

# CA IPC

## Implementation Guide for z/OS

Version 14.02



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## CA Technologies Product References

This document references the following CA Technologies products:

- CA Datacom®/DB
- CA Dataquery™ for CA Datacom® (CA Dataquery)
- CA Ideal™ for CA Datacom® (CA Ideal)
- CA eMAIL+
- CA MetaCOBOL+

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# Chapter 1: Introduction

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This guide contains information to help you set up CA IPC (CA Inter-Product Components) to meet your site requirements.

Each site has individual needs and requirements that must be met to optimize software performance. Many decisions must be made during or after installation of the CA IPC to let you tailor your installation to the needs of your site. These decisions range from choosing new default file names to defining options to meet the standards your environment. This guide contains information to help you customize your installation, maintain your system, and improve the performance of your system.

This section contains the following topics:

[The Components in CA IPC](#) (see page 9)

[Files Created During Installation](#) (see page 11)

[Reading Syntax Diagrams](#) (see page 12)

## The Components in CA IPC

This release of the CA IPC consists of the following individual components:

### **Virtual Library System (VLS)**

A library access method that stores panels, message members, control blocks, and user programs.

### **Virtual Processing Environment (VPE)**

A facility that lets CA products run independent of the environment.

### **Session Control Facility (SCF)**

A task dispatcher that provides a variety of high-level services that process menus and PF keys and handle commands.

### **Print Sub-System (PSS)**

A set of routines that provides system and network printing services for a variety of products.

### **Panel Management Services (PMS)**

A set of services that acquires, sends, receives, manages, and processes panels built using PDF and the fields contained in the panels.

### **Panel Definition Facility (PDF)**

A facility that builds the user panels and applications that PMS manages and processes at run-time.

### **Editor Kernel (EDK)**

A text editing facility.

While installing the CA IPC, you can customize the installation to match your site's requirements. However, your site might have customization requirements that the installation process does not provide or you might need additional customization after you finish the installation.

The information in the customization chapters of this guide lets you refine the customization of your system after installation is complete to:

- Change many SCF-based product options, such as the number of command lines or the maximum number of regions. See [How to Set SCF Site and Session Options](#) (see page 17).
- Modify the way print files at CA Ideal sites are managed or processed. See [How to Set PSS Site and Session Options](#) (see page 45).
- Avoid or resolve conflict between files that have the same name. For instructions on how to change the name of system files such as ADRLIB, ADRPNL, or ADROUT, see [How to Change Default File Names](#).
- Change static options, such as CA IPC program name prefixes. See [How to Modify the SCF Static Options](#) (see page 26).
- Avoid or resolve conflict between destination identifiers that have the same name. For instructions on how to change the name of ADRL or ADRT, see [How to Change Default Destination Identifiers](#) (see page 92).
- Describe files to VPE in a batch environment. See [How to Modify the VPE File Tables](#) (see page 93)
- Define products or components to SCF. See [How to Modify the SCF Transaction Table \(SC00TRAN\)](#) (see page 30).
- Respecify values such as the names and abbreviations of months and days or the conversion characters that translate special characters. See [Chapter 4](#): (see page 83).
- Tailor output to system printers. See [PSS Exit Routine](#) (see page 54).
- Set up a Terminal Owning Region (TOR) with multiple Application Owning Regions (AORs). See [How to Set Up SCF-based Products in an MRO Environment](#) (see page 36).

## Files Created During Installation

During the CA IPC installation, files were created to contain panels, message members, control blocks, and user programs that the CA IPC based products use. The following files were created for CA Datacom®/DB and CA Ideal™ for CA Datacom®.

### **ADRLIB**

A VLS library that contains the master jobcard, user jobcards, and all message text for the CA IPC and the CA IPC-based products. This file might eventually require expansion, depending on the number of user jobcards that are created.

### **ADRPNL**

A VLS library that contains the CA IPC and product system panels. This file also contains the option blocks that provide options for the CA IPC and some CA products. This file should never need expansion during the life of an installation.

### **ADRROUT**

A VLS library that contains the PSS spool output. This file might require expansion, depending on the amount of print output expected from CA Ideal and user-written CA Ideal programs.

### **ADRTRC**

A sequential file that contains the output of the CA IPC and CA Ideal internal trace facility. You can turn this facility on to store detailed information about CA IPC and CA Ideal internal processing to help CA Customer Support personnel diagnose problems. They will tell you how to turn on the trace facility when necessary. For more information about the trace facility under CA Ideal, refer to the *CA Ideal Problem Determination Guide*.

**Note:** In the z/OS CICS environment, this file is referred to by the DD name, ADRINT, when the CA Ideal program, @I\$TRACE print facility, reads the records for online printing.

### **ADRLOG**

A sequential library that contains the messages and codes generated during a run. This file is used for problem determination and resolution.

## Reading Syntax Diagrams

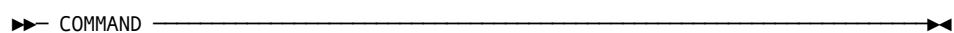
Syntax diagrams are used to illustrate the format of statements and some basic language elements. Read syntax diagrams from left to right and top to bottom.

The following terminology, symbols, and concepts are used in syntax diagrams:

- Keywords appear in uppercase letters, for example, COMMAND or PARM. These words must be entered exactly as shown.
- Variables appear in italicized lowercase letters, for example, *variable*.
- Required keywords and variables appear on a main line.
- Optional keywords and variables appear below a main line.
- Default keywords and variables appear above a main line.
- Double arrowheads pointing to the right indicate the beginning of a statement.
- Double arrowheads pointing to each other indicate the end of a statement.
- Single arrowheads pointing to the right indicate a portion of a statement, or that the statement continues in another diagram.
- Punctuation marks or arithmetic symbols that are shown with a keyword or variable must be entered as part of the statement or command. Punctuation marks and arithmetic symbols can include the following:
  - addition (+)
  - comma (,)
  - division (/)
  - equal sign (=)
  - greater than symbol (>)
  - less than symbol (<)
  - multiplication (\*)
  - not sign (¬)
  - parenthesis, close ())
  - parenthesis, open ((
  - period (.)
  - subtraction (-)

### Statement Without Parameters

The following is a diagram of a statement without parameters:



For this statement, you must write the following:

COMMAND

## Statement with Required Parameters

Required parameters appear on the same horizontal line, the main path of the diagram, as the command or statement. The parameters must be separated by one or more blanks.

►► COMMAND – PARM1 – PARM2 ◄◄

You must write the following:

COMMAND PARM1 PARM2

## Delimiters Around Parameters

Delimiters, such as parentheses, around parameters or clauses must be included.

►► COMMAND – (PARM1) – PARM2=*variable*' ◄◄

If the word *variable* is a valid entry, you must write the following:

COMMAND (PARM1) PARM2='variable'

## Choice of Required Parameters

When you see a vertical list of parameters as shown in the following example, you must choose one of the parameters. This indicates that one entry is required, and only one of the displayed parameters is allowed in the statement.

►► COMMAND — [ PARM1  
PARM2  
PARM3 ] ◄◄

You can choose one of the parameters from the vertical list, such as in the following examples:

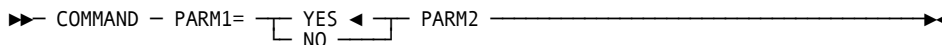
COMMAND PARM1

COMMAND PARM2

COMMAND PARM3

## Default Value for a Required Parameter

When a required parameter in a syntax diagram has a default value, the default value appears on the main line with a left-facing arrowhead, and it indicates the value for the parameter if the command is not specified. If you specify the command, you must code the parameter and specify one of the displayed values.

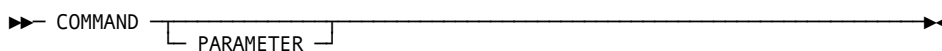


If you specify the command, you must write one of the following:

```
COMMAND PARM1=NO PARM2
COMMAND PARM1=YES PARM2
```

## Optional Parameter

A single optional parameter appears below the horizontal line that marks the main path.

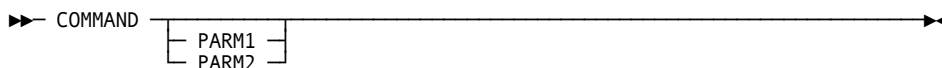


You can choose (or not) to use the optional parameter, as shown in the following examples:

```
COMMAND
COMMAND PARAMETER
```

## Choice of Optional Parameters

If you have a choice of more than one optional parameter, the parameters appear in a vertical list below the main path.

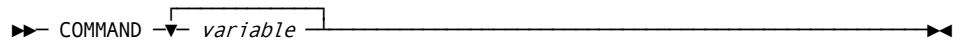


You can choose any of the parameters from the vertical list, or you can write the statement without an optional parameter, such as in the following examples:

```
COMMAND
COMMAND PARAM1
COMMAND PARAM2
```

## Repeatable Variable Parameter

In some statements, you can specify a single parameter more than once. A repeat symbol indicates that you can specify multiple parameters.

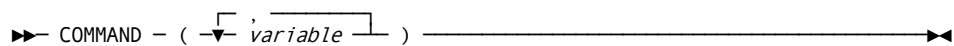


In the preceding diagram, the word *variable* is in lowercase italics, indicating that it is a value you supply, but it is also on the main path, which means that you are required to specify at least one entry. The repeat symbol indicates that you can specify a parameter more than once. Assume that you have three values named VALUEX, VALUEY, and VALUEZ for the variable. The following are some of the statements you might write:

```
COMMAND VALUEX
COMMAND VALUEX VALUEY
COMMAND VALUEX VALUEX VALUEZ
```

## Separator with Repeatable Variable and Delimiter

If the repeat symbol contains punctuation such as a comma, you must separate multiple parameters with the punctuation. The following diagram includes the repeat symbol, a comma, and parentheses:

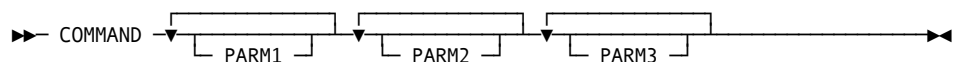


In the preceding diagram, the word *variable* is in lowercase italics, indicating that it is a value you supply. It is also on the main path, which means that you must specify at least one entry. The repeat symbol indicates that you can specify more than one variable and that you must separate the entries with commas. The parentheses indicate that the group of entries must be enclosed within parentheses. Assume that you have three values named VALUEA, VALUEB, and VALUEC for the variable. The following are some of the statements you can write:

```
COMMAND (VALUEC)
COMMAND (VALUEB, VALUEC)
COMMAND (VALUEB, VALUEA)
COMMAND (VALUEA, VALUEB, VALUEC)
```

## Optional Repeatable Parameters

The following diagram shows a list of parameters with the repeat symbol:

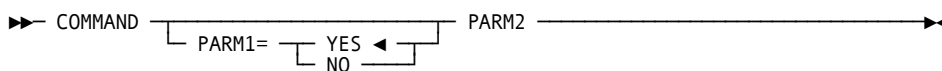


The following are some of the statements you can write:

```
COMMAND PARM1
COMMAND PARM1 PARM2 PARM3
COMMAND PARM1 PARM1 PARM3
```

## Default Value for a Parameter

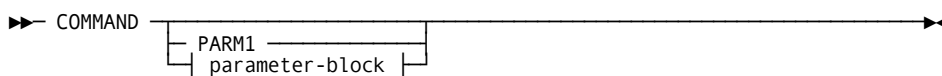
The placement of YES in the following diagram indicates that it is the default value for the parameter. If you do not include the parameter when you write the statement, the result is the same as if you had actually specified the parameter with the default value.



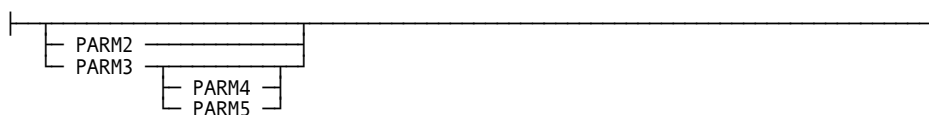
For this command, COMMAND PARM2 is the equivalent of COMMAND PARM1=YES PARM2.

## Variables Representing Several Parameters

In some syntax diagrams, a set of several parameters is represented by a single reference.



*Expansion of parameter-block*



The *parameter-block* can be displayed in a separate syntax diagram.

Choices you can make from this syntax diagram therefore include, but are not limited to, the following:

```
COMMAND PARM1
COMMAND PARM3
COMMAND PARM3 PARM4
```

**Note:** Before you can specify PARM4 or PARM5 in this command, you must specify PARM3.



# Chapter 2: Customizing the Session Control Facility (SCF) Component

---

This section contains the following topics:

[How to Set SCF Site and Session Options](#) (see page 17)

[How to Modify the SCF Static Options](#) (see page 26)

[How to Modify the SCF Transaction Table \(SC00TRAN\)](#) (see page 30)

[How to Set Up SCF-based Products in an MRO Environment](#) (see page 36)

[Enabling External Security for CA Ideal](#) (see page 40)

## How to Set SCF Site and Session Options

The Session Control Facility (SCF) has two interrelated sets of options that affect sessions that use SCF-based products:

- Set site defaults for SCF-based products. After the value of an SCF site option is changed, the new value is the default for every new session that uses an SCF-based product that shares the same ADRPNL panel library. Only someone with SCF administrator authorization can change an SCF site option.
- SCF session options are a subset of the SCF site options, but session options affect only an individual session. If you use an SCF-based product, you can specify values for SCF session options. The values you specify are only in effect during the life of your session.

If you want all of your sessions to have session option values that differ from site option defaults, you must either respecify your SCF session options each time you sign in to an SCF-based product or include commands that specify your SCF session option values in a member that is automatically executed each time you sign in to an SCF-based product.

## SCF Site Options Fill-in Panel

To change any of the SCF site options, sign in to IPCV (CA IPC verification transaction) or any SCF-based product and issue one of the following commands:

```
SET COMMAND SITE OPTIONS
```

Or

```
SET CMD SITE
```

This command retrieves the current set of SCF site option values from the SCF#OPTIONS member on the VLS library, ADRPNL, and displays them in the following panel:

```

=>
=>
=>
-----
IDEAL:  SCF option block          SCF#OPTIONS          FILL-IN
          Set SCF "site" options
Command "comment" character:      :
Command "delimiter" character:    ;
Command "repeat" character:       -
Command "reshow" character:       +
Number of command lines:          1      (0-5)
Decimal symbol:                   .      (. ,)
Currency symbol:                  $
Date format:                       A      (A, E, I)
Region separator:                  N      (N=none, G=grid, other=itself)
Asynchronous messages:            U      (U=User, N=None)
Command reshow?                    N      (Y/N)
UPPER CASE PANELS AND MESSAGES?  N      (Y/N)
Translate to uppercase in batch?  Y      (Y/N)
Maximum number of regions :        4      (1-4)
Maximum number of PF keys :        24     (0-48)
Maximum number of PA keys :        2      (0-4)
Size of the working buffer:        4000   (4000 - 64000)
Log file name :                    ADRL
Trace file name :                  ADRT
Check duplicate user:              N      (Y/N)
  
```

To display this panel, you must have SCF administrator authorization. If you need to change an SCF site option but do not have proper authorization, contact your site coordinator.

Full descriptions of the options on this panel are provided later in this chapter. To modify an SCF site option, overwrite the displayed value and press Enter. Each change is stored in the SCF#OPTIONS member and remains in effect until it is modified again.

If you change the value of any of these options, the change affects all of the persons who use any of the SCF-based products that share the same ADRPNL panel library. Changes only take effect in sessions that begin after you specify new site options. A person who is using an SCF-based product as you specify site options must sign out and then sign in to have the new options take effect.

## SCF Session Options Fill-in Panel

You can modify a subset of the SCF site options for a session. Sign in to an SCF-based product, for example, CA Datacom/DB or CA Ideal, and issue one of the following commands:

```
SET COMMAND SESSION OPTIONS
```

Or

```
SET CMD SES
```

This command retrieves the current set of SCF session option values from the Session Control Block (SCB) and displays them in the following panel:

```

=>
=>
=>
-----
xxxx:  SCF option block          SCF#OPTIONS          FILL-IN
      Set SCF "session" options
Command "comment" character:    :
Command "delimiter" character: ;
Command "repeat"   character:   -
Command "reshow"  character:   +
Number of command lines:        3 (0-5)
Decimal symbol:      . (. ,)
Currency symbol:     $
Date format:         A (A, E, I)
Region separator:    - (N=none, G=grid, other=itself)
Asynchronous messages: U (U=User, N=None)
Command reshow?      N (Y/N)
UPPER CASE PANELS AND MESSAGES? N (Y/N)

```

To display this panel, you must be an authorized product user. To modify an SCF session option value, overtype the displayed value and press Enter.

The session options you specify are only in force for the life of your session. If you need specialized options, you must do one of the following:

- Respecify values for SCF session options each time you sign in to an SCF-based product. You can modify the entries on this panel or issue appropriate SET COMMAND option commands.
- Include the SET COMMAND option commands to set SCF session option values in a member that automatically executes each time you sign in to an SCF-based product.

## SCF Site and Session Option Descriptions

This section contains descriptions of the options on the SCF site options and the SCF session options panels. The options are listed in the same order as they are presented on the panels. You can specify most of the SCF session options with the SET COMMAND option command.

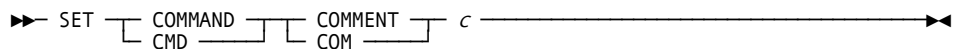
### Command "Comment" Character

(Site and session option)

Specifies the default command comment character. This character marks the beginning of a comment in the command area. You can use command comments to defer execution of commands online until the comment character is removed or for commands in batch.

A valid value is any character except for S, \_ (underscore), or a character that has another value.

The following is the syntax for the command to set this option:



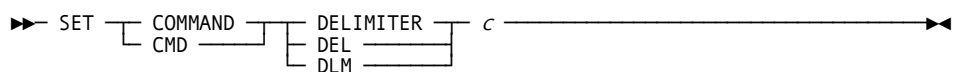
### Command "Delimiter" Character

(Site and session option)

Specifies the default command delimiter that separates multiple commands entered on a single command line.

A valid value is any character except for S, \_ (underscore), or a character that has another value.

The following is the syntax for the command to set this option:



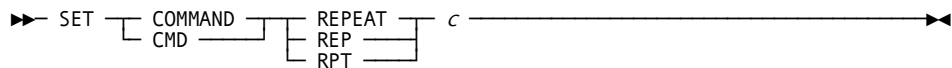
### Command "Repeat" Character

(Site and session option)

Specifies the default command repeat character.

A valid value is any character except for S, \_ (underscore), or a character that has another value.

The following is the syntax for the command to set this option:



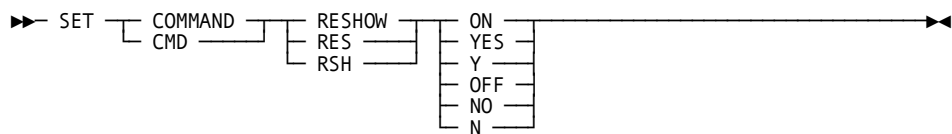
### Command "Reshow" Character

(Site and session option)

Specifies the default command reshow action. Values of YES, Y, or ON cause all subsequent commands to remain in the command area after execution.

A valid value is any character except for S, \_ (underscore), or a character that has another value.

The following is the syntax for the command to set this option:



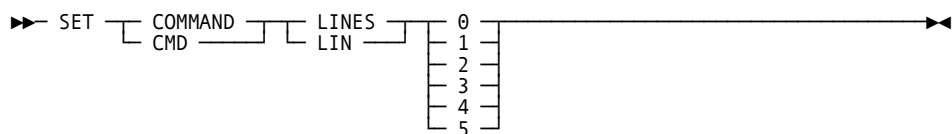
### Number of Command Lines

(Site and session option)

Specifies the default number of command lines reserved in the command region.

A valid value is a digit from 0 through 5.

The following is the syntax for the command to set this option:



## Decimal Symbol

(Site and session option)

Specifies the default decimal symbol. The only valid values are the period (.) and the comma (,).

This option also sets the digit separator character to the value not chosen as the decimal symbol. For example, if you specify the decimal symbol as period (.), the digit separator character defaults to comma (,).

## Currency Symbol

(Site and session option)

Specifies the default currency symbol. The installation default is a hex '5B', which displays as a dollar sign (\$) on United States English terminals. Any character is a valid value.

## Date Format

(Site and session option)

Specifies the default date format. Valid values are:

**A**

American (mmddy)

**E**

European (ddmmy)

**I**

International (yymmdd)

Where the value of *mm* is the month, *dd* is the day of the month, and *yy* is the year.

The following is the syntax for the command to set this option:

```
▶▶ SET COMMAND DATE A  
      CMD  DAT  [ E ]  
              [ I ]
```

## Region Separator

(Site and session option)

Specifies the default command region separator character. A separator line consists of this character, repeated across the screen, to distinguish between the command area and the execution regions. Valid values are

**C**

Any character.

**N**

None (blanks)

**G**

Grid (a formatted scale line)

The following is the syntax for the command to set this option:

```

▶▶ SET  ┌── COMMAND ─┐ ┌── SEPARATOR ─┐ c ───────────────────────────────────▶▶
        │  CMD      │ │  SEP          │
        └──────────┘ └── SPR          ┘
  
```

## Asynchronous Messages

(Site and session option)

Establishes whether asynchronous messages, such as print and compile completion messages, display during the session by default. You can identify users and messages by the terminal ID for the terminal at which the user signed in (SESSID=TERMID).

Valid values are:

**N**

No asynchronous messages display.

**U**

All asynchronous messages for a user display during the session. Undisplayed messages from a previous session display at sign in.

The following is the syntax for the command to set this option:

```

▶▶ SET - ASYNCMSG ┌── NONE ─┐ ───────────────────────────────────▶▶
                  │  USER  │
  
```

## Command Reshow

(Site and session option)

Specifies the default action for commands. Valid values are:

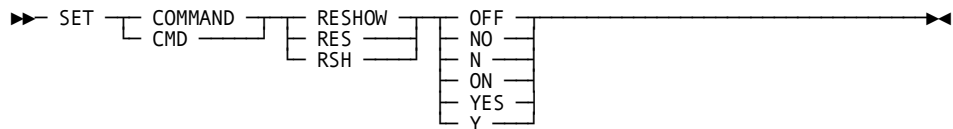
**N**

All successfully executed commands are erased from the command area after execution.

**Y**

All commands remain in the command region after execution.

The following is the syntax for the command to set this option:



## Upper Case Panels and Messages

(Site and Session Option) Specifies whether all text displayed on panels and messages is in uppercase. Valid values are:

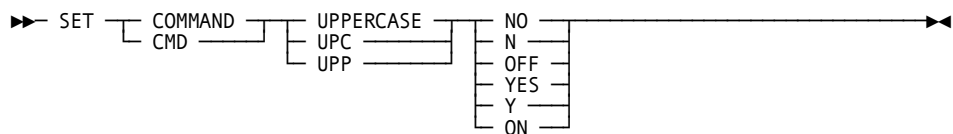
**N**

Displays text in mixed case (uppercase and lowercase).

**Y**

Displays all text in uppercase.

The following is the syntax for the command to set this option:





## Translate to Uppercase in Batch

(Site option only)

Specifies whether text submitted for printing in batch is converted to uppercase. Valid values are:

**N**

Submits the text without conversion.

**Y**

Converts text to uppercase.

## Maximum Number of Regions

(Site option only)

Specifies the maximum number of regions that can display on a screen. A valid value is a number from 1 through 4. The command region (region number 0) and product region (region number 1) count as 2, therefore specify 3 or 4 to allow SPLIT to start a second or third session.

## Maximum Number of PF Keys

(Site option only)

Specifies an upper limit on the number of PF keys SCF-based products support. A valid value is a number from 0 through 48.

**Note:** To display the PF key settings for the current screen, press PA2.

## Maximum Number of PA Keys

(Site option only)

Specifies an upper limit on the number of PA keys SCF-based products support. A valid value is a number from 1 through 4.

## Size of the Working Buffer

(Site option only)

Specifies the size of the buffer used internally for global editing. A larger value speeds up editing at the expense of main memory. A valid value is a number from 4000 through 64000.

## Log File Name

(Site option only)

Specifies the CICS TDQ name of the log file. Specify one to four characters. The first character must be an alphabetic or national character. The remaining characters can be alphanumeric or national. Review the information in [How to Change Default Destination Identifiers](#) (see page 92) before you modify this value.

## Trace File Name

(Site option only)

Specifies the CICS TDQ name of the trace file. Specify one to four characters. The first character must be an alphabetic or national character. The remaining characters can be alphanumeric or national. Before you modify this value, see [How to Change Default Destination Identifiers](#) (see page 92).

## Check Duplicate User

(Site option only)

Establishes whether duplicate signins are allowed. Specify Y to prevent users from signing in when they are already signed in with the same monitor user ID somewhere else. Specify N if your external security system ensures unique signins.

The following is the syntax for the command to set this option:

```
▶▶ SET SITE CHECK DUPLICATE USER  NO  YES
```

## How to Modify the SCF Static Options

Some of the options provided by the CA IPC at installation are Session Control Facility (SCF) static options. These options include the several program name prefixes and the names of the SCF panel and member libraries. You can reset these options, but only by modifying, reassembling, and relinking the static options block that is contained in the load module SC00OPTS.

To change any of the SCF static options, perform the following steps:

1. Get the following source for SC00OPTS from your site CA IPC CUSMAC library:

```
'PRINT GEN
TITLE 'SC00OPTS - Session Control Facility Option Block'

*-----*
*       S C 0 0 0 P T S
* This is the SCF option control block CSECT.  It is assembled      *
* and then is loaded into a VLS blocked-data member, SCF#OPTIONS for *
* shipment to customers as the dynamic option/control block.      *
*-----*
SC00OPTS  TYPE=CSECT                                             X
          EDPFX=ED,           EDK program prefix                X
          PDPFX=@I,          PDF program prefix                 X
          PNLIB=ADRPNL,      SCF panel library name             X
          PSSPFX=SCPS,       PSS program prefix                  X
          QCODE=C' ',        character used in enqueue names    X
          SCFPFX=SC00,       SCF program prefix                  X
          SECRTY=N,          external security option            X
          SESSID=TERMID      CICS user-id                       X
          VLSLIB=ADRLIB      SCF data member library name
```

#### TYPE

Specifies the type of option block to generate. There are two possible values:

##### CSECT

A CSECT is generated. You must specify this option to assemble the SCF option block, SC00OPTS.

##### DSECT|DS

A simple DSECT (that is, a control block with DS declaratives and a simple label at the origin) is generated.

#### EDPFX

The two-character EDK (Editor Kernel) program prefix.

#### PDPFX

The two-character PDF (Panel Definition Facility) program prefix.

#### PNLIB

The one- to eight-character SCF (Session Control Facility) panel library name.

**Note:** Before you modify this value, see [How to Change Default File Names](#).

#### PSSPFX

The four-character PSS (Print Subsystem) program prefix.

#### **QCODE**

A single byte that ensures that enqueue names are unique across systems. Code a single character without quotes or use the format C'x'.

**Note:** Before you change this value, make sure all affected CICS systems and batch jobs are not running. If they are running, the library can become corrupted.

#### **SCFPFX**

The four-character SCF (Session Control Facility) program prefix.

#### **SECRTY**

Specifies whether SCF enables external security during sign in to determine the sign-in authorization for the user.

N

Does not enable external security checking (default).

Y

Enables external security checking. An error message displays if the CA Common Services SSF security interface is not installed during sign in.

#### **SESSID**

Specifies whether, for CICS only, to use the CICS terminal ID or operator ID to determine the sign-in authorization for the user.

TERMID

Permits SCF to use the CICS terminal ID (default).

OPID

Ignored. Processed as TERMID.

#### **VLSLIB**

The one- to eight-character name of the SCF (Session Control Facility) member library.

2. Make any necessary changes to SC00OPTS.
3. Save the modified source back to your CA IPC CUSMAC library.
4. Use the following JCL as a model to reassemble and relink SC00OPTS. (Refer to INSTJCL member VQCUS01.)

```
//          JOBCARD
//*
//ASMMEMS PROC VQUSR='CAI.CHLQ.CUSLIB'                IPC CUSLIB
//
//          VQTML='PRODHQ.CAVQMAC',                  IPC CAIMAC
//          VQCML='CAI.CHLQ.CUSMAC',                  IPC CUSMAC
//          ASMBLR='ASMA90',
//          SYSOUT=*
//*
//*
//* ASSEMBLE/LINK TO CUSLIB
//*
//ASM      EXEC PGM=&ASMBLR,PARM='DECK,NOOBJ',REGION=2048K
//SYSLIB   DD DSN=SYS1.MACLIB,DISP=SHR
//         DD DISP=SHR,
//         DSN=&VQCML
//         DD DISP=SHR,
//         DSN=&VQTML

//SYSUT1   DD DSN=&&SYSUT1,SPACE=(1024,(120,120),,ROUND),
//         UNIT=VIO,DCB=BUFNO=1
//SYSPUNCH DD DSN=&&ASMOBJ,UNIT=SYSDA,
//         SPACE=(3120,(400,100),RLSE),
//         DISP=(,PASS),
//         DCB=BLKSIZE=3120
//SYSPRINT DD SYSOUT=&SYSOUT
//*
//LNKSTP   EXEC PGM=IEWL,COND=(5,LT,ASMSTP),
//         PARM='LIST,LET,XREF,MAP'
//SYSLIN   DD DSN=&&ASMOBJ,DISP=(OLD,DELETE)
//         DD DDNAME=SYSIN
```

```
//SYSLMOD DD DSN=&VQUSR,  
//          DISP=SHR  
//SYSUT1  DD DSN=&&SYSUT1,SPACE=(1024,(120,120),,,ROUND),  
//          UNIT=VIO,DCB=BUFNO=1  
//SYSPRINT DD SYSOUT=&SYSOUT  
//*  
// PEND  
//*  
//*  
//* EXECUTE ASMMEMS PROC  
//*  
//STEP1C EXEC ASMMEMS  
//*  
//ASMSTP.SYSIN DD DISP=SHR,  
//          DSN=CAI.CHLQ.CUSMAC(SC000PTS)  
//LNKSTP.SYSIN DD *  
NAME SC000PTS(R)  
/*  
//
```

## How to Modify the SCF Transaction Table (SCOOTRAN)

Each SCF-based product or component must be defined to SCF by an entry in SCOOTRAN, the SCF Transaction Table. SCOOTRAN is assembled and link edited in sample JCL member VQINS07. To modify an entry in SCOOTRAN, get the JCL in INSTJCL member VQCUS01. Locate the SCTRANTB macro specification for the entry you want to change and specify parameters according to the following descriptions.

You must use the SCTRANTB macro to build the SCF Transaction Table. The SCTRANTB macro has four formats and several uses:

- Generates a DSECT that defines the table format (Format 1). You should not modify this specification.
- Generates the table header and specifies values for I/O and storage functions (Format 2).
- Defines a product or component, specifies transaction table parameters for that product or component, and generates the transaction table the main program loads (Format 3).
- Generates a table trailer (Format 4). You should not modify this specification.

Use the following procedure to modify SCOOTRAN. The distributed listing of the SCOOTRAN source member and the syntax specifications of the four versions of the SCTRANTB macro are described in the following sections.

## Modifying SCOOTRAN

Use the following procedure to modify the SCF Transaction Table:

1. To add a new product entry (for example, a CA Ideal transparent signon), retrieve the USRTRANS source member from the CA IPC CAVQSAMP library.
2. Use SCTRANTB Format 3 to specify a new value on an existing SCTRANTB macro specification. The SCTRANTB macro is described in the next section.
3. Reassemble and link edit the JCL in the installation job.
4. Bring up your TP monitor.

## SCOOTRAN Listing and the SCTRANTB Macro

All transactions used under SCF must be defined in this table. The SCTRANTB macro builds SCOOTRAN, the SCF transaction table, at installation. However, this macro has four formats that perform a number of different functions. See the following sections for the four formats.

```

SC00TRAN SCTRANTB TYPE=INITIAL, X
    ASTRAN=SAST, X
    CACHELN=1000, X
    GSLIMIT=1, X
    ONTRAN=SCFS, X
    RLSVCB=N, X
    SCTRAN=SCFD, X
    TRMTRAN=NETT, X
    USEGS=Y
SCTRANTB TYPE=ENTRY, TRANID=IPCV, PROD=IPC, X
    OPTIONS=(PS), X
    INITMOD=PDIN, X
    IDENT='IPC:', X
    XFERCMD=IPC
SCTRANTB TYPE=ENTRY, TRANID=IPCX, PROD=IPC, X
    OPTIONS=(EX,PS), X
    INITMOD=PDIN, X
    IDENT='IPC:', X
    XFERCMD=IPC
SCTRANTB TYPE=ENTRY, TRANID=IDEA, PROD=IDL, X
    OPTIONS=(DD,PS), X
    IDENT='IDEAL:', X
    XFERCMD=IDEAL
SCTRANTB TYPE=ENTRY, TRANID=IDLX, PROD=IDL, X
    OPTIONS=(DD,EX,PS), X
    IDENT='IDEAL:', X
    XFERCMD=IDEAL

```

```
SCTRANTB TYPE=ENTRY,TRANID=DDOL,PROD=DDO, X
      OPTIONS=(DD,PS), X
      IDENT='DDOL:', X
      XFERCMD=DDOL
SCTRANTB TYPE=ENTRY,TRANID=DDOX,PROD=DDO, X
      OPTIONS=(DD,EX,PS), X
      IDENT='DDOL:', X
      XFERCMD=DDOL
      COPY USRTRANS
SCTRANTB TYPE=FINAL
      END
```

### SCTRANTB Format 1

The following SCTRANTB format generates a DSECT that describes the format of the table. You should not modify this specification.

```
label SCTRANTB DSECT=YES
```

### SCTRANTB Format 2

The following SCTRANTB format generates the table header and specifies values for I/O and storage functions. The values for keywords in this macro format are expressed as literals without delimiters except where otherwise noted in the syntax definitions that follow.

```
label SCTRANTB TYPE=INITIAL
      ASTRAN=value
      CACHELN=value
      GSLIMIT=value
      OFFTRAN=value
      ONTRAN=value
      RLSVCB={Y|N}
      SCTRAN=value
      TRMTRAN=value
      USEGS={Y|N}
```

#### **ASTRAN=value**

Specifies a four-character transaction identifier SCF uses in asynchronous transactions that are not associated with a terminal. The transaction must also be defined in the host TP monitor. The default is SAST.

#### **CACHELN=value**

Specifies the size of the message cache area. The default size, 1000 bytes, holds approximately 20 messages. Specify a value from 1000 through 32000 without quotation marks. This value is described in . It is the first actual entry in the above SCOOTRAN listing.



**GSLIMIT=*value***

Specifies the value for the global storage limit. The Panel Management System (PMS) uses this value. A value of 255 turns off global storage. Lower values allow more panels to be acquired in global storage. A value of 1 provides maximum use of global storage. Specify a value from 1 through 255 without quotation marks. The default is 1.

**OFFTRAN=*value***

Specifies a four-character transaction identifier SCF uses in scheduling a transaction to follow signout processing. The transaction must also be defined in the host TP monitor.

The transaction identifiers for the dispatcher, asynchronous tasks, and signout can also be varied by SCF during execution time. Do not change this value unless directed by CA Customer Support.

**ONTRAN=*value***

Specifies a four-character transaction identifier SCF uses in signin processing. The transaction must also be defined in the host TP monitor. The default is SCFS.

**RLSVCB=Y|N**

Specifies whether VLS Control Blocks are released after each transaction. Specify Y or N without quotation marks. The default is N.

**SCTRAN=*value***

Specifies a four-character transaction identifier SCF uses to dispatch transactions. The transaction must also be defined in the host TP monitor. The default is SCFD.

**TRMTRAN=*value***

Specifies a four-character transaction identifier SCF uses in asynchronous transactions that require a terminal. The transaction must also be defined in the host TP monitor. The default is SAST.

**USEGS=Y|N**

Specifies whether PMS uses global storage when it creates its panel control blocks. Specify Y or N without quotation marks. The default is Y.

### SCTRANTB Format 3

The following SCTRANTB format defines a product or component, specifies transaction table parameters for that product or component, and generates the transaction table the main program loads. The values for keywords in this macro format are expressed as literals without delimiters except where otherwise noted in the syntax definitions that follow.

All product and component entries begin with SCTRANTB TYPE=ENTRY. You can modify these entries, if necessary, but only a product staff should add entries directly to SC00TRAN. To add an entry (for example, for CA Ideal transparent signin), retrieve the USRTRANS source member from the SOURCE library and use SCTRANTB to add the new entry to it. The SC00TRAN source member contains a COPY statement, so any entries added to USRTRANS are automatically included in the assembly and link of SC00TRAN.

```
SCTRANTB  TYPE=ENTRY
          DFLTUSR=user-id|NONE
          IDENT=' value '
          INITMOD=value
          LGOFPNL=value
          LGONPNL=value
          OPTIONS=CU|DD|EX|NC|PS|SN
          PROD=product-id
          TRANID=value
          TRNDATA=value
          XFERCMD=value
```

**DFLTUSR=*user-id*| NONE**

Specifies a default user ID used when the user invoking the transaction is not defined in the dictionary. This setting overrides any set for a product, for example for CA Ideal in the DFLTUSR option of the IDOPTSCB. See the *CA Ideal Administration Guide*.

**user-id**

A one- to three-character user ID used as the default.

**NONE**

No default user ID accepted.

**IDENT=' *value* '**

Specifies a one- to 12-character product identifier to place in the upper left-hand corner of each SCF/PSS panel that displays, for example, a Display PF/PA keys panel, a CLARIFY panel, an Output status panel, a JOBCARD panel, and so on. This value must be surrounded by single quotes.

**INITMOD=*value***

Specifies the four-character name of the product initialization module.

**LGOFPNL=*value***

Specifies the four- to eight-character name of the logoff panel for the CA product.

**LGONPNL=*value***

Specifies the four- to eight-character name of the logon panel for the CA product.

**OPTIONS=CU|DD|EX|NC|PS|SN**

Specifies at least one option that SCF can provide. If more than one option is specified, separate the list of options with commas, and enclose them in parentheses, for example, OPTIONS=(PS,DD,EX).

The following options are available:

**CU**

Clears the user ID field in the signin panel.

**DD**

Opens the CA Datadictionary component of CA Datacom/DB.

**EX**

Invokes the express signin. The express facility bypasses the signin screen and places the user in the main menu of the product or component.

**NC**

Prevents PMS from using color or extended highlighting.

**PS**

Specifies that the Print Subsystem (PSS) is operating for this product or component.

**SN**

Places the cursor in the name field when a user brings up a signin panel.

**PROD=product-id**

Specifies the identifier of the CA product or component for which the entry is created. Some current product-IDs are:

**IPC**

CA IPC

**DDO**

CA Datadictionary component of CA Datacom/DB

**IDL**

CA Ideal

Other product IDs display in the above SC00TRAN listing.

**TRANID=value**

Specifies a four-character transaction identifier. For example, IDLX is the trans ID for express CA Ideal signin. The transaction must also be defined in the host TP monitor.

**TRNDATA=value**

Specifies an optional field that can pass data to the product initialization routine. The field can be up to 24 characters long. When specified, the data is passed to the routine as the eighth parameter.

**XFERCMD=value**

Used as the transfer command for the product specified in the SCTRANTB macro. The value can be up to 15 characters in length. For example, XFERCMD=IDEAL specifies CA Ideal as a transfer command for both regular (IDEA signin) and express CA Ideal (IDLX signin).

## SCTRANTB Format 4

The following entry marks the end of the table and generates the table trailer:

```
SCTRANTB TYPE=FINAL
```

Do not modify this entry, also shown in the SC00TRAN Listing of the SCTRANTB Macro previously in this chapter.

## How to Set Up SCF-based Products in an MRO Environment

The *Installation and Maintenance Guide* describes the table entries and modules needed to install SCF-based software in an environment with a single Terminal Owning Region (TOR) and a single Application Owning Region (AOR). If your site requires an environment with a single TOR and two or more AORs, use the information in this section to implement your SCF-based software products in a multiple AOR environment.

Before you begin, consider the following:

- Because current implementation supports transaction routing, but not function shipping, each AOR must function as an independent CICS address space. This means that SCF-based transactions are routed to run in the same AOR from signin through signout.

- Some internal CICS transactions SCF-based products use must be defined with unique transaction identifiers (trans IDs) in the TORs PCT. These transactions are:
  - BMS
  - BMSX
  - DDOL
  - DDOX
  - IDEA
  - IDLX
  - IPCV
  - IPCX
  - NETT
  - SAST
  - SCFD
  - SCFS

The procedure to implement multiple AORs in an environment with a single TOR requires the following steps:

1. You must specify new CICS resource definitions for the additional AORs.
2. You must create a separate copy of the SCF Transaction Table (SC00TRAN) for each additional AOR.
3. You must inform your application which AOR to use.

## How to Specify CICS Resource Definitions for Multiple AORs

The following procedure assumes an MRO environment with one TOR (SYSIDNT=TOR1) and two AORs (SYSIDNT=AOR1 and SYSIDNT=AOR2). If you need additional AORs, you can repeat this procedure to add more.

1. Retrieve the PCT for your TOR and locate the entries for the trans IDs listed above that were added for SCF-based products during the CA IPC installation.
2. Use the following procedure to create PCT entries for the second AOR:
  - Make copies of the TOR PCT entries for the trans IDs for AOR1.
  - Change the value of the SYSIDNT= parameters in the duplicate entries to AOR2.
  - Change the trans IDs in each of the duplicate entries for AOR2 to distinguish them from the trans IDs for AOR1. This is necessary because a given remote PCT entry can point to only one AOR.

For example, you could change the last character of all the trans IDs in the duplicate entries for AOR2 to 2:

AOR1	AOR2
DDOL	DDO2
DDOX	DDX2
IDEA	IDE2
IDLX	IDL2
IPCV	IPV2
IPCX	IPX2
SAST	SAS2
SCFD	SCD2
SCFS	SCS2

**Note:** Do not create a new entry for NETT for AOR2. A separate section describes how to handle the NETT transaction.

These changes result in the following entries in the TOR for the first AOR:

TRANSID=xxxx, TYPE=REMOTE, SYSIDNT=AOR1

And

TRANSID=xxx2, TYPE=REMOTE, SYSIDNT=AOR2

For the second AOR.

- Finally, duplicate and rename the PCT entries for AOR1 using the above procedure as a guide, and add them to the PCT for AOR2.

3. You can repeat this procedure, if necessary, to create entries of the form:

TRANSID=xxx3, TYPE=REMOTE, SYSIDNT=AOR3

For a third AOR,

TRANSID=xxxn, TYPE=REMOTE, SYSIDNT=AORn

Or the *n*th AOR, and so on.

4. Reassemble and relink all affected tables to make the changes available to your system.

## How to Create Additional Copies of SC00TRAN for Additional AORs

For more information about the SCF transaction table, sample JCL, and instruction about how to modify SC00TRAN, see [How to Modify the SCF Transaction Table \(SC00TRAN\)](#) (see page 30).

1. Get SC00TRAN from your CA IPC CUSMAC library.
2. Make a duplicate of SC00TRAN for each additional AOR.
3. Modify each duplicate SC00TRAN to replace the original trans ID specifications for the TYPE=ENTRY entries with the renamed trans IDs for the associated AOR.
4. Add the following parameter specifications to the SCTRANTB TYPE=INIT entry for each duplicate of SC00TRAN, for example:

**ASTRAN=SAS2**

SCF Asynchronous Task Processor trans ID for AOR2

**SCTRAN=SCD2**

SCF Task Dispatcher trans ID for AOR2

**ONTRAN=SCS2**

SCF Signin Processor trans ID for AOR2

5. If you placed site-specific entries in the USRTRANS source member (for example, entries for CA Ideal transparent signins), retrieve USRTRANS from the CA IPC CAVQSAMP library, duplicate it, save it to the CUSMAC library, and make corresponding changes to each duplicate. The SC00TRAN source member contains a COPY statement, so any entries in USRTRANS are automatically included in the assembly and link of SC00TRAN.
6. Reassemble and link each duplicate SC00TRAN into its own load library.
7. Place the load library that contains the SC00TRAN that includes the trans ID for SCFD (SC00DISP, the SCF Task Dispatcher) that you want to use at initialization ahead of the CA IPC target or distribution library in the library concatenation sequence.

## How to Inform Your Application of Which AOR to Use

There are two ways to inform your application of which AOR to use:

- For SCF-based products, the concatenation order determines which version of SCOOTRAN, and hence what value of SCTRAN, the initialization program finds at signin. The trans ID you specified for the SCF Task Dispatcher determines which AOR you run in, for example, SCD2 for AOR2.

- If you use CA Ideal, create a signin member that contains the command:

```
SET ENVIRONMENT ACCOUNT-ID=xxxx
```

Where xxxx is the version of the trans ID for SCFD (SC00DISP, the SCF transaction dispatcher) for the AOR in which you want to run, for example, SCD2 for AOR2.

## How to Enable the Manual Invocation of an Asynchronous Transaction in a Multiple AOR Environment

To enable the manual invocation of the NETT transaction on an environment with more than one AOR, use the following procedure:

1. Duplicate the PCT entry for the NETT transaction specification for the TOR:

```
TRANSID=NETT,TYPE=REMOTE,SYSDNT=AOR1
```

2. Change the duplicate as follows:

```
TRANSID=NET2,TYPE=REMOTE,SYSDNT=AOR2,RMTNAME=NETT
```

3. Add the new entry to your TOR in addition to the original entry for NETT. This lets a user execute NET2 from a terminal to start the NETT transaction in AOR2. However, you should never invoke this transaction unless instructed to do so by CA Customer Support.

## Enabling External Security for CA Ideal

You can use the following steps as a guide to enable external security for SCF-based signin, such as CA Ideal. Sites who use external security to sign in should use the SC00OPTS SECRTY=Y option over the "traditional method." The traditional method extracts the user ID from the value present in the TCTTEOI of the CICS TCTTE when SC00OPTS SECRTY=N.

1. Install the CA Common Services for z/OS component CAIRIM. For instructions, see the CA Common Services for z/OS documentation.



- Define the CA command resource class in the security product.

Product	Resource Class
CA ACF2	CAC
CA Top Secret	CACMD
RACF	CA@MD

**Note:** For CA ACF2 and CA Top Secret, the resource class should already be present.

- Authorize users to CACMD in your security product for each SCF-based product they need to access. Use the following table to determine the proper sign in.

Product	Value of CA Command Resource
CA Datacom/DB CA Datadictionary component	DDSIGNON
CA Ideal	<i>sp</i> SIGNON, where <i>sp</i> is the two character SECPRFX assigned in IDOPTS
CA IPC	IPSIGNON
CA MetaCOBOL+	PDSIGNON

You can use the CACMD resource class to control access to the SCF-based product even when a user is not defined to the security system or when the security system is not active. To use the resource class to prevent undefined users from signing in to an SCF-based product, you must be sure that the resource class for undefined users does not include the resource signin entity. To ensure that no one can access an SCF-based product when the security system is not active, you must set up the security system to respond to a resource check with a return code higher than 4 when the system is not active.

**Note:** CA MetaCOBOL+ requires that the TCTTEOI be populated with a three-character CICS OPID.

- If required, modify the job cards in the CA IPC environment to meet the specific requirements for the security product at your site.

**Note:** This step has nothing to do with the SC00OPTS security option being set to YES. Instead, this step determines what the security package plugs into the job card when a job is submitted through the TP monitor. For example, under CICS, you can set CA Top Secret to plug in the CICS user name and password into the job card parameters. Check the documentation for your security product.

5. For CA Datadictionary-based signin transactions (for example, SC00TRAN OPTIONS=DD), use one of the following methods to establish a link between the security ID and the user:
  - Create or rename the dictionary-based user name to match the security ID.
  - If users are already defined and the security ID does not match the current user ID, add a CA Datadictionary alias of security ID to the current user ID.
  - Specify the DFLTUSR option in SC00TRAN on a transaction basis. For CA Ideal, DFLTUSR is also available in IDOPTS as an environment option.
6. Re-assemble SC00OPTS with SECRTY=Y.
7. CA Ideal sites should re-assemble IDOPTS with UIDCHK=N and PSWCHK=N, although these options are ignored when the security ID is extracted.
8. If required by the security product, modify your CICS tables.
9. Use the external security package to ensure unique signins. SCF also provides the option to ensure unique signins from the SET COMMAND SITE OPTIONS fill-in screen (CHECK DUPLICATE USER Y).
10. If CA Ideal or CA Datadictionary users are defined with passwords, you must set the DDSRTLMT parameter EXPBYPP=Yes to be able to sign in to CA Datadictionary.

## Sample CA Command Resource Definitions

### CA Top Secret

Profile permits or denies signin

```
TSS CREATE(DEVL) TYPE(PROFILE) DEPT(DEVELOP)
                        NAME('DEVELOPMENT DEPARTMENT AUTHORITY')
```

```
TSS PERMIT(DEVL) CACMD(DISIGNON) ACCESS(CONTROL)
```

```
TSS PERMIT(DEVL) CACMD(PISIGNON) ACCESS(NONE)
```

User definition

```
TSS CRE(userid) TYPE(USER) DEPT(DEVELOP)
                        NAME('user name') PROFILE(DEVL)
                        PASSWORD(FIRSTONE,30,EXPIRED)
                        INSTDATA(EXT=320) FACILITY(CICS)
```

**CA ACF2**

```
SET RESOURCE(CAC)
$KEY($ISIGNON) TYPE(CAC) UID(...) ALLOW
$KEY(DDSIGNON) TYPE(CAC) UID(...) ALLOW
$KEY(IPSIGNON) TYPE(CAC) UID(...) ALLOW
```

**RACF**

Resource class is CA@MD.



# Chapter 3: Customizing the Print Subsystem (PSS) Component

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This section contains the following topics:

[How to Set PSS Site and Session Options](#) (see page 45)

[PSS Exit Routine](#) (see page 54)

[Managing and Administering Print Services](#) (see page 58)

[Output Members](#) (see page 69)

[Output Commands](#) (see page 71)

## How to Set PSS Site and Session Options

The Print Subsystem (PSS) has two interrelated sets of options that affect the way print files are managed or processed:

- PSS site options set site defaults for print files. After the value of a PSS site option is changed, the new value is the default for every new session. Only someone with PSS administrator authorization can change a PSS site option.
- PSS session options are a subset of the PSS site options, but session options affect only an individual session. If you use CA Ideal, you can specify values for PSS session options. The session options you specify are only in effect during the life of your session.

If you want all of your sessions to have session option values that differ from site option defaults, you must either respecify your PSS session options each time you sign in to CA Ideal or include commands that specify your PSS session option values in a member that is automatically executed each time you sign in to CA Ideal.

Any SCF-based product can use the PSS component: Enter PS in the options parameter of the SC00TRAN entry definition of the SCF-based product.

## PSS Site Options Fill-in Panel

To change any of the PSS site options, sign in to CA Ideal and issue one of the following commands:

SET OUTPUT SITE OPTIONS

Or

SET OUT SITE

This command retrieves the current set of PSS site option values and displays them in the following panel:

```

=>
=>
=>
-----
IDEAL:          SET OUT OPT (PSS)          PSS#OPTIONS          FILL-IN
                Set PSS "site" options
                -----
Spool name:          ADROUT
Maximum number of lines: 64000          (1-64K)
Default retention period: 02          (1-99)
Default number of copies: 01          (1-99)
Default print status:  RELEASE          (Release/HoLd/Keep)
Default output width: 120          (1-240)
Default network printer width: 132          (0-240)
Post successful msg:  Y          (y/n)
Name of the batch JCL proc: PSSUTIL
Default destination
  Type:  LIBRARY          (LIBRARY/NETwork/SYStem/MAIL)
  Name:  _____
Date format          A          (A, E or I)
Directory name:     $PSSDIR$
Destination table name: $PSSDST$
System name:        PSS
Prefix name:        PSS#
Suppress non-display characters N          (y/n)
Maximum retention period: 03          (1-99)
Maximum number of output members: 0500          (10-9999)
Percent full occupancy warning: 99          (1-99)
Multiple CPU environment: N          (y/n)

```

To display this panel, you must have Print Administrator authorization. If you need to change a PSS site option but do not have proper authorization, contact your site coordinator.

For full descriptions of the options on this panel, see [PSS Site and Session Option Descriptions](#) (see page 48). To modify a PSS site option, overtype a field entry and press Enter. Each change is stored in the PSS remains in effect until it is modified again.

If you change the value of any of these options, the change affects all of the people who use CA Ideal print files. Changes only take effect in sessions that begin after you specify new site options. A person who is using CA Ideal as you specify site options must sign out and then sign in to have the new options take effect.

## PSS Session Options Fill-in Panel

You can modify a subset of the PSS site options for a session. Sign in to CA Ideal and issue one of the following commands:

```
SET OUTPUT SESSION OPTIONS
```

Or

```
SET OUT SES
```

This command retrieves the current set of PSS session option values and displays them in the following panel:

```

=>
=>
=>
-----
IDEAL:      SET OUT OPT (PSS)          PSS#OPTIONS          FILL-IN
          Set PSS "session" options
          -----
Maximum number of lines:          64000      (1-64K)
Default retention period:         02          (1-99)
Default number of copies:         01          (1-99)
Default print status:             RELEASE
Default output width:             240         (1-240)
Default network printer width:    000         (0-240)
Post successful msg:              Y          (y/n)
Name of the batch JCL proc:       PSSUTIL
Default destination
  Type:  LIBRARY                    (LIBRARY/NETWORK/SYSTEM/MAIL)
  Name:  _____

```

To display this panel, you must be an authorized user of CA Ideal.

To modify a PSS session option value, overwrite the displayed value and press Enter.

The PSS session options you specify are only in force for the life of your individual session. If you need specialized options, you must do one of the following:

- Respecify values for PSS session options each time you sign in to CA Ideal. You can modify the entries on this panel or issue appropriate SET OUTPUT option value commands.
- Include the SET OUTPUT option value commands to set PSS session option values in a member that automatically executes each time you sign in to CA Ideal.

The following section contains information on using the SET OUTPUT option value commands.

## PSS Site and Session Option Descriptions

This section contains descriptions of the options on the PSS site options and the PSS session options panels. As noted in the descriptions, you can specify PSS session options with the SET OUTPUT option value command.

### Spool name

(Site option only)

Specifies the ddname of the output library. Before you modify this value, see How to Change Default File Names.

### Maximum number of lines

(Site and session option)

Specifies the maximum number of lines a report can contain when an output member is generated on-line. Valid values are numbers from 1 through 64000; however, the session option value cannot be greater than the site option value. There is no limit to the length of an output member generated in batch.

The following is the syntax for the command to set this option:

```
▶▶ SET [ OUTPUT ] [ MAXLINES - nnnnn ] ▶▶
```

### Default retention period

(Site and session option)

Specifies the number of days an output is retained in the output library before it is automatically removed. Valid values are numbers from 1 through 99; however, the session option value cannot be greater than the site option value.

The following is the syntax for the command to set this option:

```
▶▶ SET [ OUTPUT ] [ RETENTION ] [ nn ] ▶▶
```

### Default number of copies

(Site and session option)

Specifies the number of copies to print if COPIES=*nn* is not specified in the DESTINATION clause of a PRINT command. Valid values are numbers from 1 through 99.

The following is the syntax for the command to set this option:

```
▶▶ SET [ OUTPUT ] [ COPIES - nn ] ▶▶
```



## Default print status

(Site and session option)

Specifies the default status assigned to all generated outputs. Specify one of the following:

### **HOL|HOLD**

Retains the print member on the spool until the print status is changed to RELEASE or KEEP.

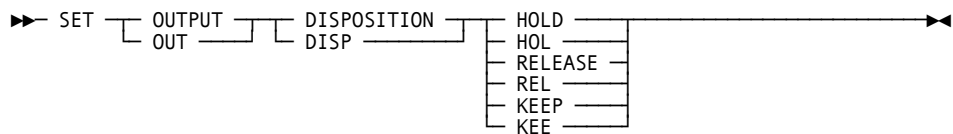
### **REL|RELEASE**

Release the print member after it prints.

### **KEE|KEEP**

Keeps the print member on the spool after it prints.

The following is the syntax for the command to set this option:

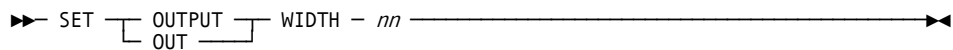


## Default output width

(Site and session option)

Specifies the default width for all generated outputs. Valid values are numbers from 1 through 240.

The following is the syntax for the command to set this option:



**Note:** CA Ideal always overrides the default width internally with the actual report width.

## Default network printer width

(Site and session option)

Specifies the default network printer width for all outputs. Valid values are numbers from 0 through 240.

When an output is routed to a network printer, the printer width is determined in the following manner:

- The value is taken from the BLK/WIDTH column (associated with the network printer) of the destination table (DIS OUT DEST).
- If the value in the BLK/WIDTH column is blank, then the value is taken from the Default network printer width session setting.
- If the value in the Default network printer width option is zero, then the value is taken from the CICS TCT definition.

## Post successful msg

(Site and session option)

Specifies if the user receives the informational message ICPSMSG31I - Command successfully processed OUTPUT NUMBER=*nnn* when a print request is processed.

**Y**

Post the message.

**N**

Most likely used in an application environment when the requester does not need to know the output number.

## Name of the batch JCL proc

(Site and session option)

Specifies the procedure that contains the JCL for processing batch PSS system prints.

The following is the syntax for the command to set this option:

```
▶ SET [ OUTPUT ] [ OUT ] [ PROCEDURE ] [ PROC ] procname ▶
```

**Note:** This procedure must be defined with COPIES=*nn* and DEST=*dest-id* statements. These statements are included in the EXEC SCPSUTIL statement that is generated internally when PSS processes system print requests.

### Default destination type

(Site and session option)

Specifies the printout destination type as one of the following. You enter the name for the system or network name, or CA eMail+ recipient.

**SYS|SYSTEM**

System printer

**NET|NETWORK**

Network printer

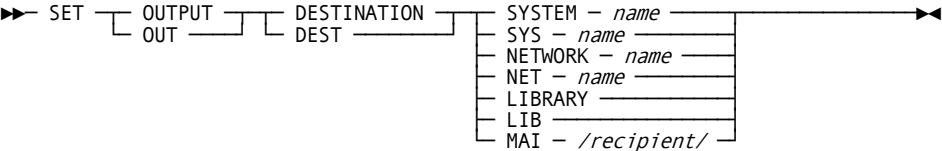
**LIB|LIBRARY**

Output library

**MAI**

CA eMail+

The following is the syntax for the command to set this option:



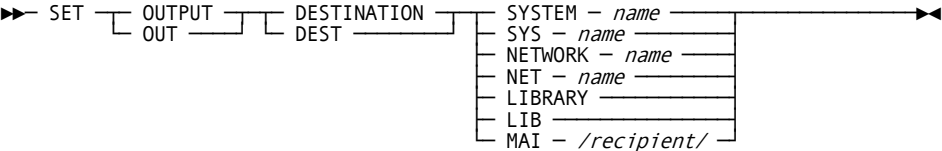
**Note:** Notice that you must use slashes as delimiters in the MAI keyword.

### Default destination name

(Site and session option)

Specifies the name of the SYSTEM or NETWORK printer or CA eMail+ recipient that is used as the default print destination. You must specify a valid system, network name or CA eMail+ recipient.

The following is the syntax for the command to set this option:



**Note:** Notice that you must use slashes as delimiters in the MAI keyword.

## Date format

(Site option only)

Specifies the default date format PSS uses. This value is used during RECOVERY processing. At that time, the Julian date is calculated to determine which outputs exist beyond their retention period. Valid values are:

**A**

American, date format: *mmdyy*

**E**

European, date format: *ddmmyy*

**I**

International, date format: *yymmdd*

Where:

**mm**

Is the month

**dd**

Is the day of the month

**yy**

is the year

## Directory name

(Site option only)

Specifies the name of the directory that contains a list of all items in the output library. When this entry is changed to the name of a directory member name that already exists, this member closes and a directory of the same name is reopened. When a directory of the same name is reopened, it is not reinitialized. When this entry is changed to a new directory name, a new spool directory of this name is created and initialized for further processing.

## Destination table name

(Site option only)

Specifies the name of the table that contains all valid destinations defined in the print environment. If you change this name, the existing destination table is released from global storage and then reinitialized on the next destination table access. Also, you lose all output in the destination file.

## System name

(Site option only)

Specifies a three-character prefix that builds the internal name of each output in the output library, the directory name, and the destination table name. If you change this name, the PSS entities are internally named and referenced differently. Therefore, changing this value has the same effect as changing the destination table name or directory name. After changing this value, reinitialize ADROUT.

## Prefix name

(Site option only)

Specifies the four-character prefix for all print members. After changing this value, reinitialize ADROUT. This value should be unique for each ADROUT to avoid enqueueing conflicts between members.

## Suppress non-display characters

(Site option only)

Specifies whether to suppress non-display characters. Set this value to N if unprintable content is needed in control streams that are sent as part of the data, such as escape sequences. With this value set to Y, the data content sent to the printer has any undisplayable characters translated out. For most current printers, the control data is displayable characters. For information on non-display characters, see [How to Modify the PMS Conversion Tables \(PMSTRUC, PMSTRND, and PMSTRNDK\)](#) (see page 87).

## Maximum retention period

(Site option only)

Specifies the maximum number of days that an output can be retained. Each user can set a different retention period for each output that is less than or equal to the default; however, this value must be greater than or equal to the value specified as the default retention period. A valid value is a number from 1 through 99.

## Maximum number of output members

(Site option only)

Specifies the maximum number of outputs that can exist on the output library simultaneously. A valid value is a number from 10 through 9999. This value is used when a directory is initialized to specify the maximum number of entries to create in the PSS directory. You can change this value only if the named directory does not already exist. Changing this value creates a new directory in the spool with the number of entries specified.

## Percent full occupancy warning

(Site option only)

Specifies when PSS issues a library full message. A valid value is a number from 1 through 99. This value determines the point that PSS prevents more outputs from being created, so that it has enough space for outputs in progress to be completed.

## Multiple CPU environment

(Site option only)

Specifies the processor environment. If you have multiple processors with shared DASD, specify Y (yes). PSS generates a `/*JOBPARM SYSAFF=*` for batch jobs submitted to process PRINT commands directed to a system printer. Otherwise, specify N (no).

## PSS Exit Routine

Print Subsystem (PSS) provides a user exit capability that lets each user tailor output to system printers. The PSS user exit routine was created to translate shift-single and shift-double characters surrounding double-byte character set (DBCS) data.

The exit is optional. If you do not enable an exit, PSS takes no special action. However, if you enable an exit, PSS uses it. An exit is enabled if it exists in the load library, but the exit module must first be linked with the PSS batch utility (SCPSUTIL) and the PSS main online module (SCPSMAIN). The JCL to establish this link is included in [How to Set Up SCF-based Products in an MRO Environment](#) (see page 36).

## Characteristics of the PSS Exit Routine

- All exit routines must be reusable.
- Exit routines do not need to be reentrant.
- System throughput is directly affected by an exit routine's length and complexity.
- PSS communicates with the exit routine by using a parameter list. Register 1 points to the parameter list. The exit routine communicates with PSS by using codes that are returned in register 15. Register notation is described in the next section.

## How the PSS Exit Routine (SCPSEXT1) Uses Registers

SCPSEXT1 is the default name for the PSS user exit routine. The exit lets a user modify output before the output is sent to a system printer.

A PSS exit routine uses four registers and can modify the contents of any register not listed below. A general description is followed by an explanation specific to SCPSEXT1.

At entry to a PSS exit routine, the following register conventions apply:

### Register 1

Contains the address of a fullword that points to the parameter list that contains both input and output parameters.

SCPSEXT1 uses Register 1 to contain the address of a fullword that points to the PSEX1PAR parameter list.

### Register 13

Contains the address of an 18-fullword register save area. It is not necessary for user exit routines to save or restore registers.

SCPSEXT1 uses Register 13 to contain the address of an 18-fullword register save area.

### Register 14

Contains the return address.

SCPSEXT1 uses Register 14 to contain the return address.

### Register 15

Contains the entry point address of the user exit routine.

SCPSEXT1 uses Register 15 to contain the entry point address of the user exit routine.

On return from a PSS exit routine, the following register conventions apply:

### Register 15

Contains the response code returned from the user exit routine.

On return from SCPSEXT1, the output buffer contains the edited line. The output buffer's address is located in EX1OBFAD. Additionally, Register 15 contains one of the following response codes:

#### 00

Indicates a normal return. The line prints and processing continues.

#### 04

Specifies a return to the PSS exit routine after the line prints. This produces multiple output lines from a single input line. The same input line is again passed when returning to the exit routine.

## SCPSEXT1 Data Areas

The PSEX1PAR macro generates the EX1PARAM DSECT, which contains all common and exit-dependent data areas that the site-written exit routine provides. To make these data areas available to the exit routine, the routine must include this macro.

The fullwords of EX1PARAM contain addresses of the input and output parameters that are available to the exit routine. The following is how the DSECT appears:

EX1PARAM	DESECT		
EX1DSTNM	DS	F	Address of Printer destination name
EX1KJSD	DS	F	Address of DBCS Shift-Double Character
EX1KJSS	DS	F	Address of DBCS Shift-Single Character
EX1IBFAD	DS	F	Address of Input Buffer
EX1IBFLN	DS	F	Address of Input Buffer Length
EX1OBFLN	DS	F	Address of Output Buffer
EX1OBFAD	DS	F	Address of Output Buffer Length

### **EX1DSTNM**

Input data area. This is a fullword that contains an address that points to the eight-character system printer name.

### **EX1KJSD**

Input data area. This is a fullword that contains an address that points to the one-byte DBCS shift-double character. This character identifies the beginning of DBCS data in an input line.

### **EX1KJSS**

Input data area. This is a fullword that contains an address that points to the one-byte DBCS shift-single character. This character identifies the end of DBCS data in an input line.

### **EX1IBFAD**

Input data area. This is a fullword that contains an address that points to the input buffer. The input buffer contains the data to test for shift-double and shift-single characters surrounding DBCS data and modified accordingly by the user exit routine.



**EX1IBFLN**

Input data area. This is a fullword that contains an address that points to a fullword field that contains the input buffer length.

**EX1OBFLN**

Output data area. This is a fullword that contains an address that points to a fullword field that contains the output buffer length.

**EX1OBFAD**

Output data area. This is a fullword that contains an address that points to a 240-byte output buffer. The user exit routine is responsible for filling any unused bytes in the output buffer with blanks.

## Modifying the Output Control Character

If you design a user exit routine that modifies or provides the output control character, you can only specify PSS control characters. This is because PSS later translates this control character to a valid printer control character before it sends the data to a system printer. Valid PSS control characters are:

**X'00'**

Advances 0 (zero) lines. This is for an overstrike.

**X'FF'**

Advances to a new page. This is for a form feed.

**X'nn'**

Advances *nn* lines, where *nn* is a number from 01 through FE (254).

## PSS Modules That Require Special Link-Edits

SCPSMAIN and SCPSUTIL require special link-edits to support user exit routines. SCPSUTIL executes in batch. The online environment uses it to move print files from ADROUT to the system printer. SCPSMAIN is called during batch product execution to send output directly to the system printer.

The following JCL assumes that the SCPSEXT1 module was assembled and the object code is in the object library.

```
//          JOB
//*                               SCPSMAIN Link Edit
//JS01      EXEC IEWL,COND=(0,NE)
              PARM='XREF,LIST,NCAL,REUS(RENT) '
//SYSLMOD   DD DISP=SHR,DSN=LOAD
//SITEOBJ   DD DISP=SHR,DSN=site.object.library
//ADROBJ    DD DISP=SHR,DSN=OBJECT
//          DD DISP=SHR,DSN=OBJECT
//          DD DISP=SHR,DSN=OBJECT
//SYSIN     DD *
INCLUDE     ADROBJ(SCPSMAIN)
INCLUDE     SITEOBJ(SCPSEXT1)
NAME       SCPSMAIN(R)
/*
//*                               SCPSUTIL Link Edit
//JS02      EXEC IEWL,COND=(0,NE)
              PARM='XREF,LIST,NCAL,REUS(SERIAL) '
//SYSLMOD   DD DISP=SHR,DSN=LOAD
//SITEOBJ   DD DISP=SHR,DSN=site.object.library
//ADROBJ    DD DISP=SHR,DSN=OBJECT
//          DD DISP=SHR,DSN=OBJECT
//          DD DISP=SHR,DSN=OBJECT
//SYSIN     DD *
INCLUDE     ADROBJ(VPE9861)
INCLUDE     ADROBJ(SCPSUTIL)
INCLUDE     ADROBJ(SCPSUTFN)
INCLUDE     SITEOBJ(SCPSEXT1)
ENTRY      $VTPTIN
NAME       SCPSUTIL(R)
/*
```

## Managing and Administering Print Services

This section describes how to establish and manage the Print Subsystem (PSS) print environment and how to administer print services. The print environment includes the facilities to process, route, and manage outputs.

Commands for using the print facilities of PSS include commands that:

- Initiate output requests.
- Display the status of an output request.
- Delete an output.
- Display output destinations.

- Browse outputs.
- Perform many of the above functions for other users' outputs.
- Define or alter print destinations.
- Set options for the print environment.
- Define the master or another user's job card.

Output destination definitions are stored in a member in ADROUT that creates an online destination table. When CICS is started, PSS checks for the destination table. If it does not exist, the table is created from the destination definitions stored in ADROUT. To enter destination definitions in the ADROUT member, use the DEFINE OUTPUT DESTINATION command.

Print Service administration commands are listed in the following sections. You can set the print environment site options from a fill-in PSS provides. Access this fill-in by issuing the command SET OUTPUT SITE OPTIONS. The print environment site options and the fill-in that sets them are described in [PSS Site Options Fill-in Panel](#) (see page 45).

You can use the commands that follow to control the disposition, the number of copies, the retention time, and the destination of output.

## Defining Printer Destinations

The printer destination table resides in the ADROUT library. Keep the following facts in mind:

- Each system and network printer must be defined using the DEFINE OUTPUT DESTINATION command.
- You can modify network printers using the ALTER OUTPUT DESTINATION NETWORK command once they are defined.
- LIBRARY is already defined as an output destination when the PSS component is installed and ADROUT is initialized.
- You do not need to define CA eMail+ destinations. They are defined using CA eMail+ facilities.
- PSS supports network printers that are 328x-compatible.
- All TCT entries should exist in the CICS regions sharing an ADROUT library. For more information regarding multiple environments and the considerations for sharing ADROUT, see Appendix A.
- When defining a network printer, you can specify the following characteristics to override the hardware specifications:
  1. Whether a header or trailer page is printed.
  2. Width of the printer's print line.

## Network Printer Definition Considerations

When defining network printers, there are additional characteristics and hardware overrides that you can specify. These characteristics include:

- Formfeed control
- Header and trailer pages
- Print line width

You can logically view an output printed at a network printer as five separate components. All of the components except the output itself are optional.

1. Initial Formfeed
2. Header Section
  - a. Header Text
  - b. Header Formfeed
3. Output
4. Trailer Section
  - a. Trailer Formfeed
  - b. Trailer Text
5. Final Formfeed

The following is a detailed explanation of some of the options used when defining or modifying network printer definitions. The commands that use these options are `DEFINE OUTPUT DESTINATION NETWORK` and `ALTER OUTPUT DESTINATION`.

FF YES  
FF NO  
FF HEADER  
FF TRAILER

Controls the PSS generated formfeeds at the beginning and end of an output routed to a network printer.

**FF YES** PSS issues a formfeed at the start and end of the print. This option results in blank pages between PSS outputs printed consecutively. Use this option when non-PSS outputs printed to the same printer do not generate consistent formfeed control.

**FF NO** PSS does not issue formfeeds at the start or end of the print. This option prints outputs on the same page between PSS outputs printed consecutively. Use this option when the printer does not have a fixed page size, such as rolled paper.

**FF HEADER** A formfeed is issued at the beginning of each new print. This insures that each PSS print starts at the beginning of a new page. Use this option to provide compatibility with the workings of non-PSS output that can also print to the same printer.

**FF TRAILER** A formfeed is issued at the completion of each print. This option places the printer at the top of a blank page after each PSS print is complete. Use this option when you want to remove the printed output from the printer when it is complete without having to wait for the next printout to start or manually intervene with the printer.

**Note:** The values HEADER and TRAILER associated with the FF parameter are not the same as the HEADER *opt* and TRAILER *opt* parameters of the DEFINE OUTPUT DESTINATION NETWORK and ALTER OUTPUT DESTINATION commands.

**PERTASK *nnn*** Determines how many outputs can process during one print transaction for a specified printer. If the network printer is dedicated to a single CICS region, define this option as 0 to allow the minimum initialization and termination overhead. Set a number greater than 0 to reduce the amount of time PSS can monopolize a printer.

**WIDTH *nnn*** If greater than 0, the value determines the default width of the printer. If 0, the site option default network printer width on SET OUT SITE is used. If the default network printer width is also defined as 0, the TCT definition for the network printer determines the printer width.

### Initial Formfeed Generated if FF=YES or FF=HEADER

```
<<Formfeed>>
```

### Header Section Printed if HEADER=YES

```
*****
*
* Start of output listing on printer PR17, Date 06/27/05 at 12:06:11 *
* User name $IDEAL User ID $ID *
* Output name WORDNUMS Output number 0192 *
* Output destination NETWORK PR17 Originating terminal 0008 *
* Output description LIST STATEMENT OUTPUT *
*****
<<Formfeed>>
```

### Output \* (Always Printed)

```
(BEGINNING OF OUTPUT)
.
.
.
(END OF OUTPUT)
```

## Trailer Section Printed if TRAILER=YES

```
<<Formfeed>>
*****
*
*   End of output listing on printer PR17, Date 06/27/05 at 12:06:13 *
*****
```

## Final Formfeed Generated if FF=YES or FF=TRAILER

```
<<Formfeed>>
```

**Note:** If the first control character in the output listing is a formfeed(as in many outputs) and if PSS just issued a top-of-page because of the FF or HEADER options, PSS detects that the printer is positioned at the top of page and suppresses the initial formfeed that resides in the printout.

## PRINT OUTPUT DESTINATION Command

This command produces a display of all valid output destinations.

```
PRINT OUTPUT DESTINATION[S]
```

The printed output looks just like the displayed output from the DISPLAY OUTPUT DESTINATION command shown in the next section.

## DISPLAY OUTPUT DESTINATION Command

This command produces a display of all valid output destinations.

DISPLAY OUTPUT DESTINATION[S]

The following is an example of the display that the DISPLAY OUTPUT DESTINATION command produces.

```

----->>>
IDEAL  DISPLAY OUTPUT          OUT DSPDESTS (00112)          DISPLAY
+-----+-----+-----+-----+-----+-----+-----+
                                D E S T I N A T I O N
+-----+-----+-----+-----+-----+-----+-----+
  TYPE.NAME      DISP  BLK/WIDTH  HEADER  TRAILER  LINES  FF  PERTASK
+-----+-----+-----+-----+-----+-----+-----+
  SYS.LOCAL      READY
  SYS.USPRNCMC   READY
  SYS.R199       READY
  NET.PNP1       READY    130        YES    NO
  NET.PNP2       READY
  NET.USPRNCP1   P-DISA
  
```

The information that displays includes:

**NAME**

The name of the printer. CICS does not access network printers whose name is greater than four characters.

**TYPE**

The printer type is SYS for system or NET for network.

**DISP**

The current printer disposition. You can define the disposition for a printer as READY or HOLD. The system assigns P-DISA when CICS cannot access a network printer. See the screen for an illustration.

**BLK/WIDTH**

The current blocksize or width specification. Blocksize displays for system printers. Width displays for network printers. A value displays only when you have changed the printer width or blocksize using the ALTER OUTPUT DESTINATION command.

**HEADER**

The current specification for whether a header page prints with each output at the network printer.

**TRAILER**

The current specification for whether a trailer page prints with each output at the network printer.

**LINES**

The network printer setting for the number of lines to print per page. This parameter is obsolete.

**FF**

Controls the PSS-generated formfeeds at the beginning and end of an output.

**YES**

Issues formfeed at the start and end of print.

**NO**

Suppresses formfeeds.

**HEADER**

Issues formfeed at the start of print.

**TRAILER**

Issues formfeed at the end of print.

**PERTASK**

Specifies the maximum number of outputs that can process during one print transaction for a specified printer.

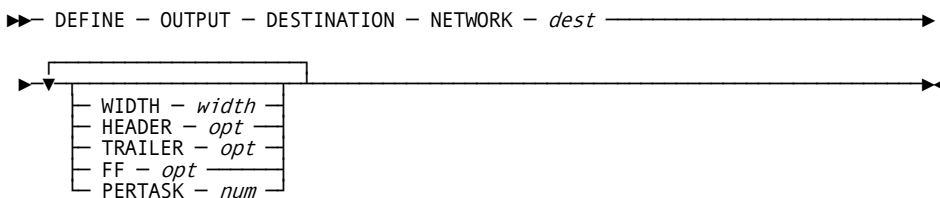


## DEFINE OUTPUT DESTINATION NETWORK Command

This command defines default settings for the specified network printer. The settings include:

- Width of the print line
- Printing a header and trailer page
- Initial and final formfeed control
- Maximum number of prints per transaction

These values override the actual printer settings. This syntax is positional. You can specify multiple options, but they must be in the order shown in the following diagram.



### ***dest***

The printer destination name.

### **WIDTH *width***

The width of the print line. For network printers, the value can be 80-250. Specify 0 to reset the width to the default setting.

### **HEADER *opt***

Defines whether a header page prints. Specify YES to print a header page and NO to suppress printing a header page. The default is YES.

### **TRAILER *opt***

Defines whether a trailer page prints. Specify YES to print a trailer page and NO to suppress printing a trailer page. The default is YES.

**FF *opt***

(Network printer only.) Controls the PSS-generated formfeeds at the beginning and end of an output.

**YES**

Issues formfeed at the start and end of print.

**NO**

Suppresses formfeeds.

**HEADER**

Issues formfeed at the start of print.

**TRAILER**

Issues formfeed at the end of print.

**PERTASK *num***

(Network printer only.) Specifies the maximum number of outputs that can process during one print transaction for a specified printer.

**Note:** PSS supports network printers that are 328x or compatible and that recognize the following printer control orders:

- Forms Feed (FF) : X'0C'
- Carriage Return (CR) : X'0D'
- New Line (NL) : X'15'
- End of Message (EM) : X'19'

For more detailed information on the FF *opt* and PERTASK *num* options, see [Network Printer Definition Considerations](#) (see page 60).

## DEFINE OUTPUT DESTINATION SYSTEM Command

This command establishes the output destination of a system printer (your local printer).

►► DEFINE – OUTPUT – DESTINATION – SYSTEM – *name* [ BLKSIZE – *nnnnn* ] ◄◄

**SYSTEM *name***

Specifies the one- to eight-character name of a system printer.

**BLKSIZE *nnnn***

(For z/OS only.) Specifies the maximum blocksize for files printed at the specified system printer. The default blocksize is 32 times the record length.

Valid values are **1-32767** bytes.

The actual blocksize is calculated based on the record length and equals the number of records that fit in the specified maximum blocksize.

## DELETE OUTPUT DESTINATION Command

The DELETE OUTPUT DESTINATION command removes the output destination of a network (NETWORK) or system (SYSTEM) printer.

The following is the syntax for the command to set this option:

```
▶▶ DELETE - OUTPUT - DESTINATION - SYSTEM - name ┌ NETWORK - name ───▶
└ SYSTEM - name ───▶
```

**NETWORK *name***

Specifies the one- to eight-character name of the network printer.

**SYSTEM *name***

Specifies the one- to eight-character name of the system printer.

## ALTER OUTPUT DESTINATION DISPOSITION Command

This command changes the disposition of all existing outputs queued for either a specific destination or all destinations.

The following is the syntax for the command to set this option:

```
▶▶ ALTER - OUTPUT - DESTINATION - SYSTEM ┌ ALL ───▶
└ name ───▶ DISPOSITION - disp ───▶
```

**ALL**

The disposition is changed for all existing output, regardless of the destination.

***name***

The disposition is changed for all existing output at the named destination.

***disp***

The disposition for all output printed at the named destination. The valid values are READY or HOLD.

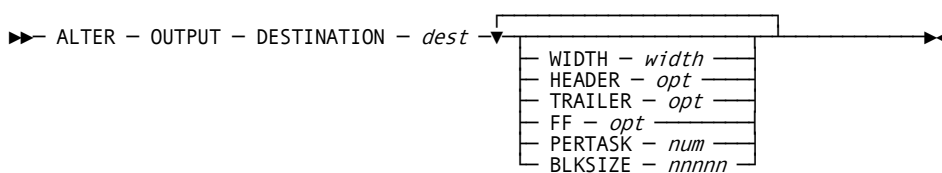
**Note:** The disposition of any new output created after execution of this command is not affected. Only existing outputs are changed.

## ALTER OUTPUT DESTINATION Command

This command alters the default settings for the specified network printer. The settings include:

- Printing a header page
- Printing a trailer page
- Width of the print line
- Number of lines per page

These values override the actual printer settings.



### **dest**

The name of the destination printer (system printer or network printer).

### **WIDTH width**

(Network printer only.) The width of the print line. For network printers, the value can be 80-250. Specify 0 to reset the width to the default value.

### **HEADER opt**

(Network printer only.) Defines whether a header page prints. For *opt*, specify YES to print a header page or NO to suppress printing a header page.

### **TRAILER opt**

(Network printer only.) Defines whether a trailer page prints. For *opt*, specify YES to print a trailer page or NO to suppress printing a trailer page.

### **FF opt**

(Network printer only.) Controls the PSS-generated formfeeds at the beginning and end of an output.

#### **YES**

Issues formfeed at the start and end of print.

#### **NO**

Suppresses formfeeds.

**HEADER**

Issues formfeed at the start of print.

**TRAILER**

Issues formfeed at the end of print.

**PERTASK *num***

(Network printer only.) Specifies the maximum number of outputs that can process during one print transaction for a specified printer.

**Note:** For more detailed information on the FF and PERTASK options, see [Network Printer Definition Considerations](#) (see page 60).

**BLKSIZE *nnnn***

(For z/OS only.) Specifies the maximum blocksize for files printed at the specified system printer. The default blocksize is 32 times the record length.

Valid values are **1-32767** bytes.

The actual blocksize is calculated based on the record length and equals the number of records that fit in the specified maximum blocksize.

## Output Members

You can browse output stored in the output library online or printed on a system or network printer at a later time.

For outputs whose destination is the output library or a network printer, or for any outputs initiated from an online session, there is a limit to the number of lines per output. The limit is set at installation. However, output issued as a result of a batch request going to the system printer has only the line limit you establish through standard batch JCL.

In batch, the destination clause cannot specify a destination type of NETWORK.

## Output Disposition

Output disposition determines the state of the output and how it is handled under requests issued online or in batch. The disposition options consist of RELEASE, HOLD, and KEEP, described in the following.

		Print Request Issued - Online		Print Request Issued - Batch	
		Destination		Destination	
Output Disposition	Output Library	Sys/Net Printer or MAIL	Output Library	System Printer	
Release	Output is placed in output library for browsing at the terminal	Output is placed in output library and batch job is printed on a system or network printer	Output is placed in output library for browsing at the terminal	Output is printed on the system printer in batch	
	Output is placed in output library for browsing at the terminal	No copy is retained in output library	Output is placed in output library for browsing at the terminal	No copy is placed in the output library	
Hold	Output is placed in output library for browsing at the terminal	Output is placed in output library and held until released (using ALTER OUT and PRINT OUT)	Output is placed in output library for browsing at the terminal	Not applicable	
Keep	.	Output is placed in output library and batch job is printed on a system or network printer	.	Not applicable	
	.	Copy is retained in output library	.		

### Notes regarding output disposition

- An output is retained in the output library until it is deleted in one of the following ways:
  - With the DELETE OUTPUT command.
  - When the retention period expires. The default retention period is established using a SET OUTPUT fill-in. You can modify the retention period of a user's output by using the ALTER OUTPUT RETENTION command.
  - When the disposition is RELEASE and the output is printed. You can change the disposition with the ALTER OUTPUT DISPOSITION command.
  - When the disposition is RELEASE and the output is viewed with a DISPLAY OUTPUT command (and a KEEP OUTPUT command is not issued).
- The disposition parameter of an output in the output library is significant when the output is requested to print or after displaying an output online.

- You can modify the disposition of the output on the display output status screen. The actions available on that display include:

**D or S**

Display output member.

**H**

Alters the disposition to hold.

**K or L**

Alters the disposition to keep.

**P**

Print output member. Valid only after ALTER OUT modified the disposition of the member.

**R**

Alters the disposition to ready.

**Z**

Delete output member.

## Specifying Output Destinations

You can specify the output destination, name, and disposition for the PRINT command by appending a destination clause to the command.

You can also establish the destination by:

- Executing a SET OUTPUT command with a destination clause during the current session or batch input stream to affect subsequent commands only during the current session.
- Executing a SET OUTPUT SITE OPTIONS command to establish a site default.
- Executing an ALTER OUTPUT command to modify the destination clause.

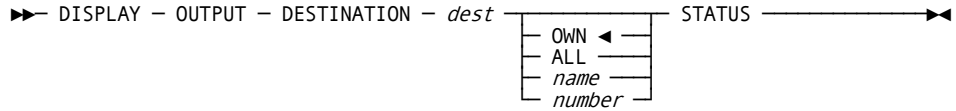
## Output Commands

Use the following PSS commands for output services.

## DISPLAY OUTPUT STATUS Command

The DISPLAY OUTPUT STATUS command displays or edits the status of output in the output library.

The following is the syntax for the command to set this option:



### OWN

Displays the status of outputs under the user's identification. This is the default. DISPLAY OUTPUT STATUS with no operands obtains the same display.

### ALL

Displays the status of all outputs.

### *name*

Displays the status of the output with the specified one- to eight-character name. If the name is not unique, a warning message and a list of all outputs with that name appear.

### *number*

Displays the status of the output with the specified one- to four-digit number.

On the output status display, you can position the cursor on the line showing an output and type a command to perform one of the following functions:

### **D or S**

Display output member.

### **H**

Alters the disposition to hold.

### **K or L**

Alters the disposition to keep.

### **P**

Print output member. Valid only after ALTER OUT modified the disposition of the member.

### **R**

Alters the disposition to ready.

### **Z**

Delete output member.



The following is an example of the top portion of the display produced by the DISPLAY OUTPUT ALL STATUS:

Actions: D=display, Z=delete, P=print												
A	NUM	UID	NAME	CP	RT	DISP	DATE_CRE	TIME	DESCRIPTION	NRECS	DST	DST_NAME
	9	MMM	TESTIT	01	02	READY	4/20/12	0933	COMPILE LIST	56	LIB	
	11	KRI	IQ936	01	02	READY	2/03/12	1136	COMPILE LIST	98	LIB	
	20	CAC	IQ936	01	02	READY	12/12/11	1346	LIST STATEME	108	SYS	LPT1

#### A

The column where you can place edit commands.

#### NUM

The number of the output.

#### UID

(USER ID) The user identification.

#### NAME

The name of the output. The name must be unique; otherwise a message and a list of all outputs with that name appear.

#### CP

(COPIES) The number of copies to print on a system or network printer.

#### RT

(RETENTION TIME) The retention time in days before the output is eligible for automatic deletion.

#### DISP

(DISPOSITION) The disposition of the output.

#### CRTIN

Output in the output library is being created.

#### PRINT

Output in the output library is print.

#### READY

Output is available for print or display.

#### HOLD

Output is held.

#### QHLED

Output destination's queue is on hold.

**KEEP**

Output is ready to print with a copy retained in output library after printing.

**LEAVE**

Output was printed but was left in the output library at the request of the user using a KEEP disposition.

**PRINTD**

Output already printed but kept for further browsing or printing.

**DELET**

Output deleted.

**DATE\_CRE**

The date of the output request in a format specified at installation.

**TIME**

(TIME REQUEST) The time of the output request in 24-hour format.

**DESCRIPTION**

A description of the output.

**NRECS**

The number of physical output lines in the report, excluding spacing and page skips.

**DST**

(DESTINATION TYPE) The possible destinations are:

**SYS**

System printer

**LIB**

Output library

**NET**

Network printer

**MAIL**

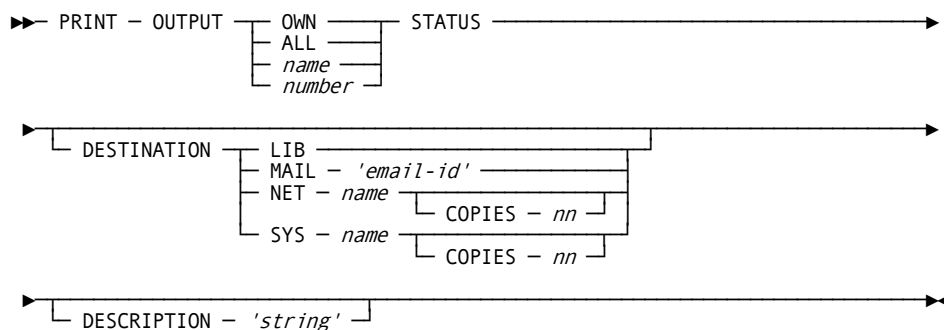
CA eMail+ user

**DST\_NAME**

(DESTINATION NAME) The destination name.

## PRINT OUTPUT STATUS Command

The PRINT OUTPUT STATUS command prints the status of a print request.



### OWN

Prints the status of outputs under the user's identification.

### ALL

Prints the status of all outputs.

### *name*

Prints the status of the output with the specified one- to eight-character name. If the name is not unique, a warning message and a list of all outputs with that name appear.

### *number*

Prints the status of the output with the specified one- to four-digit number.

### DESTINATION

Specifies the output destination.

#### LIBRARY

The output library.

#### MAIL '*email-id*'

A delimited 1- to 60-character name of a CA eMail+ destination.

#### NETWORK *name*

A network printer (not available in batch).

**SYSTEM *name***

A system printer name.

**COPIES *nn***

The number of copies to print on a network or system printer only. This option is ignored in batch.

**DESCRIPTION '*string*'**

A 1- to 32-character description of the output.

The format of the information the PRINT OUTPUT STATUS command produces is identical to the DISPLAY OUTPUT STATUS command.

**Examples**

```
PRINT OUTPUT X STATUS DESTINATION SYSTEM LPT1
PRINT OUTPUT ALL STATUS DEST SYS LPT1
PRINT OUTPUT STATUS
```

## DISPLAY OUTPUT Command

The DISPLAY OUTPUT command displays an output that resides in the output library. Once you display an output with this command, you can scroll and view it using the various browsing commands described in this chapter. After the browsing activity is ended (by initiating another activity or entering the command END), the output is deleted (if the disposition is RELEASE). You can retain the output by entering the command KEEP OUTPUT before ending the browse.

▶▶ DISPLAY – OUTPUT *name* *number* ◀◀

***name***

Displays the output with the specified one- to eight-character name. If the name is not unique, a warning message and a list of all outputs with that name appear.

***number***

Displays the output with the specified one- to four-digit number.

**Examples**

```
DISPLAY OUTPUT COMPLIST
DISPLAY OUTPUT 1234
```

## KEEP OUTPUT Command

The KEEP OUTPUT command is valid only during the DISPLAY OUTPUT activity. This command changes the output's disposition to KEEP and leaves the output in the output library after browsing. When the output disposition is RELEASE, it is deleted upon termination of the browsing activity.

```
▶▶ KEEP [ OUTPUT ]
```

**Note:** To change the output's disposition to KEEP outside of DISPLAY OUTPUT activity, use the ALTER OUTPUT command.

## DELETE OUTPUT Command

The DELETE OUTPUT command removes an output from the output library. Issuing the DELETE command without any operands displays the DELETE prompter.

```
▶▶ DELETE - OUTPUT [ name ] [ number ]
```

### **name**

The one- to eight-character name of the output. If the name is not unique, a warning message and a list of all outputs with that name appear.

### **number**

The one- to four-digit output number.

### **Examples**

```
DELETE OUT RPT23
DEL OUTPUT COMPLIST
DEL OUT 1234
```

## ALTER OUTPUT Command

This command changes the output destination, disposition, number of copies, or the retention period for outputs residing in the output library.

```
▶▶ ALTER - OUTPUT [ name ] [ number ] [ COPIES - nn ] [ DESTINATION - dest ] [ DISPOSITION - disp ] [ RETENTION - value ]
```

### **name**

The one- to eight-character name of the output to alter.

### **number**

The one- to four-digit output number.

**COPIES *nn***

Changes the number of copies of output requested. This can be any number from one up to the site maximum, as specified by the current session setting. This clause is ignored in batch.

**DESTINATION *dest***

Changes the destination of the output to one of the following:

**LIBRARY**

The output library

**NETWORK *name***

The network printer name

**SYSTEM *name***

The system printer name

**DISPOSITION *disp***

Changes the disposition of the output to HOLD, RELEASE, or KEEP as specified.

**RETENTION *value***

Changes the number of days the output is retained. The value can be any number of days from one up to the site maximum.

## DISPLAY INDEX OUTPUT Command

The DISPLAY INDEX OUTPUT command lists the name and status of each output member for the current user. It is equivalent to DISPLAY OUTPUT STATUS.

▶▶ DISPLAY – INDEX – OUTPUT ◀◀

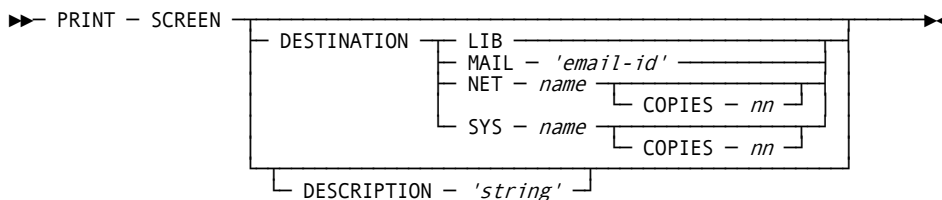
## PRINT INDEX OUTPUT Command

The PRINT INDEX OUTPUT command lists the name and status of each output member for the current user. It is equivalent to PRINT OUTPUT STATUS. PRINT INDEX OUTPUT

▶▶ PRINT – INDEX – OUTPUT ◀◀

## PRINT SCREEN Command

This command generates an output of the current screen contents.



### DESTINATION

Specifies the output destination.

### LIBRARY

The output library.

### MAIL '*email-id*'

A delimited 1- to 60-character name of a CA eMail+ destination.

### NETWORK *name*

A network printer (not available in batch).

### SYSTEM *name*

A system printer name.

### COPIES *nn*

The number of copies to print on a system or network printer only. This option is ignored in batch.

### DESCRIPTION '*string*'

A 1- to 32-character description of the output.

## PF/PA Key Assignments When Displaying Output

This section contains PF and PA key assignments when output is displayed. In the list below, commands in bold show assignments consistent throughout all facilities of PSS.

Command	Assignment
<b>RESHOW</b>	PA1
<b>DISPLAY PF/PA KEYS</b>	PA2
<b>HELP</b>	PF1/13
<b>RETURN</b>	PF2/14
<b>PRINT SCREEN</b>	PF3/15

<b>Command</b>	<b>Assignment</b>
SCROLL LEFT	PF4/16
SCROLL RIGHT	PF5/17
(unassigned)	PF6/18
<b>SCROLL BACKWARD</b>	PF7/19
<b>SCROLL FORWARD</b>	PF8/20
FIND	PF9/21
<b>SCROLL TOP</b>	PF10/22
<b>SCROLL BOTTOM</b>	PF11/23
(unassigned)	PF12/24

**PA1**

RESHOW - Refreshes a screen with the data as it originally appeared before data was entered for the current transaction. Changes made to the data on the screen during the current transaction are not applied.

**PA2**

DISPLAY PF/PA KEY ASSIGNMENTS - Lists PF and PA key assignments. Any data entered on the last transaction is not applied. Before signin is completed, you can use PA2 to end a PSS session.

**PF1/13**

HELP - Presents help information associated with displaying outputs.

**PF2/14**

RETURN - When in the help facility, returns to the original panel.

**PF3/15**

PRINT SCREEN - Generates an output of the current screen contents.

**PF4/16**

SCROLL LEFT - Scrolls the window to the left by frame or cursor according to the current default.

**PF5/17**

SCROLL RIGHT - Scrolls the window to the right by frame or cursor according to the current default.

**PF6/18**

Ignored.



**PF7/19**

SCROLL BACKWARD - Scrolls backward by frame or cursor position according to the current default.

**PF8/20**

SCROLL FORWARD - Scrolls forward by frame or cursor position according to the current default.

**PF9/21**

FIND - Searches for the next occurrence of a string previously specified in a FIND command.

**PF10/22**

SCROLL TOP - Positions to the first line of the output.

**PF11/23**

SCROLL BOTTOM - Positions to the last line of the output.

**PF12/24**

Ignored.

## Editing a Jobcard

To satisfy output requests with a destination of a system printer, the PSS print environment submits a batch job to the host operating system. The PSS print environment provides resources to store a job card for each user ID and a MASTER job card. The MASTER job card is used when the current user has no job card. The MASTER job card is also used as the initial model for editing when a user first issues the EDIT JOBCARD command (to create a user job card).

The rest of the JCL to carry out the batch print request is identified on the SET OUTPUT SITE panel as Name of the batch JCL proc. If a PSS user submits a member without a job card, PSS uses this same user job card or MASTER job card.

The PRINT administrator can display or edit any user job card or the MASTER job card with the command:

**DISPLAY or EDIT JOBCARD**

```

▶▶ [ DISPLAY ] JOBCARD [ MASTER ] _____ ▶▶
   [ EDIT   ]          [ USER - user-id ]

```

A job card fill-in consists of five 80-column lines. You can enter any JCL statements that are valid as the first one to five statements in a batch job stream. For more information about the DISPLAY and EDIT JOBCARD commands, see the *CA Ideal Command Reference Guide*.



# Chapter 4: Customizing the Panel Management System (PMS) Component

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This section contains the following topics:

[How to Modify the PMS Tables](#) (see page 83)

[How to Modify the Alphabet and Dates \(PMSTBLS\)](#) (see page 83)

[How to Modify the PMS Conversion Tables \(PMSTRUC, PMSTRND, and PMSTRNDK\)](#) (see page 87)

## How to Modify the PMS Tables

The CA IPC Panel Management System (PMS) provides ways of customizing your system by changing values in a set of tables. The tables are:

- PMSTBLS specifies the names and abbreviations of months and days and the uppercase and lowercase characters of an alphabet.
- PMSTRUC specifies the conversion characters that translate lowercase characters to uppercase characters.
- PMSTRND and PMSTRNDK specify the conversion characters that translate special characters.

## How to Modify the Alphabet and Dates (PMSTBLS)

The \$PMSTBLS macro generates the PMSTBLS module, which contains the names and abbreviations for the months and weekdays and the uppercase and lowercase alphabet translate tables. You must modify the \$PMSTBLS macro when you make changes to this PMS table. One reason to change PMSTBLS is to build a system for a language, such as French. A PMSTBLS source containing the default \$PMSTBLS call is distributed with the system to make modification easier.

## How to Change PMSTBLS

Use the following procedure to change the default PMS tables.

1. Get the PMSTBLS source member from the CA IPC CAIMAC library.
2. Use the following information in the \$PMSTBLS Macro Format Descriptions to make the necessary changes. The following conventions are in effect:
  - For environments that support standard lowercase EBCDIC characters, for example, X'81' through X'B9', the names of months and days are specified in lowercase with the first character in uppercase.
  - For an environment that does not use X'81' through X'B9' for standard lowercase EBCDIC characters, specify the names exactly as they should appear and specify ALLOWUC=NO.
  - If an apostrophe or ampersand is part of a name or an alphabet, type two apostrophes or two ampersands to specify one character inside of a quoted string.
  - A list of names, including commas, is restricted to 256 characters by the assembler.
3. Assemble and linkedit the modified PMSTBLS using the following sample JCL:

```
//          JOB
//*
//JS01     EXEC ASMA90, PARM='NODECK, LOAD'
//ASM.SYSLIB DD DISP=SHR, DSN=SOURCE
//          DD DISP=SHR, DSN=SOURCE
//          DD DISP=SHR, DSN=SOURCE
//          DD DISP=SHR, DSN=SYS1.MACLIB
//SYSGO    DD DISP=SHR, DSN=OBJECT(PMSTBLS)
//SYSIN    DD *
           COPY PMSTBLS
           END
/*
//JS02     EXEC IEWL, COND=(0, NE),
//          PARM='XREF, LIST, NCAL, REUS(RENT)'
//SYSLMOD DD DISP=SHR, DSN=LOAD
//OBJECT   DD DISP=SHR, DSN=OBJECT
//SYSIN    DD *
           INCLUDE OBJECT(PMSTBLS)
           NAME      PMSTBLS(R)
/*
```

## \$PMSTBLS Macro Format Descriptions

The parameters are presented in alphabetical order. Use the following descriptions to decide which settings are appropriate for your site:

### **ADAYS=**

(Input required.) Specifies the abbreviations of the seven days, Sunday through Saturday. The value is a list of seven names enclosed by parentheses. You can enclose each name in quotes, but this is required only when the environment does not support standard lowercase EBCDIC characters (X'81' through X'B9').

The default is SUN.

### **ALLOWUC=**

(Input optional.) Specifies whether the month and day names can be converted to uppercase by using standard uppercase translation, for example, converting X'81' to X'C1', and so on. The values are:

#### **YES**

The default. The names were specified in lowercase EBCDIC and can safely be translated when you want uppercase output.

#### **NO**

The names were specified using foreign characters and should never be translated. This is used in environments where the lowercase EBCDIC characters were replaced by other graphics, such as the Katakana characters on an IBM 5550.

### **AMONTHS=**

(Input required.) Specifies the abbreviations of the twelve months, January through December. The value is a list of twelve names enclosed by parentheses. You can enclose each name in quotes, but this is required only when the environment does not support standard lowercase EBCDIC characters (X'81' through X'B9').

### **DATE=**

(Input optional.) Specifies the date of the assembly as eight characters, in the form *mm/dd/yy* (without quotes), where *mm* stands for the month, *dd* stands for the day of the month, and *yy* stands for the year. If your assembler supports &SYSDATE., you can specify DATE=&SYSDATE. The default specification is eight blank characters.

**DAYS=**

(Input required.) Specifies the full names of the seven days, Sunday through Saturday. The value is a list of seven names enclosed by parentheses. You can enclose each name in quotes, but this is required only when the environment does not support standard lowercase EBCDIC characters (X'81' through X'B9').

**FIRSTWW=**

(Input optional.) Specifies how the WW date pattern treats a partial week at the start of the year. Values are:

**0**

A value of 0 is returned for dates before the first full week of the year. WW values range from 0 to 53. The dates in the first full week of the year have a value of 1.

**1**

A value of 1 is returned for dates before the first full week of the year. WW values range from 1 to 54. The dates in the first full week of the year have a value of 2.

The default is 0.

**LCALPHA=**

(Input required.) Specifies the characters in the lowercase alphabet. The value is a string, which must be enclosed by single quotes, that contains each character of the alphabet. You must include a blank character. You can specify the characters in any order.

**MONTHS=**

(Input required.) Specifies the full names of the twelve months, January through December. The value is a list of twelve names enclosed by parentheses. You can enclose each name in quotes, but this is required only when the environment does not support standard lowercase EBCDIC characters (X'81' through X'B9').

**STRTDAY=**

(Input optional.) Specifies the day of the week that begins with and affects the WW and WEEKDAY functions. Values are:

**SUN**

The first day of the week is Sunday.

**MON**

The first day of the week is Monday.

**TIME=**

(Input optional.) Specifies the time of the assembly as five characters, in the form *hh.mm* (without quotes), where *hh* stands for the hour, and *mm* stands for the minute. If your assembler supports &SYSTIME., you can specify TIME=&SYSTIME. The default specification is five blank characters.

**UCALPHA=**

(Input required.) Specifies the characters in the uppercase alphabet. The value is a string, which must be enclosed by single quotes, that contains each character of the alphabet. You must include a blank character. You can specify the characters in any order.

## How to Modify the PMS Conversion Tables (PMSTRUC, PMSTRND, and PMSTRNDK)

The PMS conversion tables are stored as a series of load modules that consist solely of the translate table characters. PMSTRUC is a table of conversion characters that translates lowercase characters to uppercase characters in panel fields that were specified as uppercase-only. PMSTRND and PMSTRNDK are tables of conversion characters that translate special characters in all output fields to support a variety of output devices. PMSTRND translates special characters on devices other than the IBM 5550 terminal. PMSTRNDK only translates special characters on the IBM 5550 terminal.

Each table is a series of 256 hexadecimal characters that correspond to hexadecimal digits X'00' to X'FF'. For PMSTRUC, the characters in the table replace the corresponding characters in a string typed into a terminal or output to a panel field. For PMSTRND and PMSTRNDK, the characters in the table replace the corresponding characters in a string output to any field. The translated character must be supported on the output device.

The translation proceeds from left to right on the field. Each character in the field is used as an offset into this table. The character from the appropriate location in the table is moved into the updated string.

For example, if you enter a lowercase letter a (X'81') into an uppercase-only field and the value of the PMSTRUC table at offset X'81' is X'C1', then the character a is translated to A.

If the value of the table at offset X'81' is X'81', then the character is not translated.

If the value of the table at offset X'81' is a question mark (X'6F'), then on input the character is translated to a question mark. On output, the character is translated to the current non-display character. The non-display character is defined as a PDF parameter.

If PMSTRND has the hexadecimal representation of a backslash character (X'E0') at offset X'E0', then outputting a X'E0' displays a backslash. If PMSTRND has the hexadecimal representation of a question mark (X'6F') at offset X'E0', then outputting X'E0' displays the current non-display character.

To modify the translation of a character, you must zap the appropriate load module using the hex value of the character as an offset. Verify the current value and replace it with the new value.

For example, to modify PMSTRND to translate the character a to the character A:

```
VER 0081 X'6F'  
REP 0081 X'C1'
```

To stop translating the character a:

```
VER 0081 X'C1'  
REP 0081 X'81'
```

To translate the character a to a question mark or non-display character:

```
VER 0081 X'C1'  
REP 0081 X'6F'
```

To modify PMSTRND to turn on the backslash character in output displays:

```
VER 00E0 X'6F'  
REP 00E0 X'E0'
```

To turn off the backslash character in output displays:

```
VER 007B X'E0'  
REP 007B X'6F'
```

PMSTRUC, PMSTRND, and PMSTRNDK are supplied on the CA IPC installation tape.

**Note:** Translating any of the following control characters has no effect:

Control Order	Hex Character
Start Field	1D
Set Buffer Address (SBA)	11
Insert Cursor (IC)	13
Repeat to Address (RA)	3C
Start Field Extended (SFE)	29
Erase Unprotected to Address (EUA)	12



<b>Control Order</b>	<b>Hex Character</b>
Modify Field (MF)	2C
Set Attribute (SA)	28



# Chapter 5: Other Customization

---

This section contains the following topics:

[How to Change Default File Names](#) (see page 91)

[How to Change Default Destination Identifiers](#) (see page 92)

[How to Modify the VPE File Tables](#) (see page 93)

## How to Change Default File Names

If you discover that the ADRLIB (the member and message library), ADRPNL (the panel library), and ADROUT (the PSS Spool library) file names conflict with existing file names, you can change them by performing the following steps:

1. Get SC00OPTS (the SCF static options CSECT) from the CA IPC CUSMAC library. Change all occurrences of the file names to the appropriate values. Assemble and link SC00OPTS into the CA IPC CUSLIB.

**Note:** Names must be one to eight characters. The first character must be alphabetic or national. The remainder must be alphabetic, national, or numeric. For examples and additional information, see [How to Modify the SCF Static Options](#) (see page 26).

2. Get the PSS Utility File Table (SCPSUTFT) from the CA IPC CUSMAC library. (If the member does not already exist, copy CA IPC CAVQSAMP member IPCVPEB into a new CUSMAC member named SCPSUTFT.) Change all occurrences of the file names to the appropriate values. Assemble and link the PSS Utility File Table (SCPSUTFT) into the CA IPC CUSLIB.

**Note:** Names must be one to eight characters. The first character must be alphabetic or national. The remainder must be alphabetic, national, or numeric. For examples and additional information, see [How to Modify the SCF Static Options](#) (see page 26).

3. Change the CICS start-up JCL to specify the new DD file names. These file names are contained in the JCL copybooks in the CA IPC CUSPROC library.
4. If you changed the name of the PSS Spool library, you must restart CICS with the changed tables and programs. Sign in to an account as a PSS administrator and enter the command:

```
SET OUTPUT SITE OPTIONS
```

This displays the PSS site options fill-in panel into which you can enter the new name of the PSS Spool library. For more information, see [How to Set PSS Site and Session Options](#) (see page 45).

You must also make the corresponding changes to the CA Ideal z/OS procedure, PSSUTIL, batch JCL (IDLBATCH), and batch file table. The following table shows the places in the system where a change in a filename must be reflected:

	ADRINT	ADRLIB	ADRLOG	ADROUT	ADRPNL	ADRSUB	ADRTRC
IPCFILE	x	x	x	x	x	x	x
VQ14CSD			x			x	x
CA Ideal JCL PROCS	x	x	x	x	x	x	x
PSSUTIL				x	x		
SC00OPTS		x			x		
SCPSUTFT	x	x		x	x		

## How to Change Default Destination Identifiers

If you discover that the destination identifiers ADRL (log file) or ADRT (trace file) conflict with existing destination identifiers, use the following procedure to change them.

1. Sign in to an account as an SCF administrator and enter the command:

```
SET COMMAND SITE OPTIONS
```

Or

```
SET CMD SITE
```

The SCF site options fill-in panel displays. Review the information in [How to Set SCF Site and Session Options](#) (see page 17). Modify the appropriate fields to change the name of one or both destination identifiers.

Press Enter.

**Note:** Destination identifiers must be one to four characters long. The first character must be alphabetic or national. The remainder must be alphabetic, national, or numeric.

2. Reassemble and link your CA Ideal file table to include the updated entries stored in the CA IPC copy book. For more information, see the *CA Ideal Administration Guide* regarding IDSYSFT.
3. Modify the CIS TDQ names (default Group name is SI11GRP).

## How to Modify the VPE File Tables

To describe files to VPE online or in batch, you must assemble a VPE file table. The CA Datadictionary component of CA Datacom/DB, CA Ideal, and the Print Subsystem (PSS) require VPE file tables. For instructions to modify these VPE file tables, see the CA Datacom/DB documentation for CA Datadictionary and *CA Ideal Administration Guide* for CA Ideal.

Use the following procedure to change the values of VPE batch file table entries:

1. Retrieve the CA IPC portion of the VPE file table from the CAVQSAMP member IPCVPEB.
2. Use the ROSFD macro description in the following section to modify file entries in the table and save it to the CUSMAC library.
3. Refer to the individual product guides for instructions on how to include the updated source copy books into that product's file tables.

## ROSFD Macro

The following is the syntax for the ROSFD macro:

```

▶▶▶ namelabl - ROSFD - ACCMETH= [ BDAM
                               SEQ ] , _____
▶ [ ADDRESS= [ ABS
              RELBLK
              RELTRK ] ] , - BLKSIZE= - nnnnn _____
▶ CTLCHAR= [ YES
            ASA ] , [ DDNAME= [ namelabl
                               ddname ] ] , _____
▶▶▶ LRECL= - nnnn - , _____

```

### ***namelabl***

This label is a required field. At execution time, it is used as the name provided on VPE I/O service calls for the data set. If you do not specify a name for the following DDNAME= keyword, ROSFD uses this name for the data set.

### **ACCMETH=**

Specifies the access method used for the data set. Valid values are:

#### **BDAM**

Default.

#### **SEQ**

Specifies the sequential access method.

**ADDRESS=**

Specifies the type of addressing used for data sets specified as ACCMETH=BDAM. Valid values are:

**ABS**

Absolute Addressing, which uses the MBBCCHHR addressing

**RELBLK**

Relative Block Addressing.

**RELTRK**

Relative Track Addressing, which uses the TTR addressing scheme. This is the default scheme.

**BLKSIZE=**

Specifies a data set's block size. Valid values are 0 through 32767 bytes. If you specify BLKSIZE=0, you must place the BLKSIZE value in the JCL or the DSCB of the data set.

**CTLCHAR=**

Specifies the type of printer control character. Valid values are:

**ASA**

ANSI

**YES**

360-machine type

**DDNAME=**

Specifies the ddname that identifies a physical data set. You can enter a valid ddname or omit a value. If you omit a value, the name label is used as the ddname.

**LRECL=**

Specifies the logical record length of the data set. If you specify LRECL=0, you must place the LRECL value in the JCL or the DCB of the data set.

## How to Modify the SCPSUTIL Output Printer Control Character or Filenames

Use the following procedures to modify the SCPSUTIL output printer control character or filenames.

## Printer Control Character

The Print Subsystem (PSS) uses a file called AUXPRINT to write output for batch print requests whenever SCPSUTIL is executed. The PSS batch file table (SCPSUTFT) contains the type of printer control character used for file AUXPRINT. The type of control character is defined as FBA when CA IPC is installed. To alter the type of control characters to FBM to specify the machine, perform the steps shown below.

1. Retrieve the SCPSUTFT source member from the CA IPC CUSMAC library. This member contains the entries that are the CA IPC portion of the batch processing file tables that PSS uses and by products such as CA Ideal. (If the member does not already exist, copy CA IPC CAVQSAMP member IPCVPEB into a new member named SCPSUTFT to the CUSMAC library.)
2. Locate the table entry for AUXPRINT and change the ROSFD parameter from RECFM=FBA to RECFM=FBM.
3. Save the updated SCPSUTFT source into the CA IPC CUSMAC library. This source is a copybook that is used during creation of the multiple batch file tables.
4. Modify the sample JCL below and submit it for execution. This assembles and linkedit the PSS batch file table (SCPSUTFT). This is the batch file table that contains the file AUXPRINT. SCPSUTIL uses this file.

## Filenames

You can also modify filenames in SCPSUTIL. For details, see the section titled How to Change Default File Names earlier in this chapter. Then modify the sample JCL below and submit it for execution.

## Sample Link-Edit JCL for SCPSUTFT

The following is a sample of the JCL for SCPSUTFT:

```
//          JOBCARD
//*
//ASMMEMS PROC VQUSR='CAI.CHLQ.CUSLIB'          IPC CUSLIB
//
//          VQTML='CAI.SHLQ.CAIMAC',          IPC CAIMAC
//          VQCML='CAI.CHLQ.CUSMAC',          IPC CUSMAC
//          ASMBLR='ASMA90',
//          SYSOUT='*'
//*
//*      ASSEMBLE/LINK TO CUSLIB
//*
//ASMSTP EXEC PGM=&ASMBLR,PARM='DECK,NOLOAD',REGION=2049K
//SYSLIB DD DSN=SYS1.MACLIB,DISP=SHR
//      DD DISP=SHR,
//      DSN=&VQCML
//      DD DISP=SHR,
//      DSN=&VQTML
```

```
//SYSUT1 DD DSN=&&SYSUT1,SPACE=(1024,(120,120),,,ROUND),
//      UNIT=VIO,DCB=BUFNO=1
//SYSPUNCH DD DSN=&&ASMOBJ,UNIT=SYSDA,
//      SPACE=(3120,(400,100),RLSE),
//      DISP=(,PASS),
//      DCB=BLKSIZE=3120
//SYSPRINT DD SYSOUT=&SYSOUT
//*
//LNKSTP EXEC PGM=IEWL,COND=(5,LT,ASMSTP),
//      PARM='LIST,LET,XREF,MAP'
//SYSLIN DD DSN=&&ASMOBJ,DISP=(OLD,DELETE)
//      DD DDNAME=SYSIN
//SYSLMOD DD DSN=&VQUSR,
//      DISP=SHR
//SYSUT1 DD DSN=&&SYSUT1,SPACE=(1024,(120,120),,,ROUND),
//      UNIT=VIO,DCB=BUFNO=1
//SYSPRINT DD SYSOUT=&SYSOUT
//*
// PEND
//*
//* EXECUTE ASMMEMS PROC
//*
//PSSUTL EXEC ASMMEMS
//*
//ASMSTP.SYSIN DD DISP=SHR,
//      DSN=CAI.CHLQ.CAIMAC(SCPSUTFT)
//LNKSTP.SYSIN DD *
//      NAME SCPSUTFT(R)
/*
//
```



# Chapter 6: Maintenance

---

After your system is in place and running for a while, you might need to make adjustments to keep it running properly or to recover after system failure. The information in this chapter can assist you in the ongoing maintenance of your system.

This section contains the following topics:

[VLS Utility \(VLSUTIL\)](#) (see page 97)

[VPE Purge Utility](#) (see page 117)

[Print Subsystem Utility \(SCPSUTIL\)](#) (see page 119)

## VLS Utility (VLSUTIL)

CA IPC uses the Virtual Library System (VLS) to maintain certain system files, for example, ADRLIB, ADRPNL, and ADROUT. They are VLS files installed with CA IPC. VLS files have the following properties:

- A VLS file is organized logically as a collection of members. Each member is identified by a unique name. All members in a VLS file must have names of equal length. The default standard NAMELEN (name length) for the members in a VLS file can range from 11 characters through 40 characters. The default name length is 27 characters.
- Data is stored in VLS internal format in fixed length blocks. Blocksize can range from 960 bytes through 32760 bytes. However, the blocksize cannot be larger than the track size of your storage device. The default blocksize is 4000. Data compression and space recovery are automatic.

The service facility called VLSUTIL (VLS Utility) lets you modify and maintain the VLS files at your site. The following sections describe how to estimate space requirements for a VLS file, how to submit a VLSUTIL function and the utility functions themselves. Additionally, [How to Modify the Amount of Space in a VLS File](#) (see page 116) tells how to perform many types of routine maintenance or modification.

## How to Estimate Space Requirements for a VLS File

For more information on space requirements for the VLS files installed with CA IPC, refer to the *Installation and Maintenance Guide*.

It is impossible to determine exactly how much space a VLS file requires. Because of data compression algorithms, the exact space required by a VLS library is a function of the data itself. In addition, you rarely know how much data is to be stored on the file. Use the following guidelines to gain an initial estimate of the space required for a VLS file. For actual numbers, refer to your IBM documentation.

### Required Control Blocks

VLS uses some blocks for its indices and other control information. For the old 2-byte block numbering format, if you are using the default 4000-byte blocksize or specify a blocksize larger than 4000 bytes, eight (8) blocks are used. If you specify a blocksize smaller than 4000 bytes, 14 blocks are used. For the new 4-byte block numbering format, the number of blocks depends on the blocksize and the library size but a minimum of four (4) blocks is required.

### Block Data Members

Some of the VLS libraries that contain block data members are ADRPNL, CA Ideal object libraries, CA Ideal panel libraries, and the CA Ideal dataview library.

For a block data member, use the following calculation to estimate the required number of blocks:

$$(\text{datalength} + 1000) / (\text{blksize} - 4) = \text{number-of-blocks}$$

### Record Members

Some of the VLS libraries that contain record members are ADRLIB, ADROUT, CA Ideal source libraries, and IDDAT.

A record member requires one block to hold control information and data blocks to hold the records in the member. Use the following procedure to estimate the required number of data blocks per member:

1. Estimate the number of records per member.
2. Estimate the average record length: add six bytes to the number of non-blank characters plus the number of single blanks between words.
3. Estimate the number of records per block: divide the blocksize by the average record length. If necessary, round down the result to the nearest whole number.
4. Estimate the number of data blocks per member: divide the estimated number of records per member by the estimated number of records per block. If necessary, round up the result to the nearest whole number.

Now, estimate the total number of blocks a record member requires: add the one block that contains control information to the estimated number of data blocks per member.

Even a very small member occupies a complete data block. For example, a member that contains only four records occupies a total of two blocks: one control block and one data block.

Add the numbers you derived from the above guidelines to estimate the total required number of blocks. To build in a safety margin, take a comfortable percentage of that number and add it to the total required number of blocks. This number is the total number of blocks to allocate.

To convert the total number of blocks to the total number of tracks use the following procedure:

1. Determine the number of blocks per track: divide the track size by the blocksize. If necessary, round down to the nearest whole number.
2. Determine the total number of tracks: divide the total number of blocks by the number of blocks per track. If necessary, round up to the nearest whole number.

This figure is your initial estimated space requirement. Because VLS reuses released space dynamically, you do not have to make allowances for file expansion caused by updating. To allocate space for a VLS file, use the FORMAT function. See [VLSUTIL Function Descriptions](#) (see page 102) If you find that your initial estimate is too low or too high, you can change the space allocation by using the procedure described in [How to Modify the Amount of Space in a VLS File](#) (see page 116).

## Maximum Space Allocation for One VLS Library

With the old 2-byte block numbering format, the maximum amount of space that can be allocated to one VLS library is 60900 blocks. With the new 4-byte block numbering format, the maximum space limitation for the VLS library is 65,535 tracks.

## How to Submit VLSUTIL Functions

To execute VLSUTIL functions, use the following sample JCL:

```
//      JOBCARD
// EXEC PGM=VLSUTIL
//STEPLIB DD DSN=LOAD,DISP=SHR
//          DD DSN=LOAD,DISP=SHR
//          DD DSN=LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//AUXPRINT DD SYSOUT=*
//VLSFILE DD DSN=dsname,DISP=SHR (VLS library)
//SYSIN DD *
at least one VLSUTIL control card
/*
```

The utility control cards are read from SYSIN. You can place the first character on each card in any column, including column 1. If the command has an operand, you must use at least one blank to separate the command from the operand. If there are multiple operands, you must use a blank or a comma to separate one operand from another. Because each utility operation is treated independently of any other, you can use the VLSUTIL functions in any logical order.

Optionally, you can specify a parameter to indicate the number of lines per page on the report output:

```
// EXEC PGM=VLSUTIL,PARM='99'
```

A 2-digit number is the only valid parameter value. If the PARM parameter is not supplied, the default of 55 lines per page is used for all report output.

Optionally, you can supply comment control cards (with an asterisk in column one) as desired in stream with the control cards that perform a function. For example, your comments might describe the purpose of the function that follows or simply document that a change has been made and what was changed.

**Example: Comment Control Cards**

```
//SYSIN DD *
*
* PERFORM A SELECTIVE RESTORE OF THE DDOL SIGN/SIGNOFF PANELS TO ADRPNL
*
HEX +
SELREST #SCDDOF+40404040404040404040+001$
SELREST #SCDDOH+40404040404040404040+001$
SELREST #SCDDON+40404040404040404040+001$
*
* OBTAIN A COMPLETE DIRECTORY LISTING OF THE MEMBERS IN THIS VLS FILE
*
LIBRARY
/*
```

VLSUTIL functions include:

- ADD
- DELETE
- DUMP
- FORMAT
- LIBRARY
- LIST
- PUNCH
- RENAME
- SCAN

To use the BACKUP and RESTORE functions, use the INSTJCL member VQNEW02 or VQUPG02 as an example. You can edit these members to use the SELBKUP and SELREST functions. You can also edit these members to create new files.

The VLSUTIL functions are described in [VLSUTIL Function Descriptions](#) (see page 102). Listings from the LIBRARY, LIST, and DUMP commands are written to the AUXPRINT file. All other listings are written to the SYSPRINT file.

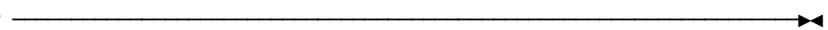


If you intend to include actual data records for the new member, you must place the data records immediately after the ADD statement. Use the two-character delimiter specified by DLM= to mark the end of input data. You must enter this delimiter on its own card in the first two columns.

**Note:** To add new CA Ideal MEMBERS (such as JOBCARD, SIGNON, or Startup) use the CA Ideal source Transport Utility. The 80-character member can be created outside of the CA Ideal environment and imported into CA Ideal.

## BACKUP Function

BACKUP creates a full backup of a VLS file. Use BACKUP to maintain a backup copy of a VLS file or as part of a procedure to expand or shrink the size of a VLS file. This procedure is described in [How to Modify the Amount of Space in a VLS File](#) (see page 116). The system should be QUIESED (down) when you execute a BACKUP. The BACKUP statement has the following format:

▶▶ BACKUP 

The backup file has a ddname of VLSBKUP. It is defined as a normal sequential file on tape or disk. If you use tape, you must specify DEN. In all other cases, DCB parameters are not required. Use the following sample JCL to create a backup VLS file:

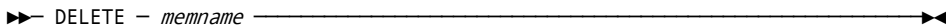
```
//      JOBCARD
// EXEC PGM=VLSUTIL
//SYSPRINT DD SYSOUT=A
//STEPLIB DD DSN=LOAD,DISP=SHR
//      DD DSN=LOAD,DISP=SHR
//      DD DSN=LOAD,DISP=SHR
//VLSBKUP DD DSN=dsname,UNIT=unit,DISP=(,KEEP),
           VOL=SER=volser,LABEL=(,SL),DCB=DEN=3
//VLSFILE DD DSN=dsname,DISP=SHR
//SYSIN DD *
BACKUP
/*
```

After a backup run, check the output listing in SYSPRINT for error messages. As it writes each member to the backup file, the utility program performs logic checks on the member structure to try to identify damaged members and tags them. You can selectively restore (SELREST) any flagged member to the library from an earlier backup file to correct the problem.

Although you can perform backups using standard backup utilities, VLSUTIL is highly recommended because it performs additional file verification.

## DELETE Function

The DELETE function deletes a named member from a VLS file. The DELETE statement has the following format:



### **DELETE**

Specifies the DELETE function.

### **memname**

Specifies the qualified name of the member to delete. For instructions to format the member name, see [HEX Function](#) (see page 107).

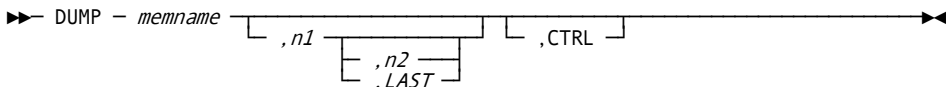
### **Example**

To delete version 3 of a report called DELETEX in system \$ID.

```
HEX /  
DELETE $IDDELETEX/4040404040404040/003R
```

## DUMP Function

The DUMP function dumps the contents of a named VLS file member in standard dump format (for example, hexadecimal), plus EBCDIC translation. The DUMP statement has the following format:



### **DUMP**

Specifies the DUMP function.

### **memname**

Specifies the qualified name of the member to delete. For instructions to format the member name, see [HEX Function](#) (see page 107). To dump all of the records in a member, specify:

```
DUMP memname
```

### **n1**

Specifies either one record number or the first record number in a series of records. To dump one record, specify:

```
DUMP memname, n1
```



**n2**

Specifies the final record number in a series of records. To dump a series of records, specify:

```
DUMP memname,n1,n2
```

**LAST**

Specifies the last record in the member. To dump a series of records up to and including the last record in a member, specify:

```
DUMP memname,n1, LAST
```

**CTRL**

Dumps the member control block. To dump all of the records in a member and the member control block, specify:

```
DUMP memname,CTRL
```

If the records you want to display are no more than 132 bytes long, you can use the LIST function or the DUMP function. Always use the DUMP function for records that contain more than 132 bytes or for members that contain binary data. Using the DUMP function is the only way to determine the actual size of a VLS member.

**Example 1**

To dump a program called DUMPEX in system ABC in version 2, specify:

```
HEX /  
DUMP ABCDUMPEX/4040404040404040/002L
```

The DUMP statement has the following format when dumping an output member from ADROUT:

```
HEX /  
DUMP ssspppp/nnnnnnnn/
```

**sss**

System name

**pppp**

Prefix name

**nnnnnnnn**

Eight-digit output number in hex, preceded by zeros.

To dump output number 10 from the ADROUT library, enter:

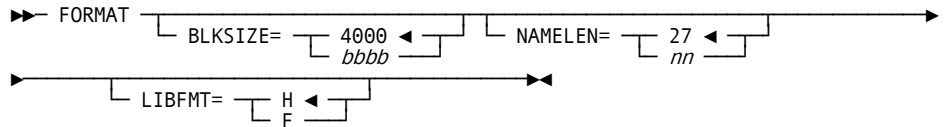
```
HEX /
DUMP PSSPSS#/0000000A/
```

Where *system* = PSS and *prefix* = PSS#.

## FORMAT Function

The FORMAT function formats a new VLS file or reformats an existing VLS file for processing. Any existing members in the file you format are destroyed.

**Important!** You must recycle CICS after you extend a VLS library. When changing the blocksize of a VLS library, you must also change the CICS FCT entry that accesses that VLS library. Failure to make this change can result in storage violations.



### FORMAT

Specifies the FORMAT function.

### BLKSIZE=

Specifies the blocksize. Blocksize can range from 960 bytes through 32760 bytes. However, the blocksize cannot be larger than the track size of your storage device. The default blocksize is 4000 bytes.

Because larger block sizes bring increased efficiency, you should specify a minimum value of 4000 bytes.

Only specify a blocksize smaller than 4000 bytes under two conditions:

- If your VLS library contains a large number of members that contain fewer than 100 records. In this case, a smaller blocksize provides efficient use of space and reduced I/O time.
- If your VLS library is primarily used to hold block data members that have, on the average, fewer than 960 bytes. In this case, specify a blocksize of 960.

**NAMELEN=**

Specifies the number of characters in member names. All of the members in a VLS file must have unique names of equal length. The default name length is 27 characters.

**LIBFMT=**

Specifies the format of the VLS library. H (half word) uses 2-byte block values, F (full word) uses 4-byte block values.

To allocate and format a VLS file, use the following sample JCL:

```
// JOB VLFRTM
// EXEC      PGM=VLSUTIL
//STEPLIB DD DSN=LOAD,DISP=SHR
//          DD DSN=LOAD,DISP=SHR
//          DD DSN=LOAD,DISP=SHR
//SYSPRINT  DD  SYSOUT=A
//VLSFILE   DD  DSN=dsname,DISP=(,CATLG),UNIT=DISK,
//          VOL=SER=volser,DCB=DSORG=DA,
//          SPACE=(TRK,nn)
//SYSIN     DD  *
FORMAT     [BLKSIZE=bbbb] [,NAMELEN=nn] [,LIBFMT=H|F]
/*
/ &
```

The primary space allocation for the VLS library does not have to be contiguous. A secondary space allocation is not allowed. If you specify a secondary space allocation, it is ignored. For more information, see [How to Estimate Space Requirements for a VLS File](#) (see page 98).

## HEX Function

HEX specifies a special delimiter character that constructs member names with non-displayable characters or embedded blanks.

►► HEX – x ◄◄

**HEX**

Specifies the HEX function.

**x**

Specifies a special delimiter character. For example, to specify the slash (/) character as the delimiter, enter:

```
HEX /
```

**Note:** The HEX delimiter can be any special character except the backslash character (\).

VLS supports member names with any hexadecimal configuration, including blanks. For example, many VLS member names have a format similar to the following:

```
SCPEXAMPLE      001L
.....1.....2.....
```

The eight blanks are actually part of the member name. You could dump this member with these control statements:

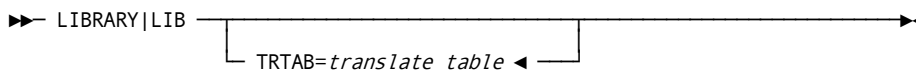
```
HEX /
DUMP SCPEXAMPLE/4040404040404040/001L
```

Use the delimiter, a slash in this case, to bracket the hexadecimal information. In this example, since a blank character translates to X'40', one blank is specified by 40.

A defined special delimiter character remains in effect until the end of the run or until you use the HEX function to specify a new special delimiter character.

## LIBRARY Function

LIBRARY lists the index of a VLS library, space use statistics, and member characteristics.



### TRTAB=

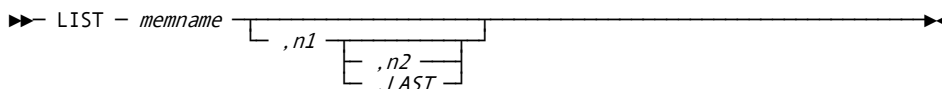
Optional 256-byte keyword that specifies the name of a table used for output character translation. If not specified (default), the program searches for table PMSTRDFT. If not found it searches for table PMSTRUC as supplied in the CA IPC installation. If not found, an internal table very similar to PMSTRUC is used.

You can create PMSTRDFT or modify PMSTRUC as instructed in [How to Modify the PMS Conversion Tables](#) (see page 87).

The characters B.D. in the record count column mean that the member is a block data member. The column for member names is 40 characters long, regardless of the NAMELEN= (name length) specification for the VLS file. Each unprintable character, except for a blank, displays as a question mark (?).

## LIST Function

LIST displays a complete EBCDIC listing of the records in a named record member. However, LIST does not display more than 132 bytes per record.



### LIST

Specifies the LIST function.

**memname**

Specifies the qualified name of the member to list. For instructions to format the member name, see [HEX Function](#) (see page 107). To list all of the records in a member, specify:

```
LIST memname
```

**n1**

Specifies either one record number or the first record number in a series of records. To list one record, specify:

```
LIST memname,n1
```

**n2**

Specifies the final record number in a series of records. To list a series of records, specify:

```
LIST memname,n1,n2
```

**LAST**

Specifies the last record in the member. To list a series of records up to and including the last record in a member, specify:

```
LIST memname,n1,LAST
```

If any record you want to list contains more than 132 bytes, only the first 132 bytes display. Use the DUMP function for records that contain more than 132 bytes, for block data members, or for members that contain binary data.

**Example**

To list a program called LISTEX in system DEF in version 11, enter:

```
LIST DEFLISTEX/4040404040404040/011L
```

## PUNCH Function

PUNCH writes all or part of a member to a punch file.

►► PUNCH — *memname* —————►

┌ , n1 ───────────┐

┌ , n2 ───┐

└ , LAST ┘

**PUNCH**

Specifies the PUNCH function.

**memname**

Specifies the qualified name of the member to punch. For instructions to format the member name, see [HEX Function](#) (see page 107). To punch all of the records in a member, specify:

```
PUNCH memname
```

**n1**

Specifies either one record number or the first record number in a series of records. To punch one record, specify:

```
PUNCH memname,n1
```

**n2**

Specifies the final record number in a series of records. To punch a series of records, specify:

```
PUNCH memname,n1,n2
```

**LAST**

Specifies the last record in the member. To punch a series of records up to and including the last record in a member, specify:

```
PUNCH memname,n1, LAST
```

**Example**

To punch a program called PUNCHEX in system \$ID in version 8, enter:

```
HEX /  
PUNCH $IDPUNCHEX/4040404040404040/008L
```

## RENAME Function

RENAME renames a member in the VLS library.

**Caution** Do not use the RENAME function unless directed by CA Technical Support.

►► RENAME - *memname1* - ,*memname2* ◀◀

**RENAME**

Specifies the RENAME function.



**NOCLEAR(R)**

Preserves the existing contents of the VLS library, but allows member replacement. If a member to load from a backup file has the same name as a member in the library, the existing member is replaced and no error is generated.

**Example**

Use the following sample JCL to restore a backup VLS file:

```
// EXEC PGM=VLSUTIL
//STEPLIB DD DSN=LOAD,DISP=SHR
//          DD DSN=LOAD,DISP=SHR
//          DD DSN=LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=A
//VLSBKUP DD DSN=dsname,DISP=OLD,(VLSBKUP name)
//VLSFILE DD DSN=dsname,DISP=SHR (VLS library)
//SYSIN DD *
[FORMAT [BLKSIZE=bbbb][,NAMELEN=nn]]
RESTORE
/*
```

In this example, the FORMAT function is optional. The BLKSIZE value can be smaller or larger than the BLKSIZE value of the original file. The NAMELEN value can be larger, but not smaller. If you do not intend to change either of these values and if your VLS library control blocks are undamaged, omit the FORMAT function to save time. You must omit the FORMAT function if you intend to specify RESTORE NOCLEAR or RESTORE NOCLEAR(R). For more information on how to model your JCL, refer to descriptions of the BACKUP and FORMAT functions.

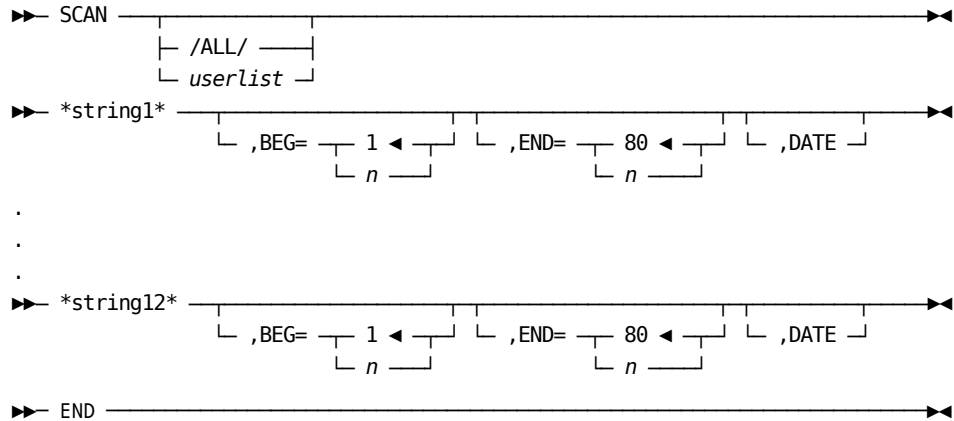
## SCAN Function

SCAN searches for occurrences of one through twelve literal character strings. You can search for matching strings through all of the members in a VLS library or you can search only through members that have names that begin with a three-character user ID. You can specify up to 24 three-character user IDs on one SCAN statement.

The SCAN operation writes a listing to AUXPRINT, the auxiliary list file. This listing displays, by member, each line that contains a match for the search string or strings.



**Note:** The VLSUTIL SCAN function scans the first 80 columns of a VLS member. Columns 1 through 10 contain VLSUTIL control characters. Therefore, SCAN searches only the first 70 columns of the VLS entity.



### SCAN

Specifies the SCAN function.

### /ALL/

Searches all of the members in a VLS library.

### userlist

A list of 1 through 24 three-character user IDs. Only members with names that begin with a specified user ID are searched. Separate one user ID from another with a comma (,).

\*

The asterisks (\*) are search string delimiters. This delimiter can be any special character that is not part of the search string itself.

### stringn

A 1- through 72-character search string. The SCAN operation searches for strings that match this search string. You can specify up to 12 search strings.

If you intend to search through the modification date stamps in a VLS library, you must specify *stringn* as a date in the *mmddy* format, where:

### mm

Month, from 01 through 12.

### dd

Day, from 01 through 31.

### yy

Year, from 00 through 99.

If you specify *stringn* as a date, you must also use the DATE operand.

**BEG=**

Specifies the column where the search begins. The default is 1.

**END=**

Specifies the column where the search ends. The default is 80.

**DATE**

Specifies a search through the modification date stamps of a VLS library. If you specify DATE, you must specify the search string as a date in the *mmdyy* format.

**END**

Marks the end of the SCAN function.

**Examples**

To produce a list of all the members of a VLS library that were updated on January 1, 1996, enter:

```
SCAN /ALL/  
*010196*,DATE  
END
```

To produce a list of all the members of a VLS library that belong to user ID ABC or DEF and contain the string TEST in columns 10 through 20 (corresponding to columns 1 through 10 of the VLS entity), enter:

```
SCAN ABC,DEF  
*TEST*,BEG=10,END=20  
END
```

## SELBKUP Function

SELBKUP is short for selective backup. It creates a backup of one named member. To backup more than one member, you can submit a series of control cards.

▶▶ SELBKUP – *memname* —————▶▶

**SELBKUP**

Specifies the SELBKUP function.

**memname**

Name of the member to back up. For instructions to format the member name, see [HEX Function](#) (see page 107).

**Example**

To selectively back up version 5 of a panel called SELBKEX in system \$ID, enter:

```
HEX /
SELBKUP $IDSELBKEX/40404040404040/005U
```

Use the sample JCL displayed in the description of the BACKUP statement as a model. You must create one SELBKUP card for each member to back up. Arrange the cards so that member names are in ascending alphabetic order. VLSUTIL ignores any card that is out of sequence. You can submit any number of cards. The backup file has a ddname of VLSBKUP. Except perhaps for its size, there is no difference between the backup file produced by SELBKUP and the backup file produced by BACKUP.

You can use this backup file as input to a RESTORE function. However, if you specify RESTORE without operands, the VLS library contains only the members named in SELBKUP statements. To add the selected members and preserve the existing contents of the library, use the RESTORE NOCLEAR function. To preserve the existing contents of the library and add the selected members but replace members that have the same name, use the RESTORE NOCLEAR(R) function.

In most cases, the backup file produced by SELBKUP is used as input to a selective restore (SELREST). The SELREST function preserves the existing contents of the library. Use SELREST with SELBKUP to move selected members from one VLS library to another.

## SELREST Function

SELREST is short for selective restore. It restores one named member. To restore more than one member, you can submit a series of control cards.

▶▶ SELREST – *memname* —————▶▶

**SELREST**

Specifies the SELREST function.

**memname**

Name of the member to restore. For instructions to format the member name, see [HEX Function](#) (see page 107). If this member has the same name as a member already in the VLS library, the existing member is replaced.

Use the description of the RESTORE function to find JCL for this function. As input, use the backup file created by the BACKUP or SELBKUP function. The backup file has a ddname of VLSBKUP. You must create one SELREST card for each member to restore. Arrange the cards so that member names are in ascending alphabetic order. VLSUTIL ignores any card that is out of sequence. You can submit any number of cards.

SELREST preserves the existing contents of the VLS library, but if an existing member has the same name as a member specified by SELREST, the existing member is replaced.

Using SELREST, you can place the restored files into different VLS libraries. You do not need to restore all the files to the same directory.

### Example

To selectively restore the version 11 procedure (L) and working data (W) members of a program called SELRESEX in system \$ID, enter:

```
HEX /
SELREST $IDSELRESEX/404040404040/011L
SELREST $IDSELRESEX/404040404040/011W
```

For more information regarding the SELREST function, see the section titled Restoring Deleted Entities in the *CA Ideal Administration Guide*.

## How to Modify the Amount of Space in a VLS File

Use the following procedure to modify the size of a VLS format file. Refer to the *CA Ideal Administration Guide* for instructions specifically for CA Ideal.

1. End all processing activity against the VLS file.
2. Use the BACKUP function to create a backup VLS file in sequential form. The backup file has a ddname of VLSBKUP.
3. Allocate a new VLS file. Specify the amount of space it requires.
4. Use the FORMAT function to format the new VLS file.
5. Use the RESTORE function to restore the library. Use VLSBKUP as input.
6. Recycle CICS.

For more information, refer to the descriptions of the BACKUP, FORMAT, and RESTORE commands in [VLSUTIL Function Descriptions](#) (see page 102) and [How to Estimate Space Requirements for a VLS File](#) (see page 98).

## VPE Purge Utility

Various session storage is only deleted after a timeout or disconnection if the VPE Purge Invocation code has been invoked.

If the VPE Purge Invocation Code (VPUR) is not executed after a timeout or disconnection, you can expect the following to remain:

- User session Temporary Storage records allocated by CA IPC, CA Datadictionary, and CA Ideal
- EDSA acquired for the updateable copy of the application program
- Use counts and enqueues performed on VLS entities
- Storage allocated by CA Datadictionary for each terminal accessing CA Datadictionary

If this happens it is because VPE has not been returned control, which allows it to clean up the session. Without invoking the VPE Purge Invocation code, this data can only be released if another VPE-based transaction uses the same terminal or CICS is recycled.

## VPE Purge Process

If a session is aborted and VPE does not regain control and perform a session clean up, you can start a VPUR transaction which initiates a clean up process. Typically, this happens when a 327x terminal disappears and the CICS Node Error Program (DFHZNEP) is automatically enabled to handle the situation.

To start VPUR, the VTAM codes are checked to ensure that the conditions are appropriate. VPUR invokes the VPE module VPEPURGE, and uses the input data from the CICS terminal ID that has been abnormally terminated. Using the TERMID, VPEPURGE finds the VPE Session Anchor Block (VSAB) and deletes all of the storage acquired by GETMAIN in various DSAs and Temporary Storage records that make up the user session. VPEPURGE will also dequeue any enqueues that have been issued for the session.

When VPUR is started, it is only known that the terminal where the CA Ideal task is executing has ceased to exist in the CICS environment. VPUR is invoked with the input data of the four character CICS TERMID. Sometimes the task continues to execute the application, even though the TERMID has ceased to exist in CICS.

If VPUR has been started, VPUR releases the storage that belonged to the task, the task is still executing and tries to use its old session storage, which could by this time be reallocated by CICS to another task, resulting in abends or storage violations.

Because of this potential problem, it is important to determine how VPUR should be implemented to be most effective based on a site's particular environment. For example, if long running tasks are the norm, it may be critical to first determine that the task has ended for a TERMID by querying CICS before invoking VPUR. VPUR could be invoked from the CICS NEP or the CICS terminal autoinstall exit.

## Node Error Recovery

You can purge a session by invoking the VPE purge storage function from a Node Error Program (NEP). If available, CICS invokes a NEP when VTAM notifies it that a terminal was lost (LOSTERM notification). The NEP schedules a transaction that issues the purge storage function on behalf of the lost terminal. To invoke the purge storage function from a NEP, first customize and then add the following statements to your site's CICS Node Error Program:

```
NEP0AF DS OH @BD5021A
*-----BEGINNING OF SUGGESTED VPE PURGE INVOCATION CODE----*
CLI TWAEC,TCZxxxx ERROR?
BE PURGEIT
CLI TWAEC,TCZxxxx ERROR?
BE PURGEIT
CLI TWAEC,TCZxxxx ERROR?
B GO_ON NO; ELSE...
PURGEIT DS OH
EXEC CICS START TRANSID('VPUR') LENGTH(4) FROM(TWANID)
GO-ON DS OH
*-----END OF SUGGESTED VPE PURGE INVOCATION CODE-----*
```

Where *xxxx* represents the error code you intend to trap. Commonly trapped error codes include TCZTXCU (node unrecoverable), TCZNSP01 (network error 1) and TCZNSP02 (network error 2). The values that need to be trapped will depend on your network configuration. See the DFHZEQU macro for specific error code definitions. Also see the IBM *CICS Customization Guide* for general details on Node Error Program processing.

## PURGE term-id

You might need to purge storage for a CA Ideal session that is abruptly ended in CICS. For example, if a transaction is canceled, VPE can have storage areas and control blocks still allocated on behalf of the terminal.

If the session is not purged, these storage areas could be allocated indefinitely since the random terminal-ID assignment of AUTOINSTALL cannot reuse the original terminal ID. The PURGE command cleans up these storage areas.

**Format**

PURGE termid

**termid**

The four-character terminal ID. You must type this value exactly as generated by the AUTOINSTALL routine since term-ID is case sensitive. When the session is purged, the following message displays:

Terminal 'termid' purge complete

If the value supplied for term-ID is not a defined terminal ID, the following message displays:

Terminal 'termid' not found

Check to be sure you entered the terminal ID in the correct case, exactly as the AUTOINSTALL routine generated it.

## Print Subsystem Utility (SCPSUTIL)

Some CA IPC-based CA products use the Print Subsystem (PSS) to print files. A PSS utility is provided for PSS spool file maintenance. ADROUT, the PSS spool library, is a VLS library with a default BLKSIZE of 4000 and a default NAMELEN of 11. The following sections describe the PSS utility functions, how to submit the SCPSUTIL functions, and how to increase the size of ADROUT.

If you are a CA Ideal site, you can use an on-line facility for spool file maintenance. For more information, refer to the *CA Ideal Problem Determination Guide*.

### How to Submit SCPSUTIL Functions

To execute SCPSUTIL functions, use the following sample JCL:

```
//          JOBCARD
//JS01     EXEC PGM=SCPSUTIL
//STEPLIB DD DSN=LOAD,DISP=SHR
//          DD DSN=LOAD,DISP=SHR
//          DD DSN=LOAD,DISP=SHR
//ADROUT   DD DISP=disp,DSN=ADROUT
//ADRPNL   DD DISP=disp,DSN=ADRPNL
//AUXPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSIN   DD *
at least one SCPSUTIL control card
/*
```

The utility control cards are read from SYSIN. You can place the first character on each card in any column, including column 1. If the command has an operand, you must use at least one blank to separate the command from the operand. If there are multiple operands, you must use a blank or a comma to separate one operand from another. Because each utility operation is treated independently of any other, you can use the SCPSUTIL functions in any logical order.

Use DISP=OLD when you need to ensure exclusive control when updating the spool file. Otherwise, use DISP=SHR.

#### **If You Move SCPSUTIL to a Site PROCLIB**

Another way to prepare to submit SCPSUTIL functions is to execute from a site PROCLIB. Then, you can use the following sample JCL:

```
//      JOB
//JS01   EXEC PSSUTIL,
//           COPIES=01,
//           DEST=' ,DEST=Rxx' ,
//           OUTC='*'
at least one SCPSUTIL control card
/*
```

#### **COPIES**

Number of AUXPRINT file copies.

#### **DEST**

AUXPRINT file system destination.

#### **OUTC**

AUXPRINT file system output class.

The SCPSUTIL functions are described in the following section. Listings from the commands are either written to the AUXPRINT file or to SYSUDUMP.



## PSS Utility Functions

The following are descriptions of PSS utility functions.

### **DELETE *filename filename***

Deletes the specified print file from the PSS spool file, ADROUT. You must specify a valid file name and file number.

### **EXPANDDIR *system-name entries***

Increases the maximum number of entries reserved in the directory of the spool file. See [73](#) (see page 122).

#### ***system-name***

Three-character system-name used as a prefix to the VLS member name for the directory.

#### ***entries***

Maximum number of entries in the spool directory (9999 maximum). The number requested must be greater than the current number of entries in the directory.

### **INDEX**

Prints a report that lists all files on the PSS spool file, ADROUT.

### **INIT**

Initializes the PSS spool file, ADROUT, and builds the directory.

### **LIBRARY**

Produces the VLS-formatted index of the PSS library and space use statistics. The column for member names is 40 characters wide, regardless of the actual name length for the specified PSS file. Non-printable characters (except blanks) display as question marks (?).

### **PRINT *filename filename action***

Prints a file from the spool. You must specify a valid file name and file number. There are only two valid values for action:

#### **KEEP**

Retains the printed file on the spool.

#### **DELETE**

Removes the printed file from the spool.

### **RECOVERY**

Deletes expired members from ADROUT. Generally, expired members are purged automatically, so RECOVERY is needed only if space is running low. However, if CICS is not recycled for long periods of time at your site, you should consider scheduling RECOVERY as a batch job.

## How to Modify the Amount of Space in a PSS Spool File

The PSS spool file, ADROUT, is a VLS file. The name length (NAMELEN) must be defined as 11 for ADROUT. Use the following procedure to modify the size of ADROUT:

1. End all processing activity against ADROUT.
2. Use the VLSUTIL BACKUP function to create a backup VLS file in sequential form. The backup file has a ddname of VLSBKUP.
3. Allocate a new VLS file. Specify the amount of space it requires.
4. Use the VLSUTIL FORMAT function to format a new VLS file. NAMELEN has a required value of 11.
5. Use the SCPSUTIL INIT function to initialize ADROUT.
6. Use the VLSUTIL RESTORE function to restore the library. Use VLSBKUP as input.
7. Recycle CICS.

For information on VLSUTIL, see [VLS Utility \(VLSUTIL\)](#) (see page 97). For descriptions of the BACKUP, FORMAT, and RESTORE commands, see [VLSUTIL Function Descriptions](#) (see page 102).

## How to Expand the PSS Spool File Directory

The following procedure lets you expand the spool file directory to increase the maximum number of print files that can be stored in ADROUT. This procedure does not require a PSSUTIL INIT function and, thus, does not destroy data in existing spool files.

1. End all processing activity against ADROUT. Close all CICS FCT entries for ADROUT and specify DISP=OLD on the DD for ADROUT in the SCPSUTIL JCL.
2. Use the SCPSUTIL EXPANDDIR function to expand the spool file directory.

The SCPSUTIL EXPANDDIR must have exclusive control of ADROUT. Be sure that there are no CICS or batch jobs accessing ADROUT at the time of the EXPANDDIR job is executing.

# Chapter 7: Tuning

---

Every system works better when it is properly balanced. You must weigh storage considerations against performance considerations to keep a system running at peak efficiency. This chapter tells how you adjust your system to keep it running smoothly.

This section contains the following topics:

[How to Change the Size of the SCF Message Cache](#) (see page 123)

[CICS Resident Programs](#) (see page 126)

## How to Change the Size of the SCF Message Cache

The Session Control Facility (SCF) uses an in-core dynamic table called a message cache to maintain the set of most recently accessed messages. SCF-based products use the SCF message facility to reduce the number of I/O events needed to retrieve messages.

When the TP monitor starts up, the SCF message cache is empty. When a message is to be issued, the system first checks the message cache. If the message text is not there, the system must retrieve the message text from ADRLIB, a VLS library that is permanently located on a DASD device. The message is issued and the message text is placed in the SCF message cache. If the cache is full, one message is removed before the new message is loaded into the cache.

Upon installation of CA IPC, the size of the message cache is 1000 bytes, which is the minimum size. Since the amount of core required for messages in the cache is a function of the number of characters in message text, 1000 bytes can hold about 20 messages. The number of I/O events required to retrieve a message from the SCF message cache is much smaller than the number of I/O events required to retrieve a message from ADRLIB. If you can give up additional core, you should increase the initial size of the SCF message cache to reduce I/O activity.

If you have SCF administrator privileges, you can determine the relative message cache activity at your site. From the IPCX or IPCV transaction, issue the following SCF on-line command:

```
@I$SCF MSGCACHE
```

This displays the following message:

```
n-ICSCMPR37I - Message cache requests = xxxxxxxx, misses = yyyyyyy
```

```
XXXXXXXX
```

The total number of messages that were accessed since the TP monitor start-up.

**yyyyyyyy**

The number of misses, that is, the total number of messages that were not found in the SCF message cache. This value is incremented by one each time message text is retrieved from ADRLIB.

If the number of misses forms a substantial percentage of the number of accesses and if you can afford to give up an additional part of core memory, you can increase the size of the message cache. If the number of misses does not form a substantial percentage of the number of accesses, you can decrease the size of the message cache. Use the following procedure to respecify the size of the SCF message cache:

1. Retrieve the SC00TRAN source member from the SOURCE library. The first part of the distributed SC00TRAN program is displayed below:

```
SC00TRAN SCTRANTB TYPE=INITIAL, X
        ASTRAN=SAST, X
        CACHELN=1000, X
        GSLIMIT=1, X
        ONTRAN=SCFS, X
        RLSVCB=N, X
        SCTRAN=SCFD, X
        TRMTRAN=NETT, X
        USEGS=Y

SCTRANTB TYPE=ENTRY,TRANID=IPCV,PROD=IPC, X
        OPTIONS=(PS), X
        INITMOD=PDIN, X
        IDENT='IPC:', X
        XFERCMD=IPC
SCTRANTB TYPE=ENTRY,TRANID=IPCX,PROD=IPC, X
        OPTIONS=(EX,PS), X
        INITMOD=PDIN, X
        IDENT='IPC:',
        XFERCMD=IPC

SCTRANTB TYPE=ENTRY,TRANID=IDEA,PROD=IDL, X
        OPTIONS=(DD,PS), X
        IDENT='IDEAL:',
        XFERCMD=IDEAL
        *
        *
        *
```

2. Re-specify the CACHELN= parameter on the SCTRANTB TYPE=INITIAL statement by specifying a number of bytes from 1000 through 32000.
3. Retrieve the JCLTRANS member from your SOURCE library and use it as a model to assemble and link-edit the modified SC00TRAN:

```
//          JOB CARD
/*
//ASM      EXEC PGM=ASMA90,PARM='DECK,NOOBJ'
//SYSLIB   DD DSN=SOURCE.LIBRARY,DISP=SHR
//SYSPUNCH DD DSN=OBJECT.LIBRARY(SC00TRAN),DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSUT1   DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
          COPY SC00TRAN
          END
/*
//LINK     EXEC PGM=IEWL,COND=(0,NE)
          PARM='XREF,NCAL,REUS(RENT)'
//SYSPRINT DD SYSOUT=*
//SYSUT1   DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//SYSLMOD  DD DSN=LOAD.LIBRARY,DISP=SHR
//OBJLIB   DD DSN=OBJECT.LIBRARY,DISP=SHR
//SYSLIN   DD *
          INCLUDE OBJLIB (SC00OPTS)
          NAME SC00TRAN (R)
/*
/*
```

4. Reference the new copy for use by your TP monitor.

To monitor SCF message cache activity, use the @I\$SCF MSGCACHE command. To display the contents of the message cache, use the @I\$SCF DIS=MSGCACHE command.

## CICS Resident Programs

The installation process defines the following CA IPC programs to CICS as RES=YES:

- PMSEEDIT
- PMSPNS1
- PMSTBLS
- PMSTRND
- PMSTRUC
- SC00CVTP
- SC00SECR
- SC00TRAN
- SCPSMAIN

These nine programs must always be CICS RES=YES. If they are not RES=YES, the result could be CICS abends or storage violations.

Because resident programs are treated as part of the CICS nucleus, which is loaded at start-up, you can improve performance by reducing the number of I/O events needed to load frequently accessed non-resident programs. Increasing the number of resident programs reduces the amount of Dynamic Storage Area (DSA) available for transaction processing. Performance and CICS storage requirements must both be considered to determine any benefits from increasing the number of resident programs.

You can modify the resident option for any program definition using RDO in CICS.

# Appendix A: PSS Recovery and Multiple CICS Environments

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This section contains the following topics:

[The Print Subsystem Recovery](#) (see page 127)

[Specifying Unique System and Prefix Names](#) (see page 127)

[Reinitializing ADROUT](#) (see page 128)

[Manually Forcing Recovery](#) (see page 129)

## The Print Subsystem Recovery

Print Subsystem (PSS) recovery consists of the two main steps. PSS recovery occurs during CICS startup.

- The automatic deletion of expired outputs from the ADROUT library. Expired outputs are outputs whose retention period has expired. During CICS startup, all outputs older than the value specified in the MAXIMUM RETENTION PERIOD field (displayed with SET OUTPUT SITE OPTIONS) of the PSS options block are automatically deleted.
- The re-starting of unfinished network prints. This step is executed for network printers only and is done only during CICS startup. This step finishes print tasks that were not completed during the previous run of CICS because either CICS was closing down or the printer was not ready. When the ADROUT library is shared between several CICS regions, the CICS system ID (specified in SIT as the SYSIDNT parameter) determines if the printout should be restarted on the current region.

## Specifying Unique System and Prefix Names

Two fields in the PSS option block directly affect PSS recovery: SYSTEM NAME and PREFIX NAME. SYSTEM NAME is used as part of the enqueue name for the ADROUT library. PREFIX NAME is used to enqueue specific output. If your site has multiple CA Ideal CICS regions, PSS recovery might not work properly if these fields are not correctly set, even if each region has its own ADRPNL and ADROUT library.

When PSS recovery is initiated, an exclusive enqueue is issued against the ADROUT library. The first three characters of the enqueue name are built from the value specified in the SYSTEM NAME field of the PSS Options Block. After all eligible outputs are deleted, PSS recovery is terminated and the exclusive enqueue is changed to a shared enqueue.

When the next CA Ideal CICS region is started, PSS recovery once again uses the three characters from the SYSTEM NAME field in the PSS options block and tries to issue an exclusive enqueue. If the PSS system name specified for this CICS region is the same as the system name for the first CICS region, the exclusive enqueue request fails because the first CA Ideal CICS region is still holding a shared enqueue against the ADROUT library. Therefore, make sure that the system name and prefix name are unique for each library.

## Reinitializing ADROUT

Because PSS recovery must obtain a successful exclusive enqueue to delete any expired or incomplete output listings, no outputs are deleted if the exclusive enqueue request fails. You can easily solve this problem with the following procedure. Keep in mind that each CICS region must have its own ADRPNL library. In this example:

1. Print all outputs that you want to keep from the ADROUT library.

**Important!** The following procedure deletes all output from the library, not just those with expired retention periods.

2. Create a member that contains all the DEFINE OUTPUT DESTINATION commands necessary to redefine all output destinations. The destination table is stored in ADROUT. Reformatting ADROUT destroys this table.
3. Enter the SET OUTPUT SITE OPTIONS command and change the SYSTEM NAME field to three unique characters (other than PSS).
4. Shut down the CICS region.
5. Run VLSUTIL with the following control card. See the sample JCL in [VLS Utility \(VLSUTIL\)](#) (see page 97).

```
FORMAT BLKSIZE=4000,NAMELEN=11
```

6. Run the PSS batch utility program SCPSUTIL with the following control cards.

```
INIT  
LIBRARY
```

For more information, see sample JCL in the CA IPC Source library PSSUTIL in [How to Submit SCPSUTIL Functions](#) (see page 119).

7. Restart the CICS region.
8. EXECute the DEFINE OUTPUT DESTINATION member created in step 2.

After you complete these steps, there should be no more failed enqueues, which will help to keep each ADROUT library free from expired output listings.



## Manually Forcing Recovery

The above method is preferred for ensuring that all outputs with expired retention periods are deleted. However, you might want to manually invoke the recovery process, especially if CICS remains up for long periods of time. There are several ways to manually force recovery to take place. Every output past its retention period is deleted.

To manually force recovery, use the Batch SCPSUTIL RECOVERY option. You can run this job at sites where CICS is recycled infrequently.