the program. The control program releases subpool zero when a job step terminates. If you did not intend the FREEMAIN macro instruction to release subpool zero, check for program errors that incorrectly modify the FREEMAIN macro expansion. Only subpools defined as eligible for subpool FREEMAIN may be freed as an entire subpool. All other subpool storage areas must be freed by individual requests explicitly describing the area. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

47A

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that an incorrect number of entries was specified on the request to create an EVENTS table. The number of entries must be from 1 to 32,767.

Programmer Response: Make sure the number of entries specified on the ENTRIES=operand of the EVENTS macro is from 1 to 32,767.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

47D

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that the address specified on the LAST=parameter of the EVENTS macro was incorrect.

The LAST specification must be an address between the first and last valid entries in the EVENTS table in question.

Programmer Response: Make sure that the LAST address is for a valid table entry that has not been previously purged from the EVENTS table.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

482

Explanation: While RACF was performing RACHECK SVC processing, the RACF manager returned an invalid return code.

System Action: The system terminates the task.

Programmer Response: Register 15 contains the hexadecimal return code from the RACF manager:

Return Code	Explanation
00	Successful operation.
04	RACF was unable to invoke the function. If register 0 contains code 0, RACF was unable to establish the ESTAE environment. If register 0 contains code 1, the function code, which is in the third byte of the parameter list, contains invalid data.
08	The name to be added to the RACF data set already exists.
0C	The name does not exist.
14	No space was available on the RACF data set.
18	An input/output error occurred on the RACF data set.
1C	RACF is inactive; access to the RACF data set is denied.
24	The input parameter list contains an error, as indicated by the code in register 0:

Code	Error
1	Invalid entry name.
2	Action specified for delete.
3	Invalid field name.
4	Test specified for rename request.
7	Incorrect entry type.

2C	The user work area is not large enough to hold all the data.
30	The user work area is smaller than the minimum allowable size.
34	A test, which was not associated with action, failed.
38	RACF found a duplicate data set name, but VOLUME was not specified.
3C	The VOLUME specified does not match a volume entry in any data set profile.
40	User attempted to delete a restricted entry.
44	The ALTERI request was invalid.
48	The maximum number of index levels was exceeded.
4C	The index pointer chain was invalid.
50	The RACF data set has been used as input to utility ICHUT400 and was extended to a larger copy of itself. The input data set can no longer be modified.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

483

Explanation: While RACF was performing RACINIT SVC processing, the RACF manager returned an invalid return code.

System Action: The system terminates the task.

Programmer Response: Register 15 contains the return code from the RACF manager. This code is given in completion code 482.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

485

Explanation: While RACF was performing RACDEF SVC processing, the RACF manager returned an invalid return code.

System Action: The system terminates the task.

Programmer Response: Register 15 contains the return code from the RACF manager. This code is given in completion code 482.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

4FB

Explanation: One of the following errors occurred:

- JES3 could not obtain sufficient storage from subpool 241 for a SSISERV macro request.
- JES3 could not obtain sufficient storage from subpool 230 for user address space buffers.
- JES3 detected an error while processing the record allocation block (RAB) refresh element (RRE) for additional track groups.
- A GETMAIN failure occurred trying to obtain storage in subpool 0.

System Action: The system terminates the user address space.

Programmer Response: Rerun the job with a SYSABEND DD statement. The problem may not recur. If it does, notify your system programmer.

Problem Determination: Table I, item 5A.

4FC

Explanation: An error occurred during the execution of the program check first level interrupt handler. In an attempt to recover the system, the supervisory control program has abnormally terminated the task that suffered the program check.

System Action: The active task abnormally terminates.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

500

Explanation: EXCP processing found one of the following errors while processing an I/O request:

- The input/output block (IOB) contained incorrect data.
- Byte three of the unit control block (UCB) did not contain X'FF'. The UCB was pointed to by the UCB address field of the data extent block (DEB) extent.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure your program correctly built or modified the IOB. If the program is correct, the problem is a system problem. Rerun the job, requesting an abnormal termination dump, before calling the system programmer.

In the dump, look at the task control block (TCB) field TCBEXCPD at offset X'C0'; it points to the EXCP debugging area (XDBA). The XDBA contains diagnostic data associated

with the EXCP processor at abnormal termination. See the *Debugging Handbook* for a description of the XDBA.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

502

Explanation: The error occurred during execution of a POST macro instruction. The control program found that the EVENTS table specified in the ECB had no available entries to contain the posted ECB address.

Programmer Response: Make sure that the EVENTS table associated with the ECB in question is large enough to contain entries for all ECBs that can be posted to it. Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

504

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC, or VU form GETMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc Explanation

04 Of the following: length list, address list, or parameter list, at least one overlapped the other. For example, the length list overlapped the address list.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

505

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC, or VU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

ABEND

rc Explanation

04 Of the following: length list, address list, or parameter list, at least one overlapped the other. For example, the length list overlapped the address list.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task is abnormally terminated.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

506

Explanation: The error occurred during execution of a LINK, LOAD, ATTACH, or XCTL macro instruction in an overlay program.

Note: An overlay program can run only in 24-bit addressing mode, not in 31-bit addressing mode.

If the requested program had been loaded, not enough virtual storage would have remained for the overlay supervisor.

Programmer Response: Reduce the size of the entire program or of the overlay segment. If this is not possible, change the program from an overlay program to a dynamically loaded program. Then recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29. Table II, Format 1: trace option - *TRACE=SYS*.

50D

Explanation: The program tried to use the OPEN, OPEN-J, CLOSE, CLOSE-T, EOV, or FEOV function while holding exclusive control of the TIOT (task input/output table) resource.

Register 15 contains a code that identifies the function that issued the abnormal termination.

Code	Function
00	OPEN
04	OPEN-J
08	CLOSE
0C	CLOSE-T
10	EOV
14	FEOV
18	EOV
1C	OPEN or CLOSE
20	OPEN or CLOSE

System Action: The task is terminated.

Programmer Response: Correct the program so that it releases control of the TIOT resource before one of the above functions is requested. Recompile the program and execute the job step again.

513

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on magnetic tape. This system completion code is accompanied by message IEC146I. Refer to the explanation of message IEC146I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC146I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

522

Explanation: All of the tasks in a job step were in an SVC wait state for the time specified in the JWT parameter.

The event control block (ECB) specified in the wait request was never posted. This could be the result of waiting on the wrong ECB or not posting the correct ECB.

Programmer Response: Correct any errors and execute the job step again. If no errors are found and the wait is expected for that particular job step, specify TIME=1440 on the EXEC statement to bypass all job step timing.

Problem Determination: Table I, items 7ab, 29.

52A

Explanation: Processing for the ATTACH macro instruction encountered an error while processing a STAI (subtask ABEND intercept) or ESTAI (extended STAI) routine. Register 15 contains a reason code that provides further detail:

Register 15 Contents in Hexadecimal	Explanation
00	There is not enough storage available to create a new ESTAI SCB (STAE (specify task asynchronous exit) control block) or to copy existing STAI or ESTAI SCBs to the new task.
04	The issuer of ATTACH is executing with AMODE 31 and requested STAI. STAI is not supported for AMODE 31 callers.

530

Explanation: The error was detected during execution of a DEQ macro instruction.

A DEQ macro instruction was issued in an asynchronous exit routine for a resource previously enqueued by another routine in the same task. However, the task had not yet received control of the resource.

Programmer Response: Correct the program so that the DEQ macro instruction is issued only after the task has control of the resource. If possible, avoid issuing the DEQ macro instruction in the exit routine. Recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

535

Explanation: SVC 53, which obtains and releases exclusive control of a resource associated with a BDAM data set, issued a GETMAIN for storage to be used in its processing and found no storage was available.

Programmer Response: Rerun the job. If the problem continues, storage may have to be freed by others before the exclusive control function is used.

Problem Determination: Table I, items 3, 4, 5a, 13, 16, 29.

538

Explanation: The system determined that the requested ENQ or RESERVE would have exceeded the limit on the number of concurrent ENQ/GQSCAN/RESERVE requests for all tasks in the address space.

System Action: The system terminates the task that issued the ENQ or RESERVE.

Programmer Response: Make sure that no tasks in the job step issue repeated ENQ or RESERVE macro instructions for resources that are not required. Also, make sure that all GQSCAN requests that return a TOKEN are either run to completion or are terminated by a QUIT=YES option on a subsequent GQSCAN macro instruction.

If the problem persists, the system programmer should set a SLIP trap on 538 ABENDs and rerun the job step. When the trap matches, the operator should request an SVC dump, and include in the following:

- The global resource serialization (GRS) private area.
- The DAT-on nucleus, to get the global resource serialization vector table (GVT) in order to see the constants GVTCREQ and GVTCREQA.
- The system queue area (SQA), to get the address space control block (ASCB) for the failing program.

Note: If system completion code 538 is for an authorized caller, an SVC dump may not be possible.

Use the ASCBLQEL and ASCBGQEL queue anchors to locate all currently outstanding global resource serialization requests for the failing address space.

If the default value for GVTCREQ or GVTCREQA is too low for the program terminating with the 538 ABEND, analyze the program to determine an acceptable value for GVTCREQ. Refer to *System Programming Library: System Modifications* for information on changing the values for GVTCREQ or GVTCREQA.

Problem Determination: Table I, items 1, 4, 5b, 7, 13, 15, 16, 19.

53E

Explanation: An error occurred during end-of-task processing before an ECB for the terminating task could be posted, or before an end-of-task exit routine could be scheduled, or before it was determined that the task had neither an ECB nor an end-of-task exit routine. The task has an end-of-task ECB if the ECB parameter was specified on the ATTACH macro instruction that created the task, and it has an

end-of-task exit routine if the EXTR parameter was specified on the ATTACH macro.

System Action: The originating task for the task that suffered the error is abnormally terminated.

Programmer Response: Run the job again.

Problem Determination: Table I, items 5a, 16, 29.

53F

Explanation: An error has been detected during checkpoint restart processing. This completion code is accompanied by message IHJxxxI with the appropriate reason code.

System Action: A dump is produced and an entry is written to the SYS1.LOGREC data set.

Programmer Response: Respond as indicated in the accompanying message.

Problem Determination: Table I, items 2, 5a.

544

Explanation: The error occurred during the execution of SYNADAF, where it was determined that the IOB address was invalid.

System Action: Register 15 contains the IOB address in error:

- For BDAM, BPAM, and BSAM, SYNADAF obtained the IOB address from the DECIOBPT field of the DECB; for these access methods, the DECB address was passed to SYNADAF as the PARM2 operand on the macro instruction, and was contained in register 0 on entry to the user's SYNAD routine. Verify that the PARM2 operand on the SYNADAF macro instruction was correctly specified and that the DECIOBPT field has not been overlaid.

- For QSAM, BISAM, and QISAM, SYNADAF received a pointer to the IOB as the PARM2 operand on the macro instruction. The address passed to SYNADAF should have been the address contained in register 0 on entry to the user's SYNAD routine. Verify that the PARM2 operand on the SYNADAF macro instruction was correctly coded.

- For the EXCP access method, verify that the PARM1 operand of the SYNADAF macro instruction specified the correct IOB address.

Programmer Response: Correct the error and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

55F

Explanation: An error was encountered during the execution of the cross memory post SRB scheduled by swap out complete (SYSEVENT 15). The post was to notify a REQSWAP or TRANSWAP issuer that either the swap had to be turned around or the swap is complete.

System Action: Copy the current ASCB and OUCB into the dump buffer area in SQA (use of the buffer is mapped by SDMPBUFF in module IRARMSRV). Issue a SDUMP and terminate the address space that is waiting.

Programmer Response: Determine if a valid ECB address is being passed to the SYSEVENT TRANSWAP or REQSWAP. Resubmit the job or restart the terminated function.

Problem Determination: Table I, items 1, 2, 4, 18, and 29.

56D

Explanation: SVC 109 with routing code X'11' in register 15 (the Sort SVC) was issued. One of the following error conditions exists:

- Some task other than Sort issued SVC 109 with routing code X'11'. Only Sort is authorized to issue it.

- The task that issued the SVC passed a record that was not in the task's authorized area.

- The task passed a record that contained one or more invalid fields.

System Action: The task is terminated.

Programmer Response: If this ABEND occurred because some task other than Sort issued SVC 109 with routing code X'11', correct the task.

If this ABEND occurred while Sort was executing, there is a probable system error. Notify the system programmer.

Problem Determination: Table I, items 4, 5a, 16, and 29.

56F

Explanation: The error occurred during end-of-job processing for a JES2 job that was being processed by an execution batch monitor. The execution batch monitor pseudo job select procedure found that another task was holding or waiting for a lock on the SJB (subsystem job block).

System Action: The job terminates.

Programmer Response: Notify the system programmer or installation manager of the problem.

Problem Determination: Table I, items 5a, 16, 29.

57D

Explanation: The error occurred during execution of an EVENTS macro instruction.

The macro expansion contained an invalid event control block (ECB) address,or the program issuing the EVENTS macro instruction is running under a protection key (8 through 15) that is different from the storage protection key of the ECB.

Programmer Response: Make sure that the event control block address specified is a valid virtual storage address and that it was not incorrectly modified. Also, be sure the ECB is initialized with the same storage key as the protection key of the program issuing the EVENTS macro instruction, or that the program is running under protection key 0 through 7. Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

582

Explanation: RACF was not able to verify a user when called to perform RACHECK SVC processing.

System Action: The task is terminated.

Programmer Response: Register 15 contains the reason code describing the problem:

Reason Code	Meaning
00	No access control environment (ACEE) was available to describe the user.

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

585

Explanation: RACF was not able to verify a user when called to perform RACDEF SVC processing.

System Action: The task is terminated.

Programmer Response: Register 15 contains the reason code describing the problem:

Reason Code	Meaning
00	No access control environment (ACEE) was available to describe the user.
04	No UCB was found to contain a volume serial that matched the volume serial passed to RACF on the RACDEF macro instruction for a TYPE= DEFINE operation.
08	ADDVOL function requested and user did not have at least UPDATE authority to the data set.

12 ADDVOL function requested and (1) the volume serial number is already defined (for DATASET class), or (2) the new tape volume is already defined (for TAPEVOL class).

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

5FB

Explanation: During execution of an MVS-JES3 allocation subsystem interface routine, an error occurred; it is indicated by a hexadecimal reason code in register 15:

Reason Code	Explanation
1	In common allocation, the number of devices requested by MVS does not equal the number to be allocated by JES3. Register 3 contains the number requested by MVS; register 5 contains the number passed by JES3. Register 2 contains the address of the ddname.
2	During deallocation processing, JES3 cannot successfully issue an ESTAE.
3	JES3 cannot obtain storage for a dynamic allocation buffer.
4	JES3 cannot obtain storage for a change ddname buffer.
5	JES3 cannot find in any address space header the address space ID (ASID) associated with the request. Register 2 contains the address of the job step control block (JSCB); register 3 contains the ASID.
6	A job summary table (JST) pointer error occurred during common allocation or deallocation.
7	IATSICA cannot find an active MEMDATA entry for the address space. Register 2 contains the address of the job step control block (JSCB); register 3 contains the address space ID (ASID) of the requesting address space; register 8 contains the address of the MEMDATA header.
8	IATSIMS cannot find an active MEMDATA entry for the address space. Register 4 contains the address of the subsystem identification block (SSIB); register 6 contains field SSIBSUSE of the SSIB. However, both registers 4 and 6 may be invalid.
9	JES3 found a duplicate volume. The volume cannot be loaded. Register 2 contains the address of the SETUNIT; register 6 contains the address of the job summary table (JST).
A	The GETMAIN macro failed for a work area for the subsystem interface (SSI) of the mass storage system (MSS). IATSIMS abnormally terminates all MSS-related SSIs except mount equalization.

For codes 2, 3, 4, 6, and A, register 3 contains the macro return code.

System Action: The system abnormally terminates the affected task.

Problem Determination: Table I, items 1, 3, 5A, 15, 16, 29.

5FC

Explanation: An error has occurred during the execution of the restart first level interrupt handler. In an attempt to recover the system, the supervisory control program has abnormally terminated the task that took the restart interrupt.

System Action: The active task is abnormally terminated.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

604

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC, or VU form GETMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Meaning
04	The parameter list is not on a word boundary.
08	The parameter list is in protected storage.
0C	The length list is not on a word boundary.
10	The length list is in protected storage.
14	The address list is not on a word boundary.
18	The address list is in protected storage.
1C	The parameter list request flags are invalid.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that the length list and address list are aligned on word boundaries, and that no program errors incorrectly modify the parameter list. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

605

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC, or VU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Meaning
04	The parameter list is not on a word boundary.
08	The parameter list is in protected storage.
0C	The length list is not on a word boundary.
10	The length list is in protected storage.
14	The address list is not on a word boundary.
18	The address list is in protected storage.
1C	The parameter list request flags are invalid.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that the length list and address list are aligned on word boundaries, and that no program errors incorrectly modify the parameter list. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

60D

Explanation: The recovery termination manager (RTM) encountered a user error; the reason code explains the type of error.

Reason Code	Explanation
0	RTM percolates past the previous exit routine because the recursion limit had been reached for that routine.
4	The parameter list, passed in by the DUMPOPT keyword, could not be accessed.
8	The storage range list, passed in by the DUMPOPT keyword, could not be accessed.
12	The subpool list, passed in by the DUMPOPT keyword, could not be accessed.

System Action: If the reason code is 0, RTM gives control to any previous exit routines that are valid, resets the recursion count to 0, and requests a dump via the system diagnostic work area (SDWA). For any other reason code, RTM continues processing the current recovery routine.

Programmer Response: Correct the original error and the exit routine that terminated recursively, or correct the problem encountered in the DUMPOPT parameter list.

613

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on magnetic tape. This system completion code is accompanied by message IEC147I. Refer to the explanation of message IEC147I for complete information about the job that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC147I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

614

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC214I. Refer to the explanation of message IEC214I for complete information about the job that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC214I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

622

Explanation: Initiation of execution of a task entered from a TSO terminal was terminated for one of the following reasons:

1. The system encountered one of the following errors while constructing control blocks for TSO:
   a. A multiple-step procedure was found.
   b. The prompting task terminated abnormally.
2. The operator issued a MODIFY TCAM,TS=STOP command.
3. The terminal user signaled ATTN during LOGON scheduling.
4. The user submitting the job disconnected his terminal from the system.
5. TCAM disconnected the terminal because of an I/O error.
6. The terminal malfunctioned.

System Action: In cases 1 and 2, the system issued terminal messages that describe the error conditions.

Programmer Response: In the first case, respond to the terminal messages that accompany this termination:

- For case 1a, specify a different procedure or consult your system programmer. Attempt to execute the job again.
- For case 1b, consult your system programmer.

In the second case, attempt to execute the job again when TSO is started.

In the third case, LOGON again; make sure that you do not signal ATTN inadvertently.

In the fourth case, attempt to execute the job again when the terminal is reconnected to the system.

In the fifth case, find the cause of the I/O error, correct the condition, and rerun the job.

In the sixth case, contact your service personnel.

Problem Determination: In all cases, have the terminal sheet available or record the current display on the graphics device before calling for programming support.

637

Explanation: The error occurred at an end-of-volume for a data set on magnetic tape or an end-of-volume during concatenation. This system completion code is accompanied by message IEC026I. Refer to the explanation of message IEC026I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC026I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

644

Explanation: The error occurred during the execution of SYNADAF, where it was determined that the message buffer obtained in the user's region had been modified or freed.

Programmer Response: Register 15 contains the address of the message buffer area. Make sure that your program does not modify or free this area until SYNADAF execution is complete. Correct the error and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

65F

Explanation: An unrecoverable error was detected during the processing of channel measurement data. The system issues message IRA602I which identifies the specific error condition.

System Action: The collection of channel measurement data for the CMB (channel measurement block) is terminated. It cannot be resumed until the next IPL. SRM (system resource management) device selection and I/O load balancing continue to operate, making use of algorithms not dependent on the channel data.

Operator Response: None.

Programmer Response: Take the problem to the system programmer.

Problem Determination: Table I, items 1, 2, 16, 18, 29, 31, 32, 33.

67A

Explanation: An error occurred during the processing of a service processor call SVC. Register 15 contains one of the following hexadecimal reason codes:

Reason Code	Explanation
01	IEAVMSF has found a storage protection error for one or more input parameters. One of the following describes the error: • The calling program is not in supervisor state or PSW key 0 - 7, and one or more input parameters do not match the caller's key. • Length of buffer passed as input is invalid for this request.
02	IEAVMSF has determined that the calling program is not in supervisor state or PSW key 0 - 7, and requested a command other than a TP command. All commands except the TP commands can be executed only by a supervisor state, PSW key 0 - 7 caller.
03	One of the following describes the error: • IEAVMSF has determined that the calling program is attempting to execute a TP command but does not have session control. The caller's address space must hold the ENQ resource "MSFDC,SESSIONCONTROL." • The ASID of a program requesting the TP port does not match the ASID of the current TP port owner.
04	IEAVMSF has found that a calling program doing a branch entry tried to execute a TP command.

05 IEAVMSF has detected a possible overlay of the MSFCB, MSFKB, or MSFAB control blocks.

06 IEAVMFIH has received control following an unexpected service signal interrupt.

07 IEAVMFIH found invalid flags in the MSFCB.

08 IEAVMFIH found invalid flags in the MSFAB while processing the MSFAB.

09 IEAVMFIH found invalid flags in the MSFAB while processing the recovery disconnect block.

0A IEAVMSFS found invalid flags in the MSFCB.

0B IEAVMSFS found invalid flags in the MSFAB.

0C The caller of entry point IEAVMSF2 in module IEAVMSF requested a service processor command other than the read restart reason command.

0D IEAVMFIH found invalid flags in the MSFKB.

0E The service processor returned an invalid condition code in response to a service processor command.

System Action: For reason codes 01, 02, 03, 04, 05, and 0C, the task that issued the service processor call SVC abnormally terminates processing.

For reason codes 06, 07, 08, 09, 0A, 0B, and 0D, the system records the error in SYS1.LOGREC and attempts to recover.

For reason codes 07, 08, 09, 0A, 0B, and 0D, when the error occurs, the system puts the invalid flags and the ASID into register 2 and the TCB address into register 3. Check the contents of these registers in SYS1.LOGREC and in the dump (if one occurs) for the values at the time the error occurred. When it enters the recovery routine, the system records the invalid flags, the ASID, and the TCB address in the SDWA variable recording work area. If the values in the SDWA variable recording area are different from the values in registers 2 and 3, it is because other system processing changed the values between the time the error occurred and the time the system entered the recovery routine.

Programmer Response: For reason codes 01, 02, 03, and 04, correct the problem and rerun the job. Reason codes 05, 07, 08, 09, 0A, 0B, 0C, and 0D indicate probable system errors.

Problem Determination: For reason code 06, Table 1, items 2, 18, 29, and 30. For reason codes 07, 08, 09, 0A, 0B, 0C, and 0D, Table I, items 2, 18, and 29.

67D

Explanation: The error occurred during execution of a EVENT macro instruction.

The macro instruction specified an event control block (ECB) whose wait flag was already on. This indicated that a previous EVENTS or WAIT macro instruction was already waiting for posting of the event control block.

Programmer Response: Change the problem program to eliminate a double wait on a single event. If no double wait is found, make sure that the event control block was not incorrectly modified by the program. Then execute the job step again.

Problem Determination: Table I, items 1, 2, 5a, 15, 19, 29.

683

Explanation: The module calling RACINIT is not authorized to the SVC function. To issue the RACINIT SVC with the NEWPASS keyword, the calling module must be authorized (APF-authorized, in system key 0-7, or in supervisor state). To issue the RACINIT SVC without the NEWPASS keyword, the calling module must either be authorized (APF-authorized, in system key 0-7, or in supervisor state) or in the RACF-authorized caller table and fetched from an authorized library.

System Action: The task is terminated.

Programmer Response: If NEWPASS was specified, verify that the calling module was executing in an authorized state. If NEWPASS was not specified, verify that the module name was entered in the RACF-authorized caller table and that the calling module was link edited into an authorized library.

You should also check to see if the issuer is in the RACF-authorized caller table. If so, it must also be re-entrant.

Problem Determination: Table I, items 5, 13, and 16.

684

Explanation: The module calling the RACF manager or the RACLIST function is not authorized to the SVC function. The module calling the RACF manager must be authorized (APF-authorized, in system key 0-7, or in supervisor state). The module calling the RACLIST function must either be authorized (APF-authorized, in system key 0-7, or in supervisor state) or in the RACF-authorized caller table and fetched from an authorized library.

System Action: The task is terminated.

Programmer Response: If the RACF manager was called, verify that the calling module was executing in an authorized state.

If the RACLIST function was called, verify that the module name was entered in the RACF-authorized caller table and that the calling module was link edited into an authorized library.

Problem Determination: Table I, items 5, 13, and 16.

685

Explanation: The module calling RACDEF is not authorized to the SVC function. To issue the RACDEF SVC, the calling module must be authorized (APF-authorized, in system key 0-7, or in supervisor state).

System Action: The task is terminated.

Programmer Response: Verify that the calling module was executing in an authorized state.

Problem Determination: Table I, items 5, 13, and 16.

6FB

Explanation: During JES3 processing, module IATSSCM or IATSSRE detected an error and issued this system completion code. The error is identified by a hexadecimal reason code in the high-order byte of register 15 and, for some reason codes, a hexadecimal return code in the low-order byte of register 15.

Reason Code	Explanation
00	The subsystem interface common service (SSICS) routine detected an error in its calling parameters or in the system status. Return codes are:
	18 — The caller of SSICS is not in system protection key 0 through 7.
	1C — The SYSID parameter in a SSISERV macro specified a processor that is not defined.
	20 — An invalid combination of the fields SELECBF, SELEXIT, SELBUFF was found in the IATYSEL control block for a WAIT or REPLY type SSISERV macro request.
	24 — An error occurred when the SSICS routine attempted to write a staging area.

28 The primary and all secondary staging area extents have been exhausted.

2C The service entrance list (SEL) contained an invalid MEMDATA pointer.

30 The channel-to-channel adaptor (CTC) address is invalid.

34 An attempt was made to post a wait that cannot be posted.

01 The IATXBGM or IATXBFM macro passed an error return code back to JES3 module IATSSCM:

08 A GETMAIN or FREEMAIN failed.

02 The MVS FREECELL macro passed an error return code back to JES3 module IATSSCM:

04 The cell was not allocated from the subpool indicated by the specified cell pool ID.

08 The cell address is invalid.

0C FREECELL could not find the cell pool.

10 The cell pool ID was invalid.

03 The MVS BLDCPOOL macro passed an error return code back to JES3 module IATSSCM:

04 GETMAIN failed.

08 The cell pool ID was invalid.

0C The specified subpool was not global.

10 The cell size was greater than the pool size.

14 BLDCPOOL found a DELETE subpool in progress for the specified pool.

04 The MVS GETCELL macro passed an error return code back to JES3 module IATSSCM:

04 GETCELL could not find any available cells.

08 The chain pointers had been destroyed.

0C The cell pool format was invalid.

10 The cell pool ID was invalid.

05 The JES3 subsystem interface read-end module IATSSRE failed to obtain storage; the storage would have held a copy of a staging area destined for an FSS address space. The three low-order bytes of register 15 contain the return code from the MVS GETMAIN service.

06 The JES3 subsystem interface read-end module IATSSRE could not find the FSID in the staging area; the FSID identifies the dynamic destination queue (DESTQ) for which the staging area is intended.

07 The JES3 subsystem interface read-end module IATSSRE could not find the proper control block structure required for queuing the staging area in an FSS address space.

11 A JES3 routine issued the IATXSSXM macro to call a specific routine in module IATSSXM. IATSSXM returns in the low-order byte of register 15 the ECODE parameter value from the IATXSSXM macro. *JES3 SPL: User Modifications and Macros* describes the IATXSSXM macro.

13 The system abnormally terminated JES3 during staging area initialization.

14 The system abnormally terminated JES3 during processing to move a staging area to make it a dedicated staging area.

15 The system abnormally terminated the processing following an end of memory (EOM) or an end of task (EOT) call.

16 The system abnormally terminated FREEMAIN processing of the staging area wait queue (SAW Q).

17 The system abnormally terminated FREEMAIN processing of the staging area pending queue (SAP Q).

18 The system abnormally terminated an attempt to page-fix the staging area pending queue (SAP Q).

19 The system abnormally terminated copying of the staging area pending queue (SAP Q) from JES3 auxiliary storage to the common service area (CSA).

1A Module IATSSCM detected an error, which may have caused another ABEND, during GETCELL processing for JES3 auxiliary storage.

1B Module IATSSCM detected an error during validation of a staging area queue.

40 The passed staging area was not found on the staging area queue.

System Action: The system writes the common service area (CSA), system queue area (SQA), and the MVS trace table to a SYS1.DUMP data set and abnormally terminates the current address space. If the address space is the JES3 address space, the system does not write a dump.

Problem Determination: Table III, items 4, 5, 6, 20.

6FC

Explanation: An error has occurred while the program check first level interrupt handler was setting up for a SPIE or ESPIE exit routine. In an attempt to recover the system, the supervisor control program has abnormally terminated the task that attempted the SPIE or ESPIE exit. A reason code in the SDWACRC field of the SDWA indicates the nature of the error.

Reason codes 04, 08, 12 and 16 indicate that an error was detected during SYNCH processing. Reason codes 24, 28 and 32 indicate an error was detected during SRB processing for the current SPIE/ESPIE routine. Reason code 36 indicates that an error was detected during page fault SPIE/ESPIE processing.

Reason Code **Explanation**

04 The user's PICA contains an invalid bit setting in the program mask.

08 The user's PICA is unavailable.

12 The SCA, pointed to by the TCBPIE, is unavailable.

16 The RPP, pointed to by the SCARPPTR, is unavailable.

20 The PIE, pointed to by the RPPPIE, is unavailable.

24 The SCA, pointed to by the TCBPIE, is unavailable.

28 The RPP, pointed to by the SCARPPTR, is unavailable.

32 The PIE, pointed to by the RPPPIE, is unavailable.

36 Unable to reference SPIE/ESPIE control blocks or an error occurred while handling a SPIE/ESPIE exit.

System Action: The active task is abnormally terminated.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

700

Explanation: During EXCP processing of an I/O request, a program check occurred in a supervisor service routine called by EXCP.

System Action: The system abnormally terminates the task and writes an error record to SYS1.LOGREC.

Programmer Response: Probable system error. Rerun the job, requesting an abnormal termination dump, before calling the system programmer. The system programmer should look for the problem in one of the service routines used by EXCP.

In the dump, look at the task control block (TCB) field TCBEXCPD at offset X'C0'; it points to the EXCP debugging area (XDBA). The XDBA contains diagnostic data associated with the EXCP processor at abnormal termination. See the *Debugging Handbook* for a description of the XDBA.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

702

Explanation: An error occurred during an attempt to interface with one of the POST service routines. Either invalid input data or an unauthorized POST exit routine request was encountered.

This code is only associated with extended ECB processing. If an extended ECB was being posted, ensure that it contains valid data.

The contents of register 15 indicate the nature of the error:

Register 15 Contents in Hexadecimal	Explanation
00	POST service routine IEA0PT0E encountered an invalid function request.
04	POST service routine IEA0PT0E encountered either a (1) delete request for an exit not currently defined or (2) an add request for an exit that is currently defined but with a different AMODE.
08	During an attempt to post an extended ECB, the descriptor word of the ECB extension contained invalid data.
0C	During an attempt to post an extended ECB, the ECB extension contained an invalid exit routine address.
10	A post of an extended ECB was attempted from a POST exit routine.
14	During an attempt to post an extended ECB, either the ECB address or ECB extension address was invalid.

Programmer Response: Correct the error identified by the return code, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

704

Explanation: A system error, uncorrectable machine error, or error that cannot be determined occurred during execution of an EC, EU, LC, LU, VC, or VU form GETMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
01	While processing the GETMAIN request, module IARVFRMN was called to release real storage backing global or local system queue area storage. IARVFRMN returned a return code indicating that a program page fixed the virtual storage. However, it is a basic property of the MVS operating system that global and local system queue area storage is page fixed.

04 Status information indicates that the system has obtained a global lock to support the GETMAIN request. However, when the system attempted to release the lock, the release request failed.

08 A GETMAIN storage management service routine returned an invalid return code to module IGVVSM24 or IGVVVSM31.

09 While getting or freeing storage in a local or global system queue area subpool, module IGVBDFE tried to place virtual storage on the DFE queue but could not do so because the storage was described by another DFE already on the queue.

10 While in recovery processing, storage management detected a condition that is normally considered a user error, such as an error in the parameter list. However, the error is most likely not a user error because recovery processing is in control.

System Action: The system writes an error record to the SYS1.LOGREC data set that contains the system status at the time of the error.

Programmer Response: Rerun the job. If the error recurs, notify the system programmer or the installation manager.

Problem Determination: Table I, items 1, 2, 3, 5a, 16, 18, 29, or 30.

705

Explanation: A system error, uncorrectable machine error, or error that cannot be determined occurred during execution of an EC, EU, LC, LU, VC, or VU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc Explanation

01 While processing the FREEMAIN request, module IARVFRMN was called to release real storage backing global or local system queue area storage. IARVFRMN returned a return code indicating that a program page fixed the virtual storage. However, it is a basic property of the MVS operating system that global and local system queue area storage is page fixed.

02 While processing a subpool FREEMAIN of a local system queue area subpool, module IGVFSP called module IGVFLSQA to free storage described by an AE (allocated element). IGVFLSQA returned a return code indicating that the storage is not described by an AE.

04 Status information indicates that the system has obtained a global lock in support of the FREEMAIN request. However, when the system attempted to release the lock, the release request failed.

09 While getting or freeing storage in a local or global system queue area subpool, module IGVBDFE tried to place virtual storage on the DFE queue, but could not do so because the storage was described by another DFE already on the queue.

0C A FREEMAIN storage management service routine returned an invalid return code to module IGVVSM24 or IGVVVSM31.

10 While in recovery processing, storage management detected a condition that is normally considered a user error, such as an error in the parameter list. However, the error is most likely not a user error because recovery processing is in control.

System Action: The system writes to the SYS1.LOGREC data set an error record that contains the system status at the time of the error.

Programmer Response: Rerun the job. If the error recurs, notify the system programmer or the installation manager.

Problem Determination: Table I, items 1, 2, 3, 5a, 16, 18, 29, or 30.

706

Explanation: The error occurred during execution of a LINK, XCTL, ATTACH, or LOAD macro instruction.

The requested load module was marked by the linkage editor as not executable.

System Action: The system issues message CSV016I. The task is terminated unless ERRET is specified on the macro instruction.

Programmer Response: Correct the errors that were found by the linkage editor in the load module, have the module edited by the linkage editor again, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

70A

Explanation: A system error, uncorrectable machine error, or error that cannot be determined, occurred during execution of an R-form GETMAIN or FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc Explanation

01 While processing the FREEMAIN request, module IARVFRMN was called to release real storage backing global or local system queue area storage. IARVFRMN returned a return code indicating that a program page fixed the virtual storage. However, it is a basic property of the MVS operating system that global and local system queue area storage is page fixed.

02 While processing a subpool FREEMAIN of a local system queue area subpool, module IGVFSP called module IGVFLSQA to free storage described by an AE (allocated element). IGVFLSQA returned a return code indicating that the storage is not described by an AE.

04 Status information indicates that the system has obtained a global lock in support of the FREEMAIN request. However, when the system attempted to release the lock, the release request failed.

08 A GETMAIN storage management service routine returned an invalid return code to module IGVVSM24 or IGVVVSM31.

09 While getting or freeing storage in a local or global system queue area subpool, module IGVBDFE tried to place virtual storage on the DFE queue, but could not do so because the storage was described by another DFE already on the queue.

0C A FREEMAIN storage management service routine returned an invalid return code to module IGVVSM24 or IGVVVSM31.

10 While in recovery processing, storage management detected a condition that is normally considered a user error, such as an error in the parameter list. However, the error is most likely not a user error because recovery processing is in control.

System Action: The system writes to the SYS1.LOGREC data set an error record that contains the system status at the time of the error.

Programmer Response: Rerun the job. If the error recurs, notify the system programmer or the installation manager.

Problem Determination: Table I, items 1, 2, 3, 5a, 16, 18, 29, or 30.

713

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on magnetic tape or on a direct access device. This system completion code is accompanied by message IEC148I. Refer to the explanation of message IEC148I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC148I.

Problem Determination: Table I, items 1, 2, 3, 5a, 15, 16, 29.

714

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on magnetic tape. This system completion code is accompanied by message IEC215I. Refer to the explanation of message IEC215I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC215I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

717

Explanation: The error occurred during execution of a BSAM CLOSE macro instruction with a TYPE=T operand for a data set on magnetic tape. This system completion code is accompanied by message IEC222I. Refer to the explanation of message IEC222I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC222I.

Problem Determination: 1, 3, 5a, 15, 16, 29.

71A

Explanation: This system completion code is used to terminate a catalog address space service task when (1) the catalog address space is terminating and restarting or (2) an abend has already occurred in a user address space during catalog processing. System completion code 71A is intended for catalog internal communication only, and no further diagnosis is necessary.

System Action: None.

Programmer Response: None.

Problem Determination: None.

722

ABEND

Explanation: One of the following output limits was exceeded:

- The output limit specified by the OUTLIM keyword on the SYSOUT DD statement.
- The job output limit specified in the LINES and CARDS parameters of the JES2 JOBPARM statement.
- The job output limit specified in the BYTES, CARDS, LINES, and PAGES parameters on the STANDARDS initialization statement or the JES3 MAIN statement.

Programmer Response: Check for input/output loops. Verify that the parameter value does not conflict with any installation requirements; then, increase the value.

Problem Determination: Table I, items 5a, 7a, 7b, 29.

72A

Explanation: The system encountered an error during ATTACH processing. Register 15 contains a reason code that provides further detail:

Register 15 Contents in Hexadecimal	Explanation
00	An invalid parameter address was encountered when processing the ATTACH parameter list.
04	An ETXR (end of task exit routine) address is invalid because both of the following situations exist: • The ETXR is already in effect as an ETXR for a subtask of the task.

- The current ATTACH was issued in a different addressing mode than the ATTACH that created the matching ETXR.

08 The length of the ATTACH parameter list is invalid.

0C The format number of the parameter list is invalid.

730

Explanation: An unexpected error occurred during the execution of a DEQ macro instruction.

System Action: Related information is recorded in SYS1.LOGREC.

Operator Response: Notify the system programmer of this ABEND code.

Problem Determination: Table I, items 1, 5a, 16, 18, 23, 29.

737

Explanation: The error occurred at an end-of-volume or during allocation of a secondary quantity of direct access storage as requested in the SPACE parameter of the DD statement for the data set. This system completion code is accompanied by message IEC027I. Refer to the explanation of message IEC027I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC027I.

Problem Determination: If the data set does exist on the specified volumes and the problem recurs, see Table I, items 1, 3, 5a, 15, 16, 25b, 29.

738

Explanation: An unexpected error occurred during the execution of an ENQ macro instruction.

System Action: Related information is recorded in SYS1.LOGREC.

Operator Response: Notify the system programmer of this ABEND code.

Problem Determination: Table I, items 1, 5a, 16, 18, 23, 29.

744

Explanation: A program check occurred during the execution of SYNADAF or SYNADRLS. This error could not be attributed to invalid user input.

System Action: The SYNADAF recovery routine tried to take a dump of LSQA and the user's region. The dump header includes the job name, step name, and procedure step name. See message IEC907I to determine whether the dump attempt was successful. A software error record was written to SYS1.LOGREC.

Programmer Response: Rerun the job step.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

75F

Explanation: The system resources manager (SRM) detected that its system timer queue element (TQE) had exceeded the expected interval.

System Action: SRM performs normal TQE expiration processing and requeues the TQE.

Programmer Response: Notify the system programmer.

Problem Determination: Table I, items 2, 16, 18, 29.

778

Explanation: A system error, uncorrectable machine error, or error that cannot be determined occurred during execution of an RC, RU, VRC, or VRU form GETMAIN or RC or RU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc Explanation

01 While processing the FREEMAIN request, module IARVFRMN was called to release real storage backing global or local system queue area storage. IARVFRMN returned a return code indicating that a program page fixed the virtual storage. However, it is a basic property of the MVS operating system that global and local system queue area storage is page fixed.

02 While processing a subpool FREEMAIN of a local system queue area subpool, module IGVFSP called module IGVFLSQA to free storage described by an AE (allocated element). IGVFLSQA returned a return code indicating that the storage is not described by an AE.

04 Status information indicates that the system has obtained a global lock in support of the FREEMAIN request. However, when the system attempted to release the lock, the release request failed.

08 A GETMAIN storage management service routine returned an invalid return code to module IGVVSM24 or IGVVVSM31.

09 While getting or freeing storage in a local or global system queue area subpool, module IGVBDFE tried to place virtual storage on the DFE queue, but could not do so because the storage was described by another DFE already on the queue.

0C A FREEMAIN storage management service routine returned an invalid return code to module IGVVSM24 or IGVVVSM31.

10 While in recovery processing, storage management detected a condition that is normally considered a user error, such as an error in the parameter list. However, the error is most likely not a user error because recovery processing is in control.

System Action: The system writes to the SYS1.LOGREC data set an error record that contains the system status at the time of the error.

Programmer Response: Rerun the job. If the error recurs, notify the system programmer or the installation manager.

Problem Determination: Table I, items 1, 2, 3, 5a, 16, 18, 29, or 30.

77D

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that the input parameter flags contained an invalid combination.

Programmer Response: Verify the EVENTS macro input parameters and the contents of register 0 when the EVENTS service routine was invoked.

Problem Determination: Table I, items 1, 3, 5a, 19, 29.

7FB

Explanation: An uncorrectable error occurred during execution of the MVS-JES3 dynamic device reconfiguration (DDR) subsystem interface (SSI) routines.

System Action: The system terminates the reconfiguration.

Operator Response: If you initiated the reconfiguration, retry it. If the system initiated the reconfiguration, notify the system programmer.

Problem Determination: Table I, items 5a, 16, 29.

800

Explanation: The EXCP processor found one of the following errors while processing an I/O request:

- If SVC 0 (EXCP) was issued, the error occurred during:
  - Page-fix processing. A page-fix error can occur if the EXCP processor tries to fix pages that are not assigned the caller's address space ID (ASID).
  - Channel command word (CCW) validity check processing. An access protection error can occur when the EXCP CCW validity check routine tried to access the virtual channel program using the user's storage protection key, but the user's key was invalid.
  - Virtual indirect address word (IDAW) validity check processing. An access protection error occurred when the EXCP virtual IDAW routine tried to access the IDAW using the user's storage protection key, but the user's key was invalid.
- If SVC 114 (EXCPVR) was issued, the error occurred during page-fix or page-unfix processing. A page-fix error can occur if the EXCP processor tries to fix pages that are not assigned the caller's ASID.

Note: If the job's JCL concatenates data sets with unequal blocksizes, the job terminates with system completion code 171, which in turn causes this 800 ABEND.

System Action: The system abnormally terminates the task and writes an error record to SYS1.LOGREC.

Programmer Response: Rerun the job, requesting an abnormal termination dump, before calling the system programmer.

In the dump, look at the task control block (TCB) field TCBEXCPD at offset X'C0'; it points to the EXCP debugging area (XDBA). The XDBA contains diagnostic data associated with the EXCP processor at abnormal termination. See the *Debugging Handbook* for a description of the XDBA.

Also, check to see if the job concatenated data sets with unequal blocksizes. Change the JCL, if necessary.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

804

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC, or VU form GETMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	There is not enough virtual SQA (system queue area) storage available to satisfy the request.
08	There is not enough virtual CSA (common service area) storage available to satisfy the request.
0C	There is not enough virtual LSQA (local SQA) storage available to satisfy the request.
10	There is not enough virtual private area storage available to satisfy the request. *Note:* This error can occur if an installation exit is requesting virtual storage from a V=R region before initialization of the region has completed.
1C	During request processing, the system tried to get LSQA virtual storage for VSM's cell pool but there was not enough LSQA virtual storage available.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion. If necessary, change the program to request less virtual storage.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

805

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC, or VU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
1C	During request processing, the system tried to get LSQA virtual storage for VSM's cell pool but there was not enough LSQA virtual storage available.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

806

Explanation: The supervisor, or the SVC (supervisor call) for the BLDL (build a directory entry list) macro instruction, detected an error during the execution of a LINK, XCTL, ATTACH, or LOAD macro instruction with the EP (entry point) or EPLOC (EP location (address)) operand.

The contents of register 15 indicate the nature of the error.

Register 15 Contents in Hexadecimal	Explanation
04	The system could not find the module, whose entry point is the value of the EP or EPLOC operand, in the indicated library (private library, job library, or link library). This situation can occur when LSEARCH=YES is specified on the macro instruction and the limited library search fails to locate the module.
08	An uncorrectable input/output error occurred when the BLDL control program routine attempted to search the directory of the library that contained the program whose entry point was specified in the EP or EPLOC operand. This can occur if the specified library is an uninitialized partitioned data set. An invalid data extent block (DEB) has been detected by the BLDL control program. The DEB was built in other than protect key 0 through 7.
0C	The supervisor attempted to search a library for the program that the EP or EPLOC operand specifies and found that the library data control block (DCB) is not open.
10	A program issued a LOAD macro instruction with the explicit load option, but there is no DCB parameter. For explicit loads, the program must supply the DCB parameter with the macro because the system searches for the module that the LOAD specifies only in the library that the DCB parameter specifies.

14 The system could not find the module, whose entry point is the value of an EP or EPLOC operand of a XCTL macro instruction, in the link pack area, which is where the module must be when the module is requested by an SVC routine.

18 An SVC routine issued a XCTL macro instruction for a module. The system tried to search the link pack area directory to find the module, but the directory had not as yet been built.

1C The DCB (data control block), included as part of a LINK, LOAD, XCTL, or ATTACH macro instruction is invalid.

System Action: The following table associates the reason codes with the messages that the system issues:

rc	Message
04	CSV003I
08	CSV004I
0C	CSV005I
10	CSV007I
14	CSV008I
18	CSV006I
1C	CSV021I

Programmer Response: If register 15 contains a X'04' it is a probable user error. Make sure that the requesting program was not incorrectly modified. Make sure that the source library was indicated correctly and that the indicated library does contain the requested program. Correct the error, and execute the job step again.

If register 15 contains X'14' or X'18', report this completion code to the system programmer.

If register 15 contains a X'0C' or a X'1C', it is a probable user error. Make sure that the DCB for the library is valid and open. Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 25c, 29. If register 15 contains a X'08', see Table II, Format 1: trace option - *TRACE=IO*.

80A

Explanation: The error occurred during the execution of an R form GETMAIN or FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	There is not enough virtual SQA (system queue area) storage available to satisfy the request.
08	There is not enough virtual CSA (common service area) storage available to satisfy the request.
0C	There is not enough virtual LSQA (local SQA) storage available to satisfy the request.
10	There is not enough virtual private area storage available to satisfy the request. *Note:* This error can occur if an installation exit is requesting virtual storage from a V=R region before initialization of the region has completed.
1C	During request processing, the system tried to get LSQA virtual storage for VSM's cell pool but there was not enough LSQA virtual storage available.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion. If necessary, change the program to request less virtual storage.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

813

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on magnetic tape. This system completion code is accompanied by message IEC149I. Refer to the explanation of message IEC149I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC149I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

81A

Explanation: By issuing MODIFY CATALOG,RESTART to restart the catalog address space (CAS), the user requested that the system abnormally terminate the CAS mother task.

System Action: The system takes a complete dump of CAS to SYS1.DUMP and all catalog requests in process are re-driven.

Programmer Response: Check SYS1.DUMP to determine the cause of the failure.

822

Explanation: A region required to run the step could not be obtained.

System Action: One of the following messages will be written to the programmer, depending upon whether the job was an ordinary job or a deferred checkpoint restart:

- IEF085I REGION UNAVAILABLE, ERROR CODE=cde
- IEF186I REGION UNAVAILABLE FOR RESTART, ERROR CODE=cde

Programmer Response: The action to be taken will depend upon which of the above messages is issued.

Problem Determination: Table I, items 1, 2, 3, 7a, 29.

82A

Explanation: An invalid subpool ID was specified by an authorized task with the NSHSPV or the NSHSPL parameter on the ATTACH macro instruction. Authorized here means system key, supervisor state, or APF authorized.

System Action: The new subtask is not created. The task that issued the ATTACH macro instruction is abnormally terminated.

Programmer Response: Change the invalid parameter (only subpool 236 or 237 may be specified with the NSHSPV or the NSHSPL parameter).

Problem Determination: Table I, items 5a, 16, 19, 29.

837

Explanation: The error occurred at an end-of-volume for a sequential data set. This system completion code is accompanied by message IEC028I. Refer to the explanation of message IEC028I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC028I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

838

Explanation: An ENQ macro instruction request was denied due to serious damage of the ENQ/DEQ control blocks.

Operator Response: Notify the system programmer of this ABEND code.

Programmer Response: Resubmit the job after the system has been reinstated.

Problem Determination: Table I, items 1, 5a, 16, 19, 29.

878

Explanation: The error occurred during the execution of an RU or VRU form GETMAIN or RU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	There is not enough virtual SQA (system queue area) storage available to satisfy the request.
08	There is not enough virtual CSA (common service area) storage available to satisfy the request.
0C	There is not enough virtual LSQA (local SQA) storage available to satisfy the request.
10	There is not enough virtual private area storage available to satisfy the request. *Note:* This error can occur if an installation exit is requesting virtual storage from a V=R region before initialization of the region has completed.
14	A negative amount of storage was specified on the GETMAIN macro instruction. *Note:* If this error is detected, the calling program abnormally terminates even though EC, LC, or VC is specified.
18	A negative amount of storage was specified on the FREEMAIN macro instruction. *Note:* If this error is detected, the calling program abnormally terminates even though EC, LC, or VC is specified.
1C	During request processing, the system tried to get LSQA virtual storage for VSM's cell pool but there was not enough LSQA virtual storage available.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that the program correctly modifies the macro expansion. If necessary, change the program to request less virtual storage.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

87D

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that the EVENTS table specified in the ECB had no available entries to contain the posted ECB address.

Programmer Response: Make sure that the EVENTS table associated with the ECB in question is large enough to contain entries for all ECBs that can be posted to it. Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

8FB

Explanation: An uncorrectable error occurred during execution of an interpreter DSP-related function. One of the following failed: the converter/interpreter (CI) subtask under control of the DSP, the dynamic support program (DSP) itself, or the JES3 interface (module IATIIII) creating the system work area (SWA). Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
05	An error occurred in the SWA-create interface (module IATIIII), indicating a problem reading or mapping SWA control blocks. Register 9 points to the interpreter work area (IIW).

06 An error occurred in a JES3 user spool access method (USAM) POINT or WRITE operation for an interpreter subtask.

07 During initialization of the data set status block (DSS) or the data set block (DSB), the converter/interpreter found that the DSS or DSB was invalid.

08 An error has occurred in JES3 user spool access method (USAM) buffer initialization for an interpreter subtask.

09 Module IATIICX found too many JCL statements; a JCL statement count overflow occurred.

15 The reader/interpreter passed an invalid return code back to JES3. The system writes a dump to SYS1.DUMP and detaches the current task.

16 An error has occurred in a USAM PUT operation. Module IATIISP issues this abend if a USAM PUT returns a non-zero return code.

System Action: The system terminates the job and continues other processing.

Operator Response: Notify your system programmer. Save all associated print output.

Programmer Response: Supply the system programmer with the dump, a listing of the JCL for the job, a listing of the JCL for JES3, and the JES3 initialization statements. For a return code of 5, rerun the job with the DEBUG=ALL option after a //* PROCESS CI JECL statement.

Problem Determination: Table I, item 3. Table III, items 1, 4, 5, 7, 14a (only for return code 5), 20.

905

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC, or VU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc Explanation

04 The virtual storage area that the FREEMAIN macro instruction is trying to release is not on a doubleword boundary.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion. If necessary, change the program to request less virtual storage.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

906

Explanation: One of the following reason codes (rc) explains the situation:

rc Meaning

04 An error was detected during the execution of a LOAD macro instruction. The LLE (load list element) count (responsibility count), indicating the number of load requests for a module, is greater than the allowable maximum, which is 32767.

08 An error was detected during execution of a LINK, XCTL, ATTACH, or LOAD macro instruction. The CDE (contents directory element) use count, indicating the number of LINK, XCTL, ATTACH, or LOAD requests for a module, is greater than the allowable maximum, which is 32767.

System Action: The task terminates unless ERRET is specified on the macro instruction. The system issues message CSV001I for reason code 04 and message CSV002I for reason code 08.

Programmer Response: Check for program errors, such as endless loops, that cause macro instructions to be executed too often. After making corrections, recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

90A

Explanation: The error occurred during the execution of an R form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc Explanation

04 The virtual storage area that the FREEMAIN macro instruction is trying to release is not on a doubleword boundary.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that no program errors incorrectly modify the address of the virtual storage area to be released.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

913

Explanation: The error occurred during execution of an OPEN macro instruction. This system completion code is accompanied by message IEC150I. Refer to the explanation of message IEC150I for complete information about the task that was terminated and for an explanation of the return code in register 15.

Programmer Response: Respond as indicated in message IEC150I.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

91A

Explanation: The user issued MODIFY CATALOG,ABEND(nnnnnnnn) to abnormally terminate the service task. **nnnnnnnn** is the hexadecimal address of the service task. This address includes all leading zeros.

System Action: The catalog request currently in process is re-driven.

Programmer Response: Check SYS1.DUMP to determine the cause of the failure.

922

Explanation: An ABEND, program check, depression of the RESTART key, or machine check took place with the initiator in control. The job being processed at the time received the completion code.

System Action: A record describing the error is written to SYS1.LOGREC unless the ABEND was an OPEN failure. A dump is taken to SYS1.DUMP when applicable.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 1, 2, 3, 7a, 16, 18, 29.

92A

Explanation: The error occurred during the execution of an ATTACH macro instruction. An environmental error occurred that was not the result of any action on the part of the current task. The contents of register 15 indicate the specific cause of the error:

Register 15 Contents in Hexadecimal	Explanation
00	An error occurred in the ESTAE SVC issued to establish a recovery environment for ATTACH processing.
04	Storage in subpool 255 was not available for the new SVRB, SPQEs, and parameter save area.
08	An error occurred in SVC 60 (STAI/ESTAI) issued to propagate STAI/ESTAI SCBs from the current TCB to the new TCB, and to build a new SCB if STAI or ESTAI was specified on the ATTACH macro instruction. The SVC 60 issued was a STAI entry if the STAI keyword was specified on the ATTACH macro instruction; otherwise, it is an ESTAI entry.
0C	An error occurred when SETLOCK was entered to obtain the local lock.
10	An error occurred when SETLOCK was entered to release the local lock.
14	There is an error in the parameter list passed to the VSM (virtual storage management) ATTACH routine.

System Action: The new subtask is not created. The task that issued the ATTACH macro instruction is abnormally terminated.

Operator Response: Run the job again.

Problem Determination: Table I, items 5a, 16, 29.

930

Explanation: The job issued an DEQ macro instruction that included the TCB operand, but the TCB operand identified a task that was in the process of terminating.

System Action: The system records the error in SYS1.LOGREC.

Programmer Response: Determine why the task identified in the TCB operand was terminated. Correct that error and resubmit the job that terminated with system completion code 930.

Problem Determination: Table I, items 1, 5a, 15, 18, and 23.

937

Explanation: The error occurred at an end-of-volume for a checkpoint data set or a RACF-protected data set. This system completion code is accompanied by message IEC029I. Refer to the explanation of message IEC029I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC029I.

Problem Determination: Table I, items 1, 3, 4, 5a, 29.

938

Explanation: The job issued an ENQ macro instruction that included the TCB operand, but the TCB operand identified a task that was in the process of terminating.

System Action: The system records the error in SYS1.LOGREC.

Programmer Response: Determine why the task identified in the TCB operand was terminated. Correct that error and resubmit the job that terminated with system completion code 938.

Problem Determination: Table I, items 1, 5a, 15, 18, and 23.

978

Explanation: The error occurred during the execution of an RC, or RU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Meaning
04	The virtual storage area that the FREEMAIN macro instruction is trying to release is not on a doubleword boundary.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Make sure that no program errors incorrectly modify the address of the virtual storage area to be released.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

9FB

Explanation: JES3 output service module IATOSDR or IATOSPS abnormally terminated an MVS service routine, usually SETPRT, in order to process a JES writer function or an operator command. This completion code does not indicate a program failure.

Programmer Response: None.

A00

Explanation: During EXCP processing of an I/O request, a program check occurred in an appendage called by EXCP.

System Action: The system abnormally terminates the task and writes an error record to SYS1.LOGREC.

Programmer Response: Probably not a programmer error, unless you are using EXCP for I/O operations. Rerun the job, requesting an abnormal termination dump, before calling the system programmer.

In the dump, look at the task control block (TCB) field TCBEXCPD at offset X'C0'; it points to the EXCP debugging area (XDBA). The XDBA contains diagnostic data associated with the EXCP processor at abnormal termination. See the *Debugging Handbook* for a description of the XDBA. To determine which appendage was active, see the data areas microfiche mapping of the EXCP FRR parameter area IECDXFRR.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

A03

Explanation: The error occurred when a task attempted to terminate normally with a RETURN macro instruction or a branch to the return address in register 14. The task had initiated one or more subtask(s) that had not terminated.

Programmer Response: Change the program so that, before termination of the task, all its subtasks will terminate. A task can determine that its subtasks have terminated by specifying ECB operands in the ATTACH macro instructions that initiate the subtasks and then issuing WAIT macro instruction(s) that specify the event control blocks representing the subtask terminations.

If WAIT macro instruction(s) had been issued and had indicated that all subtasks had terminated, check for program errors that incorrectly modified the WAIT macro instructions or event control blocks.

After making corrections, recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

A05

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC, or VU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	The SQA (system queue area) storage that the FREEMAIN is supposed to free overlaps a free area.
08	CSA (common service area) storage that the FREEMAIN is supposed to free overlaps a free area.
0C	LSQA (local system queue area) storage that the FREEMAIN is supposed to free overlaps a free area.
10	Private area storage that the FREEMAIN is supposed to free overlaps a free area.
14	Part of the CSA (common service area) that the FREEMAIN is supposed to free is fixed.
18	Part of the private area that the FREEMAIN is supposed to free is fixed.
1C	RSM associates with VSM some part of the private area that the FREEMAIN macro is supposed to free.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: In response to this system completion code take the following actions:

- Make sure that the FREEMAIN operands A and LV do not specify either a different (1) subpool and/or (2) key than the subpool or key of the storage you are trying to free.
- Make sure that the TCB specified on the FREEMAIN request is the same one specified on the corresponding GETMAIN request.
- If a caller running in supervisor state and key O made the original GETMAIN request, then make sure that the corresponding FREEMAIN request is also issued in supervisor state key 0.

  If a caller in supervisor state and key 0 requests storage in subpool 0 or 250, the system will satisfy this request with storage from a different subpool. This situation is described in *MVS/XA Debugging Handbook*, under the storage subpools topic.
- Check for program errors that incorrectly modify the FREEMAIN macro expansion.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

A06

Explanation: The error was detected during execution of either a LINK, LOAD, XCTL or ATTACH macro instruction.

An RB (request block) is requesting a serially reusable program. However, there is another RB associated with the same task as the first RB, with a request for the same serially reusable program, and the request has not yet been satisfied.

System Action: The system issues message CSV000I. The task terminates unless ERRET is specified on the macro instruction.

Programmer Response: Change the program to wait until the serially reusable load module is executed before issuing the LINK, LOAD, XCTL or ATTACH macro instruction for the load module. After making corrections, recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

A0A

Explanation: The error occurred during the execution of an R form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	The SQA (system queue area) storage that the FREEMAIN is supposed to free overlaps a free area
08	CSA (common service area) storage that the FREEMAIN is supposed to free overlaps a free area
0C	LSQA (local system queue area) storage that the FREEMAIN is supposed to free overlaps a free area
10	Private area storage that the FREEMAIN is supposed to free overlaps a free area
14	Part of the CSA (common service area) that the FREEMAIN is supposed to free is fixed.
18	Part of the private area that the FREEMAIN is supposed to free is fixed.
1C	RSM associates with VSM some part of the private area that the FREEMAIN macro is supposed to free.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: In response to this system completion code take the following actions:

- Make sure that the FREEMAIN operands A and LV do not specify either a different (1) subpool and/or (2) key than the subpool or key of the storage you are trying to free.
- Make sure that the TCB specified on the FREEMAIN request is the same one specified on the corresponding GETMAIN request.
- If a caller running in supervisor state and key O made the original GETMAIN request, then make sure that the corresponding FREEMAIN request is also issued in supervisor state key 0.

  If a caller in supervisor state and key 0 requests storage in subpool 0 or 250, the system will satisfy this request with storage from a different subpool. This situation is described in *MVS/XA Debugging Handbook*, under the storage subpools topic.
- Check for program errors that incorrectly modify the FREEMAIN macro expansion.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

A13

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on magnetic tape. This system completion code is accompanied by message IEC151I. Refer to the explanation of message IEC151I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC151I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

A14

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC216I. Refer to the explanation of message IEC216I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC216I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

A1A

Explanation: A catalog address space (CAS) MODIFY subtask terminated abnormally because the MODIFY routine exceeded the allotted time for processing. The routine may have been waiting for some system resource that is permanently unavailable.

System Action: Rather than losing the MODIFY subtask function, a new subtask is attached when the MODIFY subtask abnormally terminates.

Programmer Response: Examine SYS1.DUMP to determine why the MODIFY subtask could not complete processing.

A22

Explanation: The operator entered the FORCE command for the job, possibly for one of the following reasons:

- The job may have been forced if CANCEL was unable to remove the job.
- The job may have been canceled to correct a system interlock condition (for example, where two tasks were enqueued on a resource without an intervening dequeue).
- The job may have been canceled if an installation-established procedure was violated.

There may be nothing wrong with the program.

System Action: The address space and all tasks running in the address space are terminated.

Programmer Response: Find out why the operator canceled the job, and make any necessary corrections. Rerun the job, ensuring that the operator enters the command CANCEL jjj,DUMP (if necessary).

Problem Determination: Table I, items 1, 2, 3, 4, 5a, 7d, 13, 16, 18, 23, 29.

A23

Explanation: The error occurred during execution of an XMPOST macro instruction issued by the communications task. The ECB address specified was invalid.

Operator Response: Probable system error. Re-IPL the system and run the job again.

Problem Determination: Table I, items 2, 16, 29.

A37

Explanation: The error occurred during end-of-volume processing. This system completion code is accompanied by message IEC015I. Refer to the explanation of message IEC015I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC015I.

Problem Determination: Table I, items 1, 4, 5a, 15, 16, 29. Table II, format 3.

A78

Explanation: The error occurred during the execution of an RU FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	The SQA (system queue area) storage that the FREEMAIN is supposed to free overlaps a free area.
08	CSA (common service area) storage that the FREEMAIN is supposed to free overlaps a free area.
0C	LSQA (local system queue area) storage that the FREEMAIN is supposed to free overlaps a free area.
10	Private area storage that the FREEMAIN is supposed to free overlaps a free area.
14	Part of the CSA (common service area) that the FREEMAIN is supposed to free is fixed.
18	Part of the private area that the FREEMAIN is supposed to free is fixed.
1C	The FREEMAIN macro is trying to free a portion of the private area that RSM associates with VSM.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: In response to this system completion code take the following actions:

- For reason code X'1C', make sure that a data-in-virtual UNIDENTIFY was done prior to any FREEMAIN request.
- Make sure that the FREEMAIN operands A and LV do not specify either a different (1) subpool and/or (2) key than the subpool or key of the storage you are trying to free.
- Make sure that the TCB specified on the FREEMAIN request is the same one specified on the corresponding GETMAIN request.
- If a caller running in supervisor state and key O made the original GETMAIN request, then make sure that the corresponding FREEMAIN request is also issued in supervisor state key 0.

  If a caller in supervisor state and key 0 requests storage in subpool 0 or 250, the system will satisfy this request with storage from a different subpool. This situation is described in *MVS/XA Debugging Handbook*, under the storage subpools topic.
- Check for program errors that incorrectly modify the FREEMAIN macro expansion.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

AFB

Explanation: While JES3 dynamic support program (DSP) for systems network architecture (SNA) remote job processing (RJP) was executing as a JES3 subtask or under an SRB, a JES3 module IATSNDA, IATSNDE, IATSNDM, IATSNDR, IATSNDT, IATSNDU, or IATSNDV attempted to reuse a still-active request parameter list (RPL).

System Action: The system cancels the session associated with the RPL and writes a dump. The system continues processing all other sessions, including those associated with the same work station.

Programmer Response: Analyze the dump to determine which RPL was about to be overlaid and what data was about to be sent or received.

B00

Explanation: During EXCP processing of an I/O request, a program check occurred in an EXCP procedure.

System Action: The system abnormally terminates the task and writes an error record to SYS1.LOGREC.

Programmer Response: Normally not a programmer error. Rerun the job, requesting an abnormal termination dump, before calling the system programmer.

In the dump, look at the task control block (TCB) field TCBEXCPD at offset X'C0'; it points to the EXCP debugging area (XDBA). The XDBA contains diagnostic data associated with the EXCP processor at abnormal termination. See the *Debugging Handbook* for a description of the XDBA.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

B04

Explanation: An error occurred during the execution of an EC, EU, LC, LU, VC, or VU form GETMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	The GETMAIN macro instruction requested an undefined subpool
08	The program issuing the GETMAIN macro instruction is not authorized to request system subpools
14	A local branch entry caller of the GETMAIN routine did not hold the local lock for the address space that is currently addressable.
18	Invalid TCB address specified on a branch entry request.
1C	The ASCB address specified on a branch entry request was not the current ASCB. This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: If the reason code is 04, make sure that the specified subpool is not incorrectly specified or modified.

If the reason code is 08 and if the program requires system subpools, it should reside in an authorized program library.

If the reason code is 14, a local branch entry caller must hold the local lock for the currently addressable address space.

If the reason code is 18, make sure that no program errors incorrectly modify the parameter list.

Problem Determination: Table I, items 1, 5a, 16, 23, 29

B05

Explanation: The error occurred during the execution of an EC, EU, LC, LU, VC, or VU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	The FREEMAIN macro instruction tried to free storage in an undefined subpool.
08	The program issuing the FREEMAIN macro instruction is not authorized to free storage in system subpools.
14	A local branch entry caller of the FREEMAIN routine did not hold the local lock for the address space that is currently addressable.
18	Invalid TCB address specified on a branch entry request.

1C The ASCB address specified on a branch entry request was not the current ACSB.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: If the reason code is 04, make sure that the specified subpool is not incorrectly specified or modified.

If the reason code is 08 and if the program requires system subpools, it should reside in an authorized program library.

If the reason code is 14, a local branch entry caller must hold the local lock for the currently addressable address space.

If the reason code is 18, make sure that no program errors incorrectly modify the parameter list.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

B06

Explanation: During input/output activity, a system error task operating in behalf of a user task was abnormally terminating. Rather than have the system error task fail, the supervisor reinstated the error task and abnormally terminated the user task.

Programmer Response: Retry the task.

Problem Determination: Table I, items 5a, 16, 23, 29.

B0A

Explanation: The error occurred during the execution of an R form GETMAIN or FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc Meaning

04 The macro instruction tried to obtain or free storage in an undefined subpool.

08 The program issuing the macro instruction is not authorized to obtain or free storage in system subpools.

14 A local branch entry caller of the GETMAIN or FREEMAIN routine did not hold the local lock for the address space that is currently addressable.

18 Invalid TCB address specified on a branch entry request.

1C The ASCB address specified on a branch entry request was not the current ASCB.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: If the reason code is 04, make sure that the specified subpool is not incorrectly specified or modified.

If the reason code is 08 and if the program requires system subpools, it should reside in an authorized program library.

If the reason code is 14, a local branch entry caller must hold the local lock for the currently addressable address space.

If the reason code is 18, make sure that no program errors incorrectly modify the parameter list.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

B13

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on a 1403 printer that has the universal character set (UCS) special feature. This system completion code is accompanied by message IEC152I. Refer to the explanation of message IEC152I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC152I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

B14

Explanation: The error occurred during execution of a CLOSE macro instruction for a partitioned data set opened for output to a member. This system completion code is accompanied by message IEC217I. Refer to the explanation of message IEC217I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC217I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

B1A

Explanation: The user address space catalog ESTAE module IGG0CLHC requested the abnormal termination of the catalog address space (CAS) service task. An abnormal termination occurred in the user address space during catalog recall processing.

Programmer Response: Use the following information to determine the cause of the error:

- The SYS1.DUMP produced for this abnormal termination.
- The SYS.DUMP produced by the abnormal termination of the user address space.

B23

Explanation: The task issued a WTOR (write-to-operator with reply) request that was still unanswered when a communications task abend occurred.

System Action: The task issuing the WTOR is scheduled for termination.

Operator Response: Probable system error. Follow the Operator Response instructions for message IEE824A or IEE824E (issued when the communications task terminated). Then, if the task issuing the WTOR request terminated, restart the task.

Problem Determination: Table I, items 2, 16, 29.

B2D

Explanation: The error occurred during the execution of an overlay program; a program check occurred during the FETCH ESTAE routine while FETCH processing attempted to load a segment of the overlay program.

Note: Overlay programs execute in 24-bit addressing mode only, not in 31-bit addressing mode.

Programmer Response: Check the linkage editor input to be sure the overlay program is specified correctly.

Problem Determination: Table I, items 1, 5a, 16, 29.

B37

Explanation: The error was detected by the end-of-volume routine. This system completion code is accompanied by message IEC030I. Refer to the explanation of message IEC030I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC030I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

B78

Explanation: The error occurred during the execution of an RC, RU, VRC, or VRU GETMAIN or RC or RU FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Meaning
04	The macro instruction tried to obtain or free storage in an undefined subpool.
08	The program issuing the macro instruction is not authorized to obtain or free storage in system subpools.
0C	A global branch entry caller of the GETMAIN or FREEMAIN routine tried to obtain or free a nonglobal subpool.
10	The input parameter format is invalid for the LOC operand.
14	A local branch entry caller of the GETMAIN or FREEMAIN routine did not hold the local lock for the address space that is currently addressable.
18	Invalid TCB address specified on a branch entry request.
1C	The ASCB address specified on a branch entry request was not the current ASCB.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: If the reason code is 04, make sure that the specified subpool is not incorrectly specified or modified.

If the reason code is 08 and if the program requires system subpools, it should reside in an authorized program library.

If the reason code is 0C, note that a global branch entry request can only request global subpools, that is, SQA (system queue area) subpools or CSA (common service area) subpools.

If the reason code is 10, an invalid bit combination for the LOC operand was put into an input register.

If the reason code is 14, a local branch entry caller must hold the local lock for the currently addressable address space.

If the reason code is 18, make sure that no program errors incorrectly modify the parameter list.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

BFB

Explanation: During JES3 abnormal termination recovery processing, JES3 was unable to invalidate the spool space allocation checkpoint record (PTC). The invalidation failed due to an error in the checkpoint access method or an unrecoverable I/O error in the checkpoint data set(s).

Message IAT6352 accompanies this completion code. JES3 could not invalidate the spool space allocation checkpoint record (PTC) during JES3 abnormal termination recovery processing.

When message IAT1025 accompanies this completion code, JES3 could not invalidate the only copy or both copies of a partition track allocation table (PTAT) during JES3 initialization or after JES3 failsoft processing.

System Action: After issuing the message, JES3 terminates. IAT6352 contains the checkpoint access method return code, which identifies the error.

If message IAT1025 appears, the system writes an error record to SYS1.LOGREC.

Programmer Response: Using message IAT6352, analyze the return code and correct the error, then restart JES3.

For message IAT1025, analyze the error record in SYS1.LOGREC and the accompanying messages. In case the error is caused by a bad track, assign another track to the checkpoint data set and restart JES3 with a warm start. Otherwise, reallocate the checkpoint data set and perform a cold start.

Problem Determination: Table III, item 3.

C03

Explanation: The error occurred when a task attempted to terminate normally with a RETURN macro instruction or a branch to the return address in register 14. The task had opened one or more data sets that had not been closed.

The control program received a nonzero return code from the Data Management Resource Manager, TASK CLOSE, indicating one of the following:

- A subroutine called by TASK CLOSE returned a nonzero return code to TASK CLOSE.
- TASK CLOSE could not successfully close one or more data sets still open at termination because a previous error or ABEND had been ignored by a STAE routine or a DCB ABEND exit routine (for example, D37 ABEND).
- TASK CLOSE could not successfully close one or more of the task's data sets that was still open at termination, because the data control block (DCB) for the data set had been invalidly modified.

  Examples of how the DCB could be invalidly modified are:

  - A program containing an open DCB issued an XCTL macro instruction.
  - A program freed virtual storage that contained an open DCB.
  - The system program modified the DCB incorrectly.

Message IEC999I, giving the address of the DEB that could not be properly closed, might accompany this completion code.

Programmer Response: Correct the program error that incorrectly modified the data control block. After making the corrections, recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

C0D

Explanation: A routine found a condition that should not occur. For example, an invalid return code has been returned. This abnormal termination may be used for entry into a recovery routine that will attempt retry.

Use the SYS1.LOGREC error record to obtain the names of the module and CSECT that failed.

If the routine is part of real storage management (RSM) or auxiliary storage management (ASM), a reason code is provided to describe the error. See the RSM and ASM volumes of the *System Logic Library* for the reason codes and their meanings.

If the module is part of the I/O supervisor (IOS), including the IOS storage manager module IOSVSMGR, a reason code is provided to describe the error. See the IOS section of the *System Logic Library* for the reason codes and their meanings.

System Action: The system writes an error record to the SYS1.LOGREC data set and/or writes a dump.

Programmer Response: Contact your programming support personnel.

Problem Determination: Table I, items 2, 4, 5a, 16, 18, 29.

C13 to C78

C13

Explanation: The error occurred during execution of an OPEN macro instruction for a concatenated partitioned data set or a graphic device. This system completion code is accompanied by message IEC153I (or for graphics, message IEC157I). Refer to the explanation of message IEC153I (or message IEC157I) for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC153I (or message IEC157I).

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

C22

Explanation: The EXCP processor has abnormally terminated the job step because the maximum number of outstanding EXCP/EXCPVR macro requests that are allowed for the address space has been exceeded. The maximum number of outstanding EXCP/EXCPVR requests allowed for an address space is defined in field ASCBXCNT, which has been initialized from field CVTXCPCT.

System Action: The job step is terminated.

Programmer Response: Check the job for a loop that could result in EXCP/EXCPVR macros being repeatedly issued without intervening WAIT macros.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

C2D

Explanation: The error occurred during execution of an overlay program. Program Fetch was unable to get enough storage for the module or control blocks.

Note: Overlay programs execute in 24-bit addressing mode only, not in 31-bit addressing mode.

Programmer Response: Increase the region size and execute the job again.

Problem Determination: Table I, items 1, 5a, 9b, 29.

C37

Explanation: The error occurred when an input operation was requested. The data set was on a direct access device. This system completion code is accompanied by message IEC033I. Refer to the explanation of message IEC033I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC033I.

Problem Determination: Table I, items 1, 5a, 13, 25a, 29.

C78

Explanation: The error occurred during execution of a VSM (virtual storage management) service. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Explanation
04	For the CPOOL BUILD or GET options, there is not enough virtual storage available to build or extend a cell pool.
08	For the CPOOL BUILD or GET options, there is not enough real storage available to build or extend a cell pool.

0C For the CPOOL BUILD or GET options, page tables are paged out for the storage obtained for the pool or pool control blocks.

10 For the CPOOL BUILD GET or DELETE options, an unauthorized user tried to build get or delete storage from an authorized subpool.

14 For the CPOOL BUILD option, an unauthorized caller specified the TCB (task control block) parameter.

18 For the CPOOL GET or DELETE option, an invalid CPID (cell pool identifier) is specified.

1C For the CPOOL BUILD DELETE or GET option, there is not enough storage available for a module's work area.

20 For the CPOOL BUILD option, an invalid cell count is specified.

24 For the CPOOL BUILD option, a reserved field in the parameter list is nonzero.

28 For the CPOOL BUILD, GET, or DELETE options, the invoker of the VSM service is in SRB (service request block) mode and problem state. This is not allowed.

2C For the CPOOL BUILD option, the invoker of the VSM service is in SRB (service request block) mode requesting a local area subpool. However, the invoker did not specify the TCB (task control block) parameter.

30 A FREEMAIN routine returned a nonzero return code unexpectedly during task termination. Module IGVQSPET (IGVSTSKI) retries at the point of termination.

34 For the CPOOL BUILD or DELETE option, the subpool identifier is invalid.

38 For the CPOOL BUILD option, the LOC parameter is invalid.

3C For the CPOOL BUILD option, the PSATOLD field points to a TCB (task control block) not in the currently addressable address space.

40 For the BUILD option, the invoker of the VSM service holds the VSMPAG lock. This is invalid because the system BUILD routine must obtain the CMS lock, which is lower in the hierarchy than the VSMPAG lock.

44 For the CPOOL BUILD option, the cell size is less than 4 bytes, which is not valid.

48 On a request to free a real or virtual region, the subpool FREEMAIN failed.

4C The address space making a request to free a virtual region is nonswappable.

50 On a request to get a real region, RSM (real storage management) assigned V=R (virtual=real) storage that VSM (virtual storage management) has already allocated in virtual storage.

54 On a request to get a real region, the request for a VSM (virtual storage management) cell failed.

60 The VSMLOC routine has detected one of the following:

- The reserved bits of register 15 are not zero.
- The storage type indicator passed to VSMLOC is invalid. Valid storage types are SQA, LSQA, CSA, and private area.
- The size passed to VSMLOC is zero or negative.
- The sum of the address passed to VSMLOC plus the size passed is greater than 2G bytes (2 gigabytes).

74 The reserved bits of the VSMLIST parameter list are not zero.

78 The return code field in the work area passed to the VSMLIST routine is not zero (first call) or four (restart).

7C The SP operand of VSMLIST is invalid.

80 The SPACE operand of VSMLIST is invalid. Note: SPACE=UNALLOC is not allowed if SP=SQA, SP=LSQA, or SP=(subpool list) is specified.

84 VSMLIST was invoked again and control information that was saved in the work area provided by the caller is invalid.

88 The TCB address is invalid or not in the currently addressable address space.

8C On VSMLIST, the subpool list address is zero.

90 On VSMLIST, the work area size is less than 4K bytes.

A0 On CPOOL, the primary cell count or cell size specified is too large.

A4 On CPOOL, the secondary cell count or cell size specified is too large.

System Action: The task abnormally terminates. The system writes an error record containing the system status at the time of the error to the SYS1.LOGREC data set.

Programmer Response: For reason codes 04, 08, 0C and 1C, rerun the job. If the error recurs, notify the system programmer or installation manager.

For reason codes 18, 20, 30, 34, 38, and 44, make sure that valid values are specified.

For reason codes 10, 14, 28, and 2C, make sure that the invoker has authority for the requested operation.

For reason codes 24, 74, 78, 7C, 80, and 8C, make sure that the parameter list is properly initialized.

For reason code 40, the caller must release the VSMPAG lock before invoking CPOOL BUILD.

For reason code 3C, make sure the proper TCB address is passed.

For reason codes 48, 4C, 50, and 54, notify the systems programmer.

For reason code 60, make sure that the input registers are initialized properly.

For reason code 84, make sure that the information in the work area does not change before VSMLIST is invoked again.

For reason code 88, make sure that the TCB specified and all of the subtasks of the TCB are valid TCBs when the VSMLIST routine is called.

For reason code 90, make sure that the work area size is at least 4K.

For reason codes A0 and A4, make sure that the cell count and cell size values are specified correctly. If they are, decrease one or both of the values.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

CFB

Explanation: One of the following occurred:

- During JES3 initialization, JES3 could not attach the JES3 auxiliary task, module IATAUX. ATTACH processing writes message IAT3005 to the console.
- After JES3 initialization, the JES3 auxiliary task, module IATAUX, could not recover from an error and abnormally terminated. The ESTAI routine in module IATABMN requests a dump of module IATAUX to the SYSABEND or SYSUDUMP data set.

System Action: JES3 terminates.

Programmer Response: If JES3 wrote message IAT3005 to the console, make sure that module IATAUX is in one of the following:

- The library concatenation defined by the JES3LIB initialization statements, if used.

- The STEPLIB concatenation defined in the JES3 procedure.
- The linklist specified in response to message IEA101A.

If JES3 did not write message IAT3005, look in the dump of module IATAUX to find the system completion code for the module's failure. Respond to that completion code.

Problem Determination: If module IATAUX could not be attached, see Table I, items 2, 5a, 7c, 13, 16, and Table III, items 2, 6, 21.

If module IATAUX abnormally terminated, see Table I, items 2, 5a, 13, 16.

D04

Explanation: The error occurred during the execution of an EU, LU, or VU form GETMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc Explanation

08 A request for local system queue area storage could not be satisfied because there is not enough real storage for the control blocks needed to support the request.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: Resubmit the job. If this condition occurs frequently, installation action should be taken to decrease the fixed real storage requirements of the system.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

D05

Explanation: The error occurred during the execution of an EU, LU, or VU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

ABEND

rc Meaning

04 A FREEMAIN request was specified for local system queue area virtual storage that is associated with a task. However, the virtual storage area specified is not associated with the task.

08 A request for local system queue area storage could not be satisfied because there is not enough real storage for the control blocks needed to support the request.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: For reason code 04, correct the error and execute the job step again.

For reason code 08, resubmit the job. If this condition occurs frequently, installation action should be taken to decrease the fixed real storage requirements of the system.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

D06

Explanation: A program issued the LOAD macro instruction for a module. The macro instruction included some form of the GLOBAL parameter. However, within the same job step task structure, a TCB (task control block) already loaded the requested module with different variables on the GLOBAL parameter. For example, a program issues the LOAD macro instruction for module MYPROG1 with the parameter GLOBAL=(YES,P). However, a TCB already loaded module MYPROG1 with

the parameter GLOBAL=(YES,F) or GLOBAL=NO.

If a user tries to load the same module twice - once into a fixed subpool and once into a pageable subpool, or once into global storage and once into local storage, this situation arises.

System Action: The system issues message CSV017I. The program that issued the LOAD macro instruction abnormally terminates unless the macro instruction included the ERRET parameter.

Programmer Response: Change the GLOBAL parameter on the LOAD macro instruction.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

D0A

Explanation: The error occurred during the execution of an R form GETMAIN or FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc Explanation

04 A FREEMAIN request was specified for local system queue area virtual storage that is associated with a task. However, the virtual storage area specified is not associated with the task.

08 A request for local system queue area storage could not be satisfied because there is not enough real storage for the control blocks needed to support the request.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: For reason code 04, correct the error and execute the job step again. For reason code 08, resubmit the job. If this condition occurs frequently, installation action should be taken to decrease the fixed real storage requirements of the system.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

D0D

Explanation: An error occurred during abnormal termination of a subtask of the jobstep task. RTM2 (recovery termination management) was reentered invalidly; therefore, the environment of the abnormal termination was altered to include all tasks in the jobstep.

Note: The original completion code is in the SVRB of the original SVC 13 SVRB queued from the task that incurred the error.

System Action: RTM2 attempts to terminate the job step. A dump may have been taken to the SYSABEND to SYSUDUMP data set and may also been taken to the SYS1.DUMP data set.

Programmer Response: Determine the completion code for the original subtask and correct the error.

Problem Determination: Table I, items 1, 5, 11, 16, 19, 29.

D13

Explanation: The error occurred during execution of an OPEN macro instruction for a graphic data control block. This system completion code is usually accompanied by message IEC158I. Refer to the explanation of message IEC158I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC158I.

Problem Determination: Table I, items 1, 5a, 13, 23, 29.

D14

Explanation: The error occurred during execution of a CLOSE macro instruction for a graphic data control block.

The graphic device to be closed was not opened by the closing task.

Programmer Response: Issue the CLOSE macro instruction within the same task that issues the OPEN macro instruction, or remove the invalid CLOSE macro instruction. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

D23

Explanation: The error occurred during execution of a WTO or WTOR macro instruction.

If the system does not successfully take a dump, the error is one of those described below. If the system does not successfully take a dump, the error is one of those described below. If the system successfully takes a dump, register 15 contains a hexadecimal error code in the format xxyy00zz. The xx field identifies the processing that was taking place when the error occurred. The yy field identifies the module that requested the abend. If xx is 10, the zz field identifies the cause of the error. If xx is 20 or greater, the zz field contains the return code that was issued by the GETCELL, BLDCPOOL, or GETMAIN processing.

xx value **Meaning**

10 The error occurred during a validity check of a parameter list. The zz field identifies the error:

- **01** The parameter list supplied to the WTOR macro instruction does not begin on a fullword boundary.
- **02** A multi-line WTOR was specified.
- **03** The parameter list the user passed does not reside in storage that the user can access.
- **04** The user requested a WTOR with a text length of zero.
- **05** The user modified the parameter list during WTO processing.
- **06** An unauthorized program requested one or more of the authorized WTO keywords.
- **07** The user requested mutually exclusive functions.
- **08** The user supplied an invalid parameter list structure. The parameter list prefix for WTOR was supplied with a WQEBLK request.

20 A GETCELL for an ORE (operator reply element) failed.

21 A BLDCPOOL for an ORE failed.

22 A GETMAIN for an ORE failed.

30 A GETCELL for a WQE (write queue element) failed.

31 A BLDCPOOL for a WQE failed.

32 A GETMAIN for a WQE failed.

42 A GETMAIN for a dynamic work area failed.

yy value **Meaning**

01 IEAVVWTO requested the ABEND.
02 IEAVMWTO requested the ABEND.
03 IEAVH600 requested the ABEND.
04 IEAVM600 requested the ABEND.

Programmer Response: Correct the program issuing the WTO or WTOR macro instruction, recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

D2D

Explanation: The error occurred during execution of an overlay program.

The control program found an invalid record type when attempting to load a segment of the overlay program.

Note: Overlay programs execute in 24-bit addressing mode only, not in 31-bit addressing mode.

Programmer Response: Link edit the program again, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 29.

D37

Explanation: The error occurred when an output operation to a direct access device was requested. This system completion code is accompanied by message IEC031I.

Refer to the explanation of message IEC031I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC031I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

D78

Explanation: The error occurred during the execution of an RU or VRU form GETMAIN or RU form FREEMAIN macro instruction. A reason code (rc), found in the SDWACRC field of the SDWA (system diagnostic workarea), gives further details:

rc	Meaning
04	A FREEMAIN request was specified for local system queue area virtual storage that is associated with a task. However, the virtual storage area specified is not associated with the task.
08	A request for local system queue area storage could not be satisfied because there is not enough real storage for the control blocks needed to support the request.

This system completion code is accompanied by message IEA705I. Refer to the message text and, if necessary, the message explanation in *System Messages* for further information about the terminated task.

System Action: The task abnormally terminates.

Programmer Response: For reason code 04, correct the error and execute the job step again.

For reason code 08, if this code occurs frequently, installation action is necessary to decrease the fixed real storage requirements of the system.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

DFB

Explanation: During processing in a functional subsystem (FSS) address space, a JES3 module detected the error indicated by the hexadecimal reason code in register 15.

Reason Code in Hex (Dec)	Explanation
01 (01D)	The connect subsystem interface (SSI) routine in module IATSICD determined that the START command for the FSS address space did not contain a token.
02 (02D)	The connect subsystem interface (SSI) routine in module IATSICD could not locate the MEMDATA header for the FSS address space.

03 (03D) The connect subsystem interface (SSI) routine in module IATSICD could not establish the listen task, IATFCLT, for the FSS or the FSA.

0B (11D) The common end-of-task exit routine in module IATSICD found that a task in the FSS address space had terminated unexpectedly.

0C (12D) The common end-of-task exit routine in module IATSICD could not identify a task that had terminated.

15 (21D) The writer FSA specific connect routine, IATFPCC, could not initialize for GETDS spool access using the block spooler.

16 (22D) The writer FSA specific connect routine, IATFPCC, could not establish the read-ahead task for the FSA.

17 (23D) The writer FSA specific connect routine, IATFPCC, could not establish the checkpoint writer task for the FSA.

1F (31D) The FSI order interface routine, IATFCOR, received a nonzero return code from the FSS or FSA order routine.

20 (32D) The FSI post interface routine, IATFCPT, received a nonzero return code from the FSA post routine.

29 (41D) The C/I FSS order processing routine, IATIIFO, found that the FSI parameter list did not contain an order.

2A (42D) The C/I FSS order processing routine, IATIIFO, received an invalid order type.

2B (43D) The C/I FSS order processing routine, IATIIFO, received an invalid stop FSS order.

2C (44D) The C/I FSS order processing routine, IATIIFO, could not locate the C/I communications block (CCB).

33 (51D) The writer FSA quick-cell service routine, IATFPQC, failed to get an index, because the first free index was invalid.

34 (52D) The writer FSA quick-cell service routine, IATFPQC, failed to get a buffer, because the first free buffer was invalid.

35 (53D) The writer FSA quick-cell service routine, IATFPQC, failed to free an index, because the index passed in the request was invalid.

36 (54D) The writer FSA quick-cell service routine, IATFPQC, failed to free a buffer, because the buffer passed in the request was invalid.

3D (61D) While reading a data set checkpoint record, the writer FSA GETDS routine, IATFPGD, received an error return from the block spooler routine; the error return indicated that the parameter list was invalid.

3E (62D) While reading a data set checkpoint record, the writer FSA GETDS routine, IATFPGD, received an error return from the block spooler routine; the error return indicated that the spool address was invalid.

3F (63D) While reading a data set checkpoint record, the writer FSA GETDS routine, IATFPGD, received an error return from the block spooler routine; the error return indicated that an error occurred during a cross-address space move.

47 (71D) While reading the scheduler work block (SWB), the writer FSA SWB processing service routine, IATFPSB, received an error return from the block spooler routine; the error return indicated that the parameter list was invalid.

48 (72D) While reading the scheduler work block (SWB), the writer FSA SWB processing service routine, IATFPSB, received an error return from the block spooler routine; the error return indicated that the spool address was invalid.

49 (73D) While reading the scheduler work block (SWB), the writer FSA SWB processing service routine, IATFPSB, received an error return from the block spooler routine; the error return indicated that an error occurred during a cross-address space move.

4A (74D) The scheduler JCL facility (SJF) PUTSWB function returned an error code to the writer FSA scheduler work block (SWB) processing service routine, IATFPSB.

4B (75D) The scheduler JCL facility (SJF) UPDATE function returned an error code to the writer FSA scheduler work block (SWB) processing service routine, IATFPSB.

4C (76D) The scheduler JCL facility (SJF) DELETESWB function returned an error code to the writer FSA scheduler work block (SWB) processing service routine, IATFPSB.

51 (81D) The writer FSA read-ahead task, IATFPRA, could not initialize for spool access using the block spooler.

52 (82D) While reading data from spool, the writer FSA read-ahead task, IATFPRA, received an error return from the block spooler routine; the error return indicated that the parameter list was invalid.

53 (83D) While reading data from spool, the writer FSA read-ahead task, IATFPRA, received an error return from the block spooler routine; the error return indicated that the spool address was invalid.

54 (84D) While reading data from spool, the writer FSA read-ahead task, IATFPRA, received an error return from the block spooler routine; the error return indicated that an error occurred during a cross-address space move.

55 (85D) The writer FSA read-ahead task, IATFPRA, found an error in the format of a spool data buffer.

56 (86D) The writer FSA read-ahead task, IATFPRA, found an error in the format of a JESNEWS data buffer.

5B (91D) The writer FSA checkpoint writer task, IATFPCW, could not initialize for spool access using the block spooler.

5C (92D) While writing a data set checkpoint record, the writer FSA checkpoint writer task, IATFPCW, received an error return from the block spooler routine; the error return indicated that the parameter list was invalid.

5D (93D) While writing a data set checkpoint record, the writer FSA checkpoint writer task, IATFPCW, received an error return from the block spooler routine; the error return indicated that the spool address was invalid.

5E (94D) While writing a data set checkpoint record, the writer FSA checkpoint writer task, IATFPCW, received an error return from the block spooler routine; the error return indicated that an error occurred during a cross-address space move.

System Action: The system abnormally terminates the task.

Most failures in the read-ahead task, IATFPRA, and in the checkpoint writer task, IATFPCW, cause processing of the current data set to be terminated. The task is reinstated to resume processing with the next data set.

All other failures result in termination of the FSA or of the entire FSS address space.

Operator Response: Notify the system programmer. If the FSS address space was terminated and if this is not a recurring error, issue the appropriate command to restart the FSS.

Problem Determination: Table I, item 33. Table III, item 4.

E00

Explanation: An error occurred during EXCP processing of an I/O request. The IOSB was returned to EXCP termination processing with the IOSB completion code set to X'45'. The I/O request was terminated for one of the following reasons:

- A program check or machine check occurred while the IOS IRB (interruption response block) analysis modules or module IECVPST was executing.
- The operator pressed the RESTART key while the I/O request was being processed.
- A program check or machine check occurred while a nonresident ERP or ERP loader module was executing.

System Action: The task is abnormally terminated and an error record is written to SYS1.LOGREC. The previous error record in SYS1.LOGREC should indicate the cause of the ABEND.

Programmer Response: Usually not a programmer error. The E00 code indicates that no EXCP debugging area is provided. Check the message in SYS1.LOGREC for the probable cause of the termination.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

E03

Explanation: The error occurred when a task attempted to terminate normally with a RETURN macro instruction or a branch to the return address in register 14. The task is operating in must-complete status and did not reset must-complete.

System Action: The task is abnormally terminated.

Programmer Response: Ensure that each issuance of an ENQ, RESERVE, or STATUS macro instruction requesting must-complete status is paired with a DEQ or STATUS macro instruction requesting 'reset must-complete.'

Problem Determination: Table I, items 1, 5a, 16, 19, 23, 29. Table II, Format 1, TRACE=SVC.

E13

Explanation: The error occurred during execution of an OPEN macro instruction for a graphic data control block. This system completion code is accompanied by message IEC159I. Refer to the explanation of message IEC159I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC159I.

Problem Determination: Table I, items 1, 5a, 13, 23, 29.

E23

Explanation: The error occurred during processing of a WTOR macro instruction. The address of the event control block (ECB), the address of the request block (RB) in the ECB, or of the virtual storage area for the reply was invalid.

Programmer Response: Correct the macro instruction or program errors that incorrectly modified the macro expansion. Be sure that the ECB address is a fullword on a fullword boundary. Recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

E2D

Explanation: The error occurred during execution of an overlay program.

The control program found an invalid address when attempting to load a segment of the overlay program.

Programmer Response: Link edit the program again, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 29.

E37

Explanation: The error occurred when an output operation was requested. The data set was on a direct access or magnetic tape device. This system completion code is accompanied by message IEC032I. Refer to the explanation of message IEC032I for complete information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC032I.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

E82

Explanation: Disabled code was executing and invoked SVC 130 (RACHECK macro). However, SVC 130 is inactive because RACF (resource access control facility) is not installed on the system.

System Action: The task is terminated.

Programmer Response: None.

Problem Determination: Table I, items 2, 3, 4, 5a, 13, 16, 17a, 17b.

E83

Explanation: Disabled code was executing and invoked SVC 131 (RACINIT macro). However, SVC 131 is inactive because RACF (resource access control facility) is not installed on the system.

System Action: The task is terminated.

Programmer Response: None.

Problem Determination: Table I, items 2, 3, 4, 5a, 13, 16, 17a, 17b.

E84

Explanation: Disabled code was executing and invoked SVC 132 (RACLIST macro). However, SVC 132 is inactive because RACF (resource access control facility) is not installed on the system.

System Action: The task is terminated.

Programmer Response: None

Problem Determination: Table I, items 2, 3, 4, 5a, 13, 16, 17a, 17b.

E85

Explanation: Disabled code was executing and invoked SVC 133 (RACDEF macro). However, SVC 133 is inactive because RACF (resource access control facility) is not installed on the system.

System Action: The task is terminated.

Programmer Response: None

Problem Determination: Table I, items 2, 3, 4, 5a, 13, 16, 17a, 17b.

Fnn

Explanation: One of the following occurred:

- The error occurred during execution of an invalid supervisor (SVC) instruction. The last 2 digits of this completion code are the operand of the supervisor call instruction in hexadecimal. For example, completion code F0D means that the error occurred during execution of SVC X'0D', that is, SVC 13.
- If nn is 13, 14, 17, or 37, an OPEN/CLOSE/EOV problem determination routine failed to recognize the passed abnormal termination code. Register 12 contains the abnormal termination code.

Programmer Response: In the first case, make sure that the supervisor call instruction was not incorrectly modified. Check the operand against the valid codes for the control program being used, and determine if the SVC that was issued had been generated into the system. Correct the error and execute the job step again.

In the second case, see message IEC900I in *System Messages*

Problem Determination: Table I, items 5a, 16, 23, 29.

Wait State Codes

Wait State Code	The wait state code is found in the program status word (PSW) when the computer is in wait state.
Program Producing Code	Input/output supervisor, IPL and NIP programs, machine-check handler, supervisor, 3211 utility
Audience and Where Produced	For operator: displayed in console lights.
Program Status Word Format	yyyyyyyyxxxxxzzz yyyyyyyy Left half of program status word. This half has two forms: FF0s0000 If the wait state code (zzz in the right half of program status word) is 000, no tasks are ready in the system. Otherwise, an error, indicated by zzz has occurred. 000s0000 System wait state caused by an error condition. In each of the above forms, s represents bits 12-15 (the CMWP bits). xxxxxzzz Right half of program status word. The wait state code, zzz, indicates the error condition.
IMPORTANT Comments	If the system enters a wait state during IPL execution and the explanation of the wait state resulted from an input/output error, the operator should display the contents of register 10 in the console light. Register 10 will contain the unit address of the last device referenced in an input/output operation. Since this device could be the source of the error, the operator should, if possible, disable or demount the device before starting the system again.

002

Explanation: During execution of the IPL program, an input/output operation was not initiated; the subchannel status word (SCSW) was stored, and the channel was not busy.

Operator Response: Probably a hardware error. Re-IPL the system. If the problem recurs, contact your hardware support personnel.

003

Explanation: The IPL program cannot continue execution because a condition code 3 was received from a modify subchannel for the IPL UCB. A condition code 3 indicates that the subchannel is not operational.

Operator Response: Probable hardware error.

004

Explanation: During execution of the IPL program, an input/output operation was not initiated; the subchannel status word (SCSW) was not stored, and the channel was not busy following execution of a Test Subchannel (TSCH) instruction. The four-byte subchannel ID can be found in real storage at decimal address 184 (B8 in hexadecimal). For information on how to find the corresponding UCB, see the *Operator's Guide to the System Console*.

Operator Response: Probable hardware error. Re-IPL the system. If the problem recurs, contact your hardware support personnel.

005

Explanation: During execution of the IPL program an input/output interruption occurred because of a unit check. The four-byte subchannel ID can be found in real storage at decimal address 184 (B8 in hexadecimal). For information on how to find the corresponding UCB, see the *Operator's Guide to the System Console*.

The address of the channel command word (CCW) causing the original unit check was placed at hexadecimal location 4C. The first four sense bytes describing the unit check were placed at hexadecimal location 54. At real storage hexadecimal location 14 is a pointer to the IPL diagnostic area. At a displacement of hexadecimal 38 into this area is a pointer to all of the sense data.

The result of a sense operation to determine the cause of the unit check was not one of the following:

- No record found.
- File mask violation.
- End of cylinder.
- Track condition check.

Operator Response: Probably a hardware error. Re-IPL the system.

Problem Determination: Table I, items 11, 17b, 30.

006

Explanation: During execution of the IPL program one or more of the following occurred:

- An interface control check.
- A channel control check.
- A channel data check.
- A program check.
- A channel chaining check.

The problem can occur if secondary extents have been allocated for SYS1.NUCLEUS and IPL is attempting to load a member from a secondary extent.

Operator Response: Verify that SYS1.NUCLEUS does not have secondary extents. Re-IPL the system.

Problem Determination: Table I, items 11, 17b, 29.

007

Explanation: During execution of the nucleus initialization program (NIP), a console was not available.

Operator Response: Ensure that a console is available.

Problem Determination: Table I, items 17b, 29.

00A

Explanation: This wait state is preceded by message IEA326I. The catalog entry for the SYS1.LINKLIB data set could not be found on, or could not be retrieved from the system catalog.

Operator Response: Notify the system programmer of this code.

Programmer Response: Ensure that the SYS1.LINKLIB is in the catalog and restart the system.

Problem Determination: Table I, item 29.

00B

Explanation: The master scheduler has terminated abnormally during initialization. A dump has been taken to the SYS1.DUMP data set.

Operator Response: Re-IPL the system.

Problem Determination: Table I, items 2, 16, 29.

00C

Explanation: The active DAT-on nucleus member is not edited in scatter format. This nucleus cannot be loaded by the IPL program.

Operator Response: Report this wait state code to the system programmer.

Programmer Response: Make sure that the IEANUC0x member of SYS1.NUCLEUS has been link-edited with the SCTR option of the linkage editor. If not, link-edit the IEANUC0x member again specifying the linkage editor JCL as indicated in the SYS1.NUCLEUS link-editing step of the system generation for this system.

Problem Determination: Table I, items 11, 29. Also do the following:

- Execute the IEHLIST utility program to obtain a directory listing of the SYS1.NUCLEUS data set and have the listing available.
- Have available a copy of the last link-editing step for the failing nucleus member, IEANUC0x, if possible.
- Have available the name of the IEANUC0x member that was selected for the failing IPL process.

00D

Explanation: The master scheduler has terminated abnormally during initialization. No dump was taken.

Operator Response: Re-IPL the system.

Problem Determination: Table I, items 2, 11, 16, 29.

00E

Explanation: The IPL program cannot locate on the system residence volume the SYS1.NUCLEUS data set or the system nucleus member of the SYS1.NUCLEUS data set. The nucleus can be IEANUC0x, which is DAT-on nucleus IEANUC01 or an alternate DAT-on nucleus IEANUC0x, where x is not 1, or IEAVEDAT, which is the DAT-off nucleus. DAT stands for dynamic address translation.

Operator Response: If you selected an alternate DAT-on nucleus member, make sure that the alternate nucleus ID (x of IEANUC0x) was correctly entered through the console frame, or at absolute storage location 8. Then re-IPL the system. If the error persists, notify the system programmer.

WT CDS

Programmer Response: Make sure that the SYS1.NUCLEUS data set resides on the system residence volume and that it contains the members you want to load.

Problem Determination: Table I, items 11, 29. Also, do the following:

- Execute utility program IEHLIST to obtain a directory listing of the SYS1.NUCLEUS data set. Save the listing.
- Provide the name of the SYS1.NUCLEUS member that the IPL program could not find.

00F

Explanation: A volume has been IPLed that does not contain IPL text.

Operator Response: Correct the load unit switches to address the correct volume to be IPLed. Verify that the correct volume is mounted. Re-IPL the system.

Problem Determination: Table I, items 11, 29.

013 to 017

013

Explanation: An error occurred during execution of the nucleus initialization program (NIP) from which recovery is impossible. Check the system completion code to determine the problem.

Operator Response: Re-IPL the system.

Problem Determination: Table I, items 11, 17b, 29.

014

Explanation: Recursive translation exceptions have occurred because the master address space's segment table or common page tables have not been initialized correctly or have been overlaid. This code is associated with message IEA999W. Additional information is saved in the MCH logrec buffer to aid in diagnosing the recursive translation exception.

Programmer Response: Probable system error. You should be able to determine why the master address space's segment tables and/or page tables have been overlaid.

Problem Determination: Table I, items 2, 11, 29.

015

Explanation: During NIP, one of the following occurred:

- NIP issued a service processor command to obtain the SCP INFO data block. The return code from the instruction was:

rc	Explanation
02	The service processor was busy.
03	The service processor was not operational.

  This return code is not expected during NIP and indicates a probable hardware error.

- NIP requested load parameters or a write restart text, but the service processor was busy. Probably a hardware error.
- The SCP INFO data block did not contain the required information, such as the parameter for physical storage, the processor or HSA.

Operator Response: Re-IPL the system. Notify the system programmer.

Programmer Response: Contact your hardware support personnel.

Problem Determination: Table I, item 30.

016

Explanation: NIP issued a service processor command to obtain the SCP INFO data block from the service processor. The condition code from the instruction was 0, indicating that the service processor accepted the instruction and responded, but the response was not the expected one. This is probably a hardware error.

Operator Response: Re-IPL the system. Notify the system programmer.

Programmer Response: Contact your hardware support personnel.

Problem Determination: Table I, item 30.

017

Explanation: During execution of the IPL program, a unit check occurred after an I/O operation was successfully started. The I/O operation was either a sense I/O or an attempt to read the home address and record 0 of a track that previously caused a track condition check. The four-byte address of the subchannel ID can be found in real storage at decimal address 186 (BA in hexadecimal).

Operator Response: Probable hardware error. Restart the system.

Problem Determination: Table I, items 11, 17b, 30.

019

Explanation: During execution of the IPL program, an unexpected program interruption occurred. IPL did not complete the loading of the resident nucleus. The IPL program is in error, the storage in which IPL resides is failing, or the IPL program attempted to load a member of the SYS1.NUCLEUS data set that is in a secondary extent.

Operator Response: Be sure the SYS1.NUCLEUS data set does not have secondary extents. If it does not, the error is probably the result of a hardware problem. When the problem is corrected, Re-IPL the system.

Problem Determination: Table I, item 30.

01B

Explanation: The error conditions specified on a SLIP command have been met, and the system is placed in a wait state, as requested.

Location X'40C' points to a 16 byte area:

Byte 0 Indicates the type of RTM entry:

01 RTM1 (FRR)
02 RTM2 (ESTAE)
03 Address space termination
04 PER interrupt

Bytes 4-7 Contain the address of the registers

Bytes 8-11 Contain the address of the PSW

Bytes 12-15 Point to type-dependent data:

If the value of the first byte of the 16-byte area is 01, bytes 12-15 point to the SDWA.

If the value of the first byte of the 16-byte area is 02, bytes 12-15 point to the RTM2WA.

If the value of the first byte of the 16-byte area is 03, bytes 12-15 point to the ASCB.

If the value of the first byte of the 16-byte area is 04, bytes 12-15 point to the PER interrupt code.

System Action: The system is placed in a disabled wait state, with restart capability.

Operator Response: Notify the system programmer that the SLIP trap has been entered. The system may be restarted by invoking the restart function.

01C

WT CDS

Explanation: Supervisor control has suffered a double recursive abnormal termination in supervisor control super FRR. This code is associated with message IEA967W.

Operator Response: Probable software error. Re-IPL the system and report this wait state code to the system programmer.

Problem Determination: Table I, items 2, 13, 29.

020

Explanation: The MSSF (maintenance and service support facility) could not provide the channel path information that the IOS (input/output supervisor) RIM (resource initialization module) requires to complete IOS initialization. This condition occurred during the execution of NIP (the nucleus initialization program). The contents of the right half of the program status word are:

xmmrrcde

Where **x** contains irrelevant information and **cde** contains the wait state code.

The possible values, of **mm** and **rr** in hexadecimal, are:

mmrr Explanation

0000 IEAVNPA2 could not obtain channel path information.

If **mmrr** is not 0000, then the service processor could not provide the information to the reconfiguration installed resources RIM.

mm Module

00 IEAVNP27

rr	Explanation
10	IEAVNP27 could not obtain channel path information from the service processor.
20	IEAVNP27 could not obtain I/O side information from the maintenance and service support facility (MSSF).
30	IEAVNP27 could not obtain side information from the Obtain Resource Group Information routine (IEEVORGI).
40	IEAVNP27 could not obtain the amount of storage needed for side information from the Obtain Resource Group Information routine (IEEVORGI).

System Action: The IPL terminates with a nonrestartable wait.

Operator Response: Probable hardware error. Re-IPL the system. Have available the recorded contents of the wait state PSW (program status word).

Problem Determination: Table I, Items 11, and 29.

021

Explanation: During nucleus initialization, an input/output error occurred on the main console following an EXCP operation. Find register 1 in the trace table entry for the initial SRB dispatch of IECVPST. This entry follows the entry for the I/O interrupt that contains the error status.

Register 1 contains the address of the input/output block (IOB) for the failing EXCP operation. You can find Register 1 in the trace table entry for the initial SRB dispatch of IECVPST. This entry follows the entry for the I/O interrupt that contains the error status.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, item 30.

022

Explanation: A page fault has occurred for a page with a primary and secondary copy (duplexed page) but the primary and secondary devices are either in a quiesced or 'not ready' state. The error occurred in a system facility (such as WTO) invoked by direct access volume verification (DAVV).

Operator Response: Re-IPL the system. If the system is restarted, the current volume verification will not be completed. This could lead to an integrity exposure if an incorrect volume is mounted. Previous to the system restart, the operator should check to be sure that the correct volume is mounted. This can be done by displaying the contents of register 7 which contains the address of the UCB for the device and volume being verified. The UCB in turn contains the device address and volume serial number of the volume that should be mounted.

023

Explanation: An error occurred during the creation of the trace address space or during the initialization of the trace function. The ALTRTRC service returned a nonzero return code.

System Action: The IPL terminates with a nonrestartable wait state.

Operator Response: Probable system error. Notify the system programmer.

Problem Determination: Table I, items 11 and 29.

024

Explanation: The system termination facility failed to receive an expected interruption while attempting to write a record to the SYS1.LOGREC data set or issue a WTO macro instruction.

The system termination facility puts, from the LRB, a wait state code and an optional reason code in the PSW. The format of the PSW is as follows:

```
06xE0000 rrrr0www
```

The fields in the PSW are:

www The wait state code from the LOGREC buffer (LRB).

rrrr The optional reason code from the LRB.

x The interruption that the system termination facility is waiting for:

- **x Interruption**
- **1** An interruption indicating that the channel path is cleared.
- **3** An interruption indicating that I/O is completed.

When the wait state is loaded, register 1 points to a 2-word parameter list. The first word of the list contains the address of the WTO message. The second word contains the address of the LOGREC record.

Operator Response: Probable hardware and programming errors. Check the READ/WRITE switch on all disk devices, then re-IPL the system.

Problem Determination: Table I, items 11, 29 or 30.

025

Explanation: An entry point appears in more than one module that was being loaded into the DAT-on nucleus region. Message IEA087W identifies the entry point and the modules that the entry point appears in. IEA087W and any multiples of that message appear in the IPL WTO buffer.

System Action: The system is placed in a non-restartable wait state.

Operator Response: Notify your system programmer.

Programmer Response: To correct the error that caused this wait state, you need the information provided by message IEA087W, which appears in the IPL WTO buffer. As soon as possible, use problem determination Table I, item 56 for instructions for locating the buffer. If a stand-alone dump is taken before you find the buffer, the stand-alone dump will overlay some storage locations, and make it more difficult for you to find and translate the message. When you translate the message, you will know the value of **encrypt** and modules that **encrypt** appears in.

If IBM supplies both **mod1** and **mod2**, contact your support personnel. If either **mod1** or **mod2** is a user module, change the entry point name in the user module. If one of the modules is IEANUC0x, link edit to find which CSECT contains the unresolved external reference.

028

Explanation: The load frame parameter position (second and third bytes), that specifies the configuration identifier, did not contain an alphanumeric value. Message IEA096W, which appears in the IPL WTO buffer, accompanies this wait state code.

System Action: The system places the processor in a wait state.

Operator Response: Ensure that you entered a valid I/O configuration ID in the load frame parameter position; the default I/O configuration is '00'.

Programmer Response: Ensure that proper IPL text was installed on your IPL pack.

029

Explanation: NIP has found the time-of-day clock in error; the system is put into a wait state to allow the clock to be set.

Operator Response: Re-IPL the system while also holding the TOD-clock switch in the enable-set position in order for NIP to set the clock. The switch needs only to be held until the first NIP message is printed out of the system.

02A

Explanation: While attempting to signal a logically online processor, the SIGP resulted in a condition code 3, that is, the hardware could not signal the other processor because it appeared not to exist.

Operator Response: Place the other processor in the manual state by pressing the STOP key on that processor's console. After the other processor has entered the manual state, initiate the STORE STATUS function on the processor that entered the wait state. After the STORE STATUS function has been initiated, invoke the restart function on the same processor. When ACR has configured the other processor out of the system, an ACR has completed message will be sent to the operator's console. Then schedule the EREP service aid program for execution. Report this wait state code to your hardware support personnel.

Problem Determination: Table I, items 18 and 30.

02B

Explanation: While attempting to signal a logically online processor, the SIGP resulted in a condition code 3, that is, the hardware could not signal the other processor because it appeared not to exist. However, the other processor and experienced a similar problem and was the first processor to enter the 02A wait state.

Operator Response: Check the other processor for a 02A wait state and perform the response as indicated for the 02A wait state.

Problem Determination: Table I, items 18 and 30.

02C

Explanation: While attempting to signal a logically online processing unit, the SIGP resulted in a condition code 3, that is, the hardware could not signal the other processing unit because it appeared not to exist. Normally a 02A wait state would have occurred, but NIP is active and no attempt of ACR will be initiated.

Operator Response: Report this wait state code to your hardware support personnel. Re-IPL the system.

Problem Determination: Table I, item 30.

02D

Explanation: Mass Storage System devices are not supported during Nucleus Initialization Processing. Either the unit address of a 3850 type device, or the VOLSER of a volume mounted on a 3850 type device, was specified for a volume required during system initialization. In the latter case, message IEA314I will specify the unit address of the 3850 type device mounted with the conflicting volume.

Operator Response: Ensure that the unit address of a 3850 type device is not specified as a System Parameter value and that an online 3850 volume serial number is not the same as that for a volume required during system initialization.

02E

Explanation: Auxiliary storage manager(ASM) is unable to function due to unrecoverability or unusual number of permanent I/O errors on necessary page data set(s).

System Action: The system is terminated. Message ILR008W was issued prior to the wait state. Messages ILR007I, ILR009E and ILR010I may have been issued previously; these messages should indicate what conditions led to the issuance of wait state 02E.

Operator Response: Report this wait state to the system programmer. Provide the system programmer with the console sheet for problem analysis. Emphasize any I/O, machine check, missing interrupt handler, or disabled console communication messages that occurred prior to the wait. If necessary, at the next IPL, replace the page data sets referenced in the preceding messages or add more page data sets.

Programmer Response: Analyze the console output provided by the operator to determine the cause of the I/O error (see *MVS Diagnostic Techniques*). Determine which page data sets are no longer usable. Correct or replace these data sets.

Problem Determination: Table I, items 2, 18, 24, 28, 29, 30, 34.

02F

Explanation: A direct access device containing a page data set is unavailable for an I/O operation. Location X'40C' points to an area that contains the pertinent data. The format of the area is as follows:

Byte	Contents
0-3	Number of bytes of data in the following area.
4-7	Wait state code.
8-15	Time stamp.
16	Reason code in hexadecimal:
	80 Pack mounted does not contain the volume serial number specified in the unit control block (UCB) for this device.
	40 Intervention required for the specified device.
	20 Device not operational.
	10 A permanent I/O error occurred when the system read the volume serial number for the specified device.
17	Reserved.
18-19	Device number.
20-21	First two bytes of the sense data.
22-23	Reserved
24-27	Address of the complete sense data.

Operator Response: Verify that the proper pack is mounted on the device specified and then ready the device. Invoke the restart function in order to resume processing. If the reason code indicates that the device is not operational, also verify that the channel and the control unit are powered on and properly connected.

Problem Determination: Table I, items 2, 11, 24.

030

Explanation: During execution of the nucleus initialization program (NIP), an unanticipated request for abnormal task termination (ABEND) has occurred. The system completion code (in hexadecimal) may be found in bits 36-47 of the wait state PSW.

Operator Response: Record the contents of the wait PSW, and report this wait state code to the system programmer.

Programmer Response: Refer to the description of the ABEND code for further problem determination data.

The ABEND SVC entry in the system's SVC table reflects the address of a 'trap' routine in NIP, and not the address of the ABEND SVC. The registers at the time of the ABEND SVC request are found in the Type I SVC save area.

Problem Determination: Table I, items 11, 29. Have the recorded contents of the wait PSW available.

031

Explanation: The system cannot find a unit control block (UCB) for the device that contains the system residence volume.

Operator Response: Remove the system residence volume from its present device and mount it on a device defined at system generation. Re-IPL the system.

Programmer Response: Perform an I/O device system generation specifying the numbers of all devices accessible to the system in the IODEVICE macro instruction.

Problem Determination: Table I, items 11, 29.

032

Explanation: A required NIP module has not been found (through BLDL) in the SYS1.NUCLEUS data set.

System Action: The missing module is identified in bits 36-47 of the wait state PSW, as follows:

Bits 36-47 Value (in hex)	Module Name
000	IEAVNP00
001	IEAVNP01
003	IEAVNP03
004	IEAVNP04
005	IEAVNP05
006	IEAVNP06
007	IEAVNP07
009	IEAVNP09
010	IEAVNP10
011	IEAVNP11
013	IEAVNP13
015	IEAVNP15
016	IEAVNP16
017	IEAVNP17
019	IEAVNP19
01B	IEAVNP1B
01F	IEAVNP1F
023	IEAVNP23
033	IEAVNP33
047	IEAVNP47
051	IEAVNP51
057	IEAVNP57
0A1	IEAVNPA1
0A2	IEAVNPA2
0A6	IEAVNPA6
0A8	IEAVNPA8
0B2	IEAVNPB2
0B8	IEAVNPB8
0D6	IEAVNPD6
0D8	IEAVNPD8
0E6	IEAVNPE6
0E8	IEAVNPE8
0F2	IEAVNPF2
0F5	IEAVNPF5
7D4	IEAVNIPM
7E7	IEAVNIPX
7F1	IEAVNPX1

Operator Response: Record the contents of the wait state PSW and report this wait state code to the system programmer.

Programmer Response: Make sure that the missing module is included in the SYS1.NUCLEUS data set.

Problem Determination: Table I, items 11 and 29. Also do the following:

- Execute the IEHLIST utility program to obtain a directory listing of the SYS1.NUCLEUS data set and have the listing available.
- Have available the recorded contents of the wait state PSW.

033

Explanation: An I/O error occurred during BLDL processing for a required NIP module. Wait state code 032 explains how to identify the NIP module.

Operator Response: Probable hardware error. Re-IPL the system. If the error persists, notify the system programmer.

Problem Determination: Table I, item 30. Record the number of the IPL device on which the I/O error occurred and have it available. Record the contents of the wait PSW.

035

Explanation: Initial program load (IPL) could not find an entry point in the nucleus, so the IPL loaded either:

- an incomplete nucleus;
- an incomplete I/O configuration; or
- both an incomplete nucleus and an incomplete I/O configuration.

Message IEA084W identifies the missing entry point; that message and any multiples of it appear in the IPL WTO buffer.

System Action: The system is placed in a wait state.

Operator Response: Notify your system programmer.

Programmer Response: To correct the error that caused this wait state, you need the information provided by message IEA084W, which is in the IPL WTO buffer. As soon as possible, use problem determination Table I, item 56 for instructions for locating the buffer. If a stand-alone dump is taken before you find the buffer, the stand-alone dump will overlay some storage locations, and make it more difficult for you to find and translate the message.

After you find the buffer, translate the message, and locate the missing entry point, re-IPL the nucleus and/or the I/O configuration.

037

Explanation: The DSCB for SYS1.LOGREC, SYS1.SVCLIB, SYS1.PARMLIB, or SYS1.LINKLIB could not be successfully read from the volume where the data set resides for one of the following reasons:

- The data set does not exist on this volume.
- An unrecoverable I/O error occurred during the attempt to read the related DSCB.

Register 1 contains a pointer to the IOB for the failing I/O operation (EXCP). Diagnostic messages explaining the reason for the wait state and identifying the name of the data set involved precede the system wait.

WT CDS

Operator Response: Report this wait state code and the diagnostic messages which preceded it to the system programmer.

Programmer Response: Correct the error that caused the DSCB read I/O operation to fail and re-IPL the system.

Problem Determination: Table I, items 2, 11, 25, 29.

038

Explanation: IPL (initial program load) processing cannot initialize the system because there is not enough real storage. One of the following is true:

- There are not enough online frames that are usable
- There are not enough contiguous frames that are usable

Operator Response: Report this wait state code to the system programmer.

Programmer Response: Make sure that there is enough real storage available for IPL processing. You may have to reduce the number of optional system facilities selected for this system configuration. For further details concerning the storage requirements of the current configuration, see *System Generation Reference*.

039 to 03C

039

Explanation: A required direct access volume could not be successfully mounted because of a conflict with another online volume. The conflict could not be resolved since both volumes were required by the system, and, although both volumes had the same volume serial, the volume that was to be mounted required a different device type than that containing the online volume.

Operator Response: Report this wait state code to the system programmer.

Programmer Response: Change the volume where one of the two data sets resides. If the moved data set is cataloged, the catalog must be updated.

Problem Determination: Table I, items 2, 11, 29, 34a.

03A

Explanation: An error occurred during an attempt to build the LPA (cold start). The diagnostic messages preceding message IEA304W identify the error condition.

Operator Response: Report this wait state code and the preceding diagnostic messages to the system programmer.

Programmer Response: Correct the conditions that caused the LPA cold start to fail and re-IPL the system.

Problem Determination: Table I, items 2, 11, 29.

03B

Explanation: A module required for continued system operation cannot be found in the system link pack area (LPA).

Operator Response: Report this wait state code to the system programmer and save the console listing.

Programmer Response: Examine the console listing to determine the name of the missing module (see message IEA363I). Execute the IEHLIST utility program to obtain a directory listing of the SYS1.LPALIB data set. Examine this list to determine which required system modules are missing. The missing modules should then be copied into SYS1.LPALIB from the starter system libraries or from a similar back-up source. Re-IPL the system and add the missing module to the LPA either by requesting an LPA cold start or by using the MLPA or FIX options.

Problem Determination: Table I, items 2, 11, 29. Have a copy of the contents of the wait PSW available.

03C

Explanation: The auxiliary storage manager (ASM) found that not enough auxiliary storage space is available for system operation:

During IPL
Either the required number of page data sets was not specified by the user or ASM has detected a problem with a required page data set.

After IPL
ASM has run out of usable auxiliary storage for the pageable link pack area (PLPA), common, or local page data sets. Either all the local page data sets were full or damaged, or the PLPA, common, or duplex data set was full or damaged.

System Action: During IPL, the system issues message IEA935W, then loads this wait state PSW. After IPL, the system issues message ILR008W, then loads this wait state PSW, unless all the local page data sets were unusable; in that case, the system does not issue a message before loading this wait state PSW.

Operator Response: Notify the system programmer. Re-IPL the system, specifying larger page data sets or additional page data sets.

Programmer Response: Make sure that sufficient auxiliary storage is available.

Problem Determination: Table I, items 2, 29, 34.

03D

Explanation: During execution of the nucleus initialization program (NIP), RSM (real storage management) returned a nonzero return code while module IEAVNP08 was building common area page tables. There may not be enough real storage available to initialize the system as specified.

Operator Response: Report this wait state code to the system programmer.

Programmer Response: Increase the amount of available real storage.

Problem Determination: Table I, items 1, 11, and 29.

03E

Explanation: During IPL, ASM (auxiliary storage management) detected that there were not enough slots to back master scheduler initialization.

System Action: Message ILR073W precedes this wait state.

Operator Response: Report this wait state to the system programmer. Re-IPL the system, specifying larger page data sets or additional page data sets.

Programmer Response: Make sure that there is enough auxiliary storage available for system operation.

Problem Determination: Table I, items 2, 29, 34.

03F

Explanation: A nucleus initialization program (NIP) function has been improperly invoked.

Operator Response: Report this wait state code to the system programmer.

Problem Determination: Table I, items 2, 11, 29.

040

Explanation: A request for abnormal task termination (ABEND) has occurred during nucleus initialization program (NIP) processing. The system completion code (in hexadecimal) may be found in bits 31-47 of the wait state PSW.

Operator Response: Record the contents of the wait PSW and report this wait state code to the system programmer.

WT CDS

Programmer Response: Refer to the description of the ABEND code for further problem determination data.

The ABEND SVC entry in the system's SVC table reflects the address of a 'trap' routine in NIP, and not the address of the ABEND SVC. The registers at the time of the ABEND SVC request are found in the SVRB which represents the ABEND SVC.

Problem Determination: Table I, items 11, 29. Have the recorded contents of the wait PSW available.

041

Explanation: The error occurred during execution of an OPEN macro instruction for a TCAM message queue data set.

System Action: The error code is inserted into register 0 if the user has coded an address in the EXLST= operand of the message queue DCB macro instruction. The exit routine may examine the code in register 0. If no user exit is specified, an indication of the error type may be found in the explanation of console message IED008I.

Programmer Response: See message IED008I for the responses. This message is described in the appropriate advanced communications function for TCAM (ACF/TCAM) messages book.

044 to 052

044

Explanation: During execution of the nucleus initialization program (NIP), a machine check occurred on a processor in the configuration. The logical processor address of the processor on which the machine check occurred is in bits 40-47 of the wait state PSW.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, items 2, 12, 30.

045

Explanation: During execution of the nucleus initialization program (NIP), a BLDCPOOL request for a cellpool in SQA failed. System initialization cannot continue.

Operator Response: Report this wait state code to the system programmer.

Problem Determination: Table I, items 2, 11, 29.

046

Explanation: During execution of the nucleus initialization program (NIP), an unexpected program check occurred.

Operator Response: Report this wait state code to the system programmer.

Problem Determination: Table I, items 2, 11, 29.

04A

Explanation: A TOD Clock on one of the processors of the configuration is in the error state. The clock must be set to avoid generating a machine check later in NIP processing.

Operator Response: Press the RESTART button on the IPL processor, or execute the operator restart function on systems without a RESTART button. Then operate the clock security switch for several seconds. The initialization process will then continue.

Note: If all clocks in the configuration are bad, there may be as many 04A wait state conditions as there are processors.

050

Explanation: MCH has determined that ACR has been recursively invoked. This wait state code is associated with message IGF973W.

System Action: All processors are placed in a wait state.

Operator Response: Probable hardware error on more than one processor. Take a stand-alone dump and re-IPL the system. Then schedule the EREP service aid program for execution.

Problem Determination: Table I, items 11, 18, 30.

051

Explanation: ACR has encountered an unrecoverable error while recovery was in progress for another processor. This wait state code is associated with message IEA857W.

System Action: All processors are placed in a wait state.

Operator Response: Probable software error exists. Re-IPL the system and schedule the EREP service aid program for execution.

Problem Determination: Table I, items 11, 18, 29, or 30.

052

Explanation: ACR has encountered an unrecoverable error while recovery was in progress for another processor. This wait state code is associated with message IEA857W.

System Action: All processors are placed in a wait state.

Operator Response: Probable hardware error. Take a stand-alone dump and re-IPL the system. Schedule the EREP service aid program for execution.

Problem Determination: Table I, items 11, 18, 30.

053

Explanation: The SQA has been exhausted.

System Action: The system places the processor in a wait state.

Operator Response: Notify your system programmer.

054

Explanation: The system detected an error with the member that it loaded into the DAT-on nucleus region. Bits 40-43 in the PSW contain one of the following reason codes:

Reason
Code Explanation

001 A member, other than IEANUC0x, that the system was trying to load into the DAT-on nucleus region contained more than one control section; the member was not link edited with the SCTR option.

Message IEA089W, which appears in the IPL WTO buffer, identifies the member.

System Action: The system is placed in a non-restartable wait state.

Operator Response: Notify your system programmer.

Programmer Response: To correct the error that caused this wait state, you need the information provided by message IEA089W, which appears in the IPL WTO buffer. As soon as possible, use problem determination Table I, item 56 for instructions for locating the buffer. If a stand-alone dump is taken before you find the buffer, the stand-alone dump will overlay some storage locations, and make it more difficult for you to find and translate the message.

After you find and translate the message, you will know which module, or member, was not link edited with the SCTR option.

055

Explanation: A module was not found in SYS1.NUCLEUS. Bits 40-43 in the PSW contain one of the following reason codes:

Reason
Code Explanation

001 A DAT-off nucleus module was not found.

002 A DAT-on nucleus module was not found.

003 The IPL information table (IIT) was not found; member IOSIITxx indicates the I/O configuration.

004 A module list table (MLT) was not found.

005 A module that is required for IPL processing was not found.

For reason codes 1 through 4, one or more IEA086W messages may be written to the IPL WTO buffer. Reason code 5 indicates an install error, and no message is issued.

System Action: The system is placed in a non-restartable wait state.

Operator Response: Notify your system programmer.

Programmer Response: To correct the error that caused this wait state, you need the information provided by message IEA086W, which appears in the IPL WTO buffer. As soon as possible, use problem determination Table I, item 56 for instructions for locating the buffer. If a stand-alone dump is taken before you find the buffer, the stand-alone dump will overlay some storage locations, and make it more difficult for you to find and translate the message.

After you find and translate the message, you will know which member was not found in SYS1.NUCLEUS.

059

Explanation: During execution of the nucleus initialization program (NIP), a BLDL request returned an undefined return code. System initialization cannot continue.

Operator Response: Report this wait state code to the system programmer.

Problem Determination: Table I, items 2, 11, 29.

05C

Explanation: During execution of the nucleus initialization program (NIP), the pointer to the master catalog could not be obtained from the SYS1.NUCLEUS data set.

The pointer to the master catalog should be in the SYSCATLG or SYSCATnn member in the SYS1.NUCLEUS data set. The member is created at system generation time.

Operator Response: Possible causes are I/O errors while attempting a BLDL to find the member, member not found, or I/O errors attempting to read records from the member.

Re-IPL the system and report this wait state code to the system programmer.

Programmer Response: IPL a different system and use it to determine if the SYSCATLG or SYSCATnn member exists in the SYS1.NUCLEUS data set and is in the correct format. Add it to the data set as described in the Catalog Creation section of the SYSGEN SRL.

Problem Determination: Table I, items 2, 17ab, 25c, 26c, 29 or 30.

05D

Explanation: During execution of the nucleus initialization program (NIP), a data set control block (DSCB) for the master catalog could not be found or could not be read from the volume table of contents (VTOC) of the volume pointed to by the SYS1.NUCLEUS data set. For an integrated catalog facility (ICF) master catalog, NIP could not read the DSCB for the VSAM volume data set (VVDS) of the volume that it required.

The pointer to the master catalog is in member SYSCATLG in the SYS1.NUCLEUS data set.

Operator Response: Possible causes could be hardware errors, the wrong volume mounted, or an incorrect pointer to the master catalog in SYSCATLG member of SYS1.NUCLEUS data set. Re-IPL the system and report this wait state code to the system programmer.

Programmer Response: IPL a different system and use it to determine if (1) the VTOC of the volume containing the master catalog is correct or (2) the VTOC of the volume containing the VVDS is correct.

Problem Determination: Table I, items 2, 25a, 26c, 30.

05E

Explanation: During execution of the nucleus initialization program (NIP), an I/O error occurred while attempting to read the master catalog self-describing records.

The first ten records in the master catalog data set describe the master catalog itself. They are the catalog entry for the master catalog.

Operator Response: Probable hardware error. Re-IPL the system and report this wait state code to the system programmer.

Programmer Response: The master catalog must be restored to the proper volume, after the damage to that volume is corrected, or recreated as described in the SYSGEN SRL.

Problem Determination: Table I, items 2, 26d or 34a, 30.

05F

Explanation: NIP (nucleus initialization program) processing found an error related to the master catalog. Either the SYSCATLG member, or alternate SYSCATxx member, of SYS1.NUCLEUS contains incorrect data, or the master catalog self-describing records have been improperly written over or damaged in some way.

The first ten records in the master catalog data set describe the master catalog itself. They are the catalog entry for the master catalog.

Operator Response: Notify the system programmer.

Programmer Response: Confirm that the data in the SYSCATLG member, or alternate SYSCATxx member, of SYS1.NUCLEUS, including the volume serial number and the device type, are correct. After correcting any errors found in the SYSCATLG member, or alternate SYSCATxx member, of SYS1.NUCLEUS, re-IPL the system. If the SYSCATLG member is correct, then, if necessary, restore the master catalog to the proper volume, or recreate it as described in *System Generation Reference*. Re-IPL the system.

Problem Determination: Table I, items 2, 25d or 26b, 29.

060

Explanation: While saving or rebuilding the PLPA or ELPA, ASM initialization detected an error while processing external page table entries (XPTEs):

- On a cold start, ASM initialization was unable to locate an XPTE.
- On a quick or warm start, ASM initialization was unable to locate an XPTE or found invalid information in the quick start record (ILRQSRCD) or extended quick start record (ILREQSRD).

System Action: Message IEA943W is issued, and the IPL is terminated.

Operator Response: Notify the system programmer of this wait state.

Programmer Response: Re-IPL, specifying the CLPA system parameter.

Problem Determination: Table I, items 2, 11, 29.

061

WT CDS

Explanation: ASM initialization has detected an error with the time-of-day (TOD) clock while executing a store clock (STCK) instruction.

System Action: Message IEA945W is issued, and the IPL is terminated.

Operator Response: Correct the TOD clock, and re-IPL the system.

Problem Determination: Table I, items 2, 29.

062

Explanation: An error occurred involving channel path(s) to reserved devices. To attempt recovery, the processors that share these reserved devices with the processor suffering the error must not be allowed to initiate requests to the reserved devices.

System Action: The system does not use the channel path(s) until recovery is complete. The recovery function waits until you stop all processors that share the reserved devices with the processor that suffered the error.

Operator Response: Stop the sharing processors from initiating I/O. Restart the system that has the error. The system issues message IOS201E when the sharing processors can start I/O.

Problem Determination: Probable hardware error. Table I, items 2, 18, 30.

063 to 064

063

Explanation: During execution of the nucleus initialization program (NIP), a conditional GETMAIN failed.

Operator Response: Report this wait state code to the system programmer.

Programmer Response: Probable cause of this error is that insufficient SQA was available to provide the options requested for this IPL. Another possibility is a system error resulting in excessive demands on the NIP region. The subpool requested may be determined by examining the last GETMAIN entry reflected in the system trace table. If the request was for SQA after NIP processes the SQA parameter, the problem can be corrected by specifying a larger value via the 'SQA=' parameter. However, the problem can occur before NIP processes the SQA parameter. For further information about the SQA allocation, see *MVS/XA System Programming Library: Initialization and Tuning*. If the system was IPLed with insufficient real storage available to back the SQA requests, then it may be necessary to increase the amount of online storage before attempting to re-IPL, or to reduce the number of optional system facilities selected for this system configuration. For further details concerning the real storage requirements for the current configuration, see *System Generation Reference*.

Problem Determination: Table I, items 2, 11, 29.

064

Explanation: During execution of the nucleus initialization program (NIP), a system error (software/hardware) was detected and an attempt was made to enter the Recovery Termination Manager (RTM). This has been trapped by the NIP routines since the system is in a variable state of initialization and, in particular, RTM is not fully initialized. The second byte of the instruction address portion of the PSW contains a table entry code. The code explanations are as follows:

Table Entry Code	Explanation
01	A module took a branch to ABTERM.
02	Dynamic Address Translation error occurred.
03	Operator pressed the RESTART key.
04	Machine check.
05	Occurs when an SVC instruction is issued in an invalid mode (SRB, locked, etc.). However, this is usually not the actual error, since it is common for system routines to issue an ABEND (SVC 13) while holding a lock. Therefore, the first thing to do with a code 05 is to determine if an SVC 13 was the last SVC issued (look at the SVC OLD PSW or the trace table). If this is the case, the R1 field in the trace table contains the ABEND codes and the R15 field contains the reason code. The ABEND code may give some clue as to which SVC issued the ABEND. If it does, examination of the trace table may show where the ABEND-issuing SVC was issued. It may be that the inputs to that SVC were in error. If a code 05 occurs and SVC 13 was not the last SVC issued, then it is a true SVC error. It could be that a module is invalidly issuing an SVC while holding a lock. However, it is also possible that some routine which was previously in control returned to its caller without releasing a lock. In this case, the SVC-issuer is not at fault. Code 05 might have occurred while reading from SYS1.PARMLIB which has gone to multiple extents, or while trying to process a non-executable load module, or if there are I/O errors on the system residence volume.

06 Paging I/O error.

07 Call to ABTERM issued and no ASID provided.

08 Request for memory termination.

09 Indicates that a program check (other than a resolvable translation exception) has occurred. The program check OLD PSW indicates the type of exception and where it occurred. The registers at the time of the exception are saved at displacement X'48' into the LCCA. If it was a translation exception (program interrupt code X'10' or X'11',) location X'90' contains the address that could not be translated. The trace table also contains this information.

Code 09 may occur on a warm or quick start if the previous cold start failed before or during master scheduler initialization. Attempt to restart the system, specifying 'CLPA' in the reply to message IEA101A, SPECIFY SYSTEM PARAMETERS.

0A Alternate CPU recovery.

0B Cross-memory ABTERM and an ASID provided.

Operator Response: Check READ/WRITE switch on direct access devices (must be able to write on system pack for LPALIB during IPL) before reporting this wait state code to the system programmer.

Problem Determination: Table I, items 2, 11, 29. Also have the recorded contents of the wait state PSW available.

065

Explanation: During execution of the nucleus initialization program (NIP), an attempt was made to execute a type 3 or 4 SVC. This was trapped by the NIP routines because at the time the attempt was made, the type 3 and 4 SVCs had not been loaded.

Operator Response: Report this wait state code to the system programmer.

Problem Determination: Table I, items 2, 11, 29.

WT CDS

06C

Explanation: A machine check interruption occurred because of a serious error in a channel. While attempting to check the channel paths to identify the channel in error, the system encountered one of the following conditions:

- The disconnected channel path cannot be connected to this processor.
- The channel path that was connected to this processor at the time the error occurred cannot be reconnected to this processor.

Storage location X'414' contains the channel path ID of the channel path the system was attempting to connect to this processor.

Operator Response: Probable hardware error. Record the contents of storage location X'414' and report the problem to service personnel.

Problem Determination: Table I, items 2, 12, 18, 30.

06F

Explanation: One of the following conditions was detected along a path to a device:

- An inoperative control unit.
- A channel error.
- An undetermined error.

The device on the failing path is a paging device. There is no device reservation or active I/O operation on the path to indicate which system owns the device.

Location X'40C' contains the address of a location that contains the address of an error information area. In this error information area, the failing path is identified by the following fields:

- Offset 0 contains the 2-byte channel path ID, in hexadecimal.
- Offset 2 contains the 2-byte device number, in hexadecimal.

This wait state is loaded when the system cannot issue message IEA427A.

System Action: The device is disabled. The processor waits for the operator to take corrective action and enter a response.

Operator Response: Verify that the device is owned by this operating system to ensure that your reply does not usurp another system's ownership of the device. To respond, first store an appropriate action code in location X'30E', and then issue a RESTART. To determine the appropriate action code, refer to the following explanations.

Action Code **Explanation**

01 Used to attempt to recover access to the device through an alternate path, if one exists.

Warning: Data set integrity might be lost if the device is online to more than one system. In this case, quiesce any other systems that have access to the device and check with the system programmer *before* responding with action code X'01'. The system issues the unconditional reserve command. If the command is successful, the device is taken out of the quiesced state and an attempt is made to restart it. If the command is not successful, the system proceeds as if action code X'02' were used.

02 Used to force the device offline which prevents it from being allocated in the future. All I/O requests to the device are terminated in error. The device cannot be allocated again until the VARY command is used to make the device available.

00 Used to attempt to restart the device without making any attempt at recovery. If the error recurs, this wait state code is issued again.

Note: For instructions on how to modify storage, refer to the operating procedures for your processor.

070

Explanation: There is not enough contiguous real storage for the segment table or the DAT-off nucleus. (DAT is the acronym for dynamic address translation. Module IEAVEDAT is the DAT-off nucleus.)

Operator Response: Probable hardware error. If you can configure additional or different real storage for the system, do so and re-IPL the system.

071

Explanation: The IPL (initial program load) cannot continue because there is no more virtual storage; the DAT-on nucleus requires more storage than is available below 16 megabytes. Message IEA088W, which appears in the IPL WTO buffer, accompanies this wait state.

Operator Response: Notify your system programmer.

Programmer Response: Ensure that the IEANUC0x module is properly link edited.

072

Explanation: There is no more space in the work space allocated to the IPL (initial program load).

Operator Response: Notify the system programmer of this wait state.

Programmer Response: Make sure that IEANUC0x is properly link edited, and contact your IPL representative.

073

Explanation: The IPL program is waiting for an I/O or external interrupt. Bits 40 through 43 of the PSW contain a reason code.

Reason Code	Explanation
01	The IPL program is waiting for an I/O interrupt.
02	The IPL program is waiting for an external interrupt.

Operator Response: Probable hardware error. Re-IPL the system.

074

Explanation: The IPL program contains a program logic error. Bits 36 through 43 of the PSW contain a reason code (rc).

Reason Code	Explanation
01	An invalid SVC was issued.
02	The IPL SVC stack overflowed.
03	The IPL SVC stack underflowed.
04	The IPL program received an unexpected condition code of 2 on an SSCH (start subchannel) instruction.
05	The IPL program received an unexpected condition code of 1 on a TSCH (test subchannel) instruction.
06	The IPL program received an unexpected condition code on an LRA (load real address) instruction. Message IEA090W, which appears in the IPL WTO buffer, accompanies this reason code.
07	IEAIPL35 received invalid input.

Operator Response: Notify your system programmer.

Programmer Response: For reason code 06 only, you need the information provided by message IEA090W to correct the error that caused this wait state. The message appears in the IPL WTO buffer; for instructions for locating the buffer, use problem determination Table I, item 56 as soon as possible. If a stand-alone dump is taken before you find the buffer, the stand-alone dump will overlay some storage locations, and make it more difficult for you to find and translate the message.

WT CDS

075

Explanation: An IRIM (IPL resource initialization module) cannot be loaded because it cannot be found in the SYS1.NUCLEUS data set or because it is longer than 4,096 bytes. Bits 36 through 43 of the PSW contain a reason code (rc).

Reason Code	Explanation
01	Module IEAIPL01 was not found in SYS1.NUCLEUS.
02	Module IEAIPL01 is too large.
03	The delimiter for the end of the IRIM list was encountered before all the IRIMs were found.
04	An IRIM member was not found in SYS1.NUCLEUS.
05	An IRIM module is too large.

Operator Response: Notify the system programmer of the reason code.

Programmer Response: Make sure that the IRIM module is properly link edited into the SYS1.NUCLEUS data set on the system residence volume.

076 to 081

076

Explanation: While attempting to load an IRIM (IPL resource initialization module) or the DAT-off nucleus (IEAVEDAT), the system encountered a relocatable address constant that is not a fullword.

Operator Response: Notify the system programmer of this wait state code.

Programmer Response: Make sure that the IRIM module is properly link edited into the SYS1.NUCLEUS data set on the system residence volume.

077

Explanation: The entry point of an SVC (supervisor call) or ESR (extended SVC router) routine cannot be resolved.

Operator Response: Report this wait state to the system programmer.

Programmer Response: Make sure that the IEANUC0x module is properly link edited.

078

Explanation: The master catalog could not be opened successfully. Message IEC161I precedes this wait state and identifies the specific open failure.

Operator Response: Probable I/O error. Re-IPL the system and report this wait state code to the system programmer.

Programmer Response: Correct the error identified by message IEC161I. If the error is not correctable, the master catalog must be recreated as described in *System Generation Reference*.

Problem Determination: Table I, items 2, 25a, 34a, 29 or 30.

079

Explanation: The UCBs and resident device support modules in SYS1.NUCLEUS are incompatible. Message IEA098W, which appears in the IPL WTO buffer, identifies the I/O configuration that contains the incompatible UCBs.

System Action: The system is placed in a wait state.

Operator Response: Notify your system programmer.

Programmer Response: To correct the error that caused this wait state, you need the information provided by message IEA098W, which appears in the IPL WTO buffer. As soon as possible, use problem determination Table I, item 56 for instructions for locating the buffer. If a stand-alone dump is taken before you find the buffer, the stand-alone dump will overlay some storage locations, and make it more difficult for you to find and translate the message.

After you find the buffer and translate the message, you will know which I/O configuration is incompatible with the system code. Re-IPL with a different I/O configuration, one that contains UCBs that are compatible with the system code.

081

Explanation: The SYS1.NUCLEUS data set or a member of the SYS1.NUCLEUS data set (IEANUC0x, IEAVEDAT) occupies more than one extent.

Operator Response: Re-IPL the system and notify the system programmer of this wait state code.

Programmer Response: Make sure that the SYS1.NUCLEUS data set is properly allocated as a single extent data set.

083

Explanation: The system found an invalid address in a critical prefixed storage area (PSA) field. This is an uncorrectable error.

Bits 40 to 47 of the wait state PSW contain a hexadecimal reason code:

Reason Code	Explanation
01	The supervisor analysis router (module IEAVESAR) detected that either field PSALCCAV or field PSASCWA contained an invalid address that could not be corrected.
02	Low storage refresh (module IEAVELCR) detected that field PSAPCCAV contained an invalid address that could not be corrected.

Operator Response: Probable software error. Stop all other processors in the system, and execute a stand-alone dump. Notify the system programmer.

Problem Determination: Table I, items 2, 11, 29.

084

Explanation: The recovery termination manager (RTM) has encountered an uncorrectable error while trying to provide recovery or termination support to a user or system routine. Bits 40 to 47 of the wait state PSW contain a hexadecimal reason code that describes the error:

Reason Code	Explanation
04	A first level interruption handler (FLIH) determined that an interruption is an error; the FLIH issued a CALLRTM to ask RTM to recover or terminate the routine that caused the error. The low storage pointer, PSACSTK, to the current functional recovery routine (FRR) stack does not point to a valid FRR stack.
08	The FRR recovery routine for RTM's FRR processing function could not recover from an error in RTM. The super FRR was invoked and scheduled an RTM recovery function as the retry attempt for the original error. The RTM recovery function tried to terminate the current address space but encountered a second error.
0C	The RTM code that processes the FRR stack found an error; that code is not covered by an FRR recovery routine. RTM attempted to terminate the address space but encountered a second error.
10	RTM's FRR processing function encountered an error while attempting to terminate an address space that suffered a dynamic address translation error (DATERR). The DATERR was detected when the program check first level interruption handler (FLIH) was entered recursively for segment exceptions. This condition is an unrecoverable error.

WT CDS

System Action: The system issues message IEA797W, writes an error record in SYS1.LOGREC, and enters the 084 wait state.

Operator Response: Probable software error. Notify the system programmer. Execute a stand-alone dump. Then re-IPL the system, and schedule IFCEREP1 for execution.

Problem Determination: Table I, items 2, 11, 18, 29.

085

Explanation: During this warm start IPL, the auxiliary storage manager (ASM) forced a switch to a cold start. ASM has also determined that one of the two following conditions is true:

1. The PLPA page data set is on a cached auxiliary storage subsystem and must be reset.
2. PLPA has overflowed to the COMMON page data set and COMMON is on a cached auxiliary storage subsystem and must be reset.

System Action: The system terminates processing, and issues message IEA117W before the wait state.

Operator Response: Re-IPL the system with the CLPA option.

Problem Determination: Table I, item 29.

09x

Explanation: The processor (Pz) that is in the wait state was in a spin-loop waiting for an event to occur on another processor (Py). The spin-loop exceeded the time normally required for the event to occur. This wait state occurred because the Disabled Console Communications facility (IEEVDCCR) was unable to issue the excessive spin notification message (IEA490A or IEE331A). The event being awaited is identified by the third digit (x) of the wait state code. The values of x and the related events are:

1 RISGNL response
2 Lock release
3 SIGP (not operational)
4 Restart resource
5 Address space to QUIESCE
6 PTLB SYNC
7 Intersect release
8 SIGP (equipment check)
9 SIGP (operator intervening)
A SIGP (check stop)
B SIGP (not ready)
C SIGP (busy condition)
D SIGP (receiver check)
E Successful bind break release

Bits 40-47 of the PSW for wait state 09x contain the logical address of the processor causing the spin-loop. This in the form **4x**, where **x** is the processor address. This identifies the processor that must be stopped when the operator responds ACR to the wait state.

System Action: The processor that was in the spin-loop is in the restartable wait state waiting for the operator to store an action code and restart it.

Operator Response: Ensure that your console screen is associated with the processor that is in the 09x wait state. Before restarting this processor, you should store an 'action code' in storage location X'30E' of that processor. This action code specifies what you want the system to do after you restart the processor. You have two choices in this situation:

- If the action code is X'AA' initiate alternate recovery (ACR) for the processor (Py) on which the expected event has not occurred
- For any other action code, continue in the spin-loop waiting for the event to occur.

If you store action code X'AA', you should not restart the processor in the wait state (i.e., Pz) until you first stop the processor (Py) that will be the target of the ACR. You can find the ID of this processor in one of two ways. Look at bits 40-47 of the PSW for the 09x wait state code or display the word *pointed to* by location X'40C' of the processor in the wait state. This word contains the physical ID (0-F) of the processor (Py) you should stop before restarting with action code X'AA'.

After ACR processing is complete, you can issue the CONFIG CPU(y),ONLINE command to bring processor y back into the configuration.

Problem Determination: Table 1, items 2, 11, 29.

0E0

Explanation: During execution of the nucleus initialization program (NIP), IEAVNP09 could not signal an online processor to update control register 14.

System Action: The system terminates the IPL process.

Programmer Response: Probable hardware error. Try to re-IPL the system.

If this wait state happens again, switch to uniprocessor mode and re-IPL the system. Then try to vary the other processor online. If necessary, contact your hardware support personnel.

Problem Determination: Table 1, items 2 and 30.

0E1

Explanation: A wait state occurs during CPU reconfiguration processing.

System Action: As a result of Wait State Code 0E1 one of the following system actions will occur.

1. The service processor has failed. IEEVSTOP loads the wait state instead of issuing SIGP STOP to the processor.
2. A restart occurred during IEEVWKUP processing.
3. Restart received on target processing unit, after an IEEVCPR timeout was waiting for DSGNL RESTART.

Operator Response: In the second or third case, retry the command. If failure continues, then a hardware problem probably exists. Contact your system programmer.

Programmer Response: Contact your hardware support personnel.

0E3

Explanation: There is not enough virtual storage available to initialize the common service area (CSA).

Operator Response: Report this wait state code to the system programmer.

Programmer Response: Modify the virtual storage requested or required for the nucleus, SQA (system queue area), or the LPAs (link pack areas).

Problem Determination: Table I, items 2, 11, and 29.

0E7

Explanation: The machine check handler, IGFPMAIN, detected a service processor damage (SPD) machine check.

Operator Response: Report the problem to service personnel.

0E8

Explanation: During the NIP (nucleus initialization program), IGFRIM00, the MCH (machine check handler) RIM (resource initialization module), failed. Bits 32 through 47 of the wait state PSW contain a reason code:

WT CDS

rc	Explanation
81rr	Module IGFPBUCR returned nonzero return code rr when it was called to allocate the MCH control blocks.
82rr	Module IGFPBUCR returned nonzero return code rr when it was called to initialize the control registers.
83rr	The GETMAIN routine returned nonzero return code rr to IGFRIM00.

101

Explanation: The error occurred during execution of a GETMAIN macro instruction for a program executing in supervisor mode. More bytes were requested from the system queue area (SQA) than were available.

Operator Response: Re-IPL the system. If this code occurs frequently, installation action is needed to increase the space allowed for the system queue; more space should be specified at system generation time or in response to message IEA101A during system IPL.

Problem Determination: Table I, items 2, 11, 29.

102

Explanation: The error occurred during execution of a GETMAIN macro instruction for a program executing in supervisor mode. More pages of real storage were requested for the system queue area (SQA) than were available.

Operator Response: Re-IPL the system. If this code occurs frequently, installation action is required to decrease the fixed real storage requirements of the system.

Problem Determination: Table I, items 2, 11, 29.

104

Explanation: The recovery termination manager (RTM) issued an SVC 13 (ABEND), which passed control to the SVC first level interruption handler (FLIH). The SVC FLIH cannot execute because of a recursive program check. The SVC FLIH recovery routine, IEAVESVR, detected the recursive error and loaded the 104 wait state PSW.

Operator Response: Notify the system programmer. Execute a stand-alone dump, then re-IPL the system and schedule IFCERP1 for execution.

Problem Determination: Table I, items 11, 18, 29.

110

Explanation: The I/O supervisor (IOS) has detected a hot I/O condition, which is a hardware malfunction that causes repeated, unsolicited I/O interruptions, on a device other than a direct access device.

Operator Response: Locate the device number of the hot device and the operator reply area by using the console display facility to display the two words *pointed to* by the location, X'40C'. The first word contains the address of the status collection data (SCD) control block. Display the SCD. The pertinent information in the SCD is as follows:

Offset 0 - Control block ID of the SCD.
Offset 4 - 2-byte device number in hexadecimal.
Offset 6 - 1-byte channel path ID in hexadecimal.

The second word contains the address of the operator reply area, which is initialized to blanks.

Try to correct the problem in the following order:

1. In the device, while keeping it online; then store action code 01.

2. By logically removing, or boxing, the device; then store action code 02. When a device is boxed, the system makes the device pending offline and subsequent I/O requests to the device are permanent errors. The device is left status pending so that the device cannot present any new interrupts to the system.

3. In the control unit, while keeping it online; then store action code 03. The operator must store in the operator reply area the device number of each device on the control unit.

4. In the channel path, while keeping it online; then store action code 04.

5. By forcing the channel path offline; then store action code 05.

Indicate to IOS how to handle recovery by storing one of the following action codes in location X'30E':

Action Code	Explanation
01	This reply tells IOS that (1) the operator did not physically remove any device or control unit, but may or may not have reset the device and (2) IOS should not remove any device and not attempt any channel recovery.

02 This reply tells IOS to logically remove (box) the device. The operator may or may not have physically removed the device.

03 This reply tells IOS that the operator physically removed the control unit, for example, the operator powered off the control unit or disabled all the interfaces to the control unit. The operator must store in the operator reply area the device number of each device on the control unit. For example, if devices 25E, and 250 through 254 are on the control unit, reply:

025E0250825440

The reply must end in X'40'.

The 3-digit device number must be preceded by a 0 or 8. 0 indicates a single device or the first device in a range of devices. 8 indicates the last device in a range of devices. A list of three single devices, xxx, yyy, and zzz, is entered as 0xxx0yyy0zzz40. A range of devices from xxx to yyy is entered as 0xxx8yyy40.

04 This reply tells IOS (1) to attempt recovery for the channel path named in the SCD and (2) if recovery is successful, to keep the channel path online.

05 This reply tells IOS to force the channel path named in the SCD offline.

Invoke the restart function.

If necessary, contact hardware support personnel. When the device is repaired, it can be varied online.

System Action: The device is left status pending. This prevents the device from presenting any additional interruptions until further operator action. The system waits for the operator to take corrective action, if needed, and reply to the message.

The action the system takes depends on the operator response, as follows:

Response	System Action
01	An interruption is simulated, pending status is cleared, and processing continues. The device remains online.
02	The system boxes the device. That is, the system makes the device pending offline and subsequent I/O requests to the device are permanent errors. The device is left status pending so that the device cannot present any new interruptions to the system.
03	The system boxes (see 02) the devices specified in the reply. The hot devices listed in the reply are boxed and left status pending.
04	The system attempts to recover the channel path. If channel path recovery is successful, the system issues message IOS203I, leaves the channel path online, and clears the pending status of the hot device. If the channel path recovery is not successful, the system issues message IOS202I and forces the channel path offline. If channel path recovery did not clear the condition causing the device to go hot, hot I/O may soon recur on this device. If it does, the operator may need to reply 02, 03 or 05 the next time this message occurs for this device.
05	The system forces the channel path offline and issues message IOS202I.

Problem Determination: Probable hardware error. Table I, items 2, 18, 30. Further information about the hot device can be found in the SCD or in the SYS1.LOGREC data set. The SCD is documented in *Debugging Handbook*.

111

Explanation: The I/O supervisor (IOS) has detected a hot I/O condition, which is a hardware malfunction that causes repeated, unsolicited I/O interruptions, on a direct access device.

Operator Response: Locate the device number of the hot device and the operator reply area by using the console display facility to display the two words pointed to by location X'40C'. The first word contains the address of the status collection data (SCD) control block. Display the SCD. The pertinent information in the SCD is as follows:

Offset 0 - Control block ID of the SCD.
Offset 4 - 2-byte device number in hexadecimal.
Offset 6 - 1-byte channel path ID in hexadecimal.

Try to correct the problem in the following order:

1. In the device, while keeping it online. Then store action code 01.

2. By logically removing, or boxing, the device; then store action code 02. When a device is boxed, the system makes the device pending offline and subsequent I/O requests to the device are permanent errors. The device is left status pending so that the device cannot present any new interrupts to the system.

3. In the channel path, while keeping it online. Then store action code 04.

4. By forcing the channel path offline. Then store action code 05.

Warning: Do not reset the control unit; resetting causes the reserves to be lost.

Indicate to IOS how to handle recovery by storing one of the following action codes in location X'30E':

Action Code	Explanation
01	This reply tells IOS that (1) the operator did not physically remove any device or control unit, but may or may not have reset the device and (2) IOS should not remove any device and not attempt any channel recovery.
02	This reply tells IOS to logically remove (box) the device. The operator may or may not have physically removed the device.
04	This reply tells IOS (1) to attempt recovery for the channel path named in the SCD and (2) if recovery is successful, to keep the channel path online.
05	This reply tells IOS to force the channel path named in the SCD offline.

Invoke the restart function.

If necessary, contact hardware support personnel. When the device is repaired, it can be varied online.

System Action: The device is left with its status pending. This prevents the device from presenting any additional interruptions until further operator action. The system waits for the operator to take corrective action, if needed, and reply to the message.

The action the system takes depends on the operator response, as follows:

Response	System Action
01	An interruption is simulated, pending status is cleared, and processing continues. The device remains online.
02	The system boxes the device. That is, the system makes the device pending offline and subsequent I/O requests to the device are permanent errors. The device is left status pending so that the device cannot

present any new interruptions to the system.

04 The system attempts to recover the channel path. If channel path recovery is successful, the system issues message IOS203I, leaves the channel path online, and clears the pending status of the hot device. If the channel path recovery is not successful, the system issues message IOS202I and forces the channel path offline. If channel path recovery did not clear the condition causing the device to go hot, hot I/O may soon recur on this device. If it does, the operator may need to reply 02 or 05 the next time this message occurs for this device.

05 The system forces the channel path offline and issues message IOS202I.

Problem Determination: Probable hardware error. Table I, items 2, 18, 30. Further information about the hot device can be found in the SCD and in the SYS1.LOGREC data set. The SCD is documented in *Debugging Handbook*.

112

Explanation: The I/O supervisor (IOS) has detected a hot I/O condition, which is a hardware malfunction that causes repeated, unsolicited I/O interruptions, on a reserved direct access device.

Operator Response: Locate the device number of the hot device and the operator reply area by using the console display facility to display the two words pointed to by location X'40C'. The first word contains the address of the status collection data (SCD) control block. Display the SCD. The pertinent information in the SCD is as follows:

Offset 0 - Control block ID of the SCD.
Offset 4 - 2-byte device number in hexadecimal.
Offset 6 - 1-byte channel path ID in hexadecimal.

Try to correct the problem in the following order:

1. In the device, while keeping it online. Then store action code 01.
2. By logically removing, or boxing, the device; then store action code 02. When a device is boxed, the system makes the device pending offline and subsequent I/O requests to the device are permanent errors. The device is left status pending so that the device cannot present any new interrupts to the system.
3. In the channel path, while keeping it online. The store action code 04.
4. By forcing the channel path offline. Then store action code 05.

Warning: Do not reset the control unit; resetting causes the reserves to be lost.

Indicate to IOS how to handle recovery by storing one of the following action codes in location X'30E':

Action Code	Explanation
01	This reply tells IOS that (1) the operator did not physically remove any device or control unit and did not reset the device and (2) IOS should not remove any device and not attempt any channel recovery.
02	This reply tells IOS to logically remove (box) the device. The operator may or may not have physically removed the device.
04	This reply tells IOS (1) to attempt recovery for the channel path named in the SCD and (2) if recovery is successful, to keep the channel path online.
05	This reply tells IOS to force the channel path named in the SCD offline.

Invoke the restart function.

If necessary, contact hardware support personnel. When the device is repaired, it can be varied online.

System Action: The device is left with its status pending. This prevents the device from presenting any additional interruptions until further operator action. The system waits for the operator to reply to the message. The action the system takes depends on the operator response, as follows:

Response	System Action
01	An interruption is simulated, pending status is cleared, and processing continues. The device remains online.
02	The system boxes the device. That is, the system makes the device pending offline and subsequent I/O requests to the device are permanent errors. The device is left status pending so that the device cannot present any new interruptions to the system.
04	The system attempts to recover the channel path. If channel path recovery is successful, the system issues message IOS203I, leaves the channel path online, and clears the pending status of the hot device. If the channel path recovery is not successful, the system issues message IOS202I and forces the channel path offline. If channel path recovery did not clear the condition causing the device to go hot, hot I/O may soon recur on this device. If it does, the operator may need to reply 02 or o5 the next time this message occurs for this device.
05	The system forces the channel path offline and issues message IOS202I.

Problem Determination: Probable hardware error. Table I, items 2, 18, 30. Further information about the hot device can be found in the SCD or in the SYS1.LOGREC data set. The SCD is documented in *Debugging Handbook*.

113

Explanation: IOS (input/output supervisor) could not recover from an error that occurred while IOS was performing channel path recovery. Reserved devices may have been released so data may be lost or written over. This wait state is associated with message IOS113W.

System Action: The system terminates.

Operator Response: Notify the system programmer. If your installation has no other procedures to follow, take a stand-alone dump and re-IPL the system.

Problem Determination: Probable software error.

114

Explanation: A previous error required sharing processors to be stopped. At that time, the system issued message IOS062E or wait state code 062. Now the system has recovered from the error; the system has loaded wait state code 114 because it could not issue message IOS201E.

Bits 40-47 of the wait state PSW contain one of the following descriptor codes:

Descriptor Code	Explanation
01	Reserves are intact. The system has successfully recovered the reserved devices.
02	Reserves are lost. The system has forced offline one or more devices reserved for the system.

System Action: The system waits until the operator restarts it.

Operator Response: Start the processors stopped in response to message IOS062E or wait state code 062. Then restart this system. If the descriptor code indicates reserves were lost, notify your system programmer and then follow your installation's procedures. If these procedures fail, re-IPL the stopped systems that

share devices no longer reserved for this system. Then restart the system.

115

Explanation: A direct access device containing a page data set is unavailable for an I/O operation. Location X'40C' points to an area that contains the pertinent data. The format of the area is as follows:

Byte	Contents
0-3	Number of bytes of data in the following area.
4-7	Wait state code.
8-15	Module name issuing wait state
16-23	Time stamp
24	Reason code in hexadecimal:
	80 Pack mounted does not contain the proper volume serial number as specified in the unit control block (UCB) for this device.
	40 Intervention required for the specified device.
	20 Device not operational.
	10 Permanent I/O error reading the volume serial number for the specified device.
25	Reserved.
26-27	Device address
28-29	First two bytes of the sense data.
30-31	Reserved.
32-35	Address of the complete sense data.

Operator Response: Verify that the proper pack is mounted on the device specified and then ready the device. Invoke the restart function in order to resume processing. If the reason code indicates that the device is not operational, also verify that the channel and the control unit are powered on and properly connected.

Problem Determination: Table I, items 2, 11, 24.

116

Explanation: During restart processing, IOS has found an MIH (missing interruption handler) condition waiting on paging device ddd for more than one installation-specified period of time. Storage location X'40C' contains the paging device number ddd.

WT CDS

System Action: The system enters wait state 116.

Operator Response: Examine paging device ddd for hardware malfunctions (such as the SELECT LOCK indicator being on for a disk device.) Check control units and switching units for proper connections. Then invoke the restart function. If the device was just mounted, issue the VARY DEVICE ONLINE command to generate a simulated device end.

Problem Determination: Table I, items 2, 5a, 16, 24, 29, 30.

11A

Explanation: The SVC 26 routine received a protection exception when the routine tried to store into a user-supplied CAMLST work area. The storage protection key of the work area did not match the user's protection key.

Programmer Response: Correct the pointer in the LOCATE parameter list to the LOCATE work area, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

200 to 202

200

Explanation: The EDT (eligible device table) verification routine found an EDT that device allocation cannot use. The following reason codes and the meaning of each give more detail:

Reason Code	Explanation
0001	The wrong level of the EDT was used. See message IEF927I for more information.
0002	The EDT contains devices that do not have a corresponding UCB (unit control block). See message IEF928I for more information.
0003	The system failed to load the specified EDT member from SYS1.NUCLEUS.

Operator Response: Either select EDT by identifier in SCHEDxx parameter member, or let it default.

201

Explanation: A failure has occurred during the execution of the console communications address space create routine (IEAVN700). This code is associated with message IEA366A.

Bits 32 through 47 of the wait state PSW contains one of the following hexadecimal reason codes:

Reason Code	Explanation
8001	A failure occurred while creating the console communications address space.
8002	A failure occurred in module IEAVN700.
Fccc	An abend occurred, where ccc is the system abend code.

Operator Response: Record the contents of the wait state PSW and report this wait state code to the system programmer. Re-IPL the system.

Programmer Response: If the reason code is in the format Fccc, refer to the description of abend code ccc for problem determination. If the reason code is in the format 8xxx, refer to the problem determination that follows.

Problem Determination: Table I, items 2, 33, and 29.

202

Explanation: A failure has occurred during the execution of the console communications address space initialization routine (IEAVN701). This code is associated with message IEA367A.

Location X'40C' (field PSAWTCOD in the PSA) contains one of the following reason codes:

Reason Code	Explanation
X'00008001'	An ESTAE environment cannot be established.
X'00008002'	An error occurred during ATTACH processing of module IEAVMQWR or IEEVWAIT.
X'00008003'	An error occurred during POST processing for module IEAVN700.
X'00008004'	An error occurred during POST processing for module IEAVN701.
X'00008005'	An error occurred during updating of the command address space table.
X'0000Fccc'	An abend occurred, where ccc is the system abend code.

Operator Response: Record the contents of location X'40C' and report this wait state code to the system programmer. Invoke the restart function to restart the system.

Programmer Response: If the reason code is in the format X'0000Fccc', refer to the description of abend code ccc for problem determination. If the reason code is in the format X'00008xxx', refer to the problem determination that follows.

Problem Determination: Table I, items 2, 33, and 29.

A00

Explanation: A DAT (dynamic address translation) error occurred for a system address space. RTM (recovery termination manager) did not terminate the address space because the ASCBNOMT and ASCBNOMD fields of the ASCB show that the MEMTERM option of the CALLRTM macro instruction is not valid for the address space.

System Action: The system issues message IEA802W.

Programmer Response: Find and correct the DAT error, and re-IPL the system.

Problem Determination: Table I, items 2 and 18.

A01

Explanation: Either a predefined number of hard machine check interruptions occurred, causing module IGFPMCIH to issue this wait state code, or a hard machine check interruption occurred from which recovery is not possible.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, items 18, 30. To recover possible unrecorded machine check error records, see Table I, item 11.

A18

Explanation: IOS received an unsolicited device end interruption for a volume containing a paging data set. Volume serial verification failed for at least one of the following reasons:

- The device address contained a volume with a different volume serial number.
- An I/O error occurred while attempting to read the volume label.
- The device went from ready to not ready status (intervention required) by the time volume verification attempted to read the volume label.

System Action: Enters disabled wait state.

Operator Response: Probable operator error. Ensure that all volumes containing paging data sets are on the same device addresses as they were at IPL time; make sure that all devices are ready, and invoke the restart function. If the system reenters this wait state try again.

WT CDS

Note: Repeated failure indicates that a device containing a volume with a paging data set is giving uncorrectable I/O errors while trying to verify the volume containing the data set.

Problem Determination: Table I, items 11, 29 or 30.

A19

Explanation: The I/O subsystem can no longer perform I/O. No I/O operations should be performed.

System Action: The system is in a nonrestartable wait state.

Operator Response: I/O hardware servicing is probably required.

Problem Determination: Probable hardware error. Table I, items 2, 18, 30.

A20

Explanation: Module IEAVNPD8, the real storage management (RSM) resource initialization module (RIM), found a page in the fixed link pack area (FLPA) that is not fixed. This is probably a system error.

Operator Response: Execute a stand-alone dump, and notify the system programmer. You can attempt to re-IPL the system without the FLPA.

Problem Determination: Table I, items 2, 11, 29.

A21 to A27

A21

Explanation: Module IEAVNPD8, the real storage management (RSM) resource initialization module (RIM), attempted to page-protect the storage area named in message IAR003W. However, the module found an invalid segment table entry for this area. See message IAR003W.

Operator Response: Execute a stand-alone dump, and notify the system programmer. If the error occurred in the modified link pack area (MLPA), the extended pageable link pack area (PLPA), the fixed link pack area (FLPA), or the extended FLPA, you can attempt to re-IPL the system without this area.

A22

Explanation: The Disabled Console Communications Facility (DCCF), running on a processor, loads this interim wait state to send the operator another message or wait state. An error, such as a hot I/O condition, in a multiprocessing configuration usually causes this action by the DCCF.

System Action: The processor on which the DCCF is running waits for responses to the messages that the DCCF sent to the master, alternate or system console. When message processing is complete, the system restarts the processors that are in the A22 wait state.

Operator Response: Check the master, alternate or system console for messages that describe the problem, and perform the appropriate responses to those messages.

A23

Explanation: This wait state code is associated with message IGF910W. A program check interruption occurred while the machine check handler was in execution on the only online processor, and no recovery was possible.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, item 18, 30. To recover possible unrecorded machine check records, see Table I, item 11.

A24

Explanation: This wait state code is associated with message IGF910W. A loop was detected while the machine check handler was in execution on the only online processor and no recovery was possible.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, item 18, 30. To recover possible unrecorded machine check records, see Table I, item 11.

A26

Explanation: A machine check interruption has occurred, and the machine check interruption code associated with the interruption is invalid. No recovery was possible.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, item 18, 30. To recover possible unrecorded machine check records, see Table I, item 11.

A27

Explanation: This wait state code is associated with processor termination. This wait state is entered for one of the following reasons:

- The machine check handler externally linked to a routine in which a machine check interruption or a program check interruption occurred.
- The processor issued a malfunction alert (MFA) and did not enter or remain in check-stop state.
- A malfunction alert was simulated when the operator replied ACR to message IEE331A and the processor did not enter or remain in check-stop state.

System Action: Processor enters disabled wait state. Processing continues on other processors.

Operator Response: None.

Problem Determination: Table I, items 18, 30. To recover possible unrecorded machine check records, see Table I, item 11.

A28

Explanation: The DAT-off MCH (machine check handler) module, IGFPMCIH, cannot reach the DAT-on MCH module, IGFPMAIN. (Reminder: DAT is an acronym for dynamic address translation.) This situation can arise when a second machine check occurs while the LPSW (load program status word) assembler instruction gives control to IGFPMAIN. The LPSW assembler instruction enables the DAT facility. There may be a malfunction in the DAT hardware.

Operator Response: Probable hardware error. Try to re-IPL the system.

Problem Determination: Table I, items 18 and 30. To recover possible unrecorded machine check records, see Table I, item 11.

A29

Explanation: During system termination, a program check or machine check occurred in IGFPTERM'S FRR while it was trying to recover from a prior program check or machine check.

System Action: The system issues this wait state.

Operator Response: There is probably a software error. Re-IPL the system.

Problem Determination: Table I, items 11, 18, and 29.

A2A

Explanation: Module IEAVNPD8, the real storage management (RSM) resource initialization module (RIM), tried to page-protect a PLPA or MLPA page that does not exist in auxiliary storage. This is probably a system error.

Operator Response: Execute a stand-alone dump, and notify the system programmer. You can attempt to re-IPL the system using the no-protect option on the MLPA system parameter.

A2B

Explanation: This wait state code is associated with message IGF912W, which appears when a hardware error exists in extended storage, and recovery is impossible.

Operator Response: Probable hardware error; re-IPL the system.

Problem Determination: Table I, items 18, 30. To recover possible unrecorded machine check records, see table I, item 11.

WT CDS

B01

Explanation: The 3203/3211 utility has completed normally.

Operator Response: Verify the printed image and restart the system.

B02

Explanation: This wait state code is issued by the 3203/3211 utility. A control card is missing or out of order. The JOB and END control cards must be the first and last cards respectively. The DFN, UCS, and FCB statements can be included in any order.

Operator Response: Correct the control card sequence, insert any missing cards, and rerun the program.

Problem Determination: Table I, items 11, 29.

B03

Explanation: This wait state code is issued by the 3203/3211 utility. The JOB statement is incorrect.

Operator Response: Correct the JOB statement and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B04 to B11

B04

Explanation: This wait state code is issued by the 3203/3211 utility. The DFN statement is incorrect.

Operator Response: Correct the DFN statement and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B05

Explanation: This wait state code is issued by the 3203/3211 utility. The UCS statement is incorrect.

Operator Response: Correct the UCS statement and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B06

Explanation: This wait state code is issued by the 3203/3211 utility. The FCB statement is incorrect.

Operator Response: Correct the FCB card and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B07

Explanation: This wait state code is issued by the 3203/3211 utility. The END statement is incorrect.

Operator Response: Correct the END statement and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B0A

Explanation: This wait state code is issued by the 3203/3211 utility. An external interrupt has occurred.

Operator Response: Rerun the program.

B0B

Explanation: This wait state code is issued by the 3203/3211 utility. A program check interrupt has occurred.

Operator Response: Have the 3203/3211 utility and control statements available.

Problem Determination: Table I, items 11, 29.

B0C

Explanation: This wait state code is issued by the 3203/3211 utility. A machine check interrupt has occurred.

Operator Response: Execute the SEREP program and save the output. Rerun the job.

Problem Determination: Table I, items 14, 30.

B11

Explanation: This wait state code is issued by the 3203/3211 utility. The reader is not online. This will occur when the reader's control unit has no power or when the control unit has been switched off the I/O interface.

Operator Response: Put the specified control unit online and rerun the program. If the error recurs, contact your hardware support personnel.

B12

Explanation: This wait state code is issued by the 3203/3211 utility. The reader is not ready.

Operator Response: Ready the reader and rerun the program.

B13

Explanation: This wait state code is issued by the 3203/3211 utility. The reader is not ready.

Operator Response: If the error condition is not apparent, display location 3 for sense information. (An interpretation of sense bit settings can be found in the component description manual for the control unit being used.) Correct the faulty condition and clear the reader check. Rerun the program. If reader checks occur frequently, use a card guide to check for off-punched cards. If the cards are punched correctly and are in good condition and read checks continue, contact your hardware support personnel.

B14

Explanation: This wait state code is issued by the 3203/3211 utility. A reader channel error has occurred.

Operator Response: Probable hardware error. Rerun the job.

Problem Determination: Table I, items 12, 30.

B15

Explanation: This wait state code is issued by the 3203/3211 utility. No device end is indicated on the reader.

Operator Response: Probable hardware error. Rerun the job.

Problem Determination: Table I, items 12, 30.

B19

Explanation: This wait state code is issued by the 3203/3211 utility. The printer is not online. This will occur when the printer's control unit has no power, when the control unit has been switched off the I/O interface, or when the control unit is not a part of the system.

Operator Response: Ensure that the address of the printer specified in the DFN statement is correct. Ensure that the control unit is online, and rerun the job. If the error recurs, contact your hardware support personnel.

WT CDS

B1B

Explanation: This wait state code is issued by the 3203/3211 utility. A unit check has occurred on the printer.

Operator Response: If the error condition is not apparent, display low storage location 2-7 for sense information. An interpretation of sense bit settings can be found in *IBM 3203/3211 Printer and 3811 Control Unit Component Description*. Correct the faulty condition and rerun the job. If the problem recurs, contact your hardware support personnel.

B1C

Explanation: This wait state code is issued by the 3203/3211 utility. A printer channel error has occurred.

Operator Response: Probable hardware error. Rerun the job.

Problem Determination: Table I, items 12, 30.

B1D

Explanation: This wait state code is issued by the 3203/3211 utility. No device end is indicated on the printer.

Operator Response: Probable hardware error. Rerun the job. If the error recurs, contact your hardware support personnel.

B20 to CCC

B20

Explanation: The operator executing the stand-alone version of the input/output configuration program (IOCP) has terminated IOCP.

Operator Response: Notify the system programmer.

B21

Explanation: A program check interruption has occurred during execution of the stand-alone version of the input/output configuration program (IOCP).

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 11, 13, and 29.

B22

Explanation: A machine check interruption has occurred during execution of the stand-alone version of the input/output configuration program (IOCP).

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 13, 14, and 30.

B23

Explanation: An unrecoverable I/O error has occurred during execution of the stand-alone version of the input/output configuration program (IOCP).

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 13 and 30.

B24

Explanation: During execution of the stand-alone version of the input/output configuration program (IOCP), IOCP encountered an error in the hardware processor controller and cannot communicate with the IOCP operator.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 13 and 30.

CCC

Explanation: This wait state code is associated with message IEE082I.

In a uniprocessor configuration:
When the system executes the QUIESCE function, the system places the processor in a restartable wait state, as part of normal operation.

In a multiprocessor configuration:
The system places processors on which the QUIESCE function is not executing into a manual stopped state as well as the disabled wait state. The processor executing the QUIESCE function then places itself in this CCC wait state via a Load PSW instruction.

Operator Response: Invoke the restart function.

E02

Explanation: A permanent input/output error occurred while the IBM 2250 Display Unit was being used as the primary console. At the time the error occurred, no alternate console was available.

System Action: The sense bytes are placed in the two high-order bytes of register 15 and the status bytes are placed in the two low-order bytes of register 15. Then the system is placed in a wait state.

Operator Response: If an alternate console is available, start the system again, using the alternate console. If an alternate console is not available, contact your programming support personnel.

Uncoded Wait States

Definition: A system wait state is indicated in one of several ways,depending on the model of the processor being used. It might be indicated by the WAIT light on the operator control section of the system control panel, the appearance of the word WAIT on the display console, or by a meter showing the percent of active processor time. A system wait state means that no instructions are being processed by the central processing unit. A system wait state is entered when bit 14 of the current program status word (PSW) is set to 1. To exit from this state, an interruption or initial program load must occur to change the current PSW. When a condition arises such that the right half of the PSW does not match any of the explicit wait state codes listed in this publication, an uncoded wait state has occurred.

Explanation: An uncoded wait state might be the result of normal operation; for example, the system might wait for a series of specified operator actions before it can resume processing. The uncoded wait state might also be a symptom of abnormal operation; for example, the system might enter a wait state if a hardware malfunction causes an input/output interruption to be lost.

System Action: The system might exit from an uncoded wait state without operator intervention if an input/output interruption occurs, for example when a user at a terminal signals attention, or when an external interruption occurs, for example when a specified time interval has expired. Otherwise, the system continues to wait for an appropriate operator response before it can continue processing.

Operator Response: If you are able to communicate with the system through the master console device, perform the following actions:

- Enter a DISPLAY R,LIST command. The system responds with message IEE110I or IEE112I if any operator action is required for previous messages. This can include replies to messages or mounting of volumes. If all system requests have been satisfied, message IEE111I is issued. For systems using JES3, enter *I,R and *I,R,S from a JES3 console. *I,R displays all outstanding messages except SETUP messages. *I,R,S displays all SETUP messages.

- Scan the console log to make sure that all messages requiring operator action have been satisfied. If the JES2 message $HASP099 (for all JES2 functions being completed) was issued, there is no more batch work, but TSO users might be logged on.

- Enter a DISPLAY A,LIST command to determine if there are active tasks. The system might be waiting for work. For systems using JES3, you can enter *I,A from a JES3 console to display all jobs currently active on one or all processors.

- Issue a DISPLAY U command. The system responds with message IEE450I that lists the status of the devices in the system. The data listed includes indications of BSY (busy), MTP (mount pending), NRD (not ready), and other status information that might be useful to help you determine why the system is in the wait state. (This command might cause lengthy type-out time.)

- As a last resort, issue the following sequence of commands until the uncoded wait state condition is corrected:

1. If a SYS1.DUMP data set was created during or before nucleus initialization, issue the DUMP command to obtain a storage image dump of the condition causing the wait. Save the output in case the uncoded wait cannot be resolved.

   If the waiting processor is a JES3 local processor, it might be useful to request a dump of the JES3 global processor's storage.

2. For systems using JES2, enter $H Q to prevent initiation of new jobs. For systems using JES3, enter *F,Q,H from a JES3 console to place the entire job queue in a hold status.

3. MN JOBNAMES,T to get information about jobs starting and stopping.

4. Enter DISPLAY A,LIST to get current job execution status. For systems using JES3, you can enter *I,A from a JES3 console to display all jobs currently active on one or all processors.

5. Cancel jobs in reverse order of their importance and request dumps (CANCEL,jjj,DUMP).

6. Enter DISPLAY A,LIST on a hardcopy console and TRACK A,LIST on a graphics console to monitor the changing environment. For systems using JES3, enter *I,A from a JES3 console to display all jobs currently active on one or all processors.

7. For systems using JES2, enter $A Q to resume normal processing. For systems using JES3, enter *F,Q,R from a JES3 console to release the entire job queue.

If you are unable to communicate with the system through the master console device, perform the following actions:

- Perform the RESTART function to activate the system's software recovery mechanisms.
- If the wait conditions are not eliminated, then follow the Problem Determination instructions listed below.

Problem Determination: If the problem cannot be corrected or communication with the system cannot be established, do the following before calling programming support personnel:

- Record the contents of the current PSW.
- Have the hardcopy log available.
- Perform the STORE STATUS function.
- Execute the AMDSADMP service aid program to dump the contents of real storage and selected areas of the page data sets on magnetic tape.
- After restarting the system, execute the GO function of the AMDPRDMP service aid to print the real storage portion of the dump tape produced by AMDSADMP.
- Save both the tape from AMDSADMP (should further information from the tape be required) and the listing from AMDPRDMP.

If you cannot restart the system, execute the hardware system test appropriate for your system before calling hardware support personnel.

Stand-Alone Dump Wait State Codes

During execution of a stand-alone dump, the SADMP program loads wait state codes in the right half of the PSW in order to communicate with the operator. These codes are the last four bytes of the current PSW; the first byte is the wait code, and the second and third bytes are the reason code.

The SADMP program is described in *MVS/Extended Architecture System Programming Library: Service Aids.*

The following wait codes are issued by the real storage dump program AMDSARDM or by the self-dump module AMDSASAD in the virtual storage dump program.

Wait Code	Reason Code	Explanation	Response
11	0ddd	The real storage dump program is waiting for I/O to device ddd.	None.
12	0ddd	The real storage dump program is waiting for intervention on device ddd.	Operator action is needed on the device, such as readying a tape or loading a printer.
13	00mm	SADMP is waiting for a reply to message AMD0mmA or AMD0mmD.	Reply to the message.
14	0000	SADMP is waiting for a console I/O interruption or an external interruption.	Press ENTER on one of the consoles that was defined on the AMDSADMP macro. If console is not available, ready a tape on the tape drive that you defined on the AMDSADMP macro, then cause an external interruption.
15		The real storage dump program ended abnormally.	Record the wait state code for the system programmer.
	0100	An excessive number of machine checks occurred while dumping real storage.	None.
	0200	No valid MVS/XA prefix exists; the STORE STATUS information is not what MVS/XA expected. SADMP does not dump paged-out virtual storage, but the real storage dump program is complete.	None.
	0300	The default output device is unusable and no working is available.	Try to make the output device usable, then perform a system restart.
	0400	Unexpected external interruption.	None.
	0500	Unexpected SVC interruption.	None.
	0600	Unexpected program interruption.	None.
	0700	Unexpected machine interruption.	None.
	0800	Unexpected I/O interruption.	None.
	0900	An I/O error could not be handled.	Try a system restart. If possible, use a different device or volume.

Wait Code	Reason Code	Explanation	Response
16		The console is unavailable.	Operator action required as follows:
	0100	The output tape is labelled and cannot be used.	Mount another tape and ready it.
	0200	The output tape is file protected.	Insert a ring into the output tape and ready it.
	0300	The output tape is full.	Remove and save the previous tape, then mount another tape and ready it.

The SADMP bootstrap module AMDSAIPL issues the following wait codes.

Wait Code	Reason Code	Explanation	Response
21	0000	AMDSAIPL is waiting for I/O on the SADMP IPL device.	None.
22	0000	SADMP is waiting for intervention on the IPL device.	Ready the IPL device.
24		AMDSAIPL failed.	If the real storage dump program has not run, try a system restart. If system restart fails, re-IPL SADMP, preferably from a different volume. In either case, reinitialize the SADMP IPL volume.
	0100	AMDSAIPL is unable to read the volume label.	Use another volume or regenerate the label. Other data sets on the volume might be unusable.
	0200	The volume label is nonstandard.	Use another volume or regenerate the label. Other data sets on the volume might be unusable.
	0300	AMDSAIPL cannot read the format 4 DSCB.	Use another volume or change the DSCB. Other data sets on the volume might be unusable.
	0400	MVS/XA does not support the IPL device type.	Use a device type that MVS/XA supports.
	0500	SYS1.PAGEDUMP is not on the IPL volume.	None.
	0600	AMDSAIPL is unable to read the CCT.	None.
	0700	AMDSAIPL is unable to write to the SADMP workfile For a tape IPL version this could be due to a missing write ring in the IPL volume. For either disk or tape IPL, this could be due to the storage address specified in the LOADPT= parameter being configured offline to the IPL'd processor.	None. If tape IPL, check for the needed write ring. Mount a version of the Stand-alone Dump that has a LOADPT= parameter within the range of the available storage for this processor.
	0800	AMDSAIPL is unable to read AMDSARDM.	None.
	0900	AMDSAIPL is unable to read AMDSADIP.	None.
	0A00	AMDSAIPL is unable to read AMDSAPGE.	None.

The virtual dump initialization program AMDSADIP issues the following wait codes.

Wait Code	Reason Code	Explanation	Response
25		AMDSADIP failed. If the failure is due to an invalid MVS/XA control block, MVS/XA might not be fully initialized.	Rewind and unload the output tape. It has a normal end of file. The real storage dump program is probably complete enough to debug MVS. Inform the system programmer of the wait state code and of the contents of general register 8, which contains trace information for AMDSADMP.
	0100	The master segment table is invalid.	None.
	0200	The CVT is invalid.	None.
	0301	The PVT is invalid.	None.
	0302	The RIT is invalid.	None.
	0303	The page frame table is invalid.	None.
	0400	An unexpected external interruption occurred.	None.
	0600	An unexpected program check occurred in AMDSADIP.	None.
	0B00	The SADMP relocation table (RLT) is invalid.	None.
	0C00	MVS/XA did not initialize the link pack area.	None.

The virtual storage dump program AMDSAPGE issues the following wait codes.

Wait Code	Reason Code	Explanation	Response
31	0ddd	SADMP is waiting for I/O to device ddd.	None.
32	0ddd	SADMP is waiting for intervention on device ddd.	Operator action is needed, such as mounting and readying a tape.
33	00mm	SADMP is waiting for a reply to message AMD0mmA or AMD0mmD.	Reply to the message.
34	0ddd	SADMP detected an I/O error on device ddd and is waiting for a sense command to complete.	None.
35	0ddd	SADMP I/O error recovery restarted I/O on device ddd and is waiting for I/O to complete.	None.
36	0100	The output tape is labelled and cannot be used.	Mount another tape and ready it.
36	0200	The output tape needs a file protect ring.	Insert a ring into the tape and ready it.
36	0300	The output tape is full.	Save the previous tape and mount a new one.
37	0ddd	SADMP I/O error recovery is waiting for I/O that is neither a sense nor a restart to complete on device ddd.	None.

The following wait codes indicate dump termination.

Wait Code	Reason Code	Explanation	Response
41	0000	SADMP ended normally; dumping is complete. Both the unformatted and the formatted dumps to tape issue this wait reason code.	Save the output tape.
47	0000	A machine check occurred during the virtual storage dump program.	Record the wait state code. Rewind and unload the output tape. The tape does not have a normal end of file.
4F	ssee	The virtual storage dump program terminated due to an internal error. ss denotes the failing module or service; ee denotes the specific type of error. Common codes are listed below; see *Service Aids Logic* for a complete list. SADMP tries to write a self-dump to the output tape. Message AMD066I also contains these wait reason codes.	Record the wait state code. You may need to rewind and unload the output tape; if so, the normal end of file is not present.
	0D02	SADMP requested more than two self-dumps.	None.
	1301	A terminating I/O error occurred on the output tape.	None.
	1C13	System restart.	None.
	1D12	External interruption.	None.
	ssF1	A terminating I/O error occurred on the output tape.	None.
	FEcc	A program check occurred. cc is the rightmost byte of the program interruption code.	None.

Loops

Definition: A loop is the repeated execution of a sequence of instructions until a terminal condition occurs. If the terminal condition does not occur, the sequence of instructions will be executed endlessly. The operator may need to terminate such endless loops by canceling the looping job.

You can recognize a loop by:

- A steady glow in the lights of the system control panel with the SYSTEM light on.
- A pointless recurrence of input/output activity (for example, tape oscillating).
- A job that does not change status for a long period of time.
- The PSW display that appears to be repeating the same addresses.

Explanation: A loop can occur for different reasons, some of which are listed here:

- A deliberate loop designed by the programmer. For example, a debugging loop built during program testing. Or a loop to poll for some event.
- An apparent loop. It can occur, for example, when a scientific data reduction program is doing a lengthy repetitive operation on a large array of numbers.
- A loop caused by an error, such as:
  - A logic error or coding error by the programmer.
  - A logic error in a system component.
  - An incorrect setup by the operator.
  - An error in the control program.
  - A hardware malfunction.

System Action: If your system has interval timing, the system will exit from a loop without operator intervention when the program times out. Timing out occurs when the program execution time exceeds the limit specified in the TIME parameter of the EXEC statement or the standard time limit of the RDR procedure.

If your system does not have interval timing, the system will continue looping until the operator intervenes.

Operator Response: If you can communicate with the system through the master console device, enter DISPLAY A,LIST. The system will list all active tasks. Issue this command repeatedly. Identical entries in response to successive DISPLAY A commands beyond the estimated execution time of a job indicate a possible loop.

If you are reasonably certain the program is in an endless loop, enter CANCEL jjj,DUMP to terminate the job. The system will terminate the job with a completion code of 122.

If you cannot communicate with the system through the master console, talk to your system programmer, then do one of the following:

- If the system programmer wants specific information about the loop to use in debugging, do step 1 and then step 2 (RESTART).
- If your installation's first priority is to get the system running again, go immediately to step 2.

Step 1

Record information about the loop:

1. On the operator's control frame for the processor that is looping, select the loop recording option. This option records approximately 470 values of the instruction counter in the form of an instruction trace. The trace is done only on the looping processor but puts all processors in the STOP state.

2. To obtain the instruction trace, execute a stand-alone dump or invoke the MVS SVC dump program.

   Note: Before a stand-alone dump, remember to perform the STORE STATUS function first if your processor does not have the automatic store status function.

3. If you invoked the SVC dump program, go to number 4. If you executed a stand-alone dump, re-IPL your system. If you cannot re-IPL the system, execute the hardware system test. Then call your hardware support personnel.

4. Use the MVS print dump program (AMDPRDMP) to format and print either type of dump.

Step 2

Perform the RESTART function with REASON 0 on the processor that was looping. Restart any other stopped processors.

If restarting does not eliminate the loop, do step 1 before you call programming support personnel.

Programmer Response: The actions that the operator and the system programmer took to recover from a loop may have caused your job to terminate abnormally. Respond according to the system completion code associated with the abnormal termination. This code is most likely to be 122, 222, 322, or 071.

Problem Determination

Problem determination is the activity required to identify a failing hardware unit or program and determine who is responsible for support.

Problem determination is accomplished by using procedures specified by IBM. In some cases, these procedures may be initiated by a message or code which requires operator or programmer response. The response may include the requirement for additional problem-related data to be collected and will attempt, where possible, to indicate "probable" failure responsibility.

Problem determination information is included for applicable messages and codes under the heading "Problem Determination." Standard problem determination actions are identified as items of Tables I and II. Unique actions are identified following the list of standard actions to be taken. In any case, it is intended that the specified actions be taken before calling support personnel.

TABLE I

If the problem recurs, follow the problem determination aids specified by the associated message or code before calling support personnel.

1. If MSGLEVEL=(1,1) was not specified in the JOB statement, specify it and rerun the job.

2. Save the console sheet from the primary console. For systems with remote consoles, save the remote console sheet. In systems with Multiple Console Support (MCS), save a copy of the hard copy log.

3. Save the job stream associated with the job.

4. Save the system output (SYSOUT) associated with the job.

5. Make sure that the failing job step includes a:

   a. SYSABEND DD statement.
   b. SYSUDUMP DD statement.
   c. PL1DUMP DD statement.
   d. SYSMDUMP DD statement.

6. Make sure that the PARM parameter of the EXEC statement specifies the following:

   a. MAP
   b. LIST
   c. DIAG
   d. MSG=AP
   e. CORE, if applicable
   f. XREF
   g. DUMP

7. If SMP is used to make all changes to the system, execute the LIST CDS and LIST PTFBY functions of SMP to obtain a list of the current maintenance from the SMP control data set (CDS).

If any changes are made to the system without using SMP, execute the LISTIDR function of the AMBLIST service aid program to obtain a list of all members with a PTF or local fix, and save the output. Execute the program against the:

a. SYS1.LINKLIB data set.

b. SYS1.SVCLIB data set.

c. library containing the program that issued the message.

d. SYS1.LPALIB data set.

8. Execute the IMCJOBQD (stand-alone) or IMCOSJQD (system-assisted) service aid program to obtain a formatted copy of the contents of the SYS1.SYSJOBQE or SYS1.SYSWADS data sets, SWADS or the resident job list. (Not applicable for VS2 MVS.)

9. Execute the AMBLIST service aid program to obtain:

   a. an object module listing, specifying the LISTOBJ function.
   b. a load module map and cross-reference listing, specifying the OUTPUT=BOTH option of the LISTLOAD function.

10. Have a copy of the Message Control Program (MCP) available.

11. Execute the AMDSADMP service aid program to dump the contents of real storage and page data sets on magnetic tape.

    After restarting the system, execute the appropriate function of the AMDPRDMP service aid program to print the required portion of the dump tape produced by AMDSADMP.

    Save both the tape from AMDSADMP (should further information from the tape be required) and the listing from AMDPRDMP.

12. Execute the SEREP program, and save the resulting output.

    (Note: The SEREP program is not supported on processors in the 4300 series.)

13. Save all the associated output.

14. The normal response to this message requests the programmer/operator to execute a specific program. Save all output from that program.

15. Save the program listing associated with the job.

16. Save the dump.

17. Have the system generation (SYSGEN) output available from:

    a. Stage I
    b. Stage II

18. Execute the EREP service aid, to dump the SYS1.LOGREC data set and save the resulting output.

    For MSS, execute the following program to dump the SYS1.LOGREC data set:

    a. Service aid IFCISDA0
    b. Program ISDASDA0 with the DETAIL(ALL) parameter.

19. Save the assembly listing associated with the job.

20. Save the control cards associated with the job.

21. Save the compiler output associated with the job.

22. Save the source input associated with the job.

23. Save the source program listing associated with the job.

24. Run OLTEP diagnostics for the problem device and save the output.

25. Execute the IEHLIST system utility program to obtain a list of the:

    a. volume table of contents of the associated volume, specifying the FORMAT option.

    b. volume table of contents of the associated volume, specifying the DUMP option.

    c. directory of the associated data set

    d. (Not applicable for MVS.)

26. Execute the IEBPTPCH data set utility to print the:

    a. directory of the applicable data set.
    b. applicable data set.
    c. applicable member.
    d. applicable procedure.

27. Have the linkage editor/loader map available.

28. Save the associated volume.

29. Contact programming service personnel.

30. Contact hardware service personnel.

31. Save the trace output data set.

32. Print the GTF trace data set with the AMDPRDMP service aid program using the EDIT statement.

33. Print the associated SVC Dump data set, using the AMDPRDMP service aid with the GO statement.

34. Execute the Access Method Services LISTCAT command to:

    a. list the contents of the applicable catalog.

    b. list the catalog entries for the applicable objects and any related objects.

35. Execute the following Access Method Services command:

    a. The MSS LISTMSF command for mountable volumes.

    b. The MSS LISTMSF command with the CARTRIDGES parameter.

    c. The PRINT command to list the contents of the mass storage volume control inventory data set.

    d. The LISTMSVI command.

    e. The LISTMSF command with the ALL parameter.

36. Execute the Access Methods Services PRINT command to print the repair workfile.

37. Execute the AMASPZAP service aid program using the ABSDUMP statement to print the contents of the applicable:

    a. Data set.
    b. Track.

38. Execute the Access Method Services AUDITMSS command with the following parameter:

    a. The CHECK parameter.
    b. The MAP parameter.
    c. The READLABEL parameter.

39. Execute the Access Method Services CHECKMSS command.

40. Execute the Access Method Services COMPARET command.

41. Execute the Access Method Services DUMPMSS command to dump the following:

    a. Formatted mass storage control storage.
    b. Mass storage control main storage.
    c. Mass storage control extended storage.
    d. Formatted Staging Adapter storage.
    e. Staging Adapter main storage.
    f. Staging Adapter extended storage.
    g. Mass storage control tables.

42. Save the latest output from the Mass Storage Control Table Create program.

43. Display units for units associated with the problem area. If specific unit(s) is not known, display range of all virtual units. See your configuration path chart for address ranges.

44. Obtain the RACF profile of the associated data set, where applicable.

45. Stop the processor and use the hardware ALTER/DISPLAY facility to display:

    a. all general purpose registers.
    b. the PSW.
    c. main storage locations 0 through 200 (hexadecimal) and 7000 through 7080 (hexadecimal).

46. If the AMDSADMP program resides on tape, save the tape. If the AMDSADMP program resides on disk, use the DUMP feature of IEHDASDR to print the SYS1.PAGEDUMP data set and cylinder 0 track 0 of this residence disk.

47. Save the output (listings) of the stage 1 and stage 2 AMDSADMP initialization jobs.

48. Follow the procedures for item 9b of this table for load modules AMDSAPGE, AMDSAPRO and AMDSALDR of SYS1.LINKLIB. Use IEBUPDTE or IEBPTCH to print the AMDSADMP and AMDSADM2 macros from SYS1.MACLIB.

49. Save the AMDSADMP dump output (tape or listing).

50. If the program seems to be looping, use the display PSW feature of the hardware ALTER/DISPLAY facility along with the hardware instruction Step facility to trace the loop, instruction by instruction.

51. If there is an error in the contents of a page data set dump, restart the system using a different page data set, then dump the original page data set.

52. Use IEBCOPY to unload SYS1.IMAGELIB to tape.

53. Have a list of RACF-defined entities available.

54. Contact your programming support personnel.

55. Save the console sheets from all active global resource serialization systems, and from any systems that are restarting or joining the global resource serialization complex.

56. Use the following instructions to find the IPL WTO buffer and locate a message in that buffer.

    Before a stand-alone dump is taken:

    a. Using the hardware ALTER/DISPLAY facility, read the address in storage location x'14'; this address points to the IPL diagnostic area.

    b. Add x'28' to the address in location x'14'; the result is a 31-bit pointer to the virtual address of the IPL vector table (IVT).

    c. Add x'E0' to the IVT address; the result is a 31-bit pointer to the IVTMQHP field of the IVT. IVTMQHP contains the address of the message queue header (MQH).

    d. Add x'8' to the address of the MQH; the result is a 31-bit pointer to the youngest message queue element (MQE), which is the message you want to see.

    e. Add x'A' to the address of the MQE; the result points to the MQETEXT field of the MQE. MQETEXT contains the text of the most recent message.

After a stand-alone dump has been taken and copied to DASD, you may use either ISPF browse or IPCS to find the buffer and locate a message:

- Using ISPF browse

  a. Search the dump for the message string you want to locate. For example, if your system is in a wait state, code 055, you want to locate message IEA086W; so enter Find 'IEA086W'.

  b. Repeat Find 'message ID' until you have located all occurrences of that message.

- Using IPCS

  a. Enter the VERBX CPUDATA command to get the value in control register 1; this value points to the segment table.

  b. Enter the EQUATE command to equate the segment table (SGT1) to the value in control register 1. Ignore the low-order byte; the segment table will always be on a page boundary. An example of this EQUATE command follows:

     EQU SGT1 FFE000. ABSOLUTE STR(SGT)

  c. Enter EQU PSA0 0. ABSOLUTE to equate PSA0 to absolute location 0.

  d. Enter DROPD RECORDS(TRANSLATION) to reinitialize the dump so that IPCS can process virtual addresses in the dump.

  e. The IPL vector table (IVT) will always be at virtual storage address x'2000 1000'. Add x'E0' to the IVT address; the result is a 31-bit pointer to the IVTMQHP field of the IVT. IVTMQHP contains the address of the message queue header (MQH).

  f. Add x'8' to the address of the MQH; the result is a 31-bit pointer to the youngest message queue element (MQE), which is the message you want to see.

  g. Add x'A' to the address of the MQE; the result points to the MQETEXT field of the MQE. MQETEXT contains the text of the most recent message.

TABLE II

GTF for Problem Determination

Format 1: Tracing Without Prompting for Event Keywords

Before reproducing the problem, have the system operator issue a START GTF command specifying tape output, MODE=EXT and TIME=YES. In response to message AHL100A he should type TRACE=opt, where opt is the trace option indicated for the particular message or code, within the text of his reply.

When data for the problem has been recorded, run the AMDPRDMP service aid program using the EDIT statement to format the trace output, specifying DDNAME=(ddname of the trace data set).

Format 2: Tracing With Prompting for Event Keywords

Before reproducing the problem, have the system operator issue a START GTF command specifying tape output, MODE=EXT and TIME=YES. In response to the message AHL100A he should specify the trace options indicated for the associated message or code within the text of his reply. Then, in response to the message AHL101A, he should specify the event keywords also indicated with the associated message or code.

When data for the problem has been recorded, run the AMDPRDMP service aid program using the EDIT statement to format the trace output, specifying DDNAME=(ddname of the trace data set).

Format 3: Specialized Tracing Action

Before reproducing the problem, have the system operator issue a START GTF command specifying tape output, MODE=EXT and TIME=YES. In response to message AHL100A he should type 'TRACE=SYS,USR,SLIP'. The DD statement for a data set in error should specify DCD=DIAGNS=TRACE.

When data for the problem has been recorded, execute the EDIT function of AMDPRDMP specifying the options SYS, USR=FFF, and SLIP.

Format 4: Specialized Tracing Action for VSAM

Before reproducing the problem, have the system operator issue a START GTF command specifying tape output, MODE=EXT and TIME=YES. In response to message AHL100A he should type 'TRACE=SYS,USR'. The DD statement for a data set in error should specify AMP=TRACE.

When data for the problem has been recorded, execute the EDIT function of AMDPRDMP specifying the options SYS and USR=(FFF,FF5).

TABLE III

If a problem occurs in JES3, one or more of the following steps may be taken to assist in determining the cause:

1. Take a stand-alone dump of the system by specifying DUMP=PRDMP on the OPTIONS card in the initialization deck and save the output (SYS1.DUMPnn).

2. Take a standard dump of the system by specifying DUMP=JES on the OPTIONS card in the initialization deck and save the output (JESABEND).

3. Take an operating system dump including the nucleus and SQA by specifying DUMP=MVS on the OPTIONS card in the initialization deck and save output (SYSABEND).

4. Save the MLOG listing or get a print of DLOG.

5. Provide listing of initialization deck (JES3OUT).

6. Provide console log from initialization.

7. Ascertain OS/VS level and JES3 PTF level.

8. Provide OS/VS nucleus LOADMOD map.

9. Issue *F T,L=linename, SNAPON and *X RJPSNPS.

10. Issue *F T,L-linename,TRCEON. This will give an RJP event trace on the MLOG console. Save MLOG output.

11. Take a system dump by placing an INTDEBUG,n, message-text$$ card in the initialization deck. The message-text field is compared for occurrences of the chosen message. The n field specifies the number of message occurrences before the system is dumped.

12. Issue *X DISPLAY and save output.

13. Issue *X DISPLAY,SNAPS and save the output.

14. Rerun job with //*PROCESS CBPRNT and save output.

    a. After Interpreter DSP
    b. After Main Service
    c. After Input Service

15. Rerun job with EXEC PGM=JCLTEST and save output.

16. Rerun job with EXEC PGM=JSTTEST and save output.

17. Rerun job with TYPRUN=SCAN specified on JOB card and save output.

18. Issue *X DISPDJC when problem occurs and save output.

19. Restart system with specifying a start type of WA (Warmstart with queue analysis) and save output (JES3SNAP).

20. Check SYSMSG data set for error indications.

21. Provide a listing of the JES3 startup procedure, containing all JCL used to start the subsystem.

22. Save the IOERR trace that will be printed.

23. Rerun job with DEBUG=All immediately following PROCESS CI or PROCESS RI card.

Appendix: Code to Module Tables

This appendix contains two tables. The first is for system completion codes (ABEND codes); the second is for wait state codes.

The tables identify the modules that detect the need for each code and the modules that issue the code.

System Completion Code to Module Table

System Completion Code	Module Detecting	Module Issuing
023	CSVLLCRE	CSVLLCRE
028	IARXV	IARXV
	ILRSWAP	IARSC
	IARSD	IARSC
	IARSF	IARSF
	IARSR	IARSR
	IARMA	IARMA
	IARPF	IARPM
	IARPV	IARPM
	IARPM	IARPM
02C	HASPFSSM	HASPFSSM
	HASPWARM	CALLRTM
02E	AVFGB	AVFGB
	AVFGR	AVFGR
	AVFIC	AVFIC
	AVFIW	AVFIW
	AVFJB	AVFJB
	AVFKO	AVFKO
	AVFKP	AVFKP
	AVFKS	AVFKS
	AVFLA	AVFLA
	AVFLR	AVFLR
	AVFLT	AVFLT
	AVFMB	AVFMB
	AVFMC	AVFMC
	AVFME	AVFME
	AVFMF	AVFMF
	AVFMG	AVFMG
	AVFMH	AVFMH
	AVFML	AFVML
	AVFMN	AVFMN
	AVFMS	AVFMS
	AVFNS	AVFNS
	AVFNY	AVFNY
	AVFPC	AVFPC
	AVFSI	AVFSI
	AVFSQ	AVFSQ
	AVFSR	AVFSR
	AVFSS	AVFSS
	AVFSW	AVFSW
	AVFSX	AVFSX
	AVFTA	AVFTA
	AVFTB	AVFTB
	AVFTD	AVFTD
	AVFUT	AVFUT
	AVFWA	AVFWA
	AVFWM	AVFWM
047	IEAVESVC	IEAVESVC
	IGC109	IGC109
	IGC116	IGC116
	IGC122	IGC122
04B	IKJEFTSL	IKJEFSTL
	IKJTSLAR	IKJTSLAR
04F	DSNWDSDM	DSNVATRM
	DSNWSDWA	DSNVATR4
	DSNYESWE	DSNVDSTO
	DSN3RDMP	DSNVSRR
		DSNYALLI
		DSN3SSES
		DSN3SSI1
		DSN3SSI2
050	IEAVSPDM	IEAVSPDM
052	IEAVXLRE	IEAVXLRE
	IEAVXLFR	IEAVXLFR
	IEAVXECR	IEAVXECR
	IEAVXEDE	IEAVXEDE
	IEAVXECO	IEAVXECO
	IEAVXEDI	IEAVXEDI
	IEAVXRFE	IEAVXRFE
	IEAVXSET	IEAVXSET
	IEAVXSTK	IEAVXSTK
053	IEAVXLRE	IEAVXLRE
	IEAVXLFR	IEAVXLFR
	IEAVXECR	IEAVXECR
	IEAVXEDE	IEAVXEDE
	IEAVXECO	IEAVXECO
	IEAVXEDI	IEAVXEDI
	IEAVXRFE	IEAVXRFE
	IEAVXSET	IEAVXSET
	IEAVXPAM	IEAVXPAM
	IEAVXPCR	IEAVXPCR
	IEAVXSTK	IEAVXSTK
	IEAVXMAS	IEAVXMAS
054	IEFSJBLD	IEFSJBLD
	IEFSJDEF	IEFSJDEF
	IEFSJDEL	IEFSJDEL
	IEFSJFND	IEFSJFND
	IEFSJJDV	IEFSJJDV
	IEFSJEXT	IEFSJEXT
	IEFSJGET	IEFSJGET
	IEFSJPUT	IEFSJPUT
	IEFSJRET	IEFSJRET
	IEFSJUPD	IEFSJUPD
	IEFSJWRT	IEFSJWRT
	IEFSJINT	IEFSJINT
058	IEAVECMS	IEAVECMS
	IEAVESSE	IEAVESSE
059	IEAVESRT	IEAVESRT
05B	IEAVRTI0	IEAVRTI0
05D	IEAVECMS	IEAVECMS
05E	IEAVESTS	IEAVESTS
064	IEAVLKRM	IEAVLKRM
065	IEAVESSI	IEAVESSI
066	IEAVEDS0	IEAVEDS0
06C	IEAVTSLP	IEAVTSLP
06D	IEAVTADR	IEAVTADR
06E	IEAVTGLB	IEAVTGLB
	IEAVTLCL	IEAVTLCL
06F	IEAVTRT1	IEAVTRT1
070	IEAVETCL	IEAVETCL
071	IEAVEREX	IEAVEREX
072	IEAVEDS0	IEAVEDS0
073	IEAVELK	IEAVELK
	IEAVESLK	IEAVESLK
074	IEAVESLR	IEAVESLR
075	IEAVESC0	IEAVESC0
076	IEAVEMCR	IEAVEMCR
077	IEAVMNTR	IEAVMNTR
	IEAVMWSV	IEAVMWSV
	IEAVC700	IEAVC700
	IEAVG700	IEAVG700
	IEAVQ700	IEAVQ700
	IEE8B03D	IEE8B03D
078	IEAVAR00	IEAVAR00
	IEAVAR02	IEAVAR02
	IEAVAR03	IEAVAR03
079	IEAVAR04	IEAVAR04
07A	IEAVAR00	IEAVAR00
	IEAVAR02	IEAVAR02
07B	IEAVEDR	IEAVEDR
	IEAVERI	IEAVERI

System Completion Code	Module Detecting	Module Issuing
	IEAVERP	IEAVERP
	IEAVEES	IEAVEES
07C	IEAVESPR	IEAVESPR
	IEAVESVR	IEAVESVR
07E	IEEVDEV	IEEVDEV
07F	IEAVECH0	IEAVECH0
080	IARFE	IARFE
	IARMX	IARMX
	IARRI	IARRI
	IARSC	IARSC
	IARSF	IARSF
	IARSR	IARSR
	IARFT	IARFT
	IARSX	IARSX
081	IEAVSQA	IEAVSQA
	IEAVEQR	IEAVEQR
083	ILRSLSQA	ILRSLSQA
	ILRSRT	ILRSRT
084	ILRCMP	ILRCMP
	ILRPTM	ILRPTM
	ILRSWPDR	ILRSWPDR
085	ILRSAV	ILRSAV
086	ILRVSAMI	ILRVSAMI
087	ILRSAV	ILRSAV
	ILRACT	ILRACT
	ILRRLG	ILRRLG
	ILRVSAMI	ILRVSAMI
	ILRTMRLG	ILRTMRLG
08B	Data-in-virtual component	
08F	IARXK	IARXK
09D	IEAVETRC	IEAVETRC
09E	IEAVETAC	IEAVETAC
	IEAVETAI	IEAVETAI
	IEAVETIH	IEAVETIH
	IEAVETEA	IEAVETEA
	IEAVETPA	IEAVETPA
	IEAVETSP	IEAVETSP
	IEAVETSN	IEAVETSN
	IEAVETPS	IEAVETPS
	IEAVETRR	IEAVETRR
	IEAVETSD	IEAVETSD
	IEAVETTF	IEAVETTF
	IEECB924	IEECB924
	IEECB925	IEECB925
	IEAVETFC	IEAVETFC
	IEAVETEF	IEAVETEF
	IEAVETFA	IEAVETFA
	IEAVETVP	IEAVETVP
	IEAVETNP	IEAVETNP

System Completion Code	Module Detecting	Module Issuing
	IEAVETPW	IEAVETPW
	IEAVETRW	IEAVETRW
	IEAVETCV	IEAVETCV
	IEAVETPV	IEAVETPV
	ITRFHEX	ITRFHEX
	ITRFBR	ITRFBR
	ITRF0001	ITRF0001
	ITRF0003	ITRF0003
	ITRF0005	ITRF0005
	ITRF0007	ITRF0007
	ITRF000B	ITRF000B
	ITRF000F	ITRF000F
	ITRF0013	ITRF0013
	ITRF0015	ITRF0015
	ITRF0017	ITRF0017
	ITRF0019	ITRF0019
	ITRF001B	ITRF001B
0A0	IEFSD161	IEFSD161
	IEFSD164	IEFSD164
	IEFSD263	IEFSD263
0A1	IGG0193Y	IGG0193Y
0A2	IGG0203Y	IGG0203Y
0A3	IGG019OE	IGG019OE
0A4	IGG019OE	IGG019OE
0A5	IGG019OE	IGG019OE
0AE	IOSVRSTS	IOSVRSTS
0B0	IEFQB550	IEFQB550
	IEFQB555	IEFQB555
	IEFQB580	IEFQB580
0B1	IEFJCNTL	IEFJCNTL
	IEFJJCLS	IEFJJCLS
	IEFJACTL	IEFJACTL
	IEFJWTOM	IEFJWTOM
0B2	IEFJJCLS	IEFJJOBS
0B3	IEFJACTL	IEFJACTL
0B4	IEFJNCTL	IEFJNCTL
0B5	IEFJNCTL	IEFJNCTL
0B7	IEEMPDM	IEEMPDM
	IEEVCPR	IEEVCPR
	IEEVSTGP	IEEVSTGP
	IEEVSTEL	IEEVSTEL
	IEEVSTFA	IEEVSTFA
	IEEVSTGL	IEEVSTGL
	IEEVCONF	IEEVCONF
	IEECB927	IEECB927
	IEEVMESS	IEEVMESS
	IEEVCHPR	IEEVCHPR

System Completion Code	Module Detecting	Module Issuing
	IEEVPTHR	IEEVPTHR
	IEEVCHPF	IEEVCHPF
	IEEVIOSD	IEEVIOSD
	IEEVPTH	IEEVPTH
0B8	IEEPRWI2	IEEPRWI2
0B9	IEESB605	IEESB605
0BA	IEFSD162	IEFSD162
	IEFSD166	IEFSD166
	IEFSD605	IEFSD605
0BB	IEFSD263	IEFSD263
0BD	IEEMB816	IEEMB816
0BE	IEEMB809	IEEMB809
0BF	IEEMB816	IEEMB816
0Cx (where x = 1 – F)	IEAVEPC	IEAVEPC
	IEFAB4FC	IEFAB4FC
	IARFP	IEAVEPC
	IARFS	IEAVEPC
	IARFR	IEAVEPC
0D2	IEAVEPC	IEAVEPC
0D3	IEAVEPC	IEAVEPC
0D5	IARPE	IEAVESRT
	IARPX	IEAVESRT
0D9	IEAVPIX	IEAVTRT1
0F2	IECVPST	IECVTPST
0F8	IEAVESVC	IEAVESVC
0F9	IEAVESVC	IEAVESVC
0FB	IEAVEPC	IEAVEPC
0FD	IEAVESVC	IEAVESVC
101	IEAVEWAT	IEAVEWAT
102	IEAVEPST	IEAVEPST
104	IGVGLSQA	IGVVSERR
	IGVGSQA	
	IGVGCSA	
	IGVGAPVT	
106	CSVGETMD	CSVABEND
10A	IGVGLSQA	IGVVSERR
	IGVGSQA	
	IGVGCSA	
	IGVGAPVT	

CD/MOD

System Completion Code	Module Detecting	Module Issuing
10B	IEAVRT01	IEAVRT01
10D	IEAVTRTC	IEAVTRTC
10E	IEAVTESP	IEAVTESP
110	IOSPURGA	IOSPURGA
121	IGC0003C	IGC0003C
122	IEE3703D	IEE3703D
128	IEAVTB00	IEAVTB00
12A	IEAVEAT0	IEAVEAT0
12C	IEAVECH0	IEAVECH0
12E	IEAVRT00	IEAVRT00
12F	IEAVRT00	IEAVRT00
130	IEAVENQ1	IEAVENQ1
133	IEAVAD00	IEAVAD00
	IEAVTSDX	IEAVTSDX
138	IEAVENQ1	IEAVENQ1
13C	IGC00060	IGC00060
13E	IEAVEED0	IEAVEED0
147	IGC0007A	IGC0007A
149	IGC0007C	IGC0007C
14A	IGC0007D	IGC0007D
14B	IGC0007E	IGC0007E
14F	IEAVSETS	IEAVSETS
153	IEEMB830	IEEMB830
	IEASMFSP	IEASMFSP
157	IEAVXDOM	IEAVXDOM
15C	IECVEXCP	IECVEXFR
15F	IRARMINT	IRARMINT
16B	IEAVMODE	IEAVMODE
16D	IEAVESVC	IEAVESVC
171	IARPS	IARPM
	IARPV	IARPM
	IARPG	IARPM
	IARPM	IARPM
	IARPF	IARPM
	IARPU	IARPM
	IARPR	IARPM
172	IECVEXCP	IECVEXFR
177	IEAVTEST	IEAVTEST
178	IGVGLSQA	IGVVSERR
	IGVGSQA	
	IGVGCSA	
	IGVGAPVT	
17A	IEAVEVT0	IEAVEVT0
17B	IEAVEPD0	IEAVEPD0
17D	IEAVEVT0	IEAVEVT0
18A	IARPI	IARPM
	IARPG	IARPM
	IARPV	IARPM
	IARPF	IARPM
	IARPU	IARPM
	IARPR	IARPM
1FC	IEAVESVR	IEAVESVR
200	IECVEXCP	IECVEXFR
201	IEAVEWAT	IEAVEWAT
202	IEAVEPST	IEAVEPST
204	IGVGLSQA	IGVVSERR
205	IGVGLSQA	IGVVSERR
206	CSVGETMD	CSVABEND
	CSVXLOAD	CSVABEND
	CSVSYNCH	CSVABEND
20A	IGVGLSQA	IGVVSERR
20B	IEAVRT01	IEAVRT01
20D	IEAVTRTE	IEAVTRTE
20E	IEAVTESP	IEAVTESP
20F	IECVPST	IECVPST
222	IEE3703D	IEE3703D
228	IEAVTB00	IEAVTB00
22A	IEAVEAT0	IEAVEAT0
22C	IEAVECH0	IEAVECH0
22E	IEAVRT00	IEAVRT00
22F	IEAVRT00	IEAVRT00
230	IEAVENQ1	IEAVENQ1
233	IEAVAD00	IEAVAD00
	IEAVTSDT	IEAVTSDT
	IEAVTSDX	IEAVTSDX
238	IEAVENQ1	IEAVENQ1
23E	IEAVEED0	IEAVEED0
247	IGC0007A	IGC0007A
253	IEEMB830	IEEMB830
	IEEMB834	IEEMB834
	IEEMB839	IEEMB839
	IFACWTR	IFACWTR
25F	IRARMERR	IRARMINT
260	IEAVAX00	IEAVAX00
271	IARPV	IARPM
278	IGVGLSQA	IGVVSERR
27B	IEAVEPD0	IEAVEPD0
2F3	IEFIB605	IEFIB605
2FC	IEAVEIOR	IEAVEIOR
300	IECVEXCP	IECVEXFR
301	IEAVEWAT	IEAVEWAT
304	IEAVGPRR	IEAVGPRR
305	IGVAAQAT	IGVVSERR
	IGVFSDQE	
	IGVFAPVT	
	IGVFPVT	
	IGVVSMRF	
306	CSVGETMD	CSVABEND
30A	IGVAAQAT	IGVVSERR
	IGVFSDQE	
	IGVFAPVT	
	IGVFPVT	
	IGVVSMRF	
30E	IEAVTESP	IEAVTESP
312	IGC018	IGC018
322	IEATLEXT	IEATLEXT
328	IEAVTB00	IEAVTB00

System Completion Code	Module Detecting	Module Issuing
333	IEAVTSDG	IEAVTSDG
	IEAVTVSM	IEAVTVSM
	IEAVTSDH	IEAVTSDH
	IEAVTSDL	IEAVTSDL
	IEAVTSDT	IEAVTSDT
338	IEAVENQ1	IEAVENQ1
33E	IEAVEED0	IEAVEED0
353	IEEMB830	IEEMB830
35F	IEFSD263	IEFSD263
378	IGVAAQAT	IGVVSERR
	IGVFSDQE	
	IGVFAPVT	
	IGVFPVT	
	IGVVSMRF	
37A	IEAVEVT0	IEAVEVT0
37D	IEAVEVT0	IEAVEVT0
3FC	IEAVEE1R	IEAVEE1R
	IEAVEE2R	IEAVEE2R
	IEAVEE3R	IEAVEE3R
400	IECVEXCP	IECVEXFR
402	IEAVEPST	IEAVEPST
406	CSVSBRTN	CSVABEND
40A	IGVVSMRF	IGVVSERR
42A	IEAVEAT0	IEAVEAT0
430	IEAVENQ1	IEAVENQ1
438	IEAVENQ1	IEAVENQ1
43E	IEAVEED0	IEAVEED0
45F	IRARMEVT	IRARMEVT
478	IGVVSMRF	IGVVSERR
47A	IEAVEVT0	IEAVEVT0
47D	IEAVEVT0	IEAVEVT0
4FC	IEAVEPCR	IEAVEPCR
500	IECVEXCP	IECVEXFR
502	IEAVEPST	IEAVEPST
504	IGVVSM24	IGVVSERR
505	IGVVSM24	IGVVSERR
522	IEATLEXT	IEATLEXT
52A	IEAVEAT0	IEAVEAT0
530	IEAVENQ1	IEAVENQ1
53E	IEAVEED0	IEAVEED0
55F	IRARMSRV	IRARMSRV
57D	IEAVEVT0	IEAVEVT0
5FC	IEAVERER	IEAVERER
604	IGVVSM24	IGVVSERR
	IGVRVSM	
605	IGVVSM24	IGVVSERR
	IGVRVSM	
622	IKJEFLJ	IEFSD263
	IKJEFLG	IKJEFLG
630	IEAVENQ1	IEAVENQ1
638	IEAVENQ1	IEAVENQ1
65F	IRARMCHM	IRARMCHM
67A	IEAVMSF	IEAVMSF
	IEAVMFIH	IEAVMFIH
	IEAVMSFS	IEAVMSFS
67D	IEAVEVT0	IEAVEVT0
6FC	IEAVEPC	IEAVEPC
700	IECVEXCP	IECVEXFR
702	IEAVEPST	IEAVEPST
704	IGVVSMRT	IGVVSMRT
	IGVVSERR	IGVVSERR
	IGVGSQA	IGVGSQA
	IGVVSM24	IGVVSM24
	IGVGAPVT	IGVGAPVT
	IGVGLSQA	IGVGLSQA
705	IGVVSMRF	IGVVSMRF
	IGVFSP	IGVFSP
	IGVVSERR	IGVVSERR
	IGVFSQA	IGVFSQA
	IGVFLSQA	IGVFLSQA
	IGVVSM24	IGVVSM24
706	CSVGETMD	CSVABEND
70A	IGVVSMRF	IGVVSMRF
	IGVVSMRT	IGVVSMRT
	IGVFSP	IGVFSP
	IGVGAPVT	IGVGAPVT
	IGVVSERR	IGVVSERR
	IGVGSQA	IGVGSQA
	IGVVSM24	IGVVSM24
	IGVFLSQA	IGVFLSQA
	IGVFSQA	IGVFSQA
	IGVGLSQA	IGVGLSQA
71A	IGG0CLA9	IGG0TRM1
		IGG0CLHC
72A	IEAVEAT0	IEAVEAT0
730	IEAVENQ1	IEAVENQ1
738	IEAVENQ1	IEAVENQ1
75F	IRARMINT	IRARMINT
778	IGVVSM31	IGVVSM31
	IGVVSMRT	IGVVSMRT
	IGVFSP	IGVFSP
	IGVGAPVT	IGVGAPVT
	IGVVSERR	IGVVSERR
	IGVGSQA	IGVGSQA
	IGVFLSQA	IGVFLSQA
	IGVFSQA	IGVFSQA
	IGVGLSQA	IGVGLSQA
77D	IEAVEVT0	IEAVEVT0
800	IECVEXCP	IECVEXFR
804	IGVGSQA	IGVVSERR
	IGVGCSA	
	IGVGLSQA	
	IGVGAPVT	
	IGVGPVT	
	IGVVSMRT	
805	IGVVSMRF	IGVVSERR
806	CSVGETMD	CSVABEND
	CSVXCTL	CSVABEND
	CSVXXCTL	CSVABEND
	CSVXLOAD	CSVABEND
80A	IGVGSQA	IGVVSERR
	IGVGCSA	
	IGVGLSQA	
	IGVGAPVT	
	IGVGPVT	
	IGVVSMRT	
	IGVVSMRF	
822	IEFSD263	IEFSD263
82A	IEAVEAT0	IEAVEAT0
838	IEAVENQ1	IEAVENQ1

System Completion Code	Module Detecting	Module Issuing
878	IGVGSQA	IGVVSERR
	IGVGCSA	
	IGVGLSQA	
	IGVGAPVT	
	IGVGPVT	
	IGVVSMRT	
	IGVVSMRF	
87D	IEAVEVT0	IEAVEVT0
905	IGVVSMRF	IGVVSERR
906	CSVSBRTN	CSVABEND
90A	IGVVSMRF	IGVVSERR
922	IEFIB621	N/A
92A	IEAVEAT0	IEAVEAT0
978	IGVVSMRF	IGVVSERR
A00	IECVEXCP	IECVEXFR
A03	IEAVTSKT	IEAVTSKT
A05	IGVBDFE	IGVVSERR
	IGVFSDQE	
	IGVFCSA	
	IGVFDQE	
A06	CSVRBENQ	CSVABEND
A0A	IGVBDFE	IGVVSERR
	IGVFSDQE	
	IGVFCSA	
	IGVFDQE	
A23	IEAVMFRR	IEAVMFRR
A78	IGVBDFE	IGVVSERR
	IGVFSDQE	
	IGVFCSA	
	IGVFDQE	
B00	IECVEXPR	IECVEXFR
B04	IGVVSMRT	IGVVSERR
	IGVVSM24	IGVVSM24
	IGVRVSM	
B05	IGVVSMRF	IGVVSERR
	IGVVSM24	IGVVSM24
	IGVRVSM	
B0A	IGVVSMRF	IGVVSERR
	IGVVSM24	IGVVSM24
	IGVRVSM	
	IGVVSMRT	
B23	IEAVSTAA	IEAVSTAA
B78	IGVVSMRF	IGVVSERR
	IGVVSM31	IGVVSM31
	IGVRVSM	
	IGVVSMRT	
C0D	IARSX	IARSX
	IARFO	IARFO
	IARRW	IARRW
	IARPH	IARPH
	IARSC	IARSC
	IARRW	IARRW
	IARMX	IARMX
	IARGA	IARGA
	IARSP	IARSP
	IARRZ	IARRZ
	IARRR	IARRR
	IARFP	IARFP
	IARFS	IARFS
	IARSO	IARSO
	IARSI	IARSI
	IARGI	IARGI
	IARGD	IARGD
	IARUI	IARUI
	IARVF	IARVF
	IARXS	IARXS
	IARMA	IARMA
	IARPP	IARPP
	IARVF	IARVF
	IARXI	IARXI
	IARVA	IARVA
	IARX0	IARX0
	IARUM	IARUM
	IARFS	IARFS
	IARXR	IARXR
	IARPO	IARPO
	IARPR	IARPR
	IARME	IARME
	IARFO	IARFO
	IARPB	IARPB
	IARMB	IARMB
	IARRZ	IARRZ
	IARUR	IARUR
	IECVPURG	IECVPURG
	IGCOOO1F	IGCOOO1F
	IOSRACRW	IOSRACRW
	IOSRCHDR	IOSRCHDR
	IOSRHDET	IOSRHDET
	IOSRMIHT	IOSRMIHT
	IOSRSCH	IOSRSCH
	IOSVHSCH	IOSVHSCH
	IOSVIRBA	IOSVIRBA
	IOSVIRBD	IOSVIRBD
	IOSVIRBH	IOSVIRBH
	IOSVIRBU	IOSVIRBU
	IOSVMSCH	IOSVMSCH
	IOSVSMGR	IOSVSMGR
	IOSVSSCH	IOSVSSCH
	IOSVSTSC	IOSVSTSC
	IOSPURGA	IOSPURGA
	IOSPURGB	IOSPURGB
	IECVPURG	IECVPURG
	IGCOOO1F	IGCOOO1F
	IOSRACRW	IOSRACRW
	IOSRCHDR	IOSRCHDR
	IOSRHDET	IOSRHDET
	IOSRMIHT	IOSRMIHT
	IOSRSCH	IOSRSCH
	IOSVHSCH	IOSVHSCH
	IOSVIRBA	IOSVIRBA
	IOSVIRBD	IOSVIRBD
	IOSVIRBH	IOSVIRBH
	IOSVIRBU	IOSVIRBU
	IOSVMSCH	IOSVMSCH
	IOSVSMGR	IOSVSMGR
	IOSVSSCH	IOSVSSCH
	IOSVSTSC	IOSVSTSC
	CSVABEND	CSVABEND
C22	IECVEXCP	IECVEXCP
C78	IGVSLIST	IGVSLIST
	IGVLOCP	IGVLOCP
	IGVCPBLD	IGVCPBLD
	IGVCPEXT	IGVCPEXT
	IGVCPDEL	IGVCPDEL
	IGVSTSKT	IGVSTSKT
	IGVGRRGN	IGVGRRGN
	IGVFRRGN	IGVFRRGN
	IGVFVRGN	IGVFVRGN
CFB	IATABMN	IATABMN
D04	IGVAAQAT	IGVVSERR
	IGVGLSQA	
	IGVGAPVT	
D05	IGVFLSQA	IGVVSERR
	IGVFAPVT	
D06	CSVSBRTN	CSVABEND
D0A	IGVAAQAT	IGVVSERR
	IGVGLSQA	
	IGVGAPVT	
	IGVFLSQA	
	IGVFAPVT	
D0D	IEAVTRTE	IEAVTRTE
D23	IEAVVWTO	IEAVVWTO
	IEAVMWTO	
	IEAVH600	
D78	IGVAAQAT	IGVVSERR
	IGVGLSQA	
	IGVGAPVT	
	IGVFLSQA	
	IGVFAPVT	
DFB	IATFCLT	IATFCLT
	IATFPCC	IATFPCC

System Completion Code	Module Detecting	Module Issuing
	IATFPCW	IATFPCW
	IATFPGD	IATFPGD
	IATFPQC	IATFPQC
	IATFPRA	IATFPRA
	IATFPSB	IATFPSB
	IATIIFO	IATIIFO
	IATSICD	IATSICD
E00	IECVEXCP	IECVEXCP
E03	IEAVTSKT	IEAVTSKT
E23	IEAVVRP2	IEAVVRP2

Wait State Code to Module Table

Wait State Code	Detecting Module	Issuing Module
001	IEAIPL00	IEAIPL00
002	IEAIPL00	IEAIPL00
003	IEAIPL00	IEAIPL00
	IEAIPL03	IEAIPL03
004	IEAIPL03	IEAIPL00
005	IEAIPL00	IEAIPL00
006	IEAIPL00	IEAIPL00
007	IEAVNP01	IEAVNIPM
00A	IEAVNP03	IEAVNIPM
00B	IEEVIPL	IEEVIPL
00C	IEAIPL02	IEAIPL00
00D	IEEVIPL	IEEVIPL
00E	IEAIPL02	IEAIPL00
	IEAIPL05	IEAIPL00
	IEAIPL40	IEAIPL00
	IEAIPL41	IEAIPL00
014	IEAVEPC	IGFPTERM
015	IEAIPL00	IEAIPL00
016	IEAIPL00	IEAIPL00
017	IEAIPL00	IEAIPL00
019	IEAIPL00	IEAIPL00
01A	IEEVDUMY	IGFPTERM
01B	IEAVTSLP	IEESTPRS
01C	IEAVESPR	IGFPTERM
020	IEAVNP02	IEAVNP02
021	IEAVNPM2	IEAVNIPM
022	IECVDAVV	IECVDAVV
023	IEAVNP51	IEAVNIPM
024	IGFPTREC	IGFPTREC
025	IEAIPL40	IEAIPL00
	IEAIPL41	IEAIPL00
026	ICFBIF00	ICFBIF00
	ICFBDF00	ICFBDF00
027	ICFBIF00	ICFBIF00
	ICFBDF00	ICFBDF00
028	IEAIPL40	IEAIPL00
02D	IEAVNPM3	IEAVNIPM
02E	ILRMSG00	ILRMSG00
02F	IECVPST	IECVPST
030	IEAVNIP0	IEAVNIP0
031	IEAVIPL3	IEAVIPL3
	IEAIPL03	IEAIPL03
032	IEAVNIPM	IEAVNIPM
	IEAVNIP0	IEAVNIP0
033	IEAVNIPM	IEAVNIPM
037	IEAVNPM3	IEAVNIPM
	IEAVNP76	IEAVNIPM
038	IEAIPL00	IEAIPL00
	ILRASRIM	ILRIMMSG
	IEAVNP05	IEAVNIPM
039	IEAVNPM3	IEAVNIPM
03A	IEAVNP05	IEAVNIPM
	IEAVNPC5	IEAVNIPM
03B	IEAVNP05	IEAVNIPM
	IEAVNP07	IEAVNIPM
03C	ILRASRIM	ILRIMMSG
	ILRIODRV	ILRIODRV
	ILRMSG00	ILRMSG00
03D	IEAVNP08	IEAVNIPM
03E	ILRTMI00	ILRMSG00
03F	IEAVNPM2	IEAVNIPM
	IEAVNP05	IEAVNIPM
040	IEAVNIPM	IEAVNIPM
044	IEAVNIPM	IEAVNIPM
	IEAVNIP0	IEAVNIP0
045	IEAVNPA6	IEAVNIPM
046	IEAVNIP0	IEAVNIP0
047	IEAVNIPM	IEAVNIPM
04A	IEAVNIP0	IEAVNIP0
050	IGFPTSIG	IGFPTAIM
051	IEAVTCR1	IGFPTERM
052	IEAVTCR1	IGFPTERM
055	IEAIPL30	IEAIPL00
	IEAIPL40	IEAIPL00
	IEAIPL41	IEAIPL00
059	IEAVNIP0	IEAVNIP0
05C	IEAVNP11	IEAVNIPM
05D	IEAVNP11	IEAVNIPM
05E	IEAVNP11	IEAVNIPM
05F	IEAVNP11	IEAVNIPM
060	ILRASRIM	ILRIMMSG
061	ILRASRIM	ILRIMMSG
062	IOSRCHPR	IOSRCHPR
063	IEAVNP03	IEAVNIPM
	IEAVNP11	IEAVNIPM
	IEAVNP19	IEAVNIPM
	ILRASRIM	ILRIMMSG
064	IEAVNIPM	IEAVNIPM
	IEAVNIP0	IEAVNIP0
065	IEAVNIPM	IEAVNIPM
06C	IGFCCHED	IGFCCHED
06D	IECVRSTS	IEESTPRS
06F	IECVDURP	IECVDURP
070	IEAIPL00	IEAIPL00
071	IEAIPL02	IEAIPL00
	IEAIPL04	IEAIPL00
	IEAIPL40	IEAIPL00
	IEAIPL41	IEAIPL00
072	IEAIPL30	IEAIPL00
	IEAIPL40	IEAIPL00
	IEAIPL41	IEAIPL00

Wait State Code	Detecting Module	Issuing Module
073	IEAIPL00	IEAIPL00
074	IEAIPL00	IEAIPL00
	IEAIPL02	IEAIPL00
	IEAIPL03	IEAIPL00
	IEAIPL40	IEAIPL00
	IEAIPL41	IEAIPL00
075	IEAIPL00	IEAIPL00
076	IEAIPL00	IEAIPL00
077	IEAIPL07	IEAIPL00
079	IEAIPL40	IEAIPL00
081	IEAIPL00	IEAIPL00
083	IEAVESAR	IEAVESAR
	IEAVELCR	IEAVESAR
084	IEAVTRTV	IGFPEMER
085	ILRASRIM	ILRIMMSG
		IEAVNIPM
0E3	IEAVNP08	IEAVNP08
0E6	IECVFCHN	IEESTPRS
0E8	IEAVNP06	IEAVNIPM
101	IEAVGM00	IEAVGM00
102	IEAVGM00	IEAVGM00
104	IEAVESVR	IEAVESVR
110	IOSRHREC	IEESTPRS
111	IOSRHREC	IEESTPRS
112	IOSRHREC	IEESTPRS
113	IOSRCHPR	IOSRCHPR
114	IOSRCHPR	IOSRCHPR
115	IECVPST	IEEVLDWT
	IOSVDAVV	IEEVLDWT
	IECVPST	IECVPST
116	IOSVRSTS	IEEVLDWT
200	IEFAB4I0	IEFAB4I0
	IEFEB400	
201	IEAVN700	IGFPTCON
202	IEAVN701	IEESTPRS

Wait State Code	Detecting Module	Issuing Module
A01	IGFPMCIH	IGFPMCIH
A19	IOSRMCH	IOSRMCH
A20	IARMN	IARMN
A21	IARMN	IARMN
A22	IEEVDCCR	IEEVDCCR
	IEEVDCSR	IEEVDCSR
A23	IGFPMAIN	IGFPMCIH
A24	IGFPMAIN	IGFPMCIH
A25	IGFPMAIN	IGFPMCIH
A26	IGFPMAIN	IGFPMCIH
A28	IGFPMCIH	IGFPWAIT
A29	IGFPTERM	IGFPTERM
A2A	IEAVNPD8	IEAVNPD8
A2B	IGFPMAIN	IGFPMAIN
CCC	IEEMPS03	IEESTPRS

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System Codes

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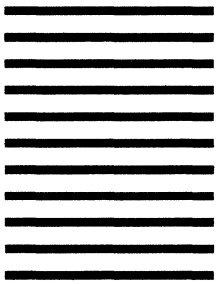

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