

CA ACF2™ for z/VM

Reports and Utilities Guide

r12



Second Edition

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Chapter 1: Introduction

This guide describes all CA ACF2 for z/VM™ for z/VM reports and utilities available. It is divided into two major parts: The Reports and The Utilities.

You can generate reports through the full-screen facility or through the ACFRPTS utility. The full-screen facility lets you just **fill in the blanks** to generate any type of report. You can also use the ACFRPTS utility or the EARLRPTS exec to generate reports, or generate them manually.

Utilities provide an easy way to do conversions and generate reports.

This section contains the following topics:

[Audience](#) (see page 13)

[The Reports](#) (see page 13)

[The Utilities](#) (see page 14)

[Required Reading](#) (see page 15)

Audience

Security administrators and systems programmers who need to run reports or execute utilities should read this guide.

The Reports

There are four basic types of reports CA ACF2 for z/VM users can use:

Report Type	Name	Description
Data and resource logging and violation reports	ACFRPTCL	Command Limiting Journal
	ACFRPTCT	ACFSERVE Command Tracking Log
	ACFRPTDL	DIRMAINT Event Log
Database maintenance reports	ACFRPTDS	Data Set and Program Event Log
	ACFRPTRV	Generalized Resource Event Log
	ACFRPTCL	Information Storage Update Log
	ACFRPTLL	Logonid Modification Log

Report Type	Name	Description
	ACFRPTRL	Ruleid Modification Log
Cross-reference reports	ACFRPTIX	Data Set Index Report
	ACFRPTRX	Logonid Access Report
	ACFRPTSL	Selected Logonid List
	ACFRTPXR	Cross-Reference Report
Invalid password attempts	ACFRTPW	Invalid Password/Authority Log

For detailed information about each of these reports, see the appropriate chapter in this guide.

The Utilities

CA ACF2 for z/VM provides the following utilities to assist sites with database maintenance:

Utility Type	Name	Description
Back and restore utilities	ACFDBRST	Restores databases
	ACFDBSYN	Synchronizes databases
	ACFDBVSM	Creates or merges CMS and VSAM databases
	ACFLINIT	Initializes VSAM databases
	ACFRECVR	Performs recoveries
Conversion utilities	ACFCVACT	Converts accounts
	ACFCVALG	Converts AUTOLOG
	ACFCVLNK	Creates access rules from the CP directory
	ACFCVSFS	Create access rules from SFS grants
	ACFESGP	Converts source group cross-reference records
	ACFLIDGN	Generates Logonids
Copy utilities	ACF2COPY	Relocates VM files
	ACFDBCPY	Copies databases
	ACFSMCOP	Copies SMF disks

Utility Type	Name	Description
Installation and maintenance utilities	ACF2ASM	Assembles the FDR, HCPACO, CMS modules
	ACF2FIX	Applies CA ACF2 for z/VM fixes
	ACF2VSAM	Creates VSAM databases
	ACFGEND	Generates modules
	ACFRGP	Lists resource group names that a specified resource belongs to
	ACFUTFEP	Front-ends text files
	ECAIGLO	Processes Panel Manager variables
Reports utilities	ACF2PSMF	Processes SMF data and run reports
	ACFRPTS	Runs the reports
	ACFRPTPP	Preprocesses SMF data for reports
	EARLRPTS	Preprocesses SMF data for the CA-Earl report processor
Tape utility	ACFERASE	Protects tape volumes from reuse.

See the appropriate chapter for the utility you want information about.

Required Reading

It is strongly recommended that you have these two IBM publications for reference:

Guide	Number
<i>CP Command Reference for General Users</i>	(SC19-6211)
<i>Operator's Guide</i>	(GC20-1806)

Chapter 2: The Reports

CA ACF2 for z/VM lets you generate reports using the full screen feature, manually, or through the ACFRPTS utility. This chapter contains information about generating reports. See [Running Reports Using the ACFRPTS EXEC](#) later in this chapter for information about using the ACFRPTS utility to generate reports.

When you finish this chapter, you will know how to:

- Select SMF input files
- Generate reports using the full screen feature, manually, or through the ACFRPTS utility
- Get help with messages
- Define input and output files for reports

This section contains the following topics:

[SMF Recording Facility](#) (see page 17)

[Executing Reports](#) (see page 21)

[Running Reports with CA ACF2 for z/VM Inactive](#) (see page 22)

[Running Reports Using the Full-Screen Feature](#) (see page 22)

[Running Reports Using the ACFRPTS EXEC](#) (see page 36)

[Other Ways to Run ACFRPTS](#) (see page 38)

[Running Reports Manually](#) (see page 38)

[Cross Reference of Report Parameters](#) (see page 44)

[Common Report Parameters](#) (see page 47)

SMF Recording Facility

Most report generators and the ACFRPTTP utility process CA ACF2 for z/VM SMF files. You must link and access the minidisks that contain the SMF files you want the reports to process. Remember, you must also have the proper CA ACF2 for z/VM authority to perform CP LINK commands.

The CA ACF2 for z/VM service machine produces SMF files when violations occur and when a logging occurs. It writes the SMF records to minidisks that the CA ACF2 for z/VM service machine owns. Your site collects and maintains these files with these records. The service machine produces files with a CMS file ID of SMF yydddnnn, where yyddd is the Julian date these files were created on, and nnn is a sequential number.

Report generators can process SMF records from the following:

- The active and history SMF minidisks the service machine owns
- Files your site saved after the service machine dumped them to a user ID your site specified
- Files archived by a service machine your site set up
- z/OS SMF files that were transferred to VM
- Output from the ACFRPTPP utility

Use the following command to determine the service machine virtual address of the SMF minidisks:

```
ACFSERVE QUERY SMF
```

Use the following command to ensure that you process the latest SMF data on the service machine's active minidisk:

```
ACFSERVE CKPT SMF
```

Use the following command to close and dump the currently active minidisk:

```
ACFSERVE SWITCH SMF
```

You do not normally need to dump the minidisk because the reports can process the SMF data on the active minidisk.

If you need additional information regarding SMF records, see the Installation Guide.

Some reports process records in the active CA ACF2 for z/VM database. To run these reports correctly, you need the proper CA ACF2 for z/VM authority to list these records.

SMF Recording Techniques

SMF records on individual minidisks that you reserve for this purpose. Reserved SMF minidisks reduce the number of I/Os required to record SMF data. This reduction of required I/Os increases throughput of the CA ACF2 for z/VM service machine.

Also, you can write records synchronously or asynchronously. When the CA ACF2 for z/VM service machine is recording data synchronously, FSWRITE performs normal CMS I/O. When recording data asynchronously, the *BLOCKIO IUCV system service performs the I/O.

SMF recording requires you to:

- Format the SMF minidisks with filemode 6 and 4K blocks. Completely allocate each minidisk to each SMF file with the CMS RESERVE command.
- Set the PRIOR operand of the @SMF macro to specify whether you need priority SMF recording.

PRIOR=NO

The CA ACF2 for z/VM service machine manages records enqueued for writing and issues a *BLOCKIO asynchronous write request for each block of SMF records.

PRIOR=YES

The CA ACF2 for z/VM service machine issues an FSWRITE synchronous I/O request for each SMF record. The PRIOR=YES setting provides a minimum of SMF data loss in case of a system outage or failure.

SMF Minidisk Management

The CA ACF2 for z/VM service machine rotates SMF recording and marks each minidisk with a status indicator to manage your site-defined minidisks.

ACTIVE

The minidisk currently used for SMF recording. Only one minidisk is active at one time.

READY

An historical disk that becomes the active disk when the currently active disk becomes full or is switched.

UNLOADING

This SMF minidisk is full or you issued the ACFSERVE SWITCH command to stop the recording. The action CA ACF2 for z/VM takes depends on the site-defined value you set for the SWITCH operand of the @SMF macro in the ACFFDR. Specifically,

SWITCH=DUMP

Dumps the minidisk in SENDFILE format. When the dump of the minidisk completes, the minidisk status becomes HISTORY.

SWITCH=NOTIFY

Sends a notification file to inform site-defined file management routines that a minidisk is ready to process. When CA ACF2 for z/VM finishes processing the minidisk, issue the following command to change the minidisk status to HISTORY:

```
ACFSERVE ARCHIVE SMF
```

Although multiple minidisks can have the UNLOADING status when SWITCH=NOTIFY, you should process UNLOADING status files as soon as possible to avoid losing SMF data.

HISTORY

This minidisk contains historical SMF data. Multiple minidisks can have HISTORY status.

The CA ACF2 for z/VM reporting facility, ACFRPTPP (the preprocessor), and ACFSMCOP (the SMF copy utility) can read the READY, ACTIVE, and HISTORY minidisks directly.

Combined Format SMF Records

All CA ACF2 for z/VM SMF records are recorded using a single SMF number. This lets CA ACF2 for z/VM distinguish events through a one byte subtype code in each record. (This subtype is often called the CA ACF2 for z/VM SMF type.) Since VM does not support SMF records natively, z/OS SMF recording is simulated for CA ACF2 for z/VM events. This simulated new record is referred to as the CA ACF2 for z/VM combined format SMF record.

The current CA ACF2 for z/VM format SMF record and SMF reports have the following features:

- The ACFSMF macro defines a common SMF header. This header defines the fields that are common to all or most CA ACF2 for z/VM subtypes.
- A variable section where the SMF subtype mapping macros define the fields unique to a CA ACF2 for z/VM subtype.
- Each CA ACF2 for z/VM subtype is fixed for all CA ACF2 for z/VM systems.
- Maintenance SMF records record ARE fields that update a LIDREC or structured infostorage record. This lets you display the fields that were changed in reports instead of using complete record images.
- A common SMF read program (ACF4BSMF) converts old format SMF records to combined format SMF records when it reads them for a report. Individual reports do not need to know of the conversion, nor do they need to know how to convert from one format to another. See the Systems Programmer Guide for additional information about converting SMF records to the combined SMF record format.
- Expanded selection parameters are provided for most reports, including SYSID selection (defined by the ACFFDR).
- You can use ACFRPTPP to preselect records. You can output preselected records to different files and then use them as input to supplied reports or user written reports. ACFRPTPP also uses ACF4BSMF to read SMF records, so user written reports can process old format SMF records without converting them.

Executing Reports

You can execute CA ACF2 for z/VM reports through the following ways:

- The full screen feature lets you specify report generator files and parameters by filling in fields on a screen. It also lets you define the files for the reports and pass report parameters to CA ACF2 for z/VM. See Using the Full Screen Feature for additional information.
- The ACFRPTS exec lets you respond to exec or report generator prompts to specify report generator files and parameters. ACFRPTS defines the SMF input files and the report output files, the report generator prompts you to enter report parameters. See Using the Full Screen Feature for additional information.

- The manual method requires you to issue CMS FILEDEF for SMF input files and any other file where you do not want to use the default, including the report output file. Use the report name as a CMS command to start the report generator. For example, to start the ACFRPTCL report, you enter the following:

```
ACFRPTCL
```

You can enter the report parameters on the command line. You can use this manual method in your own execs to customize your site SMF reporting procedures.

Running Reports with CA ACF2 for z/VM Inactive

If you IPL your system in NOAUTO mode and run reports, they may differ, depending on whether you are a normal NOAUTO user or the NOAUTO UPDATE user. You can execute all report generators normally in the NOAUTO mode if you are the NOAUTO UPDATE user. The rest of this section explains how to run reports if you are a normal NOAUTO user.

NOAUTO users cannot run the ACFRPTXR and ACFRPTRX reports. You can only run ACFRPTSL if you specify INPUT(SMF). INPUT(ACF2) is not valid.

If the SMF data uses the default combined SMF number (230) and any precombined format SMF data uses the report generator precombined SMF number defaults, you can run the reports normally. If the SMF data uses SMF numbers other than the report generator precombined SMF number defaults, you must use the appropriate parameters to specify the correct SMF numbers. Use the SELECT parameter to specify the SMF numbers for most reports. For ACFRPTPP, you may need to use one of the parameters that start with SMF. For ACFRPTIX, use the SELLID and SELRULE parameters to specify SMF numbers.

Running Reports Using the Full-Screen Feature

The full screen feature uses screens to generate all CA ACF2 for z/VM reports. You just fill in the blanks. Before using the full screen feature is explained, you should be aware of the information presented in the next several sections.

Help Facility

If you need help while using the full-screen feature, you can place the cursor anywhere on the screen at any time and press your HELP PF key (the default is PF1, but you can redefine your own PF keys). CA ACF2 for z/VM provides you with online assistance for that screen. You can also place the cursor on any field (or field title) and press your HELP PF key. CA ACF2 for z/VM displays additional information about that field. If you place the cursor on the OPTION or COMMAND lines and press your HELP PF key, you receive information on what kind of values are permitted.

You can also enter HELP on the COMMAND or OPTION line on the screen and move the cursor to a position on the screen (as described in the above paragraph), then press Enter. You do not need to use a PF key.

The HELP command also lets you obtain additional help that is not available through the HELP PF key.

For example:

- To obtain information about the HELP command, specify:

HElp HeIp

- To obtain information about the PF key defaults, specify:

HElp PFkeys

- To obtain information about valid input on the command line, specify:

HElp INPUT

- To obtain information about a message, specify:

HElp Message msgid

See the *Message Guide* for more information.

Message Help

There are three ways to obtain help for the last message the CA ACF2 for z/VM full screen facility issued.

1. Move the cursor to the third line on the screen and press your HELP PF key.
2. Enter HELP on the command line, move the cursor to the third line of the screen, press Enter.
3. Enter HELP Message on the command line.

To receive help for any message, enter:

HElp Message msgid

The value of msgid is the data that appears before the message text. You can normally drop the pgrmid in 4 through 6 places in the message ID. For example, both of the following commands display help for message ACF929E:

```
HELP MES ACFMFS929E
```

```
HELP M ACF929E
```

To review help information about messages, you must be linked to and have access to the disk that contains the help files. The full screen feature honors EMSG settings of ON, TEXT, and CODE, indicating the type of messages you see and how you see them. If you need information about the help files or message settings at your site, contact your systems programmer.

Command and Option Line

Throughout the rest of this guide, the second line in the example shown below is referred to as the option line.

```
M9PA-0100      CA ACF2 for z/VM Multiple Error Message Panel      CA ACF2 for z/VM
OPTION ==> _____
```

Multiple Error Message Panel

If more than one error occurs at one time, the full screen feature displays the following screen:

```
M9PA-0100      CA ACF2 for z/VM Multiple Error Message Panel      CA ACF2 for z/VM
OPTION ==> _____                                     TIME 17:12

  nnn text
  nnn text

  nnn text
  nnn text

  nnn text
  nnn text

PF1=Help   2=Print   3=Quit   4=Return   5=       6=
PF7=Backward 8=Forward 9=Director 10=      11=      12=Retrieve
```

This screen lets you review all the error messages at one time. If you need additional information regarding the displayed messages, see the Message Guide.

nnn

The message number.

text

The message text.

Starting the Full-Screen Feature

To use this feature to generate reports, enter the following command from CMS, and press Enter:

ACFFS

```
Ready;T=1.13/1.39 09:26:30
acffs
```

The full screen feature displays the Primary Option Menu.

```
M9PA-0000          CA ACF2 for z/VM Primary Option Menu          CA ACF2 for z/VM
OPTION ==> _____
                                                    TIME 17:11

      0  Change Options or PF keys
      1  User Identification
      2  Data Access Control
      3  Resource Control (not available)
      4  Source, Shift, Scope, and Zone Maintenance (not available)
      5  Display System Options (not available)
      6  Audit Reports

PF1=Help    2=Print    3=Quit    4=Return    5=    6=
PF7=        8=        9=       10=       11=   12=Retrieve
```

To select the report screens, enter 6 in the option line.

CA ACF2 for z/VM also provides a short cut approach to the report screens. Enter the following command and CA ACF2 for z/VM presents the Audit Reports (6.0) screen, shown below:

```
ACFFS 6
M9PA-6000          Audit Reports (6.0)          CA ACF2 for z/VM
OPTION ==>
                                     TIME 17:12

      0 Change options or PF keys
      1 Select SMF input files for reports
      2 Select CA ACF2 for z/VM reports
      3 Select CA-Earl customized reports

PF1=Help   2=Print   3=Quit   4=Return   5=       6=
PF7=       8=       9=       10=      11=      12=Retrieve
```

As you become familiar with the full screen feature, you can use a shorter approach. For instance, when you become familiar enough with the selection codes for the reports, you can enter the following command to directly access the (XR) Cross Reference Report:

```
ACFFS 6.2.D
```

Selecting SMF Input Files

Use this screen to select the specific SMF files to use as input for subsequent reports.

```

M9PA-6100   Select SMF input files for reports (6.1)   CA ACF2 for z/VM
COMMAND ==> _____
                                                    TIME 14:39

SMF Selection Criteria For Report Input Files:

SMF filetypes and/or masks   ==> _____
                               ==> _____

Predefined SMF Input:

Filename ==> _____  Filetype ==> EXEC   Filemode ==> *

Select SMF input files:                                     Entry 1 of 4

  Fileid      Status
  _ 97156001  ACTIVE - data from 06/05 00:02 to 06/05 14:39  27%
  _ 97154001  READY - data from 06/03 00:02 to 06/04 00:02    2%
  _ 97155001  HISTORY - data from 06/04 00:02 to 06/05 00:02  54%
  _ 97144001  On minidisk RFB191 accessed as A(191)             2

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=Backward 8=Forward  9=        10=Save    11=       12=Retrieve

```

The SMF Selection Criteria for Report Input Files and the SMF filetypes and/or masks fields specify the filetypes of the SMF files CA ACF2 for z/VM uses for input. When you use an asterisk (*), the default, CA ACF2 for z/VM uses all available SMF records. You can use an asterisk to mask filetypes. For example, when you specify 88*, CA ACF2 for z/VM uses all SMF records with a filetype beginning with the two characters 88 as input. (Masking follows CMS file masking conventions.)

Predefined SMF Input

You can create your own predefined SMF input records. The filename, filetype, and filemode fields specify a file that contains the filename, filetype, and filemode of each SMF file you want to include in the reports. This file must be in CMS LISTFILE format. CA ACF2 for z/VM processes the files in the same order as they are in the file. This file must exist if you include the file ID.

You can use the EXEC option of the CMS LISTFILE command to produce a CMS EXEC file.

```
LISTFILE SMF * * (EXEC
```

You can use the CMS EXEC without any changes or you can edit it, save or copy it to another file ID, or rename it.

The filename and filetype of the predefined input file can be any valid CMS file ID. The filemode can be any accessed filemode. The filename, filetype, and filemode of the SMF files specified can also be anything that is valid to CMS.

Filename

The filename of the file you previously defined.

Filetype

The filetype of the file you previously defined. The default is EXEC.

Filemode

The filemode of the file you previously defined. The default is an asterisk, that searches all accessed disks for the file.

Select SMF input files

Enter S for those SMF records you want to use for reporting. CA ACF2 for z/VM links and accesses the service machine SMF minidisks when you select files on those disks for reporting.

Fileid

The filetype of the SMF record. The filename is always SMF

Status

The status of the SMF record (active, unload, or history)

Records

The percent of the SMF disk that is used so far or the number of records on the minidisk.

Use QUIT to save the information regarding the SMF files selected. CA ACF2 for z/VM then displays the Audit Reports (6.0) screen, where you can select CA ACF2 for z/VM or CA Earl™ reports to run.

Selecting CA ACF2 for z/VM Report

When you select option 2 from the CA ACF2 for z/VM Reports (6.0) screen, CA ACF2 for z/VM displays the following screen.

```

M9PA-6200          CA ACF2 for z/VM Reports (6.2)          CA ACF2 for z/VM
OPTION ==> _____
                                                    TIME 17:12

      1 CL  Command Limiting Journal
      2 CT  ACFSERVE Command Tracking Log
      3 DL  DIRMAINT Event Log
      4 DS  Dataset/Program Event Log
      5 EL  Information Storage Update Log
      6 IX  Dataset Index Report
      7 LL  Logonid Modification Log
      8 PW  Invalid Password/Authority Log
      9 RL  Rule-id Modification Log
      A RV  Generalized Resource Event Log
      B RX  Logonid Access Report
      C SL  Selected Logonid List
      D XR  Cross-Reference Report

PF1=Help   2=Print   3=Quit   4=Return   5=      6=
PF7=      8=      9=      10=      11=     12=Retrieve
  
```

Use this screen to select the type of report you want to run. Enter the alphanumeric character for the report in the option line. For example, to run the ACFRPTCL report, enter 1 on the option line.

Below is a brief explanation of these reports.

1 CL

Reports each command limiting and diagnose limiting logging or violation.

2 CT

Identifies each ACFSERVE command issued, the type of command issued, and the logonid of the user who issued the command.

3 DL

Reports the violation and logging records for all commands issued to the DIRMAINT service machine.

4 DS

Formats the logging and violation records for minidisks, CMS files, VSE and z/OS data sets, and attachable DASD devices.

5 EL

Reports modifications made to resource rule sets and other Infostorage database records.

6 IX

Reports information regarding changes to access rules that affect a specific VM user ID.

7 LL

Provides an activity report for the Logonid database.

8 PW

Reports each unsuccessful system access attempt.

9 RL

Reports each update made to the Rule database.

A RV

Formats the resource violation and logging records for all activity related to user defined logical resources.

B RX

Reports all access rules that apply to a specific logonid or user ID.

C SL

Reports all logonid records matching the user specified selection criteria.

D XR

Lists users who have access to a specified data set or resource.

For a complete description of each of these reports, see the appropriate chapter in this guide.

Changing PF Key Values

If you want to change the PF keys for the reports, select option 0 on the Audit Reports (6.0) screen. You see with the following screen.

```

M9PA-0010          Change Options or PFkeys          CA ACF2 for z/VM
OPTION ==> _____
                                                    TIME 17:12

Options:

YES ==> Y          TIME (12/24) ==> __
NO  ==> N
LANG ==> _____

      Description      Command
PF1 ==> Help          HELP
PF2 ==> Print         PRINT
PF3 ==> Quit          QUIT
PF4 ==> Return        RETURN
PF5 ==> Execute       EXECUTE
PF6 ==>
PF7 ==> Backward      BACKWARD
PF8 ==> Forward       FORWARD
PF9 ==> Director      DIRECTOR
PF10 ==> Save         SAVE
PF11 ==>
PF12 ==> Retrieve     RETRIEVE

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=        8=        9=Director 10=Save    11=       12=Retrieve
  
```

To change the options:

YES

Enter 1 or Y to indicate how you want CA ACF2 for z/VM to display yes values in the fields.

TIME

Indicate if you want the time reported in a 12 hour (enter 12) or 24 hour (enter 24) clock.

NO

Enter 0 or N to indicate how you want CA ACF2 for z/VM to display no values in the fields.

LANG

Enter the five character code for the language you want to use for screens. CA supplies the following valid options:

AMENG

American English.

UCENG

Upper Case English.

Your site may have added additional language support. Contact your Security Administrator for additional information.

To change the values for the PF keys, enter the value you want to display on the screen for the PF key in the Description column. Enter the actual PF key value (in caps) in the Command column.

PF Key Defaults

The following table lists the default values for the PF keys displayed at the bottom of each Audit Report screen.

Your site may have redefined the values of these keys. If this is the case, consult your Security Administrator for new settings.

PF Key	Definitio n	Description
PF1	Help	To obtain additional information on the screen you are currently working on, place the cursor on the heading line or any noninput field and press PF1. The full screen feature displays a help screen detailing the various fields of the screen. To obtain information on valid command or option line entries, place the cursor in that line and press PF1. For the PRIVILEGE sections of screens, place the cursor on any character in the PRIVILEGE name, press PF1. The full screen feature displays a brief description of the PRIVILEGE you selected.
PF2	Print	Prints the screen, exactly as seen.
PF3	Quit	Cancel the work done and returns one level. CA ACF2 for z/VM does not perform any processing.
PF4	Return	Returns to the primary menu

PF6	Format	Indicates the field length and expected format of the input fields. Those fields that need numeric values are filled in with nnnnn. Fields that need alphabetic values are displayed with underscores (_). CA ACF2 for z/VM displays fields that expect a yes or no value with Y.
PF7	Backward	Scrolls the screen toward the top.
PF8	Forward	Scrolls the screen toward the bottom.
PF9	Execute	Processes (adds, changes, or deletes) the values you enter on the screen.
PF10	Save	Saves the parameter values specified on the screen as the default parameter values for that screen in a file called ACFRPTS DEFAULTS. Specify DEFAULTS in the command line to set the report parameters back to the default values shipped with CA ACF2 for z/VM.
PF12	Retrieve	Places the last command executed in the command or option lines.

ACFFS Commands

Commands are functions you can assign to PF keys or issue on the command line. You can alter the PF key definitions to any of the available commands listed in the following table.

The following list contains all available commands CA ACF2 for z/VM supports in the full screen feature. Each screen only displays the functions that apply to that screen. Capital letters represent the shortest abbreviation of the command. For example, you can enter CL, which is the same as entering the entire word CLEAR.

Command	Description
" (ditto)	Duplicate this field value from the previous value on the screen. This is the same as the DITTO command, but only operates on the field level. You can only enter this command in a field, not in the command line.
ACF	Pass the following operands to the ACF module in line mode. If none of the operands allowed the command, CA ACF2 for z/VM enters ACF line mode.
Backward	Scroll backward in the list. Only applicable to screens that contain lists.

Command	Description
Cancel	Terminate the present transaction, return one level. This command is the same as QUIT.
Clear	Clear all input fields on this screen and redisplay what was overtyped.
CMS	Pass the following operands to CMS. If you did not specify any operands with the command, CA ACF2 for z/VM prompts you for a CMS command.
CP	Pass the following operands to CP. If you did not specify any operands with the command, CA ACF2 for z/VM prompts you for a CP command.
CURSOR	Toggle the cursor between the current position and the command line. (Only available from the PF keys.)
DEFAULTS	Screen parameters return back to the default values shipped with CA ACF2 for z/VM Security for VM.
Ditto	Fill in all input fields from the previous transaction.
End	Finish the present transaction (EXECUTE implied) and return one level.
Execute	CA ACF2 for z/VM has completed the present transaction. It stores all accumulated data into the CA ACF2 for z/VM database if there are no errors.
Format	Display a boiler plate format of the type of data that CA ACF2 for z/VM expects in all fields. Underscores (__)—Denote alphabetic fields.mm/dd/yy—Depicts date fields.nn—Represents numeric fields.b—Indicates Y/N bit fields.
Forward	Scroll forward in the list. Only applies to screens that contain lists.
Help	Display help information on this field or supply help information about the screen. If you requested help on the command line and the cursor was on a field, then CA ACF2 for z/VMCA ACF2 for z/VM provides help for that field. If you requested help on the command line followed by any opCA ACF2 for z/VMCA ACF2 call CMS help directly and lets CMS help process the command.
MVSVM	Switches the screen to the appropriate z/OS or VM screen and reformats the rule data for an z/OS or VM access rule. This command is available only for access rules screens.
Next	Go to the next logical screen.
PREvious	Go to the previous logical screen.
PRInt	Place a print image of the current panel in the user's virtual printer queue.
Quit	Terminate the present transaction. Return one level. This command is the same as CANCEL.

Command	Description
Retrieve	Retrieves the previous command that you entered on the command line on this screen. This command works like the VM Retrieve buffer. It holds twelve commands.
REtUrn	Finishes the present transaction and returns to the primary menu. This command is the same as issuing multiple END commands.
SAVE	CA ACF2 for z/VM saves the parameter information in a parameter defaults file. It saves parameters common to all reports in a file named ACFRPTS DEFAULTS. CA ACF2 for z/VM saves parameters unique to a report in a file named fn DEFAULTS, where fn is the filename of the panel (for example, M9PA6210 DEFAULTS). CA ACF2 for z/VM tries to save the defaults on the same disk as the screen. If this is not possible, it saves the defaults on the user's A disk

Running Reports Using the ACFRPTS EXEC

This section describes how to use the ACFRPTS utility to run reports.

1. Enter the following command to execute the CA ACF2 for z/VM reports:

```
ACFRPTS
```

CA ACF2 for z/VM displays the following screen.

```
CA ACF2 for z/VM UTILITY REPORTS

Suffix      Report Description
CL -- Command Limiting Journal
CT -- ACFSERVE Command Tracking Log
DL -- DIRMAINT Event Log
DS -- Dataset/Program Event Log
EL -- Information Storage Update Log
IX -- Dataset Index Report
LL -- Logonid Modification Log
PW -- Invalid Password/Authority Log
RL -- Rule-id Modification Log
RV -- Generalized Resource Event Log
RX -- Logonid Access Report
SL -- Selected Logonid List
XR -- Cross-Reference Report
End/Quit -- To EXIT

ENTER SUFFIX OF REPORT TO BE RUN:
```

2. Enter the suffix of the report you want to select, such as CL.

```
cl (press enter)
```

3. Specify the format of the SYSPRINT file (PRINT or TERM), as follows. This prompt does not apply to the IX report that sends the output to two special files.

```
Report to printer, terminal, or disk? Specify which.

Print/term/disk
```

4. Enter SMF input files individually or in groups, separated by a LINEND character (usually #). CA ACF2 for z/VM repeats this prompt until you enter a null line, END, or QUIT.

```
Enter SMF filetype

yydddsss (press enter)
```

The values for yydddsss are:

yy

The year.

ddd

The Julian day.

sss

The sequence number of the SMF file.

5. If you predefined the SYSIN file before you enter the ACFRPTS EXEC, execution begins immediately. If you did not define the SYSIN file, CA ACF2 for z/VM displays a messages telling you the file is not defined. See Common Files for additional information about the SYSIN file.
6. ACFRPTS displays the report suffix and a question mark to prompt you for the report parameters. For example, for the CL report:

```
CL?
mask(dsn-mask) (press enter)
CL?
logging, vio, trace (press enter)
```

You can enter parameters one per line or as many as fit on the line. CA ACF2 for z/VM repeats prompts until you enter a null line. If you do not specify a parameter, CA ACF2 for z/VM uses the default. To find the parameters valid for each report, see the appropriate chapter in this guide.

7. When you have entered all parameters, use a null line to end parameter selection.

```
CL?

(press enter)
```

If you route the report to the printer or disk, CA ACF2 for z/VM returns the ready message and displays the report generator screen. Enter the following command to exit, or enter a report suffix to select another report:

END

If you route the report to the terminal, CA ACF2 for z/VM displays the report on the screen. When you are done reviewing the information, CA ACF2 for z/VM displays the report generator screen. Enter the following command to exit, or enter a report suffix to select another report:

END

Other Ways to Run ACFRPTS

You can use several forms of the ACFRPTS command to generate reports. If you enter the following command with no options, the exec displays a list of reports:

```
ACFRPTS
```

You can enter the two-character report suffix (or eight-character report name) with the ACFRPTS command, such as ACFRPTS DS or ACFRPTS ACFFPTDS. Either causes a prompt for the SMF file types, report destination, and report parameters.

You can predefine SMF input files in a CMS file. This file must be in LISTFILE format. You can provide the report name and filename filetype with the ACFRPTS command.

```
listfile smf * d (exec  
rename cms exec a smflist exec +  
acfrpts cl (smflist  
(report begins)
```

CA ACF2 for z/VM prompts you for the report parameters and destination.

You can provide the filename and filetype of the CMS file with the ACFRPTS command: ACFRPTS (CMS EXEC. CA ACF2 for z/VM prompts you for the report suffix, destination (printer or terminal), and parameters. If you predefined the SYSIN file, CA ACF2 for z/VM does not prompt you for report parameters.

Running Reports Manually

To run a report generator manually, you must enter the SMF FILEDEF commands for the required RECxxxx files, for any optional files, and for files you do not want to use the default values for. These files are described in the next section.

Defining Report Files

Use the CMS FILEDEF command to define input and output files for report generators. The ddname you specify in the FILEDEF command is the same as the ddname described in this guide. The report generators use the FILEDEF blocks the FILEDEF command builds to determine which files to use, the input or output device for this file, and the file ID of the disk files. Except as noted in the file descriptions in the next section, FILEDEF options are ignored.

All required files, except SMF input, assume defaults if you do not specify them with the FILEDEF command. You must use the FILEDEF command to specify SMF input. See the description of each report for the files it uses.

The ACFRPTS utility prompts you for the filetypes of SMF files and issues the necessary FILEDEF commands. For report output, ACFRPTS also issues the correct FILEDEF commands. It uses the defaults for other files required for each report. You can issue FILEDEF commands to override defaults for these files. See the description of each file in the next section for more information.

Common Files

All report generators use two input files and one output file. This section explains these files.

RECxxxx

These are the input files that contain the SMF records you accessed. Typically, these files have a CMS file ID of SMF yydddnnn. The CMS FILEDEF command that defines an SMF file for input specifies the CMS file ID.

The xxxx portion of the ddname can be any characters that are unique for each SMF input file. The ACFRPTS utility uses a dollar sign, followed by a four digit sequential number starting with 0001 (for example, REC\$0025).

The report generators automatically convert precombined SMF records to combined format records. See the SELECT report parameter for the report you are processing for further information. The ACFRPTPP utility can also convert precombined format SMF records to combined SMF records.

The ACFRPTS utility issues the FILEDEF commands for the SMF input files that you specify. Below is an example of a CMS FILEDEF command for an SMF input file:

```
FILEDEF REC1 DISK SMF 91092001 C
```

This SMF input file is located on your C disk.

The report generators process the SMF files in the same order as you entered the FILEDEF commands. You should issue the FILEDEF commands in chronological order.

SYSIN

This file provides one method of specifying parameters to the CA ACF2 for z/VM report generators. This file can be fixed or variable, with a record length of up to 256 characters. Valid devices are TERMINAL, DISK, and DUMMY. If ACFRPTS does not find a FILEDEF for this file, it uses TERMINAL.

When TERMINAL is the input device, ACFRPTS prompts you to enter the report parameters with a string consisting of the report ID (the last two characters of the report name) and a question mark (for example, DS? for the ACFRPTDS report). Reply with any report parameters you want to specify. You are then prompted for more parameters after each reply until you enter a null or blank line that signals the end of your input.

When the device is DUMMY, the report generator proceeds as if the device was a terminal and the first response was a null line.

You can use XEDIT to create the SYSIN file on a CMS minidisk. See the chapter of the report you want to run for information about valid report parameters. Below are two examples of CMS FILEDEF commands for a SYSIN file:

```
FILEDEF SYSIN DISK RPTCL SYSIN A
FILEDEF SYSIN TERMINAL
```

The ACFRPTS utility does not issue a FILEDEF for this file. If you issued a FILEDEF for SYSIN, the report generator uses it.

SYSPRINT

This is the report output file. Valid output devices are TERMINAL, PRINTER, DISK, and DUMMY. The record format of the output file is always variable.

The LRECL option is the only FILEDEF option that is recognized. For TERMINAL, PRINTER, and DUMMY output, the record length includes the carriage control character. TERMINAL output does not include the carriage control character. The default LRECL for terminal devices is 132. All other devices have a default of 133. If the FILEDEF specifies a LRECL that is less than the actual length of an output record, that record is truncated. Use caution if you specify a LRECL that is different than the default.

Below is an example of CMS FILEDEF commands for SYSPRINT files:

```
FILEDEF SYSPRINT DISK ACFRPTCL LISTING A
FILEDEF SYSPRINT DISK
FILEDEF SYSPRINT TERMINAL
FILEDEF SYSPRINT PRINTER
```

If ACFRPTS does not find a FILEDEF for SYSPRINT, it uses the TERMINAL (as in the third line in the previous example).

If a CMS FILEDEF command specifies DISK as out, but does not specify a file ID (as in the second line in the previous example), FILEDEF enters a default file ID of ddname FILE A (in this case, SYSPRINT FILE A1). If the report generator finds a FILEDEF for SYSPRINT with a device of DISK that has the default file ID, the output file is assigned a file ID of reportname LISTING A1. This lets multiple reports use a single FILEDEF and generates separate output files for each report generator. If a file already exists with the file ID of the output file, it is erased during the report generator initialization.

If the output device is PRINTER, the output spool file is given a name and type of reportname LISTING. This is displayed when you issue the following command:

```
CP QUERY PRINTER ALL
```

Report generator output is generally 80 characters wide. This width lets you easily read the output when you send the output to the terminal or when you browse the output file on disk. Some reports let you specify PRINTER as a report parameter to provide a wider format. The PRINTER format is never the default, even if the output device is PRINTER.

Running the Report

After you have defined all the necessary files, enter the report generator name as a CMS command and supply the report parameters on the command line or after the prompt.

As an example, below is a step by step manually run DS report:

1. Before you begin, you can enter the following command to be sure there are no LISTING files on your A disk:

```
LISTFILE * LISTING A
```

You should receive the following message:

```
DMSLST002E FILE NOT FOUND
```

If there are LISTING files located on your A disk that you want to save, move them to another disk.

2. Enter the following command to determine the name of the SMF files to process:

```
LISTFILE SMF * A
```

The response is a list of SMF files, such as the following:

SMF	91080001	A1
-----	----------	----

3. Enter the following CMS FILEDEF command for the SMF files:

```
FILEDEF RECL DISK SMF 91080001 A
```

4. Enter the following FILEDEF command for SYSPRINT to direct the report to disk. Because this command does not specify a file ID, CA ACF2 for z/VM assigns the default file ID to this file:

```
FILEDEF SYSPRINT DISK
```

5. Enter the following command to verify the results of the FILEDEF commands:

```
QUERY FILEDEF
```

The response looks like this:

RECDISK	SMF	91080001	
SYSPRINT	DISK	FILE	SYSPRINT

6. Enter the following command to run the DS report. The asterisk indicates the report generator should use all the defaults for the report parameters:

```
ACFRPTDS *
```

Below is an example of running the RL report, specifying DETAIL as a report parameter. In this example, the report generator uses the default values for all other report parameters:

```
acfrprtl detail
```

Another example of running a report manually is shown below. In this case, the EL report was run. Since no parameters are specified and a FILEDEF command did not define a SYSIN file, the report generator prompts for the parameters. The DETAIL parameter was then entered. In response to the second prompt, a null line was entered, indicating that the report generator should use the defaults for all the other report parameters.

```
acfrptel
ACFPGM800R Enter ACFRPTTEL SYSIN parameters or ENTER to start
EL?
detail
EL?
<null line>
Ready;
```

Below is an example of how to display the file IDs of the produced reports:

```
listfile * listing a
ACFRPTDS LISTING A1
ACFRPTRL LISTING A1
ACFRPTEL LISTING A1
Ready;
```

Specifying Report Parameters

For information on the valid parameters for each report, see the appropriate chapter.

You can use one or both of the following methods to specify report parameters when running report generators manually:

1. As a command parameter. Enter report parameters on the command following the report name, such as:

```
ACFRPTCL STIME(0800) ETIME(1700)
```

If the command parameter string ends with a dash (), CA ACF2 for z/VM considers the parameters as continued and uses the SYSIN file for additional parameters. If a command parameter string begins with an asterisk (*), CA ACF2 for z/VM treats it as a comment. You cannot continue a comment.

The first 35 characters of the parameter string are moved to the user title area in the heading of the report. The user title area does not use a comment. If you specify the TITLE parameter, CA ACF2 for z/VM replaces the parameter string in the user title area.

2. From the SYSIN file, as described in the Common Files section. If you entered a FILEDEF command for the SYSIN file, that file is always processed. If you did not issue a CMS FILEDEF command for SYSIN and there are no command parameters (or if the command parameters are continued), ACFRPTS uses the default of TERMINAL. The SYSIN file is not processed if you enter command parameters (including a comment) and if you did not issue a FILEDEF command for SYSIN.

A dash () at the end of a record is a continuation character and adds the following record to the end of this continued record, replacing the continuation character. This lets you enter long parameters. If ACFRPTS does not find the continuing record, it issues an error message.

A record that begins with an asterisk (*) is a comment record that is completely ignored. ACFRPTS also ignores blank records unless they immediately follow a continued record. In this case, it issues an error message.

You can separate command parameters with a blank or comma. Enter the parameters in the same manner, whether you enter them as command parameters, in a SYSIN file, from disk, or in reply to a SYSIN file prompt. Some examples are shown below:

STIME(0800) ETIME(1700)

STIME(0800,ETIME(1700)

STIME(0800,ETIME(-1700)

The ACFRPTS utility only allows the report generators to use the SYSIN file to obtain report parameters (it does not use the command parameter). The default uses TERMINAL as the input device for SYSIN. The report generator prompts you for the report parameters. If you previously entered a CMS FILEDEF command for SYSIN, the report generator uses that device.

Cross Reference of Report Parameters

The table below lists all the report parameters and the report generators that use them (does not include RECOVER).

Parame ters	CL	CT	DL	DS	EL	IX	LL	PP	PW	RL	RV	RX	SL	XR
ALL	*	*	*	*							*			
CLASS					*									
COMMA ND	*		*											
DETAIL	*				*	*	*			*				
DIAG														
DSET												*		*
DSN														*
DTCFIEL D													*	
EDATE	*	*	*	*	*	*	*	*	*	*	*	*		*
ETIME	*	*	*	*	*	*	*	*	*	*	*	*		*
EXTEND	*			*										
HEX	*	*	*	*	*									
ID					*						*			
IF													*	

Parameters	CL	CT	DL	DS	EL	IX	LL	PP	PW	RL	RV	RX	SL	XR
INPUT													*	
INSTALL				*										
JOBMASK	*	*	*	*	*	*	*	*	*	*	*		*	
LID												*		*
LIDMASK	*		*	*				*						
LINECNT	*	*	*	*	*	*	*	*	*	*	*	*	*	*
LOGGING	*			*							*			
MASK	*	*	*	*	*		*	*	*	*	*		*	
MDISK			*											
NAME														*
NODETAIL						*								
NOEXTEND	*			*										
NOLID														*
NORRUM														*
NOSELECT	*	*	*	*	*		*	*	*	*	*		*	
NOUPDATE							*						*	
OVERLAP			*											
PGMNAME				*										
PREFIX						*								
PRINTER	*		*	*							*			
REPORT													*	

Cross Reference of Report Parameters

Parameters	CL	CT	DL	DS	EL	IX	LL	PP	PW	RL	RV	RX	SL	XR
REKEY														*
RMASK												*		
RRSUM														*
RSRC												*		*
SDATE	*	*	*	*	*	*	*	*	*	*	*		*	
SELECT	*	*	*	*	*		*	*	*	*	*		*	
SELLID						*								
SELRULE						*								
SFLDS													*	
SHORT	*		*	*										
SIZE	*		*	*										
STIME	*	*	*	*	*	*	*	*	*	*	*		*	
SUMMARY	*		*	*	*		*			*				
SYSID	*	*	*	*	*	*	*	*	*	*	*		*	
TAPE				*										
TERMINAL	*		*	*							*			
TITLE	*	*	*	*	*	*	*	*	*	*	*	*	*	*
TRACE	*			*								*		
TYPE					*						*	*		*
UID	*		*	*				*			*	*		
UNKNOWN				*			*							
VIOATIO	*		*	*							*			

Parameters	CL	CT	DL	DS	EL	IX	LL	PP	PW	RL	RV	RX	SL	XR
VOL														*

Common Report Parameters

This section lists the parameters that are common in every report:

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

UID mask

Enter the UID mask that limits the output to those pertaining to the user or group of users indicated by the UID mask. The default is all users.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Specify the type of SMF record to be used for this report.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Manual and ACFRPTS Parameters

Following is a list of the parameters and their defaults used to generate the CT report manually and using the ACFRPTS utility.

ALL | VIOLATIO

These parameters specify the types of various ACFSERVE command SMF records to process. You can specify only one of these parameters. All is the default.

ALL

This parameter processes all types of ACFSERVE command SMF records.

VIOLATIO

This parameter processes records produced due to an ACFSERVE privilege violation.

EDATE(169365 | cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

- c
0 to indicate the 20th century or 1 to indicate the 21st century.
- yy
The year.
- ddd
The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE cause the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter prints selected SMF records in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length followed by two-bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(_|lidmask)

This parameter lets you enter a logonid or a mask for a group of logonids that updated the Infostorage database. This provides a summary of activity by a single person or group of people. The default is all logonids. You can mask this field.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

- c
0 to indicate the 20th century or 1 to indicate the 21st century.
- yy
The year.
- ddd
The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfvai|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

- If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
- If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. See @SMF macro of the ACFFDR for these values.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACF2DR specifies incorrect SMF record numbers.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all system.

TERMINAL | PRINTER | SUMMARY

These parameters let you select one of three output formats.

- **PRINTER**
132 characters wide with five lines of output per SMF record.
- **SUMMARY**
80 characters wide with a one line summarization of each SMF record.
- **TERMINAL**
80 characters wide with five lines of output per SMF record (the default).

TITLE(cmdparm|string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

Chapter 3: Running the Command Limiting Report (CL)

The Command Limiting Report displays command limiting and diagnose limiting loggings and violations. This chapter contains information on generating the report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Command Limiting Report
- Use the ACFRPTS feature to run the Command Limiting Report
- Manually run the Command Limiting Report
- Understand the different report parameters available for this report
- Read the two different types of report output, detailed and summary

See “The Reports” chapter for more information about selecting SMF files, using the full-screen feature, common files, running the report manually, and using ACFRPTS.

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 54)

[Report Parameter Cross Reference](#) (see page 55)

[Running the Report Manually and Using ACFRPTS](#) (see page 56)

[Sample Report](#) (see page 61)

Using the Full-Screen Feature

To run the Command Limiting Journal Report, select option 6.2.1 from the Primary Option Menu. The following screen appears.

Note: Before you run this report, you must select SMF files.

```
M9PA-6210 CL - Command Limiting Journal Report (6.2.1) CA ACF2 for z/VM
COMMAND ==> _____
                                                    TIME 13:33
Enter Report Parameters:
Command or diagnose mask ==> -           Not mask ==> _____
Logonid mask              ==> *****   Not mask ==> _____

Include: Command Records ==> Y           Include Reasons      ==> Y
       Diagnose records ==> Y           Cross-reference only ==> N
       Loggings          ==> Y
       Violations        ==> Y

Output format              ==> TERMINAL

----- Common Parameters -----
User Title ==> _____ System ID ==> _____
UID mask   ==> _____
Output device ==> TERMINAL   Line count ==> 60
Start date ==> 01/01/78     End date  ==> 12/31/69
Start time ==> 0000         End time  ==> 2359
Select     ==> _____   Job mask    ==> _____

PF1=Help    2=Print    3=Quit    4=Return    5=      6=
PF7=        8=        9=        10=Save    11=     12=Retrieve
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

Command or diagnose mask

Enter the mask for command limiting or diagnose limiting rules.

Not mask

Enter a command limiting or diagnose limiting mask to specify the records to be excluded from selection.

Logonid mask

Enter the logonid mask for the logonid or logonids you want to run the report on.

Not mask

Enter a logonid mask to specify the logonids to be excluded from selection.

Include:**Command records**

Specify Y (yes) to include command limiting records.

Include reasons

Specify Y (yes) to produce a sixth line on the report to show why the SMF record was created.

Diagnose records

Specify Y (yes) to include diagnose limiting records.

Cross-reference only

Specify Y (yes) to produce only a cross-reference table that lists the command and diagnose, the logonid that issued the command or diagnose, and a count.

Loggings

Specify Y (yes) to include records that journaled an access, but a log was requested.

Violations

Specify Y (yes) to include SMF records that CA ACF2 for z/VM created because a violation occurred.

Output format

Specify the type of output to be generated, TERMINAL, PRINTER, or SUMMARY. TERMINAL is the default.

Report Parameter Cross Reference

The following table shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. See Manual and ACFRPTS Parameters for more information about these parameters.

Parameter	Full-screen Field
<u>ALL</u> VIOLATIO LOGGING TRACE	Loggings Violations
COMMAND DIAGNOSE	Command records Diagnose records
<u>DETAIL</u> SHORT	Cross-reference only
EDATE(<u>169365</u> cyyddd)	End date
ETIME(<u>2359</u> hhmm)	End time

Parameter	Full-screen Field
<u>EXTEND</u> NOEXTEND	Include reasons
HEX	
JOBMASK(***** jobmask,...,jobmask)	Job masks
LIDMASK(***** lidmask)	Logonid mask
LINECNT(<u>60</u> number)	Line count
MASK(-) cmdmask diagmask)	Command or diagnose mask
NLIDMASK(lidmask)	Not mask
NMASK(cmdmask diagmask)	Not mask
SDATE(<u>000000</u> cyyddd)	Start date
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
STIME(<u>0000</u> hhmm)	Start time
SYSID(***** sysid)	System ID
<u>TERMINAL</u> PRINTER SUMMARY	Output format
TITLE(<u>cmdparm</u> string)	User title
UID(-) uidmask)	UID mask

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. You can run this report manually or use the ACFRPTS EXEC (select the CL option).

Manual and ACFRPTS Parameters

This section lists the parameters and their defaults used to generate the CL report manually and using ACFRPTS.

ALL|VIOLATIO|LOGGING|TRACE

These parameters specify which VM command limiting SMF record you want to process. You can specify one or more of these keywords. The report generator processes all records that match the specified parameters.

ALL

Requests processing of all types of command and diagnose limiting SMF records.

VIOLATIO

Requests processing of records produced as a result of a command or diagnose limiting violation.

LOGGING

Requests processing of records produced for commands and diagnoses that were allowed, but there was a logging record request.

TRACE

Requests processing of records produced for commands that had a trace record request.

COMMAND|DIAGNOSE

These parameters specify whether you want to process command limiting (COMMAND) or diagnose limiting (DIAGNOSE) records. If you do not specify one of these keywords, the report generator processes both types of records. You can abbreviate COMMAND with CMD and DIAGNOSE with DIAG.

DETAIL|SHORT

These parameters specify whether you want to produce all available information on the processed SMF record or only the cross-reference table. DETAIL (the default) produces all available information on the record. SHORT produces only the cross-reference table. This table is a listing of the commands and diagnoses, including the logonids that issued them, along with a count.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE processes all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

EXTEND|NOEXTEND

These parameters determine whether the report produces a sixth line that shows the reason the SMF record was created. EXTEND (the default) outputs this line. NOEXTEND suppresses this line.

HEX

This parameter prints selected SMF records in hexadecimal dump format. We provide this option primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length, followed by two bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LIDMASK(***|lidmask)**

This parameter lets you investigate access requests for a particular logonid or group of logonids. The default requests information for all logonids that have had an access journaled.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item fits on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(_|cmdmask|diagmask)

This parameter lets you request information for one or more commands and diagnoses. The default is all commands and diagnoses.

NLIDMASK(lidmask)

This parameter specifies a null logonid mask. This lets you exclude information for a specific logonid or group of logonids. For example, a parameter of NLIDMASK(PAY-) excludes any information for logonids beginning with the letters PAY. Any logonids specified in this parameter override those you specified with the LIDMASK parameter.

NMASK(-|cmdmask|diagmask)

This parameter lets you exclude information for one or more commands and diagnoses. Any command and diagnose masks you specify in this field override any you specified with the MASK parameter. The default is null, excluding no commands or diagnoses.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfvval|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. See the *Installation Guide* for more information about the @SMF macro values of the ACFFDR.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFFDR specifies incorrect SMF record numbers.

STIME(0000|hhmm)

1. This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TERMINAL | PRINTER | SUMMARY

These parameters let you select one of three output formats ACFRPTCL supports.

TERMINAL

80 characters wide and has six lines per processed SMF record (the default)

PRINTER

132 characters wide and has six lines per processed SMF record

SUMMARY

80-character wide line summarization of each record.

TITLE(cmdparm | string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

UID(- | uidmask)

This parameter specifies the UID mask the report pertains to. Dash (-) is the default, reporting on all UIDs.

Sample Report

ACFRPTCL generates two types of output, a detailed report and a summary.

Detailed Report

Shown below are examples of the detailed version (both terminal and printer format) of the ACFRPTCL report.

Printer Format

CA ACF2 for z/VM SECURITY - ACFRPTCL CMDLIM/DIAGLIM JOURNAL						- PAGE 1
DATE 08/02/98 (98.214) TIME 08.10						
COMMAND NAME	RM-RC	INST	LOG TYPE	UID	LID	JNAME
CPU SOURCE	DATE	TIME				
COMMAND TEXT / DIAGNOSE NUMBER (HEX)						
MSGNOH		ACCESS		TLC99VPAYAMS	AUTOLOG1	AUTOLOG ID
		LOG				VPAYAMS
USCH DISCONN	98.214	08/02	00.00			
MSGNOH	USERI01	00:00:06	CACC105I	TRACKING FILE	CLEAN UP	IN PROGRES
ALLOWED BY RULE						

MSGNOH		ACCESS		TLC99VPAYAMS	AUTOLOG1	AUTOLOG ID
		LOG				VPAYAMS
USCH DISCONN	98.214	08/02	00.00			
MSGNOH	USERI01	00:00:06	CACC106I	TRACKING FILE	CLEAN UP	COMPLETED
ALLOWED BY RULE						

MSGNOH		ACCESS		TLC99VPAYAMS	AUTOLOG1	AUTOLOG ID
		LOG				VPAYAMS
USCH DISCONN	98.214	08/02	00.00			
MSGNOH	USERI01	00:00:06	CACC050I	AUTOSCAN	IN PROGRESS	FOR SYSID A
ALLOWED BY RULE						

MSGNOH		ACCESS		TLC99VPAYAMS	AUTOLOG1	AUTOLOG ID
		LOG				VPAYAMS
USCH DISCONN	98.214	08/02	00.00			
MSGNOH	USERI01	00:00:06	CACC051I	AUTOSCAN	COMPLETED	
ALLOWED BY RULE						

CA ACF2 for z/VM SECURITY - ACFRPTCL CMDLIM/DIAGLIM CROSS REFERENCE						- PAGE 1
DATE 08/02/98 (98.214) TIME 08.10						
COMMAND	COUNT	LID	COUNT	LID	COUNT	
MSGNOH	4					
-----		AUTOLOG1	4			

Terminal Format

```

                                {report name}                                {page}
CA ACF2 for z/VM SECURITY - ACFRPTCL CMDLIM/DIAGLIM JOURNAL          - PAGE 1

DATE 04/23/98 (98.113) TIME 07.46 For Entire Company

{lid}   {date}   {time}   {record}   {inst}   {rmrc}
AUTOLOG1 98.111 04/21 00.00 COMMAND LOGGING SEC-OFF                RKEY=MSGNOH5

{session}                                     {uid}

SCHDCMS  NAM=AUTOLOG ID                      UID=SHV99STLCCMS

{cpuid} {source}                               {acc/noac}   {cmdmsg}

USCH     SRC=DISCONN                          ACCESS       CMD=MSGNOH

{cmd/diag}

CMD/DIAG=MSGNOH  USERI01 00:00:06    CACC105I TRACKING FILE CLEAN UP IN
SS

{reason code}

REASON CODE=ALLOWED BY RULE
```

```

AUTOLOG1 98.111 04/21 00.00 COMMAND LOGGING
SCHDCMS NAM=AUTOLOG ID          UID=SHV99STLCCMS
USCH     SRC=DISCONN             ACCESS
CMD/DIAG=MSGNOH USERI01 00:00:06 CACC106I TRACKING FILE CLEAN UP CO

REASON CODE=ALLOWED BY RULE

AUTOLOG1 98.111 04/21 00.00 COMMAND LOGGING
SCHDCMS NAM=AUTOLOG ID          UID=SHV99STLCCMS
USCH     SRC=DISCONN             ACCESS
CMD/DIAG=MSGNOH USERI01 00:00:06 CACC050I AUTOSCAN IN PROGRESS FOR

REASON CODE=ALLOWED BY RULE

CA ACF2 for z/VM SECURITY - ACFRPTCL CMDLIM/DIAGLIM CROSS REFERENCE - PAGE 1
DATE 04/23/98 (98.113) TIME 07.47

COMMAND      COUNT  LID      COUNT  LID      COUNT
$START              7
-----
ATTACH         11          SYSTEM      7
-----
AUTOLOG        41          TLCSSK      4  VMOPER      7
-----
FORCE          41          AUTOLOG1    41
-----
LINK           2           AUTOLOG1    41
-----
MSGNOH         74          TLCEOD      2
-----
                AUTOLOG1    66  TLCMLL      8
-----

```

{report name}

The name of this report.

{page}

The page number of this page of the report.

{rdate}

The date you ran this report (in Gregorian and Julian format).

{rtime}

The time you ran this report (in a 24-hour clock format).

{user title}

The subtitle you specified. If you did not specify a title, CA ACF2 for z/VM leaves this field blank.

{lid}

The logonid (DIRMAINT) of the user who attempted the CP command or diagnose request that CA ACF2 for z/VM allowed but logged or prevented.

{date}

The date (98.161 06/09) the user tried the CP command or diagnose request (in Gregorian and Julian format).

{time}

The time (06.14) the user attempted the CP command or diagnose request (in a 24-hour clock format).

{record}

The type of security record (COMMAND LOGGING) formatted. Valid record types are:

Command logging

The CP command CA ACF2 for z/VM allowed but logged.

Command violation

The CP command CA ACF2 for z/VM denied.

Diagnose logging

The diagnose instruction CA ACF2 for z/VM allowed but logged.

Diagnose violation

The diagnose instruction CA ACF2 for z/VM denied.

{inst}

User exit that allowed the logging.

{session}

The name of the VM session.

{name}

The name of the user taken from the logonid record.

{uid}

The user identification string.

{cpuid}

The CPU ID of the executing CPU.

{source}

The input source the CP command or diagnose request originated from.

{acc/noac}

Indication of whether CA ACF2 for z/VM allowed the access.

ACCESS

A command limiting rule matched the environment and the rule specified to allow or allow and log access.

KEYEXCES

The NEXTKEY facility directed CA ACF2 for z/VM to the appropriate rule. CA ACF2 for z/VM imposes a limit of 25 NEXTKEYs per validation call. This message indicates a pointer to a 26th rule set. Check the NEXTKEY line to determine the rule sets referenced and correct the error.

NOACCESS

A command limiting rule matched the environment, but the rule prevented access.

NKEYLOOP

The NEXTKEY facility directed CA ACF2 for z/VM to the appropriate rule. The rule directed CA ACF2 for z/VM to check the same rule set twice, a loop condition. Check the NEXTKEY line to determine the rule sets references and correct the error.

{cmd/diag}

The name of the CP command or diagnose instruction the user specified.

{reason code}

The reason CA ACF2 for z/VM produced the record and the disposition of the access.

{command name}

The actual name used for validation. It is the full name. Any aliases are changed to the actual command name. The command text shows the command as the user entered it.

{job name}

The VM user ID of the virtual machine the user was logged onto. For group machines, this is the group ID. JOBMASK selects on this field.

{lid}

The logonid of the user who attempted the action. For group machines, this is the group user. LIDMASK and NLIDMASK select on this field.

RKEY

The rule set key that validates the access. This field appears only when a rule record other than the one under the high level index validates the request, such as a NEXTKEY rule parameter.

Cross-Reference Summary:

CA ACF2 for z/VM also produced a Cross-Reference Summary at the end of the ACFRPTCL Report. This summary reflects the names and total number of the CP commands and diagnose instructions attempted. It also reports the individual users and the number of attempts they made to issue these CP commands and diagnose instructions.

Following is an explanation of the fields on the cross-reference summary portion of this report:

COMMAND

The CP command or diagnose instruction (MSGNOH) attempted.

COUNT

The total number of command attempts reported on this report.

LID

The logonid of the user making the attempt

COUNT

The number of command attempts the above logonid attempted.

Terminal Format with NEXTKEY

```

TLCTMS 98.337 12/03 12.04 COMMAND VIOLATION RKEY=MESSAGE5
TLCTMS NAM=TEST ID UID=TLCTMS
CPUA SRC=GRAF-7C0 NKEYLOOP CMD=MESSAGE
CMD/DIAG=MSG LISTSERV HELP

REASON CODE=DENIED; NEXTKEY LOOP
NEXTKEY: MESSAGE MESSAGE2 MESSAGE3 MESSAGE4 MESSAGE5
          MESSAGE6 MESSAGE7

TLCTMS 98.337 12/03 12.03 COMMAND VIOLATION RKEY=MESSAGE26
TLCTMS NAM=TEST ID UID=TLCTMS
CPUA SRC=GRAF-7C0 KEYEXCES CMD=MESSAGE
CMD/DIAG=MSG LISTSERV HELP

REASON CODE=DENIED; NEXTKEY OVERFLOW
NEXTKEY: MESSAGE MESSAGE2 MESSAGE3 MESSAGE4 MESSAGE5
          MESSAGE6 MESSAGE7 MESSAGE8 MESSAGE9 MESSAGE10
          MESSAGE11 MESSAGE12 MESSAGE13 MESSAGE14 MESSAGE15
          MESSAGE16 MESSAGE17 MESSAGE18 MESSAGE19 MESSAGE20
          MESSAGE21 MESSAGE22 MESSAGE23 MESSAGE24 MESSAGE25
    
```

The sample report reflects user TLCTMS requested command MSG LISTSERV HELP. The rule entry for this file directed CA ACF2 for z/VM to another rule key through the NEXTKEY rule option. CA ACF2 for z/VM allows a maximum of 25 NEXTKEYs when validating access to a file. Eventually, the rule key that validated the access request in the sample was MESSAGE26, the 26th rule set CA ACF2 for z/VM searched during validation processing. Therefore, an error occurred.

The first logging entry on the sample is from a violation record and indicates that a NKEYLOOP condition occurred when the seventh rule set directed CA ACF2 for z/VM to the fifth rule set. The NEXTKEY field of the violation entry lists all rule sets that CA ACF2 for z/VM searched during validation.

The second logging entry is from a violation record and indicates that CA ACF2 for z/VM aborted the access request due to a KEYEXCES condition when the 25th rule set directed CA ACF2 for z/VM to the 26th rule set. The RKEY field indicates the processed rule key when CA ACF2 for z/VM aborted the access.

These violation records are a valuable aid in determining where and why a KEYEXCES condition occurred. In addition, if a NEXTKEY loop occurs, the easiest method of determining where the loop occurred is the violation record. When a NEXTKEY loop occurs, the rmc field of the report indicates NKEYLOOP and the NEXTKEY field lists all rule sets that were referenced during CA ACF2 for z/VM validation. If you selected Extended terminal output ==> N, CA ACF2 for z/VM displays only the first four lines of output.

NEXTKEY

Lists the \$KEY of every rule set that CA ACF2 for z/VM checked during access validation. The report lists these \$KEYs in the order they were referenced. CA ACF2 for z/VM only displays this field for NEXTKEY violation records when you specify the TERMINAL or PRINTER format options. This line is useful for debugging purposes when an NKEYLOOP or KEYEXCES condition occurs.

Summary Output

Following is an example of the summary version of the CA ACF2 for z/VM ACFRPTCL report.

Terminal Format

DATE	TIME	JNAME	NAME	LOG-TYPE	COMMAND
98.111	04/21 00.00	SCHDCMS	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 00.00	SCHDCMS	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 00.00	SCHDCMS	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 00.00	SCHDCMS	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 14.57	PIE	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 14.57	PIE	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 14.57	PIE	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 14.57	PIE	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 14.57	PIE	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 17.43	VTERM	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 17.43	VTERM	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 17.43	VTERM	AUTOLOG ID	COMMAND	MSGNOH
98.111	04/21 19.03	BATCH	AUTOLOG ID	COMMAND	AUTOLO
98.111	04/21 19.03	BATCH	AUTOLOG ID	COMMAND	FORCE
98.111	04/21 19.06	BATCH	AUTOLOG ID	COMMAND	AUTOLO

COMMAND	COUNT	LID	COUNT	LID	COUNT
\$START	7				
-----		SYSTEM	7		
ATTACH	11				
-----		TLCSSK	4	VMOPER	7
AUTOLOG	41				
-----		AUTOLOG1	41		
FORCE	41				
-----		AUTOLOG1	41		
LINK	2				
-----		TLCEOD	2		
MSGNOH	74				
-----		AUTOLOG1	66	TLSMLL	8

DATE

The date (in Gregorian and Julian format) the user tried the CP command or diagnose request.

TIME

The time the user attempted the CP command or diagnose request (in a 24-hour clock format).

JNAME

The VM user ID of the virtual machine the user was logged onto. For group machines, this is the group ID.

NAME

The name of the user, as taken from the logonid record.

LOG-TYPE

The type of security record that was formatted, COMMAND or DIAGNOSE.

COMMAND

The specific command name that the user tried to execute.

See Terminal Format earlier in this chapter for information about reading the cross-reference portion of the Summary report.

Chapter 4: Running the ACFSERVE Command Tracking Log (CT)

This report displays the ACFSERVE commands issued, the type of command issued, and the logonid of the user that issued the command. This chapter contains information on generating the report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you have finished this chapter, you will be able to:

- Use the full-screen feature to run the ACFSERVE Command Tracking Log
- Use the ACFRPTS utility to run the ACFSERVE Command Tracking Log
- Manually run the ACFSERVE Command Tracking Log
- Understand the different report parameters available for this report
- Read and understand the report output

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 72)

[Report Parameter Cross Reference](#) (see page 74)

[Running the Report Manually and Using ACFRPTS](#) (see page 74)

[Sample Report](#) (see page 78)

Using the Full-Screen Feature

Before you can use the full-screen feature to run this report, you must select SMF files. See *Selecting SMF Input Files* in “The Reports” chapter for information about gathering the SMF files as input for this report.

Use the following screen to run the ACFSERVE Command Tracking Log. CA ACF2 for z/VM displays it when you select option 6.2.2 from the Primary Option Menu. See *Running Reports Using the Full-Screen Feature* in “The Reports” chapter for basic information about using the full-screen feature.

```
M9PA-6220  CT - ACFSERVE Command Tracking Log (6.2.2)  CA ACF2 for z/VM
COMMAND ==> _____  TIME 13:33

Enter Report Parameters:
Logonid Mask           ==> _____
Violations or All     ==> ALL

----- Common Parameters -----
User Title           ==> _____  System ID ==> _____
Output device ==> TERMINAL  Line count ==> 60
Start date ==> 01/01/78  End date ==> 12/31/69
Start time ==> 0000  End time ==> 2359
Select ==> _____  Job masks ==> _____

PF1=Help  2=Print  3=Quit  4=Return  5=  6=
PF7=  8=  9=  10=Save  11=  12=Retrieve
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

Logonid Mask

Enter a logonid or a mask for a group of logonids that updated the Infostorage database.

Violations or all

Enter the type of VM ACFSERVE command SMF records to process. All records that match the keyword you specify are processed.

All

Processes records for all types of ACFSERVE command SMF records. This is the default.

Violations

Processes records for ACFSERVE privilege violations.

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Specify the type of SMF record you want this report to process.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. See these parameter definitions in the Manual and ACFRPTS Parameters section for more information.

Parameter	Full-screen Field
<u>ALL</u> VIOLATIO	Violations or All
EDATE(<u>169365</u> cyyddd)	End date
ETIME(<u>2359</u> hhmm)	End time
HEX	
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LINECNT(<u>60</u> number)	Line count
MASK(<u>-</u> lidmask)	Logonid mask
SDATE(<u>000000</u> cyyddd)	Start date
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
STIME(<u>0000</u> hhmm)	Start time
SYSID(<u>*****</u> sysid)	System ID
<u>TERMINAL</u> PRINTER DISK	Output device
TITLE(<u>cmdparm</u> string)	User title

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. See Common Files in “The Reports” chapter for information about these files.

See Running the Reports Manually in “The Reports” chapter for information about running this report manually.

Follow the instructions listed in Running Reports Using the ACFRPTS EXEC to use the ACFRPTS utility to run the ACFSERVE Command Tracking Log. Select CT option.

Manual and ACFRPTS Parameters

Following is a list of the parameters and their defaults used to generate the CT report manually and using the ACFRPTS utility.

ALL | VIOLATIO

These parameters specify the types of various ACFSERVE command SMF records to process. You can specify only one of these parameters. All is the default.

ALL

This parameter processes all types of ACFSERVE command SMF records.

VIOLATIO

This parameter processes records produced due to an ACFSERVE privilege violation.

EDATE(169365 | cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE cause the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359 | hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter prints selected SMF records in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length followed by two-bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(-|lidmask)

This parameter lets you enter a logonid or a mask for a group of logonids that updated the Infostorage database. This provides a summary of activity by a single person or group of people. The default is all logonids. You can mask this field.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfval|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. See @SMF macro of the ACFFDR for these values.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFFDR specifies incorrect SMF record numbers.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all system.

TERMINAL | PRINTER | SUMMARY

These parameters let you select one of three output formats.

PRINTER

132 characters wide with five lines of output per SMF record.

SUMMARY

80 characters wide with a one line summarization of each SMF record.

TERMINAL

80 characters wide with five lines of output per SMF record (the default).

TITLE(cmdparm | string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

Sample Report

CA ACF2 for z/VM SECURITY - ACFRPTCT - ACFSERVE COMMAND TRACKING LOG - PAGE 1									
DATE 12/08/98 (98.161) TIME 10.43									
DATE	TIME	JNAME	LID	COMMAND	OPER 1	OPER 2	RC	VIO	CPU
98.342	12/08	14.28	MAINT	MAINT	SWITCH	SMF		000	XATE
98.342	12/08	14.29	MAINT	MAINT	QUERY	SMF		000	XATE
98.342	12/08	14.29	MAINT	MAINT	RELOAD	RESOURCE DIA		000	XATE
98.342	12/08	14.37	MAINT	MAINT	QUERY	DDSN		000	XATE
98.342	12/08	14.38	MAINT	MAINT	CKPT	SMF		000	XATE
98.342	12/08	14.40	MAINT	MAINT	RELOAD	FDR		000	XATE
98.342	12/08	14.40	MAINT	MAINT	RESET	CMS1		000	XATE
98.342	12/08	14.42	CMS1	CMS1	QUERY	DDSN		913	* XATE
98.342	12/08	14.42	CMS1	CMS1	QUERY	SMF		913	* XATE
98.342	12/08	14.46	MAINT	MAINT	RELOAD			012	XATE
98.342	12/08	14.46	MAINT	MAINT	RELOAD	ABCD		012	XATE
98.342	12/08	15.23	USRGRP	CMS2	RELOAD	RESOURCE ALG		913	* XATE

DATE

The date the command was issued (in Julian and Gregorian format).

TIME

The time the command was issued.

JNAME

The VM user ID of the virtual machine where the user was logged on. For group machines, this is the group ID. JOBMASK selects on this field.

LID

The logonid of the user who attempted the action. For group machines, this is the group user. MASK selects on this field.

COMMAND

The type of ACFSERVE command issued. For a list of valid ACFSERVE commands, see the *Administrator Guide*.

OPER 1

An operand selected for the command issued. For a list of valid ACFSERVE operands, see the *Administrator Guide*.

OPER 2

An operand selected for the command issued.

RC

The return code at command completion. For more information about ACFSERVE, see the *Administrator Guide*. Some common return codes are:

0

Command successful.

4

CA ACF2 for z/VM not active or CA ACF2 for z/VM Security for VSE standalone.

913

Security violation.

VIO

An asterisk in this column indicates that a security violation occurred using this ACFSERVE command.

CPU

The name of the CPU where the command was issued. CA ACF2 for z/VM only uses the first four characters of the eight-character CPUID name.

Chapter 5: Running the DIRMAINT Event Log (DL)

The DIRMAINT Event Log displays loggings and violations for commands issued to the DIRMAINT service machine. This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the DIRMAINT Event Log
- Use the ACFRPTS utility to run the DIRMAINT Event Log
- Manually run the DIRMAINT Event Log
- Understand the different report parameters available for this report
- Read the two different types of report output, detailed and summary

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 82)

[Report Parameter Cross Reference](#) (see page 85)

[Running the Report Manually and Using ACFRPTS](#) (see page 86)

[Sample Report](#) (see page 90)

Using the Full-Screen Feature

Before you can use the full-screen feature to run this report, you must select SMF files. See *Selecting SMF Input Files* in “The Reports” chapter for information about gathering the SMF files as input for this report.

Use the screen below to run the DIRMAINT Event Log. It displays when you select option 6.2.3 from the Primary Option Menu. See *Running Reports Using the Full-Screen Feature* in “The Reports” chapter for basic information about using the full-screen feature.

```
M9PA-6230          DL - DIRMAINT Event Log (6.2.3)          CA ACF2 for z/VM
COMMAND ==> _____                                     TIME 13:33

Enter Report Parameters:
  Include: DIRMAINT Commands          ==> Y
         Minidisk Related Commands    ==> Y
         Minidisk Overlaps            ==> Y

  Command Mask ==> _____   Not Mask ==> _____
  Logonid Mask ==> _____   Not Mask ==> _____

  Short Report ==> N           Table size ==> 2500
  Output Format ==> TERMINAL

----- Common Parameters -----
User Title ==> _____   System ID ==> ____
UID Mask ==> _____
Output device ==> TERMINAL   Line count ==> 60
Start date ==> 01/01/78      End date ==> 12/31/69
Start time ==> 0000          End time ==> 2359
Select ==> _____       Job masks ==> _____

PF1=Help   2=Print   3=Quit   4=Return   5=       6=
PF7=       8=       9=       10=Save   11=      12=Retrieve
```

Press Enter to run the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

DIRMAINT commands

Specify Y (yes) to process all DIRMAINT command SMF records.

Minidisk related commands

Specify Y (yes) to process all DIRMAINT MDISK SMF records.

Minidisk overlaps

Specify Y (yes) to process all types of DIRMAINT journal SMF records.

Command mask

Enter a mask to request information for one or more DIRMAINT commands. The default displays all commands.

Not mask

Enter a mask to exclude information for one or more DIRMAINT commands. DIRMAINT commands you specify in this field override the values you specified in the Command mask field. The default is null, no DIRMAINT commands are excluded.

Logonid mask

Enter a logonid mask to allow you to investigate access requests by a particular logonid or group of logonids. The default displays all logonids.

Not mask

Enter a logonid mask to exclude information from the report pertaining to a certain logonid or group of logonids. Any logonids you specify in this field override values specified in the Logonid mask field.

Short report

Specify Y (yes) to produce a cross-reference table. This table is a listing of DIRMAINT commands and logonids that issued these DIRMAINT commands with a count. DETAIL is the default, producing detail lines.

Table size

Define the number of elements allowed in the cross-reference table. The default is 2500.

Output format

Specify the type of output format.

TERMINAL

Is 80 characters wide and has six lines per processed SMF record. This is the default.

PRINTER

Is 132 characters wide and has six lines per processed SMF record.

SUMMARY

Is 80 characters wide, provides a line summary of each record.

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

UID mask

Enter the UID mask that limits the output to those pertaining to the user or group of users indicated by the UID mask. The default is all users.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Specify the SMF record number to use for this report.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. You can refer to these parameter definitions in Manual and ACFRPTS Parameters if you need more information.

Parameter	Full-screen Field
<u>ALL</u> COMMAND MDISK OVERLAP	DIRMAINT commands Minidisk related commands Minidisk overlaps
<u>DETAIL</u> SHORT	Short report
EDATE(<u>169365</u> cyyddd)	End date
ETIME(<u>2359</u> hhmm)	End time
HEX	
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LIDMASK(<u>*****</u> lidmask)	Logonid mask
LINECNT(<u>60</u> number)	Line count
MASK(<u>_</u> cmdmask)	Command mask
NLIDMASK(<u>*****</u> lidmask)	Not mask (logonid)
NMASK(cmdmask)	Not mask (command)
SDATE(<u>000000</u> cyyddd)	Start date
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
SIZE(<u>2500</u> size)	Table size
STIME(<u>0000</u> hhmm)	Start time
SYSID(<u>*****</u> sysid)	System ID
<u>TERMINAL</u> PRINTER SUMMARY	Output format
TITLE(<u>cmdparm</u> string)	User title
UID(<u>_</u> uidmask)	UID mask

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. See Common Files in “The Reports” chapter for information about these files. See Running the Reports Manually in “The Reports” chapter for information about running this report manually.

Follow the instructions listed in Running Reports Using the ACFRPTS EXEC to use the ACFRPTS utility to run the DIRMAINT Event Log. Select the DL option.

Manual and ACFRPTS Parameters

Listed below are the parameters and their defaults used to generate the DL report manually and using ACFRPTS.

ALL|COMMAND|MDISK|OVERLAP

These parameters specify which types of DIRMAINT journal SMF records are processed. You can specify one or more of these parameters. The report processes all records that match the parameters you specify.

ALL

Processes all types of DIRMAINT journal SMF records.

COMMAND

Processes DIRMAINT command SMF records. You can abbreviate COMMAND with CMD.

MDISK

Processes DIRMAINT minidisk SMF records.

OVERLAP

Processes DIRMAINT minidisk overlap SMF records.

DETAIL|SHORT

This parameter lets you specify whether you want a short or detailed report. SHORT produces only the cross-reference table. This table is a listing of DIRMAINT commands and logonids of users that issued these DIRMAINT commands. It also produces a count.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE causes the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter prints selected SMF records in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length followed by two-bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LIDMASK(***|lidmask)**

This parameter lets you specify a logonid or group of logonids for this report. The default requests information for all logonids that created a DIRMAINT SMF record.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only the physical constraints of the output media you are using limit the maximum number of output lines per page. The default is 60.

MASK(-|cmdmask)

This parameter lets you request information for one or more DIRMAINT commands. The default is all DIRMAINT commands.

NLIDMASK(***|lidmask)**

This parameter lets you exclude logonids from the report. For example, if you specify NLIDMASK(PAY-), all information on users with logonids that begin with PAY are excluded from the report. Any logonids you specify in this parameter are overridden by those you specified in the LIDMASK parameter.

NMASK(-|cmdmask)

This parameter lets you exclude information for one or more DIRMAINT commands. Commands you specify through this parameter override commands specified in the MASK parameter. The default is null, no DIRMAINT command is excluded.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfv|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. See the *Installation Guide* for more information about the @SMF macro values.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFFDR specifies incorrect SMF record numbers.

SIZE(2500|size)

This parameter defines the number of elements allowed in the cross-reference table.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all system.

TERMINAL|PRINTER|SUMMARY

These parameters let you select one of three output formats.

PRINTER

132 characters wide with five lines of output per SMF record.

SUMMARY

80 characters wide with a one line summarization of each SMF record.

TERMINAL

80 characters wide with five lines of output per SMF record (the default).

TITLE(cmdparm | string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

UID(- | uidmask)

This parameter specifies the UID mask the report pertains to. Dash (-) is the default, reporting on all UIDs.

Sample Report

This report produces two forms of output, a detailed report and a summary. The next two sections contain samples of each report.

Detailed Output

For clarity in explaining how to read this report, field names are italicized and inserted them (in braces) over each line of the first logging. These field names **do not** appear in the actual report.

```

                                {report name}                                {page}
CA ACF2 for z/VM SECURITY - ACFRPTDL DIRMAINT  JOURNAL  - PAGE  1
                                {rdate}      {rtime}  {user title}
DATE 06/09/90 (90.161) TIME 11.06 For SVM Group

{lid}      {date}  {time}
TLCMGR  98.095 04/01 08.48  COMMAND  RECORD
{session} {name}                                {uid}
TLCMGR  NAM=John Doe                                UID=TLSADTLCMGR
{cpuid}   {source}
4381     SRC=LDEVL013
{dir/cmd}
DIRM/CMD=GET  CAI2R310 NOLOCK
{reason code}
RESPONSE=TO  TLCMGR DVHMAC035I FILE CAI2R310 DIRECT SENT VIA CMS PUNCH
COMMAND.

TLCKK  98.161 06/09 08.07  COMMAND  RECORD
TLCKK  NAM=CHARLIE KOOK                                UID=TLC99TLCKK  0999
4381   SRC=LDEVL030
DIRM/CMD=GET  SPOOLMAN
RESPONSE=TO  TLCKK DVITRV221E Command DIRM GET rejected: you are not
authorized to use it.

TLCKK  98.161 06/09 08.07  COMMAND  RECORD
TLCKK  NAM=CHARLIE KOOK                                UID=TLC99TLCKK  0999
4381   SRC=LDEVL030
DIRM/CMD=GET  SPOOLMAN
RESPONSE=TO  DIRADEXE DVHSPV268I Backup EXEC (DVHBCK) gave return code 4

```

{report name}

The name of this report.

{page}

The page number of this page of the report.

{rdate}

The date you produced this report.

{rtime}

The time you produced this report.

{user title}

The subtitle the user specified for this report. If you did not specify a subtitle, this field is blank.

{lid}

The logonid of the user that issued the DIRMAINT command.

{date}

The date the user issued the command.

{time}

The time the user issued the command.

{session}

The name of the VM session.

{name}

The name of the user as taken from the logonid record.

{uid}

The user identification string.

{cpuid}

The CPU ID of the executing CPU.

{source}

The input source the command originated from.

{dir/cmd}

The name of the DIRMAINT command that was specified.

{reason code}

The reason CA ACF2 for z/VM produced the record and the disposition of the access.

CA ACF2 for z/VM also produces a Cross-Reference Table at the end of the ACFRPTDL Report.

CA ACF2 for z/VM SECURITY - ACFRPTDL DIRMAINT CROSS REFERENCE - PAGE 1					
DATE 06/09/90 (90.161) TIME 11.06 For TLC Group					
INDEX	COUNT	LID	COUNT	LID	COUNT
GET	3				
-----		TLCCCK	2	TLCMGR	1

INDEX

The CP command or diagnose instruction (GET and REPLACE) attempted.

COUNT

The total number of attempts reported on this report.

LID

The logonid of the user making an attempt.

COUNT

The number of attempts the specified user made.

LID

The logonid of the user making an attempt.

COUNT

The number of attempts the specified user made.

JNAME

The VM user ID of the virtual machine where the user was logged on. JOBMASK selects on this field.

LID

The logonid of the user who attempted the action. For group machines, this is the group user. LIDMASK and NLIDMASK select on this field.

Summary Output

CA ACF2 for z/VM SECURITY - ACFRPTDL DIRMAINT JOURNAL - PAGE 1						
DATE 04/23/98 (98.113) TIME 09.10						
DATE	TIME	JNAME	NAME	LOG-TYPE	COMMAND	
98.111	04/21	00.00	DATAMOVE		COMMAND	QRY
98.111	04/21	04.45	DIRMAINT		COMMAND	USER
98.111	04/21	04.45	DIRMAINT		COMMAND	CHKSUM
98.111	04/21	05.00	DATAMOVE		COMMAND	QRY
98.111	04/21	17.36	SVMGR		COMMAND	ACCOUNT
98.111	04/21	17.39	SVMGR		COMMAND	DISTRIB
98.111	04/21	17.41	SVMGR		COMMAND	GET
98.111	04/21	17.41	SVMGR		COMMAND	REPLAC
98.111	04/21	18.00	DATAMOVE		COMMAND	QRY
98.112	04/22	04.45	DIRMAINT		COMMAND	USER
98.112	04/22	04.45	DIRMAINT		COMMAND	CHKSUM
98.112	04/22	05.00	DATAMOVE		COMMAND	QRY
98.112	04/22	14.02	QAMGR		COMMAND	BACKUP
98.112	04/22	14.02	DIRMAINT		COMMAND	USER
98.112	04/22	14.02	DIRMAINT		COMMAND	CHKSUM
98.112	04/22	14.06	QAMGR		COMMAND	AMDISK
98.112	04/22	14.11	QAMGR		COMMAND	GET
98.112	04/22	14.12	QAMGR		COMMAND	BACKUP
98.112	04/22	14.12	DIRMAINT		COMMAND	USER
98.112	04/22	14.12	DIRMAINT		COMMAND	CHKSUM
98.112	04/22	15.00	DATAMOVE		COMMAND	QRY
98.112	04/22	20.48	VMOPER	CONSOLE OPERATOR	COMMAND	USER
98.112	04/22	21.00	DATAMOVE		COMMAND	QRY

DATE

The date (in Gregorian and Julian format) the user tried the CP command or diagnose request.

TIME

The time the user attempted the CP command or diagnose request (in a 24-hour clock format).

JNAME

The VM user ID of the virtual machine the user was logged onto. For group machines, this is the group ID.

NAME

The name of the user, as taken from the logonid record.

LOG-TYPE

The type of security record that was formatted, COMMAND or DIAGNOSE.

COMMAND

The specific command name that the user tried to execute.

There is also a cross-reference portion at the end of the summary output of the ACFRPTDL report.

```
CA ACF2 for z/VM SECURITY - ACFRPTDL DIRMAINT CROSS REFERENCE - PAGE 1
DATE 04/23/98 (98.113) TIME 09.10
```

INDEX	COUNT	LID	COUNT	LID	COUNT
ACCOUNT	4				
-----		TLCMGR	4		
AMDISK	8				
-----		TLCMGR	8		
BACKUP	16				
-----		TLCMGR	16		
CHKSUM	4				
-----		DIRMAINT	4		
DISTRIB	2				
-----		TLCMGR	2		
GET	3				
-----		TLCMGR	1	TLCMGR	2
QRY	168				
-----		DATAMOVE	168		
REPLACE	5				
-----		TLCMGR	5		
USER	5				
-----		DIRMAINT	4	VMOPER	1

See Detailed Output for information about reading the cross-reference portion of the ACFRPTDL report.

Chapter 6: Running the Dataset Event Log (DS)

The Dataset Event Log identifies loggings and violations for minidisks, CMS files, Shared File System (SFS) files, VSE and OS data sets, and attachable DASD devices. This chapter contains information on generating the report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Dataset Event Log
- Use the ACFRPTS utility to run the Dataset Event Log
- Manually run the Dataset Event Log
- Understand the different report parameters available for this report
- Read the three different report formats (terminal, printer, and summary)
- Read and understand the NEXTKEY report

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 98)

[Report Parameter Cross Reference](#) (see page 101)

[Running the Report Manually and Using ACFRPTS](#) (see page 102)

[Sample Report](#) (see page 108)

Using the Full-Screen Feature

Before you can use the full-screen feature to run this report, you must select SMF files. See *Selecting SMF Input Files* in “The Reports” chapter for information about gathering the SMF files as input for this report.

Use the screen below to run the Dataset Event Log. It displays when you select option 6.2.4 from the Primary Option Menu. See *Running Reports Using the Full-Screen Feature* in “The Reports” chapter for basic information on using the full-screen feature.

```

M9PA-6240    DS -Dataset/Program Event Log (6.2.4)    CA ACF2 for z/VM
COMMAND ==> _____                                TIME 13:33

Enter Report Parameters:
File Mask    ==> _____
File Not Mask ==> _____
Logonid Mask ==> _____    Not Mask ==> _____

Event Selection:
All          ==> Y    Loggings ==> _    Tape    ==> _    Traces ==> _
Violations ==> _    Pgmname ==> _    Install ==> _    Unknown ==> _

Output Format ==> TERMINAL    Extended Terminal Output ==> Y
Table Size   ==> 2500        Cross reference only    ==> N
----- Common Parameters -----
User Title   ==> _____    System ID ==> ____
UID Mask     ==> _____
Output device ==> TERMINAL    Line count ==> 60
Start date   ==> 01/01/78    End date    ==> 12/31/69
Start time   ==> 0000        End time    ==> 2359
Select       ==> _____    Job masks   ==> _____

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=        8=        9=        10=Save    11=       12=Re
    
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

File mask

Specify a mask to request information for a particular file or group of files.

File not mask

Specify a mask to exclude a particular file or group of files. If you specify a value for this field, it overrides the File mask field.

Logonid mask

Specify a mask to specify a particular logonid or group of logonids. The default requests information for all logonids that had an access journaled.

Not mask

Specify a mask to exclude a particular logonid or group of logonids. If you specify a value for this field, it overrides the values you entered in the Logonid mask field.

Event Selection:

All

Specify Y (the default) to include information for all journaled accesses.

Loggings

Specify Y to include all records produced for accesses that CA ACF2 for z/VM allowed but had a journal record created due to an access rule request.

Tape

Specify Y to include requests to tape volumes that CA ACF2 for z/VM validated on the volume level (as opposed to tape access requests validated at the filename level).

Traces

Specify Y to include records for a user who had the TRACE attribute specified in their logonid record.

Violations

Specify Y to include records on attempted violations of access controls.

Pgmname

Specify Y to include records issued whenever a user executed a program defined as a maintenance program, protected program, or logged program.

Install

Specify Y to include records issued whenever any of the CA ACF2 for z/VM data set validation user exits (VIOEXIT, VLDEXIT, or DSNPOST) request CA ACF2 for z/VM to journal the access to SMF.

Unknown

Specify Y to include all unknown type records issued when the CA ACF2 for z/VM file access validation routine detects an error condition, such as an invalid parameter list.

Output format

Specify one of three output formats.

TERMINAL

Provides a five-line detail section for each record

PRINTER

Provides a three-line detail section for each record (133 characters per line)

SUMMARY

Provides a one-line detail section for each record (133 characters per line).

Extended terminal output

Define the default terminal report format. Specify Y (EXTEND) to display the maximum information from a record. Specify N (NOEXTEND) to display a consistent four-line format for the report.

Table size

Specify the number of elements allowed at the end of the report in the data set prefix/logonid cross-reference table. The default table size occupies 50,000 bytes (49K) of memory.

Cross reference only

Print only the cross-reference table for this run of ACFRPTDS. The cross-reference table provides a listing of file prefixes and the logonids that accessed them with that prefix, and shows the access counts. The default prints all detailed information.

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

UID mask

Enter the UID mask that limits the output to those pertaining to the user or group of users indicated by the UID mask. The default is all users.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Define the SMF record number CA ACF2 for z/VM should use for this report.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

After you define all the values, press Enter and the report executes.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. See Manual and ACFRPTS Parameters later in this chapter for more information about these parameters.

Parameter	Full-screen Field
<u>ALL</u> LOGGING VIOLATIO TRACE PGMNAME TAPE INSTALL UNKNOWN	All, Logging, Violations, Traces, Pgmname, Tape, Install, Unknown
<u>DETAIL</u> SHORT	Cross reference only

Parameter	Full-screen Field
EDATE(<u>169365</u> cyyddd)	End date
ETIME(<u>2359</u> hhmm)	End time
<u>EXTEND</u> NOEXTEND	Extended terminal support
HEX	
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LIDMASK(<u>*****</u> lidmask)	Logonid mask
LINECNT(<u>60</u> number)	Line count
MASK(<u>-</u> dsnmask)	File mask
NLIDMASK(lidmask)	Not mask
NMASK(dsnmask)	File not mask
SDATE(<u>000000</u> cyyddd)	Start date
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
SIZE(<u>2500</u> size)	Table size
STIME(<u>0000</u> hhmm)	Start time
SYSID(<u>*****</u> sysid)	System ID
<u>TERMINAL</u> PRINTER SUMMARY	Output format
TITLE(<u>cmdparm</u> string)	User title
UID(<u>-</u>) uidmask)	UID mask

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. See Common Files in “The Reports” chapter for information about these files.

The Dataset Event Log also uses the following file:

HEXDUMP

This optional file contains the ACFRPTDS dump report that shows invalid SMF records in HEXDUMP format. The dump report and the report output file (SYSPRINT) are cross-referenced by dump numbers. To use the dump report, you must use a CMS FILEDEF command to specify this file before running the report.

This file has the same characteristics as the SYSPRINT file. Do not assign both HEXDUMP and SYSPRINT to the TERMINAL or PRINTER devices. This interweaves the output of both reports, causing confusion. If you specify DISK as the output device for both reports, be sure you specify different file IDs.

If the report generator finds a FILEDEF for HEXDUMP with a device of DISK that has the FILEDEF commands default file ID of HEXDUMP FILE A, it assigns a file ID of ACFRPTDS HEXDUMP A to the file.

If the output device is PRINTER, the output file is assigned a filename and filetype of ACFRPTDS HEXDUMP.

The ACFRPTS utility does not issue a FILEDEF command for this file. You can enter one before starting the utility.

See Running the Reports in “The Reports” chapter for information about running this report manually.

Follow the instructions listed in Running Reports Using the ACFRPTS EXEC in “The Reports” chapter to use the ACFRPTS utility to run the Dataset Event Log. Select the DS option.

Manual and ACFRPTS Parameters

Listed below are the parameters and their defaults used to generate the DS report manually and using ACFRPTS.

ALL | INSTALL | LOGGING | PGMNAME | TAPE | TRACE | UNKNOWN | VIOLATIO

These parameters specify which types of records this report will format. You can specify any combination of these parameters. If you do not specify a parameter, ALL (the default) takes effect. These parameters operate in an inclusive OR manner. For example, if you specify PGMNAME and VIO, the report details every access to a protected program and every data access that resulted in a CA ACF2 for z/VM access control violation.

ALL

Formats information for all journaled accesses. However, if you specify the MASK parameter, the report does not contain program records.

INSTALL

Formats user records that were created whenever any of the CA ACF2 for z/VM data set validation user exits (VIOEXIT, DSNGEN, and VLDEXIT) requested the access be journaled to SMF.

LOGGING

Formats all records produced for accesses that CA ACF2 for z/VM allowed but the access rule requested a journal record. CA ACF2 for z/VM also issues logging records when the access was allowed through a user's SECURITY, NON-CNCL, or READALL privilege. These privileges can override an access rule recommendation.

PGMNAME

Formats logging or violation records written for attempts to access data through protected or logged programs. Also displays all trace records written for access attempts made through any program.

TAPE

Formats records written for tape access requests validated on the volume level (as opposed to tape access requests validated at the data set name level). Validation on the volume level occurs when the volser was specified on the secured volume list or the DSNGEN user exit was taken.

TRACE

Formats records produced for a user with the TRACE attribute specified in their logonid record. CA ACF2 for z/VM writes trace records regardless of whether access was denied or logged. KEYLOOP and KEYEXEC trace records are always produced when that condition occurs, regardless of the TRACE attribute.

UNKNOWN

Formats unknown type records issued when CA ACF2 for z/VM data set access validation SVC detected an error condition, such as an invalid parameter list. These records indicate an access attempt for which CA ACF2 for z/VM could not make a proper determination. In this case, the access was aborted and the UNKNOWN type record (INVPARMS) was produced. The report output contains whatever information CA ACF2 for z/VM could determine, but may contain invalid data and be printed in hexadecimal notation.

VIOLATIO

Formats records produced because of an attempted violation of access controls.

DETAIL|SHORT

The SHORT parameter prints only the cross-reference table. The cross-reference table provides a listing of data set prefixes and the logonids that accessed data sets with that prefix, showing the access counts. The DETAIL parameter (the default) prints all detailed information.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE causes the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

EXTEND|NOEXTEND

This parameter further defines the default terminal report format. EXTEND displays the maximum information from a record. NOEXTEND displays a consistent four-line format for the report.

HEX

This parameter selects SMF records printed in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length followed by two-bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LIDMASK(***|lidmask)**

This parameter lets you request information for a particular logonid or group of logonids. The default requests information for all logonids that had an access journaled.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only by the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(-|dsnmask)

This parameter lets you request information for a particular data set or group of data sets. This function is useful when you are investigating access to a particular user's data. For example, to format a report for the SYS1 data set loggings, specify MASK(SYS1.-). The default is all data sets.

NLIDMASK(lidmask)

This parameter lets you exclude information pertaining to a certain logonid or group of logonids. For example, specify NLIDMASK(PAY-) to exclude any information pertaining to the logonids that begin with the letters PAY. This parameter overrides the LIDMASK parameter.

NMASK(-|dsnmask)

This parameter lets you exclude information pertaining to a certain data set or group of data sets. For example, specify NMASK(SYS1.-) to exclude any information pertaining to the SYS1 data sets. This parameter overrides the MASK parameter.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfv|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. Refer to the @SMF macro of the ACFFDR in the *Installation Guide* for these values.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFFDR specifies incorrect SMF record numbers.

SIZE(2500|size)

This parameter defines the number of elements permitted at the end of the report in the data set prefix/logonid cross-reference table. The report builds a cross-reference entry for each data set prefix to logonid combination. Each element in this table is 20 bytes long, therefore, the table takes 20 times the number of SIZE bytes of memory. The default table size occupies 50,000 bytes (49K) of memory.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(***|sysid)**

Specify the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TERMINAL|PRINTER|SUMMARY

Specify the output format. You can specify only one of these parameters per report. If you do not specify one, CA ACF2 for z/VM uses TERMINAL (the default).

PRINTER

Displays a three-line detail section for each record (133 characters per line). If you process TRACE records, the detail section contains three to five lines.

SUMMARY

Displays a one-line detail section for each record (133 characters per line). Each detail section contains minimal information about the accessed data set and the user involved.

TERMINAL

Displays a five-line detail section for each record. This format is suitable for a limited display screen. You can produce an optional four-line report by using the NOEXTEND parameter. This format usually fits on an 80-character screen width with an occasional wrap around due to long data set names. If you process TRACE records, the number of lines per logging record ranges from six to 12.

TITLE(cmdstring|string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

UID(-|uidmask)

This parameter specifies the UID mask the report pertains to. Dash (-) is the default, reporting on all UIDs.

Sample Report

This report generates three output formats, a terminal format, a printer format, and a summary format. The next three sections contain samples of each.

Terminal Format

For clarity in explaining how to read this report, we have italicized field names (enclosed in braces), and inserted them over each line of the first logging in small letters. These field names **do not** appear in the actual report.

```

                                {report name}                                {page}
CA ACF2 for z/VM SECURITY - ACFRPTDS DATASET ACCESS JOURNAL - PAGE 1
                                {rdate}                                {rtime} {user title}
DATE 06/09/98 (98.161) TIME 11.11 For TL Group

{lid}      {date}    {time}      {jname}    {inst}  {stape} {rkey}
TLCDRV2L  98.092  04/01  08.38   DATASET  LOGGING  SEC-OFF  NON-CANC  RKEY=SYS1
{jobname}  {dsnvol}   {ddname}   {data set}
TLCDRV2L  VOL=      DDN=        DSN=TLCDRV.V194.VOLUME
{sname}    {lvoll}     {pgmname}  {library}
          VOL=      PGM=        LIB=
{jobid}    {major}  {minor}   {rmrc}     {username}
STC        DA-OPN  OUTPUT  ACCESS  NAM=DVICTOR  2ND LEVEL
{cpuid}    {source}   {path}     {uid}
4341      SRC=LDEV4585          UID=TLSTLCDRV
          {fpool}      {sfs directory}

          FPOOL=MYFPOOL  DIR=UNITED.STATES.ILLINOIS.CHICAGO.COOK.>
STREET
          .ADDRESS.FLOOR
{nextkey}
NEXTRULE  MAINT          MAINTSFS

```

Notice that the DIR value may wrap around to occupy one to three lines so that it does not extend beyond column 79.

```

CA ACF2 for z/VM SECURITY - ACFRPTDS DATASET ACCESS CROSS REFERENCE - PAGE
DATE 06/09/98 (98.161) TIME 11.11 For VM Group

INDEX  COUNT  LID      COUNT  LID      COUNT
TLCDPV      1
-----  TLCDRV2L      1

```

Printer Format

CA ACF2 for z/VM SECURITY - ACFRPTDS DATASET ACCESS JOURNAL - PAGE 1									
DATE 09/16/98 (98.260) TIME 09.03									
DATASET	ACCESS	TYPE	RM-RC	INST	STAPE	UID	NAME	LIBRARY	PROGRAM
DDNAME	LVOL					LID			
SOURCE	VOL	RULE	LOG	TYPE	PATH	JNAME	SNAME	JOB #	CPUI
	DATE		TIME						
	FILEPOOL	SFS	DIRECTORY						
MAINT.V019D.VOLUME									
DA-OPN INPUT		NORULE				DISKACNT	SYSTEM ACCOUNTING	DISKACNT	XATE
MAINT		DSET VIO				DISKACNT			
LINE DSC	98.070	03/10	11.55						

ACFXA303.V0192.VOLUME									
DA-OPN INPUT		NORECORD	NON-CANC			MAINT	SYSTEM MAINT ID	MAINT	XATE
ACFXA320		DSET LOG				MAINT			
DISP0420	98.070	03/10	11.55						
	MYFPOOL								
CONTINENTNAMERICA.COUNTRYUNITEDSTATES.COUNTYCOOK.STREETCABOT.ADDRESS2400CABOTDRIVE.FLOORTHIRD.									
DEPARTMENTWRITING.DIVISIONDEVELOPMENT									
NEXTKEY: MAINT MAINTSFS									

ROD.V0191.VOLUME									
DA-OPN INPUT		NORULE	NON-CANC			MAINT	SYSTEM MAINT ID	MAINT	XATE
ROD		DSET LOG				MAINT			
DISP0420	98.070	03/10	11.55						
	MYFPOOL	HDQTRS.PERSONEL							

MAINT.V019D.VOLUME									
DA-OPN INPUT		NORULE				DISKACNT	SYSTEM ACCOUNTING	DISKACNT	XATE
MAINT		DSET VIO				DISKACNT			
LINE DSC	98.070	03/10	12.20						

MAINT.V019D.VOLUME									
DA-OPN INPUT		NORULE				DISKACNT	SYSTEM ACCOUNTING	DISKACNT	XATE
MAINT		DSET VIO				DISKACNT			
LINE DSC	98.070	03/10	17.02						

ACFXA320.V0192.VOLUME									
DA-OPN INPUT		NORECORD	NON-CANC			MAINT	SYSTEM MAINT ID	MAINT	XATE
ACFXA320		DSET LOG				MAINT			
DISP0420	98.070	03/10	17.03						

Notice that the SFS DIRECTORY value may wrap around to occupy one to two lines so that it does not extend beyond column 132.

CA ACF2 for z/VM SECURITY - ACFRPTDS DATASET ACCESS CROSS REFERENCE - PAGE 1
DATE 09/16/98 (98.260) TIME 09.03

INDEX	COUNT	LID	COUNT	LID	COUNT
TLCXA320	4				
-----		MAINT	4		
TLC2VESA	1				
-----		MAINT	1		
MAINT	3				
-----		DISKACNT	3		
RED	4				
-----		MAINT	4		
SVNDRV	1				
-----		SVNDRV2L	1		

Summary Format

CA ACF2 for z/VM SECURITY - TLCRPTDS DATASET ACCESS JOURNAL - PAGE 1
DATE 09/16/98 (98.260) TIME 09.03

DATE	TIME	JNAME	PROGRAM	LID	NAME	LOG-TYPE	DATASET
98.070	03/10	11.55	DISKACNT		DISKACNT SYSTEM ACCOUNTING	DSET	VIO
					MAINT.V019D.VOLUME		
98.070	03/10	11.55	MAINT		MAINT SYSTEM MAINT ID	DSET	LOG
					TLCXA320.V0192.VOLUME		
98.070	03/10	11.55	MAINT	MAINT	SYSTEM MAINT ID	DSET	LOG RED.V0191.VOLUME
98.070	03/10	12.20	DISKACNT		DISKACNT SYSTEM ACCOUNTING	DSET	VIO
					MAINT.V019D.VOLUME		
98.070	03/10	17.02	DISKACNT		DISKACNT SYSTEM ACCOUNTING	DSET	VIO
					MAINT.V019D.VOLUME		
98.070	03/10	17.03	MAINT		MAINT SYSTEM MAINT ID	DSET	LOG
					TLCXA320.V0192.VOLUME		
98.070	03/10	17.03	MAINT	MAINT	SYSTEM MAINT ID	DSET	LOG RED.V0191.VOLUME
98.070	03/10	18.19	MAINT		MAINT SYSTEM MAINT ID	DSET	LOG
					TLCXA320.V0192.VOLUME		
98.070	03/10	18.19	MAINT	MAINT	SYSTEM MAINT ID	DSET	LOG RED.V0191.VOLUME
98.070	03/10	18.23	MAINT		MAINT SYSTEM MAINT ID	DSET	LOG
					TLC2VMXA.V0191.VOLUME		
98.070	03/10	18.51	MAINT		MAINT SYSTEM MAINT ID	DSET	LOG
					TLCXA320.V0192.VOLUME		
98.070	03/10	18.51	MAINT	MAINT	SYSTEM MAINT ID	DSET	LOG RED.V0191.VOLUME

CA ACF2 for z/VM SECURITY - TLCRPTDS DATASET ACCESS CROSS REFERENCE - PAGE 1
DATE 09/16/98 (98.260) TIME 09.03

INDEX	COUNT	LID	COUNT	LID	COUNT
TLCXA320	4				
-----		MAINT	4		
TLC2VESA	1				
-----		MAINT	1		
MAINT	3				
-----		DISKACNT	3		
RED	4				
-----		MAINT	4		
SVNDRV	1				
-----		SVNDRV2L	1		

Reading the Reports

{report name}

The name of the report.

{page}

The page number of this page of this report.

{rdate}

The date CA ACF2 for z/VM produced this report (in Julian and Gregorian format).

{rtime}

The time CA ACF2 for z/VM produced this report.

{user title}

The subtitle the user specified. If you did not specify a subtitle, this field is blank.

{lid}

The logonid of the user who attempted the action. For group machines, this is the group user. LIDMASK and NLIDMASK select on this field.

{date}

The date (in Julian and Gregorian format) of the attempted access.

{time}

The time of the attempted access.

{jname}

The VM user ID of the virtual machine where the user was logged on. For group machines, this is the group ID. JOBMASK selects on this field.

{jobid}

The JES2 or JES3 assigned job number (CA ACF2 for z/VM Security for z/OS sites only).

{inst}

The user exit or specification that allowed the logging. Valid entries are:

DSNGEN

The data set name generator exit requested CA ACF2 for z/VM to journal the access.

DSNPOST

The data set postvalidation exit requested CA ACF2 for z/VM to journal the access.

NON-CNCL

CA ACF2 for z/VM allowed the access because the user has the NON-CNCL attribute.

PRE-VALD

The user prevalidation exit requested CA ACF2 for z/VM to journal the access.

READ-ALL

CA ACF2 for z/VM allowed the access because the user has the READALL attribute.

SEC-OFF

CA ACF2 for z/VM allowed the access because the user is a security officer.

VIO-EXIT

The user violation exit requested CA ACF2 for z/VM to journal the access.

{sname}

The name of the job step active when the access was attempted (CA ACF2 for z/VM Security for z/OS and CA-ACF2 for VSE sites only).

{dsnvol}

This field is only used for DASD ATTACH or DEDICATE validation. It indicates the volume serial number of the volume being attached.

{ddname}

This field is only used for DASD ATTACH or DEDICATE validation. It indicates the logonid of the user who issued the ATTACH command for the DASD device. If the DASD device was automatically attached at IPL through a DEDICATE VM directory statement, this field is the same as the logonid field.

{data set}

The name of the file of the attempted access. This is the actual name used for validation and rule interpretation. If this name is invalid, CA ACF2 for z/VM prints the entire record in hexadecimal notation. The structure of the data set name depends on the type of file. Possible formats are:

- For VM minidisks, \$key.Vadr.VOLUME, where

key

The \$KEY of the access rule set CA ACF2 for z/VM used to validate the request (normally the logonid or VM user ID of the owner of the minidisk).

- Vadr

The virtual device address of the minidisk.

- For CMS filenames, \$key.Vadr.filename.filetype, where:

key

The \$KEY of the access rule set that validated the request (normally the logonid or VM user ID of the CMS file owner).

Vadr

The virtual device address of the minidisk.

filename

The actual CMS filename.

filetype

The actual CMS filetype.

- For OS data sets and DOS files, the name of the OS data set or DOS file that CA ACF2 for z/VM constructed for rule validation.
- For attachable DASD devices, \$key.Rcuu, where:

key

Always SYSTEM

Rcuu

The device's channel address (c), the control unit number (u) for the device, and the device's unit number (u).

cuu

Represents the real address of the device.

{lvol}

The volser of the volume where CA ACF2 for z/VM found the program library. (Only applies to CA ACF2 for z/VM Security for z/OS sites.)

{pgmname}

The program name.

For CA ACF2 for z/VM Security for VM, DDR or FORMAT.

For CA ACF2 for z/VM Security for VSE, the name of a logged or protected phase. The protected program or logged program lists define these phases.

For CA ACF2 for z/VM Security for z/OS, the name of the program requested the access. This is the CA ACF2 for z/VM translated name of a multimodule program if you defined a structured model. The name in the report is the true program name, not the name of the active load module.

{library}

The library where the user loaded the program. (For CA ACF2 for z/VM Security for z/OS sites only.)

{major}

The system or CA ACF2 for z/VM component where the user attempted access.
Valid values are:

ALLOC

Request for new data set allocation.

CATLG

AMS or CMS issued the request (CA ACF2 for z/VM Security for z/OS sites only).

CVOL

The catalog management CVOL processing issued for this request. To determine the type of CVOL request being made, see the minor field below (CA ACF2 for z/VM Security for z/OS sites only).

DA-EOV

DADSM E-O-V issued the request.

DA-OPN

Open issued the request.

DELETE

DADSM file scratch requested.

EXTRNL

This is an external request for a multiple user address space subsystem (MUSASS).

INSTALL

This violation is in response to a user security request.

PRGNAM

This request was for program execution authorization by the initiator (CA ACF2 for z/VM Security for z/OS sites only).

RENAME

DADSM rename operator requested (to and from names are indeterminate).

REN-FR

DADSM rename operation requested (original filename).

REN-TO

DADSM rename requested (new filename).

TP-EOV

Tape EOV issued the request.

TP-OPN

The request was for a tape open.

TP-XOV

This exit is taken for E-O-V processing after CA ACF2 for z/VM validates all internal O-C-E workarea control blocks. (CA ACF2 for z/VM Security for z/OS sites only).

TP-XPN

This exit is taken after all final volume verification and label processing has occurred and the system has updated all O-C-E workarea control blocks (CA ACF2 for z/VM Security for z/OS sites only).

TP-XTD

Tape open processing during volume verification. This occurs after volume mount and label verification processing (CA ACF2 for z/VM Security for z/OS sites only).

VS-OPN VSAM

Open issued the request.

{minor}

The type of access performed. The major and minor fields combine to detail the exact name of the data set access environment. Possible values are:

ALTER

CMS functions, modifying a catalog entry.

BLDA

CVOL build alias request that assigns an alias to an index (CA ACF2 for z/VM Security for z/OS sites only).

BLDG

CVOL build GDG index request that builds an index for generation data groups (CA ACF2 for z/VM Security for z/OS sites only).

BLDX

CVOL build index request that creates a new index in the catalog (CA ACF2 for z/VM Security for z/OS sites only).

****BLP****

Access to a tape data set. The JCL specified bypass label processing access through the LABEL=(,BLP) DD statement parameter (CA ACF2 for z/VM Security for z/OS sites only).

CATLG

CVOL catalog request that generates an entry in the index of the catalog (CA ACF2 for z/VM Security for z/OS sites only).

DEFINE

CMS functions, creates a catalog entry (CA ACF2 for z/VM Security for z/OS sites only).

DELETE

CMS functions, deletes a catalog entry. Does not require deletion of the data set (CA ACF2 for z/VM Security for z/OS sites only).

DLTA

CVOL delete alias request that deletes an alias previously assigned to an index (CA ACF2 for z/VM Security for z/OS sites only).

DLTX

CVOL delete index request that removes an index from the catalog (CA ACF2 for z/VM Security for z/OS sites only).

DRPX

CVOL disconnect request that connects two volumes (CA ACF2 for z/VM Security for z/OS sites only).

EXECUTE

Executed the program (CA ACF2 for z/VM Security for z/OS and CA-ACF2 for VSE sites only).

IN/OUT

Opened the data set for input and output processing. You can specify LABEL=(,,IN) on the appropriate DD statement to modify the JCL for the program to specify only input processing. This access type is standard for FORTRAN files and results in a security violation if CA ACF2 for z/VM only allows read access and you did not specify the JCL LABEL parameter (CA ACF2 for z/VM Security for z/OS sites only).

INPUT

The processed file is read only.

LINKX

CVOL link request that connects two volumes (CA ACF2 for z/VM Security for z/OS sites only).

OUT/IN

This access writes and reads the data set. You can specify LABEL=(,,OUT) in the LABEL parameter in the JCL to access in write mode. (CA ACF2 for z/VM Security for z/OS sites only).

OUTPUT

The accessed file is write only.

RDBACK

The processed file is for input and being read backwards.

RECT

CVOL recatalog request that replaces an entry in the index of the catalog (CA ACF2 for z/VM Security for z/OS sites only).

UNCAT

CVOL uncatalog request that removes an entry from the index of the catalog (CA ACF2 for z/VM Security for z/OS sites only).

UNKNOWN

Unknown request (none of the above).

UPDATE

The access reads records from the file and updates them in place.

RKEY

The rule set key validates the data access. This field appears only when a rule record other than the one under the high level index validates the request, such as a NEXTKEY rule parameter.

{rmrc}

The return code from the CA ACF2 for z/VM access rule record manager and interpreter.

ACCESS

An access rule matched the environment and the rule specified access to allow or allow and log access. ACCESS can also indicate CA ACF2 for z/VM found a rule that did not allow the access, but it overrode the rule due to external factors (user was SECURITY or NON-CNCL).

KEYEXCES

The NEXTKEY facility directed CA ACF2 for z/VM to the appropriate access rule. CA ACF2 for z/VM imposes a limit of 25 NEXTKEYs per validation call. This message indicates a pointer to a 26th rule set. Check the NEXTKEY line to determine the rule sets referenced and correct the error.

NKEYLOOP

The NEXTKEY facility directed CA ACF2 for z/VM to the appropriate access rule. The rule directed CA ACF2 for z/VM to check the same rule set twice, a loop condition. Check the NEXTKEY line to determine the rule sets referenced and correct the error.

NOACCESS

An access rule matched the environment, but the rule prevented access.

NORECORD

The access rule did not match the high level index or CA ACF2 for z/VM could not find the user exit.

NORULE

No access rule matched the environment.

SYNTAX

CA ACF2 for z/VM found a syntax error in the filename.

{username}

The name of the user attempting the access.

{cpuid}

The ID of the executing VM CPU. CA ACF2 for z/VM does not display this field if you selected the TERMINAL format with the NOEXTEND parameter.

{source}

The input source for this request. CA ACF2 for z/VM does not display this field if you selected the TERMINAL format with the NOEXTEND parameter.

{path}

Program pathing restrictions the applicable rule placed on this access (CA ACF2 for z/VM Security for z/OS sites only). CA ACF2 for z/VM does not display this field if you selected the TERMINAL format with the NOEXTEND parameter. Valid values are:

LIB

You specified the library, but no specific program.

PGM

You specified a specific program, without a library. This can indicate an improperly constructed rule set.

LIB-PGM

You specified the library and program parameters.

****TEST****

Applicable program pathing functions were disabled because the user issued the TSO TEST command during program execution. (CA ACF2 for z/VM Security for z/OS sites only).

{uid}

The user's User Identification string (UID). CA ACF2 for z/VM does not display this field if you selected the TERMINAL format with the NOEXTEND parameter.

{record}

The type of security record formatted. Below are various keywords that CA ACF2 for z/VM can display in this field. The keywords are abbreviated as shown in parentheses below in the printer output format.

DATASET (DSET)

The access is to a file (data set).

INVPARMS

The access request validation parameter list was invalid. CA ACF2 for z/VM displays all available information. The record prints in hexadecimal notation.

LOGGING (LOG)

CA ACF2 for z/VM allowed the access but logged it because the access rule requested logging or the user was a security officer or noncancellable.

LOG/VIO

The violation the access rule issues was reset to a logging record. Refer to the description of the LOG return code of the RMRC field.

PROGRAM (PROG)

CA ACF2 for z/VM issued the record for program access validation (CA ACF2 for z/VM Security for z/OS sites only).

TRACE (TRC)

The user was marked with the TRACE attribute in his logonid record. A logging or violation record can accompany this record, depending on the access rules. CA ACF2 for z/VM automatically writes a trace record when a KEYEXECS or NKEYLOOP condition occurs.

VIOLATION (VIO)

CA ACF2 for z/VM generated this record because the access violated CA ACF2 for z/VM access controls.

VOLUME (VOL)

CA ACF2 for z/VM validated the access at a volume level. The data set name can be @volser.VOLUME, as defined by CA ACF2 for z/VM volume protection.

{stape}

Special information regarding the access. Valid keywords are shown below:

BLP-PGM

Uses bypass label processing access for tapes, as defined by the @BLPPGM specification at CA ACF2 for z/VM generation. (CA ACF2 for z/VM Security for z/OS sites only).

MAINT-PGM

A maintenance program defined in the VMO MAINT record at CA ACF2 for z/VM generation.

PGM-LOG

Defined by an @LOGPGM specification in the CA ACF2 for z/VM Field Definition Record. (CA ACF2 for z/VM Security for z/OS sites only).

SEC-TAPE

Secured tape volume as defined by the SECVOLS option during CA ACF2 for z/VM generation or by the user's DSNGEN exit. This tape volume received special processing and the violation or logging is a result of that processing. This is not set if the tape was validated as a result of the TAPEDSN=YES option.

{rule}

The \$KEY of the access rule set that processed this request. This information is optional in the terminal format report. CA ACF2 for z/VM displays it only if the rule set used is not the same as the file high level index.

{fpool=}

Specifies a SFS filepool. CA ACF2 for z/VM does not display this field if you selected the TERMINAL format with the NOEXTEND parameter.

{sfs directory}

Specifies a SFS directory. CA ACF2 for z/VM does not display this field if you selected the TERMINAL format with the NOEXTEND parameter.

{nextkey}

Lists the \$KEY of every rule set that CA ACF2 for z/VM checked during access validation. The report lists these \$KEYs in the order they were referenced. CA ACF2 for z/VM only displays this field for NEXTKEY trace records when you specify the TERMINAL or PRINTER format options. This line is useful for debugging purposes when an NKEYLOOP or KEYEXECS condition occurs.

This report also generates a Cross-Reference Table at the end. An explanation of these fields follows:

INDEX

The high-level index of the data set.

COUNT

The total number of attempts reported on this report.

LID

The logonid of the user who attempted the action. For group machines, this is the group user. LIDMASK and NLIDMASK select on this field.

COUNT

The number of attempts by the logonid.

If you selected Extended terminal output ==> N, the report displays only the first four lines of output.

INDEX

The high level index of the data set.

COUNT

The total number of attempts reported on this report.

LID

The logonid of the user who attempted the action. For group machines, this is the group user. LIDMASK and NLIDMASK select on this field.

COUNT

The number of attempts by the logonid.

If you selected Extended terminal output ==> N, CA ACF2 for z/VM displays only the first four lines of output.

NEXTKEY Report

```

NPDTST1 98.153 06/02 09.39 DATASET TRACE REQ RKEY=TLCTMS26
NPDTST1 VOL= DDN= DSN=TLCTMS.V191.ADD.EXEC
VOL= PGM= LIB=
WRITE KEYEXCES NAM=TOM SMITH
CPUA SRC=CONS009 UID=PER99TLCTST10123
NEXTKEY: TLCTMS01 TLCTMS02 TLCTMS03 TLCTMS04 TLCTMS05 TLCTMS06
TLCTMS07 TLCTMS08 TLCTMS09 TLCTMS10 TLCTMS11 TLCTMS12 TLCTMS13
TLCTMS14 TLCTMS15 TLCTMS16 TLCTMS17 TLCTMS18 TLCTMS19 TLCTMS20
TLCTMS21 TLCTMS22 TLCTMS23 TLCTMS24 TLCTMS25

NPDTST1 98.153 06/02 09.39 DATASET VIOLATION RKEY=TLCTMS26
TLCTST1 VOL= DDN= DSN=TLCTMS.V191.ADD.EXEC
VOL= PGM= LIB=
WRITE KEYEXCES NAM=TOM SMITH
CPUA SRC=CONS009 UID=PER99TLCTST10123

```

The sample report reflects user TLCTMS requested write access for file NPDTST1.V191.ADD.EXEC. The rule entry for this file directed CA ACF2 for z/VM to another rule key through the NEXTKEY rule option. CA ACF2 for z/VM allows a maximum of 25 NEXTKEYs when validating access to a file. Eventually, the rule key that validated the access request in the sample was TLCTMS26, the 26th rule set CA ACF2 for z/VM searched during validation processing. Therefore, an error occurred.

The first logging entry on the sample is from a TRACE record and indicates that a KEYEXCES condition occurred when the 25th rule set directed CA ACF2 for z/VM to the 26th rule set. The NEXTKEY field of the logging entry lists all rule sets that CA ACF2 for z/VM searched during validation.

The second logging entry is a data set violation record and indicates that CA ACF2 for z/VM aborted the access request due to a KEYEXCES condition. The RKEY field indicates the processed rule key when CA ACF2 for z/VM aborted the access.

These trace records are a valuable aid in determining where and why a KEYEXCES condition occurred. In addition, if a NEXTKEY loop occurs, the easiest method of determining where the loop occurred is the TRACE record. When a NEXTKEY loop occurs, the rmc field of the report indicates NKEYLOOP and the NEXTKEY field lists all rule sets that were referenced during CA ACF2 for z/VM validation. If you selected Extended terminal output ==> N, CA ACF2 for z/VM displays only the first four lines of output.

NEXTKEY

Lists the \$KEY of every rule set that CA ACF2 for z/VM checked during access validation. This report lists these \$KEYs in the order they were referenced. CA ACF2 for z/VM displays this field only for NEXTKEY trace records when you specify the TERMINAL or PRINTER format options. This line is useful for debugging purposes when an NKEYLOOP or KEYEXCES condition occurs.

Chapter 7: Running the Information Storage Update Log (EL)

The Information Storage Update Log displays modifications to resource rule sets and other Infostorage database records, such as scope records and shift records. This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Information Storage Update Log
- Use the ACFRPTS utility to run the Information Storage Update Log
- Manually run the Information Storage Update Log
- Understand the different report parameters available for this report
- Read and understand the report output

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 126)

[Report Parameter Cross Reference](#) (see page 129)

[Running the Report Manually and Using ACFRPTS](#) (see page 130)

[Sample Report](#) (see page 137)

Using the Full-Screen Feature

Before you can use the full-screen feature to run this report, you must select SMF files. See *Selecting SMF Input Files* in “The Reports” chapter for information about gathering the SMF files as input for this report.

Use the screen below to run the Information Storage Update Log. It is displayed when you select option 6.2.5 from the Primary Option Menu. See *Running Reports Using the Full-Screen Feature* in “The Reports” chapter for basic information on using the full-screen feature.

```
M9PA-6250  EL - Information Storage Update Log (6.2.5)  CA ACF2 for z/VM
COMMAND ==> _____
                                                    TIME 13:33

Enter Report Parameters:
Resource ID Mask  ==> _____
Resource Type Mask ==> ***
Resource Class Mask ==> *
Logonid Mask     ==> _____

Generate detail report ==> N

----- Common Parameters -----
User Title      ==> _____ System ID ==> _____
Output device ==> TERMINAL      Line count ==> 60
Start date     ==> 01/01/78      End date  ==> 12/31/69
Start time     ==> 0000          End time  ==> 2359
Select        ==> _____    Job masks ==> _____

PF1=Help      2=Print      3=Quit      4=Return    5=          6=
PF7=          8=          9=          10=Save     11=         12=Retrieve
```

After you have defined all fields, press Enter to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

Resource ID mask

Specify a mask for the actual name of the resource rule set or entry list. The default is all resource rule sets.

Resource type mask

Specify a mask for the actual type of resource rule set, entry list, or other Infostorage database update. The default is all types. Valid resource types are:

ACT

For account resource rules.

ALG

For AUTOLOG command rules.

GRP

For group machine rules.

DIA

For DIAL command rules.

IUC

For Inter-User Communications Vehicle (IUCV) rules.

SAF

For System Authorization Facility (SAF) resource validation.

SCP

For scope lists.

SER

For ACFSERVE privileges.

SFT

For time shift records.

SGP

For input source group entry lists.

SRC

For input source name translation entry lists.

VMC

For Virtual Machine Communications Facility (VMCF) rules.

VMO

For VM system option records.

VRC

For command limiting rules.

VSC

For command models.

VRD

For diagnose limiting rules.

ZON

For time zone records.

Resource class mask

Request update information for a specific resource class. Resource classes are one character. The default is * or all classes.

Logonid mask

Specify a mask for the logonid of the person updating the Infostorage database. The default reports on all logonids.

Generate detail report

Enter Y (yes) to produce only one line of information for each INSERT, CHANGE, or DELETE subcommand entry.

If you enter N (no), the report produces additional lines of information for any INSERT, CHANGE, or DELETE subcommand entry updating the Infostorage database for structured infostorage records, such as VMO records and resource rules.

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

End date

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Specify the type of SMF record to be used for this report.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. See *Running the Report Manually and Using ACFRPTS* in this chapter for more information about these parameter definitions.

Parameter	Full-screen Field
CLASS(<u>*</u> class)	Resource class mask
EDATE(<u>169365</u> cyddd)	End date
ETIME(<u>2359</u> hhmm)	End time
HEX	
ID(<u>_</u> rulemask)	Resource ID mask
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LINECNT(<u>60</u> number)	Line count
MASK(<u>*****</u> lidmask)	Logonid mask
SDATE(<u>000000</u> cyddd)	Start date
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
STIME(<u>0000</u> hhmm)	Start time
<u>SUMMARY</u> DETAIL	Generate detail report
SYSID(<u>*****</u> sysid)	System ID
TITLE(<u>cmdparm</u> string)	User title
TYPE(<u>-</u> typemask)	Resource type mask

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. See Common Files in “The Reports” chapter for information about these files.

See Running the Reports in “The Reports” chapter for information about running this report manually.

Follow the instructions listed in Running CA-ACF2 Reports Using the ACFRPTS EXEC in “The Reports” chapter to use the ACFRPTS utility to run the Information Storage Update Log. Select the EL option.

Manual and ACFRPTS Parameters

Listed below are the parameters and their defaults used to generate the EL report manually and using ACFRPTS.

CLASS(*|class)

This parameter lets you request update information for a specific resource class. Resource classes are one character. The default is * or all classes. When you use CLASS with the TYPE parameter, you can differentiate between infostorage records that have the same type, but different classes. The box below lists all the predefined CA ACF2 for z/VM type names. Your site can define additional type codes.

Storage Class	Type of Record
C	Control record-with a type code of SER or VMO
E	Entry record-with a type code of SGP or SRC
L	Command limiting record-with a type code of VRC, VSC, or VRD
P	Profile Records
R	Resource rule set-with a type code of ACT, ALG, GRP, DIA, IUC, or VMC
S	Scope record-with type code of SCP
T	Shift or zone record-with type code of SFT or ZON
X	XREF record-with type code of RGP or SGP

The name of the record can be one of the following:

- Control record name
- Record ID for entry records
- Key (designated in the \$KEY control statement) for resource rule sets
- Scope record name
- Name of the shift or zone.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information:

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE cause the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter selects SMF records printed in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length followed by two-bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

ID(_|rsrcmask)

This parameter specifies a mask for the actual name of the resource rule set or entry list. When you also specify the TYPE parameter, using this field lets you search for specific infostorage updates. The default is all resource rule sets.

JOBMASK(***|jobmask,...,jobmask)**

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only by the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(***|lidmask)**

This parameter specifies a mask for the logonid of the person updating the Infostorage database, providing a summary of activity by a single person or group of people. The default, *********, implies CA ACF2 for z/VM reports on all logonids.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfv|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. Refer to the @SMF macro of the ACFFDR in the *Installation Guide* for these values.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFFDR specifies incorrect SMF record numbers.

STIME(0000) | hhmm

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SUMMARY | DETAIL

The SUMMARY parameter produces only one line of information for each INSERT, CHANGE, or DELETE subcommand entry. SUMMARY is the default.

The **DETAIL** parameter produces additional lines of information for any **INSERT**, **CHANGE**, or **DELETE** subcommand entry updating the Infostorage database for structured infostorage records, such as VMO records and resource rules. This information includes the name of each field changed in the Infostorage database record; the old value of each field; the new value of each field; and, when a change affects a resource rule, a complete afterimage of a decompiled resource rule set. For deleted resource rules, it shows the deleted decompiled rule.

This detail information is not produced for unstructured infostorage records, such as scope and shift. SMF records for unstructured infostorage records contain the deleted image, however, the information is unprintable on the report.

The deleted image on the SMF record is available as a tracking mechanism. It creates a specific audit trail of deleted records, giving a detailed image of each deleted record. If you need to reconstruct a CA ACF2 for z/VM database record, you can create a new record from the image. The following fields appear as an additional line of information on control record updates when you specify the **DETAIL** parameter:

FIELD

The name of the field in the record that was updated

OLD VALUE

The value of the field before the update was made

NEW VALUE

The value of the field after the update.

When the **DETAIL** parameter is in effect, the values before and after the change to structured infostorage records can be reported as follows:

- If the value of a field is too long, it is continued onto more than one line of the report
- If a field contains no value, the following message appears for the value of that field on the report:

---NULLS---

- If the value of a field cannot be reconstructed (such as the password), the following message appears for the value of that field:

---NONPRINTABLE---

- If the user printing the report does not have authorization to list the value of a field, the following message appears for the value of that field:

---NOT AUTH---

- If no fields were changed, the report generator displays the following message instead of the old and new values for the field:

NO FIELDS CHANGED

- For changed or inserted resource rules, CA ACF2 for z/VM decompiles and prints the afterimage of the rule set instead of the old and new values of the rule. For deleted resource rules, CA ACF2 for z/VM decompiles and prints the image of the resource rule before it was deleted.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TITLE(cmdparm|string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

TYPE(-|typemask)

This parameter specifies a mask for the actual type of resource rule set, entry list, or other Infostorage database update. The default is all types. You can define additional type codes locally.

Valid VM resource types are:

ACT

For account resource rules.

ALG

For AUTOLOG command rules.

DIA

For DIAL command rules.

GRP

For group machine rules (Class R). Also for Group Profile Records (Class P).

IUC

For Inter-User Communications Vehicle (IUCV) rules.

PGR

For POSIX/OpenExtensions.

SAF

For System Authorization Facility (SAF) resource validation.

SCP

For scope lists.

SER

For ACFSERVE privileges.

SFT

For time shift records.

SGP

For input source group entry lists.

SRC

For input source name translation entry lists.

SUR

For LogonBy/surrogate user rules.

USR

For USER Profile Records.

VMC

For Virtual Machine Communications Facility (VMCF) rules.

VMO

For VM system option records.

VMR

For VMRDR (VM READER) FTP rules.

VRC

For command limiting rules.

VSC

For command models.

VRD

For diagnose limiting rules.

ZON

For time zone records.

This parameter selects by only the three-character type code and does not differentiate between storage classes. Therefore, to prevent possibly confusing reports, do not assign duplicate type codes or use the CLASS parameter with the TYPE parameter.

Sample Report

ACFRPTEL displays two types of report: the detail and summary.

Detail Report

```

CA ACF2 for z/VM SECURITY - ACFRPTEL - INFORMATION STORAGE UPDATE LOG - PAGE
DATE 04/23/98 (98.113) TIME 12.52 DETAIL
  DATE    TIME  JNAME  LID    MODULE  FUNCTION CPU  C-TYP-NAME
  FIELD      OLD VALUE                NEW VALUE

98.113 04/23 10:30          TLCMGR  ACF04RSC REPLACE  USCH R-GRP-TLC30
*** NO FIELDS CHANGED ***

*. ACFDCM556I RESOURCE rule TLC300 stored by TLCMGR on 04/23/98-10:30
$KEY(TLC300) TYPE(GRP)
  UID(SH***TLCMAR) ALLOW
  UID(SH***TLCJTD) ALLOW
  UID(SH***TLCDAF) PREVENT
  UID(SH***TLC) ALLOW
*. ACFDCM551I Total record length=224 bytes - 5 percent utilized

98.113 04/23 10:30          TLCMGR  ACF04RSC REPLACE  USCH R-GRP-TLC31
*** NO FIELDS CHANGED ***

98.113 04/23 12:51          VMSOA   ACF0AENT DELETE   USCH C-VMO-TESTI
BACKUP
  AUTH          SECURITY
  AUTOLOG       ---NULLS---
  DDSNID        BACKUP
  MDISK         195
  NOTIFY        OPERATOR
  TIME          00:01

98.113 04/23 12:51          VMSOA   ACF0AENT INSERT   USCH C-VMO-TESTI
BACKUP
          USING: C-VMO-USGDNCTYBACKUP
*** NO FIELDS CHANGED ***

```

Summary Report

```
CA ACF2 for z/VM SECURITY - ACFRPTL - INFORMATION STORAGE UPDATE LOG - PAGE
DATE 04/23/98 (98.113) TIME 12.52
```

DATE	TIME	JNAME	LID	MODULE	FUNCTION	CPU	C-TYP-NAME
98.113	04/23	10:30		TLCMGR	ACF04RSC	REPLACE	USCH R-GRP-TLC30
98.113	04/23	10:30		TLCMGR	ACF04RSC	REPLACE	USCH R-GRP-TLC31
98.113	04/23	10:30		TLCMGR	ACF04RSC	REPLACE	USCH R-GRP-TLC32
98.113	04/23	10:30		TLCMGR	ACF04RSC	REPLACE	USCH R-GRP-TLC32
98.113	04/23	10:30		TLCMGR	ACF04RSC	REPLACE	USCH R-GRP-TLC33
98.113	04/23	11:36		TLCHHY	ACF04RSC	INSERT	USCH R-GRP-TEST3
98.113	04/23	11:54		VMSAO	ACF04RSC	REPLACE	USCH L-VRC-H60MS
98.113	04/23	12:51		VMSAO	ACF0AENT	DELETE	USCH C-VM0-TESTI
BACKUP							
98.113	04/23	12:51		VMSAO	ACF0AENT	INSERT	USCH C-VM0-TESTI
BACKUP							

USING: C-VM0-USGDNCTYBACKUP

The first line of this report describes the report name and the page number. The second line depicts the date (in Gregorian and Julian formats) and time (in military format). The phrase "For Entire Company" is the subtitle the user specified in the USER TITLE field. If you did not specify a subtitle, this field is blank.

Other fields of the report are:

DATE

The date (in Julian and Gregorian formats) of the Infostorage database update.

TIME

The time (in 24-hour clock format) of the update.

JNAME

The VM user ID of the virtual machine where the user was logged on. For group machines, this is the group ID. JOBMASK selects on this field. If you process SMF records from an z/OS system under VM, JNAME indicates the name of the JCL job stream used to make the change. If you made the change through TSO, it is the logonid of the TSO user.

LID

The logonid of the user who attempted the action. For group machines, this is the group user. MASK selects on this field.

MODULE

The program name that issued the update.

FUNCTION

The type of update made. Valid values are:

INSERT

Inserted a new record into the Infostorage database (no previous record existed).

REPLACE

The update requested replaced an existing record. This entry identifies the new record after it was replaced.

DELETE

The update request specified deletion of an Infostorage database record.

BFORREPL

The update requested replaced an existing record. This entry identifies the old record before it was replaced. This entry will be followed by a REPLACE entry with the new record after it was replaced. BFORREPL entries are only displayed on the DETAIL report.

CPU

The ID of the VM CPU where job validation occurred.

TYP

The type of Infostorage database record changed. This three-character type code groups records into functional areas as described by the TYPE parameter. A one-character code precedes the type code to indicate the type of updated record:

A

CA ACF2 for z/VM S/F/P commands and abend journal (z/OS only).

C

CA ACF2 for z/VM ACFSERVE command services (VM only).

D

Data set access (VIO/LOG).

E

Resource event (infostorage update).

G

Invalid GSO infostorage record (z/OS only).

I

Intercept journal (future use).

J

Restricted logonid journal (z/OS only).

L

Logonid insert, update, delete (z/OS only).

M

MAC (B one) records (future use).

P

Invalid password/authority.

R

Rule insert, update, delete.

T

TSO transaction (z/OS only).

U

VM directory maintenance (DIRMAINT) (VM only).

V

Resource violation.

W

VM command limiting journal (VM only).

Z

Distributed database function (z/OS only).

NAME

The name of entry list, resource rule set, scope list, shift record, or zone record updated.

USING

The logonid of the model record that was specified in the USING parameter of the ACF command.

Chapter 8: Running the Dataset Index Report (IX)

The Dataset Index Report reflects changes to access rules. This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Dataset Index Report
- Use the ACFRPTS utility to run the Dataset Index Report
- Manually run the Dataset Index Report
- Understand the different report parameters available for this report
- Read the two different types of report output, detailed and access

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 142)

[Report Parameter Cross Reference](#) (see page 144)

[Running the Report Manually and Using ACFRPTS](#) (see page 144)

[Sample Report](#) (see page 148)

Using the Full-Screen Feature

Before you can use the full-screen feature to run this report, you must select SMF files. See *Selecting SMF Input Files* Refer in “The Reports” chapter for information about gathering the SMF files as input for this report.

Use the screen below to run the Dataset Index Report. It displays when you select option 6.2.6 from the Primary Option Menu. See *Running Reports Using the Full-Screen Feature* in “The Reports” chapter for basic information about using the full-screen feature.

```
M9PA-6260          IX - Dataset Index Report (6.2.6)      CA ACF2 for z/VM
COMMAND ==> _____                                     TIME 13:33

Enter Report Parameters:
Dataset Prefix Mask ==> _____
Detail Report       ==> Y
Logonid SMF Record Number ==> ___
Rule SMF Record Number ==> ___

----- Common Parameters -----
User Title ==> _____ System ID ==> _____
Output device ==> TERMINAL      Line count ==> 60
Start date ==> 01/01/78        End date ==> 12/31/69
Start time ==> 0000           End time ==> 2359
Job masks ==> _____

PF1=Help      2=Print      3=Quit      4=Return      5=          6=
PF7=          8=          9=          10=Save      11=         12=Retrieve
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

Dataset prefix mask

Specify the high-level index to use as a search argument. ACFRPTIX checks the logonid owned file PREFIX field of the key of each access rule set processed.

Detail report

Specify Y (the default) to decompile all access rule set updates and display the results. Entering N results in a summary listing.

Logonid SMF record number

Enter the logonid SMF journal record number. For combined SMF records, this is the CA ACF2 for z/VM combined SMF record number. For precombined SMF records, this is the precombined SMF record number for logonid SMF records.

Rule SMF record number

Enter the access rule update journal number. For combined SMF records, this is the CA ACF2 for z/VM combined SMF record number. For precombined SMF records, this is the precombined SMF record number for access rule update SMF records.

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. You can refer to these parameter definitions in Manual and ACFRPTS Parameters if you need more information.

Parameter	Full-screen Field
<u>DETAIL</u> NODETAIL	Detail report
EDATE(<u>169365</u> cyddd)	End date
ETIME(<u>2359</u> hhmm)	End time
HEX	
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LINECNT(<u>60</u> number)	Line count
PREFIX(<u>*****</u> mask)	Dataset prefix mask
SDATE(<u>000000</u> cyddd)	Start date
SELLID(<u>smfval</u> nnn nnn ... nnn)	Logonid SMF record number
SELRULE(<u>smfval</u> nnn nnn ... nnn)	Rule SMF record number
STIME(<u>0000</u> hhmm)	Start time
SYSID(<u>*****</u> sysid)	System ID
TITLE(<u>cmdparm</u> string)	User title

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. See Common Files in “The Reports” chapter for information about these files.

It also uses a DETAIL file, as follows:

DETAIL

This file is used if you specified the DETAIL parameter. The DETAIL report contains output of the decompiled rule set.

This file has the same characteristics as the SYSPRINT file. Do not assign both DETAIL and SYSPRINT to the terminal or printer devices. This will cause the output of both reports to interleave in a confusing manner. If the output device of both reports is disk, be sure that the file IDs you specify are different.

If the report generator does not find a FILEDEF for DETAIL, the output is to disk with a file ID of ACFRPTIX DETAIL A.

If the report generator finds a FILEDEF for DETAIL with a device of DISK that has the FILEDEF command default file ID of DETAIL FILE A, it assigns a file ID of ACFRPTIX DETAIL A to the file.

If the output device is the printer, the output file is given a filename and filetype of ACFRPTIX DETAIL.

The ACFRPTS utility for the Dataset Index Report issues FILEDEFs that direct both SYSPRINT and DETAIL to disk. The file IDs are IXREPORT LISTING A and IXDETAIL LISTING A.

See Running the Reports in “The Reports” chapter for information about running this report manually.

Follow the instructions listed in Running Reports Using the ACFRPTS EXEC in “The Reports” chapter to use the ACFRPTS utility to run the Dataset Index report. Select the IX option.

Manual and ACFRPTS Parameters

Listed below are the parameters and their defaults used to generate the IX report manually and using ACFRPTS.

DETAIL|NODETAIL

The DETAIL parameter requests CA ACF2 for z/VM decompile access rule sets and display the results using the DETAIL output file. NODETAIL produces only a summary listing. When you specify NODETAIL, the DETAIL output file is not necessary.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the start date parameter, this parameter creates a window for report content. The defaults for start date and end date causes the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359)|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter selects SMF records printed in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length followed by two-bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only by the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

PREFIX(***|mask)**

This parameter specifies the data set high-level index used as a search argument. ACFRPTIX checks the logonid owned data set PREFIX field and the key of each processed access rule set.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the start date value. The default is 000000.

SELLID(smfv|nnn,...,nnn)

This parameter selects the logonid SMF journal record number. For combined SMF records, this is the CA ACF2 for z/VM combined SMF record number. For precombined SMF records, this is the precombined SMF record number for logonid SMF records. Defaults are determined in the same way as the defaults for the SELECT parameter. If you enter any SMF record number, the defaults are ignored.

SELRULE(smfv|nnn,...,nnn)

This parameter selects the access rule update journal number. For combined SMF records, this is the CA ACF2 for z/VM combined SMF record number. For precombined SMF records, this is the precombined SMF record number for access rule update SMF records. Defaults are determined in the same way as the defaults for the SELECT parameter. If you enter any SMF record number, the defaults are ignored.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TITLE(cmdparm | string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

Sample Report

This report generates two types of output, a detailed report and an access report. Samples of each are presented below.

Detailed Report

If you specified a detail filename with the default filename, this report is located in the file IXDETAIL LISTING A.

```

CA ACF2 for z/VM SECURITY - ACFRPTIX - ACCESS INDEX DETAIL REPORT - PAGE 1
DATE 06/09/98 (98.161) TIME 11.17 PREFIX(*****)

* RULE MAINT    STORED BY MAINT    ON 98.070 (03/10) 17.05
*. ACFDCM556I ACCESS rule MAINT stored by MAINT on 03/10/98-12:05
$KEY(MAINT)
V0100.VOLUME UID(TLCM6) READ(A) WRITE(A) EXEC(A)
V019D.- UID(*) READ(A) EXEC(A)
V0191.VOLUME UID(TLCBATCH) READ(A) EXEC(A)
V0191.- UID(TLCLOG1) READ(A) EXEC(A)
V0191.- UID(RAD) READ(A) EXEC(A)
V0490.- UID(*) READ(A) EXEC(A)
*. ACFDCM551I Total record length=990 bytes - 24 percent utilized

CA ACF2 for z/VM SECURITY - ACFRPTIX - ACCESS INDEX DETAIL REPORT - PAGE 2
DATE 06/09/98 (98.161) TIME 11.17 PREFIX(*****)

* RULE RAD      STORED BY MAINT    ON 98.070 (03/10) 17.05
*. ACFDCM556I ACCESS rule RAD stored by MAINT on 03/10/98-12:05
$KEY(RAD)
V0191.VOLUME UID(RAD) READ(A) WRITE(A) EXEC(A)
V0191.- UID(RAD) PGM(SIO) READ(A) WRITE(A) EXEC(A)
V0191.- UID(RAD) READ(A) WRITE(A) EXEC(A)
*. ACFDCM551I Total record length=154 bytes - 3 percent utilized

```

This report lists an access rule. The first line of the report reflects the report name and the page number of this page of the report. The second line reflects the date (in Gregorian and Julian formats), the time (in 24-hour clock format), and the prefix (if you defined one) for this access rule.

The third and fourth lines are comment lines. The third line reflects the \$KEY value of the access rule (RULE MAINT), who last stored the rule (STORED BY MAINT), the date it was stored (ON 95.070 (03/10)), and the time it was stored (17.05). The fourth line is a message line that repeats the information presented in the third line, but in a different format.

The last line of the first reporting is a comment line that reflects the size of the access rule set.

Access Report

If you specified a report filename with the default filename, this report is located in the file IXREPORT LISTING A.

CA ACF2 for z/VM SECURITY - ACFRPTIX - ACCESS INDEX REPORT - PAGE 1								
DATE 06/09/98 (98.161) TIME 11.17 PREFIX(*****)								
DATE	TIME	TYPE	KEY	CHANGER	JOBNAME	CHANGE	CPU	DET
98.070	03/10 12.15	LID	MAINT	TLCMAINT	_____	CHANGE	XATE	
98.070	03/10 12.15	LID	RAD	TLCMAINT	_____	CHANGE	XATE	
ACFRIX811I All data processed								

This report is a summary of access rule sets that matched the search criteria. The fields of this report are described below:

DATE

The date the update was made (in Julian and Gregorian formats). The Gregorian format is *mm/dd* or *dd/mm*, depending on the options defined in the VMO OPTS record.

TIME

The time of the update.

TYPE

The type of record for this access report. Valid records types are:

LID

CA ACF2 for z/VM found a logonid record with a prefix that matches the search prefix.

RULE

An access rule matched the search argument.

KEY

The logonid or key of the access rule set.

CHANGER

The logonid of the user who attempted the action. For group machines, this is the group user.

JOBNAME

The VM user ID of the virtual machine where the user was logged on. For group machines, this is the group ID. JOBMASK selects on this field. If you process SMF records from an OS/390 system under VM, this field displays the name of the job stream running at the time of the change. For a TSO session, this field is usually the same as the user's logonid.

CHANGE

The type of update performed. For logonids:

INSERT

A new record was inserted.

CHANGE

An existing record was changed.

This report does not list DELETE and UPDATE changes.

For access rules:

INSERT

A new record was inserted.

REPLACE

An old record was replaced.

DELETE

An access rule set was deleted.

CPU

The ID of the VM CPU used to issue the request. CA ACF2 for z/VM only uses the first four characters of the eight-character CPUID name.

DET

The page number of the IXDETAIL report where the decompiled listing appears.

Chapter 9: Running the Logonid Modification Report (LL)

The Logonid Modification Log is an activity report for the Logonid database. It shows you who has changed, deleted, or created logonids, among other activities. This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Logonid Modification Log
- Use the ACFRPTS utility to run the Logonid Modification Log
- Manually run the Logonid Modification Log
- Understand the different report parameters available for this report
- Read and understand the report output

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 154)

[Report Parameter Cross Reference](#) (see page 156)

[Running the Report Manually and Using ACFRPTS](#) (see page 156)

[Sample Reports](#) (see page 161)

Using the Full-Screen Feature

Before you can use the full-screen feature to run this report, you must select SMF files. See *Selecting SMF Input Files* Refer in “The Reports” chapter for information about gathering the SMF files as input for this report.

Use the screen below to run the Logonid Modification Log. It displays when you select option 6.2.7 from the Primary Option Menu. See *Running Reports Using the Full-Screen Feature* in “The Reports” chapter for basic information about using the full-screen feature.

```
M9PA-6270      LL - Logonid Modification Log (6.2.7)      CA ACF2 for z/VM
COMMAND ==> _____                                     TIME 13:33

Enter Report Parameters:
Logonid Mask           ==> _____
Report Validation Updates ==> N
Generate Detail Report ==> N

----- Common Parameters -----
User Title           ==> _____ System ID ==> _____
Output device ==> TERMINAL      Line count ==> 60
Start date ==> 01/01/78      End date ==> 12/31/69
Start time ==> 0000          End time ==> 2359
Select ==> _____      Job masks ==> _____

PF1=Help      2=Print      3=Quit      4=Return      5=      6=
PF7=          8=          9=          10=Save      11=      12=Retrieve
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

Logonid mask

Specify a mask for the logonids to be used for this report. The default is all logonids.

Report validation updates

Specify Y (yes) to print a summary of logonid modifications, including JES and logon validation updates. Specify N (no) to print only updates other than validation updates.

Generate detail report

Enter Y (yes) to produce a one-line summary report for each processed record. Specify N (no) to produce a detailed report.

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Specify the type of SMF record to be used for this report.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. You can refer to these parameter definitions in Manual and ACFRPTS Parameter if you need more information.

Parameter	Full-screen Field
EDATE(<u>169365</u> cyddd)	End date
ETIME(<u>2359</u>) hhmm)	End time
HEX	
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LINECNT(<u>60</u> number)	Line count
MASK(<u>*****</u> lidmask)	Logonid mask
<u>NOUPDATE</u> UPDATE	Report validation updates
SDATE(<u>000000</u> cyddd)	Start date
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
STIME(<u>0000</u>) hhmm)	Start time
<u>SUMMARY</u> DETAIL	Generate detail report
SYSID(<u>*****</u> sysid)	System ID
TITLE(<u>cmdparm</u> string)	User title

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. See Common Files in “The Reports” chapter for information about these files.

See Running the Reports in “The Reports” chapter for information about running this report manually.

Follow the instructions listed in Running Reports Using the ACFRPTS EXEC in “The Reports” chapter to use the ACFRPTS utility to run the Logonid Modification Report. Select the LL option.

Manual and ACFRPTS Parameters

Listed below are the parameters and their defaults used to generate the LL report manually and using ACFRPTS.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE process all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359

HEX

This parameter prints selected SMF records in hexadecimal dump format. We provide this option primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length, followed by two bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LINECNT(60) | nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(*** | lidmask)**

This parameter specifies a mask for the logonids to use for this report. This mask is compared to the logonid of the report being changed, not the logonid of the changer. The default is all logonids.

NOUPDATE | UPDATE

The UPDATE parameter requests a summary of logonid modifications including any JESx and logon validation updates. The NOUPDATE parameter (the default) lists only updates other than validation updates. NOUPDATE is the default because of the volume of validation updates (one for every job and session).

SDATE(000000) | cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfval | nnn,...,nnn) | NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator processes only those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. See the @SMF macro of the ACFFDR in the *Installation Guide* for these values.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFFDR specifies incorrect SMF record numbers.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SUMMARY | DETAIL

The SUMMARY parameter produces a summary report, only one line of information for each INSERT, CHANGE, or DELETE subcommand entry. DETAIL produces a DETAIL report that produces additional report lines that highlight changes made to any logonid records (by the ACF INSERT, CHANGE, or DELETE subcommand). Each of these additional lines shows the name of the logonid field whose value was changed or deleted; the old value of the field; and the new value of the field.

The following fields appear as an additional line of information on control record updates when you specify the DETAIL parameter:

FIELD

The name of the field in the record that was updated

OLD VALUE

The value of the field before the update was made

NEW VALUE

The value of the field after the update.

When the DETAIL parameter is in effect, the values before and after the change to structured infostorage records can be reported as follows:

- If the value of a field is too long, it is continued onto more than one line of the report
- If a field contains no value, the following message appears for the value of that field on the report:
---NULLS---
- If the value of a field cannot be reconstructed (such as the password), the following message appears for the value of that field:
---NONPRINTABLE---
- If the user printing the report does not have authorization to list the value of a field, the following message appears for the value of that field:
---NOT AUTH---
- If no fields were changed, the report displays the following message instead of the old and new values for the field:
NO FIELDS CHANGED
- For changed or inserted resource rules, CA ACF2 for z/VM decompiles and prints the afterimage of the rule set instead of the old and new values of the rule. For deleted resource rules, CA ACF2 for z/VM decompiles and prints the image of the resource rule before it was deleted.

SYSID(*****|sysid)

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TITLE(cmdparm|string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

Sample Reports

The ACFRPTLL report produces two types of reports: the detail report and the summary report.

Detail Report

CA ACF2 for z/VM SECURITY - ACFRPTLL - LOGONID MODIFICATION LOG - PAGE 1								
DATE 11/18/98 (98.323) TIME 09.47								
DATE	TIME	LOGONID	JOBNAME	CHANGER	CHANGE	CPU	SOURCE	USING
FIELD	OLD VALUE		NEW VALUE					
97.323	11/18	09.43	MARY	MAINT	MAINT	INSERT	T330	GRAF-480
ANN	AUDIT		NOAUDIT			AUDIT		
	VM		VM			VM		
	VMACCT		---NULLS---			DEV		
97.323	11/18	09.44	TLCAMS	MAINT	MAINT	CHANGE	T330	GRAF-480
	COMPANY		Q			Z		
	PROJECT		---NULLS---			EZ		
97.323	11/18	09.45	TLCAMS	MAINT	MAINT	CHANGE	T330	GRAF-480
	PASSWORD		---NON PRINTABLE---			---NON PRINTABLE---		
	PHONE					9999		

Summary Report

This summary report was produced with the UPDATE parameter.

CA ACF2 for z/VM SECURITY - ACFRPTLL - LOGONID MODIFICATION LOG - PAGE 1
 DATE 04/23/98 (98.113) TIME 10.20

DATE	TIME	LOGONID	JOBNAME	CHANGER	CHANGE	CPU	USING
97.322	11/17	11.23	OPERATOR	_____	UPDATE	TLC1	
97.322	11/17	11.23	ACF2VM	_____	UPDATE	TLC1	
97.322	11/17	11.52	ACFUSER	_____	UPDATE	TLC1	
97.322	11/17	12.00	TLC250	_____	ACFUSER	CHANGE	TLC1
97.322	11/17	15.21	OPERATOR	_____	UPDATE	TLC1	
97.322	11/17	15.21	ACF2VM	_____	UPDATE	TLC1	
97.322	11/17	15.52	OPERATOR	_____	UPDATE	TLC1	
97.322	11/17	15.52	ACF2VM	_____	UPDATE	TLC1	
97.322	11/17	15.53	ACFUSER	_____	UPDATE	TLC1	
97.322	11/17	16.00	TLC250	_____	ACFUSER	INSERT	TLC1
97.322	11/17	16.02	TLC250	_____	UPDATE	TLC1	
97.322	11/17	16.06	ACFUSER	_____	TLC250	DELETE	TLC1
97.322	11/17	16.07	MAINT	_____	TLC250	CHANGE	TLC1
97.322	11/17	16.08	ACCOUNT	_____	TLC250	CHANGE	TLC1
97.322	11/17	16.08	ACCOUNT	_____	TLC250	DELETE	TLC1
97.322	11/17	16.08	AUDIT	_____	TLC250	DELETE	TLC1
97.322	11/17	16.08	ATICICS	_____	TLC250	DELETE	TLC1
97.322	11/17	16.08	CICSMODL	_____	TLC250	DELETE	TLC1
97.322	11/17	16.09	CICSCVT	_____	TLC250	DELETE	TLC1
97.322	11/17	16.09	DFTCICS	_____	TLC250	DELETE	TLC1
97.322	11/17	16.09	ACF2VMXA	_____	TLC250	DELETE	TLC1
97.322	11/17	16.09	SECURITY	_____	TLC250	DELETE	TLC1
97.322	11/17	16.09	VSEIPO	_____	TLC250	DELETE	TLC1
97.322	11/17	16.11	MAINT	_____	TLC250	CHANGE	TLC1
97.322	11/17	16.12	MAINT	_____	TLC250	CHANGE	TLC1
97.322	11/17	16.13	TLC250	_____	TLC250	CHANGE	TLC1
97.322	11/17	16.15	TLC860	_____	TLC250	INSERT	TLC1
97.322	11/17	16.15	TLC429	_____	TLC250	INSERT	TLC1
97.322	11/17	16.18	TLC860	_____	UPDATE	TLC1	
97.322	11/17	16.22	TLC015	_____	TLC860	INSERT	TLC1
97.322	11/17	16.23	TLC385	_____	TLC860	INSERT	TLC1
97.322	11/17	16.25	TLC184	_____	TLC860	INSERT	TLC1
97.322	11/17	16.26	TLC923	_____	TLC860	INSERT	TLC1
97.322	11/17	16.26	TLC611	_____	TLC860	INSERT	TLC1
97.322	11/17	16.27	TLC927	_____	TLC860	INSERT	TLC1
97.322	11/17	16.27	TLC333	_____	TLC860	INSERT	TLC1
97.322	11/17	16.28	TLC871	_____	TLC860	INSERT	TLC1
97.322	11/17	16.28	TLC289	_____	TLC860	INSERT	TLC1
97.322	11/17	16.29	TLC492	_____	TLC860	INSERT	TLC1
97.322	11/17	16.29	TLC344	_____	TLC860	INSERT	TLC1
97.322	11/17	16.40	TLC250	_____	UPDATE	TLC1	
97.322	11/17	16.42	TLC015	_____	TLC250	CHANGE	TLC1
97.322	11/17	16.43	TLC385	_____	TLC250	CHANGE	TLC1
97.322	11/17	16.48	TLC923	_____	UPDATE	TLC1	
97.322	11/17	16.49	TLC429	_____	UPDATE	TLC1	
97.322	11/17	16.49	TLC015	_____	UPDATE	TLC1	
97.322	11/17	16.50	TLC184	_____	UPDATE	TLC1	
97.322	11/17	16.50	TLC385	_____	UPDATE	TLC1	
97.322	11/17	16.51	TLC927	_____	UPDATE	TLC1	
97.322	11/17	16.51	TLC333	_____	UPDATE	TLC1	
97.322	11/17	16.52	TLC871	_____	UPDATE	TLC1	
97.322	11/17	16.52	TLC289	_____	UPDATE	TLC1	
97.322	11/17	16.53	TLC492	_____	UPDATE	TLC1	
97.322	11/17	16.53	TLC344	_____	UPDATE	TLC1	
97.322	11/17	16.55	TLC250	_____	UPDATE	TLC1	
96.326	11/21	11.13	OPERATOR	_____	UPDATE	TLC1	

Reading the Report

Below is an explanation of the various fields of this report.

The first line displays the name of the report and the page number. The second line reflects the date (in Gregorian and Julian formats), time (in military clock format), and subtitle (if specified) for this report.

Values for the other fields are:

DATE

The date the update was made (in Julian and Gregorian formats). The Gregorian format is mm/dd or dd/mm, depending on VMO OPTS record.

TIME

The time the update was made.

LOGONID

The logonid of the updated record.

JOBNAME

The VM user ID of the virtual machine where the user was logged on. For group machines, this is the group ID. JOBMASK selects on this field. If you process SMF records from an z/OS system under VM, the report displays the name of the job stream running at the time of the change. For a TSO session, this field is usually the same as the user's logonid.

CHANGER

The logonid of the user who attempted the action. For group machines, this is the group user. MASK selects on this field.

CHANGE

The type of update performed. Possible values are:

INSERT

A new logonid record was inserted.

CHANGE

An old logonid record was changed.

DELETE

A logonid was deleted.

UPDATE

A logonid was updated during logon or job validation. This record appears only if you specified the UPDATE parameter for this report.

CPU

The ID of the VM CPU where the change was executed. CA ACF2 for z/VM only uses the first four characters of the eight-character CPUID name.

USING

The logonid of the model report the user specified in the USING parameter of the ACF command.

FIELD

The logonid field that was modified.

OLD VALUE

The value of the logonid record before the modification.

NEW VALUE

The value of the logonid record after the modification.

Chapter 10: Running the Invalid Password/Authority Log (PW)

The Invalid Password/Authority Log displays each unsuccessful system access attempt. This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Invalid Password/Authority Log
- Use the ACFRPTS feature to run the Invalid Password/Authority Log
- Manually run the Invalid Password/Authority Log
- Understand the different report parameters available for this report
- Read and understand the report output

See “The Reports” chapter for more information about selecting SMF files, using the full-screen feature, common files, running the report manually, and using ACFRPTS.

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 168)

[Report Parameter Cross Reference](#) (see page 170)

[Running the Report Manually and Using ACFRPTS](#) (see page 170)

[Sample Report](#) (see page 173)

Using the Full-Screen Feature

To run the Invalid Password/Authority Log, select option 6.2.8 from the Primary Option Menu. The following screen appears.

Note: Before you run this report, you must select SMF files.

```
M9PA-6280  PW - Invalid Password/Authority (6.2.8)  CA ACF2 for z/VM
COMMAND ==> _____
                                                    TIME 13:33

Enter Report Parameters:
  Logonid Mask ==> _____

----- Common Parameters -----
User Title   ==> _____ System ID ==> ____
Output device ==> TERMINAL   Line count ==> 60
Start date   ==> 01/01/78    End date   ==> 12/31/69
Start time   ==> 0000        End time   ==> 2359
Select       ==> _____ Job masks   ==> _____

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=        8=         9=       10=Save    11=       12=Retrieve
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

Logonid mask

Specify an eight-character logonid mask to be compared against the logonid that was incorrectly used for system access. The default is all logonids.

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Specify the type of SMF record to be used for this report.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Report Parameter Cross Reference

The following table shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. See Manual and ACFRPTS Parameters later in this chapter for more information about these parameters.

Parameter	Full-screen Field
EDATE(<u>169365</u> cyyddd)	End date
ETIME(<u>2359</u> hhmm)	End time
HEX	
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LINECNT(<u>60</u> number)	Line count
MASK(<u>*****</u> lidmask)	Logonid mask
SDATE(<u>000000</u> cyyddd)	Start date
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
STIME(<u>0000</u> hhmm)	Start time
SYSID(<u>*****</u> sysid)	System ID
TITLE(<u>cmdparm</u> string)	User title

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. You can run this report manually or use the ACFRPTS EXEC (select the PW option).

Manual and ACFRPTS Parameters

This section lists the parameters and their defaults used to generate the PW report manually and using ACCFRPTS.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE causes the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter prints selected SMF records in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length, followed by two bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(***|lidmask)**

This parameter specifies an eight-character logonid mask to be compared against the logonid that was incorrectly used for system access. The default is all logonids.

SDATE(0000|yyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 00000.

SELECT(smfv|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFRPTS. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFRPTS defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. See the @SMF macro of the ACFRPTS in the *Installation Guide* for these values.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFRPTS specifies incorrect SMF record numbers.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TITLE(cmdparm|string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

Sample Report

```
CA ACF2 for z/VM SECURITY - ACFRPTPW - INVALID PASSWORD/AUTHORITY LOG-PAGE 1
DATE 06/09/98 (98.161) TIME 11.25 For TLC Group
```

DATE	TIME	LID	JNAME	SUBMIT'R	SOURCE	PROGRAM	RC	L	CPU
98.092	04/01	08.48	TLCDRV		REVERIFY		29		4381
98.161	06/09	07.12	TLCGBL			GRAF-4E1	12		4381
98.161	06/09	09.24	TLCST			V06U8024	12		4381
97.216	08/03	11.39	RCSS1			GRAF-4DF	80		4381

The first line of the report displays the report name and page number. The second line displays the date of the report (in Gregorian and Julian format), the time (in military clock format), and the subtitle of the report (if the user specified one).

Other fields of the report are:

DATE

The date (in Julian and Gregorian format) of the attempted system access. The Gregorian format is *mm/dd* or *dd/mm*, depending on VMO records.

TIME

The time the validation occurred.

LID

The logonid used for system access. For group machine logons, this is the group user. For autologs, this is the user ID of the machine that issued the AUTOLOG command. For DIAL, this is the logonid entered to identify the user. MASK selects on this field.

JNAME

The VM user ID for which access is attempted. For logon of group machines, this is the group ID. For AUTOLOG commands, this is the machine to be autologged. For DIAL commands, this is the machine specified by the DIAL command. JOBMASK selects on this field. If you process SMF records from a z/OS system under VM, it displays the name of the job stream running at the time of the change. For a TSO session, this field is usually the same as the user's logonid.

SUBMIT'R

This field indicates the user ID that requested the system access or password reverification. This field displays REVERIFY (if the request originated with the user's ID, for example, an ACF command password change) or if it is the user ID that is making this request (for example, DIRMAINT).

SOURCE

The logical input source where the system was accessed.

PROGRAM

VM uses this field to identify the type of system access that was attempted. This could be LOGON, AUTOLOG, or DIAL. If you process SMF records from a z/OS system under VM, it displays the name of the program that submitted the job using a restricted logonid. An asterisk (*) preceding the name indicates the program is APF-authorized. The program name is the name of the load module that did the actual submission of the job. It may not be the same as the program specified in the EXEC statement.

RC

The reason code indicating why CA ACF2 for z/VM denied or logged the access.

An asterisk (*) positioned before the reason code indicates a reason code of another product; it is not a CA ACF2 for z/VM reason code. When an asterisk appears in this column, refer to the documentation for the issuing extended user authentication program specified in the AUTH column of this report.

Some common reason codes are:

4

Logonid lid not found.

5

Unauthorized system access - contact your security administrator.

6

Password not allowed for this logonid.

8

Unauthorized input source for logonid.

9

Logonid not valid for submission by program.

10

Logonid canceled.

11

Logonid suspended.

12

Password not matched.

13

Logonid suspended because of password violations.

14

Logonid expired.

15

Invalid password syntax.

17

Password for logonid has expired.

18

The syntax for the new password is invalid and the old password expired.

19

Password less than minimum length.

20

New password is too short and old password expired.

21

Password expired and cannot be altered.

23

New password is the same as old password and old password expired.

26

User exit denied access.

29

Password reverification failed.

30

Logonid has the STC attribute-logon denied.

32

Logon denied-invalid source.

60

Zone record for logonid not found.

61

Shift record not found.

62

Irrecoverable error in shift processing routines.

63

Outside of shift controls.

73

User exit denied new password.

79

User exit denied new password.

80

Logon not allowed, logonid has AUTOONLY attribute.

81

Access denied. The user is not in the directory or is defined as a NOLOG user.

82

System entry denied due to a missing LIDVMACT logonid field

83

User entered an account number other than the one defined in his LIDVMACT

84

Logonid denied, user ID same as attach validation key.

110

Logon attempt by an invalid user ID.

111

Logon attempt by an invalid logonid.

112

Logon attempt to groupid by an invalid logonid. Job name (JNAME) in report is the group ID for the logon being attempted.

113

DIAL attempt by invalid logonid. Job name (JNAME) is the target user ID for the DIAL command.

120

Logonid attempt for invalid user ID from source.

121

User authentication exit (DMKAB1PX).

122

Logonid prevalidation exit (LGNIXIT).

123

Logon postvalidation exit (LGNPXIT).

126

The request caused a database I/O error.

135

Logshift allowed system access.

255

The site New Password Exit (NEWPXIT) issued this return code. The meaning depends on the exit code.

L

An asterisk indicates CA ACF2 for z/VM allowed but logged the access. A blank indicates CA ACF2 for z/VM denied the access.

CPU

The VM CPU ID of the CPU where validation occurred. CA ACF2 for z/VM only uses the first four characters of the eight-character CPU ID name.

AUTH

This is a field that is used by z/OS only. It contains the user authentication device attribute name, if applicable. If a user authentication exit denied access, the reason code field is prefixed with an asterisk (*).

Chapter 11: Running the Rule ID Modification Log (RL)

The Rule ID Modification Log reflects updates to the Rule database. This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Rule ID Modification Log
- Use the ACFRPTS feature to run the Rule ID Modification Log
- Manually run the Rule ID Modification Log
- Understand the different report parameters available for this report
- Read and understand the report output

See “The Reports” chapter for more information about selecting SMF files, using the full-screen feature, common files, running the report manually, and using ACFRPTS.

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 180)

[Report Parameter Cross Reference](#) (see page 182)

[Running the Report Manually and Using ACFRPTS](#) (see page 182)

[Sample Report](#) (see page 186)

Using the Full-Screen Feature

To run the Rule ID Modification Log, select option 6.2.9 from the Primary Option Menu. The following screen appears.

Note: Before you run this report, you must select SMF files.

```
M9PA-6290      RL - Rule-ID Modification Log (6.2.9)      CA ACF2 for z/VM
COMMAND ==> _____                                     TIME 13:33

Enter Report Parameters:
Rule-ID Mask ==> _____

Generate Detail Report ==> N

----- Common Parameters -----
User Title ==> _____ System ID ==> ____
Output device ==> TERMINAL Line count ==> 60
Start date ==> 01/01/78 End date ==> 12/31/69
Start time ==> 0000 End time ==> 2359
Select ==> _____ Job masks ==> _____

PF1=Help      2=Print      3=Quit      4=Return      5=          6=
PF7=          8=          9=          10=Save      11=         12=Retrieve
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

Rule-ID mask

Enter an eight-character mask used to select reports for a specific high-level index or group of indexes. The default prints all access rule update information.

Generate detail report

Specify Y (yes) to create a detailed report that produces the afterimage of the decompiled rule set for changed or inserted access rules. For deleted access rules, the deleted decompiled access rule set is printed. Specify N (no) to create a summary report that produces only one line of information for each INSERT, CHANGE, or DELETE subcommand entry.

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Specify the type of SMF record to be used for this report.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. You can refer to these parameter definitions in Manual and ACFRPTS Parameters if you need more information.

Parameter	Full-screen Field
EDATE(<u>169365</u> cyyddd)	End date
ETIME(<u>2359</u> hhmm)	End time
HEX	
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LINECNT(<u>60</u> number)	Line count
MASK(<u>*****</u> rulemask)	Rule-ID mask
SDATE(<u>000000</u> cyyddd)	Start date
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
STIME(<u>0000</u> hhmm)	Start time
<u>SUMMARY</u> DETAIL	Generate detail report
SYSID(<u>*****</u> sysid)	System ID
TITLE(<u>cmdparm</u> string)	User title

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxxx files. You can run this report manually or use the ACFRPTS EXEC (select the RL option).

Manual and ACFRPTS Parameters

Listed below are the parameters and their defaults used to generate the RL report manually and using ACFRPTS.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE causes the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter prints selected SMF records in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length, followed by two bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(***|rulemask)**

This parameter is an eight-character mask used to select reports for a specific high-level index or group of indexes. The default prints all access rule update information.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfval|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. Refer to the @SMF macro of the ACFFDR in Chapter 7, &odq.The CA ACF2 for z/VM Field Definition Record,&cdq. in the *&ins.* guide for these values.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFFDR specifies incorrect SMF record numbers.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SUMMARY | DETAIL

The SUMMARY parameter produces the report with only one line of information for each INSERT, CHANGE, or DELETE subcommand entry. The DETAIL parameter produces the afterimage of the decompiled rule set for changed or inserted access rules. For deleted access rules, the deleted decompiled access rule set is printed.

When you specify DETAIL, CA ACF2 for z/VM decompiles and prints the afterimage of rule sets for access rules that were changed or inserted. For deleted access rules, CA ACF2 for z/VM decompiles and prints the image of the access rule before it was deleted.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TITLE(cmdparm | string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

Sample Report

CA ACF2 for z/VM SECURITY - ACFRPTL - RULE MODIFICATION LOG - PAGE 1						
DATE 06/09/98 (98.161) TIME 11.29 For Entire Company						
DATE	TIME	RULE-ID	JOBNAME	CHANGER	CHANGE	CPU
98.070	03/10	17.05	TLCMAINT	_____	TLCMAINT REPLACE	XATE
98.070	03/10	17.05	RAD	_____	TLCMAINT REPLACE	XATE
98.070	03/10	17.05	TLCMAINT319	_____	TLCMAINT REPLACE	XATE

Explanations of the fields of this report are:

DATE

The date (in Julian and Gregorian formats) the update was made. The format of the Gregorian date is *mm/dd* or *dd/mm*, depending on VMO records.

TIME

The time the update was made.

RULE-ID

The key of the updated access rule set.

JOBNAME

The VM user ID of the virtual machine where the user was logged on. For group machines, this is the group ID. JOBMASK selects on this field. If you process SMF records from an z/OS system under VM, the report displays the name of the job stream running at the time of the change. For a TSO session, this field is usually the same as the user's logonid.

CHANGER

The logonid of the user who attempted the action. For group machines, this is the group user.

CHANGE

The type of update performed. Possible types are:

INSERT

A new access rule set was inserted.

REPLACE

An old access rule set was changed. This entry identifies the new rule after it was replaced.

DELETE

An access rule set was deleted.

BFORREPL

An old access rule set was changed. This entry identifies the old rule before it was replaced. This entry will be followed by a REPLACE entry with the new rule after it was replaced. BFORREPL entries are only displayed on the DETAIL report.

CPU

The ID of the VM CPU from where the change was executed. CA ACF2 for z/VM only uses the first four characters of the eight-character CPU ID name.

Chapter 12: Running the Resource Event Log (RV)

The Resource Event Log identifies loggings and violations related to logical resources. This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Resource Event Log
- Use the ACFRPTS feature to run the Resource Event Log
- Manually run the Resource Event Log
- Understand the different report parameters available for this report
- Read and understand the report output.

This section contains the following topics:

[Using the FullScreen Feature](#) (see page 190)

[Report Parameter Cross Reference](#) (see page 193)

[Running the Report Manually and Using ACFRPTS](#) (see page 194)

[Sample Report](#) (see page 198)

Using the FullScreen Feature

Before you can use the full-screen feature to run this report, you must select SMF files. See the Selecting SMF Input Files section in the “Introduction” chapter for information about gathering the SMF files as input for this report.

Use the screen below to run the Resource Event Log. It displays when you select option 6.2.A from the Primary Option Menu. See the “The Reports” chapter for basic information on using the full-screen feature.

```
M9PA-62A0  RV - Generalized Resource Event Log (6.2.A)    CA ACF2 for z/VM
COMMAND ==> _____
                                                    TIME 11:14

Enter Report Parameters:

Resource ID Mask ==> _____
Resource Type Mask ==> ____
Logonid Mask    ==> _____

Include: Loggings ==> Y
       Violations ==> Y

Output Format    ==> _____    Detail (DB2) ==> N
Class          ==> R

----- Common Parameters -----

User Title ==> _____    System ID ==> _____
UID Mask   ==> _____

Output device ==> TERMINAL    Line count ==> 60
Start date   ==> 01/01/78    End date   ==> 12/31/69
Start time   ==> 0000        End time   ==> 2359
Select       ==> _____    Job masks  ==> _____

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=        8=        9=        10=Save    11=       12=Ret
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the fields of the screen.

Enter Report Parameters

Resource ID mask

Specify the mask (up to 40 characters) to select records with a resource name that matches the mask. The default displays all resource names.

Resource type mask

Specify a mask to select records for resources stored under the matching type code. The default is all resource types.

Logonid mask

Specify a logonid mask to select records with logonids that match the mask. The default is all logonids.

Include

Loggings

Specify Y(yes) to include all accesses CA ACF2 for z/VM allowed, but the resource rule specified LOG.

Violations

Specify Y(yes) to include all accesses that violated resource rules.

Output format

Specify the type of output format. Valid options are PRINTER and TERMINAL (the default).

Detail (DB2)

Specify Y(yes) to provide original, primary, and secondary authorization IDs for users of DB2. You should also set the Class parameter to D. This parameter is provided for processing SMF record from an OS/390 system. CA ACF2 for z/VM does not support DB2. Refer to the *&badmful*. for more information.

Class

Specify the storage class code of the infostorage records to process. The default is R (for resource rule sets). Use D for CA ACF2 for z/VM/DB2 rule sets. Class D is provided for processing SMF records from an OS/390 system.

Common Parameters

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

UID mask

Enter the UID mask that limits the output to those pertaining to the user or group of users indicated by the UID mask. The default is all users.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 89 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 89 represent 2000 through 2069. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Specify the type of SMF record to be used for this report.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. You can refer to these parameter definitions in Manual and ACFRPTS Parameters if you need more information.

Parameter	Full-screen Field
<u>ALL</u> VIOLATIO LOGGING TRACE	Loggings
	Violations
EDATE(<u>169365</u> cyyddd)	End date
ETIME(<u>2359</u> hhmm)	End time
HEX	
ID(<u>__</u> idmask)	Resource ID mask
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LINECNT(<u>60</u> number)	Line count
MASK(<u>__</u> lidmask)	Logonid mask
SDATE(<u>000000</u> cyyddd)	Start date
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
STIME(<u>0000</u> hhmm)	Start time
SYSID(<u>*****</u> sysid)	System ID
<u>TERMINAL</u> PRINTER	Output format
TITLE(<u>cmdparm</u> string)	User title
TYPE(<u>__</u> typemask)	Resource type mask
UID(<u>__</u> uidmask)	UID mask

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. See the Common Files section in the “The Report” chapter for information about these files.

See the Running the Reports section in the “The Report” chapter for information about running the Resource Event Log manually.

Follow the instructions listed in the Running the CA ACF2 for z/VM Report Using the ACFRPTS EXEC section in the “The Report” chapter to use the ACFRPTS utility to run the Resource Event Log. Select the RV option.

Manual and ACFRPTS Parameters

Listed below are the parameters and their defaults used to generate the RV report manually and using ACFRPTS.

ALL|VIOLATIO|LOGGING|TRACE

These parameters specify which type of SMF record you want to process. You can specify one or more of these parameters. If you do not specify any parameter, the default is ALL. These parameters act in an inclusive OR fashion. For example, if you specify VIOLATIO and TRACE, the report includes all violation and trace records.

ALL

Requests processing of all types of journal information.

VIOLATIO

Requests all accesses that violated resource rules.

LOGGING

Requests processing of records produced for accesses that were allowed, but the resource rule specified LOG. Loggings also occur when a security officer (SECURITY), non-cancelable (NON-CNCL), or read-only (READALL) logonid issues a request that would normally be prevented.

TRACE

Requests processing of records produced as a result of the TRACE attribute in the logonid record. If the access was logged or was a violation, TRACE requests can have more than one SMF record written.

CLASS(R|class)

Specifies the one-character storage class code of the infostorage record to process. The default is R (for resource rule sets). The storage class code for CA ACF2 for z/VM Security Option for DB2 rule sets is D. Class D processes CA ACF2 for z/VM Security Option for DB2 resource event SMF records from an OS/390 system. CA ACF2 for z/VM does not support DB2. See the *Administrator Guide* for more information.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

C

0 to indicate the 20th century

1

to indicate the 21st century

yy

The year

ddd

The day of the year

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE causes the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter prints selected SMF records in hexadecimal dump format. This option is provided primarily for diagnostic purposes. If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length, followed by two bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

ID(—|idmask)

This parameter specifies the mask (up to 40 characters) to select records with a resource name that matches the mask. The default is dash (—), implying all resource names match.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(_|lidmask)

This parameter specifies a logonid mask to select records with logonids that match the mask. The default is all logonids.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century

1

to indicate the 21st century

yy

The year

ddd

The day of the year

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SUMMARY|DETAIL

Specifies the format of the ACFRPTRV report. The SUMMARY parameter produces information about each resource access request that results in a logging, violation, or trace record. All users should specify SUMMARY except those who want to see additional lines of information related to CA ACF2 for z/VM Security Option for DB2. The DETAIL parameter provides original, primary, and secondary authorization IDs for DB2 users. You should set the CLASS parameter to D. The SUMMARY|DETAIL parameters are provided for processing SMF records from an OS/390 system. CA ACF2 for z/VM does not support DB2.

See the *Administrator Guide* for more information.

SELECT(smfv|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. See the @SMF macro of the ACFFDR in the *Installation Guide* for these values.

If you are processing OS/390 SMF data and use the default SMF record numbers for other types of SMF records on the OS/390 system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFFDR specifies incorrect SMF record numbers.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TERMINAL | PRINTER

The TERMINAL parameter (the default) is designed to fit a limited width display terminal. PRINTER produces a second format, designed for output to a 133-column line printer.

TITLE(cmdparm | string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

TYPE(— | typemask)

This parameter specifies a mask to select records for resources stored under the matching type code. Below is a list of predefined resource types. You can also define resource types locally.

ACT

For account resource rules

ALG

For resource rules that control the AUTOLOG command

DIA

For resource rules that control the DIAL command

GRP

For resource rules that control logging onto group machines

IUC

For resource rules that control the Inter User Communications Vehicle (IUCV)

VMC

For resource rules that control the Virtual Machine Communications Facility (VMCF).

UID(— | uidmask)

This parameter specifies the UID mask the report pertains to. Dash (—) is the default, reporting on all UIDs.

Sample Report

The Resource Log report produces two types of reports: TERMINAL and PRINTER. The next two sections contain examples of each.

Terminal Format

```
CA ACF2 for z/VM SECURITY - ACFRPTRV - GENERALIZED RESOURCE LOG - PAGE 1
DATE 07/07/98 (98.188) TIME 14.02
```

```
REQUESTED RESOURCE          REC LOOKUP KEY
UID          SOURCE CPU MODULE DISP  DSP-MOD KEY-MOD SERV
DATE  TIME JNAME  LID  NAME          PRE RMC INT PST FIN
```

```
RTST-TEST1          LOG RTST-TEST1
CMS2          GRAF0420 XATE  RULE  -  -  READ
98.188 07/07 14.00 MAINT  CMS2          0 0 4 0 4
```

RESOURCE NAME: TEST1

```
RTST-TEST1          *VIO RTST-TEST1
CMS3          GRAF0420 XATE  RULE  -  -  READ
98.188 07/07 14.00 MAINT  CMS3          0 0 16 0 16
```

RESOURCE NAME: TEST1

```
RTST-TEST1          *VIO RTST-TEST1
CMS4          GRAF0420 XATE  NO-RULE  -  -  READ
98.188 07/07 14.00 MAINT  CMS4          0 0 20 0 20
```

RESOURCE NAME: TEST1

```
RTST-TEST2          LOG RTST-TEST2_NEXTKEY2
CMS3          GRAF0420 XATE  RULE  -  _DIRECTRY READ
98.188 07/07 14.01 MAINT  CMS3          0 0 4 0 4
```

RESOURCE NAME: TEST2

```
NEXTKEYS ENCOUNTERED ON VALIDATION PATH: TEST2_NEXTKEY
TEST2_NEXTKEY2
```

```
RTST-TEST2          *VIO RTST-TEST2_NEXTKEY2
CMS4          GRAF0420 XATE  RULE  -  _DIRECTRY READ
98.188 07/07 14.01 MAINT  CMS4          0 0 16 0 16
```

RESOURCE NAME: TEST2

```
NEXTKEYS ENCOUNTERED ON VALIDATION PATH: TEST2_NEXTKEY
TEST2_NEXTKEY2
```

Printer Format

```

CA ACF2 for z/VM SECURITY - ACFRPTRV - GENERALIZED RESOURCE LOG - PAGE 1
DATE 07/07/98 (98.188) TIME 14.04 SUM PRINT

  DATE  TIME SOURCE  JNAME  LID  NAME          DISP  REC SERV
  PRE  PST RMC  INT  FIN  UID          CPU  MODULE  KEY-MOD DSP-MOD

98.188 07/07 14.00 GRAF0420 MAINT  CMS2          RULE  LOG READ
  0  0  0  4  4  CMS2          XATE          -  -

RESOURCE NAME: TEST1

98.188 07/07 14.00 GRAF0420 MAINT  CMS3          RULE  *VIO READ
  0  0  0 16 16  CMS3          XATE          -  -

RESOURCE NAME: TEST1

98.188 07/07 14.00 GRAF0420 MAINT  CMS4          NO-RULE *VIO READ
  0  0  0 20 20  CMS4          XATE          -  -

RESOURCE NAME: TEST1

98.188 07/07 14.01 GRAF0420 MAINT  CMS3          RULE  LOG READ
  0  0  0  4  4  CMS3          XATE  DIRECTRY -

RESOURCE NAME: TEST2

NEXTKEYS ENCOUNTERED ON VALIDATION PATH: TEST2_NEXTKEY
                                           TEST2_NEXTKEY2

98.188 07/07 14.01 GRAF0420 MAINT  CMS4          RULE  *VIO READ
  0  0  0 16 16  CMS4          XATE  DIRECTRY -

RESOURCE NAME: TEST2

NEXTKEYS ENCOUNTERED ON VALIDATION PATH: TEST2_NEXTKEY
                                           TEST2_NEXTKEY2
    
```

Reading the Reports

REQUESTED RESOURCE

The resource the user requested.

REC

A three-character code indicating whether this is a logging (LOG), violation (VIO), or trace (TRC) record. Violation records are highlighted with an asterisk (*) before the field.

LOOKUP KEY

The name of the resource rule set that validated the request.

UID

The requester's user identification string.

SOURCE

The logical input source where the access request was made.

CPU

The name of the CPU that validated the resource request.

DISP

The reason why the logging occurred. Valid entries are:

NO-REC

CA ACF2 for z/VM found no record matching the rulekey in the CA ACF2 for z/VM Rule database

NO-RULE

CA ACF2 for z/VM found no rule matching the environment of the request

RULE

CA ACF2 for z/VM found a resource rule that determined the access or prevention.

DSP-MOD

The exits and conditions that affected the validation. This field details:

NON-CNCL

The requesting logonid was noncancelable. CA ACF2 for z/VM allowed the request.

SEC-OFF

The requesting logonid was a security officer. CA ACF2 for z/VM allowed the request.

ABORT

CA ACF2 for z/VM unconditionally aborted the request.

KEY-MOD

CA ACF2 for z/VM modified the resource name to perform its database lookup operations. This field indicates what resource validation component modified the key.

SERV

The type of service request. Possible values are:

READ

The access request was for read only

ADD

The access request was to add new records to an existing file

DEL

The access request was to delete existing records

UPDT

The access request was to modify existing records.

DATE

The date (in julian and gregorian formats) the access request was made.

TIME

The time the access request was made.

JNAME

The VM user ID of the virtual machine where the user was logged on or attempted the access. For logons of group machines, this is the group ID. For AUTOLOG commands, this is the machine to be autologged. For DIAL commands, this is the machine specified by the DIAL command. JOBMASK selects on this field.

LID

The logonid of the user who attempted the action. For logons of group machines, this is the group user. For autologs, this is the user ID of the machine that issued the AUTOLOG command. For DIAL, this is the logonid entered to identify the user. MASK selects on this field.

NAME

The user's name associated with the logonid.

PRE

The return code from the prevalidation exit. CA ACF2 for z/VM does not have a resource prevalidation exit. We provide this field in case you run OS/390 SMF data into the ACFRPTRV report program.

Possible return codes are:

0

Continue normal processing

4

Logonid not found

8

Allow and log the request

12

Allow the request and reverify the password

16

Allow but log the request and reverify the password

20

Prevent the request.

RMC

The return code from the CA ACF2 for z/VM resource record manager. Possible return codes are:

- 9-Record was already resident
- 4-I/O needed to obtain record
- 8-Record not found.

INT

The return code from the resource rule interpreter. Possible values are listed below.

0

Allow the request

4

Allow, but log the request

8

Allow the request and reverify the password

12

Allow the access, log the request, and reverify the password

16

Prevent the access

20

No rule applies

24

Rule record is not in proper format

28

Resource record was not found in the resident cache.

PST

The return code from the postvalidation exit. CA ACF2 for z/VM does not have a resource postvalidation exit. We provide this field in case you run OS/390 SMF data into the ACFRPTRV report program.

Possible return codes are listed below.

0

Continue normal processing

4

Allow the request

8

Allow and log the request

12

Allow the request and reverify the password

16

Allow but log the request and reverify the password

20

Prevent the request

FIN

The final return code from the CA ACF2 for z/VM resource validation function. Possible values are listed below.

0

Allow the access

4

Allow but log the access

8

Allow the access and reverify the password

12

Allow and log the access and reverify the password

16

Prevent the access

RESOURCE NAME

The resource name used during validation. This field can show up to a maximum of 256 characters.

NEXTKEYS ENCOUNTERED ON VALIDATION PATH

The NEXTKEY parameters that CA ACF2 for z/VM used to find the matching rule entry. The rule that prevented or allowed the access is also shown in the resource violation LOOKUP KEY field. If the reason for a prevent was no record found, the last entry in this table indicates the rule set record that CA ACF2 for z/VM could not locate.

Reading IUCV and VMCF Loggings

This section describes how to analyze SMF-like loggings created during IUCV and VMCF resource rule validation.

Resource rule validation for IUCV and VMCF generates SMF-like loggings in three separate instances.

- LOG access permission initiated a communication path
- Termination of a communication path previous established through the LOG access permission
- The PREVENT access permission prevented a communication path.

The ALLOW access permission operates in the usual manner. It performs IUCV and VMCF rule validation, but does not generate any SMF loggings.

IUCV Loggings

Rule validation for IUCV generates SMF-like loggings for the following reasons. It is reported in the ACFRPTRV report as follows.

- Establishing an IUCV communication path through the LOG access permission.

```
R-IUC-*MSG CONNECT, PATH 0000; IPRCODE=00 LOG R-IUC-*MSG
MAINT      GRAF-0A0 SVMC  RULE  SEC-OFF
98.135 05/15 07.55 *MSG  MAINT  MAINT USERID  0 4 16 0 4
```

R-IUC-*MSG

The requested resource

- R-Resource class
- IUCM-Resource type for IUCV
- *MSG-The target

CONNECT

The action requested

PATH 0000

The path number (0000)

IPRCODE=00

The system return code

LOG

Action CA ACF2 for z/VM took.

- Terminating the IUCV communication path previously established through the LOG access permission.

```
R-IUC-*MSG SEVER, PATH 0000 LOG R-IUC-*MSG
MAINT GRAF-0A0 SVMC RULE
98.135 05/15 07.55 *MSG MAINT MAINT USERID 0 4 4 0 4
```

R-IUC-*MSG

The requested resource

- R-Resource class
- IUC-Resource type for IUCV
- *MSG-The target

SEVER

The action

PATH 0000

Path number

LOG

Action CA ACF2 for z/VM took.

- Preventing an IUCV communication path caused by PREVENT access permission.

```
R-IUC-*MSG CONNECT, DENIED *VIO R-IUC-*MSG
MAINT GRAF-0A0 SVMC NO-RULE
98.135 05/15 07.55 *MSG MAINT MAINT USERID 0 4 20 0 20
```

R-IUC-*MSG

The requested resource

- R-Resource class
- IUC-Resource type for IUCV
- *MSG-The target

CONNECT

The action

DENIED

Path denied

***VIO**

Action CA ACF2 for z/VM took.

VMCF Loggings

Rule validation for VMCF generates SMF-like loggings for the following reasons.

- Establishing a VMCF communication path through the LOG access permission.

```
R-VMC-ALL  AUTHORIZE, RC=00          LOG R-VMC-ALL
MAINT      GRAF-0A0  SVMC  RULE  SEC-OFF
98.135 05/15 07.55 ALL  MAINT MAINT USERID  0 4 16 0 4
```

R-VMC-ALL

The requested resource

- R-Resource class
- VMC-Resource type for VMCF
- ALL-All VMCF targets

AUTHORIZE,

The action

RC=00

System return code

LOG

Action CA ACF2 for z/VM took.

- Terminating a VMCF communication path previously established through the LOG access permission.

```
R-VMC-ALL  UNAUTHORIZE          LOG R-VMC-ALL
MAINT      GRAF-0A0  SVMC  RULE  -
98.135 05/15 07.55 ALL  MAINT MAINT USERID  0 4 4 0 4
```

R-VMC-ALL

The requested resource

- R-Resource class
- VMC-Resource type for VMCF
- ALL-All VMCF targets

UNAUTHORIZE

The action

LOG

Action CA ACF2 for z/VM took.

- Preventing a VMCF communication path caused by the PREVENT access permission.

R-VMC-ALL	AUTHORIZE, DENIED	*VIO	R-VMC-ALL
MAINT	GRAF-0A0 SVC	NO-RULE	-
98.135 05/15 07.55 ALL	ACFUSER		0 4 20 0 20

R-VMC-ALL

The requested resource

- R-Resource class
- VMC-Resource type for VMCF
- ALL-All VMCF targets

AUTHORIZE,

The action

DENIED

Path denied

*VIO

Action CA ACF2 for z/VM took.

Chapter 13: Running the Logonid Access Report (RX)

The Logonid Access Report shows all data access rules and resource rules that apply to a specific logonid (LID) mask or User Identification (UID) mask.

ACFRPTRX searches the online Access Rule database or online Information Storage database for each LID or UID processed and compares the input UID against the UID in each rule entry. If the UID matches, ACFRPTRX prints the ruleid (\$KEY) and the entire rule entry. ACFRPTRX also determines if the UID can change (%CHANGE or %RCHANGE) any access rules or resource rules, and prints that information in the report.

A message line and access reason code highlight all accesses that are allowed because of special CA ACF2 for z/VM privileges (such as NON-CNCL, READALL, PREFIX, SECURITY, and so on). If a UID has no access authority or is suspended, ACFRPTRX prints a descriptive message indicating these conditions. See the ACFRPTRX Messages section for more information tm.

To run this report, you must have the SECURITY, ACCOUNT, or AUDIT privilege to use the online CA ACF2 for z/VM databases. Only those logonids records and rule records you normally have access to are included in this report.

ACFRPTRX simulates normal CA ACF2 for z/VM rule interpretation and checking, but does not simulate the actions of any site exits or other code.

This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you have finished this chapter, you will be able to:

- Use the full-screen feature to run the Logonid Access Report
- Use the ACFRPTS feature to run the Logonid Access Report
- Manually run the Logonid Access Report
- Understand the different report parameters available for this report
- Read the two different types of report output, logonid and resource logonid.

This section contains the following topics:

- [Using the FullScreen Feature](#) (see page 212)
- [Report Parameter Cross Reference](#) (see page 215)
- [Running the Report Manually and Using ACFRPTS](#) (see page 215)
- [ACFRPTRX Messages](#) (see page 218)
- [Sample Report](#) (see page 220)

Using the FullScreen Feature

Before you can use the full-screen feature to run this report, you must select SMF files. See the Selecting SMF Input Files section in “The Report” chapter for information about gathering the SMF files as input for this report.

Use the screen below to run the Logonid Access Report. It displays when you select option 6.2.B from the Primary Option Menu. See Running CA ACF2 for z/VM for VM Reports Using the Full-Screen Feature section in “The Report” chapter for basic information about using the full-screen feature.

```
M9PA-62B0  RX - Logonid Access Report (6.2.B)  CA ACF2 for z/VM
COMMAND ==> _____ TIME 13:33

Enter Report Parameters:

Logonid Mask      ==> TLCBFR
UID Mask          ==> _____
Resource or Dataset ==> DATASET
Rule Mask         ==> _____
Resource Type     ==> ____

SYSIDLST: Review/Update List ==> N
File Name ==> _____ Type ==> SYSIDLST Mode ==> *

----- Common Parameters -----

User Title       ==> _____
Output device ==> TERMINAL Line count ==> 60

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=        8=        9=        10=Save    11=       12=Retrieve
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

Logonid mask

Enter a mask for the logonids to report on. The default is your logonid.

UID mask

Enter the UID mask that limits the output to those pertaining to the user or group of users indicated by the UID mask. The default is all users.

Resource or dataset

Specify whether to use an access rule (DATASET) or resource rule (RESOURCE) for this report. The default is DATASET.

Rule mask

Enter a mask for the access rules or resource rules to produce a Logonid Access Report for a selected group of rule keys or a single rule key.

Resource type

If you selected RESOURCE above, enter the three-character resource type for the resource rule.

SYSIDLST: Review/update list

Specify Y(yes) to display another screen for reviewing and updating UIDs.

File Name

The filename of the SYSIDLST file.

Type

The filetype of the SYSIDLST file. The default is SYSIDLST.

Mode

The filemode of the SYSIDLST file. The default is asterisk (*).

Common Parameters

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. You can refer to these parameter definitions in Manual and ACFRPTS Parameters if you need more information.

Parameter	Full-screen Field
DSET RSRC	Resource or data set
LID(***** lidmask)	Logonid mask
LINECNT(60 number)	Line count
RMASK(accmask rsrcmask)	Rule mask
TITLE(cmdparm string)	User title
TYPE(type)	Resource type
UID(= uidmask)	UID mask

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT and SYSIN files. See the Common Files section in “The Reports” chapter for information about these files.

ACFRPTRX does not process SMF data, so it does not use the standard RECxxxxx file. It does, however, use the following files:

SYSUT1

This is a work file. If you do not enter a FILEDEF command for this file, ACFRPTRX assigns a file ID of ACFRPTRX SYSUT1 A1. Refer to the definition of SYSUT2 below for additional information.

SYSUT2

This is a work file. If you do not enter a FILEDEF command for this file, ACFRPTRX assigns a file ID of ACFRPTRX SYSUT2 A1.

If you entered a FILEDEF for SYSUT1 or SYSUT2, the report generator uses the file ID the FILEDEF command specified or defaulted to. All FILEDEF command options are ignored. Do not assign a filemode number of 3 to these files as CMS will erase the files before the report generator is finished using them. By specifying a FILEDEF for this file, you can tell the report generator to use a minidisk other than your A-disk for these work files. This can correct a minidisk full situation that can occur when the report generator runs. You could specify a CP T-disk that you defined and formatted.

ACFRPTRX erases any file with the same file ID in effect for these files during initialization. The files are erased during program termination.

The ACFRPTS utility does not issue a CMS FILEDEF command for these files. You can enter them before starting the procedure.

SYSIDLST

You can use this file to specify a list of LID or UID masks. The report generator uses this file if you do not specify the LID or UID parameters. If you specify both LID and UID, the report generator does not use this file.

This file has the same characteristics as the SYSIN file.

When you define TERMINAL as the input device, ACFRPTS prompts you with ID? :exph. for the report parameters. The syntax of the SYSIDLST statement is:

```
LID(*****|lidmask) UID(—|uidmask)
```

LID(***|lidmask)**

Specifies a logonid mask. Using this parameter generates a Logonid Access Report for each logonid that matches the mask.

UID(—|uidmask)

Specifies a User Identification string (UID) mask. Using this parameter generates a Logonid Access Report for each UID that matches the mask.

The ACFRPTS utility does not issue a FILEDEF command for SYSIDLST. You can enter a FILEDEF for SYSIDLST before starting the utility. The file must exist when you start ACFRPTS. If you do not specify the LID or UID parameters and did not enter a FILEDEF, you will be prompted for the input.

See Running the Report section in “The Reports” chapter for information about running the Logonid Access Report manually.

Follow the instructions listed in Running CA ACF2 for z/VM Reports Using the ACFRPTS EXEC section in “The Reports” chapter, use the ACFRPTS utility to run the Logonid Access Report. Select the RX option.

Manual and ACFRPTS Parameters

Listed below are the parameters and their defaults used to generate the RX report manually and using ACFRPTS.

DSET|RSRC

The DSET parameter processed data set access rules. The RSRC parameter processes resource rules.

LID(***|lidmask)**

This parameter specifies a mask for each logonid to be included in the report. You must specify the LID parameter unless you use the UID parameter or the SYSIDLST file. If you do not specify the LID or UID parameter in the JCL parameter field, ACFRPTRX expects to receive input from the SYSIDLST file.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

RMASK(accmask|rsrcmask)

This optional parameter specifies a mask for rule set keys. You can use it to produce a report for a selected group of rule keys or a single rule key. When processing data set access rules (DSET parameter), RMASK is a data set rule key mask. For resource processing (RSRC parameter), RMASK is a resource name mask. When you specify RMASK, the report includes only those rules that match the specified mask.

TITLE(cmdparm|string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

TYPE(type)

This parameter specifies a three-character resource type. The report only includes the resource type you specify. TYPE is a valid, required parameter only when you specify the RSRC parameter.

UID(—|uidmask)

This parameter specifies the UID mask the report pertains to. If you specify both LID and UID, they are processed using AND logic (processing only logonids that match both the LID and UID mask patterns). Dash (—) is the default, reporting on all UIDs.

ACFRPTRX Messages

The following messages are written to the report file. They do not go through the normal CA ACF2 for z/VM message routines and are **not** listed in the *Messages Guide*.

**** USER HAS ACCESS TO ALL DATA SETS AS: SE, NC

Appears

After the NAME line in DSET mode.

Means

User is an unrestricted security officer, has the NON-CNCL attribute, or both.

**** USER HAS READ ACCESS TO ALL DATA SETS AS: RA

Appears

After the NAME line in DSET mode.

Means

User has the READALL attribute.

**** USER HAS ACCESS TO NO DATA SETS

Appears

After the NAME line in DSET mode.

Means

The user did not match any rules or %CHANGE entries and does not have any special CA ACF2 for z/VM access authority. This user cannot access any data sets.

**** USER HAS ACCESS TO ALL DATA SETS FOR THIS KEY AS: 0, SC

Appears

After display of \$KEY for the rule set.

Means

User's PREFIX matched the rule key or the user's scope matched the rule key.

**** USER HAS ACCESS TO ALL RESOURCES AS: SE, NC

Appears

After the NAME line in RSRC mode.

Means

User is an unrestricted security officer or has the NON-CNCL attribute.

**** USER HAS ACCESS TO NO RESOURCES

Appears

After the NAME line in RSRC mode.

Means

The user did not match any rules or %CHANGE entries and does not have any special CA ACF2 for z/VM access authority. This user cannot access any resources.

**** USER HAS ACCESS TO ALL RESOURCES FOR THIS KEY AS: SC

Appears

After display of \$KEY for the rule set.

Means

User's scope matched the rule key.

**** USER CAN CHANGE RULE

Appears

After display of a %CHANGE entry.

Means

User's UID string matched one or more masks in the %CHANGE entry that gives the user authority to change the control statements and rule entries in the rule set.

**** USER HAS %CHANGE, BUT ALSO HAS NO-STORE

Appears

After display of a %CHANGE statement.

Means

User's UID string matched the change mask, but the user also has the NO-STORE attribute, preventing him from storing any changes or deleting the access or resource rule set.

**** LID:<lid> UID:<uid> * CANCELED

Appears

After LID/UID line for the user being processed.

Means

This LID/UID was canceled.

**** LID:<lid> UID:<uid> * SUSPENDED

Appears

After LID/UID line for the user being processed.

Means

This LID/UID was suspended.

**** NO LID/UID FOUND TO MATCH SYSIDLST PARMS

Appears

After display of SYSIDLST parameters.

Means

LID/UID combination not found on the SYSUT1 file.

**** USER CAN CHANGE ANY OF THE RULE ENTRIES

Appears

After display of %RCHANGE control statement.

Means

User's UID matched one or more masks in the %RCHANGE entry that gives the user authority to change all rule entries in the rule set. However, the user cannot change any of the control statements in the rule set.

Sample Report

Two types of output are possible from this report, a Logonid Access Report and a Resource Logonid Access Report. This report displays two types of output.

Sample Logonid Access Report

```
CA ACF2 for z/VM SECURITY - ACFRPTX - LOGONID ACCESS REPORT - PAGE 1
DATE 06/14/98 (98.166) TIME 07.43
```

```
INPUT PARAMETERS: DSET LINECNT(60)
LID FILE PROCESSING COMPLETE, RECORDS SELECTED = 00417
RULE FILE PROCESSING COMPLETE, RECORDS SELECTED = 06002
```

```
-----
SYSIDLST PARAMETERS: LID(SVMRFB**)
```

```
-----
LID: TLCRBF UID: TLCADTLCRBF
NAME: BOB FRANK
$KEY($ACF2VM)
STORED: 04/15/98-18:12 BY: TLCISO
- UID(****TLC) READ(A) WRITE(A) EXEC(A)
$KEY($DCK$)
STORED: 05/25/98-11:50 BY: TLCISO
V0A1.- UID(*) READ(A) EXEC(A)
V598.- UID(*) READ(A) EXEC(A)
$KEY(%TLC)
STORED: 12/05/97-10:25 BY: TLCDAN
- UID(****TLC) READ(A) WRITE(A) ALLOC(A) EXEC(A)
$KEY(TLCXA320)
STORED: 04/18/98-11:56 BY: TLCDMGR
- UID(****TLC) READ(A) EXEC(A)
- UID(*)
$KEY(TLC2BASE)
STORED: 09/14/98-16:10 BY: TLCISO
- UID(TL***TLC) READ(A) EXEC(A)
$KEY(Z9999-)
STORED: 05/07/98-13:52 BY: TLCISO
- UID(*) READ(A) WRITE(A) ALLOC(A) EXEC(A)
```

Sample Resource Logonid Access Report

```
CA ACF2 for z/VM SECURITY - ACFRPTX - LOGONID ACCESS REPORT - PAGE 1
DATE 06/16/98 (98.168) TIME 10.59
```

```
INPUT PARAMETERS: RSRC LID(TLCJDT) TYPE(GRP) LINECNT(60)
LID FILE PROCESSING COMPLETE, RECORDS SELECTED = 00001
RULE FILE PROCESSING COMPLETE, RECORDS SELECTED = 00049
-----
```

```
LID: TLCJDT UID: TLC99TLCJDT
NAME: TIM DOODLE
$KEY(TLC2BACK) TYPE(GRP)
STORED: 02/27/98-17:27 BY: TLCISO
UID(TL***TLC) LOG
$KEY(TLC2QRST) TYPE(GRP)
STORED: 03/17/98-18:29 BY: TLCISO
UID(TL***TLC) LOG
$KEY(DIRECTOR) TYPE(GRP)
STORED: 09/14/98-09:17 BY: TLCISO
UID(*****TLC) ALLOW
$KEY(DIRM2) TYPE(GRP)
STORED: 11/02/98-07:44 BY: TLCISO
UID(*****TLC) LOG
$KEY(TLCMNT) TYPE(GRP)
STORED: 05/05/98-18:07 BY: TLCISO
UID(*****TLC) ALLOW
$KEY(VSCS) TYPE(GRP)
STORED: 02/05/98-18:06 BY: TLCISO
UID(*****TLCJDT) ALLOW
$KEY(SPORTMAN) TYPE(GRP)
STORED: 11/23/97-12:50 BY: TLCISO
UID(*****TLC) ALLOW
$KEY(TLCLTC) TYPE(GRP)
STORED: 06/10/98-17:15 BY: TLCOED
UID(*****TLCJDT) ALLOW
$KEY(TLCCSG) TYPE(GRP)
STORED: 05/23/98-16:34 BY: TLCISO
UID(*****TLC) ALLOW
```

Fields in the two reports are explained below.

INPUT PARAMETERS

The parameters specified in the parameter field.

LID FILE PROCESSING COMPLETE, ...

The number of logonid records processed.

RULE FILE PROCESSING COMPLETE, ...

The number of rules used for processing.

SYSIDLST PARAMETERS

Parameters specified for input.

LID

The logonid processed.

UID

The user identification string of the logonid processed.

NAME

The value in the NAME field for the specified logonid.

\$KEY

The rule ID of the data access or resource rule set.

STORED

Date and time the rule was last stored. The date format depends on VMO records.

BY

The logonid of the user who last stored the rule.

\$MODE

Value of the \$MODE control card stored with the access rule. This line only appears if you specified a \$MODE control statement in the rule set.

\$NOSORT

Value of the \$NOSORT control card stored with the access rule. This line only appears if you specified \$NOSORT in the rule set.

\$PREFIX

Value of the \$PREFIX control card stored with the access rule. This line only appears if you specified \$PREFIX in the rule set.

%CHANGE

Value of the %CHANGE control card stored with the access rule. This line only appears if you specified %CHANGE in the rule set.

%RCHANGE

Value of the %RCHANGE control card stored with the access rule. This line only appears if you specified %RCHANGE in the rule set.

Rule entries

Each rule entry in the rule set that applies to the LID or UID processed. Possible fields that could appear in an access rule entry are:

dsn
VOL(volmask)
UID(uidmask)
SHIFT(shift)
UNTIL(date) | FOR(days)
SOURCE(source)
PGM(pgmname)
READ(A|L|P) WRITE(A|L|P) EXEC(A|L|P)
DATA(data)
NEXTKEY(nextkey)

Possible fields for a resource rule entry are:

UID(uid)
SHIFT(shift)
SOURCE(source)
UNTIL(date) | FOR(days)
VERIFY ALLOW|LOG|PREVENT
SERVICE(READ,ADD,UPDATE,DELETE)
DATA(data)

Reason Codes

Access reason codes are explained below. The term data set refers to OS data sets, VM minidisks, CMS files, DOS files, and attachable DASD devices.

NC

The user has NON-CNCL attribute in the logonid record.

O

The user's logonid record PREFIX field matches the high-level index for the data.

RA

The logonid has the READALL attribute and is not cancellable as long as the data set is opened for input (read only). This code is valid only for data access processing.

SC

The logonid is a scoped security officer. He has the SECURITY and DSNSCOPE or SCPLIST in his logonid record. The DSNSCOPE matches the high-level index of the data.

SE

The logonid is an unrestricted security officer. He has the SECURITY and no DSNSCOPE or SCPLIST in the logonid record.

Chapter 14: Running the Selected Logonid List (SL)

The Selected Logonid List provides a record of logonids that match user-specified selection criteria. This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Selected Logonid List
- Use the ACFRPTS feature to run the Selected Logonid List
- Manually run the Selected Logonid List
- Understand the different report parameters available for this report
- Read the two different formats of report output, short and full

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 228)

[Report Parameter Cross Reference](#) (see page 234)

[Running the Report Manually and Using ACFRPTS](#) (see page 235)

[Sample Report](#) (see page 241)

Using the Full-Screen Feature

Before you can use the full-screen feature to run this report, you must select SMF files. See *Selecting SMF Input Files* in “The Reports” chapter for information about gathering the SMF files as input for this report.

Use the screen below to run the Selected Logonid List. It displays when you select option 6.2.C from the Primary Option Menu. See *Running Reports Using the Full-Screen Feature* in “The Reports” chapter for basic information about using the full-screen feature.

```
M9PA-62C0          SL - Selected Logonid List (6.2.C)          CA ACF2 for z/VM
COMMAND ==> _____
                                                    TIME 13:33

Enter Report Parameters:
Logonid Mask          ==> _____
Short or Full         ==> SHORT
Input Type (SMF/ACF2) ==> ACF2
Enter IF criteria     ==> N
Report Validation Updates ==> N
Display DATE TIME & CHANGER ==> Y

Fields to be included on SHORT report:
_____
_____

----- Common Parameters -----
User Title ==> _____ System ID ==> _____
Output device ==> TERMINAL Line count ==> 60
Start Date ==> 01/01/78 End Date ==> 12/31/99
Start time ==> 0000 End time ==> 2359
Select ==> _____ Job masks ==> _____

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=        8=        9=        10=Save    11=       12=Retrieve
```

After you have defined all fields, press the Enter key to execute the report.

The following list explains the various fields of the screen.

Enter Report Parameters:

Logonid mask

Specify the mask for a particular logonid or group of logonids to use for this report.

Short or full

You must specify the type of report format you want to run. If you do not specify a format, an error message is printed and ACFRPTSL terminates.

Short

Produces a one-line entry for each logonid, consisting of the logonid, name, date, time and changer (if you specified SMF for INPUT).

Full

Produces an exact replica of the ACF LIST command that fits on a 133-character print line.

Input type (SMF/ACF2)

You must specify the type of input to process. You must fill in a value for this field, or ACFRPTSL will print an error message and terminate the report processing.

SMF

Accepts input as CA ACF2 for z/VM logonid modification SMF records.

ACF2

Accepts input as unformatted records from the Logonid database. To use the CA ACF2 for z/VM Logonid database for input, the person executing the report must have the SECURITY, ACCOUNT, or AUDIT attribute. In addition, the report only includes those logonid records the person running the report has authority to access. If a user requested all logonids with the IMS attribute, but had a scope record that only allowed him to access logonid records for users in a specific department, the report output would only list those logonids for users in that department who had the IMS attribute.

Enter IF criteria

Specify N (no) to indicate you do not need additional space. Enter field names here. CA ACF2 for z/VM uses only those logonids that match the logonid mask and have the attributes you specify here. If you need additional space, enter Y (yes) and CA ACF2 for z/VM will provide more. See Specifying Search Criteria to see the screen CA ACF2 for z/VM displays.

Report validation updates

Specify Y (yes) to request a summary of logonid modifications, including JESx and logonid validation updates. Specify N (the default) to indicate you do want a report on only nonvalidation updates. You might want to use the default because of the volume of validation updates (one for every job and session). This field is only used if you specified INPUT as SMF.

Display DATE TIME & CHANGER

Specify if the report is to display the date and time the logonid was last updated, and the logonid of the user that requested the change.

Fields to be included on SHORT report:

You can only use this field if you specified SHORT. These fields contain the external field names (as defined in the ACFFDR @CFDE macro) of the selected logonid record fields to be formatted with the basic short format fields.

Common Parameters:

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all system.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Start date

Specify the start date of the report data, in Julian or Gregorian days. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. The default is December 31, 2069.

Start time

Specify the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 0000 (12:00 a.m.).

End time

Specify the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. The default is 2359 (11:59 p.m.).

Select

Specify the type of SMF record to be used for this report.

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

IF Criteria

The following examples show how to specify IF criteria.

Example 1

Select all logonid records for users whose system access count (ACC-CNT) is greater than 1000 and who are security officers or auditors. Specify the following for the IF criteria:

```
ACC-CNT > 1000 AND (SECURITY OR AUDIT)
```

Example 2

Select all logonid records with the NOSPOOL (Log, Allow, or Prevent) and SYNERR (Log, Allow, or Prevent) privileges. Specify one of the following for the IF criteria:

```
NOSPOOL = 'A' OR  
NOSPOOL = 'L' OR  
NOSPOOL = 'P' OR  
SYNERR = 'A' OR  
SYNERR = 'L' OR  
SYNERR = 'P' OR
```

Example 3

Specify IF criteria with the NOT symbol.

```
NOT CICS AND  
NOT VM
```

Valid IF Expressions

Valid IF expressions are the various logonid record field names (defined by the ACFFDR @CFDE macro entries) and constants (defined below). Available operators (that perform an action on a constant) are also defined below.

CA ACF2 for z/VM evaluates the full IF expression as an algebraic expression indicating a true or false value. If the result is true, CA ACF2 for z/VM selects the record. If it is false, CA ACF2 for z/VM bypasses the record. If the result of the IF expression is a quantity, CA ACF2 for z/VM considers a nonzero value as true and selects the result. If CA ACF2 for z/VM considers a zero value as false, it does not select the result. Use parentheses to group expressions to override the normal precedence order that defines the order CA ACF2 for z/VM evaluates the terms of the expression.

Use date constants in IF expressions for comparisons only. Using date constants in arithmetic expressions can produce unexpected results because CA ACF2 for z/VM evaluates the arithmetic expression after it converts the date constant to a Julian date. Shown below is an example of using date constants in arithmetic expressions:

```
D'01/01/01' - D'12/31/00'
```

CA ACF2 for z/VM changes the date of 01/01/01 to 101001 and the date of 12/31/00 to 100366. The value is therefore 635, not the expected value of 1.

IF Expression Constants

When you need to specify a constant (specific value) in the IF statement, you can use the following formats:

Format	Contents	Type
'aaaa' or C'aaaa'	Alphanumerics	Character fields
nnnn	Numerics	Binary number fields
X'xx'	Hex numbers	Hex fields
B'n'	1 or 0	Bit (flag) fields (1=on,0=off)
P'nn'	Numerics	Packed decimal fields
D'mm/dd/yy', D'dd/mm/yy', or D'yy/mm/dd'	Numerics with dividing date field slashes (the format used is based on local system options)	

The date field could be a TOD clock field or stored as packed decimal in the logonid record that CA ACF2 for z/VM displays as a date, with or without a time. CA ACF2 for z/VM treats time-of-day fields as date fields only (they are not compared to the time).

IF Expression Operators

Precedence	Character	Symbol	Meaning
1.	NOT	^	NOT
2.	OR		OR
3.	AND	&	AND
4.a.	EQ	=	EQUAL
b.	NE	^=	NOT EQUAL
c.	LE	<=	LESS THAN OR EQUAL TO
d.	GE	>=	GREATER THAN OR EQUAL TO
e.	LT	<	LESS THAN
f.	GT	>	GREATER THAN
5.		-	Designates negative value
6.a.		*	TIMES
b.		/	DIVIDED BY
7.a.		+	PLUS
b.		-	MINUS
8.			Concatenated to (used between field names, in sequence, to show concatenation of fields). Can build a UID string since UID is not an actual field in the logonid record and cannot be directly referenced.

Use the symbols above or the character abbreviation (where available) in the ACFRPTSL report.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTS parameters. You can refer to these parameter definitions in the Manual and ACFRPTS Parameters section if you need more information.

Parameter	Full-screen Field
DTCFIELD(<u>YES</u> NO)	Display DATE TIME & CHANGER
EDATE(<u>169365</u> cyydd)	End date

Parameter	Full-screen Field
ETIME(<u>2359</u>) hhmm)	End time
HEX	
IF(fldopr))	Enter IF criteria
INPUT(SMF ACF2)	Input type (SMF/ACF2)
JOBMASK(***** jobmask,...,jobmask)	Job masks
LINECNT(<u>60</u> number)	Line count
MASK(_ lidmask)	Logonid mask
REPORT(SHORT FULL NONE)	Short or full
SDATE(<u>000000</u> cyyddd)	Start date
SELECT(smfvval nnn,...,nnn) NOSELECT	Select
SFLDS(fldlist)	Fields to be included on SHORT report
STIME(<u>0000</u> hhmm)	Start time
SYSID(***** sysid)	System ID
TITLE(cmdparm string)	User title
UPDATE NOUPDATE	Report validation updates

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT, SYSIN, and RECxxxx files. RECxxxx is only used if you specify INPUT(SMF). See Common Files in “The Reports” chapter for information about these files.

See Running the Reports Manually in “The Reports” chapter for information about running this report manually.

Follow the instructions listed in Running Reports Using the ACFRPTS EXEC to use the ACFRPTS utility to run the Selected Logonid List report. Select the SL option.

Manual and ACFRPTS Parameters

Listed below are the parameters and their defaults used to generate the SL report manually and using ACFRPTS.

DTCFIELD(YES|NO)

This parameter interacts with the REPORT(SHORT) parameter to create a condensed version of the SHORT format.

YES

The DATE, TIME, and CHANGER fields appear on the report

NO

The DATE, TIME, and CHANGER fields do not appear on the report. This parameter is usually used with the SFLDS parameter.

EDATE(169865|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE processes all available records. The default is 169865, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter prints selected SMF records in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length, followed by two bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

IF(fldopr)

This parameter is formatted similarly to a high-level programming language IF statement and lets you define flexible record selection criteria. See Valid IF Expressions in this chapter for more information about this parameter.

INPUT(SMF|ACF2)

This parameter specifies the type of input to process. The subparameter must be one of the following:

SMF

Input is accepted as CA ACF2 for z/VM logonid modification SMF records

ACF2

Input is accepted as unformatted records from the CA ACF2 for z/VM Logonid database. To use the CA ACF2 for z/VM Logonid database for input, the person executing the report must have the SECURITY, ACCOUNT, or AUDIT logonid attribute. Also, only those logonid records that the person running the report has authority to access are included in the report output.

If you omit this parameter, the report prints a message and immediately terminates ACFRPTSL.

JOBMASK(***|jobmask,...,jobmask)**

This parameter specifies the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs. In VM, this is equal to the virtual machine user ID.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item fits on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(-|lidmask)

This parameter lets you request information for one or more logonids. The default is all logonids.

REPORT(SHORT|FULL|NONE)

This parameter specifies the format of the report. The subparameter must be one of the following:

SHORT

This format is a one-line summary consisting of the logonid, name, date, time, and changer (if you specified INPUT SMF). It fits on an 80-character screen width. The SFLDS parameter can extend this format to include other fields from the logonid record.

FULL

This display format is a replica of the output from the ACF command list subcommand and fits on a 133-character print line.

NONE

This subparameter specifies that you do not want to generate the report.

If you omit this parameter, the report prints a message and immediately terminates ACFRPTSL.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfvai|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number CA ACF2 for z/VM uses. Generally, this parameter is not necessary because the default SMF numbers are usually correct. The SMF record numbers required for a report are the combined SMF record number for every system that produced the SMF data and the precombined SMF record numbers for the CA ACF2 for z/VM SMF record type the report generator processes. Do not specify precombined SMF record numbers for CA ACF2 for z/VM SMF record types that this report does not process.

If this parameter enters any SMF record number, the report generator only processes those SMF records. It does not use the defaults.

Default SMF numbers are determined in the following manner:

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the SMF record numbers specified by the @SMF macro in the ACFFDR. If a precombined SMF record number is specified as zero, then the report generator uses the precombined default. The ACF2 parameter of the @SMF macro in the ACFFDR defines the combined format SMF record number.
2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230. For precombined SMF records, it uses the precombined SMF number default. Refer to the @SMF macro of the ACFFDR in the *Installation Guide* for these values.

If you are processing z/OS SMF data and use the default SMF record numbers for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

When processing CA ACF2 for z/VM SMF data on VM, you must specify this parameter if you are running reports during a NOAUTO IPL and you are not the NOAUTO UPDATE user and the SMF record numbers are not the same as the defaults. You also need to specify this parameter if the @SMF macro in the ACFFDR specifies incorrect SMF record numbers.

SFLDS(fldlist)

This parameter is only valid if you specified REPORT(SHORT). The field list contains the external field names (as defined in the ACFFDR @CFDE entries) of the selected logonid record fields to be formatted with the basic short format fields. The fields are formatted in the order specified with headings produced for each field. If you specify too many fields for one line, the report generates multiple lines. If the field list must be continued onto more than one line, use a dash (—) at the end of the line.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(***|sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TITLE(cmdparm | string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

UPDATE | NOUPDATE

The UPDATE parameter requests a summary of logonid modifications including any JESx and logonid validation updates. NOUPDATE (the default) lists only nonvalidation updates. NOUPDATE is the default because of the volume of validation updates (one for every job and session). Only use this parameter if you specified INPUT(SMF).

IF Statement Examples

CA ACF2 for z/VM accepts only one IF statement. However you must specify multiple criteria in one statement.

Example 1

Select all logonid records for users whose system access count (ACC-CNT) is greater than 1000 and who are security officers or auditors. Specify the following for the IF statement contents:

```
IF((ACC-CNT > 1000) AND (SECURITY OR AUDIT))
```

Example 2

Select all logonid records with the NOSPOOL (Log, Allow, or Prevent) and SYNERR (Log, Allow, or Prevent) privileges. Specify one of the following for the IF statement contents:

```
IF((NOSPOOL = 'A')  
(NOSPOOL = 'L')  
(NOSPOOL = 'P')  
(SYNERR = 'A')  
(SYNERR = 'L')  
(SYNERR = 'P'))
```

Example 3

Specify an IF statement with the NOT symbol. Enclose the statement in two sets of parentheses, as shown below:

```
IF((NOT CICS))
IF((NOT VM))
```

Not as shown below:

```
IF((NOT SECURITY) AND (NOT AUDIT))
```

All other expressional operators require only one set of parentheses, unless it has multiple conditions like the last example above.

Sample Report

This report displays two types of output, the short format and the full format.

Short Format

The IF statement shown in Example 1 in the section titled IF Statement Examples produced the following short format ACFRPTSL report.

CA ACF2 for z/VM SECURITY - ACFRPTSL - LOGONID SUPERLIST REPORT - PAGE 1					
DATE 06/14/98 (98.166) TIME 07.48					
LOGONID	NAME	DATE	TIME	CHANGER	
TLCBDA	BOB ALLAN	10/21/97	13:33		
TLCKC	KEN CHARLES	06/14/98	07:40		
TLCSL2	STAN'S TEST MACHINE	06/03/98	15:59		
TLCLWD	LEN DANIELS	06/13/98	16:37		
TLCODE	OSCAR EDGAR	06/13/98	10:42		
TLCGEN	GREG BROWN - GEN ID	05/18/98	11:11		
TLCGOB	GREG BROWN	06/10/98	14:58		
TLCGOBVM	GREG BROWN	06/03/98	12:50		
TLCMRA	MARIE APPELS	06/13/98	16:26		
TLCSSL	STEVE LINDEL	06/13/98	13:43		

LOGONID

The logonid that matched the selection criteria.

NAME

The user's name for the specified logonid, taken from the NAME field of the logon record.

DATE

The date the logonid was last updated. The date format depends on the OPTS VMO record.

TIME

The time the update was made.

CHANGER

The logonid of the user that requested the change. This field is only applicable if you specified INPUT(SMF).

Full Format

The IF statement shown in Example 1 in the section titled IF Statement Examples in this chapter produced the following full format ACFRPTSL report.

```
CA ACF2 for z/VM SECURITY - ACFRPTSL - LOGONID SUPERLIST REPORT - PAGE 1
DATE 08/10/98 (98.223) TIME 07.35

TLCCFA      TLC  TLCCFA GENERATE.RELEASE
PRIVILEGES  DIALBYP GRPLOGON JOB V SECURITY
ACCESS      ACC-CNT(1117) ACC-DATE(08/09/98) ACC-SRCE(LDEV4001)
            ACC-TIME(15:22)
PASSWORD    PSWD-DAT(00/00/00) PSWD-EXP PSWD-TOD(00/00/00-00:00)
            PSWD-VIO(0)
TSO         DFT-PFX(TLCCAF) NOTICES PROMPT TSOPROC($LCMGR)
            TSORBA(000000)
STATISTICS  SEC-VIO(11) UPD-TOD(08/09/98-15:22)
CICS       CICSCL(404040)
RESTRICTIONS COMPANY(T) LEVEL(L) PREFIX(TLCCAF) PROJECT() SITE(H)

TLCBDA     TLV99TLCBDA BOB ALLAN EXT. 20
PRIVILEGES  DIALBYP JOB V
ACCESS      ACC-CNT(1) ACC-DATE(10/21/98) ACC-SRCE(LDEV4028)
            ACC-TIME(13:22)
PASSWORD    MAXDAYS(30) PSWD-DAT(00/00/00) PSWD-TOD(10/21/89-13:22)
            PSWD-VIO(0)
TSO         DFT-PFX(TLCBAD) TSORBA(000000)
STATISTICS  SEC-VIO(0) UPD-TOD(08/01/97-17:50)
RESTRICTIONS COMPANY(S) LEVEL(V) PREFIX(TLCBAD) PROJECT(99) SITE(H)
```

For an explanation of the fields on the full format ACFRPTSL report, see the CA ACF2 for z/VM logonid fields information in the *Administrator Guide*.

Chapter 15: Running the Cross-Reference Report (XR)

The Cross-Reference Report provides a list of users who have access to a specified data set or resource. This chapter contains information on generating this report manually, through the full-screen feature, and through the ACFRPTS utility. It also contains information on how to read and interpret the output.

When you finish this chapter, you will be able to:

- Use the full-screen feature to run the Cross-Reference Report
- Use the ACFRPTS feature to run the Cross-Reference Report
- Manually run the Cross-Reference Report
- Understand the different report parameters available for this report
- Read the two different types of report output, data access and resource rule

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 244)

[Report Parameter Cross Reference](#) (see page 248)

[Running the Report Manually and Using ACFRPTS](#) (see page 249)

[Sample Report](#) (see page 253)

Using the Full-Screen Feature

Use the screen below to run the Cross-Reference Report. It displays when you select option 6.2.D from the Primary Option Menu. See Running Reports Using the Full-Screen Feature in “The Reports” chapter for basic information about using the full-screen feature.

```

M9PA-62D0      XR - Cross-Reference Report (6.2.D)      CA ACF2 for z/VM
COMMAND ==> _____                                TIME 13:33

Enter Report Parameters:
Create Logonid Cross-Reference Report ==> Y
Create Rule Record Summary           ==> Y
Resource or Dataset                   ==> DATASET

DATASET: Name      ==> -
        Rule Key   ==> TLCBFR   Volume ==> _____
RESOURCE: Name     ==> _____
        Type      ==> _____
SYSDSLST: Review/Update List ==> N
        File Name ==> _____ Type ==> SYSDSLST Mode ==> *
SYSRSLST: Review/Update List ==> N
        File Name ==> _____ Type ==> SYSRSLST Mode ==> *

----- Common Parameters -----
User Title   ==> _____
Output device ==> TERMINAL      Line count ==> 60

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=        8=        9=        10=Save    11=       12=Retrieve
    
```

Enter Report Parameters:

Create logonid cross-reference report

Specify Y (yes, the default) to create a cross-reference report and list all logonids that have access to the specified data set or resource. Specify N (no) to suppress the listing of logonids. Only lists applicable data sets or resource rule sets.

Create rule record summary

Specify Y (yes, the default) to produce the additional Rule Record Summary portion of the ACFRPTXR at the end of the report.

Resource or Dataset

Specify what type of rules you want to process.

Dataset

Specifies you want to process access rules.

Resource

Specifies you want to process resource rules.

Dataset:**Name**

Specify a single data set name to process. This field is valid only when you specify the Dataset field above. If you enter a value for this field, the SYSDSLST file is not used.

Rule key

Enter the \$KEY of the access rule set to use for the report.

Volume

Enter the volume serial number of the volume where the data set resides. If you do not specify a volume serial, ACFRPTS ignores all volume information on the access rule set (volume masks specified in the rules are considered matches). You can only use this field when you select Dataset.

Resource:**Name**

Specify the name of the resource to process. You can only use this field when you also use the Resource and Type fields. You can specify the name as a dash to process every name present in the Type. If you do not specify a value for Name and Type, the report generator uses the SYSRSLST file for input. You cannot specify Name and Type on the screen and in the SYSRSLST file.

Type

Enter the three-character resource type to process. The report generator only uses this field when you specify Resource and use the Name field. If you specify a type and name, you cannot use the SYSRSLST file.

SYSDSLST: Review/Update List

Specify a list of data set names the ACFRPTXR report is to process. CA ACF2 for z/VM only uses this file if you specify DATASET and do not specify a data set name. Enter the filename of a new or existing file and specify Y to review or modify the list.

- **File Name**-The filename of the SYSDSLST file.
- **Type**-The filetype of the SYSDSLST file.
- **Mode**-The filemode of the SYSDSLST. Asterisk (*) is the default.

See Tailoring SYSDSLST for a display of the Tailoring SYSDSLST screen.

SYSRSLST: Review/Update List

Specify a list of resource names to process. CA ACF2 for z/VM only uses this file if you specify RESOURCE and do not specify a resource name or type. Enter the filename of a new or existing file and specify Y to review or modify the list.

- **File Name**-The filename of the SYSRSLST file.
- **Type**-The filetype of the SYSRSLST file.
- **Mode**-The filemode of the SYSRSLST. Asterisk (*) is the default.

See Tailoring SYSDSLST for a display of the screen.

Common Parameters

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

Listing Files

Two optional files are available for specifying a list of filenames or resource names to use as input for the ACFRPTXR report. These files are described in the next two sections.

Parameter	Full-screen Field
LINECNT(<u>60</u> number)	Line count
NAME(name)	RESOURCE: Name
RKEY(rulekey)	DATASET: Rule key
RRSUM NORRSUM	Create rule record summary
TITLE(cmdparm string)	User title
TYPE(type)	RESOURCE: Type
VOL(volser)	DATASET: Volume

Running the Report Manually and Using ACFRPTS

This report uses the standard SYSPRINT and SYSIN files. Since ACFRPTXR does not process SMF data, it does not use the standard RECxxxx file. See Common Files in “The Reports” chapter for information about these files. This report also uses the following files:

SYSUT1

This is a work file. If you do not enter a FILEDEF command for this file, ACFRPTXR assigns a file ID of ACFRPTXR SYSUT1 A1. Refer to the definition of SYSUT2 below for additional information.

SYSUT2

This is a work file. If you do not enter a FILEDEF command for this file, ACFRPTXR assigns a file ID of ACFRPTXR SYSUT2 A1.

If you entered a FILEDEF for SYSUT1 or SYSUT2, the file ID the FILEDEF command specified or defaulted to is used. All FILEDEF command options are ignored. Do not assign a filemode number of 3 to these files as CMS will erase the files before the report generator is finished using them. By specifying a FILEDEF for this file, you tell the report generator to use a minidisk other than your A-disk for these work files. This can correct a minidisk full situation that can occur when the report generator runs. You could specify a CP T-disk that you defined and formatted.

ACFRPTXR erases any file with the same file ID in effect for these files during initialization. The files are erased during program termination.

The ACFRPTS utility does not issue a CMS FILEDEF command for these files. You can enter them before starting the procedure.

SYSDSLST

This file specifies a list of data set names the ACFRPTXR report processes. This file is only used if you specify DSET and do not specify DSN. You can use this file to process a list of multiple data set names.

This file has the same characteristics as the SYSIN file.

When you specify TERMINAL as the input device, you are prompted with “DS?” to enter report parameters.

The syntax of the SYSDSLST statement is:

```
dsn [vol] RKEY(rulekey)
```

The dsn and vol parameters are positional. They must appear in this sequence and before RKEY, if you use it.

dsn

Specifies a full-qualified data set name to process. This parameter is mandatory. Do not use quotes in the data set name.

vol

Specifies the name of the volume where the data set resides. This parameter is optional. If you do not specify this parameter, all volser specification in the access rule data set are ignored (they all match).

RKEY(rulekey)

Specifies an alternate access rule key to use instead of the data set high-level index. This parameter is optional.

The ACFRPTS utility does not issue a FILEDEF command for SYSDSLST. You can enter a FILEDEF for SYSDSLST before starting the utility. The file must exist when you start ACFRPTS. If you specified DSET and you did not specify a dsn as a report parameter and did not enter a FILEDEF, ACFRPTS will prompt you for the input.

SYSRSLST

This file specifies a list of resource names to process. This file is only used if you specified RSRC and did not specify TYPE and NAME as parameters.

This file has the same characteristics as the SYSIN file.

When you specify TERMINAL as the input device, you are prompted by “RS?” for report parameters.

The syntax of the SYSRSLST statement is:

```
TYPE(type) NAME(name)
```

The TYPE and NAME parameters are positional. They must appear in this sequence.

TYPE(type)

Specifies the three-character resource type. This parameter is mandatory. For example, TYPE(DIA) represents the resource rules for CP DIAL.

NAME(name)

Specifies the key under which the rule is stored. For example, TYPE(DIA) NAME(TESTVM) produces an access report for DIALs to TESTVM virtual machines. You can mask the NAME keyword as NAME(-), resulting in a cross-reference report entry for each resource name stored under a particular resource type.

The ACFRPTS utility does not issue a FILEDEF command for SYSRSLST. You can enter a FILEDEF for SYSRSLST before starting the utility. The file must exist when you start ACFRPTS. If you specified RSCS and did not specify the TYPE and NAME report parameters and did not enter a FILEDEF, you will be prompted for the input.

See Running the Reports in “The Reports” chapter for information about running the Cross-Reference Report manually.

Follow the instructions listed in Running CA-ACF2 Reports Using the ACFRPTS EXEC in “The Reports” chapter to use the ACFRPTS utility to run the Cross-Reference Report. Select the XR option.

Manual and ACFRPTS Parameters

Following is a list of the parameters and their defaults used to generate the XR report manually and using ACFRPTS.

DSET | RSRC

The DSET parameter processes data set access rules. You can provide the DSN, RKEY, and VOL input parameters through the JCL parameter field or the SYSDSLST input file. Refer to the DSN, RKEY, and VOL parameter descriptions below.

The RSRC parameter processes resource rules. You can provide the TYPE and NAME input parameters through the JCL parameter field or the SYSRSLST input file. Refer to the TYPE and NAME parameter descriptions below.

DSN(dsn)

This parameter processes a single data set. This parameter is valid only when you specify the DSN parameter above. If you enter a value for this parameter, the report generator does not use the SYSDSLST file. The data set name you specify must be fully qualified, but must not be specified in quotes. The report generator uses data set name high-level index as the key to identify the applicable access rule set unless you specified the Rule key field. When you want to list a full rule set for a particular \$KEY, you can mask this parameter as - (dash) and define the applicable \$KEY value in the RKEY parameter.

LID | NOLID

The LID parameter creates a cross-reference report and list of all logonids that have access to the specified data set or resource. NOLID suppresses the listing of logonids. The report only lists applicable data sets or resource rule sets.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item will fit on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

NAME(name)

This parameter specifies the name of the resource to process. You can only use this field when you also use the RSRC and TYPE parameters. You can specify the name as a dash to process every name present in the TYPE parameter. If you do not specify a value for NAME and TYPE, the report generator uses the SYSRSLST file for input. You cannot specify the NAME and TYPE parameters on the JCL parameter field and in the SYSRSLST file.

RKEY(rulekey)

This parameter processes access rule sets. You can only specify a value for this parameter if you used the DSET parameter to specify the key of the rule set to be used to validate the data set access. This is similar to the concept of using the CA ACF2 for z/VM Data Set Prevalidation exit to perform the same function at run time. You only need to specify a value for this parameter if a rule record other than the one under the data set high-level index is to be used for rule checking. You can mask this parameter with a dash to list all the rule entries for a particular key. The default is your logonid.

RRSUM|NORRSUM

The RRSUM parameter creates an additional Rule Record Summary portion of the ACFRPTXR report at the end of the report. This includes an entry for each rule record (high-level index, \$KEY value, or resource TYPE and NAME combination) used in producing the report. This portion of the report contains the detailed logonid lists for each %CHANGE and %RCHANGE record encountered (assuming you also specified the LID option. When you see the %CHANGE DATA EXISTS or %RCHANGE DATA EXISTS in the report after the RULE KEY line, the related LID and UID entries are printed in the Rule Record Summary.

The NORRSUM parameter suppresses the Rule Record Summary.

TITLE(cmdparm|string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters. If you use ACFRPTS or the full-screen feature, you cannot specify command parameters.

TYPE(type)

This parameter specifies the three-character resource type to process. The report generator only uses this parameter used when you specify the RSRC and NAME parameters. If you specify a TYPE and NAME in the JCL parameter field, you cannot use the SYSRSLST file.

VOL(volser)

This parameter that specifies the volume serial number of the volume where the data set resides. If you do not specify a volume serial, ACFRPTS ignores all volume information on the access rule set (volume masks specified in the rules are considered matches). You can only use this field when you use the DSET parameter.

Sample Report

This report generates two types of output, the Data Access Cross-Reference Report and the Resource Cross-Reference Report.

Sample Data Access Cross-Reference Report

This report reflects all users who have access to the specified data set. You can specify three different formats: The full report, the rule record summary, or both. Samples of both reports follow.

Full Report

CA ACF2 for z/VM SECURITY - TLCRPTXR - CROSS REFERENCE REPORT - PAGE 1
DATE 06/16/98 (98.168) TIME 11.32

DATASET: TLCNEWS.SCRIPT RKEY: TLCROZ
STORED: 05/17/98-15:25 BY: VMISO
LOGONIDS THAT HAVE ACCESS WITHOUT RULES
\$TLC2VM(NC) TLC2PBMS(NC) TLC2VBM(NC) CICSDDVP(SE) DASDMRG(NC,SE)
DATAMOVE(NC) DATAMV2(NC) DIRMAINT(NC)
DIRMXA(NC) EXCRKE(SE) GABBY(RA) GARLY01(SE) MAINTXA(NC) MAINTXA2(NC) NCSC(NC)
OPERATOR(NC) OPRANR(RA)
PCEMBC(SE) PCEJBL(SE) QBCICS@(NC,SE) QBDVADMA(NC) QBISO(SE) QBGRM(NC)
QBVMSTT(NC,RA)
QB20IDL2(NC) QB20IDL3(SE) QB20IDL6(SE) QB20IDL7(RA) QB20UDK9(SE) BX20T2(NC)
BX20T3(SE) BX20T6(SE) BX20T7(RA)
BX20T9(SE) RSSVC2(NC) RSSVC22(NC) SEDJSS(SE) SEMDFS(SE) SSERGL(SE) SVNKC(NC)
SVNLC2(NC) SVNOED(SE)
SVNPVD(RA) SVNPVD2L(RA,SE) SVNLBG(NC) SVNARM3(NC) SVNAPR(NC) SVNROZ(0,SE)
TLC0XE(SE) TLCXE9(NC)
TLC111(SE) TLC114(NC) TLC139(RA) TSTASFV(SE) TSTADB(NC,RA) TSTADF(SE)
TSTADF1(NC) TSTSOI(SE) TSTLML(NC)
TSTVLL2(RA) TSTLSFV(SE) TSTGRM(NC) TSTQSFV(SE) TSTMTR(NC) TSTSFV(SE)
TSTSVFAW(SE) TSTSVFLQ(SE) TSTSVFQL(SE)
TSTSVFWA(SE) TSTSVF31(SE) TSSVFL(NC) TSTTLW2L(NC) TSTWSFV(SE) TST330(RA)
USERSC(SE) USERSG(SE) USSMTRX(SE)
VMBMAP(SE) VMDSGGRM(NC) VMSOI(SE) VMPO(NC) VMPS5(SE) VSFSOUP(NC,SE)
VSFPVD(RA,SE)
VSFSRD(SE) VSFP0I(SE) VSFP0I2(SE) VSFSOI(SC) VSFBX2(SE) VSFSSK(SE) VFS2(SE)
VTAMANGR(NC) XAGRM(NC)
NO RULE MATCHED SPECIFIED DATASET/VOLUME

Rule Record Summary Report

CA ACF2 for z/VM SECURITY - ACFRPTXR - RULE RECORD SUMMARY - PAGE 1
DATE 06/16/98 (98.168) TIME 11.32

DATASET KEY: TLCROZ
STORED: 05/17/98-15:25 RULE USED, NO %CHANGE DATA
LOGONIDS THAT CAN UPDATE THIS RULE
CICDPVD(SE) DASDGRM(NC,SE) EXDRKE(SE) GREY01(SE) PCEBMC(SE) PCEJBL(SE)
QBCDIC9(NC,SE)
QBSOI(SE) QB20IDL3(SE) QB20IDL6(SE) QB20IDL9(SE) BX20T3(SE) BX20T6(SE)
BX20T9(SE) SECSJ(SE) SECDFS(SE)
SSDRGL(SE) SVNOED(SE) SVNPVD2L(RA,SE) TLCROZ(0,SE) TLCXX9(SE) TLC131(SE)
TSTASEV(SE) TSTADF(SE)
TSTSOI(SE) TSTLSEV(SE) TSTQSEV(SE) TSTSEV(SE) TSTVEASW(SE) TSTVELSQ(SE)
TSTVEQSL(SE) TSTVESWA(SE) TSTSEV31(SE)
TSTWSEV(SE) USECSR(SE) USEGSR(SE) USSMTRX(SE) VMBMAN(SE) VMSOI(SE) VMPS5(SE)
VSFSOUP(NC,SE)
VSEPVD(RA,SE) VSFRSD(SE) VSFP0I(SE) VSFP0I2(SE) VSFSOI(SC) VSFBX2(SE)
VSFSSK(SE) VFS2(SE)

Dataset key:

Lists the data set CA ACF2 for z/VM ran against for this report. Logonids in this report have access to this data.

Stored:

Lists the last date and time this rule was updated.

Logonids that can update this rule

Lists the logonids that can update the rule shown in the DATASET KEY field. Reason codes follow the logonid. These reason codes define why these users can update the rule. The report displays this reason code in parentheses immediately after the logonid.

NC

The logonid has the NON-CNCL attribute in the LID.

O

The user's prefix (PREFIX field in the logonid record) matches the high-level index for the file processed. This code is only valid for access rule processing.

RA

This logonid is not cancelable as defined by CA ACF2 for z/VM as long as the file is opened for input only (read only). User has the NON-CNCL and READALL attributes in the logonid record.

SC

The logonid is a scoped security officer whose DSNSCOPE matches the high level index of the file. User has SECURITY and DSNSCOPE or SCPLIST attributes in the logonid record.

SE

The logonid is an unrestricted security officer. User has SECURITY and no DSNSCOPE or SCPLIST attributes in the logonid record.

U

The UID string in the access rule set matches the UID of the user.

Dataset

The name of the reported data set.

Rkey

The \$KEY value of the reported data set.

Stored

The date and time the rule set was last stored.

By

The logonid of the user who last stored the rule set.

Logonids that have access without rules

Following is a list of users who have access to the specified rule set. These users do not have the access because of the rule entries, but due to special privileges.

Logonid

The logonid of the user having access.

Rule entries

Displays individual matching rule entries. Possible fields that can appear in rule entries are shown below.

- dsn
- VOL(volmask)
- UID(uidmask)
- SHIFT(shift)
- UNTIL(date)|FOR(days)
- SOURCE(source)
- PGM(pgm mask)
- READ(A|L|P) WRITE(A|L|P) EXEC(A|L|P)
- DATA(data)
- NEXTKEY(nextkey)

Logonids that can update this rule

- Denotes users who can alter the rule set due to special privileges or specific %CHANGE and %RCHANGE authority.

Sample Resource Cross-Reference Report

This report reflects all users who have access to the specified resource. You can specify three different formats: The full report, the rule record summary, or both. Following is a sample of both reports.

Full Report

CA ACF2 for z/VM SECURITY - TLCRPTXR - CROSS REFERENCE REPORT - PAGE 1
 DATE 06/16/98 (98.168) TIME 11.37

```

-----
RESOURCE TYPE: GRP RESOURCE NAME: MAINT-
RULE KEY: RGRPMANTIXA
STORED: 09/29/97-08:20 BY: VNSOI
CONTROLS: %CHANGE DATA EXISTS
LOGONIDS THAT HAVE ACCESS WITHOUT RULES
$TLC2NV(NC) TLC2PSMB(NC) TLC2NBV(NC) CICTPVD(SE) DASDGRM(NC,SE)
DATAMOTH(NC) DATMVA2(NC) DIRMOTH(NC)
DIRMAX(NC) EXDRKE(SE) GREAS01(SE) MPTJTXA(NC) MOTHXA2(NC) NSCC(NC)
OPERATOR(NC) PCEMBC(SE) PCEJBL(SE)
BXCICT9(NC,SE) BXDAVADM(NC) BXISO(SE) BXMGR(NC) BXVNTST(NC) BX20IDL2(NC)
BX20IDL3(SE) BX20IDL6(SE)
BX20IDL9(SE) BX20T2(NC) BX20T3(SE) BX20T6(SE) BX20T9(SE) RSCVS2(NC)
RSCVS22(NC) SEDSSJ(SE) SEDMFS(SE)
SSERGL(SE) SVNKC(NC) SVNLC2(NC) SVNOED(SE) SVNPVD2L(SE) SVNLBG(NC)
SVNARM3(NC) SVNPRAN(NC) SVNROZ(SE)
TLC011(SE) TLC019(NC) TLC111(SE) TLC114(NC) TSTASFV(SE) TSBOT(NC) TSTADF(SE)
TSTADRF(NC) TSTS0I(SE)
TSTLML(NC) TSTLSFV(SE) TSTGRM(NC) TSTQSFV(SE) TSTMTR(NC) TSTSFV(SE)
TSTSVFAW(SE) TSTSFVLQ(SE) TSTSFVQL(SE)
TSTSFVWA(SE) TSTSFV31(SE) TSTTWL(NC) TSTTWL2L(NC) TSTWSFV(SE) USECSR(SE)
USEGSR(SE) USSMRTX(SE) VNBMAN(SE)
VNDSGGRM(NC) VNSOI(SE) VNPO(NC) VNP55(SE) VSFBACK(NC,SE) VSFPVD(SE)
VSFRSD(SE) VSFPOI(SE)
VSFPOI2(SE) VSFSOI(SC) VSFBX2(SE) VSFSSK(SE) VFS2(SE) VTAMOTH(NC) XAGRM(NC)
UID(****SVNKC) ALLOW
SVNKC(U,NC)
UID(****SVNLBG) ALLOW
SVNLBG(U,NC) SVNLBGVN
UID(****SVNROD) ALLOW
SVNROD SVNRODXA SVNROD2
  
```

Rule Record Summary Report

CA ACF2 for z/VM SECURITY - TLCRPTXR - RULE RECORD SUMMARY - PAGE 1
DATE 06/16/98 (98.168) TIME 11.37

RESOURCE KEY: RGRPMAINTXA

STORED: 09/29/97-08:20 %CHANGE DATA BEING PROCESSED

LOGONIDS THAT CAN UPDATE THIS RULE WITHOUT ANY %CHANGE OR %RCHANGE AAUTHORITY

CICTVPD(SE) DASDGRM(NC,SE) EXDKRE(SE) GDPSOI(SC) GROWL01(SE) PCEMBC(SE)
PCEJBL(SE)

BXCICT9(NC,SE) BXS0I(SE) BX20IDL3(SE) BX20IDL6(SE) BX20IDL9(SE) BX20T3(SE)

BX20T6(SE) BX20T9(SE)

SEDSSJ(SE) SEDMFS(SE) SSERGL(SE) SVNOED(SE) SVNPVD2L(SE) SVNROZ(SE)

TLC011(SE) TLC111(SE) TSTASFV(SE)

TSTADF(SE) TSTS0I(SE) TSTLSFV(SE) TSTQSFV(SE) TSTSFV(SE) TSTSFVAW(SE)

TSTSFVLQ(SE) TSTSFVQL(SE) TSTSFVWA(SE)

TSTSFV31(SE) TSTWSFV(SE) USECSR(SE) USEGSR(SE) USSS0I(SC) USSMRTX(SE)

VNBMAN(SE) VNS0I(SE) VNPS5(SE)

VSFBACK(NC,SE) VSFPVD(SE) VSFRSD(SE) VSFP0I(SE) VSFP0I2(SE) VSFS0I(SC)

VSFBX2(SE) VSFSSK(SE)

VFS2(SE)

%CHANGE *****SVNROD

SVNROD SVNRODXA SVNROD2

RESOURCE KEY: RGRPMOHTXA2

STORED: 07/27/97-16:30 %CHANGE DATA BEING PROCESSED

LOGONIDS THAT CAN UPDATE THIS RULE WITHOUT ANY %CHANGE OR %RCHANGE AUTHORITY

CICTPVD(SE) DASDGRM(NC,SE) EXDKRE(SE) GDPSOI(SC) GROWL01(SE) PCEBMC(SE)
PCEJBL(SE)

BXCICT9(NC,SE) BXS0I(SE) BX20IDL3(SE) BX20IDL6(SE) BX20IDL9(SE) BX20T3(SE)

BX20T6(SE) BX20T9(SE)

SEDSSJ(SE) SEDMFS(SE) SSERGL(SE) SVNOED(SE) SVNPVD2L(SE) SVNROZ(SE)

TLC011(SE) TLC111(SE) TSTASFV(SE)

TSTADF(SE) TSTS0I(SE) TSTLSFV(SE) TSTQSFV(SE) TSTSFV(SE) TSTSFVAW(SE)

TSTSFVLQ(SE) TSTSFVQL(SE) TSTSFVWA(SE)

TSTSFV31(SE) TSTWSFV(SE) USECSR(SE) USEGSR(SE) USSS0I(SC) USSMTGX(SE)

VNBMAN(SE) VNS0I(SE) VNPS5(SE)

VSFBACK(NC,SE) VSFPVD(SE) VSFRSD(SE) VSFP0I(SE) VSFP0I2(SE) VSFS0I(SC)

VSFBX2(SE) VSFSSK(SE)

SFV2(SE)

%CHANGE *****SVNROD

SVNROD SVNRODXA SVNROD2

Dataset key:

Lists the data set this report was run against. Logonids in this report have access to this data.

Stored:

Lists the last date and time this rule was updated.

Logonids that can update this rule

Lists the logonids that can update the rule shown in the DATASET KEY field. Reason codes follow the logonid. These reason codes define why these users can update the rule. This report displays this reason code in parentheses immediately after the logonid.

NC

The logonid has the NON-CNCL attribute in the logonid record.

O

The user's prefix (PREFIX field in the logonid record) matches the high level index for the file processed. This code is only valid for access rule processing.

RA

This logonid is not cancelable as defined by CA ACF2 for z/VM as long as the file is opened for input only (read only). User has the NON-CNCL and READALL attributes in the logonid record.

SC

The logonid is a scoped security officer whose DSNSCOPE matches the high level index of the file. User has SECURITY and DSNSCOPE or SCPLIST attributes in the logonid record.

SE

The logonid is an unrestricted security officer. User has SECURITY and no DSNSCOPE or SCPLIST attributes in the logonid record.

U

The UID string in the access rule set matches the UID of the user.

Resource type

The three-character resource type.

Resource name

The name of the resource.

Rule key

The \$KEY value of the resource.

Stored

The date and time the rule set was last stored.

By

The logonid of the user who last stored the rule set.

Controls

The control cards in this rule set.

Logonids that have access without rules

The logonids of users who have access to this resource due to special logonid privileges.

UID

Reflects the rule entry that allows access to the resource. The next line contains all the UIDs that have access due to this rule entry.

Chapter 16: Running Customized Reports

You can create your own customized SMF reports using CA Earl™. Before you can run CA Earl™ SMF reports, you must create a flat file. A flat file is an intermediate file that all CA Earl™ requires as input.

There are three ways to create this flat file:

- Through the full-screen CA Earl™ SMF Preprocessor.
- Through the EARLRPTS EXEC.
- Through the ACFRPTPP report generator.

This section contains the following topics:

[Report Summary](#) (see page 261)

[CA Earl™ SMF Preprocessor](#) (see page 263)

[Running ACFRPTPP Using EARLRPTS](#) (see page 263)

[Running the Preprocessor for CA Earl™](#) (see page 265)

[Report Parameter Cross Reference](#) (see page 267)

[Running ACFRPTPP](#) (see page 268)

[Sample Report](#) (see page 275)

Report Summary

CA ACF2 for z/VM supplies the following sample customized CA Earl™ reports:

RPTCR

TSO Command Detail Statistics Log.

RPTDDB

DDB Transmission Report.

RPTDS

Dataset/Program Event Log.

RPTDS2

Dataset Violations by Violator Name.

RPTDS3

Dataset Violations by Violator Type.

RPTDS4

Dataset Violations by Rule Owner.

RPTDS5

Dataset Transition Program Report.

RPTEL

Infostorage Modification Log.

RPTEL1

Infostorage Modification Summary.

RPTJL

Restricted Logonid Report.

RPTLL

Logonid Modification Log.

RPTLL2

Logonid Modification Summary.

RPTNV

Environment Report.

RPTPW

Invalid Password/Authority Log.

RPTPW2

Invalid Password/Authority Summary.

RPTPW3

Off Hours Invalid Password Usage.

RPTPW4

Invalid Signon by Source.

RPTRL

Rule-ID Modification Log.

RPTRL2

Rule-ID Modification Summary.

RPTRV

Generalized Resource Event Log.

RPTRV2

Resource Violations by Violator Name.

RPTVIOS

Violations by Logonid.

See Running ACFRPTPP Using EARLRPTS for information. See Running the Preprocessor for CA Earl™ for information.

ACFRPTPP can also generate files for the report generators. See Running ACFRPTPP for information about running the ACFRPTPP report generator.

CA Earl™ SMF Preprocessor

CA Earl™ (Easy Access Report Language) is a facility for CA ACF2 for z/VM that lets you customize reports. It has 24 commands that you can quickly master. For additional information about this facility, see the CA ACF2 for z/VM Reporting with CA Earl™ guide.

```

M9PA-6300          Customized Reports (6.3)          CA ACF2 for z/VM
OPTION ==> _____
                                     TIME 17:12
      1  EARL SMF Preprocessor
      2  Customized EARL Reports

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=        8=        9=        10=       11=       12=Retrieve

```

This screen lets you select the CA Earl™ SMF preprocessor or the customized reports.

Running ACFRPTPP Using EARLRPTS

You can also use the EARLRPTS EXEC to produce an CA Earl™ flat file with ACFRPTPP. To use EARLRPTS, enter the following command from CMS:

```
EARLRPTS
```

CA ACF2 for z/VM displays the Select SMF Input Files for Reports screen.

Selecting SMF Input Files

Use this screen to select the specific SMF files to use as input for subsequent reports.

```

M9PA-6100      Select SMF input files for reports (6.1)  CA ACF2 for z/VM
COMMAND ==> _____
                                                    TIME 14:39

SMF Selection Criteria For Report Input Files:
SMF filetypes and/or masks   => _____
                             => _____

Predefined SMF Input:
Filename ==> _____  Filetype ==> EXEC      Filemode ==> *

Select SMF input files:                                     Entry 1 of 4

  Fileid      Status
  _ 90156001  ACTIVE - data from 06/05 00:02 to 06/05 14:39  27%
  _ 90154001  READY - data from 06/03 00:02 to 06/04 00:02   2%
  _ 90155001  HISTORY - data from 06/04 00:02 to 06/05 00:02 54%
  _ 90144001  On minidisk RFB191 accessed as A(191)           2

PF1=Help      2=Print      3=Quit      4=Return      5=          6=
PF7=Backward  8=Forward    9=          10=Save      11=         12=Retrieve
    
```

Enter **S** next to all the SMF files you want to include in your reports, then press Enter or Return to link and access the selected SMF minidisks. See *Selecting SMF Input Files* in “The Reports” chapter for information about the material displayed on this screen.

Once you have selected your SMF files, you must convert the standard CA ACF2 for z/VM SMF files into a sequential format suitable for CA Earl™. Press PF3 to select the CA ACF2 for z/VM SMF Preprocessor (ACFRPTPP) Input Selection screen. See *Running the Preprocessor for CA Earl™* for information about this screen.

To execute the preprocessor, press Enter. You see an output display similar to the one shown below:

```

ACF2 UTILITY LIBRARY - ACFRPTPP - SMF RECORD PREPROCESSOR - PAGE 2
DATE 09/09/98 (98.253) TIME 11.39

      *-- SMF RECORDS INPUT SUMMARY - BY DDNAME --*

      [----- STARTING -----] [----- ENDING -----]

DDNAME  [---PHYSICAL---][---LOGICAL---][---PHYSICAL---][---LOGICAL---]

      DATE   TIME   DATE   TIME   DATE   TIME   DATE TIME   COUNT
RECMAN1 09/08/98 22.49 09/08/98 22.49 09/09/98 22.43 09/09/98 22.43 59,683
    
```

Now that you have the sequential file that CA Earl™ needs, press Enter or Return to see a prompt on your screen asking for the name of the CA Earl™ report procedure to run. A sample of this prompt is shown below. In the example, a response of RPTPW was entered.

```
Enter EARL Report Name to be Processed:
or enter Q to quit.

rptpw
```

The report generator runs the report you select (in this example, PW).

Running the Preprocessor for CA Earl™

```
M9PA-6310          EARLSMF Record Preprocessor (6.3.1)  CA ACF2 for z/VM
COMMAND ==> _____
                                                    TIME 10:33

Enter Report Parameters:
Logonid mask ==> _____      Not mask ==> _____

Output file: File Name ==> ACFFLT   Type ==> OUTPUT   Mode ==> A

----- Common Parameters -----
User Title ==> _____      System ID ==> _____
UID ==> _____
Output device ==> TERMINAL      Line count ==> 60
Start date ==> 01/01/78         End date ==> 12/31/99
Start time ==> 0000             End time ==> 2359
Select ==> _____          Job masks ==> _____

PF1=Help      2=Print    3=Quit    4=Return   5=      6=
PF7=          8=         9=       10=Save   11=     12=Retrieve
```

This screen defines data for the CA Earl™ preprocessor. This preprocessor expands raw SMF records into a sequential file format used in CA Earl™ processing. You must preprocess all SMF records before you can use them as input for an CA Earl™ report.

Enter Report Parameters

Logonid mask

Enter a mask for the logonids to use for this report. The default is eight asterisks (*****), all logonids.

Not mask

Specify a mask for the logonids to exclude from this processing.

Output file

Specify the name of the file where you want the output placed.

File Name

The filename of the output file. ACFFLT is the default.

Type

The filetype of the output file OUTPUT is the default.

Mode

The filemode of the output file. A is the default.

Output File

The CA Earl™ SMF Preprocessor constructs a sequential file that contains restructured SMF information ready to use to run the various CA ACF2 for z/VM reports.

File Name

Specify the filename of the output file. ACFFLT is the default.

Type

Specify the filetype of the output file. OUTPUT is the default.

Mode

Specify the filemode of the output file. A is the default.

Common Parameters

User title

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters.

System ID

Specify the CA ACF2 for z/VM system ID or a mask for the systems that were active when the SMF records were generated. The default is all systems.

Output device

Specify the type of output device for this report, TERMINAL, PRINTER, or DISK. TERMINAL is the default.

Line count

Specify the number of lines per page. The default is 60.

New date

Specify the start date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is January 1, 1978.

End date

Specify the end date of the report data, in Julian or Gregorian days. Values of 70 through 99 as the year portion of the Julian or Gregorian format represent 1970 through 1999, values 00 through 69 represent 2000 through 2069. The default is December 31, 2069.

SELECT(nnn,...,nnn)

Specify the SMF record number associated with the combined record type. Separate multiple record numbers with commas. By default, the combined record number is 230 (as specified in the ACF2 field of the ACFDR @SMF macro).

Job masks

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. Use commas or blanks to separate multiple job names. The default is all jobs.

Report Parameter Cross Reference

The chart below shows the correlation between the full-screen fields and the manual and ACFRPTTP parameters. You can refer to these parameter definitions in ACFRPTTP Parameter if you need more information.

Parameter	Full-screen Field
EDATE(<u>169365</u> cyyddd)	End date
ETIME(<u>2359</u> hhmm)	End time
HEX	
JOBMASK(<u>*****</u> jobmask,...,jobmask)	Job masks
LINECNT(<u>60</u> number)	Line count
MASK(<u>_</u> lidmask)	Logonid mask
NMASK(<u>*****</u> lidmask)	Logonid mask
SDATE(<u>000000</u> cyyddd)	Start date

Parameter	Full-screen Field
SELECT(<u>smfval</u> nnn,...,nnn) NOSELECT	Select
SMFxx(nnn,...,nnn)	
SMF\$xn timer, ..., nnn	
SMFxxxxx(nnn) x),...,nnn x,description	
STIME(0000 hhmm)	Start time
SYSID(***** sysid)	System ID
TITLE(<u>cmdparm</u> string)	User title
UID(uidmask)	UID mask

Running ACFRPTPP

Prerequisites

This report uses the standard SYSPRINT, SYSIN, and REC(xxxxx) files. ACFRPTPP also uses the following files:

SMFxxxxx

ACFRPTPP creates intermediate files identified by ddnames that begin with the characters SMF. You can use these files to collect any combination of SMF records you want. You can then use these files as input to sort procedures: CA ACF2 for z/VM report generators and user-developed programs. The following standard files are CA ACF2 for z/VM-defined:

DDName	File Description
SMFAR	Rule database modification journal records.
SMFCL	CA ACF2 for z/VM command limiting journal records.
SMFCR	TSO command trace records.
SMFCT	CA ACF2 for z/VM ACFSERVE command limiting journal records.
SMFDL	CA ACF2 for z/VM DIRMAINT event log records.
SMFDR1	Data set access logging records.
SMFDR2	Data set access violation records.
SMFDR3	Data set access trace records.
SMFDR4	Program access violation and logging records.

DDName	File Description
SMFD5	Program pathing transition.
SMFFER	Infostorage database modification journal records.
SMFFLT	Flat file records for CA Earl™ processing.
SMFGF	Flat file records for CA ACF2 for z/VM/GRO processing (CA ACF2 for z/VM does not support CA ACF2 for z/VM/GRO)
SMFJR	Logonid database modification journal records.
SMFMR	Mandatory Access Control (MAC) journal records.
SMFNR	Environment records.
SMFPR	System entry violation records.
SMFSR	System Authorized Facility (SAF) trace event records.
SMFTR	Restricted logonid journal records.
SMFVR	Generalized Resource Facility (GRF) event journal records
SMFZR	DDB journal records.

You can use one or more ddnames of the following formats to define additional files:

SMF#nnn

This ddname format lets you specify the number of the particular SMF record type to be extracted. The ddname includes a number ranging from 0 to 255 that identifies the selected record type.

SMF\$xxxx

This ddname format lets you collect from one to four CA ACF2 for z/VM SMF record subtypes in a single data set. Each suffix letter in the ddname can specify a valid CA ACF2 for z/VM SMF record subtype. Following are some example ddnames of this format with a description of the corresponding CA ACF2 for z/VM SMF record subtype:

SMF\$W

CP command limiting

SMF\$C

ACFSERVE command

SMF\$CW

Both ACFSERVE command and CP command limiting.

SMFxxxxx

This ddname format lets you completely specify the contents of the file of extracted records. You can use any combination of one to five characters (excluding \$ or # as the first character) to generate a unique ddname. Any ddnames for standard CA ACF2 for z/VM-defined files (as listed in the above table) are reserved.

When using this ddname format, you must also specify the report parameter as shown below:

```
SMFxxxxx(nnn|x,...,nnn|x,"description")
```

This parameter defines the records the user-defined file collects.

To produce an SMF record output file, you must enter a CMS FILEDEF command for that file. If you do not define an SMF record output file through a FILEDEF command, ACFRPTPP only outputs the summary report. If you are going to use ACFRPTPS or the full screen facility to run the reports, the filetype you specify on the FILEDEF command should be in the yydddsss format.

ACFRPTPP Parameters

Listed below are the parameters and their defaults used to generate the ACFRPTPP report.

EDATE(169365|cyyddd)

This parameter specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

When combined with the SDATE parameter, this parameter creates a window for report content. The defaults for SDATE and EDATE processes all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEX

This parameter prints selected SMF records in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length, followed by two bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

JOBMASK(***|jobmask,...,jobmask)**

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks to separate multiple job names. The default is all jobs.

LINECNT(60|nnn)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item fits on a page to prevent splitting the information. Only the physical constraints of the output media you are using limits the maximum number of output lines per page. The default is 60.

MASK(***|lidmask)**

This parameter limits selected records to the logonid or logonids that match the logonid mask. This parameter can produce the full set of CA ACF2 for z/VM reports for an individual logonid or a set of logonids.

SDATE(000000|cyyddd)

This parameter specifies the Julian date you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the SDATE value. The default is 000000.

SELECT(smfv|nnn,...,nnn)|NOSELECT

This parameter defines the SMF record number for CA ACF2 for z/VM combined SMF records. Generally, this parameter is not necessary because the default SMF numbers are usually correct.

1. If CA ACF2 for z/VM is active or if this is a NOAUTO IPL and you are the NOAUTO UPDATE user, it uses the ACF2 parameter of the @SMF macro in the ACFDR. The default is 230.

2. If this is a NOAUTO IPL and you are not the NOAUTO UPDATE user, it uses the combined SMF number default of 230.

If you are processing z/OS SMF data and use the default combined SMF record number for other types of SMF records on the z/OS system, you must specify the correct SMF number in this parameter.

SMFxx(nnn,...,nnn)

This parameter defines the record number of the SMF records the CA ACF2 for z/VM report generators use. Use commas or spaces to separate multiple record numbers in any single parameter. The following table shows each parameter name, default SMF record number (as defined in the ACFFDR @SMF macro), and record description:

Parameter Name	SMF Record Number	Record Description
SMFAR	230-R	Access rule database modification journal
SMFCT	230-W	Command limiting journal record
SMFCR	230-T	TSO command trace record
SMFCT	230-C	ACFSERVE command journal record
SMFDL	230-U	DIRMAINT event log record
SMFDR	230-D	Data set access event journal record
SMFER	230-E	Infostorage modification journal record
SMFFLT	230-D 230-L 230-P 230-R 230-V	Flat file records for CA Earl™ processing
SMFGF	230-D 230-P 230-V	Flat file records for CA ACF2 for z/VM/GRO processing
SMFJR	230-L	Logonid database modification journal record
SMFPR	230-P	System entry violation journal record
SMFTR	230-J	Restricted logonid trace record
SMFVR	230-V	Resource event journal record
SMFNR	0, 7 230-A 230-G	CA ACF2 for z/VM environment record

For the previous parameters, you can specify the name with the characters SMF omitted, for example, AR(230).

The ACFFDR @SMF macro defines the default SMF record number for each CA ACF2 for z/VM record type.

SMF\$*x*(*nnn*,...,*nnn*)

This parameter defines the record number or numbers for CA ACF2 for z/VM SMF record types written by all releases of CA ACF2 for z/VM Security for z/OS. For example, SMF\$R(223,230) defines the record number for Rule database modification records any CA ACF2 for z/VM release produces. This parameter is equivalent to specifying the SMFAR(223,230) parameter.

You must use commas or spaces to separate multiple record numbers in this parameter. You can omit the character SMF from the name of this parameter.

To specify combined record numbers, use the SELECT parameter instead of this parameter. The SELECT parameter lets you define the combined record number for several CA ACF2 for z/VM record types simultaneously.

SMFxxxx (*nnn* | *x*,...,*nnn* | *x*,*description*)

This parameter defines the contents of an intermediate output file with a ddname format of SMFxxxx. The value of xxxx corresponds with the last one to five characters of the ddname. For example, this parameter would be SMFTTEST if the corresponding ddname of the file is SMFTTEST. The numbers or letter codes appear in parentheses (separated by commas or spaces) that define which SMF record types are collected in the intermediate file. For example, SMFTTEST(C,R,"TEST FILE") specifies a file of ACFSERVE command logging and Rule database modification records. This description can be up to 16 characters long.

You can substitute any pair of delimiting characters for the double quotes surrounding the file description. The second delimiter marks the end of the description. As an example, SMFTTEST(C,R,"TEST" FILE) creates a description of TEST on the ACFRPTP summary report. ACFRPTP ignores the rest of the characters (FILE) and considers them a comment. If you omit the second delimiter, ACFRPTP considers the delimiter placed just before the closing parenthesis. Always code single quotes in pairs (always code a closing quote).

You can omit the characters SMF from this parameter name (for example, TEST(C,R,"SHORT FORM")).

STIME(0000 | *hhmm*)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(*** | sysid)**

This parameter specifies the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TITLE(cmdparm | string)

This parameter specifies a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters.

Sample Report

CA ACF2 for z/VM SECURITY - ACFRPTPP - SMF RECORD PREPROCESSOR - PAGE 1
DATE 09/09/98 (98.253) TIME 11.39

-- RECORD SELECTION SUMMARY - BY DDNAME --

DDNAME	DESCRIPTION	COUNT	SELECTION
SMFAR	RULES DB LOG	01	223-R,230-*
SMFCR	COMMAND TRACE	00	225-T,230-*
SMFDR1	DATA SET LOGS	3,597	221-D,230-*
SMFDR2	DATA SET VIOS	165	221-D,230-*
SMFDR3	DATA SET TRACE	442	221-D,230-*
SMFDR4	PGMNAME LOG/VIO	59	221-D,230-*
SMFER	INFO-STG DB LOG	07	226-E,230-*
SMFJR	LOGONID DB LOG	609	222-L,230-*
SMFNR	ACF2 ENVIRONMENT	227	A,G,00,07,230-*
SMFPR	SYSTEM ENTRY VIO	26	220-P,230-*
SMFTR	RESTRICTED LIDS	13	224-J,230-*
SMFVR	RESOURCE LOG/VIO	32	227-V,230-*
SMFGF	GF FILE OPTION	3,631	221-D,220-P,227-V,230-*
SMFFLT	SMF FLAT FILE	4,911	221-D,220-P,227-V,223-R,222-L,23

* - INDICATES +

ACF2 COMBINED SMF NUMBER

--- TOTAL RECORDS PROCESSED ---

READ=59,683 SELECTED=5,138 WRITTEN=13,700

CA ACF2 for z/VM SECURITY - ACFRPTPP - SMF RECORD PREPROCESSOR - PAGE 2
DATE 09/09/98 (98.253) TIME 11.39

-- SMF RECORDS INPUT SUMMARY - BY DDNAME --

[----- STARTING -----] [----- ENDING -----]

DDNAME [---PHYSICAL---]&lb.---LOGICAL---][---PHYSICAL---][---LOGICAL---

	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	COUNT
RECMAN1	09/08/98	22.49	09/08/98	22.49	09/09/98	22.43	09/09/98	22.43	59,683

CA ACF2 for z/VM SECURITY - ACFRPTTP - SMF RECORD PREPROCESSOR - PAGE 3
 DATE 09/09/98 (98.253) TIME 11.39

-- SMF RECORDS INPUT SUMMARY - BY TYPE --

	--0--	--1--	--2--	--3--	--4--	--5--	--6--	--7--	--8--	--9--
0-	6	0	4	4	1940	826	324	0	6	7
10-	6	8	0	0	15527	10348	0	991	7	247
20-	1160	68	6	58	0	0	1408	0	0	0
30-	4316	0	192	0	194	194	0	0	0	0
40-	12115	0	0	6	0	2	0	27	15	0
50-	0	0	0	0	0	5	0	114	3	0
60-	120	25	0	0	0	0	0	0	0	0
70-	171	171	1710	171	225	1368	0	171	0	0
80-	0	0	0	0	0	0	0	0	0	0
90-	15	0	0	0	0	0	0	0	0	0
100-	0	0	0	0	0	0	0	0	0	0
110-	0	0	0	0	0	0	0	0	0	0
120-	0	0	0	0	0	0	0	0	0	0
130-	0	0	0	0	0	0	0	0	0	0
140-	0	0	0	0	0	0	0	0	0	0
150-	0	0	0	0	0	0	0	0	0	0
160-	0	0	0	0	0	0	0	0	0	0
170-	0	0	0	0	0	0	0	0	0	0
180-	0	0	0	0	0	0	0	0	0	0
190-	0	0	0	0	0	0	0	0	0	0
200-	0	0	0	0	0	0	0	0	0	0
210-	270	0	0	0	0	0	0	0	0	0
220-	0	0	0	0	0	0	0	0	0	0
230-	5132	0	0	0	0	0	0	0	0	0
240-	0	0	0	0	0	0	0	0	0	0
250-	0	0	0	0	0	0	0	0	0	0
	--0--	--1--	--2--	--3--	--4--	--5--	--6--	--7--	--8--	--9--

RECORD SELECTION SUMMARY-BY DDNAME

Lists each file by ddname that is provided for ACFRPTTP output (that is, those ddnames that begin with SMF). For each file, the report provides a description, the number of records written into the file, and the corresponding SMF record number or CA ACF2 for z/VM subtype of records requested for the file.

TOTAL RECORDS PROCESSED

Shows the total number of records that were

- Read from all of the SMF input files (ddname formats of RECxxxxx)
- Selected from the input records for output
- Written to all of the output intermediate files.

SMF RECORDS INPUT SUMMARY-BY DDNAME

Shows the ddname, as specified in a FILEDEF command, of each SMF input file ACFRPTTP processed. For each file, this section shows the physical starting and ending date and time (the date and time that the first and last records were written). This section also shows the logical starting and ending date and time (the date and time from the earliest and latest records in the file).

SMF RECORDS INPUT SUMMARY-BY TYPE

Shows the number of records read for each SMF record type. SMF record numbers (IBM record type field of the record) identify the types. To interpret which record number corresponds with each total shown on the table, add the number to the left of the row (where the total appears) to the number at the top of the column where the total appears.

Preprocessor Sample Exit (ACFFLTXT)

The ACFRPTPP utility calls the preprocessor exit when a record is written to the ACFFLT (flat) file. The preprocessor sample exit shows you how you can append your own data to the CA ACF2 for z/VM SMF records. The sample exit uses the SRF facility to get the name and UID value for a user from the Logonid database.

Through the preprocessor exit, you can put up to 512 bytes of your own data in the SMF records. Experience has shown that there is significant value to appending the data directly to the SMF record. Consider the following before making a decision on whether to implement the exit.

- Centralizes logic to add information for reports in one program. Thus, the logic in the report writer programs is simpler.
- Maintains current data. This exit adds extended user data to the SMF record in a timely fashion. If you add data to a report at report writing time, you run the risk of not having current data. For example, at report writing time, your report writer might want to add the user's name to a detail line. If you run the report soon after the preprocessor, there would not be any problems.

But suppose you want to process the SMF on a monthly or quarterly basis to see trends in violations. If all your data was in the SMF record, you would not have any problems. But, if at report writing time, you had to obtain the data, you could have problems. The user might leave the company or change names through marriage. The point is, if you use the exit, the data you need to report with is current with the SMF record.

The ACFFLT macro describes the assembler flat file record format. The area for user information is the ACFLTUSER field, which is 512-bytes long. The preprocessor sample exit is shipped in the ACFFLTXT ASSEMBLE file. It processes five types of SMF records.

D

Data set access journal record

L

Logonid modification journal record

P

Invalid password and authority journal record

R

Rule database update journal record

V

Resource access journal record.

The value in the ACFLTTYP field of the ACFFLT record identify these types.

The CA Earl™ record definition for the flat file records are in the copy books residing in the EARLLIB MACLIB. Some of these books are:

HDRECORD

Common header fields.

DRECORD

Type D fields.

LRECORD1

Type L summary fields.

LRECORD2

Type L detail fields.

PRECORD

Type P fields.

RRECORD

Type R fields.

VRECORD

Type V fields.

To assemble the preprocessor sample exit, use the VMFASM (or VMFHASM) EXEC with your CA ACF2 for z/VM-modified CMS control file (for example, VMFASM ACFFLTXT DMSSP). You do not need to generate a module file. The preprocessor does an OS LOAD of the text deck. Therefore, be sure that your text deck has a filetype of TEXT. After you assemble the exit and test it, put it on a disk that is accessible when you run the preprocessor.

Chapter 17: Running Reports Using CA Earl™

This chapter describes how to run reports using CA Earl™.

This section contains the following topics:

[Using the Full-Screen Feature](#) (see page 280)

Using the Full-Screen Feature

Use the following screen to run the CA Earl™ reports. CA ACF2 for z/VM displays it when you select option 6.3.2 from the Primary Option Menu. See Running Reports Using the Full-Screen Feature in “The Reports” chapter for basic information about using the full-screen feature.

```
M9PA-6320                EARL Reports (6.3.2)                CA ACF2 for z/VM
OPTION ==> _____
                                                    TIME 17:12
    1 Sample Dataset/Program Event Log
    2 Sample Logonid Modification Log
    3 Sample Invalid Password/Authority Log
    4 Sample Rule-ID Modification Log
    5 Sample Generalized Resource Event Log
    6 Sample Infostorage Modification Log
    7 Sample Violations by Logonid

Input SMF Filename ==> ACFFLT      Type OUTPUT      Mode *
Destination        ==> TERMINAL (DISK, PRINTER, TERMINAL)
Mode               ==> _ (only if destination to DISK)

PF1=Help    2=Print    3=Quit    4=Return    5=        6=
PF7=        8=        9=        10=        11=       12=Retrieve
```

This screen generates reports **after** the Advantage CA-Earl SMF preprocessor and postprocessor process the SMF records.

To use this screen, enter the report number in the option line.

1 Dataset/Program Event Log

Enter 1 to run the RPTDS report.

2 Logonid Modification Log

Enter 2 to run the RPTLL report.

3 Invalid Password/Authority Log

Enter 3 to run the RPTPW report.

4 Rule-ID Modification Log

Enter 4 to run the RPTRL report.

5 Generalized Resource Event Log

Enter 5 to run the RPTRV report.

6 Infostorage Modification Log

Enter 6 to run the RPTL report.

6 Violations by Logonid

Enter 7 to run the RPTVIOS report.

For information about the reports you can run using CA Earl™, see the appropriate report chapter earlier in this guide.

Input SMF Filename

Enter the filename of the SMF input record. The default is ACFFLT.

Type

Enter the type of the SMF output file. The default is OUTPUT.

Mode

Enter the filemode of the SMF output file.

Destination

Specify the destination of the output file. Valid options are TERMINAL, DISK, or PRINTER.

Mode

To send the report to disk, enter the filemode for the SMF output.

Chapter 18: Backup and Restore Utilities

This chapter contains information on the following utilities, which provide functions necessary for backup or restoration of databases.

ACFDBRST

Restores CA ACF2 for z/VM database information from sequential backups into CMS format databases or VSAM databases.

ACFDBSYN

Synchronizes backup copies of CA ACF2 for z/VM databases with the online databases.

ACFDBVSM

Creates or merges CMS database records into existing VSAM databases.

ACFLINIT

Initializes a VSAM database and prepares it so the ACFDBRST or ADFDBVSM utilities can load it.

ACFRECVR

Processes the database update SMF records that CA ACF2 for z/VM produced and forward merges them into the CA ACF2 for z/VM databases to produce an up-to-date set of these databases.

This section contains the following topics:

[ACFDBRST - Restoring Databases](#) (see page 283)

[ACFDBSYN - Synchronizing Databases](#) (see page 287)

[ACFDBVSM - Creating or Merging CMS and VSAM Databases](#) (see page 290)

[ACFLINIT - Initializing VSAM Databases](#) (see page 293)

[ACFRECVR - Performing Recoveries](#) (see page 294)

ACFDBRST - Restoring Databases

The ACFDBRST utility restores CA ACF2 for z/VM database information from sequential backups into new CMS format databases or VSAM databases.

Terminology

The following terminology is used throughout this section.

Database

One of the three CA ACF2 for z/VM databases (Logonid, Rules, or Infostorage).

INFO

The CA ACF2 for z/VM Infostorage database.

LID

The CA ACF2 for z/VM Logonid database.

RULES

The CA ACF2 for z/VM Rule database.

Prerequisites

Before you restore into CMS databases, you must reserve minidisks through the CMS RESERVE command. The syntax is:

```
RESERVE fn DATABASE fm
```

fn

The filename of the minidisk to reserve.

DATABASE

The filetype (always DATABASE).

fm

The filemode of the minidisk to reserve.

If you are restoring into VSAM databases, you just delete and define the VSAM clusters using IDCAMS. ACFDBRST rebuilds the databases into the newly-created clusters.

You might also need to run the ACFLINIT utility before you can restore the VSAM databases. See ACFLINIT - Initializing VSAM Databases later in this chapter for information.

Defining the Input File

The syntax to define the input backup files is:

```
FILEDEF ddname DISK fn BACKUPDB fm
```

ddname

The ddname of the CMS file where the backup data resides. Valid options are BKPLID, BKPRULES, or BKPINFO.

DISK

The filedef of a disk file (always DISK).

fn

The filename of the backup file to restore.

BACKUPDB

The filetype of the backup file (must be BACKUPDB).

fm

The filemode of the minidisk containing the backup file to restore.

Defining the Output File

To define the new output files, use the following syntax:

For CMS Databases

The syntax for FILEDEFs for CMS databases is:

```
FILEDEF ddname DISK fn DATABASE fm
```

ddname

The ddname of the database to restore into. Valid options are LID, RULES, or INFO.

DISK

The filedef of a disk file (always DISK).

fn

The filename of the database to restore to.

DATABASE

The filetype of the database to restore to (must be DATABASE).

fm

The filemode of the database to restore to.

You must have reserved this minidisk (fn DATABASE fm) through the CMS RESERVE command before you can run the utility.

For VSAM Databases

Enter the following command to create a DLBL for the VSAM catalog:

```
DLBL IJSYSCT fm DSN catname (VSAM
```

You must define this file.

fm

The filemode of the disk the catalog is on.

catname

The DSN of the catalog.

Enter the following command to specify a DLBL for each restored VSAM file:

```
DLBL ddname fm DSN dsn (VSAM
```

ddname

The ddname of the VSAM database to restore into. Valid options are LID, RULES, or INFO.

fm

The filemode of the disk the VSAM database is on.

dsn

The actual IDCAMS-defined VSAM data set name to restore.

Running ACFDBRST

You can use this utility to restore all three, or any combination of, CA ACF2 for z/VM databases. The syntax for running this utility is:

```
ACFDBRST { [ LID ] }  
         { ALL | [ RULES ] }  
         { [ INFO ] }
```

ALL

Indicates you want to restore all three CA ACF2 for z/VM databases (Logonid, Rule, and Infostorage).

LID

Indicates you want to restore the Logonid database.

RULES

Indicates you want to restore the Rule database.

INFO

Indicates you want to restore the Infostorage database.

CA ACF2 for z/VM displays the following message when the utility has successfully executed:

```
ACFRST361I <nn db> records processed
```

nn

The number of records processed.

db

The type of records processed.

Sample Utility

A sample of the ACFDBRST utility (ACFREST SAMPEXEC) is provided with this release of CA ACF2 for z/VM Security for VM. To use the sample exec, edit it and make appropriate modifications to the FILEDEF statements.

ACFDBSYN - Synchronizing Databases

The ACFDBSYN utility synchronizes backup copies of CA ACF2 for z/VM databases with the online databases. It accepts input from one of three types of files: CMS databases, CMS backup files, or VSAM backup files in REPRO format.

Prerequisites

Before you can run this utility, you must define the input files with FILEDEFS. The syntax to define the input files is:

```
FILEDEF ddname DISK fn ft fm
```

ddname

The ddname of the CMS file where the data to be synchronized resides. Valid options are LID, RULES, or INFO.

DISK

The filedef of a disk file (always DISK).

fn

The filename of the input file to be synchronized.

ft

The filetype of the input file. The filetype chosen defines the format of the input file. Valid options are:

DATABASE

If you are using CMS format databases as input.

BACKUPDB

If you are using CMS backup files as input.

FILE

If you are using VSAM backup files in REPRO format as input.

fm

The filemode of the minidisk containing the input file to synchronize.

Running ACFDBSYN

ACFDBSYN synchronizes all three, or any combination of, CA ACF2 for z/VM databases. The syntax for this utility is:

```
ACFDBSYN { [ LID ] }
          { ALL | [ RULES [NOUPD] ] }
          { [ INFO ] }
```

ALL

Indicates you want to synchronize all three CA ACF2 for z/VM databases (Logonid, Rule, and Infostorage).

LID

Indicates you want to synchronize the Logonid database.

RULES

Indicates you want to synchronize the Rule database.

INFO

Indicates you want to synchronize the Infostorage database.

NOUPD

Indicates you do not want to update the specified database. You can use this parameter for a test run.

Execute ACFDBSYN with the NOUPD option before actually synchronizing the databases. Executing this utility with the NOUPD option produces a report highlighting the records that are affected without actually updating them.

When the utility successfully executes, CA ACF2 for z/VM displays messages to indicate which records it replaced or inserted.

Sample Utility

A sample of the ACFDBSYN utility (ACFSYN SAMPEXEC) is provided with this release of CA ACF2 for z/VM Security for VM. To use the sample exec, edit it and make appropriate modifications to the FILEDEF statements.

Output

After running ACFDBSYN, the online databases have the following characteristics.

Logonid Database

ACFDBSYN does not alter any records that existed only in the online database. It inserts records that existed only in the input file into the online database.

If any logonid records existed in both the input file and the online database, the online database record remains unmodified with the following exception; if someone updated the password of the record in the input file more recently than the password of the online database record, ACFDBSYN uses the password from the input record.

Rule Database

ACFDBSYN does not alter any rule record that existed only on the online database. It inserts rules that existed only on the input file into the online database.

If a rule existed in both the input file and the online database, ACFDBSYN compares the last update time and date of both records. If the record in the input file is more recent, the entire record from the input file replaces the online version.

Infostorage Database

ACFDBSYN does not alter records that existed only on the online database. It inserts records that existed only on the input file into the online database.

If a record existed in both the input file and the online database, ACFDBSYN compares the last update time and date of both records. If the record in the input file is more recent, the entire record from the input file replaces the online version.

ACFDBVSM - Creating or Merging CMS and VSAM Databases

The ACFDBVSM utility merges CMS database records into existing VSAM databases. If no existing VSAM databases exist, it creates them. Only sites running VSAM can use this utility.

Prerequisites

Before you can run ACFDBVSM, you must define the input CMS databases with FILEDEFS and define the output VSAM databases with DLBLs.

You might also need to run the ACFLINIT utility before you can create or merge the VSAM databases. See ACFLINIT - Initializing VSAM Databases later in this chapter for information.

Defining the Input CMS Databases

The syntax to define the input CMS databases is:

```
FILEDEF ddname DISK fn DATABASE fm
```

ddname

The ddname of the CMS file where the data to merge or create resides. Valid options are LID, RULES, or INFO.

DISK

The filedef of a disk file (always DISK).

fn

The filename of the database file to merge or create.

DATABASE

The filetype of the database (must be DATABASE).

fm

The filemode of the minidisk containing the backup file to merge or create.

Defining the Output VSAM Databases

Enter the following command to define a DLBL for the VSAM catalog:

```
DLBL IJSYSCT fm DSN catname (VSAM
```

fm

The filemode of the disk where the catalog resides.

catname

The DSN of the catalog.

Enter the following command to define a DLBL for the VSAM files to be merged or created:

```
DLBL ddname fm DSN dsn (VSAM
```

ddname

The ddname of the VSAM database to merge into. Valid options are VLID, VRULES, or VINFO.

fm

The filemode of the disk where the VSAM database resides.

dsn

The actual VSAM data set name that IDCAMS defined that is to be merged.

Running ACFDBVSM

ACFDBVSM merges or creates all three, or any combination of, CA ACF2 for z/VM databases. The syntax for this utility is:

```
ACFDBVSM { [ LID ] }  
          { ALL | [ RULES ] } [NOUPD] [NOAUDIT]  
          { [ INFO ] }
```

ALL

Indicates you want to merge or create all three CA ACF2 for z/VM databases (Logonid, Rule, and Infostorage).

LID

Indicates you want to merge or create the Logonid database.

RULES

Indicates you want to merge or create the Rule database.

INFO

Indicates you want to merge or create the Infostorage database.

NOUPD

Indicates CA ACF2 for z/VM does not modify the specified databases. You can use this parameter for a test run.

NOAUDIT

Suppresses the records normally written to the audit file during the rule database merge.

Execute ACFDBVSM with the NOUPD option before actually merging the databases. Using the NOUPD option produces a report highlighting the affected records without actually updating them.

CA ACF2 for z/VM displays messages indicating that it replaced or inserted records when the utility successfully executes.

Sample Utility

A sample of the ACFDBVSM utility (ACFVSM SAMPEXEC) is provided with CA ACF2 for z/VM Security for VM. To use the sample exec, edit it and make appropriate modifications to the FILEDEF statements.

Output

After ACFDBVSM executes, CA ACF2 for z/VM creates the RULES AUDIT A file that contains any rules that CA ACF2 for z/VM could not merge. Examine this file to determine why ACFDBVSM could not merge any specific rules. Also determine if you need to manually compile these rules.

Database Characteristics After a Merge

After running ACFDBVSM, the shared databases have the characteristics shown below.

Logonid Database

ACFDBVSM does not alter any records that existed only in the VSAM database. It merges any logonid records that only existed on the CMS database into the VSAM database unaltered.

If any logonid records existed in both the CMS and VSAM databases, the VSAM records remain unmodified, with the following exception. If the record in the CMS database was updated or logged onto more recently than the VSAM record, ACFDBVSM uses the password from the CMS database record.

Rule Database

ACFDBVSM does not alter any rule record that existed only on the VSAM database. It copies rules that existed only on the CMS database over to the VSAM database.

If a rule existed on both databases, ACFDBVSM merges the rule entries and replaces the resulting rule in the VSAM database. If an error occurs merging the rule entries, ACFDBVSM creates the RULES AUDIT file that contains the rule. The VSAM rule remains unmodified.

Infostorage Database

ACFDBVSM does not alter any record that existed only on the VSAM database. It copies records that existed only on the CMS database over to the VSAM database. If a record existed in both databases, no action occurs (the VSAM record remains unmodified).

ACFLINIT - Initializing VSAM Databases

This utility initializes a VSAM database and prepares it for loading by the ACFDBRST utility or the ACFDBVSM utility. See the following sections (earlier in this chapter for more information about these utilities):

- ACFDBRST - Restoring Databases
- ACFDBVSM - Creating or Merging CMS and VSAM Databases

Prerequisites

You must define the output files before you can run this utility. You must create a DLBL for the VSAM catalog is required. The syntax is:

```
DLBL IJSYSCT fm DSN catname (VSAM
```

fm

The filemode of the disk the catalog is on.

catname

The DSN of the catalog.

Enter the following command to create a DLBL for each initialized VSAM file:

```
DLBL ddname fm DSN dsn (VSAM
```

ddname

The ddname of the VSAM database to initialize. Valid options are LID, RULES, or INFO.

fm

The filemode of the disk the VSAM database is on.

dsn

The actual VSAM data set name that was defined with IDCAMS and is initialized.

Running ACFLINIT

This utility initializes any one or all three CA ACF2 for z/VM databases. Enter the following command to run this utility:

ACFLINIT

The syntax is:

```
ACFLINIT      {[ LID   ]           }
              {[ RULES ] [RESTORE] }
              {[ INFO ]           }
              lid
```

LID, RULES, INFO

Specify one of these keywords to indicate you only want to initialize the specified database in preparation for a restore of the VSAM databases.

RESTORE

Specify this parameter if you are running this utility in preparation for the ACFDBRST utility.

lid

Specify a logonid to initialize all three databases and insert this logonid into the Logonid database. This logonid has no unscoped SECURITY and ACCOUNT privileges. If you do not specify any parameter, the lid defaults to ACFUSER.

Sample Utility

A sample of the ACFLINIT utility (ACFLINIT SAMPEXEC) is provided with CA ACF2 for z/VM Security for VM. This sample exec automatically determines if you must use EXECOS to run the utility.

ACFRECVR - Performing Recoveries

The ACFRECVR utility processes the database update SMF records that CA ACF2 for z/VM produced and forward merges them into the CA ACF2 for z/VM databases to produce an up-to-date set of these databases. Each input SMF record contains a time-of-day stamp that CA ACF2 for z/VM checks to ensure that the most recent record exists in the databases.

Prerequisites

Run this utility under NOAUTO mode. Do not issue the ACFSERVE ENABLE NOAUTO UPDATE command. When recovery is complete, IPL the system to run in your regular mode. The rest of this section describes the files the ACFRECVR utility uses.

Define all CA ACF2 for z/VM databases the ACFRECVR utility is updating. If one or more of the databases you are updating is a VSAM cluster, issue a CMS DLBL command for the VSAM catalog that defines the clusters. The format is:

```
DLBL IJSYSCT fm DSN catname (VSAM
```

You must use a CMS DLBL command to identify VSAM databases. You must identify CMS databases by a CMS FILEDEF command.

SYSIN

This file provides one method of specifying parameters to ACFRECVR. See Common Files in “The Reports” chapter for information about the SYSIN file. If you do not define SYSIN by a FILEDEF, you are prompted to enter the ACFRECVR parameter from your terminal.

LID

The Logonid database. If you are not updating this database, specify NOLID as the parameter.

RULES

The Rule database. If you are not updating this database, specify NORULE as the parameter.

INFO

The Rule database. If you are not updating this database, specify NOINFO as the parameter.

RECxxxxx

The SMF files containing the information to update the databases with. This can be one or many files. These files must have a filename of SMF. The filetype is normally in the format of *yydddnnn*, where *yyddd* is the Julian date and *nnn* is a sequential number.

ACFRECVR prompts you to enter the filetype of each SMF file you are processing. For complete recovery, specify all SMF files that have any records since the last database backup. ACFRECVR checks the time stamps in the records to ensure that it applies only updates made since the last backup.

SMFxxxxx

This file is the same as RECxxxxx above.

SYSPRINT

This is the report file. It lists each record processed and the disposition of that record. ACFRECVR directs SYSPRINT to your virtual printer. If you specified the TERMINAL parameter, this file is not used (the output is directed to your terminal).

Selecting Parameters

The ACFRECVR utility accepts parameters through the terminal or through SYSIN in the same manner as the CA ACF2 for z/VM report generators. The following parameters are valid.:

DATEFMT(MDY|DMY|YMD)

Specifies the format of the dates in this report. Valid formats are m/d/y, d/m/y, and y/m/d. The default is m/d/y.

EDATE(169365|cyy001)

Specifies the Julian date you are using as an ending point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

When combined with the start date parameter, this parameter creates a window for report content. The defaults for start date and end date causes the report generator to process all available records. The default is 169365, December 31, 2069.

ETIME(2359|hhmm)

This parameter specifies the end of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated after the specified time of day are ignored. The default is 2359.

HEADING

Specifies each selected database that ACFRECVR reads sequentially to EOF to obtain the latest date and time and places them in the report heading before actual database recovery begins. For speedy processing, sites with large databases should not specify HEADING.

HEX

This parameter selects SMF records printed in hexadecimal dump format. This option is provided primarily for diagnostic purposes.

If a report generates a hex dump of an SMF record, the dumped record shows a four-byte RDW (two bytes for the record length followed by two-bytes of binary zeros). This is true even when the input file does not have a RDW. This is the internal format of every SMF record that matches the SMF mapping macros. It provides a consistent format for the dump. This information applies to records dumped due to an error in the SMF record and when you specify HEX.

INFO|INFO(nnn)|NOINFO

Defines the SMF record number for the Infostorage database update journal records. If you specify NOINFO, the Infostorage database is not updated during the recovery process. If you specify INFO without an SMF record number, ACFRECVR uses 230 for combined SMF records and 226 for precombined SMF records. INFO is the default.

JOBMASK

Specify the job name to limit records appearing on this report to those pertaining to the job or jobs indicated by the job name or job name mask. You must use commas or blanks or separate multiple job names. The default is all jobs.

KEYMASK(-|recordmask)

Restores selected records to a database cluster without disturbing other records. The default restores all record keys. Record key specifies the selected records as follows:

- If you specify LID, KEYMASK specifies a one- to eight-character logonid mask.
- If you specify RSRC, KEYMASK specifies a one- to 44-character mask for an Infostorage record key. The first character is the storage class and the next three characters are the type code.
- If you specify RULE, KEYMASK specifies a one- to eight-character mask for access rule sets.

If you are processing more than one database, you cannot specify this parameter.

LID|LID(nnn)|NOLID

Defines the SMF record number for the Logonid database update journal records. If you specify NOLID, ACFRECVR does not update the Logonid database during recovery. If you specify LID without an SMF record number, ACFRECVR uses 230 for combined SMF records and 222 for precombined SMF records. The default is LID.

LINECNT(60|number)

This parameter specifies the number of output lines printed on a page. CA ACF2 for z/VM report generators that issue multiple line reports check whether a complete report item fits on a page to prevent splitting the information. The maximum number of output lines per page is limited only by the physical constraints of the output media you are using. The default is 60.

NOLAB|LAB

LAB controls whether OS/390 LAB (Lookaside Buffer) records produce an additional line of output. NOLAB is the default.

NOUPDATE

Creates the ACFRECVR utility report, but does not update the database. Use this feature to test recovery procedures.

TERMINAL|PRINTER

Controls the format of the ACFRECVR utility report and its output device. PRINTER produces a three-line-per-entry hardcopy report of 133 characters per line and uses the SYSPRINT file to output the report. TERMINAL produces a five-line-per-entry report suitable for output on a 80-character terminal. The output is to your terminal. TERMINAL is the default.

RSRC|RSRC(nnn)|NORSRC

Provides synonyms for INFO, INFOnnn, and NOINFO, explained above. RSRC is compatible with OS/390 recovery.

RULES|RULES(nnn)|NORULES

RULES defines the SMF record number for the Rule database update journal record. If you specify NORULES, ACFRECVR ignores these records and does not update the database during recovery. If you specify RULES without an SMF record number, ACFRECVR uses 230 for combined SMF records and 223 for precombined SMF records. RULES is the default.

SDATE(000000|cyyddd)

Specify the date, in Julian or Gregorian, you are using as a starting point for selecting information.

c

0 to indicate the 20th century or 1 to indicate the 21st century.

yy

The year.

ddd

The day of the year.

The report generator ignores any input SMF records generated before the start date value. The default is 000000.

STIME(0000|hhmm)

This parameter specifies the beginning of the time interval for selecting SMF records. This time is based on a 24-hour clock. Any SMF records generated before the specified time of day are ignored. The record selection begins at the STIME specified for each date in the SDATE/EDATE range and ends on each date at the ETIME you specified. The default is 0000.

SYSID(*****|sysid)

Specify the CA ACF2 for z/VM system ID that was active on the system when the SMF records were generated. You can specify a single system ID or a system ID mask. You cannot specify multiple masks or a series of IDs. The default is all systems.

TITLE(cmdparm|string)

Specify a character string that is added to the other title information at the top of the report. This character string can be up to 35 characters long. If you do not specify this parameter, the report generator uses the first 35 characters in the command parameters. If this character string is longer than 35 characters, it uses the first 35 characters.

Running ACFRECVR

To execute ACFRECVR, follow these steps.

1. Define the filenames for the databases ACFRECVR is to update. You must do this before starting this utility. The FILEDEFs shown below are examples of defining the database files.

```
FILEDEF LID DISK fn DATABASE fm
FILEDEF RULES DISK fn DATABASE fm
FILEDEF INFO DISK fn DATABASE fm
```

2. Identify the SMF records for input.
3. Enter the **ACFRECVR** command.
4. Reply to the prompts as appropriate.

One of the prompts you might see while running this utility is the following message:

```
ENTER ACFRECVR SYSIN PARAMETER OR <ENTER> TO START
```

This message tells you that you did not define a SYSIN file. If you had defined a SYSIN file before ACFRECVR started, it would have read the parameters in from this file. Because you did not define a SYSIN file, ACFRECVR prompts you (by RCV?) to enter the parameters. If you respond with a null (blank line), ACFRECVR uses the defaults. If you are processing only one database, such as the Logonid database, your response would be LID NORULES NOINFO.

The following message indicates that the ACFRECVR utility is executing:

```
CA ACF2 for z/VM SECURITY - ACFRECVR - ...
```

A report showing all records processed appears at the terminal. The next section contains a sample report and descriptions of its fields.

Sample Output

Following is an example of the output the ACFRECVR recovery utility produced. The report details each record processed and the status of the record.

```

CA ACF2 for z/VM SECURITY - ACFRECVR - ACF2VM DATA BASE RECOVERY UTILITY
DATE 05/06/98 (98.110) TIME 8.27.59

      DATE      TIME  DATA-BASE  CHANGER  CHANGE  STATUS      KEY
98.110 12/03 09.50 LOGONID          UPDATE  REC-REPLACD  OPTLCTOR
98.110 12/03 09.51 LOGONID          UPDATE  REC-REPLACD  DITLCINT
98.110 12/03 10.17 LOGONID          UPDATE  REC-REPLACD  CMSTLCCH
98.110 12/03 10.18 LOGONID          UPDATE  REC-REPLACD  VMDIRECT
98.110 12/03 10.22 LOGONID          UPDATE  REC-REPLACD  BATACH
98.110 12/03 10.23 ACC-RULE  VMSEC  REPLACE  REC-REPLACD  VMECS
98.110 12/03 10.24 LOGONID  VMSEC  CHANGE  REC-REPLACD  VM2VLL
98.110 12/03 10.25 LOGONID          UPDATE  REC-REPLACD  OPTLCTOR

901I Recovery - total records read - 16
902I LID record input = 7, records updated = 13

```

A sample ACFRECVR output follows the descriptions of fields that appear on this report.

The title of the report shows the date and time the recovery utility was run. It also displays the latest time stamp from the databases. This time stamp indicates the backup level of each database before the recovery utility began processing.

DATE

The date stamp from the SMF record processed. This stamp appears in two formats; the Julian date format (yy.ddd) and the month and day of the month (as specified in the DATEFMT parameter). Refer to DATEFMT for valid values.

TIME

Time-of-day the record was generated. ACFRECVR takes the date and time listed in the report from the SMF record time stamp. Internally, ACFRECVR compares time-of-day clock format time stamps that are considerably more accurate.

DATA-BASE

The CA ACF2 for z/VM database the record applies to. This field can take on any of the following values:

LOGON-ID

The Logonid database.

ACC-RULE

The Rule database.

INFO-STG

The Infostorage database.

KEY

The key of the processed CA ACF2 for z/VM record. For logonids, this is the logonid; for access rule sets, this is the rule key; and for infostorage records, this is the name of the resource or entry list.

CHANGER

The logonid of the user who caused the change to occur, if applicable.

CHANGE

The type of record update this SMF record represents.

For logonids:

INSERT

Inserted a new logonid into the database.

CHANGE

Changed an old logonid. This type of change is from a user request.

DELETE

Deleted the logonid from the CA ACF2 for z/VM database.

UPDATE

Changed the logonid during job validation processing. Only applies when sharing a database.

For access rule sets and infostorage records:

INSERT

Inserted a new record into the CA ACF2 for z/VM database

REPLACE

Replaced an old record

DELETE

Deleted the record from the CA ACF2 for z/VM database.

STATUS

The action ACFRECVR took for the record. The table below details the possible actions.

REC-ERASED

The request was for a deleted record. ACFRECVR erased the corresponding record in the CA ACF2 for z/VM database.

REC-REPLACED

The record input has a time stamp greater than the record in the CA ACF2 for z/VM database. This indicates that the input record represents a more recent update, so ACFRECVR stored the input record in the CA ACF2 for z/VM database.

REC-INSERTED

The input record key does not match any currently in the CA ACF2 for z/VM database; ACFRECVR inserted the input record into the database.

BYP-NO RECORD*

The input SMF record indicated that the database record should be deleted, but ACFRECVR found no record with a corresponding key on the CA ACF2 for z/VM database.

BYP-INV TYPE *

The recovery utility did not recognize the update function code in the processed SMF record. Notify CA ACF2 for z/VM maintenance personnel of this error and ensure that the recovery utility is at the proper release level.

BYP-TOD STAMP*

ACFRECVR bypassed the record because the time-of-day stamp checks indicated that the record in the CA ACF2 for z/VM database was more recent than the record represented by the SMF record.

BYP-DB ERR *

A database error occurred during ACFRECVR processing. Correct the error condition and rerun the ACFRECVR utility without change.

BYP-TYPE SKIP*

ACFRECVR is not processing the database where this record is stored because of a NOxxx parameter specification.

The asterisk (*) highlights bypassed status messages. If the status message indicates an error during processing, correct the error and rerun the recovery utility without changing the parameters. ACFRECVR time stamp checks ensure that it stores the most **recent record in the database**.

Chapter 19: Conversion Utilities

This chapter contains information on the following utilities, which provide functions necessary for converting databases.

ACFCVACT

Creates account resource rules from the CP directory.

ACFCVALG

Creates AUTOLOG resource rules from the CP directory.

ACFCVLNK

Creates minidisk access rules from the CP directory.

ACFCVSFS

Converts existing SFS grants for a filepool to CA ACF2 for z/VM rules.

ACFESGP

Converts source group cross-reference records.

ACFLIDGN

Generates a logonid record for each user in the VM directory.

This section contains the following topics:

[ACFCVACT - Converting Accounts](#) (see page 303)

[ACFCVALG - Converting AUTOLOG](#) (see page 305)

[ACFCVLNK - Creating Access Rules from CP Directory](#) (see page 307)

[ACFCVSFS - Converting SFS Grants to CA ACF2 for z/VM Rules](#) (see page 311)

[ACFESGP-E-SGP Conversion Utility](#) (see page 313)

[ACFLIDGN - Generating Logonids](#) (see page 317)

ACFCVACT - Converting Accounts

The ACFCVACT REXX exec creates account resource rules from the CP directory. This exec also prepares a file of ACF CHANGE subcommands to create the VMACCT field values for logonids in the directory. These values are the default account numbers for virtual machines defined for account validation.

It translates binary zeros in the UID to asterisks when it generates the rules.

Prerequisites

You must install and IPL CA ACF2 for z/VM before you can execute ACFCVACT. Also, the ACF module and the USER DIRECT file must be accessible; otherwise, the exec does not run.

Running ACFCVACT

This exec creates two files, ACCOUNT COMMANDS and ACCOUNT RULE. CA ACF2 for z/VM uses these files to install account records and rules in your Infostorage database. To create account resource rules, you must perform two basic steps:

1. Enter the following command to execute ACFCVACT:

```
ACFCVACT
```

The exec informs you if the ACCOUNT COMMANDS and ACCOUNT RULE files already exist. If these files exist, proceed to Step 2.

- CA ACF2 for z/VM prompts you to enter the filename, filetype, and filemode of the user directory file.
- CA ACF2 for z/VM prompts you to enter the type code for your system's account resource rules, defined in the ACCOUNT operand in the RESCLASS VMO record. Use the following subcommand of ACF to display the value of ACCOUNT:

```
SHOW STATE
```

The directory is processed. Messages indicate which users have no logonids. ACFCVACT does not create account resource rules for these users. The messages also indicate the total number of accounts processed.

ACFCVACT generates the following messages when processing is complete:

```
Creating file "ACCOUNT COMMANDS A"  
Creating file "ACCOUNT RULE A"
```

2. Examine the files ACCOUNT COMMANDS and ACCOUNT RULE. They contain the converted account resource rules and ACF CHANGE subcommands to define VMACCT field values. Samples appear below.

ACCOUNT COMMANDS

```
CH ACFUSER  VMACCT(1)  
CH MAINT    VMACCT(1)  
CH OPERATOR VMACCT(2)  
CH AUTOLOG1 VMACCT(9)
```

ACCOUNT RULE

```
$KEY(1) TYPE(ACT)
  UID(ACFUSER ) ALLOW
  UID(MAINT ) ALLOW
$KEY(2) TYPE(ACT)
  UID(OPERATOR ) ALLOW
$KEY(9) TYPE(ACT)
  UID(AUTOLOG1 ) ALLOW
```

3. Verify that these rule sets and CHANGE subcommands are set up correctly. If necessary, modify them. Also, check the rule entries to see if you can use masking to combine entries and reduce the length of the rule set.
4. Enter the following command to install the account records and rules in your Logonid and Infostorage databases:

```
ACFCVACT BUILD
```

ACFCVACT inserts rules and logonids into the CA ACF2 for z/VM databases. Messages appear indicating what ACFCVACT is inserting. When ACFCVACT installs the account records and rules on the logonid and Infostorage databases, it displays the following message:

```
Account record conversion complete
```

ACFCVALG - Converting AUTOLOG

The ACFCVALG REXX exec creates AUTOLOG resource rules from the CP directory. It translates binary zeros in the UID to asterisks when it generates the rules.

Prerequisites

You must install and IPL CA ACF2 for z/VM before you can execute ACFCVACT. You cannot run the exec during the installation of CA ACF2 for z/VM until you perform an IPL on the system.

Running ACFCVALG

Running this exec creates a file named AUTOLOG RULE. It installs AUTOLOG resource rules in your Infostorage database. To create AUTOLOG resource rules, you must perform two basic steps.

1. To execute ACFCVALG, enter the following command:

```
ACFCVALG
```

The exec informs you if the AUTOLOG RULE file already exists. If this file does exist, proceed to Step 2.

- CA ACF2 for z/VM prompts you to enter the filename, filetype, and filemode of the CP directory file.
- CA ACF2 for z/VM prompts you to enter the type code for your system's AUTOLOG resource rules, as defined in the AUTOLOG operand of the RESCLASS VMO record. Use the following subcommand of ACF to display the value of AUTOLOG:

```
SHOW STATE
```

The directory is processed. Messages indicate which users have no LIDs. ACFCVALG does not create AUTOLOG resource rules for these users. ACFCVALG issues the following message when the exec is finished:

```
Processing complete
```

Examine the file AUTOLOG RULE that contains the converted AUTOLOG resource rules. A sample file looks like the one shown below.

```
AUTOLOG RULE
$KEY(ACFUSER) TYPE(ALG)
  UID(AUTOLOG1 ) ALLOW
  UID(MAINT ) ALLOW
$KEY(MAINT) TYPE(ALG)
  UID(AUTOLOG1 ) ALLOW
  UID(MAINT ) ALLOW
$KEY(AUTOLOG1) TYPE(ALG)
  UID(MAINT ) ALLOW
```

2. Verify that these rule sets are set up correctly. If necessary, modify them. Also check to see if you can use masking to combine rule entries.
3. Enter the following commands to install the AUTOLOG resource rules in your Infostorage database:

```
acf
ACF
set resource(alg)
RESOURCE
compile autolog
```

ACFCVALG inserts the rules into the CA ACF2 for z/VM Infostorage database. It issues messages indicating what rule it is inserting.

4. Enter the following command to activate the new rules:

```
ACFSERVE RELOAD RESOURCE(ALG)
```

The AUTOLOG resource rule conversion is complete.

ACFCVLNK - Creating Access Rules from CP Directory

This utility creates minidisk access rules from the CP directory. It takes the existing level of security implemented in your CP directory and creates a CMS file of access rules that exactly match your previous level of security.

After ACFCVLNK creates this CMS file, carefully review it to see what links the directory allows. Make changes as necessary before compiling the rule.

Prerequisites

Before you can run this utility, CA ACF2 for z/VM Release 3.2 or a later release must be up and running (even if it is in QUIET mode). You must also be running the Logonid databases you are going to use.

To define global authorizations, you should examine the sample file provided with this utility (explained in the next section).

Input File

A sample file named GLOBAL AUTH C is provided, as shown below.

Global authorizations allow all users read and write access to the disk. This file lets you avoid writing separate rules for each and every user at your site, resulting in hundreds of separate rules.

```
MAINT 190 READ
MAINT 19D READ
MAINT 19E READ
*
* THE FOLLOWING IS A SAMPLE OF A GLOBAL WRITE AUTHORIZATION.
*
* MAINT 199 WRITE
*
```

Edit this file before you run ACFCVLNK. To allow write authority to all users for the MAINT 199 disk, just remove the asterisk (*).

Running ACFCVLNK

Enter the following command to run this utility:

```
ACFCVLNK
```

It displays a series of prompts, as illustrated in the following screens.

```
acfcvlnk
ENTER FILENAME, FILETYPE, AND FILEMODE OF USER DIRECTORY
FILE OR QUIT TO EXIT.

user direct b
```

The prompt asks you to enter the filename, filetype, and filemode of your site user directory. There is no default.

When you press Enter, you see this prompt.

```
ENTER FILENAME, FILETYPE, AND FILEMODE OF THE OUTPUT FILE TO
CONTAIN YOUR GENERATED ACCESS RULES OR QUIT TO EXIT.

new rules a
```

This prompt requests the filename, filetype, and filemode of the CMS file where ACFCVLNK is to place the created access rules. When you press Enter, you see this prompt.

```
PLEASE ENTER FILENAME, FILETYPE, AND FILEMODE OF THE OUTPUT
FILE TO CONTAIN DIRECTORY IDS WITH NO CORRESPONDING ACF2
LOGONID.

no lids a
```

This prompt asks you to name a holding file for the output of directory IDs that have no logonids associated with them.

After you define the file, press Enter, and you see this prompt.

```
ENTER: 4 - TO GENERATE 4-DIGIT BASED RULES (THE DEFAULT).
QUIT - TO EXIT.
```

In the above prompt, ACFCVLNK asked you to select whether you want to select three- or four-digit rules. In the example, Enter was pressed to select the default (four-digit). The following prompt appears.

```
ENTER: FILENAME, FILETYPE, AND FILEMODE OF GLOBAL
AUTHORIZATION FILE,
QUIT TO EXIT,
OR JUST PRESS ENTER TO SKIP GLOBAL AUTHORIZATIONS.

global auth c
```

This prompt asks you for the filename of the input file that contains the global authorizations (previously explained in the Input File section).

After you enter responses to all the above prompts, you see the ACFCVLNK processing on your screen as shown below.

```
Processing file GLOBAL AUTH C
Processing file USER DIRECT B
ACF2 logonid record for user $ALLOC$ does not exist.
ACF2 logonid record for user $DIRECT$ does not exist.
ACF2 logonid record for user $CP-NUC$ does not exist.
ACF2 logonid record for user $SYSCKP$ does not exist.
ACF2 logonid record for user $SYSWRM$ does not exist.
ACF2 logonid record for user $SPOOL$ does not exist.
ACF2 logonid record for user $UNAVAI$ does not exist.
ACF2 logonid record for user RSCS2 does not exist.
ACF2 logonid record for user CAIXA320 does not exist.
Now analyzing directory contents.
Userid PVM target ID MAINTSP not found
Userid PVM2 target ID MAINTSP not found
Creating file NEW RULES A
Processing complete.

    Examine the file NEW RULES A carefully to determine the
    applicability of the generated rules to your installation. Once you
    make any necessary changes, you should then invoke the ACF command
    to compile the rules.
```

In the analyzing directory contents portion of the above display, notice the lines:

```
Userid PVM target ID MAINTSP not found
Userid PVM2 target ID MAINTSP not found
```

These lines point out links defined in the CP directory that are in error. In the above example, ACFCVLNK could not find MAINTSP.

Output

ACFCVLNK creates two files, as specified in our response to the prompts.

Access Rule File

This file (specified as NEW RULES A) contains the newly created access rules.

```
$KEY(MAINT)
V0190.- UID(*) READ(A) EXEC(A)
V019E.- UID(*) READ(A) EXEC(A)
V019D.- UID(*) READ(A) EXEC(A)
V0191.- UID(RAD ) READ(A) EXEC(A)
V0191.- UID(AUTOLOG1 ) READ(A) EXEC(A)
V0191.- UID(SMART ) READ(A) EXEC(A)
V0319.- UID(CAI2VESA ) READ(A) EXEC(A)
V0191.- UID(CMSBATCH ) READ(A) EXEC(A)
$KEY(RAD)
V0191.- UID(MAINT ) READ(A) EXEC(A)
V0191.- UID(RAD ) READ(A) EXEC(A)
$KEY(PVM)
V0191.- UID(PVM6 ) READ(A) EXEC(A)
$KEY(BATCH)
V019E.- UID(BATCHXA1 ) READ(A) EXEC(A)
```

Carefully review this file and the next file before you compile the rule. Check to see if you can use rule masking to simplify and shorten the rule set.

Unmatched Logonids

This holding file (specified as NO LIDS A) contains those CP directory entries that had no corresponding CA ACF2 for z/VM logonids. Use it to decide if you need to create logonids for these entries.

```
$ALLOC$
$DIRECT$
$CP-NUC$
$SYSCKP$
$SYSWRM$
$SPOOL$
$UNAVAI$
VMXASP1
RSCS2
CAIXA320
```

Compiling The Rules

After you are satisfied that the NEW RULES A file contains the correct data, use the ACF COMPILE or ACFCOMP command to compile the rules.

ACFCVSFS - Converting SFS Grants to CA ACF2 for z/VM Rules

This utility creates access rules from existing Shared File System (SFS) grants for a filepool.

Prerequisites

You cannot run ACFCVSFS when the external security for SFS is set to ON. If it is on, the exec stops during execution.

You must run ACFCVSFS from a virtual machine that is an SFS administrator for the target filepool. This virtual machine must have sufficient CA ACF2 for z/VM authority to decompile all rules for every file owner in the target filepool.

You should only run ACFCVSFS on one virtual machine at a time because it fetches existing rules from the database for modification. If you run ACFCVSFS on more than one virtual machine at a time, you could lose rules created by one of the virtual machines.

Running ACFCVSFS

Enter the following command to run this utility:

```
ACFCVSFS fpool fm (APPEND
```

fpool

The name of the filepool CA ACF2 for z/VM uses to create the rule files.

fm

The output filepool for the newly created CA ACF2 for z/VM rule files. All output files have a filename that is the same as the owner's name and a filetype of RULE. The output files replace existing files of the same filename and filetype unless you specify APPEND.

APPEND

An operand that specifies that CA ACF2 for z/VM should append new rules to existing rules with the same filename and filetype. By default, CA ACF2 for z/VM replaces existing rule files with the same filename and filetype.

This utility can require large amounts of virtual storage to complete processing. The amount of storage depends on:

- The largest number of files in any single directory in the target filepool, and
- The largest number of users granted access to any single directory in the filepool, and
- A combination of these two factors.

If you run out of virtual storage, increase the virtual storage size until ACFCVSFS completes successfully.

Output

Shown below is a sample of the displays you see as this utility runs:

```
acfcvsfs tlc b (append
Scanning SFS directory TLC:PAYROLL
Scanning SFS directory TLC:PAYROLL.CHICAGO
Scanning SFS directory TLC:PAYROLL.NEWYORK
Scanning SFS directory TLC:PAYROLL.TAMPA
"PAYROLL RULE B" has been modified.
Scanning SFS directory TLC:OVERTIME
Scanning SFS directory TLC:OVERTIME.CHICAGO
Scanning SFS directory TLC:OVERTIME.CHICAGO.HOLIDAY
Scanning SFS directory TLC:OVERTIME.NEWYORK
Scanning SFS directory TLC:OVERTIME.NEWYORK.HOLIDAY
Scanning SFS directory TLC:OVERTIME.TAMPA
Scanning SFS directory TLC:OVERTIME.TAMPA.HOLIDAY
"OVERTIME RULE" has been modified.
Scanning SFS directory TLC:SALARY
Scanning SFS directory TLC:SALARY.CHICAGO
Scanning SFS directory TLC:SALARY.NEWYORK
Scanning SFS directory TLC:SALARY.TAMPA
"SALARY RULE B" has been modified.
ACFCVSFS processing complete.
Ready; T=37.78/42.35 15:56:33
```

ACFCVSFS can produce RULE files that are too large to compile using the ACF command. If this happens, you need to manually split the large rules using NEXTKEY or additional masking. This utility takes advantage of masking to reduce rule size whenever a user has the SFS NEWREAD or NEWWRITE authority for a directory. Before running this utility, you should review granting the NEWREAD and NEWWRITE authorities.

ACFESGP-E-SGP Conversion Utility

ACFESGP facilitates migration from existing E-SGP records and OS/390 Note 4 definitions to cross-reference (XREF) records. These XREF records, X-SGP and X-RGP, are used for source and resource grouping, respectively. This utility is available for sites currently using E-SGP entry records for source groups and OS/390 Note 4 users using E-SGP records for resource groups.

This utility creates input statements for the CONVESGP EXEC that you can edit as appropriate. Before running the conversion utility, set up a naming convention that meets your site's grouping requirements. It is important that this naming convention is compatible with the masking capabilities available with the source and resource grouping feature.

Files

CONVESGP INPUT A

The input statements that ACFESGP creates.

Running ACFESGP

The syntax for this utility is:

```
ACFESGP      [ DELETE|NODELETE          ]
             [ RECTYPE(XSGP|XRGP)      ]
             [ CONVMASK(-|recordkeymask) ]
```

DELETE|NODELETE

DELETE creates a control statement to delete the old format E-SGP record after the control statements for inserting the new X-SGP record are created. The default depends on the CONVMASK parameter. For example:

- When you do not specify CONVMASK, the default is DELETE.
- When you specify CONVMASK, the default is NODELETE.

RECTYPE(XSGP|XRGP)

Specified with one of two values:

XSGP

Translates the E-SGP records into X-SGP records for source grouping. This is the default.

XRGP

Translates the E-SGP records to X-RGP records for resource grouping.

CONVMASK(- |record-key-mask)

Specifies a masked record key pointing to the records to convert. You can use any E-SGP record mask for the records you need to convert. This is dependent on the naming conventions in effect at your site. The default for this parameter converts all E-SGP records.

Run this utility with the parameters set to accommodate your conversion requirements. For example:

```
ACFESGP DELETE RECTYPE(XSGP)
```

With this example, CA ACF2 for z/VM creates control statements to convert all E-SGP records to X-SGP records. CA ACF2 for z/VM also creates control statements to delete the converted E-SGP records from the database.

Note: When group records in the E-SGP format contain both individual source names and E-SGP group name entries, this utility creates control statements to separate the individual source names into a newly created record. For example, the E-SGP record of GROUP1 contains individual sources (LV1 and LV2) and E-SGP group name entries (GRP1 and GRP2). LV1 and LV2 are placed in a new XREF (X-SGP) record. This utility then converts the E-SGP record to another XREF record containing the newly created record for the individual sources and the E-SGP group name entries. The utility performs these functions:

1. The new XREF record for the individual source names is inserted. This record name is Xn, where n is a binary number starting at 0000001 and one is added for each new record created. The first new record is X0000001; the second is X0000002; and so on.
2. When the Xn type XREF record is inserted, all individual source names from the E-SGP record are placed in that record. The SOURCE keyword indicates that all entries in this record are individual source names. For example:

```
INSERT X0000001 SOURCE -
      INCLUDE(LV1, LV2)
```

3. Another XREF record is created from the old E-SGP group name entries. This new record's name is the same name as the old E-SGP record that is converted. The new Xn type XREF record name is added to this XREF record to form the same group configuration as before the conversion. The GROUP keyword indicates that all entries in this record are source group records. For example:

```
INSERT GROUP1 GROUP -
      INCLUDE(GRP1, GRP2, X0000001)
```

To determine if an E-SGP record name is an individual source record or group record name entry, CA ACF2 for z/VM compares the name to all the group record names in the E-SGP section of the Infostorage database.

- If a match occurs, the E-SGP record name is considered a group record name.
- If a match does not occur, the E-SGP record name is considered an individual source record name. For example:

Converted to E-SGP Records

X-SGP Records

Converted to E-SGP Records	X-SGP Records
GROUP 1:	GROUP1 GROUP
LV1	INCLUDE(GRP1,GRP2,X0000001)
LV2	
GRP1	X0000001 SOURCE
GRP2	INCLUDE(LV1,LV2)
GRP1:	GRP1 SOURCE
LV6	INCLUDE(LV6,LV7)
LV7	
GRP2:	GRP2 SOURCE
LV3	INCLUDE(LV3,LV4)
LV4	

Return Codes

ACFESGP can return the following return codes in Register 15:

0

Conversion performed without error.

4

Error occurred during conversion. Refer to messages.

8

Invalid parameter specified, or CA-ACF2 not active.

For more information about return codes, see the output messages the ACFESGP utility returns.

Example

1. Run the ACFESGP utility. For example, enter:

```
ACFESGP (parms as needed)
```

To run ACFESGP, the logonid of the user must have CA ACF2 for z/VM read access to the E-SGP records that are converted.

2. CA strongly recommends that you convert E-SGP records at one time with all records and the DELETE option chosen. If you cannot convert all E-SGP records at one time, use the NODELETE option to ensure that the conversion utility can correctly determine which E-SGP records are source entries and which are group name entries.
3. Edit the control statements in the CONVESGP INPUT file ACFESGP created. Change the Xn record names to the naming convention that your site established. Be sure to edit the Xn names in both the insert control statements. For example, you can change:

```
INSERT X0000001 SOURCE -
      INCLUDE(LV1,LV2)
INSERT GROUP1 GROUP -
      INCLUDE(GRP2,GRP3,X0000001)
```

To:

```
INSERT GRP4 SOURCE -
      INCLUDE(LV1,LV2)
INSERT GROUP1 GROUP -
      INCLUDE(GRP2,GRP3,GRP4)
```

An XREF record uses more space for the same number of items than an ESGP record does. You might need to split very large ESGP records into two XREF records and create an XREF GROUP record to associate the new records.

For XRGP RESOURCE records, the keyword TYPE(...) is generated for each record. When editing the output, change the (...) to the appropriate three character resource type.

4. Run the CONVESGP EXEC. This exec submits the control statements in the CONVESGP INPUT file to the ACF command. These control statements insert new X-SGP or X-RGP records and delete the old E-SGP records, if you specified the DELETE parameter.

CONVESGP spools console to your ID and starts console spooling. When done, CONVESGP stops console spooling.

ACFLIDGN - Generating Logonids

The ACFLIDGN utility is a conversion aid that generates a logonid record for each user in the VM directory. New installations should use this procedure since users without logonid records cannot log onto a system with CA ACF2 for z/VM installed.

Prerequisites

- You must predefine the CA ACF2 for z/VM databases.
- You must access the ACFFDR TEXT file in read only mode.
- Input to ACFLIDGN consists of the VM directory, CA ACF2 for z/VM Logonid database, and a user-selected model logonid.
 - Access the minidisk containing the CA ACF2 for z/VM Logonid database as read and write
 - Access the minidisk containing the VM directory read only
 - Determine the name of the model logonid you want to use

Running ACFLIDGN

Be sure you defined the filename for the Logonid database in the @DDSN macro of the ACFFDR.

Execute ACFLIDGN before you IPL the CA ACF2 for z/VM CP nucleus; that is, the CA ACF2 for z/VM databases must be ready before you IPL with CA ACF2 for z/VM active. ACFLIDGN scans the VM directory for user statements that define the individual users (virtual machines). ACFFDCVT then merges the user ID and an encrypted form of the password into a copy of the model (prototype) record to generate a LIDREC. It issues messages for each user ID processed.

You cannot run ACFLIDGN while CA ACF2 for z/VM is active and using the database. To execute this utility

1. If necessary, IPL the system with CA ACF2 for z/VM not active (NOAUTO).
2. Enter the following command:

```
ACFLIDGN
```

ACFLIDGN displays a series of questions while it is executing. Answer each question appropriately.

3. Set the AUTOALL bit for AUTOLOG1 and the DIALBYP bit for VTAM and VTERM. If you need detailed information about setting these logonid bits, see the *Administrator Guide*.
4. IPL the system normally.

One of the questions you must answer is:

Should user IDs already present in the Logonid database be replaced?
The model logonid is also replaced if present in the directory
allowing for convenient password update. Reply 'no' or 'yes'.
No is the default.

This option facilitates EXEC reruns after you make a large number of directory additions.

After directory processing completes, ACFLIDGN prompts you to supply additional logonids and passwords for the LIDRECs to generate. You can specify the model. This feature creates limited numbers of security administrators, auditors, and account managers after processing the bulk of general users.

The prompt for additional logonids is:

Specify the logonid name that is to be used as a model. The default is genuser, which is supplied as a non-CA ACF2 for z/VM authorized ID.

ACFLIDGN does not generate a CA ACF2 for z/VM logonid for user IDs that have a password of NOLOG.

Check the logonids you just created to personalize each one. Some users might need special privileges or limited access. You need to address each logonid on a case-by-case basis to be sure the user has the necessary authorization to perform his job.

Messages

ACFDCVT issues the following messages to track all Logonid database processing performed during the VM directory conversion. The prompts that ACFLIDGN issues are not described since they are self-explanatory.

ACFpgm886E <lid> LIDREC created

ACFLIDGN created a new logonid record for the indicated user.

ACFpgm887E <lid> LIDREC replaced

ACFLIDGN replaced a previous logonid record for the indicated user.

ACFpgm888E <lid> LIDREC already exists - bypassed

The logonid record created for this user duplicates a previous logonid record. ACFLIDGN ignored the logonid record. Execution continues.

ACFpgm88AE <lid> error encrypting password - bypassed

ACFLIDGN could not encrypt the password contained in the directory for this user. It did not create a logonid. Execution continues.

ACFpgm88BE <lid> I/O error processing LIDREC, RC=<rc>

An I/O processing error occurred during an attempt to write the LIDREC for the indicated user. One possible cause is a full minidisk. Execution continues.

ACFpgm889E <lid> model logonid not found

ACFLIDGN could not find the model logonid in the Logonid database. Execution stops.

For additional information about these and other messages, see the *Message Guide*.

Chapter 20: Copy Utilities

This chapter contains information on the following utilities, which provide functions necessary for copying CMS files or databases.

ACF2COPY

Copies CMS files from the CA ACF2 for z/VM source and local options disks to another disk used for CP or CMS maintenance or a utilities disk for a particular function.

ACFDBCOPY

Copies new CMS format CA ACF2 for z/VM databases from one minidisk to another.

ACFSMCOP

Reads blocks and spanned SMF records from a service machine SMF disk and outputs to a standard CMS minidisk or to a tape.

This section contains the following topics:

[ACF2COPY - Relocating VM Files](#) (see page 321)

[ACFDBCOPY - Copying Databases](#) (see page 322)

[ACFSMCOP - Copying SMF Disks](#) (see page 324)

ACF2COPY - Relocating VM Files

This utility automatically copies CMS files from the CA ACF2 for z/VM source and local options disks to another disk used for CP or CMS maintenance or a utilities disk for a particular function.

Running ACF2COPY

To execute ACF2COPY to copy files from the distribution disks to the user's minidisks, specify the control filename and filemode. The filetypes of these files must always be ACFCOPY. The syntax of this utility is:

```
ACF2COPY cntlfn target (TYPE|NOTYPE)
```

cntlfn

The filename of the ACFCOPY file that contains the file IDs of the files to copy.

target

The filemode of the minidisk to contain the copied files.

TYPE

Displays the copy of each file to the terminal. This is the default.

NOTYPE

Suppresses the copy message to the terminal as it ACF2COPY copies each file.

Some examples of using this utility are:

- Enter the following command to copy reports:

```
ACF2COPY ACFRPTS fm
```

- Enter the following command to copy files that support the ACF command:

```
ACF2COPY ACFMDS fm
```

- Enter the following command to copy CA ACF2 for z/VM files to generate CA ACF2 for z/VM-protected CMS:

```
ACF2COPY CMSCODE fm
```

ACFDBCPY - Copying Databases

This utility copies CMS format CA ACF2 for z/VM databases from one minidisk to another. This utility is provided because you cannot use CMS COPYFILE to copy a file to a reserved disk.

Terminology

The following terminology is used throughout this chapter.

Database

One of the three CA ACF2 for z/VM databases (LID, RULE, INFO).

INFO

The CA ACF2 for z/VM Infostorage database.

LID

The CA ACF2 for z/VM Logonid database.

RULE

The CA ACF2 for z/VM Rule database.

Prerequisites

The ACFDBCPY utility copies CMS format CA ACF2 for z/VM databases from one minidisk to another. You must reserve the target minidisk through the CMS RESERVE command and format it in 4 KB blocks. The syntax of the RESERVE command is:

```
RESERVE nfn DATABASE nfm
```

nfn

The filename of the minidisk to reserve.

DATABASE

The filetype (always DATABASE).

nfm

The filemode of the minidisk to reserve for the database.

Run this utility with the system in NOAUTO mode (CA ACF2 for z/VM is not active) to expand a database or during database recovery. You must have read and write access to the source (input) and target (output) databases.

Running ACFDBCPY

You can copy any of the three CA ACF2 for z/VM databases, but you must copy them one at a time. The syntax of this utility is:

```
ACFDBCPY fn DATABASE fm { nfm } { DATABASE } { nfm }
           { = } { = } { = }
```

fn

The filename of the database to copy.

DATABASE

The filetype of the database (always DATABASE).

fm

The filemode of the minidisk to copy.

nfn

The new filename of the copied database.

DATABASE

The filetype of the copied database (always DATABASE).

nfm

The filemode of the copied minidisk.

You can use the equal sign to indicate you want to use the same value for the same field as in this example, ACFDPCPY LID DATABASE D = B. This command copies LID DATABASE D to LID DATABASE B. The first equal sign represents the same value as the first filename (LID) entered. The second equal sign represents the same value as the first filetype (DATABASE) entered.

ACFDPCPY issues the following message when it has successfully executed:

```
ACFCPY361I <nn> <db> records processed
```

nn

The number of records processed.

db

The type of records processed.

ACFSMCOP - Copying SMF Disks

The ACFSMCOP utility reads blocked and spanned SMF records from a service machine SMF disk and outputs to a standard CMS minidisk file (unblocked, with internal headers removed) or to a tape. ACFSMCOP uses OS macros for tape output, in case you want SL tape handling (OS automatically handles SL tapes).

Running ACFSMCOP

The syntax of the ACFSMCOP utility is either of the following:

```
ACFSMCOP ifn ift ifm ofn oft ofm
```

```
ACFSMCOP ifn ift ifm oddname
```

ifn

The input filename.

ift

The input filetype.

ifm

The input filemode.

ofn

The output filename.

oft

The output filetype.

ofm

The output filemode.

odddname

Corresponds to the output DDNAME on a FILEDEF to tape.

You cannot mask any of the filename qualifiers with an asterisk (*). You can use a dash (-) in the ofn and oft filename qualifiers.

When output is to tape, the ifn and the oddname parameters must be unique. Also, you must supply a FILEDEF and you must specify the RECFM parameter of the FILEDEF as V or VB. The FILEDEF should resemble either of the following:

```
FILEDEF dddname tapx (RECFM VB LRECL 10240 BLKSIZE 32756
FILEDEF dddname tapx SL (RECFM VB LRECL 10240 BLKSIZE 32756
```

When you want to output to tape with standard labeling, as in the above FILEDEF, provide a LABELDEF in a REXX exec like the following example:

```
queue
SMF.xxxxxxxx
LABELDEF OUTMOVE FID ? volid scratch
```

Return Codes

ACFSMCOP can generate the following return codes:

0

All processing successfully completed.

4

Parameter error. A message indicates the parameter in error. The possible errors are listed below:

- Required operand not specified.
- Excessive operands specified.
- Input file same as output file.
- Input filemode same as output filemode.
- Input filename same as output DDNAME (tape).
- FILEDEF to tape is not V or VB.

8

The output file already exists.

12

I/O error.

16

The CA ACF2 for z/VM SMF data did not block the input file.

20

A call to the SMF deblocker utility ended due to a logical error.

28

The input SMF file does not exist.

Chapter 21: Installation and Maintenance Utilities

This chapter contains information on the following utilities, which provide functions necessary for installing and maintaining CA ACF2 for z/VM Security for VM.

ACF2ASM

Performs various assemblies (FDR, HCPAC0, CMS modules, and so on)

ACF2FIX

Applies CA ACF2 for z/VM fixes.

ACF2VSAM

Creates VSAM databases and allocates VSAM clusters for the CA ACF2 for z/VM databases.

ACFGEND

Creates modules for CA ACF2 for z/VM provided intercepts for IBM-supplied modules and for CA ACF2 for z/VM-provided programs that create CP and CMS nucleuses.

ACFRGP

Lists resource group names that a specified resource belongs to.

ACFUTFEP

Front ends one text file with another.

ECAIGLO

Provides for easy management of variables for the CA ACF2 for z/VM full-screen feature.

The ACF2INST utility installs CA ACF2 for z/VM Security for VM. It provides an interactive and easy-to-follow method for installing CA ACF2 for z/VM Security for VM. For information about using this utility, see the *Getting Started*.

This section contains the following topics:

[ACF2ASM - Assembling the FDR, HCPAC0, CMS Modules](#) (see page 328)

[ACF2FIX - Applying CA ACF2 for z/VM Fixes](#) (see page 329)

[ACF2VSAM - Creating VSAM Databases](#) (see page 332)

[ACFGEND - Generating Modules](#) (see page 332)

[ACFRGP - Grouping Resources](#) (see page 333)

[ACFUTFEP - Frontending Text Files](#) (see page 334)

[ECAIGLO - Processing Panel Manager Variables](#) (see page 337)

ACF2ASM - Assembling the FDR, HCPAC0, CMS Modules

This utility does various assemblies (FDR, HCPAC0, CMS modules, and so on). You can modify this utility to meet your site standards. Comments in the utility describe the types of changes you might want to make and why.

When you finish modifying ACF2ASM, file it on the CA ACF2 for z/VM local options disk (usually 2A0).

Running ACF2ASM

To execute ACF2ASM, enter the following command:

```
ACF2ASM module [component [maint-fm [text-ft]]] [( [$ppf]]
```

module

Name of the module to assemble.

component

The component that the module is a part of. Valid component values are:

ACF

A CA ACF2 for z/VM module, normally ACFFDR.

CP

A CP module.

CMS

A CMS module, nucleus resident or a CMS command module. This is the default.

DOS

A CMS/DOS module.

maint-fm

The filemode of the CA ACF2 for z/VM local options disk. The default is the A-disk.

text-ft

The filetype of the text when it has been moved to the local options disk. The default is the same as the filetype output by the assemble.

\$ppf

The filename of the CA ACF2 for z/VM \$PPF file to use for assemblies. This parameter is not required for the ACF component or SP5 assemblies.

This exec saves text decks and replaces them on the local options disk. If the local options disk is not the A-disk, the text deck the assemble produces is erased from the A-disk.

You may want to modify this exec for the following reasons:

- You use an exec other than VMFASM to assemble your VM modules
- The assemble output filetype is different from the default for the component
- You want to copy the output text to another minidisk

As shipped, this exec makes the following assumptions:

- The VM assemble exec is VMFHASM.
- The output text file's filetype from the assemble is one of the following:

TEXT

For the ACF components (ACFFDR).

TXTACF

For the CP components (such as HCPACO).

TXTACF01

For the CMS and DOS component using IBM SES.

- You do not want the output text on any minidisk other than the CA ACF2 for z/VM local options disk.
- The source files are not in packed format.

ACF2FIX - Applying CA ACF2 for z/VM Fixes

ACF2FIX applies CA ACF2 for z/VM fixes. Enter the following command to run this utility:

```
ACF2FIX      { fn ft fm } [USING] { zfn zft zfm } [[options]
             {   ?   }      { = = = }
```

fn ft fm

File ID of the file to be zapped. Valid filetypes are:

- MODULE
- LOADLIB
- TXTLIB
- TEXT
- TXT***** (where ***** can be up to any five characters)

zfn zft zfm

File ID of the fix file.

USING

Optional keyword.

options

Options that directs the output of the ZAP command. Valid options are:

NOPRINT

Directs the output to the terminal.

PRINT

Directs the output to the printer (the default).

?

Displays online help containing the syntax of this utility.

== =

Duplicates the input fn ft, or fm names.

ACF2FIX Control Statements

ACFEXPAND

The ACFEXPAND control statement lets the ACF2FIX EXEC automatically increase the CSECT size of a TEXT. This control statement specifies the CSECT to expand and the required size of the TEXT. You do not need to use ZAPTEXT manually or calculate the difference between the current size and the required size of the TEXT. If the TEXT is already at the required length, you do not need an expansion. If you need to expand more than one CSECT in a TEXT, ACF2FIX supports multiple ACFEXPAND control statements or multiple parameters on a single control statement with comma delimiters.

CA ACF2 for z/VM Technical Support normally supplies these control statements with all fix files that require an expanded TEXT.

The syntax of the ACFEXPAND control statement is:

* ACFEXPAND csect size, ... ,csectn sizen)

The asterisk (*) is part of the control statement. Do not remove it.

csect

The IBM control section that you want to expand.

size

The new size, in hexadecimal, of the CSECT.

One example of the ACFEXPAND control statement is:

```
* ACFEXPAND HCPZZZ 1200
NAME HCPZZZ HCPZZZ
VER 1100 0000,0000
REP 1100 C1C3,C6F2
END
```

This statement checks to see if HCPZZZ is '1200'x bytes long. If it is, the fix applies. If not, it expands HCPZZZ to '1200'x bytes, then applies the fix.

ACFCHKSUM

The ACFCHKSUM control statement helps verify that you correctly typed in a hardcopy of a fix. ACF2FIX adds up all the numbers in the REP and VER control statements and compares it to the numbers specified in VERCHKSUM and REPCHKSUM. If you typed in a fix incorrectly, these numbers do not match the total calculated for the REP and VER control statements and you then need to reverify the REP and VER control statements for accuracy.

CA ACF2 for z/VM Technical Support normally supplies these control statements with all fix files that require you to key a fix in manually, such as when a fix is sent by FAX machine.

The syntax of the ACFCHKSUM control card is:

```
* ACFCHKSUM verchksum repchksum
```

The asterisk (*) is part of the control statement. Do not remove it. You can only specify one control statement. If you specify more than one, the last one overrides previous statements.

verchksum

Decimal number that is the total of all VER control cards in the zap. CA ACF2 for z/VM Technical Support supplies this number in the zap.

repchksum

Decimal number that is the total of all REP control cards in the zap. CA ACF2 for z/VM Technical Support supplies this number in the zap.

ACF2VSAM - Creating VSAM Databases

This is a menu-driven utility that creates VSAM databases and allocates VSAM clusters for the CA ACF2 for z/VM databases. See the Installation Guide for additional information about this utility.

Running ACF2VSAM

Enter the following command to execute ACF2VSAM:

```
ACF2VSAM
```

It displays the following menu:

```
REPLY WITH THE NUMBER OF THE OPTION THAT YOU WANT
TO PERFORM.

1 - REDEFINE PARAMETERS NEEDED FOR VSAM SUPPORT.
2 - FORMAT MINIDISK(S) WITH DSF FOR THE VSAM MASTER
   CATALOG AND VSAM DATA BASE FILES.
3 - DEFINE THE VSAM MASTER CATALOG.
4 - DEFINE THE DATA BASE CLUSTERS.
5 - INITIALIZE THE DATA BASES.
6 - MERGE CMS DATA BASE FILES INTO VSAM DATA BASE FILES.

REPLY "RETURN" TO RETURN TO THE CALLING EXEC OR CMS.
REPLY "LIST" TO SEE FURTHER INFORMATION ABOUT ALL
   OPTIONS.
REPLY "N ?" TO SEE HELP FOR STEP n.
REPLY "EXIT" TO END THIS EXEC AND ANY CALLING EXECs.

n IS THE CURRENT DEFAULT FOR THIS REPLY.
```

ACFGEND - Generating Modules

This utility creates modules for CA ACF2 for z/VM-provided intercepts for IBM-supplied modules and for CA ACF2 for z/VM-provided programs that create CP and CMS nucleuses. You cannot use this utility for other types of modules.

Running ACFGEND

The syntax of this utility is:

```
ACFGEND modname [diskmode]
```

modname

The name of the module to create. If the module name you create already exists on the target disk, ACFGEND renames it to a module name of OLDMOD and erases the previous OLDMOD.

diskmode

The mode of the disk where ACFGEND puts the command module. If you do not specify a disk mode, the default is A.

ACFRGP - Grouping Resources

The Resource Grouping utility provides a list of resource group names that a specified resource belongs to. Examples of resources include DIAL, autologon, and group logon validations.

Place resources with the same access requirements together so that only one resource rule is required. Resources can belong to more than one group, and groups can belong to other groups.

ACFRGP searches an in-storage structure record that a cache of the cross-reference (XREF) resource group records created, and an index of those records, to find the resource group names. The utility prints the resource group names in the order that resource validation takes place (that is, from most specific to least specific). If the structure of the groups has changed and a current configuration is required, you must restart CA ACF2 for z/VM or refresh the XREF records with the ACFSERVE RELOAD XREF RGP command. Since this utility depends on the internal structure CA ACF2 for z/VM creates, run it when CA ACF2 for z/VM is active.

See the cross-reference chapter in the *Administrator Guide* for more information about resource grouping.

Files

SYSPRINT

Directs output to your terminal (the default), printer, or a minidisk file. See Defining Report Files in “The Reports” chapter for more information about this file.

Running ACFRGP

Enter the ACFRGP command on the command line. The syntax is:

```
ACFRGP RESOURCE(resource name) TYPE(type)
```

RESOURCE(resource name)

Specifies the 1- to 40-character resource name that identifies the resource protected. This field is not maskable for this utility.

TYPE(type)

Specifies a three-character resource rule set type. CA ACF2 for z/VM selects the resource groups that contain the resource of this type. For example, if you specify DIA for TYPE in this utility, CA ACF2 for z/VM lists only the resource groups of type DIA for DIAL validations.

Example

The following example shows how the ACFRGP utility is executed:

```
FILEDEF SYSPRINT DISK=,  
ACFRGP TYPE(DIA) RESOURCE(VSE)
```

Sample Output

The following report shows sample output that ACFRGP generates:

```
RESOURCE GROUPING UTILITY  
TYPE: DIA      RESOURCE: VSE  
RESOURCE GROUP NAMES:  
                TEST21  
                TEST2  
                TEST1  
                TEST31  
                TEST3  
                TEST222  
                TEST23  
                TEST41  
                TEST4  
                TEST32  
  
*** END OF XREF RESOURCE GROUP LIST ***
```

ACFUTFEP - Frontending Text Files

The ACFUTFEP utility front ends one text file (the intercepted file) with another (the interceptor file). The output produces a file combining the intercepted and interceptor files. When you later load the output file (for example, to generate a module or DCSS), specified CSECT or ENTRY points in the intercepted text refer to a corresponding interceptor CSECT or ENTRY.

Running ACFUTFEP

The syntax of this utility is:

```
ACFUTFEP fileid1 fileid2 [fileid3] [(options)]
```

fileid1

File identifier of the input (intercepted) text file. Operands include `fni fti fmi|*`.

fni

Required. Filename of the intercepted program.

fti

Required. Filetype of the intercepted program.

fmi|*

Required. Filemode of the intercepted program. An asterisk uses the first file found in the CMS search order with the specified `fni` and `fti` values of `fileid1`.

fileid2

File identifier of the output (interceptor) text file. Do not use this identifier with the RESTORE option; it terminates the ACFUTFEP program with an error message. Operands include `[fnf|*|= [ftf|*|= [fmf|*|=]`].

fnf

Required. Filename of the interceptor program.

ftf|*|=

Optional. Filetype of the interceptor program. Default is TEXT. If you specify an asterisk (*), ACFUTFEP uses the default value TEXT. An equal sign (=) uses the `fti` value of `fileid1`.

fmf|*|=

Optional. Filemode of the interceptor program. An asterisk (*) uses the first file found in the CMS search order with the specified `fnf` and `ftf` values of `fileid2`. An equal sign (=) uses the `fmi` value of `fileid1`.

fileid3

File identifier of the output text file. Operands include `[fno|= [fto|= [fmo|*|=]]`].

fno|=

Optional. Filename of the output text file. If you specify an equal sign (=), ACFUTFEP uses the `fni` value of `fileid1`.

fto|=

Optional. Filetype of the output text file. You cannot use a filetype of TEXTIBM; this is reserved for saving the original file. If you specify an equal sign (=), ACFUTFEP uses the `fti` value of `fileid1`.

fmo|*|=

Optional. Filemode of the output text file. Default is an asterisk (*). If you specify an asterisk (*), ACFUTFEP uses the fmi value of fileid1 unless minidisk is read-only, then it uses the mode A. If you specify an equal sign (=), ACFUTFEP uses the fmi value of fileid1.

options

Valid options are listed below:

OLD

This program previously processed the intercepted file fileid1 and has CA ACF2 for z/VM intercepts or an interceptor program, or both.

NEW

The intercepted file fileid1 does not contain CA ACF2 for z/VM intercepts or an interceptor program. If it does, ACFUTFEP issues an error message and processing halts.

REPLACE

Replace any file with the same identifier as the output file fileid3.

RENAME

Change the filetype to TEXTIBM to rename a file with the same identifier as the output file fileid3. The filename remains unchanged.

RESTORE

Restore the intercepted file fileid1 to the condition before it was front ended. You cannot specify the interceptor file fileid2. ACFUTFEP ignores the INTERCPT (also INTERCEPT) option. It sets the OLD option.

NOHISTORY

Do not insert history records into the output file fileid3. If you select this option, this program cannot process the output file again without the results being unpredictable. Use with caution.

INTERCPT fileid1 fileid2 [|] ... | INTERCEPT fileid1 fileid2 [|] ...

Specifies the intercepted CSECT or ENTRY in fileid1 and the corresponding interceptor CSECT or ENTRY from fileid2. You can use a slash (/) to separate More than one fileid1 and fileid2 pair. If any other options follow the INTERCPT (also INTERCEPT) list, a slash (/) must follow the last operand in the list. You can repeat the INTERCPT|INTERCEPT option multiple times, once for each intercept. If you never specify the option, by default the intercepted CSECT or ENTRY being is in fileid1 and the interceptor CSECT or ENTRY comes from fileid2.

- If you do not specify the OLD nor the NEW option, ACFUTFEP determines the existence of intercepts and bases processing on the finding.
- If you specified RENAME and a file exists with the same filename as the output file, the filetype TEXTIBM, and the same filemode as the output file, ACFUTFEP issues an error message and processing halts.
- If you did not specify RENAME or REPLACE and the output file fileid3 and the intercepted file fileid1 are the same, then ACFUTFEP assumes RENAME if the intercepted file fileid1 does not contain CA ACF2 for z/VM intercepts; or it assumes REPLACE if the intercepted file fileid1 contains CA ACF2 for z/VM intercepts.
- If you did not specify RENAME or REPLACE and a file with the same name as the output file fileid3 exists (unless the above note 3 applies), ACFUTFEP issues an error message and processing stops.
- The slash ending an INTERCPT or INTERCEPT list enables future expansion of the list.

ECAIGLO - Processing Panel Manager Variables

The ECAIGLO utility enables easy management of variables for the CA ACF2 for z/VM full-screen facility.

- You can save them in common storage for access by more than one panel
- You can store them in CMS files for later use by panels or other programs
- You can manipulate them by their full names or generically by stem when they have compound names.

Running ECAIGLO

The syntax for running ECAIGLO is:

ECAIGLO subcommand, [fn [ft [fm]]], [vn], ...

subcommand

Is the function to perform. Valid subcommands are listed below:

GET

Reads the file specified in the second argument, searches for the variable names specified by the third and succeeding arguments, and sets the variables to the values found in the file.

PUT

Retrieves the current values for the specified variables and writes all variables for the specified file back to disk. Refreshes only the variables specified. It does not refresh the other variables active for the file and writes them to disk with whatever values they had at the time of the last PUT request.

DEL

Deletes all occurrences of the specified variable names from the specified file and from the instorage copy of the file.

SET

Retrieves the current values of the specified variables and updates the values it maintains in its own buffers. Does not update the file on disk.

You can use the SET and GET subcommands to manipulate variables that never reside on disk. They are only maintained in storage for the duration of the session.

DROP

Deletes the specified variables from the instorage copy of the file only. Does not update the file on disk. Does not drop the variables in REXX terms. They are still available to the current REXX program.

PURGE

Deletes all variables from the instorage copy of the file only. Does not update the file on disk.

fn

Specifies the filename where the variables are stored. If you do not specify fn, the filename defaults to CAI.

ft

Specifies the filetype where the variables are stored. If you do not specify ft, the filetype defaults to ECAIGLO.

fm

Specifies the filemode where the variables are stored. If you do not specify fm, the filemode defaults to * for existing files and A for new variable files.

vn

Specifies a variable name to process. You can specify up to eight variable names, one per argument for arguments three to ten. You can specify variable names as follows:

- As a specific variable name. (CAI.PROD.1 acts only on that variable.)
- As a stem. (CAI.PROD. acts on all variables that begin that stem.)
- You can specify * to reference all variables associated with a particular file. On a GET, DROP, or DEL request, acts on all variables. On a PUT or SET request, stores all known REXX variables.
- If you omit variable names on a PUT request, saves the file without updating variable values. Omitting variable names on any other request is an effective NOP.
- With the PURGE function, ALL is the only valid specification at this time.

Examples

Get variable CAI.TEST.1 from file CAI GLOBAL A.

```
CALL ECAIGLO 'GET', 'CAI GLOBALV A', 'CAI.TEST.1'
```

Save all current REXX variables in file CAI GLOBAL A.

```
CALL ECAIGLO 'PUT', 'CAI GLOBALV A'
```

Delete all variables beginning with CAI.TEST. from file CAI GLOBAL A.

```
CALL ECAIGLO 'DEL', 'CAI GLOBALV A', 'CAI.TEST.'
```

Save all variables beginning with CAI.TEST. into storage.

```
CALL ECAIGLO 'SET', 'CAI GLOBALV A', 'CAI.TEST.'
```

Delete all variables beginning with CAI.TEST. from storage.

```
CALL ECAIGLO 'DROP', 'CAI GLOBALV A', 'CAI.TEST.'
```

Delete all variables in file CAI GLOBALV A from disk and storage.

```
CALL ECAIGLO 'PURGE', 'CAI GLOBALV A', 'ALL'
```


Chapter 22: Report Utilities

This chapter contains information on the ACF2PSMF utility that processes SMF data so CA ACF2 for z/VM reports can use it.

The following utilities also process SMF data. You can find information on running these utilities on the referenced pages.

ACFRPTPP

Accepts files of SMF records and separates them into intermediate files. See Running ACFRPTPP in the “Running Customized Reports” chapter for information about running this utility.

ACFRPTS

Generates CA ACF2 for z/VM reports. See Running Reports Using the ACFRPTS EXEC in “The Reports” chapter for information about running this utility.

This section contains the following topics:

[ACF2PSMF - Processing SMF Data and Running Reports](#) (see page 341)

[Running ACF2PSMF](#) (see page 342)

[Return Codes](#) (see page 347)

ACF2PSMF - Processing SMF Data and Running Reports

The ACF2PSMF utility is a sample of how you might process SMF data. Before using this utility, modify it to meet your site's needs and test it thoroughly to be sure the results are as expected.

ACF2PSMF processes your SMF data and runs the following eight CA ACF2 for z/VM reports:

ACFRPTCL

Command Limiting Report

ACFRPTCT

ACFSERVE Command Tracking Report

ACFRPTDL

DIRMAINT Event Report

ACFRPTDS

Dataset/Program Event Report

ACFRPTEL

Information Storage Update Report

ACFRPTLL

Logonid Modification Report

ACFRPTPW

Invalid Password/Authority Report

ACFRPTRL

Rule-id Modification Report.

ACF2PSMF runs in a disconnected service machine, although it can run manually. To run an ACF2PSMF report, change the DESTID= operand of the @SMF macro in the ACFDPR to the user ID of the service machine where this exec is running. To conserve CP spool space, you can change the SWITCH= operand of the @SMF macro to SWITCH=NOTIFY.

Running ACF2PSMF

Below is the syntax of the command to run this utility:

```
ACF2PSMF      [ ARCHIVE { YES}] [ VOLSER { volser }]  
              [           { NO } ] [           { XXXXXX } ]  
  
              [[ TDISK { NO  
                { type #_of_cylinders } ] [ WORKDISK{ vaddr } ] ]  
              [[           { NO } ] ]
```

You should be aware of the following information regarding the previous syntax:

- You can only use the VOLSER option when you specify ARCHIVE YES.
- TDISK and WORKDISK are mutually exclusive.
- You only need the TDISK and WORKDISK options if your site is running with FDR @SMF option SWITCH=DUMP.
- You can substitute WORKDISK for TDISK.

ARCHIVE {YES|NO}

Specifies ARCHIVE processing.

YES

Copies the SMF data to tape. ACF2PSMF creates a standard labeled tape with a label of SMF.Yyy.Dddd.Ssss; where Y, D, and S are constants.

yy

Last two digits of the current year.

ddd

Julian day the file was created.

sss

Sequence number of the file.

NO

Does not do ARCHIVE processing (the default).

VOLSER volser

Put this volume serial number on the tape. The VOLSER parameter can be up to six bytes long. The default VOLSER is XXXXXX.

TDISK {NO|type #_of_cylinders}

Specifies the TDISK processing.

NO

Do not use TDISK for work space.

type

The DASD type of the TDISK. Restricts TDISK type to any valid DASD type that CP recognizes.

#_of_cylinders

The amount of space of TDISK to define.

WORKDISK{vaddr|NO}

One of the following:

NO

Do not use WORKDISK.

vaddr

Use this disk for workspace. The virtual address specified in this parameter must be a CMS-formatted minidisk.

Operation of ACF2PSMF

This utility waits for a NOTIFY file or an SMF file from the CA-ACF2 service machine. When notified of an SMF file, ACF2PSMF links to the service machine disk and runs the eight standard CA ACF2 for z/VM reports. If you defined SWITCH=NOTIFY on your system, ACF2PSMF issues the ACFSERVE ARCHIVE command after SMF processing is complete. The ARCHIVE command tells the service machine that SMF data was processed and the disk is available for reuse.

When ACF2PSMF receives a full SMF file, it allocates T-disk or uses the work disk to process the file. It spools the reader hold to avoid the loss of data. It runs the eight reports and purges the file from the reader queue.

A control file, ACF2PSMF RUNLOG, contains a log of each SMF file processed. You must empty this file periodically or the logging function can be commented out.

ACF2PSMF can ARCHIVE SMF data to tape. To invoke archiving, specify ARCHIVE YES as an option to this utility. The ARCHIVE option on ACF2PSMF is completely separate from the ACFSERVE ARCHIVE SMF command.

Special Considerations

For SWITCH=NOTIFY processing, this machine must link to the CA ACF2 for z/VM service machine SMF disks and have the SECURITY or ACCOUNT authority to issue the ACFSERVE SMF ARCHIVE command.

If you use the ARCHIVE SMF option, you might want to review the routine at REXX label archive_smf: to take into account any tape managers or procedures at your site. Alternately, you could code your own ARCHIVE to disk.

If your site has IPF installed, you can change the CP SLEEP command in STEP 4.0 below to the IPF WAKEUP RDR command.

To change the reports this utility executes, review the processing at label run_acf2_reports.

Utility Logic

Step 1.0

Get run arguments.

Step 2.0

Set defaults.

Step 3.0

Process arguments, if any.

Step 4.0

See if there are any files waiting to process. If none, sleep for a bit and try again.

Calls Step 5 for NOTIFY files. Calls STEP 6 for SMF files.

Step 5.0

Process a NOTIFY file.

The format of the NOTIFY data is:

```
FILE SMF smf_ft ON service_machine_id cuu IS IN UNLOAD STATUS
```

- **Step 5.1**
Receive the NOTIFY file. Leaves the file in the reader until processing is done because, if this system comes down for any reason, processing can start from the beginning without any manual intervention. It is also relatively sure no data is lost by spooling the RDR hold.
- **Step 5.2**
Link to and access the service machine SMF disk.
- **Step 5.3**
Perform common steps.
- **Step 5.4**
Clean up after yourself.
- **Step 5.5**
All done-return.

Step 6.0

Process an SMF file.

Step 6.1

Get DASD space for SMF file. Leaves the file in the reader until processing is complete because, if the system comes down for any reason, it can start from the beginning without any manual intervention. It is also relatively sure that data is not lost by spooling the RDR hold.

- **Step 6.2**
Receive the SMF file.

- **Step 6.3**
Perform common steps.
- **Step 6.4**
Clean up after yourself.
- **Step 6.5**
All done - return.

Input

Input is an SMF file or a NOTIFY file. The NOTIFY file contains the vaddr and the user ID that owns the SMF data file. The NOTIFY file determines how the SMF disk is linked and accessed.

Output

If you specified ARCHIVE YES, ACF2PSMF writes eight CA ACF2 for z/VM reports to the virtual printer, standard labeled SMF tape.

Return Codes

ACF2PSMF issues the following return codes to indicate the results of the execution:

4

One of the options passed is in error.

8

The card reader is not operational.

12

Error receiving file.

16

I/O error.

20

No available filemodes.

24

Error linking to service machine SMF disk.

28

Error accessing service machine SMF disk.

32

Error issuing ACFSERVE ARCHIVE command.

36

Error obtaining TDISK.

40

Format of TDISK failed.

44

Option conflict.

48

Workdisk option specified, but not linked.

52

Error accessing workdisk.

56

Error archiving SMF data to tape.

60

No TDISK or WORKDISK provided to process an SMF file received from CA ACF2 for z/VM Security for VM.

64

Error running ACFSMCOP utility.

Chapter 23: Tape Utility

This chapter contains information on the ACFERASE utility that erases all data on a tape; protecting tape volumes from reuse and unauthorized data access.

This section contains the following topics:

[ACFERASE - Protecting Tape Volumes from Reuse](#) (see page 349)

[Prerequisites](#) (see page 349)

[Running ACFERASE](#) (see page 350)

[Messages](#) (see page 351)

ACFERASE - Protecting Tape Volumes from Reuse

ACFERASE utilityThe ACFERASE utility erases all data on a tape, protecting tape volumes from reuse and unauthorized data access. It is a standalone utility that executes in the CMS transient area and uses CMS tape macros.

Normally, an exec or program calls ACFERASE. This lets a validation exec easily record and eases customization (you can use an input file to specify the tapes to erase).

ACFERASE follows these steps when erasing the data on a tape volume:

1. Optionally writing a volume serial label (volser) at the beginning of the tape. This volser is usually identical to the ID label on the tape's cover.
2. Writes large blocks of zero records (hexadecimal zeros) until it senses the end of the tape, erasing the tape.
3. Writes two tape marks to mark the End-Of-Tape.
4. Rewinds the tape.
5. Unloads the tape unless otherwise specified.

Prerequisites

There are no prerequisites for running this utility. Give the authority to use this utility only to the person responsible for the protection of tape volumes (normally the system operator).

Running ACFERASE

ACFERASE utility The syntax for running ACFERASE is:

```
ACFERASE [ tape ] [ QUERY          ]
          [ 181  ] [ VOLSER volser] [ ( [STACK] [VERIFY] [REWIND]
          [ LABEL          ]
          [ NL            ]
```

tape

Indicates the virtual device address where the tape is mounted. Valid addresses are 181, 182, 183, and 184. You can enter the labels TAP1, TAP2, TAP3, and TAP4 to represent 181 through 184 respectively. The default is 181.

QUERY

Lets an exec or user obtain label information from a tape before deciding whether to erase it. A message indicates the volser of the tape if the tape has a label or tells you the tape does not have a label. It rewinds the tape, but does not unload it. QUERY is the default.

volser

Identifies a standard OS VOL1 label and dummy HDR1 label that is written to tape before erasing the tape. Normally, this value is identical to the identification label on the tape's cover.

LABEL volser

Has the same definition as volser above. The prefix LABEL permits specification of volsers that are the same as keywords operands. For example, LABEL NL writes the label NL to tape without mistaking it for the keyword operand of the same name.

NL

Indicates no label is written on the tape.

STACK

Stacks all messages in first in-first out (FIFO) order. This is useful when an exec or program calls ACFERASE. An asterisk (*) precedes the stacked line.

VERIFY

Checks that the specified tape volume matches the actual volser label. If they match, it erases the tape. If they do not match, the operation fails and the tape is rewound, but not unloaded. Ignores VERIFY if QUERY is in effect.

REWIND

Indicates if a tape is successfully erased. It is rewound, but not unloaded.

Messages

ACFERASE utilityACFERASE messages are normally displayed on your terminal. If you specified the STACK option, ACFERASE enters the messages in the program stack.

Possible messages, their return codes, and descriptions follow.

ACFpgm528E <parm> is an invalid <fx> parameter

You entered an invalid filename, filetype, or filemode.

ACFpgmE50I Tape is <volser>

This message is in response to QUERY. The mounted tape has standard labels with this volume serial ID. The tape is rewound, but not unloaded.

ACFpgmE51E Tape is unlabeled

ACFERASE issues this message in response to QUERY. The mounted tape is unlabeled. It is rewound, but not unloaded.

ACFpgmE52I Tape is <volser> - tape is erased

Erased, rewound, and unloaded the tape with the specified volume serial. (Return code 0)

ACFpgmE53I Tape is unlabeled - tape is erased

The tape does not have a label and was erased, rewound, and unloaded unless you specified REWIND. (Return code 0)

ACFpgmE54E Tape is <volser> - verify NL failed ACFERASE utility

The NL (no label) specification did not match because the tape has a label. Rewinds the tape, but does not unload it. (Return code 12)

ACFpgmE55E Tape is <volser> - verify label failed

The specified volume serial did not match what exists on the tape. The erase option aborted. Rewinds the tape, but does not unload it. (Return code 4, if tape has a label, or 8, if tape is unlabeled)

ACFpgmE56E Device is not attached

You did not define the virtual device address of the tape drive requested through the tape operand. Erase operation cannot begin. (Return code 105)

ACFpgmE57E Device is not a tape drive

You defined the virtual device address of the tape drive requested through the tape operand, but not as a tape drive. The erase operation cannot begin. (Return code 107)

ACFpgmE58E Tape is <volser> - tape is file protected

The tape with the specified volume serial was mounted without a required write ring. The erase operation is aborted and the tape is left at the position where the error occurred. (Return code 106)ACFERASE utility

ACFpgmE59E Tape is unlabeled - tape is file protected

The unlabeled tape was mounted without a required write ring. The erase operation is aborted and the tape is left at the position where the error occurred. (Return code 106)

ACFpgmE5AE Tape is <volser> - unexpected tape I/O error

The tape with the specified volume serial encountered an error due to an internal program error. The erase operation cannot begin or was aborted. (Return code 1nn - nn is the error code from a RDTAPE, WRTAPE, or TAPECTL CMS macro.)

ACFpgmE5BE Tape is unlabeled - unexpected tape I/O error

The unlabeled tape encountered an error due to an internal program error. The erase operation cannot begin or was aborted. (Return code 1nn - nn is the error code from a RDTAPE, WRTAPE, or TAPECTL CMS macro.)

ACFpgmE5CE Tape is <volser> - unexpected end of tape writing labels

The tape with the specified volume serial encountered an error due to an end-of-tape mark not far enough from the start of the tape to hold the label. The erase operation is aborted and the tape is left at the position where the error occurred. (Return code 102)ACFERASE utility

ACFpgmE5DE Tape is unlabeled - unexpected end of tape writing labels

The unlabeled tape encountered an error due to an end-of-tape mark not far enough from the start of the tape to hold the label. The erase operation is aborted and the tape is left at the position where the error occurred. (Return code 102)

ACFpgmE5EE Tape is <volser> - permanent tape I/O error

The tape with the specified volume serial is physically damaged. The erase operation is aborted and the tape is left at the position where the error occurred. (Return code 103)

ACFpgmE5FE Tape is unlabeled - permanent tape I/O error

The unlabeled tape is physically damaged. The erase operation is aborted and the tape is left at the position where the error occurred. (Return code 103)

For additional information about these and other messages, see the Message Guide.

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