IBM Session Manager for z/OS

User and Administrator Guide

Version 3 Release 2

SC34-2808-00

IBM Session Manager for z/OS

User and Administrator Guide

Version 3 Release 2

SC34-2808-00

Note

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 159.

This edition applies to Version 3 Release 2 of IBM Session Manager for z/OS, program number 5655-U98, and to all subsequent versions, releases, and modifications until otherwise indicated in new editions.

Contents

About this manual

This is the *User and Administrator* manual for IBM® Session Manager for z/OS® (hereafter mostly referred to as Session Manager). It is based on the *Facilities Reference* but significantly reduced in size by transfer of material to the *Installation and Getting Started* manual, which has been renamed as the *Installation and Customization* manual.

This manual gives a detailed description of the product's facilities. If you are an end-user of Session Manager, refer to this manual frequently for usage instructions for the facilities – each chapter of the manual describes a particular facility and contains usage notes to help you set up the Session Manager environment.

Note If you are a Session Manager administrator and are installing and configuring the product for the first time, review the facilities' descriptions which overview the relevant system configuration parameters. These parameters are detailed in 'System definition' in the *Technical Reference*.

Note Any references in this manual to "Session Manager version 1.3.15" and to "1.3 Functional Enhancement PTF 3" are synonymous.

Online and Batch Administration

Online Administration: Instead of supplying product configuration statements directly, Online Administration (hereafter "OLA") enables administrators and end-users of Session Manager to tailor the product using a series of menus, lists and attribute display panels.

Batch Administration: If many changes are required to a large number of configuration definitions, this capability enables administrators and end-users of Session Manager to tailor the product using a batch job.

For more information, see the *Online and Batch Administration* manual.

Panels and Scripts

Installation-specific facilities can be created using Session Manager Panels and Scripts, and conditional logic can be incorporated using the product's Panel and Script Language (TPSL). For details, see the *Panels, Scripts and Variables* manual.

To meet particular needs, a User exit is available, containing several exit points and access to certain variables, enabling user code to be executed. For details, see the chapter titled 'The Session Manager user exit processing' in the *Installation and Customization* manual.

External Security Managers

External Security Managers (hereafter 'ESMs'), such as RACF®, can be used with Session Manager to authenticate users, set their authorization level and OLA security class, and determine which applications a user can access.

For details, see the 'Defining security and implementing dynamic menus' chapter in the *Installation and Customization* manual.

Session Manager documentation

The following documentation accompanies Session Manager:

Manual	Purpose
Installation and Customization	Goes through the steps required to install the Session Manager software, and provides general information on the methods and options available to configure and operate your system.
User and Administrator	Describes in detail the features and facilities provided by Session Manager.
Online and Batch Administration	Explains the set-up and configuration of OLA, how to use the interface, and how to utilize both OLA and Batch Administration to modify the Session Manager configuration.
Technical Reference	Provides a detailed reference for Session Manager commands and configuration statements, along with problem diagnosis assistance.
Quick Reference	Provides a quick way to find the correct syntax for commands, configuration statements, and variables, without detailed explanations.
Panels, Scripts and Variables	Gives a detailed technical account of defining panels, using scripts and variables, and the product's Panel and Script Language (TPSL).
Messages and Codes	Contains explanations of all messages issued by Session Manager, and the actions that should be taken.

Additionally, the *Program Directory* contains information for systems programmers about the program material and procedures for installing IBM Session Manager under z/OS.

New users should review the *User and Administrator* manual to gain an understanding of Session Manager concepts, and Technical Programmers should review the *Installation and Customization* manual in order to tailor the product to the Installation's requirements.

In general, the extreme flexibility of the configuration statements is found to cater for most user requirements. Panel and script definitions may be provided with conditional logic using the Session Manager Panel and Script Language and numerous variables are provided to view and modify a wide variety of data. If any particular needs cannot be met, a user exit is available, containing several exit points and access to certain variables, enabling user code to be executed. Full details of the User Exit are supplied in the *Installation and Customization* manual.

Conventions

The following typographic conventions are used:

`boldface`	Indicates a command or keyword that you should type, exactly as shown. When mixed case is used, the element in upper case represents the shortest acceptable form. For example, `MSGsuffix` can be abbreviated as far as `MSG`.
`italics`	Indicates a variable for which you should substitute an appropriate value.
`monotype`	Indicates literal input and output.
Ctrl+D	Indicates two or more keys pressed simultaneously.
`[ ]`	Brackets surround an optional value.
`|`	Vertical bars separate alternative values from which you must make a selection.
`...`	Ellipsis indicates that the preceding element may be repeated.
@	Some commands or key sequences make use of the 0x7C (that is, x'7C') character. When using the English language code page, this character is displayed as the @ sign, but may be displayed as a different character in some other code pages. In this document, the 0x7C character is always presented as the @ sign. You should enter the appropriate 0x7C character symbol for the code page you are using.

Summary of new features

For a summary of changes made to the product in its most recent releases, please refer to the *Installation and Customization* manual.

CHAPTER 1

The Session Manager user interface

This chapter describes in simple terms how to use the IBM Session Manager for z/OS user interface. The configuration steps described in the *Installation and Customization* manual and in the present chapter should be reviewed thoroughly before you try and use Session Manager in production.

Using the interface

Signon screen

The first part of Session Manager that most users will see is the signon screen. In some cases – where users are not required to signon – this screen will not appear, so this description will not apply.

Although the design of the signon panel will vary between Installations (see the *Installation and Customization* manual), and possibly between users at the same Installation, most signon panels will contain an area for the user to enter their userid and password. Some signon screens will also contain an area for the user to enter a new password.

To access Session Manager, all the user needs to do is enter their userid and password in the spaces provided, and press Enter.

When Session Manager is using an External Security Manager to authenticate users, the signon screen may allow password phrases (passphrases) to be entered instead of passwords. Some signon screens will also contain an area for the user to enter a new passphrase. If the password data entered is less than nine characters then it will be treated as a password otherwise it will be treated as a passphrase.

If the signon screen allows passphrases to be entered it may also contain an area for the user to enter their password. If this password field appears on the signon screen and the user has entered a passphrase then they must also enter their password in this field. This password will be used when Session Manager has been configured to automatically initiate sessions that do not support passphrases.

Session Manager menu

Once a user has signed on (or straight away if users are not required to signon) the Session Manager menu will be displayed.

Although the design of the menu panel will vary between Installations (see the *Installation and Customization* manual), and possibly between users at the same Installation, some common features are likely to be present:

- A list of the sessions it is possible to access
- A space at the left of each session entry in which to enter actions
- A column showing the PF Key or number associated with each session
- A session description/name column
- An application id (applid) column
- A command line towards the bottom of the screen
- A section indicating some of the escape sequences available

Selecting an application

Each application has an assigned selection id, usually a session number or PF Key. This should appear on the same line as the application. An application can be selected in one of these ways:

- Entering the session number
- Entering a selection command, if available

- Entering a TRANSID command, if available
- Pressing the associated PF Key, if assigned

Once an application has been selected, escape sequences can be used to return to the menu, or to switch forwards or backwards to other applications. Escape sequences are usually shown at the bottom of the menu screen, and can be modified to suit the Installation.

If submenus have been configured (see 'Session Manager submenus' on page 15) then the session might be a submenu placeholder and selection of the session would cause a lower-level submenu to be displayed to the user.

Session Manager submenus

For ISM 3.1.00 and higher, menu sessions, whether they are defined in the USER definition or defined in the user's PROFILE, can be submenu placeholders rather than sessions. Only a subset of the user's sessions and/or submenu placeholders are displayed on the menu. If the user selects a submenu placeholder then the menu is replaced by a submenu which looks similar to the menu, but contains a further set of the user's sessions and submenus.

Each submenu placeholder can be defined by configuring a SESSION (or KEY) with a CMD parameter containing a value of:

```
'ISZSM profilename'
```

where *profilename* is the name of a PROFILE statement which contains SESSION (or KEY) definitions that are to be in the submenu. The CMD's DESCRIPTION parameter value will be displayed as the submenu's description. The PROFILE may contain further CMD 'ISZSM *profilename*' definitions that will generate further levels of submenus.

In the following example, USERA has been configured with PROFILE PROFA.

PROFA contains three standard session definitions (sessions 101, 103 and 104) and one definition which is a submenu placeholder for PROFILE PROFB (session 102):

```
PROFILE PROFA
   SESSION  101  APPLID  ISZATSOA     DESC 'TSOA S101'   REFAPPL yes
   SESSION  102  CMD    'ISZSM PROFB' DESC 'Submenu PROFB'
   SESSION  103  APPLID  ISZACICA     DESC 'CICA S103'   REFAPPL yes
   SESSION  104  APPLID  ISZAIMSA     DESC 'IMSA S104'   REFAPPL yes
```

PROFB contains three standard session definitions (sessions 201, 203 and 204) and one definition which is a submenu placeholder for PROFILE PROFC (session 202):

```
PROFILE PROFB
   SESSION  201  APPLID  ISZATSOB     DESC 'TSOB S201'   REFAPPL yes
   SESSION  202  CMD    'ISZSM PROFC' DESC 'Submenu PROFC'
   SESSION  203  APPLID  ISZACICB     DESC 'CICB S203'   REFAPPL yes
   SESSION  204  APPLID  ISZAIMSB     DESC 'IMSB S204'   REFAPPL yes
```

PROFC contains three standard session definitions (sessions 301, 302 and 303):

```
PROFILE PROFC
   SESSION  301  APPLID  ISZATSOC     DESC 'TSOC S301'   REFAPPL yes
   SESSION  302  APPLID  ISZACICC     DESC 'CICC S302'   REFAPPL yes
   SESSION  303  APPLID  ISZAIMSC     DESC 'IMSC S303'   REFAPPL yes
```

This configuration gives USERA three levels of ISM menus. During the configuration process, sessions are renumbered in order to present each session in the order it has been defined. Session numbers will be assigned. starting at 1 and incrementing by 1 for each subsequent session.

After signing in to ISM, USERA would be displayed the menu derived from their assigned PROFILE PROFA:

```
*******************************************************************************
 MENU                          Menu PANEL              dd/mm/yyyy hh:mm:ss
. LU   luname                                                      USERA
.  |   Sel   Description                              Status
.      ---   -----------                              ------
.        1   TSOA S101                                AVAIL
.        2   Submenu PROFB                            SMENU
.        8   CICA S103                                AVAIL
.        9   IMSA S104                                AVAIL
.
.
.
.
. USER USERA signed on at LU luname
. ===>
.          ESCAPES:     Menu @@      Bwd Bw          Fwd Fw
*******************************************************************************
```

This top level menu describes the sessions defined in PROFILE PROFA. Configured session 101 has been renumbered as session 1. Configured session 102 has been renumbered as session 2 and can be identified as a submenu placeholder by a session status of SMENU. Sessions 103 and 104 have been renumbered as sessions 8 and 9 respectively. This is because the configuration process has identified sessions under the PROFB PROFILE to which it has assigned lower session numbers.

If session 2 is selected from the top level menu then USERA is presented with the submenu described by PROFILE PROFB:

```
*******************************************************************************
. MENU                        SMENU PROFB             dd/mm/yyyy hh:mm:ss
. LU   luname                                                      USERA
.  |   Sel   Description                              Status
.      ---   -----------                              ------
.        2   TSOB S201                                AVAIL
.        3   Submenu PROFC                            SMENU
.        6   CICB S203                                AVAIL
.        7   IMSB S204                                AVAIL
.
.
.
. ===>
.          ESCAPES:     Menu @@      Bwd Bw          Fwd Fw
*******************************************************************************
```

The first session in the PROFB submenu, configured session 201, inherits the session number, session 2, which was assigned to the submenu placeholder in the higher level menu.

Configured session 202 is renumbered as session 3 and is a submenu placeholder for PROFILE PROFC. If session 3 is selected from the PROFB submenu then USERA is presented with the submenu described by PROFILE PROFC:

```
********************************************************************************
. MENU                          SMENU PROFC              dd/mm/yyyy hh:mm:ss
. LU   luname                                                        USERA
.  |   Sel   Description                          Status
.      ---   -----------                          ------
.        3   TSOC S301                            AVAIL
.        4   CICC S302                            AVAIL
.        5   IMSC S303                            AVAIL
.
.
.
.
. ===>
.         ESCAPES:     Menu @@      Bwd Bw          Fwd Fw
********************************************************************************
```

Configured sessions 301, 302 and 304, which are all standard sessions, have been renumbered as sessions 3, 4 and 5 respectively.

Here is an overview of how the configuration process renumbers sessions in a submenu scenario:

Configured Session number	**PROFA MENU Assigned Session numbers**		
Session 101	**Session 1** TSOA S101		
Session 102	**Session 2** Submenu **PROFB**	**PROFB MENU Assigned Session numbers**	
Session 201		**Session 2** TSOB S201	
Session 203		**Session 3** Submenu **PROFC**	**PROFC MENU Assigned Session numbers**
Session 301			**Session 3** TSOC S301
Session 302			**Session 4** CICC S302
Session 303			**Session 5** IMSC S303
Session 203		**Session 6** CICB S203	
Session 204		**Session 7** IMSB S204	
Session 103	**Session 8** CICA S103		
Session 104	**Session 9** IMSA S104		

The following MENU commands are incompatible for a user with submenus configured and will be rejected as invalid if issued:

```
CONCEAL
```

Because sessions in a submenu setting are renumbered and effectively reordered, any parameter which affects the sequencing of sessions on the user's menu will be ignored. These are:

Common end-user parameters

```
SESSPRIAPPL
SESSPRI
```

Common session parameters

```
SEQUENCE
SESTYPE
```

Automatic selection or start of a session using the AUTOSELECT or AUTOSTART parameters will continue to be honoured for the original (configured) session, but these parameters are ignored for submenu placeholder sessions.

Multiple submenu placeholders can be specified on the PROFILE or USER statements, but the total configured on any one user cannot exceed 255.

Entering commands and action codes

Most Session Manager commands can be issued from the menu by entering them in the command line at the bottom of the screen. Commands may also be assigned to a session id and invoked in the same manner as selecting an application.

On the supplied menu, the space to the left of each session will accept the following action codes:

Action code	Session Manager command	Description
?	HELP	Displays help
S		Selects this session - starts or re-joins the session
K	RESET *n*	Terminates this session
R	RESET *n*	Terminates this session
E	ENDSCRIPT *n*	Runs the ENDSCRIPT and terminates this session
*	ENDSCRIPT *	Runs the ENDSCRIPTs and terminates all sessions
H	HALTSCRIPT *n*	Kills the script running on this session
P	HARDCOPY *n*	Take a hardcopy print of this session
C	CONCEAL *n*	Conceal this session
D	DELSESS *n*	Delete this ADDSESS session

For further information on Session Manager commands, refer to the *Technical Reference.*

To exit immediately from the Session Manager menu, enter QQ or LOGOFF on the command line. To exit without terminating active sessions, enter DISCONNECT.

Escape sequences

Escape sequences are used by Session Manager to perform functions and do not affect application sessions. Escape sequence input is not seen by the application, so it is not possible to use an escape sequence as input to any application. Available escape sequences may appear at the bottom of your menu screen. If required, the menu may be defined to allow the escapes to be modified by overtyping.

The 'Menu' escape sequence exits from the current application display and returns to the menu screen. This sequence may be used in combination with a PF Key to transfer directly to another active application without returning to the menu screen. This requires that the escape itself is not a PF Key, and that the target application is selectable by PF Key.

The 'Backward' and 'Forward' escape sequences transfer either backwards or forwards through all the applications for which Session Manager is currently maintaining sessions without returning to the Menu screen. The 'Previous' escape sequence transfers control to the previous active session.

Escape sequences are also used by some of the Session Manager facilities, for example:

- The 'Hardcopy' escape sequence invokes a screen hardcopy.
- The 'Push' escape sequence saves the current screen image in storage for later retrieval.
- The 'Pull' escape sequence invokes the Push-Pull index display.
- The 'Cut' escape sequence invokes a cut operation.
- The 'Paste' escape sequence invokes a paste operation.

For more information on these Session Manager facilities, see 'Commonly-used Session Manager facilities' on page 23.

Note Escapes are not permitted from some panels (in which the command line prefix is shown as --->). This is to allow for an escape sequence to be entered as *data*. Those panels where escapes *are* allowed have the usual format (===>) for the prefix.

Help Desk facility

This facility provides Help Desk operators with quick access to information about users. It displays a list of users and terminals, including terminals from all active nodes in the case of a Session Manager network. Users can be cancelled and logged off, messages can be sent, queries carried out and spies initiated.

For further information on the Help Desk facility, refer to 'The Help Desk facility' on page 27.

System Management Menu

As well as being able to issue commands directly in Session Manager, a list of the commands that the user is authorized to issue is available on the System Management Menu. If so configured, this list appears as a Session Manager session on the main menu and can be accessed in the same way as any other session. Commands can be selected by tabbing to the appropriate command and pressing Enter, or by entering 'S' beside the command to be selected and pressing Enter.

The command will be issued once Enter has been pressed unless there are subparameters to the command, in which case another command panel will be displayed containing all the subparameters for that command. Users may set the parameters to suit their needs before executing the command.

Replies from the commands issued will appear in the message area towards the bottom of the screen or, if another panel is associated with the command, the appropriate panel will be shown.

Help is available throughout the System Management Menu by pressing the Help PF Key, by entering `HELP` on the command line or, to see context-sensitive Help for the command, by entering `h` beside the command or parameter on which you need help.

For further information on the System Management Menu, refer to 'The System Management Menu' on page 31. For further information on using the Help facility in Session Manager, refer to 'The Help facility' on page 87.

For further information on Session Manager commands, refer to the *Technical Reference.*

Sysplex Summary and Menu

The Sysplex Summary and Menu provides a user who is signed on to any member in the Sysplex Group with a single-system view of all the members within the Sysplex Group. This view allows the user to display details and issue commands at the Group level as well as at a particular Group member level. If *`logstreamname`* is specified on the `SYSPLEXGroup` parameter on the `SYSTEM` statement, the menu includes a facility to view the Sysplex Group audit log.

For further information on the Sysplex facilities, refer to 'The Sysplex Summary and Menu facilities' on page 39.

Broadcast command panel

The Broadcast command panel, which provides an interface for entering the parameters associated with the `BROADCAST` command, can be accessed directly from the main menu in the same way as any other session, if Session Manager is so configured. The parameters, set to their defaults when the panel is launched, can be modified by the user before the command is issued. Only users with the appropriate authorization level will be able to issue `BROADCAST` commands.

Replies from the commands issued will appear in the message area towards the bottom of the screen. Help is available in the Broadcast command panel by pressing the Help PF Key or by entering `HELP` on the command line.

For further information on the Broadcast command panel, refer to 'The Broadcast and Messaging facilities' on page 61.

OLA interface

If you decide to use OLA (see the *Installation and Customization* manual) users will be able, depending on their OLA class, to view and modify configuration information using the OLA interface.

Online Administration will appear as a normal session on the Session Manager menu, and can be accessed in the same way. For comprehensive information on how to use OLA and the OLA interface, refer to the *Online and Batch Administration* manual.

Eclipse-based PC interfaces

The IBM Session Manager Operations Plug-in was introduced at release 3.1.00. This has similar capabilities to these 3270-based facilities: Help Desk, System Management Menu, and Sysplex Summary and Menu.

The IBM Session Manager Administration Plug-in was introduced at release 3.2.00. This provides a graphical user interface to many of the OLA functions available in the supplied 3270-based user interface.

For further information on these Eclipse plug-ins, refer to 'Session Manager Eclipse Plug-ins' on page 55.

Eclipse codepage translation

Requests and responses between the Eclipse Client and mainframe Server are translated, using the user's codepage at the Client, into EBCDIC at the Server. Session Manager supports English, German, Japanese and Canadian-French users through appropriate message Language Packs. These messages have been translated using specific CCSIDs. By default, the Eclipse Client supports these.

If additional Language Packs are created, the Session Manager Eclipse-based interface may be customized to support these using the `XLATECP` parameter introduced in Session Manager release 3.2.00. For details, see the *Technical Reference* manual.

CHAPTER 2

Commonly-used Session Manager facilities

This chapter gives an overview of some useful IBM Session Manager for z/OS facilities that can be configured for the needs of your Installation.

Facilities overview

Demonstration and View facility

The Demonstration and View facility enables both input and output screen displays at one terminal to be automatically displayed on a number of other terminals. The screen displays can be application screens or Session Manager screens.

The controlling terminal is known as the demonstrating terminal, and the users of the terminals which it is driving are known as viewers.

There is no limit to the number of terminals which may be demonstrating concurrently, and each demonstration may have up to 999 viewers simultaneously. All terminals in each demonstration must be of a compatible type (unless the viewer is using Session Manager Windows), otherwise unpredictable results may occur.

For detailed information please refer to 'The Demonstration and View facility' on page 73.

Spy facility

The Spy facility is intended for users with a high security clearance, such as System Administrators, Network Controllers or Technical Support staff. The facility enables a user to simultaneously view the screen contents currently displayed at the terminal of another Session Manager user. This can be useful, for example, if a user receives some unexpected screen output, since Technical Support can obtain a copy of the screen immediately and solve the problem more quickly. This is particularly relevant when users and Technical Support are at different locations.

While this facility could cause security exposure if misused, the system default is set such that a SPY command cannot be actioned from a Menu screen unless there is a defined SPYGROUP option in effect. The SPYGROUP parameter defines the support for the facility and therefore restricts its use.

For detailed information please refer to 'The Spy facility' on page 93. The formal definition of the SPY command can be found in the *Technical Reference* manual.

Record/Replay facility

The Record-Replay facility automatically records all input and output data streams for the initiating terminal.

This facility can be useful when a Session Manager user needs to record screens which have been acquired by spying or viewing another user. This could be for educational purposes as it allows the recording user to view the screens later at leisure. It may also be of use to Technical Programmers and Help Desk staff for problem solving, particularly when the user encountering the problem is at a remote location. It is also possible to record screens acquired by spying on a user who is replaying. A permanent copy of any screen can be obtained using the hardcopy command sequence or key.

For detailed information please refer to 'The Record-Replay facility' on page 97.

Hardcopy facility

The Session Manager Hardcopy facility may be made available to all, or selected, Session Manager users. It enables a user to take a hardcopy of the current screen image by simply pressing a key, entering a defined character sequence, or entering the HARDCOPY command. The screen image can be an application screen or a Session Manager panel. The output is sent to the operating system spool file, in other words, the JES2 or JES3 spool file.

For detailed information please refer to 'The Hardcopy facility' on page 105.

Push/Pull facility

The Push-Pull facility enables screen images to be saved in storage for later reference. Each user may save screens up to an individually defined maximum and may only reference their own saved screens. All the saved images are deleted when a user logs off from Session Manager, but the Hardcopy facility can be used to obtain a permanent copy when required.

Screen images may be saved or recalled from within an application, or, while in Spy, View, or Replay mode. The images are saved temporarily for rapid retrieval later. For example, a CICS® user frequently referring to one part of another CICS transaction, or a Help Information screen, might save time and effort by saving the highly referenced screen.

When a terminal is in Spy, View or Replay mode, a user may find it helpful to take a copy of a certain screen image for later reference. This can be particularly useful to Technical Programmers or Help Desk staff who are called upon to investigate users' problems, such as CICS transaction abends. The screens which might aid problem diagnosis are easily saved.

For detailed information please refer to 'The Push-Pull facility' on page 125.

See also:

- 'Command action key processing' on page 67
- 'The Change Password and Passphrase facility' on page 81
- 'The Windows facility' on page 115
- 'The Cut and Paste facility' on page 131
- 'Large screen format' on page 143
- 'Main menu and non-visible sessions' on page 145

CHAPTER 3

The Help Desk facility

The Help Desk facility provides Help Desk operators with quick access to information about users. It provides a simple list, optionally filtered, of all logged-on users. Prefix commands are available to `Cancel` (and log off) a user, send a `Message` to a user, perform a detailed `Query` on a user, or `Spy` on (view the current screen image of) a user.

Eclipse-based Operations PC interface

An Eclipse-based Operations PC interface was introduced at release 3.1.00. This has similar capabilities to these 3270-based facilities: Help Desk, System Management Menu, and Sysplex Summary and Menu. For further information on the Eclipse-based Operations PC interface, refer to 'Session Manager Eclipse Plug-ins' on page 55.

Using the Help Desk facility

The Help Desk facility can be added as a selectable session (HELPDESK). The session invokes the script ISZCOMDK which will display the Help Desk User List (a list of users and terminals). In a Session Manager network, terminals from all active nodes are included:

```
Session Manager           S/MGR Help Desk User List         dd/mm/yyyy hh:mm:ss
LU   luname                                                            user
  USER           TERMINAL                 USER           TERMINAL
  *              *
_ ALPHA1         SO9TVOO2               _ ALPHA2         SO9TVO11
_ ASZ            SO9TVOO3               _ GJG            SO9TVOO4
_ HINTAU2        SO9TVOO5               _ HINTAU3        SO9TVO12
_ IFM      VOO1  SO9TVOO1               _ LOC            0AOO280B
_ MULT2O2  CP29  SO9TCP29               _ NVT            0AO01A69
_ PRB            SO9TVOO8               _ SWV            SO9TVOO9
_ SYSADMIN       0AOO280B




===>
Options: C - Cancel M - Message S - Select (default) Y - Spy O - Spy+Override
PF1:Help                 PF2:Refresh              PF3:Quit
```

The list can be filtered by user and/or terminal.

The **Cancel** option displays a 'Confirm cancel' panel, with the user id already filled in:

```
Session Manager         S/MGR Help Desk confirm cancel      dd/mm/yyyy hh:mm:ss
LU   luname                                                            user

You have selected the CANCEL command.

This will cancel and logoff User LOC.

Press ENTER to confirm, or PF3 to return to the previous screen.









===>
Press ENTER to confirm, or PF3 to return to the previous screen.
PF1:Help                 PF3:Quit                 ENTER:Confirm
```

The **Message** option displays a reduced version of the existing 'Send a message' panel, with the user id already filled in:

```
Session Manager                  Send a message             dd/mm/yyyy hh:mm:ss
LU   luname                                                            user

Enter text for MSG: _____________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________


USER    user









--->
Press ENTER to send message, or PF3 to return to the previous screen.
PF1:Help            PF2:Reset           PF3:Quit            ENTER:Send
```

The **Select** option displays a reduced version of the existing Session List panel for the selected user:

```
Session Manager           Session List for User IFM2        dd/mm/yyyy hh:mm:ss
LU   luname                                                            user

   USER                   NODE     PROFILE  TERMINAL          Sessions

   HINTAU2                ONLINE1  EMPTY    LU S09TV005       4

   Sess APPLID   ACB      NODE     LOGMODE  Status   SCRIPT   Tracing

_     2 S35IMCOM S09IM001 ONLINE1  D4B32794 ACT
_ >   5 TSO      S09IM001 ONLINE1  D4B32794 ACT
_     7 S35IMCOM S09IM001 ONLINE1  D4B32794 ACT
_    10 TCP_1    SESSION  ONLINE1           ACT









===>
Available options: C - Cancel
PF1:Help        PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

The **Spy** option initiates a 'spy' on the selected user; the **Spy+Override** option initiates a 'spy' on an incompatible terminal (for example, the 'spy' is attempted from a model 2 to a model 5).

Implementing the Help Desk facility

A sample APPL ISZAHDSK is supplied in the Classic member ISZCAPPL (in library .SISZCONF) and the OLA member ISZAHDSK (in library .SISZSAPL). Refer to the *Installation and Customization* manual on how to configure the ISZAHDSK APPL in a Classic or OLA system. Adding a session referring to this APPL will cause that session to launch an internal session which will display the Help Desk facility. Users of the Help Desk facility must have authority to issue the QUERY command.

CHAPTER 4

The System Management Menu

An alternative to issuing IBM Session Manager for z/OS commands directly is to use the System Management Menu. Access to the management menu has to be configured by the Session Manager administrator but it provides a more user-friendly interface for issuing Session Manager commands.

Eclipse-based Operations PC interface

An Eclipse-based Operations PC interface was introduced at release 3.1.00. This has similar capabilities to these 3270-based facilities: System Management Menu, Help Desk, and Sysplex Summary and Menu. For further information on the Eclipse-based Operations PC interface, refer to 'Session Manager Eclipse Plug-ins' on page 55.

Overview

As well as being able to issue commands directly in Session Manager, a list of the commands that the user is authorized to issue is available on the System Management Menu. If so configured, this list – the System Management Menu – appears as a Session Manager session on the main menu and can be accessed in the same way as any other session. Commands can be selected by tabbing to the appropriate command and pressing Enter, or by entering 'S' beside the command to be selected and pressing Enter.

The command will be issued once Enter has been pressed unless there are subparameters to the command, in which case another command panel will be displayed containing all the subparameters for that command. Users may set the parameters to suit their needs before executing the command.

Replies from the commands issued will appear in the message area towards the bottom of the screen or, if another panel is associated with the command, the appropriate panel will be shown.

Some Session Manager commands return a set of results that could be useful for further tasks. In particular, the `QUERY` command produces a set of data that could be helpful in follow-up actions. For example, the user may want to perform another action against a list of returned users, tasks or sessions.

The System Management Menu uses a `QUERY` command extension to present the data in a scrollable panel with line prefixes. This extension allows further commands to be entered, which apply directly to the `QUERY` results. In general, entering the '?' command will show a list of the available actions, which is dependent on both the context of the original query, and the authorizations of the user who performed the query.

Help is available throughout the System Management Menu by pressing the Help PF Key, by entering `HELP` on the command line or, to see context-sensitive Help for the command, by entering `h` beside the command or parameter on which you need help. For further information on using the Help facility in Session Manager, refer to 'The Help facility' on page 87.

Note Escapes are not permitted from some panels (in which the command line prefix is shown as `--->`). This is to allow for an escape sequence to be entered as *data*. Those panels where escapes *are* allowed have the usual format (`===>`) for the prefix.

Example

A user produces a list of users that match specific criteria, by issuing the following command:

```
QUERY USER IM*
```

The System Management Menu uses the `QUERY` command extension to present the list of matching users in a new panel. One or more of entries appearing in the list may be chosen as the target of further operations. For example, a `STOP` command could be issued against one or more of the users.

Local and Sysplex commands

Commands can either be issued to the local Session Manager node or to other networked Session Manager nodes.

Commands that are to be actioned only on the local node can be issued on the command line; through the System Management Menu facility, through the Sysplex Summary and Menu facility or through the Help Desk facility. Commands that are to be actioned across a Sysplex network to another node or other nodes can be only be issued through the Sysplex Summary and Menu facility or through the Help Desk facility, since commands issued from the command line or the System Management Menu facility are only actioned on the local node.

The QUERY command extension panel

The results returned from the QUERY extension are presented in a new panel, as a list of entries with line-prefixes.

An example panel showing the results of a QUERY ALL might be as follows:

```
Session Manager            S/MGR Query Response             dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

           USER              NODE     PROFILE  TERMINAL
           *
_________  (starting)        ONLINE1  PRODPROF LU   SO5TVV01
_________  (starting)        ONLINE1  PRODPROF LU   SO5TVV01
_________  AZW      0931     ONLINE1  IFMPROF  LU   SO9TO931
_________  IFM      VV01     ONLINE1  IFMPROF  LU   SO5TVV01
_________  NEWONE            ONLINE1  IFMPROF  LU   SO5TVV01
_________  NEWTWO            ONLINE1  IFMPROF  TN32 0A001A69
_________  SYSADMIN          ONLINE1  PRODPRO1 LU   SO5TVV01









--->
Available options:  Enter '?' for a list of available commands
PF1: Help       PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

The panel will display the results returned from the QUERY command, a screen at a time. A maximum of 9999 results can appear in the list. If more than 9999 results would be returned, a warning message ISZ2Ø36W is issued. For further information, see the *Messages and Codes* manual.

If the list is so long that it has been truncated, and you are thus unable to scroll down the whole list, you can use the user filter field near the top of the panel to reduce the output.

Various commands may be applied to the list of results presented on the query response panel. A list of the available commands that may be applied to a given result can be obtained by entering the '?' task on the corresponding result line, as shown in the following panel:

```
Session Manager            S/MGR Query Response             dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

_ BROADCAST   Broadcast a message
_ DTERM       Examine the control blocks of a terminal
_ MSG         Send a message
_ QTASK       Query S/MGR tasks
_ QUERY       Detailed Query on User
_ SPY         View the screen of another S/MGR user
_ STOP        Terminate sessions of a user or terminal
_ TRACE       Initiate a S/MGR trace
_ TTPSL       Trace S/MGR panels and scripts
_ VIEW        Join a demonstration









--->
Available options:  S - Select (default)  H - Help
PF1: Help           PF3:Quit            PF7:Back            PF8:Forward
```

For queries that return user lists, it is possible to perform a subsequent second-level query on the returned results. Entering the QUERY command again on a result line produces more details related to the original result. Continuing with the earlier result panel as an example, entering a QUERY on the line for the SYSADMIN user could produce a result similar to the one shown below (assuming that all the necessary authorization permissions had been granted):

```
Session Manager            S/MGR Query Response              dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

          USER                   NODE     PROFILE  TERMINAL          Sessions

_________ SYSADMIN               ONLINE1  PRODPRO1 LU SO5TVV01       3

          Sess APPLID   ACB      NODE     LOGMODE  Status   SCRIPT   Tracing

_________    8 COMMAND  SO9IM001 ONLINE1  D4B32794 ACT
_________ > 800 ISZAOLA  SO9IM001 ONLINE1           STA      OLASINI
_________   810          SO9IM001 ONLINE1           STA      ISZCOMEN









--->
Available options:  Enter '?' for a list of available commands
PF1: Help       PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

At each display of results from a query or task, it may be possible to perform further tasks or queries, depending on the context and authorization of the user. For example, given a result list of sessions available to a user, one of more of the sessions could be stopped by entering the STOP command on the corresponding session line. In the following panel, an attempt is made to stop session 810, identified from an earlier query:

```
Session Manager   Terminate sessions of a user or terminal   dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

 STOP

  USER SYSADMIN _________

  LU   _________

   SEL  810_____

        _ ALL









--->
Available options:  Enter value or 'S' to select an option
PF1: Help           PF2:Reset           PF3:Quit            PF4:Execute
```

A successful attempt to STOP the session is shown in the updated results list of user sessions:

```
Session Manager            S/MGR Query Response              dd/mm/yyyy hh:mm:ss
LU   luname                                                            user

          USER                    NODE     PROFILE  TERMINAL          Sessions

________  SYSADMIN                ONLINE1  PRODPRO1 LU SO5TVV01       3

          Sess APPLID   ACB       NODE     LOGMODE  Status   SCRIPT   Tracing

________     8 COMMAND  SO9IM001 ONLINE1  D4B32794 ACT
________ > 800 ISZAOLA  SO9IM001 ONLINE1           STA      OLASINI
           810          STOP Command accepted









--->
Available options:  Enter '?' for a list of available commands
PF1: Help       PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

Using the `PF2:Refresh` key sequence will re-run the original QUERY command, to show the current results:

```
Session Manager            S/MGR Query Response              dd/mm/yyyy hh:mm:ss
LU   luname                                                            user

          USER                    NODE     PROFILE  TERMINAL          Sessions

________  SYSADMIN                ONLINE1  PRODPRO1 LU SO5TVV01       2

          Sess APPLID   ACB       NODE     LOGMODE  Status   SCRIPT   Tracing

________     8 COMMAND  SO9IM001 ONLINE1  D4B32794 ACT
________ > 800 ISZAOLA  SO9IM001 ONLINE1           STA      OLASINI









--->
Available options:  Enter '?' for a list of available commands
PF1: Help       PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

Implementing the System Management Menu

A sample APPL ISZASMM is supplied in the Classic member ISZCAPPL (in library .SISZCONF) and the OLA member ISZASMM (in library .SISZSAPL). Refer to the *Installation and Customization* manual on how to configure the ISZASMM APPL in a Classic or OLA system. Adding a session referring to this APPL will cause that session to launch an internal session which will display the System Management Menu.

CHAPTER 5

The Sysplex Summary and Menu facilities

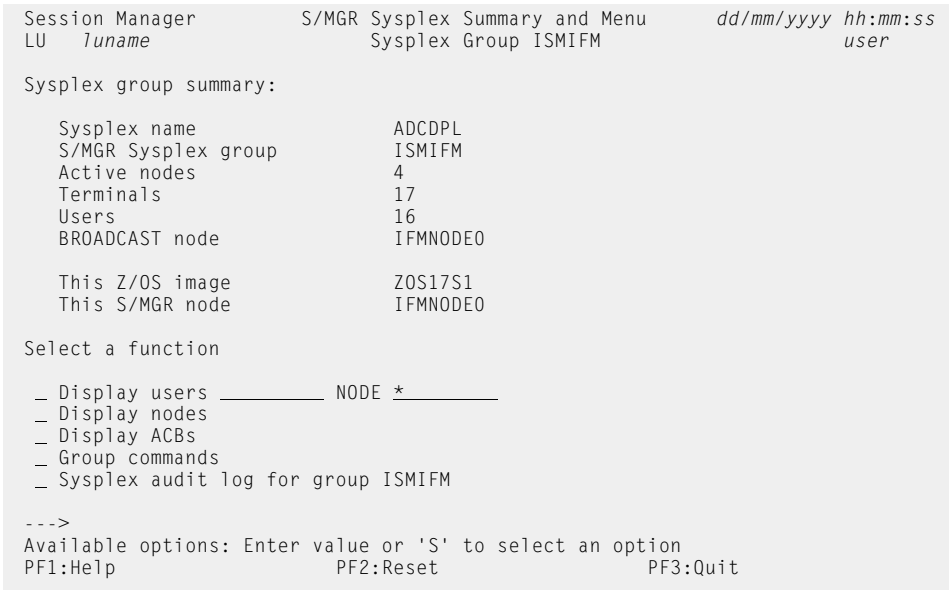
The Sysplex menu provides a user who is signed on to any member in the Sysplex Group with a single-system view of all the members within the Sysplex Group. This view allows the user to display details and issue commands at the Group level as well as at a particular Group member level. If *logstreamname* is specified on the SYSPLEXGroup parameter on the SYSTEM statement, the menu includes a facility to view the Sysplex Group audit log. The viewer allows scrolling of the log, searches and tailoring of the display to suit the user's requirements.

Eclipse-based Operations PC interface

An Eclipse-based Operations PC interface was introduced at release 3.1.00. This has similar capabilities to these 3270-based facilities: Sysplex Summary and Menu, Help Desk, and System Management Menu. For further information on the Eclipse-based Operations PC interface, refer to 'Session Manager Eclipse Plug-ins' on page 55.

Introduction to Sysplex facilities

A sample APPL ISZASYSP is supplied in the Classic member ISZCAPPL (in library .SISZCONF) and the OLA member ISZASYSP (in library .SISZSAPL). Refer to the *Installation and Customization* manual on how to configure the ISZASYSP APPL in a Classic or OLA system. Adding a session referring to this APPL will cause that session to launch an internal session which will display the Sysplex Summary and Menu.Users of this facility must have authority to issue the QUERY command.



```
Session Manager         S/MGR Sysplex Summary and Menu      dd/mm/yyyy hh:mm:ss
LU   luname                  Sysplex Group ISMIFM                    user

Sysplex group summary:

   Sysplex name                ADCDPL
   S/MGR Sysplex group         ISMIFM
   Active nodes                4
   Terminals                   17
   Users                       16
   BROADCAST node              IFMNODE0

   This Z/OS image             ZOS17S1
   This S/MGR node             IFMNODE0

Select a function

 _ Display users _________ NODE *________
 _ Display nodes
 _ Display ACBs
 _ Group commands
 _ Sysplex audit log for group ISMIFM

--->
Available options: Enter value or 'S' to select an option
PF1:Help                  PF2:Reset                 PF3:Quit
```

Displaying users

Enter a value in the **Display users** field on the 'S/MGR Sysplex Summary and Menu' panel to obtain a list of users displayed in a standard Query Response panel (also used with System Management menu functions, see 'The System Management Menu' on page 31):

```
Session Manager            S/MGR Query Response          dd/mm/yyyy hh:mm:ss
LU   luname                Sysplex Group ISMIFM                    user

           USER             NODE     PROFILE  TERMINAL
           *
__________ (starting)       IFMNODE2 PRODPROF LU   S09TCP12
__________ ALBY             IFMNODE0 EMPTY    LU   S09TV001
__________ AWRT9            IFMNODE0 EMPTY    LU   S09TV001
__________ BACY667          IFMNODE1 EMPTY    LU   S09TV003
__________ EAY00            IFMNODE0 EMPTY    LU   S09TV001
__________ FRD00            IFMNODE1 EMPTY    LU   S09TV002
__________ IFMLU5T1         IFMNODE0 IFMPROF  LU   S09TV001
__________ IFMTN0N1         IFMNODE0 IFMPROF  TN32 0A001A69
__________ JON12            IFMNODE0 EMPTY    LU   S09TV001
__________ KVN432           IFMNODE1 EMPTY    LU   S09TV001
__________ NAS87            IFNMODE9 EMPTY    TN32 0A00280B
__________ RRW12            IFMNODE0 EMPTY    LU   S09TV001
__________ RSAG5            IFMNODE2 EMPTY    TN32 0A00280B
__________ RSTW5            IFNMODE9 EMPTY    LU   S09TV022
__________ RWX44            IFMNODE0 EMPTY    LU   S09TV001
                                                              >>>>

--->
Available options:  Enter '?' for a list of available commands
PF1:Help        PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

If the list is so long that it has been truncated, and you are thus unable to scroll down the whole list, you can use the user filter field near the top of the panel to reduce the output.

If you entered a non-generic userid and there is a single match, then a detailed display for the selected user is presented:

```
Session Manager            S/MGR Query Response            dd/mm/yyyy hh:mm:ss
LU   luname                Sysplex Group ISMIFM                      user

          USER                    NODE     PROFILE  TERMINAL          Sessions

__________ IFMTN0N1               IFMNODE0 IFMPROF  TN32 0A001A69     1

          Sess APPLID   ACB       NODE     LOGMODE  Status   SCRIPT   Tracing

__________    9 COMMAND  S35IM001 IFMNODE0 D4B32794 ACT
__________>  17 SYSPMENU USER     IFMNODE0          ACT      ISZSPMEN
__________   18 TCP_1    SESSION  IFMNODE0          ACT
__________  800 OLA      LGMD     IFMNODE1          ACT      OLASTART









--->
Available options:  Enter '?' for a list of available commands
PF1:Help        PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

Displaying nodes and standby status

Displaying nodes

Enter 'S' in the **Display nodes** field on the 'S/MGR Sysplex Summary and Menu' panel to display a list of new nodes.

```
Session Manager       S/MGR Nodes in Sysplex Group ISMIFM    dd/mm/yyyy hh:mm:s
LU   luname                 Sysplex Group ISMIFM                       user

                                        Standby  Standby  Standby/Controller
  z/OS     JOBNAME  NODE     Status        is      for          Status

_ ZOS17S1  IFM6100O IFMNODE0 Online     IFMNODE5          Not on Standby
_ ZOS17S1  IFM6100I IFMNODE1 Online                       Not on Standby
_ ZOS17S1  IFM6100Z IFMNODE2 Online                       Not on Standby
_ ZOS17S1  IFM6100S IFMNODE5 Online              IFMNODE0 Synchronized
_ ZOS17S1  IFM6100C SYS@CNTL CONTROLLER                   Normal
_ ZOS17S1  IFM6100C SYS@STBY STANDBY-C           SYS@CNTL Synchronized









===>
Available options:  D - Delete  S - Select (default)
PF1:Help        PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

As all nodes will register in a new NODE data set at start-up, any node that *has* been active but is not active at the moment will be listed, in addition to currently active nodes. Colors enhance the display:

- Green for active (Online)
- Blue for Inactive
- Red for Unknown (should not happen)
- White for active (Online) current node (that is, the one to which the user is signed on).

The information on Standby/Controller status is related to the session recovery mechanism (see the 'VTAM application session recovery' section in the 'Parallel Sysplex support' chapter of the *Installation and Customization* manual).

The display will refresh automatically every 60 seconds or on a change of status of any node (but not if it is solely a user signing on/off: that is, just a change of user count).

Selecting the current node will lead to the (standard) SMM. Normal security rules still apply.

```
Session Manager        S/MGR System Management Menu         dd/mm/yyyy hh:mm:ss
LU   luname         Sysplex Group ISMIFM Node IFMNODE0                 user

_ BLOCK       Block further logons
_ BRECEIVE    Alter the S/MGR BROADCAST/MSG receiving status
_ BROADCAST   Broadcast a message
_ CLOSEDOWN   Schedule a shutdown of S/MGR
_ DELETE      Delete a broadcast / message
_ DEMO        Begin a demonstration
_ DISCONNECT  Disconnect this terminal from S/MGR
_ DLOG        Display S/MGR Audit file
_ DSTORE      Examine storage in the S/MGR system
_ DTERM       Examine the control blocks of a terminal
_ DUMP        Dump S/MGR storage
_ END         Run the S/MGR script defined by ENDSCRIPT
_ FLASH       Update the S/MGR flash area
_ FORCE       Purge a S/MGR task
_ GFS         Display S/MGR storage management statistics
_ HALTSCRIPT  Terminate the execution of a currently running S/MGR script
                                                                      >>>>

===>
Available options:  S - Select (default)  H - Help
PF1:Help            PF3:Quit            PF7:Back            PF8:Forward
```

Selecting an active node will lead to a subset of the System Management Menu, containing only those commands applicable to being issued to a remote node. The top bar of the menu changes to purple as a warning that the commands will default to being issued to another node. Normal security rules still apply.

```
Session Manager        S/MGR System Management Menu         dd/mm/yyyy hh:mm:ss
LU   luname         Sysplex Group ISMIFM Node IFMNODE1                 user

_ BLOCK       Block further logons
_ CLOSEDOWN   Schedule a shutdown of S/MGR
_ DSTORE      Examine storage in the S/MGR system
_ DUMP        Dump S/MGR storage
_ FLASH       Update the S/MGR flash area
_ INQUIRE     Refresh the status of VTAM applications
_ QACTUSER    Query the number of active signed on users
_ QUERY       Query information on the S/MGR system
_ SEND        Send commands to a remote S/MGR









===>
Available options:  S - Select (default)  H - Help
PF1:Help            PF3:Quit            PF7:Back            PF8:Forward
```

Inactive nodes can be deleted (from the `NODE` data set) with a 'D' in the prefix area; they will re-register without error when next started, but will be dropped from the Nodes display until then. The red bars top and bottom indicate a potentially destructive action.

```
Session Manager       S/MGR Delete for node IFMNODE2        dd/mm/yyyy hh:mm:ss
LU   luname              Sysplex Group ISMIFM                            user

You are about to delete the following inactive NODE:

  NODE:    IFMNODE2
  Z/OS:    ZOS17S1
  JOBNAME: IFM13152

Type Y and press PF4 if you want to continue N









===>
Type Y and press PF4 if you want to continue
PF1:Help        PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

Displaying standby status

Session Manager provides VTAM application session recovery as described in the 'Setting up for a Sysplex operation' section in the 'Parallel Sysplex support' chapter of the *Installation and Customization* manual.

The 'S/MGR Nodes in Sysplex Group' panel shows standby status information for each node. See the 'VTAM application session recovery' section in the 'Parallel Sysplex support' chapter of the *Installation and Customization* manual for more details on the deployment of standbys and Controllers, and on recovery levels.

You can use a 'Q' prefix command to query the status of a particular node.

```
Session Manager       S/MGR Sysplex node status summary     dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

 S/MGR Sysplex group  ISMIFM
 This Z/OS image      ZOS17S1
 This JOBNAME         IFM6100O
 This S/MGR node      IFMNODE0
 Status               Online
 Standby for          IFMNODE2   Synchronizing

 Standby is           IFMNODE1   Synchronized

 Users                       0   signed on to primary
                             0    with RECOVERYLEVEL HIGH sessions
                             0    with RECOVERYLEVEL INTERMEDIATE sessions
                             0    with RECOVERYLEVEL NONE sessions

                             0   mirrored on Standby
                             0    with RECOVERYLEVEL HIGH sessions
                             0    with RECOVERYLEVEL INTERMEDIATE sessions

 Open ACBs
  on primary                 0   RECOVERYLEVEL HIGH
                             0   RECOVERYLEVEL INTERMEDIATE
                             0   RECOVERYLEVEL NONE

  mirrored on Standby        0   RECOVERYLEVEL HIGH
                             0   RECOVERYLEVEL INTERMEDIATE

 Active sessions
  on primary                 0   RECOVERYLEVEL HIGH
                             0   RECOVERYLEVEL INTERMEDIATE
                             0   RECOVERYLEVEL NONE

  mirrored on Standby        0   RECOVERYLEVEL HIGH
                             0   RECOVERYLEVEL INTERMEDIATE



===>
Available options:  SWITCHPLX
PF1:Help                 PF2:Refresh              PF3:Quit
```

In the case of a Controller, less information is available:

```
Session Manager       S/MGR Sysplex node status summary     dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

 S/MGR Sysplex group ISMIFM
 This Z/OS image     ZOS17S1
 This JOBNAME        IFM610OC
 This S/MGR node     SYS@CNTL
 Status              CONTROLLER Normal

 Standby is          SYS@STBY   Synchronized


 Open ACBs                5   RECOVERYLEVEL HIGH
                          5   RECOVERYLEVEL INTERMEDIATE

 Active sessions          5   RECOVERYLEVEL HIGH
                          5   RECOVERYLEVEL INTERMEDIATE




===>
PF1:Help                 PF2:Refresh              PF3:Quit
```

When a standby is available, the SWITCHplx command is enabled. This command displays a Node Switch (confirmation) panel:

```
Session Manager         S/MGR Sysplex node SWITCHPLX       dd/mm/yyyy hh:mm:ss
LU   luname                                                            user

You are about to issue the SWITCHPLX command for:

 NODE:    IFMNODE0
 Z/OS:    ZOS17S1
 JOBNAME: IFM6100O

This may have a significant impact on your S/MGR system.

CAUTION! This is the node that you are logged on to!

Enter text and press ENTER to broadcast a warning to users:
 ____________________________________________________________________________
 ____________________________________________________________________________
 ____________________________________________________________________________

Press PF3 to quit and return to the previous screen

Type Y and press PF4 if you want to continue N


===>

PF1:Help           PF2:Reset          PF3:Quit           PF4:SWITCHPLX
```

If the node is the one that the user is currently logged on to, or is the Controller, an extra warning message is displayed:

```
CAUTION! This is the node that you are logged on to!
```

Displaying ACBs

Enter 'S' in the **Display ACBs** field on the 'S/MGR Sysplex Summary and Menu' panel to display an ACB summary:

```
Session Manager          S/MGR Sysplex ACB summary         dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

ACB S35IM004

 Opened on node       IFMNODE1 Online
                               OPEN RECOVERYLEVEL HIGH Users 1

 Standby node


 Controller           SYS@CNTL Normal
                               OPEN RECOVERYLEVEL HIGH Users 1

 Standby Controller




--->
Available options:  * - Display a selection list
PF1:Help                 PF2:Refresh              PF3:Quit
```

This gives the status and user information for a particular ACB.

Enter a generic name in the **ACB** field to display a selection list of active ACBs:

```
Session Manager          S/MGR Sysplex ACB list            dd/mm/yyyy hh:mm:ss
LU   luname               Sysplex Group ISMIFM                        user

  ACBNAME
   *
 _ S35IM001
 _ S35IM002
 _ S35IM003
 _ S35IM004
 _ S35IM005
 _ S35IM334
 _ S35IM335
 _ S35IM336
 _ S35IM337
 _ S35IM338
 _ S35IM667
 _ S35IM668
 _ S35IM669
 _ S35IM670
 _ S35IM671


--->
Available options:  S - Select (default)
PF1:Help        PF2:Refresh     PF3:Quit        PF7:Back        PF8:Forward
```

Enter 'S' in a prefix area against an **ACBNAME** and press Enter to return to the 'Sysplex ACB Summary' panel with the selected entry inserted into the **ACB** field.

Group Commands

Select **Group commands** from the Sysplex Summary and Menu to display a subset of the System Management Menu, containing only those commands capable of being issued to all nodes. The top and bottom bars of the menu change to purple as a warning that the commands will default to this capability. Normal security rules still apply.

```
Session Manager        S/MGR System Management Menu         dd/mm/yyyy hh:mm:ss
LU   luname               Sysplex Group ISMIFM                          user

  BLOCK       Block further logons
  BROADCAST   Broadcast a message
  CLOSEDOWN   Schedule a shutdown of S/MGR
  DELETE      Delete a broadcast / message
  FLASH       Update the S/MGR flash area
  INQUIRE     Refresh the status of VTAM applications
  MSG         Send a message
  PASSFREE    Unlock a terminal
  PUPDATE     Update a S/MGR component
  QACTUSER    Query the number of active signed on users
  QUERY       Query information on the S/MGR system
  QUSER       Query the status of a particular userid
  SECFRESH    Recreate the in-storage security profiles
  SEND        Send commands to a remote S/MGR
  SPIN        Close and re-open the S/MGR Audit or Trace
  UPDATE      Update a S/MGR component



===>
Available options:  S - Select (default)  H - Help
PF1:Help            PF3:Quit            PF7:Back            PF8:Forward
```

Commands will, by default, be sent to all nodes. If the response from all nodes is OK (rc=0), a single confirmation message is displayed; if one or more nodes responds with an error, a list of nodes and responses is displayed.

```
Session Manager     S/MGR Command Response Log for ISMIFM   dd/mm/yyyy hh:mm:ss
LU   luname                 Sysplex Group ISMIFM                        user

SEND IFMNODE1 "BLOCK demo NO"
ISZ0234I BLOCK Command accepted
SEND IFMNODE2 "BLOCK demo NO"
ISZ0288E No match with APPL DEMO
SEND IFNMODE9 "BLOCK demo NO"
ISZ0234I BLOCK Command accepted
BLOCK demo NO
ISZ0234I BLOCK Command accepted









===>

PF1:Help            PF3:Quit            PF7:Back            PF8:Forward
```

Sysplex Group audit log

Select **Sysplex audit log for group** *groupname* to display a consolidated (that is, all nodes) audit log that is maintained by the z/OS logger.

```
ISZSPDLG          S/MGR Sysplex Audit Log for Group ISMIFM   dd/mm/yyyy hh:mm:ss
 LU   luname                  Sysplex Group ISMIFM                    user

 Margin:   0 Record column:   1 PREFIX: ON

 28/09/06 145606 ZOS17S1 IFM13151 IFMNODE1 ISZ0160I NODE IFMNODE0 (NETMAN FF0053
 28/09/06 145606 ZOS17S1 IFM13151 IFMNODE1 ISZ0159I NETMAN FF0053307B9CBB4B cont
 28/09/06 145606 ZOS17S1 IFM13151 IFMNODE1 ISZ0184I Message CORP from FF0053307B
 28/09/06 145606 ZOS17S1 IFM13151 IFMNODE1 ISZ0548I remote started from IFMNODE0
 28/09/06 145606 ZOS17S1 IFM13150 IFMNODE0 ISZ0184I Message CORP from FF0053302C
 28/09/06 145606 ZOS17S1 IFM13150 IFMNODE0 ISZ0548I remote started from IFMNODE1
 28/09/06 145610 ZOS17S1 IFM13150 IFMNODE0 ISZ0751I TELNET server port number is
 28/09/06 145610 ZOS17S1 IFM13150 IFMNODE0 ISZ0079I TCPIP HPSPLIST LL OK ; L 0.0
 28/09/06 145610 ZOS17S1 IFM13151 IFMNODE1 ISZ0751I TELNET server port number is
 28/09/06 145610 ZOS17S1 IFM13151 IFMNODE1 ISZ0079I TCPIP HPSPLIST LL OK ; L 0.0
 28/09/06 145611 ZOS17S1 IFM13150 IFMNODE0 ISZ0079I TCPIP HPSP0001 HS OK ; L 10.
 28/09/06 145611 ZOS17S1 IFM13150 IFMNODE0 ISZ0030I TN3270 0A001A69 active
 28/09/06 145612 ZOS17S1 IFM13150 IFMNODE0 ISZ0284I TN32 0A001A69 starting
 28/09/06 145751 ZOS17S1 IFM13150 IFMNODE0 ISZ0249I USER IFM signed on at TN32 0
 28/09/06 145754 ZOS17S1 IFM13151 IFMNODE1 ISZ0548I remote started from IFMNODE0
 28/09/06 145754 ZOS17S1 IFM13150 IFMNODE0 ISZ0547I remote 472A661C started to I
                                                                          <<<<
 ===>

 PF1:Help   PF3:Quit   PF5:Find   PF7:Bwd    PF8:Fwd    PF10:Left  PF11:Right
```

The example above is of the 24x80 display. The panel is able to exploit Model 5, so is also available in 27x120 mode.

In the bottom right hand corner the Sysplex log will display <<<< if the top of the log has not been reached, >>>> if the bottom of the log has not been reached and <<<< >>>> if neither has been reached on the current display.

On selecting the Sysplex log display, a panel containing the last (newest) messages is displayed.

Note The `MSGID` setting will alter what gets displayed in the Audit log. With `MSGID` set to `ON` the message id of each message will be displayed. With `MSGID` set to `OFF` the message id of each message will not be displayed. The 'Margin' and 'Record column' settings will be reset to their original values of 0 and 1 respectively.

The following commands can be used to navigate through the log and to change its appearance.

Help

Set as PF1 - display Audit log help.

QUIt

Set as PF3 - Exit from the log display.

BWd or BACKward

Set as PF7 - scroll backwards, from newest to oldest messages.

Optional parameters:

`Maximum` - scroll to the top of the log, oldest message.

`1 - 9999` - scroll backwards by the number of lines specified or until the top of the log is reached.

If no parameter is specified then the log display will scroll backwards by the number of records on a screen or until the top of the log is reached.

Scrolling by cursor position - if the cursor is positioned on an existing displayed message then the log display will scroll backwards from this point. If the cursor is not positioned on an existing message and there are no additional optional parameters specified then it will be actioned as if no parameters are present.

FWd or FORward

Set as PF8 - scroll forwards, from oldest to newest messages.

Optional parameters:

`Maximum` - scroll to the bottom of the log, newest message.

`1 - 9999` - scroll forwards by the number of lines specified or until the bottom of the log is reached.

If no parameter is specified then the log display will scroll forwards by the number of records on a screen or until the bottom of the log is reached.

Scrolling by cursor position - if the cursor is positioned on an existing displayed message then the log display will scroll forwards from this point. If the cursor is not positioned on an existing message and there are no additional optional parameters specified then it will be actioned as if no parameters are present.

LEft

Set as PF10 - scroll left.

Optional parameters:

`Maximum` - scroll to the furthest left position.

`1 - 999` - scroll left by the number of characters specified or until the furthest left character is reached.

If no parameter is specified then the log display will scroll left by the number of characters on a screen minus the `MArgin` setting or until the furthest left character is reached.

Scrolling by cursor position - if the cursor is positioned on an existing displayed message then the log display will scroll left from this point. If the cursor is not positioned on an existing message and there are no additional optional parameters specified then it will be actioned as if no parameters are present.

Notes

The appearance of log will also be affected by the current `MArgin` setting - see ‘MArgin’ on page 51.

Scrolling `LEft` will adjust the ‘Record column’ setting at the top of the display - also see ‘COlumn’ on page 51.

RIght

Set as PF11 - scroll right.

Optional parameters:

`Maximum` - scroll to the furthest right position.

`1 - 999` - scroll right by the number of characters specified or until the furthest right character is reached.

If no parameter is specified then the log display will scroll right by the number of characters on a screen minus the `MArgin` setting or until the furthest right character is reached.

Scrolling by cursor position - if the cursor is positioned on an existing displayed message then the log display will scroll right from this point. If the cursor is not positioned on an existing message and there are no additional optional parameters specified then it will be actioned as if no parameters are present.

Notes

The appearance of the log display will also be affected by the current `MArgin` setting - see 'MArgin' on page 51.

Taking into account any `MArgin` settings the log display will adjust its positioning so that a full screen of characters is displayed when positioning on the possible furthest right character in the messages.

The log messages vary in length and therefore when scrolling `RIght` a blank screen may be displayed.

Scrolling `RIght` will adjust the 'Record column' setting at the top of the display - also see 'COlumn' on page 51.

COlumn

changes the current position within the log messages.

Mandatory parameter:

`1 - 999` - The log display will scroll left or right so as to position the display so that the character position specified is the first character to be displayed in the left hand column, taking into account any `MArgin` settings.

Notes

The appearance of the log display will also be affected by the current `MArgin` setting - see 'MArgin' on page 51.

Taking into account any `MArgin` settings the log display will adjust its positioning so that a full screen of characters is displayed when positioning on the possible furthest right character in the messages.

The log messages vary in length and therefore when scrolling `RIght` a blank screen may be displayed.

The `COlumn` command will adjust the 'Record column' setting at the top of the display.

MArgin

changes the number of characters in the fixed (non-scrollable) section of the display.

Mandatory parameter:

`0 - 999` - Specifies the number of characters that will always be displayed in the fixed (non-scrollable) section of the display. The fixed section will start at the first character within the log messages.

Notes

The log display will adjust the length of the fixed area so that there is always at least one scrollable character on the right hand side of the display.

The `MArgin` command will adjust the 'Margin' setting at the top of the display.

TOp

Scroll to the top of the log, oldest message.

BOttom

Scroll to the bottom of the log, newest message.

FINd

Set as PF5 - find the first occurrence of the specified character string in the next 5000 records, or until the top or bottom of the log is reached, in either a backwards or forwards direction - see `PREV`, `NEXT` optional parameter below. If `NEXT` is in affect then the search will start on the current message displayed on the top line of the current display unless it is a repeat `FINd` after a successful `FINd` when it will start on the second message displayed on the current display. If `PREV` is in affect then the search will start from the next oldest message. If it is a repeat `FINd` after a failed `FINd` then it will start the search from the end of the last search and will search the next 5000 records or until the top or bottom of the log is reached. The `FINd` command is not case sensitive.

Mandatory/optional positional parameter:

`Character string` - the character string that you want to find in the log. This parameter is only mandatory on the first `FINd` command. The character string is made up of all the characters between the `FINd` command and any `PREV` or `NEXT` if present or all the characters after the `FINd` command. If a character string is not specified on a subsequent `FINd` command then the previously specified character string will still be in effect.

Optional positional parameters:

`PREV` or `NEXT` - sets the direction of the `FINd`. `PREV` will search backwards through the log and `NEXT` will search forwards through the log. If a character string is specified but with no direction specified then the default will be `NEXT` otherwise it will default to the current `FINd` direction.

Note

If a character string is specified it must be before any `PREV` or `NEXT` parameters.

PREFix

Include or exclude the Date, System name and Job name columns from the log display.

Optional parameters:

`ON` - show Date, System name and Job name columns.

OFF - do not show Date, System name and Job name columns.

When no parameters are specified on the PREFix command the display will toggle between the ON and OFF settings.

The 'Margin' and 'Record column' settings will be reset to their original values of 0 and 1 respectively.

CHAPTER 6

Session Manager Eclipse Plug-ins

CICS Explorer® with the Session Manager Eclipse Plug-ins provides a graphical user interface to many of the Session Manager functions available in the supplied 3270-based user interface.

This chapter covers these topics:

See also

- 'Eclipse codepage translation' on page 21

Configuring Session Manager on the mainframe

The IBM Session Manager Administration Plug-in and the IBM Session Manager Operations Plug-in are provided in the distribution. To use these Session Manager Eclipse Plug-ins, configure Session Manager on the mainframe with Eclipse support:

1. Ensure that `TCP=Yes` is specified on the `SYSTEM` statement.
2. Add `ECLIPSESERVER` *`port_no`* as a subparameter of the `TCP` parameter on the `SYSTEM` statement, where *`port_no`* must not have been specified by any other applications, including other Session Manager systems.
3. For Session Manager releases prior to 3.2.00, a `LOCALNODE` parameter must be specified on the `SYSTEM` statement.
4. A `USER` statement must exist for each user of the Session Manager Eclipse Plug-ins; users must sign on through the signon dialogue box even if `SIGNON NO` is specified on the `SYSTEM` statement.
5. A special command, `ISZECLP`, is supplied which has an authority level of 9. When a user attempts to login through a Session Manager Eclipse Plug-in, the user's authority is compared to the authority level of the `ISZECLP` command and, if equal to or higher, then the user is allowed to login (assuming any subsequent security checks are passed). The authority level on the `ISZECLP` command may need to be changed depending on your site's requirements. If the user's authority is lower than the level specified for the `ISZECLP` command then the user will receive message ISZ4297E. In addition, the user must have sufficient authority to issue the `QUERY` command; if not, message ISZ4297E will appear in the login dialog box.

Common end-user parameters

Two common end-user 'timeout' parameters are associated with use of the Session Manager Eclipse Plug-ins. See the descriptions of `ERTIMEOUT` and `EUTIMEOUT` in 'Common end-user parameters' in the *Technical Reference* manual.

Downloading the Eclipse plug-ins

CICS Explorer provides an integrated interface to various CICS functions and other CICS tools. For more information about CICS Explorer and the Eclipse plug-ins for Session Manager, and instructions on how to download the software, see www.ibm.com/cics/explorer/.

Using the Session Manager Eclipse Plug-ins

The IBM Session Manager Operations Plug-in was introduced at release 3.1.00. This has similar capabilities to these 3270-based facilities: Help Desk (see page 27), System Management Menu (see page 31), and Sysplex Summary and Menu (see page 39).

An Eclipse-based Administration PC interface was introduced at release 3.2.00. This provides a graphical user interface to many of the OLA facilities available in the supplied 3270-based user interface. For more information on OLA, see the *Online and Batch Administration* manual.

How to get started with using CICS Explorer with the Session Manager Eclipse Plug-ins is summarized below; for detailed usage instructions, refer to the online help (see 'Online help and how to access it' on page 59).

Setting up a connection to Session Manager

1. From the Menu bar, left-click on **Window**, and then select **Preferences** from the drop-down list.
2. In the left-hand pane of the Preferences page, if **IBM Session Manager Connections** is not selected then select it.
3. From the IBM Session Manager Connections page, to create a new connection to Session Manager, left-click the **New** button.
4. The Connection Details dialog will appear. Specify the connection details, and then left-click the **OK** button to close this dialog.

   Note For Session Manager release 3.2.00 and higher, *all* Client logon requests will be directed to the OLA node, so it is recommended that you specify the connection details for that node. These details must match the Eclipse details within the Session Manager configuration (see 'Configuring Session Manager on the mainframe' on page 56).
5. To apply your changes and exit the Preferences panel, left-click the **OK** button that appears towards the bottom right-hand corner of the IBM Session Manager Connections page.

Logging in to a particular Session Manager connection

The ISM Login dialog is opened automatically when you select a particular connection to Session Manager in Nodes view and you have not yet logged in to that connection.

Notes

1. You must login using the ISM Login dialog even if `SIGNON NO` is specified on the `SYSTEM` statement within the Session Manager configuration.
2. If your authority is lower than the level specified for the `ISZECLP` command then you will not be able to login and you will receive message `ISZ4297E`. In addition, you must have sufficient authority to issue the `QUERY` command; if not, message `ISZ4297E` will appear in the login dialog box.
3. For Session Manager release 3.2.00 and higher, *all* Client logon requests are directed to the OLA node.

4 If you login to Session Manager through a Session Manager Eclipse Plug-in then you will automatically be set as a Shared user, therefore allowing you to be logged in at the same time to the Session Manager Eclipse Plug-in and (directly) to Session Manager.

Loading the details for a Sysplex Group or an active node

From Nodes view, complete these steps:

1 If you have not yet logged in to the required connection to Session Manager then select that connection and login now (see above).

2 A '+' (plus) sign immediately to the left of the 'connection' icon for the required connection denotes a Sysplex Group. To expand such a connection, and view its nodes, left-click the '+' sign.

Note A special icon containing a diagonal red line is used to denote a node that is either not active or unknown.

3 Select the required Sysplex Group or active node and the IBM Session Manager Operations Plug-in will load the relevant data.

Accessing Session Manager facilities

When the data for the required Sysplex Group or active node has been loaded, the facilities which you are permitted to use are determined by the security code which has been allocated to the facility, and the privilege (or authorization) level which has been assigned to you.

Online help and how to access it

Powerful, task-oriented online help is included in the Session Manager Eclipse Plug-ins. You can browse, search, and print documentation with context-sensitive help and text search capability. The help can be displayed in a Help view in the workbench, in a separate Help Contents window, or in an external browser window.

To access context-sensitive help, you can either:

- press F1,

  or

- from a dialog panel (for example, the Send Broadcast dialog or the Configuration Update dialog), click on the **Help** icon in the bottom left-hand corner of the panel.

To display the help contents:

- From the Menu bar, left-click on **Help**, and then select **Help Contents** from the drop-down list.

CHAPTER 7

The Broadcast and Messaging facilities

Message Transmission in IBM Session Manager for z/OS is provided by the three commands MSG, BROADCAST and FLASH. A full description of each command is given in the *Technical Reference* manual.

Message transmission security codes

The MSG command has a default security code of '1', and is therefore generally available to all users. In its simplest form, the MSG command would be issued by a Session Manager user to send a message to another Session Manager user or terminal. A number of parameters are available, however, which enable a message to be sent to groups of users. None of the destinations may be specified generically.

The BROADCAST command has a default security code of '9'. and may only be issued by users with an authorization level of '9'. This command is intended to be used by Systems Programmers, Network Controllers, or other Systems Administrators. It is similar to the MSG command but destinations may be specified generically, enabling a message to be sent to a greater number of users and, in addition, the ALL operand can be used to send a message to every user connected to Session Manager. For this reason, the command is restricted to authorized users.

The FLASH command has a default security code of '5' and may be issued by users with an authorization level of '5' or greater. It may be used to update the system flash area, the session flash area for a specific application, and also User Definable global character variables, that is, 'GC' prefixed variables.

Using BROADCAST and MSG

Message text sent using the BROADCAST and MSG commands is restricted to 256 characters. Text should be enclosed in delimiters when the message contains embedded blanks, special characters, or parameter keywords of either command. Both the BROADCAST and MSG commands have a HOLD parameter which enables a message to be held for up to 24 hours so that users not signed on to the Session Manager system at the time the message is sent, receive the message when they sign on.

Both commands also have an URGENT parameter. This overrides the receiving status of all recipients and ensures that an important message is received at all specified destinations.

Any messages that are 'held' are automatically deleted after their specified time interval has expired. They can be deleted before this by using the DELETE BROADCAST or DELETE MSG commands. Details of all held messages can be obtained from the Audit file or by issuing a QUERY BROADCAST/QUERY MSG command.

The BROADCAST command panel, which provides an interface for entering the parameters associated with the command, can be accessed directly from the Session Manager menu in the same way as any other session. The available parameters will be displayed, and can be modified by the user before the command is issued.

BROADCAST and storage implications

Broadcasts can be sent to a large number of users. For example if a BROADCAST ALL command is issued, a significant amount of transient storage can be requested during broadcast processing. The storage requests are due to a response being required from each receiving terminal before the broadcast can be processed. To alleviate potentially high storage requests, the broadcast is staggered, that is, 10 broadcasts are sent and then there is a wait for 50 milliseconds before the next batch of ten broadcasts are sent. This provides the first 'batch' of terminals time to respond. This 'batching' of broadcasts is done until the end of the list of terminals is reached.

The message text appears at the recipient's screen in a special broadcast panel. This panel, by default, displaces the currently displayed screen. The RETURN command returns to the current screen. The receiving status may be set using the BRECEIVE command so that the broadcast panel does not immediately interrupt the recipient's session. The message can be made to wait until the next time a PF/PA/Enter key is pressed, or can be queued until an escape to the Menu screen is made. Messages may also be suppressed, only allowing urgent messages and broadcasts to be received.

Using FLASH

The FLASH command is different to the BROADCAST and MSG commands, in that it is used to update a flash area. There are two main types of flash area, the system flash area, and the session flash area. These two areas are referenced by the variables gcflash and s_flash respectively and may be used in PANEL definitions, the Menu panel being the most useful.

The facility to update a session flash area can be particularly useful to Network Controllers, Systems Programmers and Administrators for informing users of the status of a particular application. When the FLASH command is issued with just the message text, the system flash area defined by gcflash is updated. For example:

```
FL 'System will be available from 7am tomorrow'
```

updates the system flash area.

```
FL (Not available until 2 o'clock) A CICSGEN
```

updates the session flash area for the CICSGEN application.

The message can also be used to update a user defined 'gc' prefixed character variable. All Session Manager panels with that particular variable defined are updated with the character string specified in the message text. For example:

```
FL 'All meeting at the Red Lion this evening' v gcvenue
```

The message remains current until it is altered, or cleared. A flash area is cleared by specifying the message text as a blank, for example:

```
FL ' ' A HARRY
```

clears the flash message area for all sessions using the APPL statement name HARRY.

Sending to a remote node

If the Session Manager Networking feature is enabled, Broadcasts and Messages can be sent to users on other nodes in the network using the SEND command. The flash area in another node can also be updated in this way. For further details on using the SEND command, see the 'Session Manager networking' chapter in the *Installation and Customization* manual. For a detailed description of the SEND command, see the *Technical Reference* manual.

Summary

The following commands, parameters and variables are required for the Message Transmission facility.

Command, parameter or variable	Description
BRECEIVE parameter	Defines the receiving status for incoming broadcasts and messages. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements.
BRDVAR parameter	Defines a broadcast identifier for any session. May be entered at session level on the SYSTEM, PROFILE, USER and TERMINAL statements
BRECEIVE command	Dynamically alters the setting of the BRECEIVE parameter defined for the user. Default authorization level 1.
BROADCAST command	Sends a message to one or more users. May send messages to all users, or specify generic destinations. Default authorization level 9.
MSG command	Sends a message to one or more users. Default authorization level 1.
FLASH command	Sends a message which updates a flash area, either system, session, or user defined. Default authorization level 5.
DELETE BROADCAST/MSG command	Deletes a held message or broadcast. The first form of the command has an authorization level of 9, the second an authorization level of 1. A user may only delete their own message.
gcflash variable	Defines the system flash area.
s_flash variable	Defines the session flash area.
s_brdvar variable	Specifies the broadcast command id-pattern. This can be set by the BRDVAR parameter of the SYSTEM, PROFILE, USER and TERMINAL statements, or by a script.

CHAPTER 8

Command action key processing

A command action key can be used for escape sequences, transids, SAUTOSEQ definitions, commands and so on, depending on the exact circumstances. For details of escape sequences see 'The Session Manager user interface' on page 13.

A CMDACTIONKEY parameter allows a IBM Session Manager for z/OS command action key to be specified on the USER, TERMINAL, LU, PROFILE and SYSTEM statements. This action key will only operate when a COMMANDPRFXVAL (command prefix value) parameter has been specified or its value has been set through the t_actprf variable. See the *Technical Reference* manual for more details of these two parameters.

Overview

If you decide to use command action key processing then the command action key and command prefix must be used in all circumstances except when in the Session Manager menu.

Obligatory command action key use

If CMDACTIONKEY (and therefore COMMANDPRFXVAL) is specified then it **must** be used in the following circumstances:

In an application session, for:

- escape sequences
- transids
- SAUTOSEQ definitions with COMMANDPRX=Y.

In all Session Manager panels except the menu, for:

- escape sequences
- transids
- SAUTOSEQ definitions with COMMANDPRX=Y (only applicable on Session Manager internals sessions such as OLA and the System Management Menu, not DLOG, QUERY and so on).
- Session Manager commands, including command scripts, with a setting of ACTKEY=Y on the COMMAND statement.

Optional command action key use

If CMDACTIONKEY (and therefore COMMANDPRFXVAL) is specified then it **may** be used in the following circumstances:

In the menu, for:

- escape sequences
- transids
- Session Manager commands, including command scripts.

See member ISZC1ESC (in library .SISZCONF) for details on how to define single character synonyms for Session Manager commands with CMDACTIONKEY and COMMANDPRFXVAL.

Variables

Two updateable user variables, t_actcmd and t_actprf, allow an installation to add input fields to the user's menu, allowing the user to view and change their command action key and command prefix value respectively. A value of NONE can be specified for t_actcmd, to remove a previously specified value.

Note If these variables are modified then the modification only lasts for the current session. If you require a change for subsequent sign-on sessions then the CMDACTIONKEY and COMMANDPRFXVAL parameters must be modified in the configuration (OLA users will use the OLA dialogs and Classic users will need to edit the appropriate configuration member). Note also that if these parameters are modified in the configuration and the change is activated, it will not take place until the next sign-on.

Escape sequences/keys

When the CMDACTIONKEY parameter is specified, or its value has been set through the t_actcmd variable, the user's escape sequences/keys are actioned as follows:

Escape type	Entered in an application session	Entered in a Session Manager panel (see 'Note 1' below)	Entered in the Session Manager menu panel
Standard escapes, including the following common end user parameters AUTOSEQ, BACKWARD, CUT, DEMO, ESCAPE, FORWARD, HCREQUEST, PASTE, PULL and PUSH	Must be prefixed by the user's COMMANDPRFXVAL and the CMDACTIONKEY entered.	As for application sessions. See 'Note 3' below for exception.	May be entered with or without COMMANDPRFXVAL and CMDACTIONKEY.
All session transids (see 'Note 4' below)	As above.	As above.	As above.
All session SAUTOSEQ definitions *with* the COMMANDPRFX	As above.	Not applicable to the Query display, the DLOG display and so on (see 'Note 2' below) but if the SAUTOSEQ applies to Session Manager internal sessions then as above.	Not applicable to the menu.
All session SAUTOSEQ definitions *without* the COMMANDPRFX (for example, the PCTRANSFER command script GOPCTRAN)	Must be entered without the COMMANDPRFXVAL (the CMDACTIONKEY is ignored), that is, as if the CMDACTIONKEY isn't defined.	Not applicable to the Query display, the DLOG display and so on (see 'Note 2' below) but if the SAUTOSEQ applies to Session Manager internal sessions, then as for application sessions.	Not applicable to the menu.

Escape type	Entered in an application session	Entered in a Session Manager panel (see 'Note 1' below)	Entered in the Session Manager menu panel
Session Manager commands, including command scripts, with ACTKEY=Y	Not applicable (SAUTOSEQs are used instead).	Must be prefixed by the user's COMMANDPRFXVAL and the CMDACTIONKEY entered.	May be entered with or without COMMANDPRFXVAL and CMDACTIONKEY.
Session Manager commands, including command scripts, with either ACTKEY=N or not specified	Not applicable (SAUTOSEQs are used instead).	May be entered with or without COMMANDPRFXVAL and CMDACTIONKEY.	May be entered with or without COMMANDPRFXVAL and CMDACTIONKEY.

Note 1

The definition of a Session Manager panel includes the Query display, the DLOG display and so on, plus the Session Manager internal session displays such as OLA and System Management (but not the user's menu).

Note 2

If you want to have SAUTOSEQ-like operation in Session Manager panels then you can reproduce the processing through a command script.

Note that the processing will only recognize a command script entered in the command field and not in any other field on the Session Manager panel. However all internal sessions such as OLA and the System Management Menu will normally use SAUTOSEQ processing and the DLOG, QUERY displays only have one input field; that is, the command line.

For example:

You have a requirement for a user to be able to enter a sequence "d" wrapped with their command action key and command prefix value, to disconnect from Session Manager. The user must be able to enter this anywhere within his Session Manager session, be it within an application session, the DLOG display, the Menu or on an OLA panel.

You define both an SAUTOSEQ and a new command script as follows:

- Define an SAUTOSEQ as a common end user session parameter on the applicable USER/TERMINAL/LU/PROFILE/SYSTEM statement, to enable the user to enter the sequence in an application or internal session:

  SAUTOSEQ d C "DISCONNECT" COMMANDPRFX Y

  On SAUTOSEQs that are intended to be controlled by CMDACTIONKEY, specify a sequence (not a PFKEY) and do not specify an ACTIONKEY.

- Define a command script to enable the user to enter the sequence in the command field of any Session Manager panel:

```
COMMAND d CMDSCRIPT Y SNAME CMDDISC ACTKEY Y

SCRIPT CMDDISC

   ISZCMD "DISCONNECT"
```

See the 'COMMAND statement' chapter of the *Technical Reference* manual for a description of the ACTKEY parameter.

Note 3

Certain internal session panels do not allow escapes; for example, OLA panels where escape values are being defined. In these cases the escape sequence will not be actioned.

The internal sessions such as OLA that prevent escape processing from all fields within certain panels will set the s_escape variable to 'N'.

Note 4

If you want to switch to an entered applid name through a command, you can use SAUTOSEQ with the J option. Usually, transids can be entered anywhere within the Session Manager session (see the table above).

For example, the user can enter the transid TCICSA, defined in the following session definition, anywhere within Session Manager:

```
SESSION 123 APPLID CICSA TRANSID TCICSA
```

If you also wanted the user to be able to enter a 'g' command to switch to the CICSA session, you would define the following SAUTOSEQ:

```
SAUTOSEQ g J COMMANDPRFX Y
```

The user would then be able to enter g cicsa within an application session. (If the user had a command action key and command prefix value active, they would have to prefix the 'g' with their command prefix value and press the command action key.)

To enable the user to enter this sequence in a command field of any Session Manager panel, an appropriate command script would be required (see 'Note 2' above) and the transid would have to be the same as the applid (this would be usual), and so the session would be:

```
SESSION 123 APPLID CICSA TRANSID CICSA
```

The command script would be something like:

```
domax 9999
LET lc_scparms = t_scparms
LET ln_words = words(lc_scparms)
If ln_words = 2
   if t_tskid like 'SAA*'   /* session task? */
   and s_escape = 'N'
         let ln_rc = tmsg(formatmsg(233, "SENDNO" "ID" lc_cparms))
   else
      Let lc_word = word(lc_scparms 2)
      if lc_word numeric
         if t_tskid like 'VAA*'
            Iszcmd '&lc_word&' /* select session number */
         else
            Iszcmd '&t_actprf&&lc_word&' /* select session number */
         end
         return
      Else
         let sub1 = 0
         Do for smax
            let sub1 = sub1 + 1
            if s_applid.sub1 = lc_word
               if t_tskid like 'VAA*'
                  Iszcmd '&s_n.sub1&' /* select session */
               else
                  Iszcmd '&t_actprf&&s_n.sub1&' /* select session */
               end
               return
            end
         end
      end
      let ln_rc = tmsg(formatmsg(527, "SENDNO" "ID" lc_word))
   end
else
   let ln_rc = tmsg(formatmsg(233, "SENDNO" "ID" lc_cparms))
end
let t_command = lc_scparms
let t_cmd_ok = 'N'
```

CHAPTER 9

The Demonstration and View facility

The Demonstration and View facility enables both input and output screen displays at one terminal to be automatically displayed on a number of other terminals. The screen displays can be application screens or IBM Session Manager for z/OS screens.

The controlling terminal is known as the demonstrating terminal, and the users of the terminals which it is driving are known as viewers.

There is no limit to the number of terminals in the Session Manager system which may be demonstrating concurrently, and each demonstration may have up to 999 viewers simultaneously. All terminals in each demonstration must be of a compatible type, (unless the viewer is using Session Manager Windows), otherwise unpredictable results may occur.

Overview

Starting a demonstration

A demonstration is initiated by a user entering the DEMO command at a Session Manager Menu screen. Any other Session Manager user can then join in the demonstration by using the VIEW command, specifying the demonstrator's userid as a parameter.

The Demonstration facility is generated by the DEMO parameter which may be specified on the SYSTEM statement to provide global support, or on the PROFILE, TERMINAL or USER statement to provide more selective support.

The VIEW command can be issued from the Session Manager Menu screen or the command area of a Session Manager Windows command area.

During a demonstration

The controlling terminal, that is, the terminal at which the DEMO command was entered, has an active role since all the Session Manager menu functions and any applications work exactly as normal. The controlling terminal has additional commands and facilities available to monitor terminals which are viewing the demonstration. These additional facilities are described in 'Initiating and running a demonstration session' on page 75.

The terminals which are viewing the demonstration take a passive role, since any screens displayed at the viewing terminals are merely a copy of the demonstrating terminal. However, viewers can always take hardcopies of screen displays received from the demonstrator, or may dynamically save screen displays if the Push-Pull facility is enabled.

The demonstration feature is intended to be used in a training or presentation situation. For example, it could be used by a Systems Designer when introducing a new system to the staff who are going to use it. Each output display is shown to the users, and input can be keyed by the demonstrator and copied to each viewing terminal prior to passing it to the application. In this way, the users are able to view both input to and output from the new system. This is a highly effective means of tackling the problem of user education.

Ending a demonstration

When entered from the Session Manager Menu, the viewer can exit from the demonstration at any time by entering any of the Session Manager escape command sequences. When this is done, the menu display is shown with the message:

```
ESCAPED FROM COMMAND SESSION
```

When entered from within Session Manager Windows, the viewer can rotate to other windows, or escape to the menu. The viewers demonstration 'session' is terminated by closing the window.

The demonstrator can halt the demonstration at any time by issuing the STOP command. Any viewers still in the demonstration when this command is issued are returned to the Session Manager Menu.

Initiating and running a demonstration session

As previously stated, a demonstration is initiated by a user issuing the DEMO command. The format of the command is:

```
DEMO [[PASS password | NOPASS]
      [AUTocopy [Yes | No | ON | OFF]]
      [INTernal [Yes | No | ON | OFF]]
      [DISplay  [Yes | No | ON | OFF]]
      [STOP]]
```

The DEMO command may define a demonstration password. If this is done, each viewer joining the demonstration must enter the password before access is permitted. This provides a means of preventing unauthorized users from viewing a demonstration. By default, no password is required when joining a demonstration.

By default, or if the optional AUTOCOPY ON operand is used, screen output from an application running at the demonstrator's terminal will be copied to the viewer's terminal automatically. However, if the AUTOCOPY OFF operand is specified then the copying of screen displays is controlled manually by the demonstrator using the demo copy key. This method provides a means of running a selective demonstration, whereby the choice of screen displays which the viewers see are under the complete control of the demonstrator. This facility is described further in 'Setting up a demonstration copy key' on page 76.

The DEMO command may be issued while a demonstration is in progress in order to alter the initial settings. For example, the password required to join the demonstration.

When the DEMO command is issued, a Demonstration Viewer List is shown. Most of the keys or command sequences available from the demonstrator's Menu screen are still available for use on the Demonstration Viewer List. The demonstrator can access all of the applications available from the Session Manager Menu screen directly (that is, without having to re-access the Menu display), and can also take hardcopies and cycle through the Session Manager Sessions. The demonstrator can access the application that is to be the object of the demonstration, directly from the Demonstration Viewer List.

The Demonstration Viewer List also enables those users who are viewing the demonstration to be monitored. Each viewer appears on the Demonstration Viewer List with their userid and terminal id. The Demonstration Viewer List is not automatically refreshed by Session Manager, so the demonstrator must press the Enter key, if required, in order to see any new viewers who have recently joined the demonstration.

The demonstrator can access the Session Manager Menu screen from the Demonstration Viewer List by entering the DEMO DISPLAY OFF command, and switch back to the Demonstration Viewer List using the DEMO DISPLAY ON command.

Under normal circumstances, viewers of the demonstration will not be able to see the input which the demonstrator enters prior to receiving each output display. However, the demonstrator can define a demo copy key which can be used to cause the current screen display, including any input which has been keyed into it, to be immediately copied to all the viewers, without the entered input data being passed to the application system. This is discussed further in 'Setting up a demonstration copy key' on page 76.

Viewers are normally forced to adopt a completely passive role, only being able to watch at their own terminals what the demonstrator is doing, and even then, by default, only output displays are shown. However, the demonstrator may nominate a single viewer to be eligible for input. Such a user may key data into a screen received from the demonstrator.

If the user has been nominated as an 'assisted' input eligible viewer, when this viewer presses the Enter key, the screen is copied back to the demonstrator, without being passed to the relevant application system or indeed any of the other viewers (remember that the application is associated with the menu of the demonstrator, not the viewer). The demonstrator may then correct the input if necessary, send it to all the other viewers using the Demo Copy Key, or pass it on to the application using the appropriate key.

If the viewer has been nominated as an 'unassisted' input eligible viewer, when this viewer presses any key, the input entered is passed directly to the application; the data input cannot be prevented by the demonstrator. The demonstrator however, can input data to the application at the same time as the 'unassisted' viewer, although of course input should not be entered by both at the same time!

Note The 'unassisted' input facility cannot be used if the demonstrator has Windows active, or if MISER is running. Since AUTOCOPY ON causes viewers' screens to be updated automatically, it may be advisable to turn AUTOCOPY OFF when this facility is used, to prevent results of incorrect input being displayed to viewers.

The demonstrator can halt the demonstration at any time by issuing the STOP command. Any viewers still in the demonstration when this command is issued are returned to the Session Manager Menu.

Setting up a demonstration copy key

The demo copy key is a key which the demonstrator can use to force the current screen display to all viewers. It is set up by typing the name of the PF or PA key to be used into the input field marked demo copy key on the Demonstration Viewer List.

Any of the function (PF1-PF24) or Program attention (PA1-PA3) keys may be selected.

The demonstrator should be aware that *this key overrides any function keys specified on the Session Manager Menu and in the application which is being demonstrated.* The key designated to be the demo copy key should therefore be chosen with care.

When the demo copy key is pressed, the screen currently displayed at the demonstrating terminal, including any input fields which may have been keyed by the demonstrator, is copied to the terminals of all the viewers. This provides a means, not only of showing all application output screens to the viewers, but also the keyed input which is about to be passed to the application.

When the AUTOCOPY NO parameter is used, Session Manager does not automatically copy every output screen from the demonstrator's terminal to the viewers. It is the responsibility of the demonstrator to completely control those screens which are reflected on the viewer's terminals. This provides a means of running a controlled, selective demonstration which may be useful in a situation where the application being demonstrated displays particularly sensitive information.

Automatic copying of demonstrator screens

If the demonstrator decides that all output screens should be shown to the viewers, an option is available to enable this to be done automatically by Session Manager. This mode of operation is initiated by specifying the AUTOCOPY ON parameter on the DEMO command, or allowing it to default. Then, each time any output is displayed on the demonstrator's terminal, the screen is automatically copied to the terminals of all viewers.

Nominating an input eligible viewer

As has been stated previously, the viewer normally has a completely passive role. However, the demonstrator can nominate a *single* viewer as eligible for keying input. The input eligible viewer can either be nominated as an 'assisted' viewer, or as an 'unassisted' viewer. There can only be *one* input eligible viewer active at a time.

To nominate a user, the demonstrator enters the required viewer number, or viewer name, in the **Current Input User** input field. The Viewer number is given in the body of the Demonstration Viewer Display, with the userid and terminal id of the user involved. The input field **Assisted/Unassisted** should be overtyped either with 'A' to nominate the viewer as assisted, or with 'U' to nominate the viewer as an unassisted viewer. The name of the nominated viewer then appears on the display as a highlit entry.

Assisted input eligible viewers

A viewer nominated as an 'assisted' viewer can watch the demonstration in the normal way, but may additionally key input into a display received from the demonstrator. When the viewer presses Enter, or a function key, the screen is copied back to the demonstrator, together with the input that has been keyed. The viewer has only a single opportunity to do this for each screen received from the demonstrator. Once the screen is copied back to the demonstrator, the viewer's terminal again becomes passive.

Note The input keyed is *not* passed to the application at this point.

The demonstrator can verify the viewer has entered the data correctly, alter the keyed input if necessary, and can then copy the screen to all the viewers (using the demo copy key), or simply pass the input direct to the application system. After this, both the demonstrator and all the viewers receive the output from the application, resulting from the keyed input.

Unassisted input eligible viewers

A viewer nominated as an 'unassisted' viewer can watch the demonstration in the normal way, but may additionally key input into a display received from the demonstrator. When the viewer presses Enter, or a function key, the keyed input is passed directly to the application. The demonstrator is not involved in the process and cannot prevent the input being sent. The viewer may key input to the application at any time, and at the same time as the demonstrator.

Note There are two restrictions while using the unassisted viewer facility, the demonstrator cannot have windows active and MISER must not be running.

A viewer can be reset from being input eligible by overtyping the viewer name or number with another viewer, or with blanks, in the input field **Current Input Use**.

Summary

The Demonstration and View feature is simplicity itself to use. Provided the System Administrator has set up the support appropriately, the demonstrator need only enter the DEMO command from the Session Manager Menu screen and then continue to work normally. Each user wanting to view what the demonstrator is doing need do no more than enter the VIEW command from their menu and let the demonstrator do the work!

The following commands, parameters and variables are required for this feature.

Feature, command, parameter or variable	Description
Demonstration and View Feature	This must be enabled on the system before the Demo and View can be used.
DEMO parameter	Defines the defaults for the Demonstration and View feature. These can be overridden using the DEMO command. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements.
DEMO command	Can be used to start a demonstration, alter the parameters for a demonstration, switch between the Demonstration Viewer List and the Menu, or end the demonstration. If entered with no operands, the DEMO parameter defaults are used. Must be entered on the Session Manager Menu screen. Default authorization level 5.
VIEW command	Can be used to join a demonstration. Must be entered on the Session Manager Menu screen, or Window command area. Default authorization level 1.
t_daut variable	Contains the Autocopy status. Not updateable.
t_dint variable	Identifies whether internal screens are to sent to viewers. Not updateable.
t_dkey variable	Current demo copy key sequence. Not updateable.
t_dnview variable	Number of users currently viewing the demo. Not updateable.
t_dtermid variable	An array containing the terminal id of each viewer. Not updateable.
t_duserid variable	An array containing the userid of each viewer. Not updateable.
t_inview variable	Assisted input eligible viewer number. Can be updated.
t_inview_n variable	Assisted input eligible viewer userid. Can be updated.

Feature, command, parameter or variable	Description
t_unview variable	Unassisted input eligible viewer number. Can be updated.
t_unview_n variable	Unassisted input eligible viewer userid. Can be updated.

See also 'Options available as a demonstrator and viewer' below.

Options available as a demonstrator and viewer

Options as a demonstrator

These options are available as a demonstrator:

To	Do this
Start a demonstration using defaults.	Enter DEMO.
Start a demonstration using a Demo Copy key.	Enter DEMO AUTOCOPY NO.
Define a Demo Copy Key.	Type key to be used in **demo copy key** input field on the Demonstration Viewer List.
Alter initial demonstration settings.	Enter DEMO command with required alterations while demonstrating.
Display all screens in the demonstration, including Session Manager internal screens.	Enter DEMO INTERNAL ON.
Switch between Demonstration Viewer List and Menu display.	Enter DEMO DISPLAY OFF and DEMO DISPLAY ON.
Take a hardcopy of a demonstration screen.	Enter hardcopy command key, or sequence.
Save a temporary screen image of a demonstration display.	Enter PUSH command key, or sequence.
Nominate an assisted input eligible viewer.	Enter the viewer number in **Current Input User** input field and enter 'A' in the **Unassisted/Assisted** input field on the Demonstration Viewer List.
Nominate an unassisted input eligible viewer.	Enter the viewer number in **Current Input User** input field and enter 'U' in the **Unassisted/Assisted** input field on the Demonstration Viewer List.
Cancel a viewer from being input eligible.	Overtype viewer number in **Current Input User** field with another user number, or with blanks.

To	Do this
Stop a demonstration.	Enter `DEMO STOP`.
Exit from a demonstration screen.	Enter escape command sequence.

Options as a viewer

These options are available as a viewer:

To	Do this
Join a demonstration.	Enter `VIEW` and the demonstrator's userid.
Take a hardcopy of a demonstration screen	Enter hardcopy command key, or sequence.
Save a temporary screen image.	Enter `PUSH` command key, or sequence.
Exit from a demonstration.	Enter an escape command sequence, or in Windows, close the window.

CHAPTER 10

The Change Password and Passphrase facility

Facilities can be added to a user's main menu, which allow them to change their External Security Manager (ESM) password or passphrase without the need to logoff and login again.

Using the Change Password facility

The Change Password facility can be added as a selectable session. The session invokes the script, ISZPASCH, which will display a sample panel (ISZPUPAS). A sample Profile, Session and APPL are also supplied.

This facility should only be used on Session Manager instances that are configured to use an ESM such as RACF. Either the E21 exit ISZE21SF or the E21 exit script ISZE21PH must be active within the Session Manager instance for this facility to work. The supplied user exit ISZE21SF has been modified at Session Manager release 2.1.00 and the corresponding changes must be present if the E21 exit is used by the Session Manager instance. The supplied user exit script ISZE21PH was introduced at Session Manager release 3.1.00.

The Change Password panel allows a user to change their password in an ESM such as RACF.

```
Session Manager               Change Password Menu          dd/mm/yyyy hh:mm:ss
 LU   luname                                                          user



                         Enter New Password twice

                         Userid       ===> IFM

                         Password     ===>

                         New Password ===>

                  Verify New Password ===>



 ===>

 PF1:Help  PF3:Quit
```

The user must enter their existing password plus their new password, which they must enter again in the verify field. All three fields must be entered at the same time. If the new password is accepted then the Change Password facility will automatically terminate the Change Password session. If there are any errors then the user must enter all three fields again. They can exit the Change Password facility at any time by entering the QUIT command.

Implementing the Change Password facility

A sample APPL ISZAUPAS is supplied in the Classic member ISZCAPPL (in library .SISZCONF) and the OLA member ISZAUPAS (in library .SISZSAPL). Refer to the *Installation and Customization* manual on how to configure the ISZAUPAS APPL in a Classic or OLA system. Adding a session referring to this APPL will cause that session to launch an internal session which will display the Change Password facility.

Using the Change Passphrase facility

The Change Passphrase facility can be added as a selectable session. The session invokes the script, ISZSUPHR, which will display a sample panel (ISZPUPHR). A sample Profile, Session, and APPL are also supplied.

This facility should be used only on Session Manager instances that are configured to use an ESM such as RACF. The supplied user exit script ISZE21PH was introduced at release 3.1.00 and this must be installed as the E21 exit used by the Session Manager instance.

The Change Passphrase panel allows a user to change their passphrase in an ESM such as RACF.

```
.  ISZPUPHR                   Change Passphrase Menu       dd/mm/yyyy hh:mm:ss
.  LU   luname                                                          user
.
.             Enter New Passphrase twice
.
.             Userid           ===> user
.
.             Passphrase       ===>
.
.             New Passphrase   ===>
.
.      Verify New Passphrase   ===>
.
.  --->
.
.  PF1:Help   PF3:Quit
```

The user must enter their existing passphrase plus their new passphrase, which they must enter again in the verify field. All three fields must be entered at the same time. If the new passphrase is accepted then the Change Passphrase facility will automatically terminate the Change Passphrase session. If there are any errors then the user must enter all three fields again. They can exit the Change Passphrase facility at any time by entering the QUIT command.

Implementing the Change Passphrase facility

A sample APPL ISZAUPHR is supplied in the Classic member ISZCAPPL. Refer to the *Installation and Customization* manual on how to configure the ISZAUPHR APPL in a Classic or OLA system. Adding a session referring to this APPL will cause that session to launch an internal session which will display the Change Passphrase facility.

CHAPTER 11

The Help facility

IBM Session Manager for z/OS is supplied with a comprehensive set of help panels which can be accessed from any of the Session Manager panels, such as the Menu screen, Signon screen and Data Display screens. This chapter tells you how to access and use the Help facility.

Accessing the Help facility

To access the Help facility, issue the HELP command. The main Help panel is displayed when you first access the facility which has a menu showing the categories for which help is available. The required option can be selected by number or by entering the name of the option in the command area.

Using Help

The BWD and FWD commands may be used to scroll forward and backwards through a Help screen, or Help menu. The TOP command can be used to go to the start of a multi-screen display. These commands are assigned to PF keys in the PROCESS section, for example:

```
Select
When t_aid = pf6 then Let t_command = 'TOP'
When t_aid = pf7 then Let t_command = 'BWD'
When t_aid = pf8 then Let t_command = 'FWD'
End
```

Once a Help screen is displayed, the QUIT command returns you to the 'previous' level, which could be a Help panel, Help menu, or the Session Manager display from which the Help command was issued. Entering RETURN causes immediate exit from the Help system; control passes to the last Session Manager function used. These commands are assigned to PF keys in the PROCESS section, for example:

```
Select
When t_aid = pf3   then Let t_command = 'QUIT'
When t_aid = pf4   then Let t_command = 'RETURN'
End
```

It is not permitted to invoke a Session Manager function from within the Help system. The RETURN command must be issued before a new Session Manager function may be invoked. However, it is possible to escape to the Menu and rejoin the Help later; if Help was invoked from the Signon screen, it is not possible to escape back to the Signon screen, QUIT or RETURN must be entered.

Summary of Help facility PF keys and commands

The following PF Keys and commands are available with the Session Manager Help system as supplied. If Installation-specific changes have been made to the Help system this should be taken into account when reading this section.

PF Key or command	Action taken
PF1 | Help	Invokes additional Help if it is available.
PF3 | Quit	The current level is ended. Control passes to the 'previous' level, which may be a Help panel.
PF4 | REturn	The Help system is exited. Control passes to the last Session Manager function used.
PF6 | Top	The screen is scrolled to the top of the data.

PF Key or command	Action taken
PF7 | BWD	The screen is scrolled backwards one screenfull of data.
PF8 | FWD	The screen is scrolled forwards one screenfull of data.
PF10	The previous Help panel is displayed.
PF11	The next Help panel is displayed.
REtrieve	The last command entered is redisplayed in the command area.

Help for Session Manager messages

To obtain Help for messages issued by Session Manager, issue the command 'H MESSAGE'. Alternatively, to access the messages menu from the main Help menu, choose option 6. This displays a menu of Help panels which contain blocks of error messages. To view a whole block of messages, enter any number that occurs in the relevant block.

Help for Session Manager facilities and features

Help can be obtained for many of the facilities and features provided with Session Manager. These panels provided assistance on how they can be used. Help is provided for Hardcopy, Push-Pull, Record-Replay, Cut-Paste, Spy, Demonstration and View and Session Manager Windowing.

Using the Help system as a tutorial

The Help system is built so that it can, if required, be used as a tutorial, using the indicated PF keys, usually PF10 and PF11, (set to Previous and Next), to page through the Help sequentially. This can be done from any point within the Help system and provides new users with a method of self education in the use of the product.

Customizing the Help system

Since the Help facility is built using a combination of PANEL statements and TPSL (the Panel and Script Language), it can be added to or altered to meet the requirements of your Installation. Help panels are defined in a similar way to other Session Manager panels, such as Menu panels. The main differences are that Help panels may not be modified, other than in the command area. Also, each Help panel is associated with a specific form of the HELP command, for example, the command 'H MESSAGE' displays a panel of the name HMESSAGE if it can be found. Otherwise the Help main menu is displayed and an error message is issued.

Help panel color and attribute settings

Each Help panel uses a default set of attribute characters to define the colors and effects, the protection and content, and other special attributes, such as the position of the cursor. If different colors or highlighting attributes are required in the given screen areas, then only the relevant ATTR parameter should be coded at the top of each Help panel to override the default set used. Then, any field in the panel which uses that attribute will automatically have the new characteristics.

For example, the standard message text is defined as

```
ATTR ‘$’      OUT  SKIP  HI  RED
```

which causes the message text to be displayed as highlit on a mono terminal, and in red on a color terminal. To alter this to normal intensity on a mono terminal, and white on a color terminal, the ATTR parameter should be changed to:

```
ATTR '$'      OUT  SKIP  NORM  WHI
```

Note Whenever a character which has been defined as an attribute character is used in normal text, the character will need to be set to ATTR OFF. Another special character should be used for the attribute character instead.

Defining a Help menu

Help menus are easy to define. The content of the menu may be specified using the HEADER, TRAILER or CONTENT section of panel definition. The PROCESS section of a Help menu may be set up such that if the user selects a specific number or letter, or presses a certain key, then a command is issued to display a different help screen. A simple example is shown here:

```
HEADER lines 20
TEXTSTART

                           @Session Manager HELP
                           @====================
<
<                          1. Using Session Manager.
<
<                          2. User commands.
<
<                      Enter No. and press enter ==>%T_COMMAND
<
<                      PF3 -- Display previous screen.  PF4 -- Exit from help
TEXTEND

PROCESS

If t_command = '1'
   then let t_command = 'HELP  USERHLP'  end
                      /* Session Manager looks for PANEL HUSERHLP to display */
If t_command = '2'
   then let t_command = 'HELP  USERCMD'  end
                      /* Session Manager looks for PANEL HUSERCMD to display */

If t_aid = pf3  then let t_command = 'QUIT'     end
If t_aid = pf4  then let t_command = 'RETURN'   end
```

Setting up your own additional Help menus is probably most easily achieved by taking a copy of one of the supplied panels, for example, HMESSAGE or HCMD1MNU, and altering it as required.

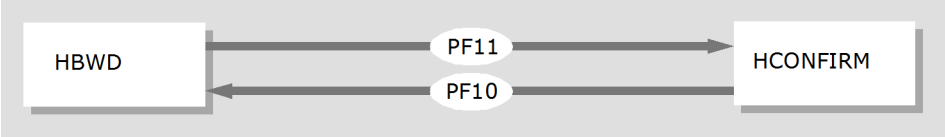
Adding a new Help panel

It is possible to add new Help panels to the system provided that some simple rules are observed. There are two situations to deal with:

1. A new panel is to be accessible from an existing Help menu.
2. An additional Help panel is to be inserted in the existing sequence of Help panels.

In the first case, an additional selection line needs to be placed into the menu, and appropriate TPSL statements placed in the PROCESS section of the menu to test for selection of the new option. The logic should set t_command to the name of the new Help panel. In the second case, just the new Help panel should be defined.

In both cases, careful attention should be given to the tests for the PF10 and PF11 keys in the PROCESS section. For example, the Help panels HBWD and HCONFIRM are both selectable from the General User Commands Help Menu, and the PF10 and PF11 keys are used to transfer between them, as in the diagram below:



This is done by setting t_command to 'Help CONFIRM' when t_aid = PF11 in the HBWD panel PROCESS section, and setting t_command to 'Help BWD' when t_aid = PF10 in the HCONFIRM panel PROCESS section. If a new panel, say HNEW, were to be inserted 'between' these two panels. The structure should now look like this:

The new panel, HNEW will have t_command set to 'Help CONFIRM' when PF11 is detected, and t_command set to 'Help BWD' when PF10 is detected. It is important to note that *both the existing Help panels need to be updated.* The HBWD panel should now set t_command to 'Help NEW' when PF11 is detected, and the HCONFIRM panel should set t_command to 'Help NEW' when PF10 is detected.

CHAPTER 12

The Spy facility

The Spy facility is intended for users with a high security clearance, such as System Administrators, Network Controllers or Technical Support staff. The facility enables a user to simultaneously view the screen contents currently displayed at the terminal of another IBM Session Manager for z/OS user. This can be useful, for example, if a user receives some unexpected screen output, since Technical Support can obtain a copy of the screen immediately and solve the problem more quickly. This is particularly relevant when users and Technical Support are at different locations.

Overview

This facility could cause security exposure if misused, however the system default is set such that a SPY command cannot be actioned from a Menu screen unless there is a defined SPYGROUP option in effect. The SPYGROUP parameter defines the support for the facility and therefore restricts its use. For information on how to disable this facility see 'Disabling the SPY facility' on page 95.

Starting a SPY

The SPYGROUP parameter identifies a group of users or terminal ids, any one of which may be spied upon. The scope of the command can therefore be severely limited. Also, if a user or terminal has the SPYABLE NO parameter specified they can never be spied upon – even if they are included in a group which is specified on the SPYGROUP parameter of another user. A user, terminal or profile which has the SPYABLE TELL parameter specified (the default) enables the target user to give or deny authorization for the Spy operation at the time a particular spy request is made.

The SPY command is not processed in certain situations, which are:

- If the target user is inactive;
- If the target user is already spying on another user;
- If the target user has SPYABLE OFF specified;
- If the target user does not appear in the SPYGROUP defined for the user issuing the command;
- If the user issuing the command is currently demonstrating;
- When the target user has SPYABLE TELL specified and rejects the spy request.

If the target user is running on an incompatible terminal type, for example, if the target user is running a model 5 terminal, and the user issuing the SPY command is running a model 2, then the spy request is rejected. This can be overridden by using the OVERRIDE operand of the SPY command. However, the resulting display may be misaligned.

If the Session Manager Window feature is enabled, the SPY command can be entered in a command area on a window message panel, provided the OVERRIDE operand is not required. The window can scroll around the larger model 5 screen, but the screen cannot be zoomed.

When the SPY command is issued, the screen currently displayed at the target users terminal is read and copied to the screen of the user who issued the Spy request.

Once the command has been issued, spy mode is retained until an escape command sequence is entered, or the target user issues the SPYOFF command (if the SPYABLE TELL option is set). A record of both users involved in the Spy operation is written to the Session Manager Audit file.

During a SPY

By default, the spied screen image is automatically refreshed when the target user's screen display is updated, that is, every I/O to the terminal of the target user is automatically reflected on the terminal of the user who is spying. If the optional NOAUTO operand is used when the SPY command is issued, however, it is the responsibility of the user who is spying to press the Enter key from time to time in order to acquire an updated screen image.

Up to ten screen images can be stored when spying in non-automatic mode. When the eleventh screen update occurs, the first screen is sent automatically to the terminal of the user who is spying.

At any time during the spy operation, a hardcopy of the spied screen image may be taken by pressing the key, or entering the command sequence defined for Hardcopy. See 'The Hardcopy facility' on page 105 for details of the Hardcopy Facility.

Ending a SPY

To exit from Spy mode, any escape command sequence may be used, or the target user can issue a SPYOFF command (if the SPYABLE TELL option is set). To exit from a windowed SPY command, close the window. A user with SPYABLE TELL defined is informed when the Spy operation is terminated. The formal definition of the SPY command can be found in the *Technical Reference* manual.

Disabling the SPY facility

Perform one of these actions to disable the SPY facility:

1. Set SPYABLE to `OFF`.
2. Remove the `SPYGROUP` parameter from your configuration and restart your system(s).
3. The default AUTHORITY for the SPY command is 9 so by setting a user's AUTH to 8 the user will be denied access and they will receive a `not authorized` message.

   Note If you use this method, review all the other commands with an AUTH 9 default setting and change them to 8.
4. Use a command script, for example:

```
Command SPY cmdscript yes
Script spy
let T_message = 'SPY Function disabled'
return
```

When this command script is installed it will be executed when a user enters the SPY command and therefore the SPY facility will have been disabled.

Summary

The following commands and parameters are required for the Spy Facility.

Command or parameter	Description
SPYABLE parameter	Defines whether users can be spied upon. The default, if omitted is SPYABLE TELL; all users can be spied upon as long as the spied upon user accepts the Spy operation. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements.
SPYGROUP parameter	Defines the name of a group of users/terminals that can be spied upon, (the name must match one defined on a GROUP statement), or lets all users defined in any GROUP to be spied upon. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements.
SPY command	Initiates a Spy operation on another user, or terminal. Default authorization level 5.
SPYOFF command	Terminates a Spy operation. Can only be used by a user being spied upon if they have the SPYABLE TELL option set. Default authorization level 1.
OK command	Applies to the SPYTELL panel. Enables the user to accept a Spy request. Default authorization level 1.

CHAPTER 13

The Record-Replay facility

The Record-Replay facility automatically records all input and output data streams for the initiating terminal, up to a maximum number of records set by the RECORDLIMIT parameter of the SYSTEM, PROFILE, USER and TERMINAL configuration statements. Each record holds one input, one output, a setup output, a partial setup output, or an escape output data stream. The oldest records are dropped when the limit is reached.

Overview

When recording an application, both inputs and outputs are recorded. However, if the terminal is put in Spy or View mode, only outputs are recorded, since the recording terminal 'sees' no inputs.

This facility can be useful when a Session Manager user needs to record screens which have been acquired by spying or viewing another user. This could be for educational purposes as it allows the recording user to view the screens later at leisure. It may also be of use to Technical Programmers and Help Desk staff for problem solving, particularly when the user encountering the problem is at a remote location. It is also possible to record screens acquired by spying on a user who is replaying. A permanent copy of any screen can be obtained using the hardcopy command sequence or key.

Technical Programmers will find the 'Dump' and 'Data Stream Analysis' replay formats invaluable in solving problems in online systems, since these formats enable detailed examination of buffer control codes and attribute bytes. The 'Data Stream Analysis' format uses standard IBM buffer control orders and field attribute characters to enable easy identification of the different components within the data stream.

Commands and parameters

There are two commands that can be entered from the command line, RECORD and REPLAY, which control the Record-Replay facility. Both of these are described fully in subsequent sections of this manual.

The SYSTEM statement RECORDLIMIT and REPLAY parameters are used to generate overall support for this facility, which may be suppressed for individual users, or groups of users, by specifying RECORDLIMIT 0 on the appropriate statements. Alternatively, support may be generated selectively by specifying RECORDLIMIT and REPLAY on particular PROFILE, USER and TERMINAL statements, rather than on the SYSTEM statement.

Storage implications

Each record occupies approximately 2K of Session Manager free storage, so if storage shortage is a consideration it may be worthwhile to provide support to selected users only, as well as restricting the total number of records per Menu. All records are deleted when a user logs off from Session Manager: they may also be deleted as required using the RECORD command. If storage is not a consideration and this facility is to be used frequently, it may be necessary to increase the Session Manager storage allocation. The Session Manager Q STOR command is useful in monitoring storage usage.

Using the Record-Replay facility

Recording

The RECORD command can be entered from the command line of most Session Manager panels. It has the following format:

```
RECOrd [ON | Yes | TERM | APPL | CLEAR | 0 | OFF | No]
```

TERM, the default, causes data streams sent to the terminal to be recorded, that is after script, compression, MISER and Windows processing. YES and ON also cause recording to start for the terminal. APPL causes data streams received from an application to be recorded, that is before script, compression, MISER and Windows processing. This type of recording is useful when debugging a session script which 'fields' data streams and does not send them to the terminal. The type of record being performed is held in the variable t_record.

Session Manager starts to record when an application is selected, or Spy or View mode is entered. Replayed screens are not recorded so recording can be left on when entering Replay mode.

Setup screens are recorded when the session is selected, and subsequently re-selected, in order to 'setup' the screen for the subsequent session inputs and outputs. The escape screen is also recorded.

Entering RECORD CLEAR or 0 deletes all records and stops recording. Entering RECORD OFF or NO stops recording without deleting records.

Replaying

The command REPLAY can be entered on the command line of most Session Manager panels (except from within Session Manager Windows). It has no operands, it simply requests a display of the Replay Index screen.

Each record is identified by a number, and a code indicating whether it is an input (I), output (O), setup (S), escape (E) or partial setup (P) record. Input records show the relevant input key, whereas output setup and escape records give the output command description according to the following table:

Command	Description
WRT	Write
EWRT	Erase/Write
EWRTA	Erase/Write Alternate
WSF	Write Structured Field
EAU	Erase all Unprotected

The first ten bytes of data are given for both input and output records. The partial setup (P) code only appears when the RECORDLIMIT for the user has been exceeded, causing a number of replay records (types I or O) to be removed from the replay list.

The following example shows the Replay index for recorded terminal I/O when accessing the Macro 4 product MULTILOG, pressing PF3, entering 'q' to quit the product and return to the Session Manager Menu. The highlighted entry in this example is the last terminal input. After replay, the entry highlighted is usually the last record displayed. The SYSTEM, PROFILE, USER and TERMINAL statement REPLAY parameter has operands to specify the permissible format options.

```
Session Manager                Replay Index                dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

ID   Record Title        ID   Record Title        ID   Record Title
---  ------------       ---  ------------       ---  ------------
001 S EWRT  'File Edit'
002 I PF8
003 O WRT   '3400 deliv'
004 I PF8
005 O WRT   '5200 5300'
006 I PF7
007 O WRT   '3400 deliv'
008 I PF7
009 O WRT   '1600 (b)'
010 E EWRT  'File Edit'




Enter record ID           ===>
     PF9 Display as recorded   PF10 Dump format   PF11 Data stream analysis
PF1:Help    PF3:Quit                PF7:Bwd    PF8:Fwd    PA1:Prev    PA2:Next
```

Replay is started by paging through the records forwards or backwards using the PA1 and PA2 keys, or by keying the starting record number and pressing Enter. During replay, the records may be paged through and a different format may be selected as required. The Hardcopy facility may be used to take a permanent copy of any screen. The Push-Pull facility is available to temporarily save a screen image.

If an input or output record has no visible effect during replay, for example PA1 input, or if it could have an unpredictable effect, the terminal alarm is sounded. Structured field input and output transmissions which are generated in response to a hardware request, rather than a terminal operator, fall into this category.

Additional notes for replay

1. Occasionally, the Write command rather than the Erase/Write is used in building output screens. When Session Manager records such output it makes no attempt to combine the separate screens. This means that when replaying in the 'As Recorded' format, Session Manager must rebuild the screens from the preceding Erase/Write or clear screen, so that the screens are displayed as they originally appeared at the terminal. Once the screens are rebuilt to the selected point, paging forward is as normal, but paging back necessitates another rebuild process, since Session Manager cannot 'take away' an output screen image. The rebuild process appears as a series of screens rapidly displayed, and since extra processing is incurred, the 'As Recorded' format should be used with consideration for other users.
2. The Hardcopy facility is available during replay to obtain a permanent copy of a screen, and if a key is defined for this facility, it may be used at any time. However, if a hardcopy command sequence is defined and none of the recorded screens contain an input command field, there is nowhere to enter the command sequence. This applies only to 'As Recorded' display format since

the other display formats have their own input fields. This should very rarely happen, and can be easily overcome by dynamically changing the hardcopy command to use a key. See 'The Hardcopy facility' on page 105 for further details of this facility.

3 When paging forward in a record displayed in 'Data Stream Analysis' format, the next part of the record is displayed.

4 The following sample screens show three different formats of the same screen. These are 'As Recorded', the 'Dump' and the 'Data Stream Analysis' formats.

If the supplied Replay index panel is used, then PF keys are available to choose the replay format for the screens. If the supplied panel is not used, the following commands may be entered on the Index panel to initiate the desired replay format:

`PLAYImage` *nn*
Causes the screen denoted by *nn* on the index to be displayed as it appeared when first recorded.

`PLAYHex` *nn*
Causes the screen denoted by *nn* on the index to be displayed formatted as a hex dump of the 3270 data stream.

`PLAYDs` *nn*
Causes the screen denoted by *nn* on the index to be displayed formatted as 3270 data stream orders.

Replay screen after user enters '4' as a record number from the index

```
File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help

VIEW       TCPIP.TCPIP.DATA                              Columns 00001 00072
001600 ;   (b) Blanks and <end-of-line> are used to delimit tokens.           *
001700 ;                                                                      *
001800 ;   (c) The format for each configuration statement is:                *
001900 ;                                                                      *
002000 ;       <SystemName||':'>  keyword  value                              *
002100 ;                                                                      *
002200 ;       where <SystemName||':'> is an optional label that can be       *
002300 ;       specified before a keyword; if present, then the keyword-      *
002400 ;       value pair will only be recognized if the SystemName matches   *
002500 ;       the name of the z/OS system.                                   *
002600 ;       SystemName is derived from the z/OS image name. Its value should*
002700 ;       be the IEASYSxx parmlib member's SYSNAME= parameter value.      *
002800 ;       The SystemName can be specified by either restartable VMCF     *
002900 ;       or the subsystem definition of VMCF in the IEFSSNxx member of  *
003000 ;       PARMLIB.                                                       *
003100 ;                                                                      *
003200 ;       For SMTP usage use the NJENODENAME statement in the SMTP       *
003300 ;       configuration data set to specify the JES nodename for mail    *
Command ===>                                                Scroll ===> PAGE
 F1=Help      F2=Split     F3=Exit      F5=Rfind     F6=Rchange   F7=Up
 F8=Down      F9=Swap     F10=Left     F11=Right    F12=Cancel
```

This is the 'As Recorded' format of the screen.

Replay screen after user enters '4' as a record number from the index and then presses PF10

```
Session Manager              Replay - Dump format          dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

 DEC  HEX  Record   010 E EWRT  'File Edit'   Length  01817 X'0719'
   0 0000     F5C2115A 5E131140 402902C0 6042F429    *5B.!;..  ..{-.4.*
  16 0010     02C0C842 F7402800 002841F4 C6280000    *.{H.7 .  ..4F.  *
  32 0020     89938529 02C0C842 F7402800 002841F4    *ile..{H.7 .  ..4*
  48 0030     C5280000 8489A329 02C0C842 F740C528    *E.  dit..{H.7 E.*
  64 0040     41F48428 000089A3 6DE285A3 A3899587    *.4d.  it_Setting*
  80 0050     A2280000 2902C0C8 42F74028 41F4D428    *s.  ..{H.7 ..4M.*
  96 0060     00008595 A42902C0 C842F740 2841F4E4    *  enu..{H.7 ..4U*
 112 0070     280000A3 899389A3 8985A229 02C0C842    *.  tilities..{H.*
 128 0080     F7402841 F4C32800 00969497 89938599    *7 ..4C.  ompiler*
 144 0090     A22902C0 C842F740 2841F4E3 28000085    *s..{H.7 ..4T.  e*
 160 00A0     A2A32902 C0C842F7 402841F4 C8280000    *st..{H.7 ..4H.  *
 176 00B0     85939729 02C06042 F43CC150 402902C0    *elp..{-.4.A& ..{*
 192 00C0     6042F108 A208A208 A208A208 A208A208    *-.1.s.s.s.s.s.s.*
 208 00D0     A208A208 A208A208 A208A208 A208A208    *s.s.s.s.s.s.s.s.*
 224 00E0     A208A208 A208A208 A208A208 A208A208    *s.s.s.s.s.s.s.s.*
                                                                  More...

Enter DECimal displacement ===>
     PF9 Display as recorded   PF10 Dump format   PF11 Data stream analysis
PF1:Help    PF3:Quit                PF7:Bwd    PF8:Fwd    PA1:Prev    PA2:Next
```

This is the 'Dump' format of the screen.

Replay screen after user enters '4' as a record number from the index and then presses PF11

```
Session Manager               Replay Analysis              dd/mm/yyyy hh:mm:ss
LU   luname                                                          user

 DEC  HEX  Record   010 E EWRT  'File Edit'   Length  01817 X'0719'
   0 0000  X'F5C2'      CMD - EWRT  WCC (RESTKB)
   2 0002  X'115A5E'    SBA (22,15)
   5 0005  X'13'        IC
   6 0006  X'114040'    SBA (1,1)
   9 0009  X'2902C060...SFE 2 FLD=(PROT) COL=GREEN
  15 000F  X'2902C0C8...SFE 2 FLD=(UNPROT,HIGH) COL=NEUTRAL
  21 0015               ' '
  22 0016  X'280000'    SA RESET
  25 0019  X'2841F4'    SA EHI=UNDERSC
  28 001C               'F'
  29 001D  X'280000'    SA RESET
  32 0020               'ile'
  35 0023  X'2902C0C8...SFE 2 FLD=(UNPROT,HIGH) COL=NEUTRAL
  41 0029               ' '
  42 002A  X'280000'    SA RESET
                                                                  More...

Enter DECimal displacement ===>
     PF9 Display as recorded   PF10 Dump format   PF11 Data stream analysis
PF1:Help    PF3:Quit                PF7:Bwd    PF8:Fwd    PA1:Prev    PA2:Next
```

This is the 'Data Stream Analysis' format of the screen.

Summary

The following commands and parameters are required for this facility.

Command or parameter	Description
RECORDLIMIT parameter	Defines the maximum number of records that can be held for each user. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements. RECORDLIMIT 0 disables the facility.
REPLAY parameter	Defines the permitted playback format. The ASRECORD operand (default) enables screens to be played back to appear as they were recorded. The FMTOPS operand enables playback in 'As Recorded', 'Dump' and 'Data Stream Analysis' formats. It is recommended that ASRECORD be used as the system default, overridden when required for Technical staff. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements.
RECORD command	Used to start and stop recording. Default authorization level of 5.
REPLAY command	Used to display the Replay Index showing all the records held. Default Authorization level of 5.
PLAYIMAGE command	May be entered on the Replay Index to replay the specified screen in 'As Recorded' format.
PLAYHEX command	May be entered on the Replay Index to replay the specified screen in 'Dump' format.
PLAYDS command	May be entered on the Replay Index to replay the specified screen in 'Data Stream Analysis' format.
t_record variable	Contains the type of recording being performed.
t_reccnt variable	Contains a count of recorded data streams.
t_repdof variable	Contains the decimal offset to start the display of a 'Dump' or 3270 replay data stream.
t_rephdr variable	Contains data extracted from the buffer to provide an identifying header for Replay screens.
t_replen variable	Contains length of buffer being replayed.

See also 'Record replay actions available' on page 104.

Record replay actions available

Options from menu screen

These options are available from the Menu screen:

To	Do this
Start recording.	Enter RECORD.
Stop recording and delete records.	Enter RECORD Ø.
Stop recording and retain records	Enter RECORD OFF.
Display the Replay Index.	Enter REPLAY.

Options from replay index

These options are available from the Replay Index:

To	Do this
Start replay and page backwards and forwards through the replay screens.	Enter AP1 and PA2 key respectively.
Take a hardcopy of a replay screen.	Enter the hardcopy command key, or sequence.
Save a temporary screen copy	Enter PUSH command key or sequence.
Initiate the required playback format (if REPLAY FMTOPTS has been defined)	Enter either PLAYDS, PLAYHEX or PLAYIMAGE for required screen format, or press the relevant PF key.
Exit from the Replay Index panel.	Press Enter.

CHAPTER 14

The Hardcopy facility

The IBM Session Manager for z/OS Hardcopy facility may be made available to all, or selected, Session Manager users. It enables a user to take a hardcopy of the current screen image by merely pressing a key, entering a defined character sequence, or entering the HARDCOPY command. The screen image can be an application screen or a Session Manager panel. The output is initially sent to the operating system spool file, in other words the JES2 or JES3 spool file.

Overview

The Hardcopy facility provides a means of defining a set of ‘print routes’ from which a user may select the one most appropriate. Each print route definition determines the destination of each screen hardcopy image.

The parameters are converted to parameters for a defined SYSOUT file.

Hardcopy facility definition

Session Manager has a number of control statements and parameters to provide flexibility in the definition of the Hardcopy facility. The crucial components of this facility are the hardcopy profiles. Each hardcopy profile contains a set of selectable options, and each of these options may point to a set of header and trailer line definitions, and also to a print route definition.

Hardcopy profiles

A Hardcopy profile is defined using the HCPROFILE statement. The HCOPTION parameter of this statement is used to provide a description for each set of hardcopy formatting and routing options available for the profile. Any number of options may be specified. The FORMAT subparameter references an HCFORMAT statement which defines a set of heading and trailing lines to be printed before and after a screen hardcopy. The ROUTE subparameter references an HCROUTE statement which defines a print route to control the eventual destination of the output. Examples on defining all these statements are given later in this chapter.

The Hardcopy facility can be made available to all Session Manager users, or to a selected few, by use of the HCPROF parameter which specifies an HCPROFILE name. When a hardcopy profile name is specified, through the HCPROF parameter on the SYSTEM statement, the profile name is used as a global default for the facility. The HCPROF parameter can also be specified on the PROFILE, USER and TERMINAL statements. If a profile name is specified on these statements, it overrides any global hardcopy profile name specified on the SYSTEM statement.

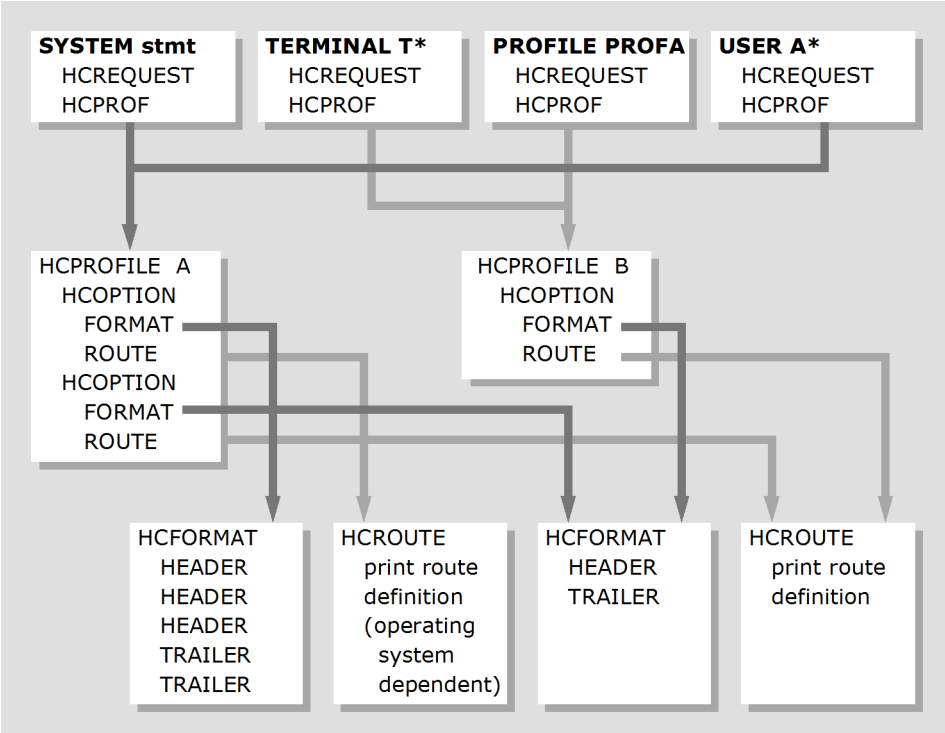
Note If a hardcopy profile is not specified on any statement the facility is suppressed.

Requesting a hardcopy

A screen hardcopy may be invoked by entering a request sequence in the command area of the screen, or by pressing a PF or PA key. The HCREQUEST parameter defines the request sequence, or PF/PA key, which when entered causes a screen hardcopy to be taken. When specified on the SYSTEM statement it defines a global setting. This can be overridden on the PROFILE, USER and TERMINAL statements.

Note The hardcopy sequence must be chosen with care as it will not be seen by the application if entered on a session. It should be different to any escape sequences used by other Session Manager functions, for example, escape to menu, record-replay, push-pull. Alternatively, the HARDCOPY command can be entered (this is described later in this chapter).

The following diagram shows how the various hardcopy statements and parameters are related to each other:



This figure illustrates how different hardcopy profiles can be used by different groups of users. The hardcopy profile ‘A’ is used by all users with userids beginning with ‘A’ on the USER statement. The hardcopy profile ‘B’ is used by all users with terminal ids beginning with ‘T’ using the TERMINAL statement definitions. Any other users using profile PROFA use the hardcopy profile ‘B’. Any users who do not fall into these categories use the default hardcopy profile, as defined on the SYSTEM statement, that is, hardcopy profile ‘A’.

Hardcopy formatting and variable substitution

Variables can be used in the HCFORMAT statement definitions as described below and can also be used in the HCROUTE statement when defining print routes. See the *Technical Reference* manual for full details of the parameters to which this applies.

Hardcopy formatting

Heading and trailing lines, printed before and after the hardcopy screen image, are defined using the HEADER and TRAILER parameters of the HCFORMAT statement. The definition of these parameters may contain substitution variables in addition to literals. Variables may be used to help identify the originator of the screen copy, the time and date on which it was taken, and the application to which it relates. Any Session Manager supplied variable or User-defined variable may be used for substitution. Variables are described fully in 'Session Manager variables' in the *Panels, Scripts and Variables* manual.

Each variable name should be preceded by an ampersand (&), and should be followed immediately by a space or an ampersand. When two variables are to be concatenated, there should be two ampersands between them.

When Session Manager substitutes variables, trailing spaces are not included where the value of a variable is less than the maximum allowed for the field. After substitution, the data is centralized in the output line, unless the data exceeds the width of the original screen, in which case truncation occurs on the right. An example of a set of trailer lines is shown below:

```
TRAILER ' '
TRAILER 'Hcprof &t_hcprof Hcformat &t_hcformat Hcroute
&t_hcroute'
TRAILER 'Profile &t_prof'
TRAILER 'Current hardcopy option &t_hcop'
TRAILER 'User variables, 1 &uc_v1, 2 &uc_v2, 3 &uc_v3, 4 &uc_v4'
TRAILER ' '
```

When no heading or trailing lines are defined for a hardcopy option, Session Manager generates a default set:

```
HEADER '-'
HEADER 'HARDCOPY AT &t_time ON &t_date'
HEADER 'USER &t_user ON &t_termtyp &t_termid '-
         'LOGGED ON TO &s_appl ACB &s_acb'
HEADER '-'
```

Defining print routines

Variable substitution may also be used when defining print routes. The parameters that this applies to are:

CLASS	DESTINATION
FORM	NAME
OUTPUT	NODE
EXTWTR	

Hardcopy routing operation

The operating system does not require any special setup in order to use hardcopy routing.

A SYSOUT data set is dynamically allocated for each screen hardcopy. If any HCROUTE statement specifies an OUTPUT parameter, an appropriate OUTPUT JCL statement should be included in the startup for Session Manager to define processing options for one or more hardcopy data sets.

HCROUTE examples

The example given below creates a hardcopy with a name that matches the terminal id of the terminal from which the hardcopy is invoked. It is given a class of g and is sent to the spool file user with a class of g.

```
HCROUTE hcruser
   NAME  &t_termid
   Class g
```

In the next example the name is changed to take the first four characters of the Session Manager userid, followed by the time that the hardcopy was taken in '*hhmm*' format.

```
HCROUTE hcrcprnt
   Name &t_user(4)&&t_time(2)&&t_time(4,2) */ Note
   cl s
   dest dz001
   form w080
```

Note Two ampersands have been used to join the two variables.

Hardcopy facility – usage at a terminal

Each user may exercise some control over the eventual destination of their output, and also over the heading and trailing lines for the screen image copy. This is achieved by entering the HCOPTION command on the Menu screen to select a hardcopy option from the hardcopy profile currently in effect. The command has the format:

```
HCOPTION [nnn]
```

where *nnn* is the relative position of the hardcopy option within the hardcopy profile. If *nnn* is omitted, the next hardcopy option in the list is selected.

At signon time, the first option in the hardcopy profile is active. By defining the Menu panel appropriately, the hardcopy option descriptions may be displayed; the variable required is t_hcop. The hardcopy-request-sequence or key can be also be displayed on the panel and may be modified by the user. The variable required is t_hcmd.

Once the appropriate option has been selected, the user has merely to press the defined request key or enter the request character sequence on the screen that is to be hardcopied.

The HARDCOPY command

The HARDCOPY command has the following format:

```
HARdcopy seln-id [Profile hcprofile Option hcoption]
```

Using the command a user can take a screen hardcopy of any active session, even if it is not currently displayed at the terminal. The session to be copied is identified by the *seln-id*, where the selection id can be the session number, the session command sequence, or a PF key number relating to the session on the Menu screen. If the specified session is not active, message 715 is issued and the hardcopy is not taken.

hcprofile specifies the name of a hardcopy profile defined by a HCPROFILE statement.

hcoption identifies which formatting and routing options are to be used. These are defined by the HCOPTION parameters within the HCPROFILE statement. The *hcoption* number identifies the relative position of the HCOPTION parameter within the HCPROFILE statement.

By default, the hardcopy routing instructions are taken from the hardcopy profile in force for the user who enters the command. If there is no HCPROFILE defined on the system, the HARDCOPY command is not actioned.

The Profile and Option keywords may be used to override the User's hardcopy profile with an alternate. For example, a hardcopy for a particular application screen may need to be routed to the destination specified by an auditor.

Summary

The following commands, statements, parameters and variables are required for the Hardcopy facility.

Statement, parameter or variable	Description
HCPROFILE statement	Defines a hardcopy profile.
HCPROF parameter	Defines the hardcopy profile to be used, as defined on a HCPROFILE statement. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements. See also t_hcprof.
t_hcprof variable	This can be updated using TPSL (the Panel and Script Language) and can be used in hardcopy header and trailer lines.
HCREQUEST statement	Defines the request sequence, PF/PA key to invoke a hardcopy screen image. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements. See also t_hcmd.
t_hcmd variable	May be defined on the Menu panel to allow the hardcopy request sequence or key to be dynamically updated.
HCOPTION statement	Defines the options that can be used on a hardcopy profile. Referenced by the HCOPTION parameter of the HCPROFILE statement. See also t_hcop.
t_hcop variable	May be defined on the Menu panel to show hardcopy option descriptions, and used in hardcopy header and trailer lines. The variable cannot be updated.
t_hcop_n variable	May be defined on the Menu panel to show the hardcopy option currently in force. The variable cannot be updated.
hmax variable	Specifies the number of hardcopy options defined in the profile.
HCFORMAT statement	Defines a set of header and trailer lines for a hardcopy. Referenced by the FORMAT subparameter of the HCPROFILE statement. See also t_hcformat.
t_hcformat variable	Can be used in hardcopy header and trailer lines. The variable cannot be updated.
HCROUTE statement	Defines a set of routing instructions to control the destination of a hardcopy. Referenced by the ROUTE subparameter of the HCPROFILE statement. See also t_hcroute.

Statement, parameter or variable	Description
t_hcroute variable	Can be used in hardcopy header and trailer lines. The variable cannot be updated.
HCOPTION command	May be entered at the Menu screen to alter the hardcopy option to be used.
HARDCOPY command	May be entered at any Session Manager panel to invoke a screen hardcopy for a specified active session.

CHAPTER 15

The Windows facility

The Windows facility in IBM Session Manager for z/OS enables windows and window control areas to be created on a normal 3270 screen. Each window can contain either output from a session, or a Session Manager panel. No changes are required to any applications that are to be displayed in a window.

A window can be positioned anywhere on the physical screen and may be moved or resized at any time.

Using windows, several sessions can be displayed on a physical screen. Each window can be altered as required by either issuing a window escape sequence, or by a Window script.

The Session Manager system provides ready-to-use Window script samples. These are documented in the *Panels, Scripts and Variables* manual.

Using the Windows feature

The Windows feature can be invoked from the Session Manager Menu panel by issuing the command WINDOWS. This can be done whether or not there are active sessions. What happens next depends on the Window script. The script may simply display one window with a Menu panel shown in it, or it may open a number of windows, one for each active session.

Assuming that the script only opens one window, the resulting display could look similar to the following sample:

```
Dmsgs  Listw  Setup  Detail Offset  Zoom  Rotate Close   Hide   Help   EXIT
       User: user     Terminal: S05TVV01 Auth: 9 Script: XWINDO      >+   .
 Session Manager                Open Windows                dd/mm/yyyy hh:
 LU   luname                                                            user
    Sel Applid   Node     Description                 Status
    --- ------   ----     -----------                 ------
      1 S09TSO            TSO                         Ava
      2 CICSB             CICS PROD                   Ava
      3 CICSA             CICS TEST                   Ava









Select session by cursor or by Sel number
===>

PF3:Exit  PF7:Bwd  PF8:Fwd
F16=BORD  F17=OPEN F18=CLO F19=MOVE F20=ACTN F21=SIZE F22=ZOOM F23=ACT F24=ROTA
```

A border surrounds the whole window, and at the top of the window display are action buttons. The cursor can be positioned on one of these and the Enter key can be pressed to initiate that action. The bottom of the screen shows the F keys available. You may not have all these functions, for example MOVE and SIZE may not be there.

If the cursor is positioned on an action button and Enter is pressed, a window control area may be opened depending on the button function. This can be closed again by pressing PF3.

The list of PF keys showed that PF17 opens a window. If the cursor is positioned on the top border and PF17 is pressed, another window is opened. This becomes the active window, indicated by the highlighted border. The joining borders of the windows align with the cursor position. The second line shows Detail information because the Detail action toggle button is switched on.

```
 Dmsgs  Listw  Setup  Detail Offset  Zoom  Rotate Close   Hide   Help   EXIT
       User: user     Terminal: SO5TVVO1 Auth: 9 Script: XWINDO      >+
  Session Manager                Ope | Session Manager                Ope
  LU   SO5TVVO1                      | LU   SO5TVVO1
     Sel Applid   Node     Description|    Sel Applid   Node     Description
     --- ------   ----     -----------|    --- ------   ----     -----------
       1 S09TSO            TSO        |      1 S09TSO            TSO
       2 CICSB             CICS PROD  |      2 CICSB             CICS PROD
       3 CICSA             CICS TEST  |      3 CICSA             CICS TEST
                                      |
                                      |
                                      |
                                      |
                                      |
                                      |
                                      |
                                      |
                                      |
  Select session by cursor or by Sel  | Select session by cursor or by Sel
  ===>                                | ===>
                                      |
  PF3:Exit  PF7:Bwd  PF8:Fwd          | PF3:Exit  PF7:Bwd  PF8:Fwd
F16=BORD F17=OPEN F18=CLO F19=MOVE F20=ACTN F21=SIZE F22=ZOOM F23=ACT F24=ROTA
```

In the example below, a session has been started in the active window by placing the cursor next to the application session id listed on the menu and pressing Enter.

```
 Dmsgs  Listw  Setup  Detail Offset  Zoom  Rotate Close   Hide   Help   EXIT
       User: user     Terminal: SO5TVVO1 Auth: 9 Script: XWINDO      >+
  Session Manager                Ope | ------------------------------- TSO
  LU   SO5TVVO1                      |
     Sel Applid   Node     Description|
     --- ------   ----     -----------|      Enter LOGON parameters below:
       1 S09TSO            TSO        |
       2 CICSB             CICS PROD  |      Userid    ===> MSK1
       3 CICSA             CICS TEST  |
                                      |      Password  ===>
                                      |
                                      |      Procedure ===> TSO
                                      |
                                      |      Acct Nmbr ===> ACCT
                                      |
                                      |      Size      ===> 4096
                                      |
                                      |      Perform   ===>
                                      |
  Select session by cursor or by Sel  |      Command   ===>
  ===>                                |
                                      |      Enter an 'S' before each option
  PF3:Exit  PF7:Bwd  PF8:Fwd          |             -Nomail          -Nonotic
F16=BORD F17=OPEN F18=CLO F19=MOVE F20=ACTN F21=SIZE F22=ZOOM F23=ACT F24=ROTA
```

By placing the cursor on the screen where you want to open a window and pressing PF17, another window can be opened. This is a very small window in the bottom right-hand corner.

```
Dmsgs  Listw  Setup  Detail Offset  Zoom  Rotate Close   Hide   Help   EXIT
       User: user     Terminal: SØ5TVVØ1 Auth: 9 Script: XWINDO
  Session Manager                 Ope | ------------------------------ TSO
  LU   SO5TVVO1                       |
     Sel Applid   Node     Description|
     --- ------   ----     -----------|      Enter LOGON parameters below:
       1 SO9TSO            TSO        |
       2 CICSB             CICS PROD  |      Userid    ===> MSK1
       3 CICSA             CICS TEST  |
                                      |      Password  ===>
                                      |
                                      |      Procedure ===> TSO
                                      |
                                      |      Acct Nmbr ===> ACCT
                                      |
                                      |      Size      ===> 4096
                                      |
                                      |      Perform   ===>
                                      |      ------------------------- >+
  Select session by cursor or by Sel  |  Session Manager                 Ope
  ===>                                |  LU   SØ5TVVØ1
                                      |    Sel Applid   Node     Description
  PF3:Exit  PF7:Bwd  PF8:Fwd          |    --- ------   ----     -----------
F16=BORD F17=OPEN F18=CLO F19=MOVE F2Ø=ACTN F21=SIZE F22=ZOOM F23=ACT F24=ROTA
```

The window can be moved by placing the cursor at the desired position and pressing the F19 key.

```
Dmsgs  Listw  Setup  Detail Offset  Zoom  Rotate Close   Hide   Help   EXIT
       User: user     Terminal: SØ5TVVØ1 Auth: 9 Script: XWINDO
  Session Manager                 Ope | ------------------------------ TSO
  LU   SO5TVVO1                       |
     Sel Applid   Node     Description|
     --- ------   ----     -----------|      Enter LOGON parameters below:
       1 SO9TSO            TSO        |
       2 CICSB             CICS PROD  |      Userid    ===> MSK1
       3 CICSA             CICS TEST  |
                                      |      Password  ===>
                                      |
                                      |      Procedure ===> TSO
                                      |
                                      |      Acct Nmbr ===> ACCT
                                      |       ------------------------- >+
                                      |  Session Manager                 Ope
                                      |  LU   SØ5TVVØ1
                                      |    Sel Applid   Node     Description
                                      |    --- ------   ----     -----------
  Select session by cursor o          |
  ===>                                |
                                      |      Enter an 'S' before each option
  PF3:Exit  PF7:Bwd  PF8:Fwd          |            -Nomail         -Nonotic
F16=BORD F17=OPEN F18=CLO F19=MOVE F2Ø=ACTN F21=SIZE F22=ZOOM F23=ACT F24=ROTA
```

The size of the window can be increased by placing the cursor at the desired position and pressing the F21 key.

```
Dmsgs  Listw  Setup  Detail Offset  Zoom  Rotate Close   Hide   Help   EXIT
       User: user     Terminal: SØ5TVVØ1 Auth: 9 Script: XWINDO
  Session Manager                 Ope | ------------------------------ TSO
  LU   SØ5TVVØ1                       |
     Sel Applid   Node     Description|
     --- ------   ----     -----------|      Enter LOGON parameters below:
       1 SØ9TSO            TSO        |
       2 CICSB             CICS PROD  |     Userid    ===> MSK1
       3 CICSA             CICS TEST  |
                      .      ---------------------------------- >+   .
                        Session Manager                 Open Windo
                        LU   SØ5TVVØ1
                           Sel Applid   Node     Description
                           --- ------   ----     -----------

                        Select session by cursor or by Sel number
                        ===>
                                      |
                                      |
  Select session by cursor or by Sel  |     Command   ===>
  ===>                                |
                                      |      Enter an 'S' before each option
  PF3:Exit  PF7:Bwd  PF8:Fwd          |           -Nomail         -Nonotic
F16=BORD F17=OPEN F18=CLO F19=MOVE F20=ACTN F21=SIZE F22=ZOOM F23=ACT F24=ROTA
```

The size can be decreased in a similar way. In the sample screen above, r20 has been typed into the border of the active window. When the F20 key is pressed, the window will scroll 20 columns to the right.

A different window can be activated by placing the cursor anywhere in the desired window and pressing the F23 key. A window can be closed by pressing F18 and all windows can be exited by selecting the Exit action button. This returns to the menu. The sessions that were started in the various windows remain active and highlighted.

The preceding window samples are just a simple demonstration of how the Windows feature can be used.

Windows and window control areas – the difference

A window contains a session, a panel, or a text string. It can show a Menu screen, or the forward session to an application. Because only one session can be available for input at any one time, only one window can be active at one time.

A window control area, sometimes referred to as a WCA, is a special type of window which is always active. It can be used for such things as general action bars and status information, but can never contain a forward session to an application.

Windows action bars

The supplied Window scripts contain action bars that appear at the top of the screen. These can be used to manipulate the Windows environment and can be actioned by positioning the cursor on them (using the cursor movement keys) and pressing Enter. They perform the following tasks:

Dmsgs	Informs you of any broadcasts or messages that have been sent to you since signon.
Listw	Provides information on all windows that are open.

Setup	Lists the available PF keys that can be used in this windows environment, and allows you to save your windows configuration, or reload different configurations.
Detail	If toggled on, this provides information on the second and last lines of the display about the current user, the name of the Window script currently executing, and PF key settings. Otherwise, this information is suppressed.
Offset	Repositions a window on the screen.
Zoom	Makes the active window full size on the screen.
Rotate	Makes each open window in turn the active window.
Close	Closes the active window.
Hide	Hides the active window. (XWINDO only).
Help	Displays help for the Windows environment.
EXIT	Exits the Windows environment.

Scrolling a window

How to alter the offset

If a screen display cannot fit in a window, the window can be scrolled to see more of the display. The method of scrolling depends on how the scroll function of the Windows feature has been implemented.

Usually the WSCROLL window verb is assigned to a PF key in a Window script. When a value is entered in the command area for the window being moved, and the PF key is pressed, the Window script uses the value to do the move. The values might be:

```
lnn - which means scroll left     (WSCROLL HORIZONTAL -nn)
rnn -             scroll right    (WSCROLL HORIZONTAL +nn)
unn -             scroll up       (WSCROLL VERTICAL -nn)
dnn -             scroll down     (WSCROLL VERTICAL +nn)
```

This is just an example. The WSCROLL verbs shown in parentheses are the script interpretations of the values entered in the command area.

Alternatively the Offset bar at the top of the screen can be selected. This will present a window control area containing prompts for the new offset for the active window.

Restrictions to scrolling

A window cannot scroll beyond the limits of the session screen size. For example, if a session or message panel is 80 bytes wide and the window is 60 bytes wide, the top left-hand corner of the session image would initially appear in the window. From this position, the window cannot be scrolled to the left, but it could be scrolled 20 positions to the right in order to display positions 61 to 80 of the session image. The same is true with scrolling vertically.

If the width of the image is smaller than the window width, then no horizontal scrolling is allowed. Similarly, if the depth of the image is shorter than the depth of the window, no vertical scrolling is allowed.

Note that a message created using the WINTEXT parameter is always regarded as having a width of 80 bytes and depth of 24 lines.

Internal sessions in Windows feature

It is possible to action the following commands from within a window:

SPY, VIEW, QUERY, QTASK, DLOG, HELP, TTPSL display commands, and SEND display commands.

This can be done by entering the command in the command line of any window displaying the Menu. The window content is replaced by the output from the command.

If the command fails for any reason, for example, BILL types `SPY U FRED` and FRED has `SPY TELL ON` and rejects the spy session, BILL receives a broadcast (handled by windows in the normal way) to say why the spy has been rejected. In the case of QUERY, QTASK, HELP, TTPSL and DLOG, if a user has a session in windows and types another QUERY, DLOG, and so on, command (either in or outside windows), a new display is created. So, for example, two different parts of a DLOG output can be compared simultaneously in windows.

Note SEND display command output is not sensitive to the window size.

Window messages

The Windows scripts issue messages that appear in the window border if an error condition is detected. Descriptions of these error messages are provided in the *Panels, Scripts and Variables* manual and in the online help for Windows.

Summary

The following commands, parameters and variables are required for the Windows feature.

Feature, command, parameter or variable	Description
Windows Feature	This feature must be enabled on the system for Session Manager Windows to be used.
WINDSCRIPT parameter	Specifies the script to be run when the WINDOWS command is entered. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements. The script name specified must appear on a SCRIPT statement.
WINDOWS command	Invokes a Windows script. When entered with no operands, the default Windows script defined for the user is used. Another script name can be entered to invoke a different script, providing the script is defined on a SCRIPT statement.
Windows verbs	There are numerous Window script parameters available for defining Windows Scripts. See the *Panels, Scripts and Variables* manual for details of these.
Windows variables	These are described in the *Panels, Scripts and Variables* manual.

See also 'Actions available from Session Manager Windows environment' below.

Actions available from Session Manager Windows environment

To	Do this
Start Windows	Enter WINDOWS command and optionally specify a Windows script name.
Open another window.	Position cursor on the active window border and press PF17.
Close the active window.	Position cursor on active window and press PF18, or enter 'C' in the border input area, or use the CLOSE action bar
Start a session in the active window.	Place cursor next to the required session in the Menu window and press Enter.
Activate an open window.	Position cursor on the border of the required window and press PF23

To	Do this
Move a window. (XWINDO script only)	Position cursor on the OFFSET action bar and enter an offset value in the pull-down box. Position cursor where the window is to be moved to and press PF19.
Zoom a window.	Position cursor on the border and press PF22, or enter 'Z' in the border input area and press PF20, or use the ZOOM action bar.
Unzoom a window.	Press PF22.
Rotate the active window	Position cursor on ROTATE action bar, or use PF24.
Resize a window (XWINDO script only)	Position cursor and press PF21, or enter 'S' in the border input area.
Hide a window (XWINDO script only)	Enter 'H' in border input area, or use HIDE action bar.
Redisplay hidden window. (XWINDO script only)	Position cursor on HIDE action bar and press Enter. Enter password at the prompt.
Turn borders off and on (XWINDO script only)	Position cursor on border and press PF16, or enter 'B' in border input area. Use PF16 to switch border back on.
Obtain Help for the Session Manager Windows environment	Position cursor on HELP action bar and press Enter.
Exit the Session Manager Windows environment.	Position cursor on EXIT action bar and press Enter, or press PF3 when only the Windows Control Area and the Menu window are displayed.

CHAPTER 16

The Push-Pull facility

The Push-Pull Facility enables screen images to be saved in storage for later reference. Each user may save screens up to an individually defined maximum and may only reference their own saved screens. All the saved images are deleted when a user logs off from IBM Session Manager for z/OS, but the Hardcopy facility can be used to obtain a permanent copy when required. See 'The Hardcopy facility' on page 105 for details of the Hardcopy facility.

Overview

Screen images may be saved or recalled from within an application, or, while in Spy, View or Replay mode. The images are saved temporarily for rapid retrieval later. For example, a CICS user frequently referring to one part of another CICS transaction, or a Help Information screen, might save time and effort by saving the highly referenced screen.

When a terminal is in Spy, View or Replay mode, a user may find it helpful to take a copy of a certain screen image for later reference. This can be particularly useful to Technical Programmers or Help Desk staff who are called upon to investigate users' problems, such as CICS transaction abends. The screens which might aid problem diagnosis are easily saved.

Operating push and pull

A screen may be saved by using a command sequence or a command key, depending on the PUSH parameter definition. For recalling a screen, the Push-Pull Index may be selected from the Menu display or may be directly referenced from within an application, while spying, viewing or replaying, using either a command sequence or a command key, depending on the PULL parameter definition.

Each screen image is identified by a number in addition to a twenty character descriptor, which may be user supplied, or if not, defaults to the date and time. Session Manager allocates a PF key to each screen as it is pushed. That key can then be used to select a screen image directly, either on entering, or when already in Pull mode. The number of currently saved images may be displayed on the Menu screen.

Parameters

The SYSTEM statement PUSH and PULL parameters generate support for this facility for all users, unless the statement specifies PUSHLIMIT 0, thereby suppressing the facility. More selective support may be generated by specifying PUSH and PULL on individual PROFILE, USER and TERMINAL statements rather than on the SYSTEM statement.

Storage implications

Each saved screen occupies approximately 2K of Session Manager free storage, so monitoring storage using the Q STOR command may be advisable initially. Should lack of storage become a consideration, the PUSHLIMIT parameter can be used to restrict the number of saved screens. This might be especially useful in environments where screens are often saved, but not deleted. If storage is not a consideration and this facility is to be used frequently, it may be necessary to increase the size of the Session Manager storage allocation.

Using the Push-Pull facility

Saving a screen

A screen may be saved by using a command sequence or a command key, depending on the PUSH parameter definition.

When a command sequence is defined, either Enter or a PF key may be pressed once the command is keyed. If Enter is used, the screen image is placed in the next available slot. If a PF key is used, the screen image is placed in the slot identified by the PF key number, even when it is already occupied. If already occupied, the original contents are overwritten.

If the PUSH screen command is defined as a key, a screen may be saved by pressing the defined key, and the screen image is placed in the next available slot, since no provision is made for identifying a particular slot.

Whichever method is used, the twenty characters starting from the cursor position are taken as the descriptor for the screen image. They may be part of the original display, or may be keyed in. If all twenty characters are blank, Session Manager uses the date and time as a descriptor.

Recalling a screen image

The Push-Pull Index may be selected from the Menu display or may be directly referenced from within an application, or while spying, viewing or replaying, using either a command sequence or a command key, depending on the PULL parameter definition.

When a command key is defined, pressing it at any time displays the Index. The key should be chosen with care since it will not be available to any of the systems accessed through Session Manager. When a command sequence is keyed, either Enter or a PF key may be pressed. Pressing Enter causes the Index to be displayed. Pressing a PF key recalls directly the screen image saved in the slot identified by the PF key number, and the Index is bypassed.

The Index display identifies the saved screen images with numbers, in addition to the twenty-character descriptors. From the Index, the screen images may be paged forwards or backwards using the PA1 and PA2 keys respectively.

If preferred, a particular screen image can be selected from the Index by keying the relevant slot number and pressing Enter, by simply pressing the associated PF key, or by entering the PULL command together with the number of the screen image that is to be viewed.

When displaying a recalled screen, Enter causes a return either to the Index display or to the current session. The RETURN operand of the PULL command can be used to specify whether the Index display is to be shown or suppressed when Enter is keyed. The default is to display the Index.

Summary

The following commands, parameters and variables are required for this facility.

Command, parameter or variable	Description
PUSH parameter	Defines a command key or command sequence to be used to save screens. May be entered on SYSTEM, PROFILE, USER and TERMINAL statements. See also t_push.
t_push variable	PUSH command sequence. May be defined on the Menu panel to enable it to be dynamically modified.
PUSHLIMIT parameter	Specifies the maximum number of screens that each user can have saved at any one time. May be entered on SYSTEM, PROFILE, USER and TERMINAL statements.
PULL parameter	Defines a command key or command sequence to be used to recall saved screens. May be entered on SYSTEM, PROFILE, USER and TERMINAL statements. See also t_pull.
t_pull variable	PULL command sequence. May be defined on the Menu panel to enable it to be dynamically modified.
PULL command	Can be used to recall a specified saved screen and control whether the Index is displayed on exiting from a saved screen.

See also ‘Push-Pull actions available’ below.

Push-Pull actions available

Options available to save a screen

These options are available to save a screen:

To	Do this
Save a screen image in next available slot in the Index.	Press PUSH command key, or sequence.
Save a screen image in a particular PF key slot in the Index.	Key the command sequence and press PF key.

Options available when recalling a screen

These options are available when recalling a screen:

To	Do this
Display the Index of saved screens.	Press `PULL` command key, or enter command sequence.
Display a saved screen directly.	Key `PULL` command sequence and press PF key assigned to screen.
Page backwards and forwards in the Index.	Press PA1 and PA2.
Select a screen image from the Index.	Key the screen number and press Enter, or `PULL` and screen number.
Suppress return to the Index.	Enter `PULL RETURN NO`.
Exit from the Index.	Press Enter.

Options available while viewing a screen

These options are available while viewing a screen:

To	Do this
Switch to another screen image when displaying a pulled screen image.	Press the relevant PF key.
Page backwards and forwards through your saved screens.	Press PA1 and PA2 keys.
Take a hardcopy of a pulled screen image.	Enter the Hardcopy command sequence.
Delete the currently displayed screen image.	Press Clear.
Exit from the currently displayed screen image.	Press Enter.
Exit from the Index	Press Enter.

CHAPTER 17

The Cut and Paste facility

The Cut and Paste facility enables data in one session to be copied into another session, or the same session, without the original source data being altered in any way. The data that is cut is not deleted from the original screen.

The following description assumes that the default cut and paste request sequence is used. The request sequence can be defined on the SYSTEM, PROFILE, USER and TERMINAL statements. Refer to the *Technical Reference* manual for detailed descriptions of the CUT and PASTE parameters.

Use of DBCS data

If you are using Double-Byte Character Sets (DBCS) data in messages, panels or application data then, if you try to use CUT and PASTE on any data that contains DBCS data, an error message will be issued informing you that this function is not valid on this type of data.

Cutting text

The cut request sequence (default *c) should be entered in the command area of the source screen. A copy of the original source screen is displayed with a prompt to mark the area that is to be cut. Only rectangles can be cut.

Commands to mark the area can be entered in the command area or can be assigned to PF keys. The required commands are NW or CUTSTART to mark the top left-hand corner of the cut area and SE or CUTEND to mark the bottom right-hand corner of the cut area. If these commands are assigned to PF keys, marking is much easier. Simply position the cursor at the required place and press the PF key assigned as NW/CUTSTART, position the cursor again and press the PF key assigned as SE/CUTEND.

To mark using the command area, type the NW command in the command area, position the cursor at the top left-hand corner of the cut area and press Enter. Then type the SE command in the command area, position the cursor in the required position and press Enter.

Pasting text

Once a cut has been performed, the data can be pasted. This can be done by transferring to the target session, and entering the paste request sequence (the default is *p). A copy of the target session is then displayed. The user should now mark the position where the data is to be pasted. This is done by positioning the cursor where the top left-hand corner of the rectangle should be positioned.

When the PF key assigned as NW or PASTESTART is pressed, the data is pasted onto the screen. If the placement of the data is correct, the PF key assigned as CONFIRM should be pressed to confirm the paste operation. Once this is done the data is added to the session. Alternatively, the PF key assigned as QUIT can be pressed and the paste operation is cancelled.

The cut data is kept until a subsequent cut operation is performed. This means that the cut data can be pasted several times.

Cut and paste example

The following example shows data being cut from a CICS session and pasted into a TSO session. Below is the CICS screen as shown in the CICS session, and with the cut request sequence *c entered in the last field.

```
Screen 6/6                    DEMO TRANSACTION

         Julian Date Conversion screen.




         Day                 ===> 16

         Month               ===> 09

         Year                ===> 91

         ----------------------------

         Julian              ===> 259

                             Monday

       Hit PF3 to Exit.
       Hit PF7 for previous screen
       Hit PF23 for Help.                                          > *c
```

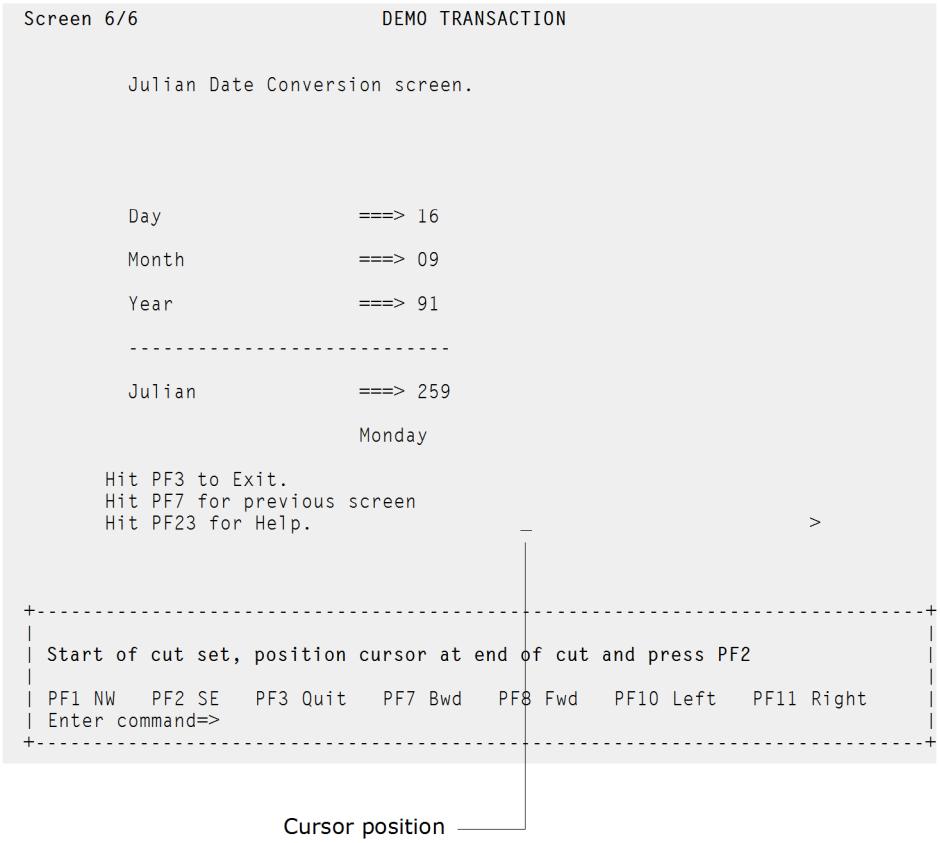
My cut request sequence

In this example the cut request sequence has been entered and Session Manager has displayed the Cut panel. The panel shows a prompt to mark the top left-hand corner (North West) of the area to be cut, by positioning the cursor and pressing PF1. The cursor is in row 1, column 2.

```
_Screen 6/6                     DEMO TRANSACTION

         Julian Date Conversion screen.




         Day                 ===> 16

         Month               ===> 09

         Year                ===> 91

         ---------------------------

         Julian              ===> 259

                             Monday

       Hit PF3 to Exit.
       Hit PF7 for previous screen
       Hit PF23 for Help.                                          >


+-------------------------------------------------------------------------------+
|                                                                               |
| Position cursor at start of cut and press PF1                                 |
|                                                                               |
| PF1 NW   PF2 SE   PF3 Quit   PF7 Bwd   PF8 Fwd   PF10 Left   PF11 Right       |
| Enter command=>                                                               |
+-------------------------------------------------------------------------------+
```

Note Column 1 on each line is occupied by an attribute byte and is not considered part of the 'cuttable' area. If an attempt is made to cut from column 1, an error message Cut Request Not Within Panel Limits is issued.

The Cut panel now prompts for the bottom right-hand corner to be specified. This defines the rectangle that will be cut.



This is the target TSO session where the paste will be performed, and the paste request sequence is entered in the command area.

```
EDIT ---- EPG.BIZZOS(EXAMPLE) - Ø1.ØØ ------------------------ COLUMNS ØØ1 Ø72
 COMMAND ===>  *p <--- My paste request sequence.          SCROLL ===> CSR
****** ***************************** TOP OF DATA ***************
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
****** **************************** BOTTOM OF DATA *************
```

The paste request sequence has been entered. The user is prompted to position the cursor at the point where the data is to be pasted. This marks the top left-hand corner of the data. Pressing PF1 now inserts the data into the session.

```
EDIT ---- EPG.BIZZOS(EXAMPLE) - 01.00 ---------------------- COLUMNS 001 072
 COMMAND ===>                                                SCROLL ===> CSR
 ****** ***************************** TOP OF DATA ******************
 ''''''  _    <- cursor position
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
+-------------------------------------------------------------------------------+
|                                                                               |
|  Position cursor at paste point and press pf1                                 |
|                                                                               |
| PF1 Paste  PF3 Quit  PF4 Confirm  PF7 Bwd  PF8 Fwd  PF10 Left  PF11 Right     |
|   Enter command=>                                                             |
+-------------------------------------------------------------------------------+
```

This example shows the Paste panel after the PF1 key has been pressed, and the data inserted. The data is not entered into the application itself; to do this the confirm paste key (PF4) must be pressed.

```
EDIT ---- EPG.BIZZOS(EXAMPLE) - 01.00 ----------------------- COLUMNS 001 072
 COMMAND ===>                                                 SCROLL ===> CSR
 ****** ***************************** TOP OF DATA ******************
 ''''''  Screen 6/6                DEMO TRANSACTION
 ''''''
 ''''''
 ''''''           Julian Date Conversion screen.
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''           Day                  ===> 16
 ''''''
 ''''''           Month                ===> 09
 ''''''
 ''''''           Year                 ===> 91
 ''''''
 ''''''           ----------------------------
 ''''''
 ''''''           Julian               ===> 259
 ''''''
 ''''''                                Monday
 ''''''
 ''''''         Hit PF3 to Exit.
 ''''''         Hit PF7 for previous screen
 ''''''         Hit PF23 for Help.
 ''''''
 ''''''
 ''''''
 ''''''
 ''''''
+-------------------------------------------------------------------------------+
|                                                                               |
| Press PF1 to repeat paste, PF4 to confirm or PF3 to quit                      |
|                                                                               |
| PF1 Paste  PF3 Quit  PF4 Confirm  PF7 Bwd  PF8 Fwd  PF10 Left  PF11 Right     |
|   Enter command=>                                                             |
+-------------------------------------------------------------------------------+
```

The paste request has been confirmed and the data placed in the application.

```
EDIT ---- EPG.BIZZOS(EXAMPLE) - 01.00 ---------------------- COLUMNS 001 072
COMMAND ===>                                                 SCROLL ===> CSR
****** ***************************** TOP OF DATA ***************
''''''  Screen 6/6                 DEMO TRANSACTION
''''''
''''''
''''''           Julian Date Conversion screen.
''''''
''''''
''''''
''''''
''''''
''''''           Day                  ===> 16
''''''
''''''           Month                ===> 09
''''''
''''''           Year                 ===> 91
''''''
''''''           ---------------------------
''''''
''''''           Julian               ===> 259
''''''
''''''                                Monday
''''''
''''''         Hit PF3 to Exit.
''''''         Hit PF7 for previous screen.
''''''         Hit PF23 for Help.
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
''''''
****** **************************** BOTTOM OF DATA *************
```

Scrolling

The following commands are provided on the Cut and Paste instruction box to enable scrolling: RIGHT, LEFT, BWD, FWD.

1. Scrolling down, the FWD command, enables data covered by the Cut instruction box to be cut. This does not normally present a problem in paste operations, unless the top left-hand corner of the paste is under the box. In this case, scrolling down can be used again.
2. Scrolling right, the RIGHT command, is sometimes required as the attribute byte used in column 1 of the cut/paste panel pushes the copy of the original screen one character to the right, thereby pushing the rightmost character of each line off the screen. If the right-hand column is to be used in a cut, use the RIGHT command to bring it into view.

Cut and paste rules

When a Cut or Paste request is issued, a copy of the current screen is shown without any attribute characters. This is done because only the data can be cut, not the attributes.

When a field is cut, any data in a non-display field is neither cut nor displayed. During a Paste operation, a message is displayed if any attempt is made to paste over a protected field, or the data does not fit onto the screen when SPILLW YES or ON is specified in the configuration file.

Summary

The following commands, parameters and variables are required for the Cut and Paste feature.

Feature, command, parameter or variable	Description
Cut and Paste feature	This feature must be enabled on the system before Cut and Paste can be used.
CUT parameter	Defines the command sequence to invoke the Cut operation. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements. See also t_cut.
t_cut variable	Contains the cut command sequence. May be defined on the Menu panel to enable it to be dynamically modified.
PASTE parameter	Defines the command sequence to invoke the Paste operation. May be entered on the SYSTEM, PROFILE, USER and TERMINAL statements. See also t_paste.
t_paste variable	Contains the Paste command sequence. May be defined on the Menu panel to enable it to be dynamically modified.
NW command CUTSTART command PASTESTART command	Used to defined the north-west corner of the cut or paste area, that is, the top left-hand corner. Default authorization level 1.
SE command CUTEND command	Used to define the south-east corner of the cut area, that is, the bottom right-hand corner. Default authorization level 1.
CONFIRM command	Used to confirm that a paste operation is to be performed to the selected session.

CHAPTER 18

Large screen format

IBM Session Manager for z/OS is capable of supporting a variety of screen sizes. The largest screen size that Session Manager can support is 90x142.

Your emulation software may also need some modifications to its configuration settings. For example, for a 90x142 screen using IBM's PCOM version 5.9 the following parameters need to be configured in the `PCOM.WS` file:

```
[Telnet3270]
SendBufferSize=30000

[3270]
ScreenSize=90x142
```

CHAPTER 19

Main menu and non-visible sessions

It is possible to define your system so that when a user signs on and is presented with their main menu they may not see all the sessions that have been defined for that user. Sessions can be defined on the USER statement (TERMINAL statement if SIGNON NO is in effect) and/or on the PROFILE statement(s) associated with the user. This chapter explains why some of these defined sessions are not visible on the user's main menu.

Overview

There are several reasons why a session is not visible, as follows:

- HIDE parameter setting
- DROP_SESSION parameter setting
- CONCEAL parameter setting
- Duplicate session numbers
- Dynamic Menus and External Security (ESM)
- SESTYPE parameter setting

HIDE

A session can be hidden by setting the Common Session parameter HIDE to YES.

A session's HIDE value will be modified by the supplied exit ISZE22DM. See 'Dynamic Menus and External Security (ESM)' below.

See the *Technical Reference* manual for further details on the HIDE parameter.

DROP_SESSION

A session can be dropped by setting the Common Session parameter DROP_SESSION to YES.

A session's DROP_SESSION value will be modified by the supplied exit ISZE22DM. See 'Dynamic Menus and External Security (ESM)' below.

See the *Technical Reference* manual for further details on the DROP_SESSION parameter.

CONCEAL

A session can be concealed by setting the Common Session parameter CONCEAL to YES. A session can also be concealed by issuing the CONCEAL command on the main menu. The REVEAL command will reveal any previously concealed sessions.

See the *Technical Reference* manual for further details on the CONCEAL parameter and the CONCEAL and REVEAL commands.

Duplicate session numbers

As described above, a user may have some sessions defined on the USER (or TERMINAL) statement, and others defined on one or more PROFILE statements. It is possible, therefore, that one or more of these sessions may share the same session number.

The main menu will only display one of these duplicate sessions and discard the remaining duplicate sessions. However these discarded duplicate sessions may be made visible by setting the USER statement parameter RENUMDUP. The RENUMDUP parameter allows the user to specify a starting number *nnnn* for renumbering any duplicate sessions encountered during display on the main menu.

See the *Technical Reference* manual for further details on the RENUMDUP parameter.

Dynamic Menus and External Security (ESM)

Session Manager menus for particular users can be configured dynamically from access rules specified using the Installation's External Security Manager (ESM).

The Dynamic Menus facility is provided using an ISZE22DM (signon completion) user exit. The supplied user exit, ISZE22DM (in library .SISZCONF), performs security checks against each session and builds a list of Session Manager sessions that are available to the user. It makes use of the SYSTEM SECURITY parameter DYNMDROPSESSION to determine whether to drop or to hide a session in the event that the ESM has denied access to the session.

Note The ISZE21SF (signon validation) user exit is also required. The purpose of this user exit is to authenticate users and set some of their Session Manager capabilities using an Installation's external security system.

See the *Technical Reference* manual for further details on the SECURITY, HIDE and DROP_SESSION parameters. See the *Installation and Customization* manual for manual for more comprehensive details on the defining security and implementing dynamic menus and the ISZE21SF and ISZE22DM exits.

SESTYPE

A user may have multiple sessions defined with the same application (possibly on different statements), but may only want to see one session for each application displayed on their main menu.

Setting the Common Session parameter SESTYPE to the same value for these sets of multiple sessions for the same application will cause the main menu to only display one session from the set.

If the Common Session parameter SESTYPE is set to a value on the APPL statement then automatically only one session that references that APPL will be displayed on a user's main menu.

See the *Technical Reference* manual for further details on the SESTYPE parameter.

OLA and the session 'User View'

For OLA systems the session 'User View' within the OLA facility will display a list of sessions that replicates a user's main menu showing which sessions will be visible.

See the *Online and Batch Administration* manual for further details.

CHAPTER 20

Using PC File Transfer

The PC file Transfer process uses an exchange of data between the 3270 emulator and the host application (typically TSO) to effect transfer of files between the PC and the mainframe. This exchange follows a rigid protocol. As part of normal operations (and depending on various parameters), Session Manager might alter data streams to minimize the amount of data flowing on a session, and perform additional communications with the terminal to maintain an image of the 3270 buffer. While a file transfer is in progress, the data exchange must be allowed to proceed without alteration.

Originally, the PCTRANSFER parameter and PCTRANSFER command were introduced to enable Session Manager to recognize that data streams between the host application and the terminal should not be modified. Use of this original method is not recommended.

Now, a more user-friendly, automated, method is available, which should be used instead. Using this method, Session Manager can recognize the start and end of the file transfer process, automatically disable data stream modification at the start, and enable data stream modification at the end. To achieve this, code an SAUTOSEQ parameter (typically on the SYSTEM statement):

```
SAUTOSEQ IND$FILE N PCTRAN2 PASS NOCURESC
```

Notes

1. Session Manager supplies this definition as part of the install.
2. The character preceding FILE in IND$FILE represents the national currency symbol and its appearance depends on your location (that is, keyboard settings). For example, in the United States, the character will usually appear as $ (that is, IND$FILE); in the United Kingdom, the character will usually appear as £ (that is, IND£FILE).

With this definition in place, Session Manager will recognize the start of a PC file transfer (by detecting IND$FILE in the data stream from the terminal), and start a script, PCTRAN2, on the session. This script disables data stream modification and allows the file transfer to proceed, while monitoring the application output to determine the end of the file transfer. When the end is detected, the script enables data stream modification and terminates.

Script PCTRAN2 is supplied as part of the Session Manager install, along with two other scripts, PCTRAN3 and GOPCTRAN. You should choose which script to use based on the following:

PCTRAN2	Is used in a TSO/ISPF environment where ISPF option 6 (ISPF Command Shell) has been selected before performing the file transfer.
PCTRAN3	Similar to PCTRAN2, except that it has additional functionality to be compatible with BMC's InTune product.
GOPCTRAN	Is used for VM file transfer.

Index

L

M

N

O

P

Q

R

S

T

V

W

Bibliography

IBM Session Manager library

The following publications contain information about IBM Session Manager.

Installation and Customization	GC34-2804-00
Technical Reference	SC34-2805-00
User and Administrator	SC34-2808-00
Panels, Scripts and Variables	SC34-2806-00
Messages and Codes	GC34-2810-00
Quick Reference	SC34-2809-00
Online and Batch Administration	SC34-2807-00
Program Directory	GI13-0585-00

Accessibility

Accessibility for people with disabilities

The following features make it easier for disabled people to use Session Manager:

- Operation by keyboard alone
- Optional font enlargement
- High-contrast display settings
- Can be used with screen readers
- Absence of audio prompts.

Changing font, color and display settings

Session Manager can be controlled using a 3270 emulator such as IBM Personal Communications or Hummingbird HostExplorer. Refer to the emulator documentation for guidance on adjusting font and color settings.

Using Session Manager with a screen reader

Screen readers can be used to provide accessible output for blind users. Session Manager has been tested with the following screen readers:

- Jaws version 4.5, using Hummingbird HostExplorer and the script file for Hummingbird HostExplorer
- WindowEyes 4.2, using Hummingbird HostExplorer and the set file for Hummingbird HostExplorer.

Contact the screen reader manufacturer for information about the availability of set and script files.

Documentation

Softcopy PDF documentation is shipped with Session Manager. The documentation supports optional font enlargement, high-contrast display settings, and may be operated by the keyboard alone.

Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
1623-14, Shimotsuruma, Yamato-shi
Kanagawa 242-8502 Japan

The following paragraph does not apply in the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact IBM United Kingdom Laboratories, MP151, Hursley Park, Winchester, Hampshire, England, SO21 2JN. Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Programming License Agreement, or any equivalent agreement between us.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at 'Copyright and trademark information' at www.ibm.com/legal/copytrade.shtml.

Sending your comments to IBM

If you especially like or dislike anything about this book, please use one of the methods listed below to send your comments to IBM.

Feel free to comment on what you regard as specific errors or omissions, and on the accuracy, organization, subject matter, or completeness of this book.

Please limit your comments to the information in this book and the way in which the information is presented.

To ask questions, make comments about the functions of IBM products or systems, or to request additional publications, contact your IBM representative or your IBM authorized remarketer.

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate, without incurring any obligation to you.

You can send your comments to IBM in any of the following ways:

- By mail, to this address:

  User Technologies Department (MP095)
  IBM United Kingdom Laboratories
  Hursley Park
  WINCHESTER,
  Hampshire
  SO21 2JN
  United Kingdom

- By fax:
  - From outside the U.K., after your international access code use 44–1962–816151
  - From within the U.K., use 01962–816151
- Electronically, use the appropriate network ID:
  - IBM Mail Exchange: GBIBM2Q9 at IBMMAIL
  - IBMLink: HURSLEY(IDRCF)
  - Internet: idrcf@hursley.ibm.com

Whichever you use, ensure that you include:

- The publication title and order number
- The topic to which your comment applies
- Your name and address/telephone number/fax number/network ID.

SC34-2808-00