CA ACF2™ for z/VM

Reporting with CA Earl Guide

r12

technologies

Second Edition

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Chapter 1: Generating CA Earl Reports on z/OS and OS/390

This guide describes the CA Earl facility for CA ACF2 for z/OS (CA ACF2). A limited version of CA Earl is supplied as a standard facility with the CA ACF2 VM, z/OS products. CA Earl is a powerful, easy-to-use report language. Although CA Earl has only 24 straightforward commands that can be mastered very quickly, the language is comprehensive enough to meet the needs of experienced programmers.

This section contains the following topics:

Documentation Set

In addition to this guide, there are several other guides that comprise the CA ACF2 documentation set. For a complete list of the CA ACF2 documentation set and related documentation, see the *Administrator Guide*.

Command Notation

This guide uses the following command notation.

Enter the following exactly as they appear in command descriptions:

Notation	Meaning
UPPERCASE	Identifies commands, keywords, and keyword values that must be coded exactly as shown.
MIXed Cases	Identifies command abbreviations. The uppercase letters are the minimum abbreviation; lowercase letters are optional.
symbols	All symbols (such as equal signs) must be coded exactly as shown.

The following clarify command syntax; do not type these as they appear:

Notation	Meaning
lowercase	Indicates that you must supply a substitution (a user-supplied value).
[ ]	Identifies optional keywords or parameters.
{ }	Requires choosing one of the keywords or parameters listed.
underlining	Shows default values that need not be specified.
|	Separates alternative keywords and/or parameters, choose one.
…	Means the preceding items or group of items can be repeated more than once.

Sample Command

DEComp {*|*ruleid*|Like(*ruleidmask*)} [Into(*dsname*)]

Explanation:

DEC

Command abbreviation.

*   **Required alternative keyword.**

ruleid

Required alternative keyword.

Like(ruleidmask)

Required alternative keyword.

Into(*dsname*)

Optional parameter.

CA Earl Processing

CA Earl offers three methods of generating reports.

- The CA ACF2 ISPF Facility. CA ACF2 provides a complete set of ISPF menus and panels that simplify administration and report generation. Use ISPF panels to produce the sample CA Earl reports provided with CA ACF2. You can also use ISPF to generate any custom CA Earl reports you develop.

- Job Control Language (JCL) Procedures. CA ACF2 provides many commands and utilities that generate CA Earl reports. If you decide to use CA Earl to create your own custom reports, familiarize yourself with the standard JCL procedures used to generate the reports. Most likely, you will use the JCL to produce custom reports.

- Sample TSO CLIST. A sample TSO CLIST (named ACFEARL) is included on the CA ACF2 distribution tape. You can modify the sample CLIST and use it to simplify report generation and testing. The standard CA ACF2 install procedure loads the sample CLISTs into the data set CAI.CAICLIB. Check with your local CA ACF2 maintenance person if you are not sure about this data set name.

This chapter focuses on the steps required to produce an CA Earl report on a z/OS or OS/390 operating system. See the "Sample Reports" chapter for complete descriptions of the sample CA Earl reports CA ACF2 provides.

Using ISPF

This section shows how to use the CA ACF2 ISPF panels to generate a CA Earl report. Some of the example panels shown present numerous options. This guide explains only the options that pertain to CA Earl. For additional information about any screen, press the HELP key (usually PF1 key) or check your *CA Earl Reference Guide.*

To generate reports using ISPF, you must perform these steps:

1. Enter **ISPF** from TSO READY mode to enter the ISPF facility.

2. Use the ACFRPTPP utility to convert SMF files into a sequential format.

3. Invoke the CA Earl report procedure.

The examples that follow can help you through these steps.

Converting SMF Files to Sequential Format

Determine which SMF data sets will provide the input to your CA Earl reports. CA Earl, as packaged with CA ACF2, processes sequential files only. The ACFRPTPP utility converts the standard SMF files into a sequential format suitable for CA Earl.

To access ISPF

1. Type ISPF from the TSO READY prompt.

   The ISPF/PDF Primary Option Menu appears.

2. Select option A - Perform CA ACF2 Processing

   The CA ACF2 ISPF Option Selection Menu appears.

3. Select option 4 - CA ACF2 Report Program Processor

   The CA ACF2 Report Program Processor Menu appears.

4. Type 0 on the Option line to activate the ACFRPTPP - ACF2 SMF Record Preprocessor.

   The CA ACF2 SMF Record Pre-Processor Menu appears.

   In this panel, the default data set name for the CA Earl sequential file is TLC001.SMFFLT. The TLC001 in this example represents your user ID. This file contains the sequential format SMF records and becomes the input to your CA Earl report.

5. Press Enter.

   The CA ACF2 SMF Record Pre-Processor Menu appears.

   Select the SMF files that ACFRPTPP is to process by typing Type the names of the SMF data sets to provide the input for your CA Earl report. You must also fill in the data set name for the output listing. There are no defaults for these data set names, so be sure to specify them when running ACFRPTPP. For example, you can enter 'SYS1.MAN1' in the RECIN1 field and 'SYS1.MAN2' in the RECIN2 field to specify the data sets that provide the input. In the LIST ID field, specify MYOUTPUT to identify the data set name for the output listing. The LIST ID field has an eight-character limit. This produces an output data set with the name *userid*.ACF2.ACFRPTPP.MYOUTPUT. These data sets contain statistics about ACFRPTPP processing.

   You need CA ACF2 authorization (a rule or special privilege) to access the SMF data sets.

6. Press Enter to start the preprocessor.

   After ACFRPTPP completes processing, you are placed into ISPF/PDF Browse, or you can browse the data set that contains the ACFRPTPP processing statistics. See the *Reports and Utilities Guide* for a complete description of the report fields.

7. Press the End key (usually your PF3 key) to return to the CA ACF2 Report Program Processor Menu:

8. Type **F** on the OPTION line

The EARL Report Processor panel appears.

CA Earl Report Processor Field Descriptions

This section describes the fields on the EARL Report Processor panel.

DATA SET

The program name of the data set that contains the CA Earl source statements. This field is blank the first time you use this panel. By default, the CA Earl sample programs are placed in a library named CAI.CAIMAC when you install CA ACF2. Check with your local CA ACF2 maintenance person if you are not sure about this data set name. See the "Sample Reports" chapter for a complete list of the CA Earl reports that we supply with CA ACF2. Also, remember that you can specify the name of one of your own custom reports.

MACLIB

The library name of the data set that contains the copy members that the CA Earl source program requires. This field is blank the first time you run an CA Earl report. By default, some standard copy members that you may need are placed in a library named CAI.CAIMAC when you install CA ACF2. Check with your local CA ACF2 maintenance person if you are not sure about this data set name.

LIST ID

The data where the report is written to, selected by the user.

//ACFFLT:

The name of the sequential data set that contains the CA Earl flat file SMF records ACFRPTPP creates. This file is the input for your CA Earl report. This field defaults to *userid*.SMFFLT. Press the ENTER or RETURN key to produce your report. By default, CA Earl writes your report to an output file named &*syspref*.ACF2.EARL.*listid*. &*syspref* is the same value as the user's DFT-PFX value, and *listid* is the list ID specified on the EARL Report Processor panel.

Depending on how CA Earl is installed, you may need to modify the CLIST that runs this panel. Check with your systems programmer for assistance.

Using JCL

Use standard Job Control Language (JCL) to invoke the ACFRPTPP utility and the CA Earl facility. We supply sample JCL in the form of two inline procedures (PROCs) contained in a job stream named EARLRUN. Usually, EARLRUN is loaded into the SAMPJCL data set when you install CA ACF2. Check with your local CA ACF2 maintenance person if you cannot locate this data set.

The PREPROC Procedure

The first procedure in EARLRUN is named PREPROC. This procedure executes the CA ACF2 SMF Record Preprocessor utility (ACFRPTPP). You must specify the following JCL parameters when invoking PREPROC:

FLT (CA Earl Sequential File)

Name of an output data set to contain the sequential format SMF records ACFRPTPP creates.

SMFDS (SMF Input File)

Name of the data set that contains the CA ACF2 SMF data that is input for the CA Earl report. Usually, these are SYS1.MAN1, SYS1.MAN2, and so on. However, other data sets can be used. For example, the backup copies of SMF data sets stored on magnetic tape volumes.

The EARL Procedure

The second procedure in EARLRUN is named EARL. This procedure invokes the CA Earl program to generate a report. You must specify the following JCL parameters when invoking the proc EARL:

FLT (CA Earl Sequential File)

The name of the input data set that contains the sequential format SMF records ACFRPTPP creates. Specify the same data set name you specified for the FLT parameter in the PREPROC previous procedure.

EARL (CA Earl Program Source Data Set)

The data set name (and member name if the data set is a PDS) that contains the CA Earl program source statements. By default, the CA Earl sample programs are placed in a library named CAI.CAIMAC when you install CA ACF2. Check with your local CA ACF2 maintenance person if you are not sure about this data set name.

See the "Sample Reports" chapter for a complete list of the CA Earl reports that CA ACF2 supplies. Also, remember that you can specify the name of one of your own custom reports.

ELIB (CA Earl Macro Library)

The name of the data set library that contains copy members that the CA Earl source program requires. By default, some standard copy members that you may need are placed in a library named CAI.CAIMAC when you install CA ACF2. Check with your local CA ACF2 maintenance person if you are not sure about this data set name. A sample of the EARLRUN job stream follows. You can, of course, modify this job stream to suit your site's needs.

```
//EARLRUN JOB 1,'ACF2 REPORTS',MSGCLASS=A,TYPRUN=HOLD
//*********************************************************************
//*
//*  THE FIRST PART OF THIS JOB PRODUCES THE FLAT FILE INPUT
//*  TO CA-EARL ACF2 REPORTS
//*
//*  THE SECOND PART RUNS THE CA-EARL JOB
//*
//*********************************************************************
//*
//PREPROC PROC SMFDS=,
//             FLT=
//DELETE   EXEC PGM=IEFBR14
//FILE1    DD DSN=&FLT,DISP=(MOD,DELETE),
//            UNIT=SYSDA,SPACE=(TRK,1)
//*
//PRESCAN EXEC PGM=ACFRPTPP,REGION=384K
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//RECMAN1  DD DSN=&SMFDS,DISP=SHR
//SMFFLT   DD DSN=&FLT,SPACE=(CYL,(1,1)),DISP=(,CATLG),UNIT=SYSDA,
//            DCB=(RECFM=VB,LRECL=23756,BLKSIZE=23760)
//       PEND
//*
//EARL    PROC UNIT=SYSDA,
//             EARL=,
//             FLT=,
//             ELIB=
//EARL     EXEC PGM=EARL
//SORTLIB  DD   DSN=SYS1.SORTLIB,DISP=SHR
//EARLLIB  DD   DSN=&ELIB.,DISP=SHR
//EARLOBJ  DD   UNIT=&UNIT.,SPACE=(TRK,(14,1))
//SYSUT1   DD   UNIT=&UNIT.,SPACE=(TRK,(5,1))
//SYSUT2   DD   UNIT=&UNIT.,SPACE=(TRK,(1,1))
//SYSUT3   DD   UNIT=&UNIT.,SPACE=(TRK,(1,1))
//SYSUT4   DD   UNIT=&UNIT.,SPACE=(TRK,(2,1))
//SYSUT5   DD   UNIT=&UNIT.,SPACE=(TRK,(17,1))
//SYSUT6   DD   UNIT=&UNIT.,SPACE=(TRK,(5,1))
//SORTIN   DD   UNIT=&UNIT.,SPACE=(TRK,(17,1))
//SORTOUT  DD   UNIT=&UNIT.,SPACE=(TRK,(17,1))
//WORK1    DD   UNIT=&UNIT.,SPACE=(TRK,(17,1),RLSE)
//SORTWK01 DD   UNIT=&UNIT.,SPACE=(TRK,(17,1),RLSE)
//SORTWK02 DD   UNIT=&UNIT.,SPACE=(TRK,(17,1),RLSE)
//SORTWK03 DD   UNIT=&UNIT.,SPACE=(TRK,(17,1),RLSE)
//SYSUDUMP DD   SYSOUT=A
//SYSPRINT DD   SYSOUT=A
//SYSOUT   DD   SYSOUT=A
//SYSIN    DD   DSN=&EARL,DISP=SHR
//ACFFLT   DD   DSN=&FLT,DISP=SHR
```

```
//         PEND
//*----------------------------------------------------------------
//*  SPLIT THE SMF INPUT FILE(S) INTO FLAT FILE
//*  FILL IN SMF INPUT FILE NAME AND FLAT FILE OUTPUT NAME
//*----------------------------------------------------------------
//STEP1 EXEC PREPROC
//*----------------------------------------------------------------
//*  RUN EARL
//*  FILL IN EARL SOURCE DSN NAME
//*  AND FILL ELIB PARM WITH NAME OF INSTALLATION ACF2 MACLIB
//*----------------------------------------------------------------
//STEP2 EXEC EARL,
//         FLT='USER01.SMFFLT',
//         ELIB='CAI.CAIMAC',
//         EARL='CAI.CAIMAC(RPTPW)'
```

Be sure to provide values for the FLT, SMFDS, ELIB, and EARL parameters when you submit the EARLRUN job stream. Notice the values given to these parameters in the previous example. Depending on how CA Earl is installed in your system, you may need a STEPLIB DD statement in STEP2 to specify the CA Earl load library. The default name for the CA Earl load library is CAI.CAILIB. Check with your systems programmer for additional information and assistance.

Using a CLIST

You can also use the following CLIST to run CA Earl. You can find this CLIST, named ACFEARL, in the CAI.CAICLIB dataset.

```
PROC 02 LIB PGM OUT(*) UNIT(SYSDA) -
```

```
               PGMLIB() FLT() MLIB()
/*
/*
/* CLIST ALLOCATES ALL FILES NECESSARY
/* AND THEN RUNS EARL
/*
/* THE FOLLOWING PARAMETERS ARE NECESSARY:
/*
/* POSITIONAL PARAMETERS:  LIB, PGM
/*
/*   LIB:  SPECIFIES THE LIBRARY CONTAINING THE CA-EARL
/*         REPORT PROGRAM.
/*   PGM:  SPECIFIES THE CA-EARL REPORT PROGRAM THAT IS TO BE
/*         RUN.
/*
/* KEYWORD PARAMETERS:  PGMLIB, OUT, MLIB, UNIT, FLT
/*
/*   PGMLIB:  OPTIONAL, NAMES THE EXECUTION LOAD LIBRARY OUT OF
/*         WHICH THE EARL PROGRAM WILL BE EXECUTED.  SPECIFY A
/*         FULLY QUALIFIED DATASET NAME.  IF NULL OR BLANK,
/*         THE SYSTEM LINKLIST WILL BE USED (THIS IS THE PREFERRED
/*         APPROACH SINCE EARL IS NORMALLY INSTALLED INTO THE
/*         CAI.CAILIB DATASET WHICH IS PART OF THE SYSTEM LINKLIST).
/*   OUT:  OPTIONAL, SPECIFIES THE OUTPUT SYSOUT CLASS.  THE DEFAULT
/*         IS OUT(*), WHICH WILL WRITE THE OUTPUT TO THE TERMINAL.
/*   FLT:  SPECIFIES THE NAME OF THE INPUT FLAT FILE.  SPECIFY A
/*         FULLY QUALIFIED DATASET NAME.
/*   UNIT: OPTIONAL, SPECIFIES THE UNIT NAME FOR ALLOCATING
/*         TEMPORARY WORK FILES NEEDED TO EXECUTE THE EARL
/*         PROGRAM.  THE DEFAULT VALUE IS SYSDA.
/*   MLIB: SPECIFIES THE CA-EARL MACRO COPY LIBRARY TO RESOLVE
/*         ANY INCLUDED CA-EARL MACROS OR RECORD LAYOUTS.  YOU
/*         MUST SPECIFY A FULLY-QUALIFIED DATASET NAME.
/*
/*============================================================/*
/*                                                            /*
/* MAINTENANCE LOG - CA ACF2 MVS RELEASE 6.4                  /*
/*                                                            /*
/* TA4373C 09/28/00  Z0011                                    /*
/*         ADJUST ACFEARL CLIST TO:                           /*
/*         - DEFAULT TO USE OF SYSTEM LINKLIST FOR PGMLIB IF NONE  /*
/*           SPECIFIED                                        /*
/*         - ADJUST LIB PARAMETER USAGE TO ACCEPT QUALIFIED OR   /*
/*           UNQUALIFIED DATASET NAME.                        /*
/*                                                            /*
/* TA4103D 09/29/00  Z0018                                    /*
/*         IEC141I 013-20 ON SORTIN FILE RUNNING EARL FROM ISPF   /*
/*                                                            /*
/*============================================================/*
```

```
/*
CONTROL NOMSG
FREE F(SYSPRINT SYSUT1 SYSUT2 SYSUT3 SYSUT4 SORTIN SORTOUT -
      EARLLIB ACFFLT  SYSUT5 SYSUT6 SYSIN EARLOBJ WORK1 -
      SORTWK01 SORTWK02 SORTWK03  SYSOUT)
CONTROL MSG LIST
CONTROL MSG SYMLIST CONLIST
ALLOC F(ACFFLT) DA('&FLT') SHR
ALLOC F(EARLLIB) DA('&MLIB') SHR
ALLOC F(SYSOUT) DS(&OUT)
ALLOC F(SYSPRINT) DA(*)
ALLOC F(SYSUT1) NEW UNIT(&UNIT) SPACE(60,15) DELETE
ALLOC F(SYSUT2) NEW UNIT(&UNIT) SPACE(7,10) DELETE
ALLOC F(SYSUT3) NEW UNIT(&UNIT) SPACE(7,10) DELETE
ALLOC F(SYSUT4) NEW UNIT(&UNIT) SPACE(7,10) DELETE
ALLOC F(SYSUT5) NEW UNIT(&UNIT) SPACE(7,10) DELETE
ALLOC F(SYSUT6) NEW UNIT(&UNIT) SPACE(100,10)  DELETE
ALLOC F(EARLOBJ) NEW UNIT(&UNIT) SPACE(100,50) DELETE
ALLOC F(SORTIN) NEW UNIT(&UNIT) SPACE(100,50)  DELETE
ALLOC F(SORTOUT) NEW UNIT(&UNIT) SPACE(100,50)  DELETE
ALLOC F(SORTWK01) NEW UNIT(&UNIT) SPACE(100,50)  DELETE
ALLOC F(SORTWK02) NEW UNIT(&UNIT) SPACE(100,50)  DELETE
ALLOC F(SORTWK03) NEW UNIT(&UNIT) SPACE(100,50)  DELETE
ALLOC F(WORK1) NEW UNIT(&UNIT) SPACE(100,50)  DELETE
SET &LEFTPAR = &STR((
SET &RGHTPAR = )
SET &QUOTE   = &STR(')
/* PROCESS LIB DATASET NAME */
IF &STR(&SUBSTR(1,&LIB)) = &STR(&QUOTE) THEN DO
  SET &PGMDSN=&STR(&SUBSTR(2:&LENGTH(&LIB)-1,&LIB))
  SET &RPTDSN=&STR(&QUOTE)&PGMDSN&STR(&LEFTPAR)&PGM&STR(&RGHTPAR)+
      &STR(&QUOTE)
  END
ELSE DO
  SET &PGMDSN=&LIB
  SET &RPTDSN=&LIB&STR(&LEFTPAR)&PGM&STR(&RGHTPAR)
END
ALLOC F(SYSIN)   DA(&RPTDSN) SHR
ALLOC F(SORTLIB) DA('SYS1.SORTLIB') SHR
/* CONTROL NOMSG NOFLUSH */
/* PROCESS PGMLIB DATASET NAME                          */
/* IF MISSING, DEFAULT TO USE "*", MEANING, USE THE SYSTEM */
/* LINKLIST TO RESOLVE THE PROGRAM NAME                 */
SET &BOZO = &STR(&PGMLIB)
IF &STR(&PGMLIB) = '' OR &STR(&PGMLIB) = ' ' +
  OR &STR(&PGMLIB) = THEN DO
  SET &PROG = &STR(*)&STR(&LEFTPAR)&STR(EARL)&STR(&RGHTPAR)
  END
ELSE +
```

```
     SET &PROG = &STR(&QUOTE)&PGMLIB&STR(&LEFTPAR)&STR(EARL)+
         &STR(&RGHTPAR)&STR(&QUOTE)
CALL   &PROG
END
```

Chapter 2: Generating CA Earl Reports on zVM

This chapter describes three methods to generate CA Earl reports on a VM system using the following:

- Full-screen Facility

  CA ACF2 for VM provides the CA ACF2 for z/OS and OS/390 (CA ACF2) full-screen facility. The full screen facility simplifies CA ACF2 administration and report generation. Use ACFFS to produce CA Earl reports that provide the same information as standard CA ACF2 reports.

- EARLRPTS Full-screen Facility Subset

  EARLRPTS is a sample exec procedure that produces CA Earl reports. This sample exec is a subset of the ACFFS full-screen facility. EARLRPTS has the advantage, however, to generate any CA Earl report using a full-screen menu facility. This includes all of the CA Earl sample reports and all custom CA Earl reports that you develop.

- Manual Procedures

  CA ACF2 provides many commands and utilities to generate CA Earl reports manually or through VM exec procedures. To use CA Earl to create your own custom reports, familiarize yourself with these manual procedures. Use these manual procedures to produce custom reports.

This chapter focuses on the steps you must perform to produce a CA Earl report on a VM operating system. See the "Sample Reports" chapter for complete descriptions of the sample CA Earl reports that we provide with CA ACF2.

This section contains the following topics:

Using ACFFS

This section shows how to use the CA ACF2 full-screen facility to generate an CA Earl report. Examples of the menu panels, input panels, output panels, and so on are shown. Many of the panels shown in the examples enable numerous options. Explaining all of these options is beyond the scope of this guide. However, ACFFS provides a comprehensive online HELP facility. When you need additional information about any panel, press the HELP key (usually PF1).

To generate an CA Earl report on VM

1. Type **ACFFS 6**

   Full-screen report generator function starts.

2. Select SMF input for the report.

3. Use the ACFRPTPP utility to convert SMF files into a sequential file.

4. Invoke the desired CA Earl report procedure.

Obtaining CA ACF2 zVM SMF Files

Normally, you use the CA ACF2 full-screen facility to select input SMF files.

To select input SMF files

1. Type ACFFS 6

   The Audit Reports menu appears.

2. Type S next to all SMF files you want included in your reports, then press Enter.

   The selected SMF minidisks are linked and accessed. After you complete this procedure, the panel returns to the Select SMF Input Files for Reports (6.1) panel.

Converting SMF Files to Sequential Format

After you select your SMF files, you must convert these files into sequential format. CA Earl™ can process only sequential files. CA provides the ACFRPTPP utility to convert the standard CA ACF2 SMF files into a sequential format suitable for CA Earl™.

To execute ACFRPTPP from the ACFFS full-screen facility

1. Press PF3 (QUIT) from the Select SMF Input Files for Reports (6.1) panel.

    The Audit Report (6.0) panel appears:

2. Type 3 on the OPTION line.

    The Customized Reports panel appears.This option shows the following panel.

3. Type 1 to execute the EARL SMF Preprocessor.

    The EARL SMF Record Preprocessor (6.3.1) panel has selection criteria such as output device, start date, and so on, with default values shown. By default, the sequential output file is named ACFFLT OUTPUT A. You can change this to any name you want.

4. Press Enter to execute the preprocessor.

    The CA ACF2 UTILITY LIBRARY - ACFRPTPP - SMF RECORD PRE-PROCESSOR panel appears.

Producing Your CA Earl Reports

After you have the sequential file that CA Earl requires, you can produce an CA Earl report.

Note: The next example assumes that the EARL SMF Record Preprocessor (6.3.1) panel is currently shown on your terminal.

To produce a report

1. From the main Customized Reports (6.3) panel type 2 to produce one of the supplied CA Earl reports.

    Note: You can run five different CA Earl reports using the CA ACF2 full-screen feature. These reports are almost identical to their counterparts as documented in the *Reports and Utilities Guide*. For example, report 3, Sample Invalid Password Authority Report, is almost the same as the standard report.

2. Type the desired report number on the OPTION line and press Enter.

    The report that you select runs automatically and you can view it on your terminal.

Using EARLRPTS

You can use the EARLRPTS exec to generate an CA Earl report. Although EARLRPTS uses some of the same panels as the CA ACF2 full-screen facility, EARLRPTS is actually a subset of that facility. An important advantage to using EARLRPTS is that you can generate any CA Earl report. This includes the sample CA Earl reports and any custom CA Earl reports that you develop.

To use EARLRPTS,

1. Type EARLRPTS while in CMS.

   The Select SMF input files for reports (6.1) panel appears.

2. Type S next to all SMF files you want included in your reports, then press Enter or Return.

   The selected SMF minidisks are linked and accessed.

Converting SMF Files to Sequential Format

After you select your SMF files, convert those files into sequential format. CA Earl only processes sequential files. CA provides the ACFRPTPP utility to convert the standard CA ACF2 SMF files into a sequential format suitable for CA Earl.

To convert SMF files into sequential format

1. Type PF3 (QUIT)

   The CA ACF2 SMF Record Preprocessor (ACFRPTPP) input selection panel appears.This panel has selection criteria such as Output device, Start date, and so on, with default values shown. By default, the sequential output file is named ACFFLT OUTPUT A. You can type your own values in these fields to change this default.

2. To execute the preprocessor, press Enter.

   The CA ACF2 UTILITY LIBRARY - ACFRPTPP - SMF RECORD PRE-PROCESSOR appears.

3. Now that you have the sequential file that CA Earl requires, press Clear.

   The EARL SMF Record Preprocessor Panel (6.3.1) appears.

Invoking the CA Earl Report

To see a prompt on your screen requesting the name of the CA Earl report procedure to run, press PF3.

The following is a sample of this prompt. For a complete list of the report names you can enter, see the Table of Reports in the "Sample Reports" chapter. For this example, we entered a response of rptpw.

The report you select (RPTPW in this example) is run, and you can view it on your terminal.

```
03/29/02                     INVALID PASSWORD REPORT                    PAGE     1
                  RUN DATE:    03/29/02    RUN TIME:    18.00.33
--------------------------------------------------------------------------------
    DATE   TIME LOGONID  JOBNAME  SUBMITTOR SOURCE   PROGRAM   REASON  LOG  CPU
                                  LID/PROC                             CODE  VIO
--------------------------------------------------------------------------------
03-29-02  8.32 ECEJAS    ECEJAS    LOGON    LV861                12   VIO  TLC1
03-29-02  8.32 ECEJAS    ECEJAS    LOGON    LV861                12   VIO  TLC1
03-29-02  9.13 TLEFKH    TLEFKH    LOGON    LV822                17   VIO  TLC1
03-29-02  9.18 TLEGEST   TLEGEST   LOGON    LV853                12   VIO  TLC1
03-29-02  9.18 TLEGEST   TLEGEST   LOGON    LV853                12   VIO  TLC1
03-29-02  9.43 TLEFKH    TLEFKH    LOGON    LV822                12   VIO  TLC1
```

Generating zVM Reports Manually

You can use standard CA ACF2 VM and CA Earl commands and utilities to produce CA Earl reports. Examples of the input panels, output panels, and so on are shown.

To produce a CA Earl report manually

1. Invoke the ACFRPTPP utility to convert the SMF files into a sequential file.

2. Invoke the CA Earl utility to produce your report.

Invoking the ACFRPTPP Utility

Use the ACFSERVE QUERY SMF command to display the SMF files and determine which files you will need for to run your report. See the "Using the ACFSERVE Commands" chapter in the CA ACF2 *for VM Administrator Guide* for information on this command.

Link to and access the minidisks that contain the SMF files you are using for the reports. Then issue FILEDEF commands to define the following input and output files for ACFRATPP:

RECxxxxx

Each RECxxxxx FILEDEF defines a single SMF input file to ACFRPTPP. You can define multiple SMF input files.

SYSPRINT

This output file contains any messages ACFRPTPP issued, and a summary report showing how many records were read and written.

SMFFLT

This output file contains the sequential format SMF records. CA Earl report procedures use this file as input. See the CA ACF2 for VM Reports and Utilities Guide for a detailed description of ACFRPTPP.

The following example shows the FILEDEF and ACFRPTPP commands. Two SMF input files (REC00001 and REC00002) are defined for input. Also, the sequential SMF output file name is ACFFLT OUTPUT A.

```
filedef rec00001 disk smf 94224001 *
Ready; T=0.01/0.01 16:38:59
filedef rec00002 disk smf 94225001 *
Ready; T=0.01/0.01 16:39:20
filedef smfflt  disk acfflt output *
Ready; T=0.01/0.01 16:39:39
filedef sysprint disk acfrptpp listing * ( lrecl 133
Ready; T=0.01/0.01 16:40:18
acfrptpp
SYSIN not defined - enter report parameters or ENTER to start
PP?
Ready; T=0.01/0.01 16:45:38
```

An example of the output from ACFRPTPP is shown as follows.

```
CA ACF2 UTILITY LIBRARY - ACFRPTPP - SMF RECORD PRE-PROCESSOR  -  PAGE 1
DATE 03/29/02 (02.88) TIME 07.57
              *-- RECORD SELECTION SUMMARY - BY DDNAME --*
  DDNAME    DESCRIPTION          COUNT  SELECTION
  SMFFLT    SMF FLAT FILE          23  221-D,220-P,227-V,223-R,222-L,230-*
                                        * - INDICATES ACF2 COMBINED SMF NUMBER


                      --- TOTAL RECORDS PROCESSED ---

READ=75                 SELECTED=23              WRITTEN=23
CA-ACF2 UTILITY LIBRARY - ACFRPTPP - SMF RECORD PRE-PROCESSOR  -  PAGE 2
DATE 03/29/02 (02.88) TIME 07.57
              *-- SMF RECORDS INPUT SUMMARY - BY DDNAME --*


           <---------- STARTING ----------> <----------- ENDING ----------->
DDNAME   <---PHYSICAL---><---LOGICAL----> <---PHYSICAL---><---LOGICAL---->
 COUNT             DATE    TIME    DATE    TIME      DATE    TIME    DATE    TIME
REC1     03/29/02 00.00  03/29/02 00.00   03/29/02 07.52  03/29/02 07.52
    75 CA-ACF2 UTILITY LIBRARY - ACFRPTPP - SMF RECORD PRE-PROCESSOR  -  PAGE 3
DATE 03/29/02 (02.88) TIME 07.57


              *-- SMF RECORDS INPUT SUMMARY - BY TYPE --*


        --0--  --1--  --2--  --3--  --4--  --5--  --6--  --7--  --8--  --9—
  0-      0      0      0      0      0      0      0      0      0      0
 10-      0      0      0      0      0      0      0      0      0      0
 20-      0      0      0      0      0      0      0      0      0      0
 30-      0      0      0      0      0      0      0      0      0      0
 40-      0      0      0      0      0      0      0      0      0      0
 50-      0      0      0      0      0      0      0      0      0      0
 60-      0      0      0      0      0      0      0      0      0      0
 70-      0      0      0      0      0      0      0      0      0      0
 80-      0      0      0      0      0      0      0      0      0      0
 90-      0      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-      0      0      0      0      0      0      0      0      0      0
220-      0      0      0      0      0      0      0      0      0      0
230-     75      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-- --1-- --2-- --3-- --4-- --5-- --6-- --7-- --8-- --9--
```

Invoking CA Earl to Produce a Report

Now that you have the SMF records converted into a sequential file, invoke CA Earl to format a report. Issue another series of FILEDEF commands. You must define:

EARLLIB

The file name and type of the CA Earl MACLIB. This is defined so that CA Earl can locate the programs needed to run your reports.

ACFFLT

The file name and type of the sequential SMF file you created using the ACFRPTPP utility. This is the input for your report.

The following example shows the FILEDEF commands and how to invoke CA Earl. The ACFFLT OUTPUT file that ACFRPTPP created is defined as report input:

```
filedef earllib disk earllib maclib *
Ready; T=0.01/0.01 17:01:59
filedef smfflt disk acfflt output *
Ready; T=0.01/0.01 17:02:20
earl rptpw
Ready; T=0.01/0.01 17:03:18
```

Output from the RPTPW report is placed in a file named RPTPW LISTING.

```
03/29/02                    INVALID PASSWORD REPORT                    PAGE    1
                RUN DATE:    03/29/02    RUN TIME:    18.00.33
-------------------------------------------------------------------------------
    DATE  TIME LOGONID  JOBNAME  SUBMITTOR SOURCE   PROGRAM   REASON  LOG  CPU
                                 LID/PROC                     CODE    VIO
-------------------------------------------------------------------------------
03-29-02  8.32 ECEJAS    ECEJAS    LOGON    LV861              12    VIO  TLC1
03-29-02  8.32 ECEJAS    ECEJAS    LOGON    LV861              12    VIO  TLC1
03-29-02  9.13 TLEFKH    TLEFKH    LOGON    LV822              17    VIO  TLC1
03-29-02  9.18 TLEGEST   TLEGEST   LOGON    LV853              12    VIO  TLC1
03-29-02  9.18 TLEGEST   TLEGEST   LOGON    LV853              12    VIO  TLC1
03-29-02  9.43 TLEFKH    TLEFKH    LOGON    LV822              12    VIO  TLC1
```

Chapter 3: Customizing Reports

This chapter explains how to customize CA Earl reports to meet user requirements. When you are finished with this chapter, you should be able to:

- Use a basic set of CA Earl commands

- Adjust and create report titles and footings

- Adjust report column headings

- Add SMF fields not currently reported

- Create work fields

- Define sorts and control breaks

- Format print lines

- Modify or create table processing

- Modify selection criteria.

For demonstration purposes, this chapter uses the RPTPW sample report and output to explain each category of customization. For each customization feature, the following is included:

- A brief explanation of the modification

- The program source changes for the modification

- The modified output reflecting the changes

All changes made in this chapter to the RPTPW sample are cumulative. Each modification will remain in the sample program source for a final modified RPTPW report printing. You can find additional information regarding the CA Earl language, including use, parameters, and syntax in the CA Earl documentation set.

This section contains the following topics:

Sample Source Program, Listing, and Report Output

This section contains a sample source program, source listing, and report output of the RPTPW report without modification.

Sample Source Program

This sample of the RPTPW source program is how it appears as packaged.

```
NOTE *----------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 PW REPORT*
NOTE *----------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF


NOTE *-------------------------------------------------------*
NOTE * CHANGE LOG:                                          *
NOTE *                                                      *
NOTE * RELEASE: 6.3                                         *
NOTE *                                                      *
NOTE * TA3985D  07/14/98  Z0012                             * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE    * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.               * TA3985D
NOTE *                                                      *
NOTE * RELEASE: 6.5                                         *
NOTE *                                                      *
NOTE * TA6015G  03/13/02  Z0037                             * TA6015G
NOTE *           REBRANDING CHANGES.                        * TA6015G
NOTE *                                                      *
NOTE * END OF LOG.                                          *
NOTE *                                                      *
NOTE *-------------------------------------------------------*


NOTE *--------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW              *
NOTE *--------------------------------------------------*
NOTE OPTION SORT=SRAM
```

```
ACFFLT: FILE ACFSMFR RECORD=23756                          ! TA3985D

COPY HDRECORD
COPY PRECORD

DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

COPY RCTAB

REPORT 'INVALID PASSWORD REPORT'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT
NOTE  SELECT ONLY TYPE 'P' RECORDS. PRINT DETAIL LINE FOR EACH RECORD
 SELECT RECTYPE  'P'
 PRINT DATE
       TIME
       LOGONID
       JOBNAME
       SUBMITTOR
       SOURCE
       PROGRAM
       REASON_NUMBER
       LOG
       CPU

NOTE ------------------- REPORT VARIATIONS --------------------------
NOTE 1: TO PRINT THE REASON CODE ON THE DETAIL LINE CHANGE THE OPTION
NOTE   STATEMENT FROM 'PRINTER=80' TO 'PRINTER=132' AND REMOVE 'NOTE'
NOTE   FROM THE FOLLOWING STATEMENT:
NOTE  REASON
NOTE ----------------------------------------------------------------
NOTE 2: TO PRINT THE REASON CODE ON A SEPARATE DETAIL LINE REMOVE 'NOTE'
NOTE   FROM THE FOLLOWING STATEMENT:
NOTE  PRINT REASON
NOTE ----------------------------------------------------------------
 END
```

Sample Source Listing

The following sample of the RPTPW source listing is how it appears to the CA Earl processor as it runs the program. The COPY statements are shown with their specific description fields. The HDRECORD, PRECORD, and RCTAB records, shown in this sample, are packaged with CA ACF2. When you become comfortable with customizing CA Earl reports, you can create your own definition records to be called in with COPY statements.

Use this sample as a reference to compare source program changes.

```
 1      NOTE *--------------------------------------------------------*
 2      NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 PW REPORT
 3      NOTE *--------------------------------------------------------*
 4
 5       OPTION PRINTER=80
 6       OPTION LIST ON
 7
 8      NOTE *--------------------------------------------------------*
 9      NOTE * CHANGE LOG:                                           *
10      NOTE *                                                       *
11      NOTE * RELEASE: 6.4                                          *
12      NOTE *                                                       *
13      NOTE * TA3985D  07/14/00  Z0012                     * TA3985D
14      NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE  * TA3985D
15      NOTE *           FOR LONGER OMVS SMF RECORDS.           * TA3985D
16      NOTE *                                                       *
17      NOTE * END OF LOG.                                          *
18      NOTE *                                                       *
19      NOTE *--------------------------------------------------------*
20
21      NOTE *----------------------------------------------------*
22      NOTE * TO USE SRAM SORT REMOVE NOTE BELOW                *
23      NOTE *----------------------------------------------------*
24      NOTE OPTION SORT=SRAM
25
26       ACFFLT: FILE ACFSMFR RECORD=23756                        ! TA3985D
27
28      COPY HDRECORD
30  1                                                                HDR00010
31  1    NOTE EARL FLAT FILE - COMMON HEADER FIELDS                  HDR00020
32  1      DEF RDW        1-4    X 'RDW'                             HDR00030
33  1      DEF INDICATOR  5      X 'FLAT' 'IND'                      HDR00040
34  1      DEF RECTYPE    6      X 'REC' 'TYPE'                      HDR00050
35  1      DEF SEQUENCE   7      X 'SEQ' 'NUM'                       HDR00060
36  1      DEF OPSYSTEM   8      X 'OPERATING' 'SYSTEM'              HDR00070
37  1      DEF HRESERV1   9      X                                  HDR00080
38  1                                                                HDR00090
39  1    NOTE TIME TO 100THS OF A SECOND                            HDR00100
40  1      DEF TIME100    10-17  N 'TIME'                           HDR00110
41  1      DEF TIME       10-13  N 'TIME'          PICTURE 'Z9.99'  HDR00120
42  1                                                                HDR00130
43  1    NOTE REDEFINE TIME FIELD INTO SMALLER COMPONENTS           HDR00140
44  1      DEF HOUR       10-11  N 'TIME-HH'                        HDR00150
45  1      DEF MINUTE     12-13  N 'TIME-MM'                        HDR00160
46  1      DEF SECOND     14-15  N 'TIME-SS'                        HDR00170
47  1      DEF DATE       18-23  N 'DATE' PIC '99-99-99'            HDR00180
48  1                                                                HDR00190
49  1    NOTE REDEFINE DATE FIELD INTO SMALLER COMPONENTS           HDR00200
50  1      DEF MONTH      18-19  N 'DATE-MM'                        HDR00210
```

```
51   1     DEF DAY       20-21    N 'DATE-DD'                        HDR00220
52   1     DEF YEAR      22-23    N 'DATE-YY'                        HDR00230
53   1     DEF FCTCODE   24       U 'FUNCTION'   PIC H               HDR00240
54   1     DEF SMFUID    25-32    X 'SMF' 'UID'                      HDR00250
55   1     DEF MODULE    33-40    X 'MODULE'                         HDR00260
56   1     DEF LOGONID   41-48    X 'LOGONID'                        HDR00270
57   1     DEF UID       49-72    X 'UID'                            HDR00280
58   1     DEF SOURCE    73-80    X 'SOURCE'                         HDR00290
59   1     DEF CPU       81-84    X 'CPU'                            HDR00300
60   1     DEF SYSID     85-92    X 'SYSTEM' 'ID'                    HDR00310
61   1     DEF EVENTSID  93-100   X 'EVENT' 'SYSID'                  HDR00320
62   1     DEF LIDSID    101-108  X 'LID' 'SYSID'                    HDR00330
63   1     DEF USERSID   109-116  X 'USER' 'SYSID'                   HDR00340
64   1     DEF JOBNAME   117-124  X 'JOBNAME'                        HDR00350
65   1     DEF RDRTIME   125-132  N 'RDR' 'TIME'                     HDR00360
66   1     DEF RDRDATE   131-138  N 'RDR' 'DATE'                     HDR00370
67   1     DEF SUBMITTOR 139-146  X 'SUBMITTOR' 'LID/PROC'           HDR00380
68   1     DEF DELTOD    147-154  N 'TIME OF' 'DELETE'               HDR00390
69   1     DEF VERSION   155-157  X 'VERSION'                        HDR00400
70   1     DEF HRESERV2  158-232  X 'RESERVED'                       HDR00410
71   1     DEF USERAREA  233-744 X 'USER AREA'                       HDR00420
72   1     NOTE END OF COMMON HEADER FIELDS                          HDR00430
73         COPY PRECORD
74
76   1     NOTE  FLAT FILE TYPE 'P' FIELDS
77   1     DEF APFIND        745-747 X 'APF' 'AUTH'
78   1     DEF PROGRAM       748-755 X 'PROGRAM'
79   1     DEF REASON_NUMBER   756-758 N 'REASON' 'CODE' PIC 'ZZ9'
80   1       DEF REASON_STRING 756-758 X 'REASON'
81   1     DEF LOG           759-761 X 'LOG' 'VIO'
82   1     DEF EXITRSN       762-764 X 'USER EXIT' 'REASON'
83   1     DEF AUTHDEV       765-772 X 'USER AUTH' 'DEVICE'
84   1     DEF PFLAG         773     B
85   1     DEF LABSID        774-777 X 'LAB' 'CPU'
86   1     DEF PCNTL         778     B
87   1     DEF PROCIND       779     X 'P'
88   1     DEF PRESERVE      780-819 X 'RESERVED'
89         DEF RC=ACFSMFR 1-4 B
90
91         GET ACFFLT
92         GOTO EOJ (RC=-1)
93
94         COPY RCTAB
95
96
97   1     NOTE  TABLE LOOKUP FOR COMMON REASON CODES
98   1       DECODE REASON_STRING INTO REASON  (X 50)
99   1       '001' = 'CALLER NOT AUTHORIZED'
100  1       '004' = 'LOGONID NOT FOUND'
```

```
101   1    '006' = 'A PASSWORD IS NOT ALLOWED FOR LOGONID'
102   1    '007' = 'A PASSWORD IS REQUIRED FOR LOGONID'
103   1    '008' = 'UNAUTHORIZED INPUT SOURCE FOR LOGONID'
104   1    '009' = 'LOGONID NOT VALID FOR SUBMISSION BY THIS PGM'
105   1    '010' = 'LOGONID CANCELLED'
106   1    '011' = 'LOGONID SUSPENDED'
107   1    '012' = 'PASSWORD NOT MATCHED'
108   1    '013' = 'LOGONID SUSPENDED BECAUSE OF PASSWORD VIOLATIONS'
109   1    '014' = 'LOGONID EXPIRED'
110   1    '015' = 'INVALID PASSWORD SYNTAX'
111   1    '016' = 'A LOGONID IS REQUIRED'
112   1    '017' = 'PASSWORD FOR LOGONID HAS EXPIRED'
113   1    '018' = 'INVALID SYNTAX FOR NEW PASSWORD; OLD PW EXPIRED'
114   1    '019' = 'PASSWORD LESS THAN MINIMUM LENGTH'
115   1    '020' = 'NEW PASSWORD < MINIMUM LENGTH; OLD PW EXPIRED'
116   1    '021' = 'PASSWORD EXPIRED AND CANNOT BE ALTERED'
117   1    '022' = 'MUSASS LOGONID ALREADY IN USE'
118   1    '023' = 'NEW PASSWORD = OLD PASSWORD; OLD PW EXPIRED'
119   1    '025' = 'SRF SUPPORT NOT FOUND'
120   1    '026' = 'ACCESS DENIED BY INSTALLATION EXIT'
121   1    '028' = 'PASSWORD REVALIDATION - NO LOGONID RECORD'
122   1    '029' = 'PASSWORD REVALIDATION - PASSWORD NOT MATCHED'
123   1    '030' = 'STC LOGONID CANNOT BE USED FOR NORMAL ACCESS'
124   1    '031' = 'LOGONID DOES NOT HAVE THE STC ATTRIBUTE'
125   1    '032' = 'LOGONID/SOURCE COMBINATION NOT VALID'
126   1    '033' = 'INVALID SYNTAX FOR NEW PASSWORD ON NJE JOB'
127   1    '034' = 'NEW PASSWORD LESS THAN MIN LENGTH ON NJE JOB'
128   1    '037' = 'NEW PASSWORD DENIED BY INSTALLATION EXIT'
129   1    '038' = 'LOGONID INHERITANCE NOT ALLOWED FOR LOGONID'
130   1    '045' = 'NOT AUTHORIZED FOR ACCESS TO MUSASS'
131   1    '048' = 'ACFFDR COULD NOT BE LOCATED'
132   1    '049' = 'FDE FOR ACTIVE AUTH SUPPORT NOT LOCATED'
133   1    '050' = 'NO AUTHEXIT LIST ENTRY FOUND FOR LIDFIELD"
134   1    '051' = 'USER AUTH EXTENSION BLOCK NOT PASSED'
135   1    '052' = 'RSB COULD NOT BE LOCATED FOR AUTH RECORD'
136   1    '053' = 'INFO-STOR D/B NOT AVAILABLE'
137   1    '054' = 'D/B FAILURE OCCURRED FOR USER AUTH RECORD'
138   1    '055' = 'ACCESS DENIED BY USER AUTH SUPPORT'
139   1    '056' = 'USER AUTH DIALOG FACILITY NOT SUPPORTED'
140   1    '057' = 'STORAGE GETMAIN/FREEMAIN ERROR'
141   1    '060' = 'ZONE RECORD FOR LOGONID TIME ZONE NOT FOUND'
142   1    '061' = 'SYSTEM ACCESS DENIED. LOGON TIME NOT WITHIN SHIFT'
143   1    '062' = 'ERROR IN SHIFT PROCESSING ROUTINES'
144   1    '063' = 'SHIFT RECORD FOR LOGONID NOT FOUND'
145   1    '073' = 'NEW PASSWORD DENIED BY INSTALLATION EXIT'
146   1    '075' = 'DDB LOGONID ACQUISITION FAILED'
147   1    '076' = 'LOGONID NOT FOUND FOR DDB ACQUISITION'
148   1    '077' = 'DDB REMOTE LOGONID UPDATE FAILED'
149   1    '078' = 'LOGONID NOT FOUND FOR DDBREMOTE UPDATE'
```

```
150   1     '095' = 'NO HALFWAY ENCRYPTED PASSWORD AVAILABLE FOR USERID'
151   1     '096' = 'NO LOGONID GIVEN FOR PASSWORD EXTRACT CALL'
152   1     '097' = 'JOB SUBMITTED ON NON-ACF2 SYSTEM; NO DEFAULT LOGONID GIVEN'
153   1     '098' = 'ACF2 NOT INITIALIZED'
154   1     '099' = 'ERROR DURING PROCESSING'
155   1     '101' = 'DDB GET-UPDATE OF LOGONID FAILED'
156   1     '105' = 'NO ROOM IN DATABASE FOR REQUEST'
157   1     '106' = 'ACF00ERU PROCESSING ERROR FOR LOGONID'
158   1     '115' = 'NEW PASSWORD CANNOT BE THE SAME AS LOGONID'
159   1     '116' = 'NEW PASSWORD CANNOT BE ALL NUMERIC'
160   1     '117' = 'NEW PASSWORD CONTAINS A RESERVED WORD PREFIX'
161   1     '118' = 'NEW PASSWORD MATCHES A PREVIOUS PASSWORD'
162   1     '127' = 'LOGONID RECORD DEQ FAILURE'
163   1     '128' = 'INVALID SYNTAX FOR NEW PASSWORD; NONE SET'
164   1     '129' = 'PASSWORD SUCCESSFULLY ALTERED'
165   1     '130' = 'NEW PASSWORD < MINIMUM LENGTH - NONE SET'
166   1     '131' = 'NEW PASSWORD EQUALS OLD - NONE SET'
167   1     '132' = 'NEW PASSWORD NOT ALLOWED'
168   1     '133' = 'NEW PASSWORD DENIED BY INSTALLATION EXIT'
169   1     '134' = 'YOUR PASSWORD WILL EXPIRE ON DDD'
170   1     '135' = 'SYSTEM ACCESS ALLOWED BASED ON LOGSHIFT'
171   1     '136' = 'NEW PSWD NOT SET; MINDAYS HAVE NOT PASSED'
172   1     '200' = 'INVALID PASSWORD/AUTHORITY FOR ID'
173   1     '254' = 'MON-LOG SPECIFIED IN USER LOGONID'
174   1     '255' = 'NEW PASSWORD EXIT'
175   1       ELSE 'UNKNOWN REASON'
176       REPORT 'INVALID PASSWORD REPORT'
177       TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT
178       NOTE  SELECT ONLY TYPE 'P' RECORDS. PRINT DETAIL LINE FOR EACH RECORD
179        SELECT RECTYPE  'P'
180        PRINT DATE
181             TIME
182             LOGONID
183             JOBNAME
184             SUBMITTOR
185             SOURCE
186             PROGRAM
187             REASON_NUMBER
188             LOG
189             CPU
190       NOTE ------------------- REPORT VARIATIONS ---------------------------
191       NOTE 1: TO PRINT THE REASON CODE ON THE DETAIL LINE CHANGE THE OPTION
192       NOTE    STATEMENT FROM 'PRINTER=80' TO 'PRINTER=132' AND REMOVE 'NOTE'
193       NOTE    FROM THE FOLLOWING STATEMENT:
194       NOTE   REASON
195       NOTE --------------------------------------------------------------------
196       NOTE 2: TO PRINT THE REASON CODE ON A SEPARATE DETAIL LINE REMOVE 'NOTE'
197       NOTE    FROM THE FOLLOWING STATEMENT:
198       NOTE   PRINT REASON
```

```
199      NOTE ---------------------------------------------------------------
200       END
```

Note: The line numbers in this sample source listing are referenced later in the examples in this chapter.

Sample Report Output

The source program shown above and on the previous pages produces output as shown below:

```
03/29/02                    INVALID PASSWORD REPORT                      PAGE    1
                   RUN DATE:    03/29/02    RUN TIME:    10.13.11
-------------------------------------------------------------------------------
    DATE    TIME LOGONID  JOBNAME  SUBMITTOR SOURCE    PROGRAM   REASON  LOG  CPU
                                   LID/PROC                      CODE    VIO
-------------------------------------------------------------------------------
03-29-02 10.59 AUEJJV                        H06L84F               17    VIO  CAI1
03-29-02 11.09 TLCIS0    STARMAN   STARMAN   USCHGOVB              12    VIO  CAI1
03-29-02 11.21 TLCIS0    TLCIS0    LOGON     V4L3ED               12    VIO  CAI1
03-29-02 13.24 SSESWB    SSESWB    LOGON     V4L3E0               17    VIO  CAI1
03-29-02 14.02 SVNSKS    SVNSKS    LOGON     V4L3EA               12    VIO  CAI1
03-29-02 14.20 TSTRJM                        H06L867              12    VIO  CAI1
03-29-02 14.43 CICSID9   SSELHS5   SSECICS   T86C      SSD5        7    VIO  CAI1
03-29-02 14.44 CICSID9   SSELHS5   SSECICS   T827      SSD5        7    VIO  CAI1
03-29-02 14.44 CICSID8   SSELHS5   SSECICS   T827      SSD5       12    VIO  CAI1
03-29-02 14.48 AUEDRL                        H06L83D              12    VIO  CAI1
END OF REPORT
```

The rest of this chapter discusses how you can make CA Earl reports more useful for your purposes. Each section contains a sample of how to modify various aspects of each report.

Adjust and Create Titles and Footings

There are many reasons for customizing a report title. You may require a standard title format, management may require more descriptive headers, or end users may need different content. Use the CA Earl REPORT statement to specify report titles and footings. In the original sample source program, lines 176 and 177 contain report title information. The following example shows how to change and add lines to modify a title. We changed the original title, INVALID PASSWORD REPORT, to a more descriptive title, LOGON AND PASSWORD VIOLATIONS.

```
A   {   REPORT 'LOGON AND PASSWORD VIOLATIONS'

    {   TITLE ' '

B   {   TITLE @18 'STARTING DATE:' 1 DATE @45 'ENDING DATE:' 1 &DATE.
    {   TITLE @18 'STARTING TIME:' 1 TIME @45 'ENDING TIME:' 1 &TIME.

C   {   FOOT 'SECURITY REPORTING SYSTEM'
```

A

The first title line printed is the first parameter on the REPORT statement. All subsequent title and footing programs begins with the TITLE or FOOT parameter of the REPORT statement.

B

The second title line is left blank, while the third and fourth have the time and date range for the report. We used the TIME and DATE values from the first record selected for reporting as the starting date and time. You can use &TIME. and &DATE. (final presort General Storage Area values) for the ending date and time, representing the time and date of the last record read.

Note: This technique relies on the fact that the presorted SMF records are in chronological order. This may not, however, be the case with multiple SMF inputs.

C

The last source program modification displays a footing, SECURITY REPORTING SYSTEM, at the bottom of each report page.

The alterations on the previous page produce the following title and footing output:

```
03/29/02               LOGON AND PASSWORD VIOLATIONS                PAGE 1           1

            STARTING DATE: 03-29-02    ENDING DATE: 03-29-02
            STARTING TIME: 10.59       ENDING TIME: 15.04
    .
    .
    .
                          SECURITY REPORTING SYSTEM
```

Adjust Column Headings

You can create more descriptive headings, eliminate column headings, or justify left or right column headings. Use the DEFINE (or DEF for short) statement to specify default column headings for each field. If you do not specify a column heading when you define a field, the field name is used as a header.

In most cases, the column headings shipped with the facility coincide with the field headers in the standard CA ACF2 reports. However, these headings may not suit the purposes of your site. You can modify column headings in several ways. We recommend that you create a work field to report and specify the heading you want for that work field. Then include the work field in the PRINT statement. However, you can suppress headings using the EXCLUDE parameter of the REPORT statement, or you can modify the default heading in the copy member that contains the field definition to change the headings.

The source program on the facing page shows how to change the headings for the LOG field. The original report uses the default header. The default heading for the LOG field is LOG on the first heading line and VIO on the second heading line. The DEFINE statement that specifies this default is in the PRECORD copy member (see line 81 of the original sample source program).

To illustrate how to change headers, the following modified source program creates a work field LOG. This new field, VTYPE, redefines the old field with a new heading. The VTYPE field then replaces the LOG field in the PRINT statement. Insert a DEF statement like the one below into the input source program after the COPY statements.

```
    COPY PRECORD

    DEF VTYPE  = LOG 1 3 X 'VIO' 'TYPE'
            .
            .
            .
     PRINT DATE
           TIME
           LOGONID
           JOBNAME
           SUBMITTOR
           SOURCE
           PROGRAM
           REASON_NUMBER
           VTYPE
           CPU
```

The previous sample source program modification produces this report heading:

```
DATE  TIME LOGONID  JOBNAME  SUBMITTOR SOURCE   PROGRAM    REASON VIO   CPU
                              LID/PROC                     CODE   TYPE
```

Add SMF Fields to a Report

The ACFFLT file the CA ACF2 preprocessor generated contains all the information contained in the CA ACF2 SMF records. These files also contain all print fields that currently exist in the standard reports. In some cases, additional information in the file is meaningful. You can print file information not currently available in the standard reports. Appendix B lists the fields available in the ACFFLT file and gives a description of the field content.

In the following example, the TIME100 field (line 40 in the original sample source program) from the ACFFLT file specifies time to 1/100 of a second. The first six bytes of this field are redefined to TIMESECONDS to specify time in hours, minutes, and seconds. A heading and edit mask are also specified in the redefinition. TIMESECONDS is then included in the PRINT statement. For more information about headings, see the *Reports and Utilities Guide.*

We also increased the width of the report, specified by the OPTION PRINTER= statement (line 5 in the original sample program), to accommodate the larger field. Also, we padded the heading with blanks to compensate for the fact that headings on numeric fields are right justified.

```
    OPTION PRINTER=100
           .
   DEF TIMESECONDS = TIME100 1-6 N 'TIME   ' PIC 'Z9.99.99'
              .
              .
     PRINT DATE
            TIMESECONDS
            LOGONID
            JOBNAME
            SUBMITTOR
            SOURCE
            PROGRAM
            REASON_NUMBER
            VTYPE
            CPU
```

The previous modified program produces the following report.

```
22 03/29/02                        LOGON AND PASSWORD VIOLATIONS

                STARTING DATE: 03-29-02    ENDING DATE: 03-29-02
                STARTING TIME: 10.59       ENDING TIME: 15.04
------------------------------------------------------------------------------
    DATE    TIME    LOGONID    JOBNAME    SUBMITTOR    SOURCE    PROGRAM    REA
                                          LID/PROC                          C
+-----------------------------------------------------------------------------
03-29-02  10.59.30  AUEJJV                             H06L84F
03-29-02  11.09.55  TLCISO     STARMAN    STARMAN      USCHGOVB
03-29-02  11.21.50  TLCISO     TLCISO     LOGON        V4L3ED
03-29-02  13.24.58  SSESWB     SSESWB     LOGON        V4L3E0
03-29-02  14.02.48  SVNSKS     SVNSKS     LOGON        V4L3EA
03-29-02  14.20.10  TSTRJM                             H06L867
03-29-02  14.43.44  CICSID9    SSELHS5    SSECICS      T86C      SSD5
03-29-02  14.44.28  CICSID9    SSELHS5    SSECICS      T827      SSD5
03-29-02  14.44.55  CICSID8    SSELHS5    SSECICS      T827      SSD5
03-29-02  14.48.36  AUEDRL                             H06L83D
END OF REPORT
```

Create and Add Work Fields to a Report

In the two previous sections, you reviewed examples of creating work fields. In both cases, we created work fields to define a field relative to an existing ACFFLT file field. In the first case, we created a work field to specify a different title. In the second case, we moved file information to a work field for output editing purposes.

You can use work fields for other reasons such as counter or result fields.

In the following example, the DEFINE statement creates a work field. The new field, AMPM, specifies whether the action took place in the morning or afternoon. The field AMPM is initialized to blanks and has a blank header. The PRINT statement places the fields to print in any order you want. The first field listed is printed at the left margin. Each succeeding field prints to the right of the field listed before until all are printed.

```
DEF AMPM (2) = ' ' ' '
        .
        .
 IF HOUR < 12 THEN
     SET AMPM='AM'
 ELSE
     SET AMPM='PM'
 ENDIF
        .
        .
 PRINT DATE
        TIMESECONDS
        AMPM
        LOGONID
        JOBNAME
        SUBMITTOR
        SOURCE
        PROGRAM
        REASON_NUMBER
        VTYPE
        CPU
```

The previous modified program produces the changes to this report.

```
03/29/02                          LOGON AND PASSWORD VIOLATIONS


              STARTING DATE: 03-29-02    ENDING DATE: 03-29-02
              STARTING TIME: 10.59       ENDING TIME: 15.04
---------------------------------------------------------------------------------
   DATE    TIME          LOGONID   JOBNAME   SUBMITTOR  SOURCE    PROGRAM     REA
                                             LID/PROC                          C
---------------------------------------------------------------------------------
03-29-02  10.59.30  AM  AUEJJV                          H06L84F
03-29-02  11.09.55  AM  TLCISO    STARMAN   STARMAN     USCHGOVB
03-29-02  11.21.50  AM  TLCISO    TLCISO    LOGON       V4L3ED
03-29-02  13.24.58  PM  SSESWB    SSESWB    LOGON       V4L3E0
03-29-02  14.02.48  PM  SVNSKS    SVNSKS    LOGON       V4L3EA
03-29-02  14.20.10  PM  TSTRJM                          H06L867
03-29-02  14.43.44  PM  CICSID9   SSELHS5   SSECICS     T86C      SSD5
03-29-02  14.44.28  PM  CICSID9   SSELHS5   SSECICS     T827      SSD5
03-29-02  14.44.55  PM  CICSID8   SSELHS5   SSECICS     T827      SSD5
03-29-02  14.48.36  PM  AUEDRL                          H06L83D
END OF REPORT
```

Modify and Create Table Processing

In the CA Earl language, the DECODE statement is used for table processing.

The copy member RCTAB (shown beginning line 94 of the original program) illustrates one kind of table processing. The RCTAB table translates the return code number into an English description of the logging or violation. By adjusting the RCTAB copy member, you can modify this table. You can find the RCTAB table in the EARLLIB MACLIB for CA ACF2 for VM sites and in the CAI.CAIMAC library for CA ACF2 for z/OS and OS/390 sites.

Use the DECODE statement for less complex translations. In the following example, the DECODE statement edits the hour portion of the time from military to common format.

Note: If you are sorting based on time, you need to retain the old time format somewhere in the report.

```
DECODE HOUR INTO HOUR
      < 13 = HOUR
      > 12 = (HOUR - 12)
```

The above program modification produces the following changes in this report.

```
03/29/02                        LOGON AND PASSWORD VIOLATIONS


             STARTING DATE: 03-29-02    ENDING DATE: 03-29-02
             STARTING TIME: 10.59       ENDING TIME:  3.04
-------------------------------------------------------------------------------
    DATE    TIME        LOGONID   JOBNAME   SUBMITTOR  SOURCE    PROGRAM   REA
                                            LID/PROC                      C
-------------------------------------------------------------------------------
03-29-02  10.59.30  AM  AUEJJV                         H06L84F
03-29-02  11.09.55  AM  TLCISO    STARMAN   STARMAN    USCHGOVB
03-29-02  11.21.50  AM  TLCISO    TLCISO    LOGON      V4L3ED
03-29-02   1.24.58  PM  SSESWB    SSESWB    LOGON      V4L3E0
03-29-02   2.02.48  PM  SVNSKS    SVNSKS    LOGON      V4L3EA
03-29-02   2.20.10  PM  TSTRJM                         H06L867
03-29-02   2.43.44  PM  CICSID9   SSELHS5   SSECICS    T86C      SSD5
03-29-02   2.44.28  PM  CICSID9   SSELHS5   SSECICS    T827      SSD5
03-29-02   2.44.55  PM  CICSID8   SSELHS5   SSECICS    T827      SSD5
03-29-02   2.48.36  PM  AUEDRL                         H06L83D
```

Modify Selection Criteria

Use the SELECT statement to specify the records used for the report. In the original report, all records with a RECTYPE of P (indicating password violation) are reported.

You can use the SELECT statement for complex selection criteria. For example, you can select a particular logonid, on a particular CPU, from a specific source, on a given day. The following example selects all records that have a record type of P (RECTYPE 'P') and where the program is not SSD5 (PROGRAM NOT SSD5) for reporting.

```
SELECT RECTYPE  'P'  AND PROGRAM NOT 'SSD5'
```

The above program modification produces the following changes in this report.

```
03/29/02                          LOGON AND PASSWORD VIOLATIONS


                 STARTING DATE: 03-29-02    ENDING DATE: 03-29-02
                 STARTING TIME: 10.59       ENDING TIME:  3.04
-------------------------------------------------------------------------------
     DATE    TIME          LOGONID   JOBNAME   SUBMITTOR  SOURCE    PROGRAM    REA
                                               LID/PROC                        C
-------------------------------------------------------------------------------
03-29-02  10.59.30  AM  AUEJJV                            H06L84F
03-29-02  11.09.55  AM  TLCISO    STARMAN   STARMAN      USCHGOVB
03-29-02  11.21.50  AM  TLCISO    TLCISO    LOGON        V4L3ED
03-29-02   1.24.58  PM  SSESWB    SSESWB    LOGON        V4L3E0
03-29-02   2.02.48  PM  SVNSKS    SVNSKS    LOGON        V4L3EA
03-29-02   2.20.10  PM  TSTRJM                           H06L867
03-29-02   2.48.36  PM  AUEDRL                           H06L83D
```

Define Sorts and Control Breaks

The CONTROL statement defines both the sort criteria and control breaks.

You can sort any field that comes before the sort statement. This includes fields present in the input file and work fields.

The following example sorts the report records by logonid, date, and time hold (the saved military time). The report control breaks on logonid. Parentheses indicate the control break. The CONTROL statement is inserted between the SELECT statement (line 179 of the original report program) and the PRINT statement (line 180).

```
NOTE ************************************************************
NOTE DEF WORK FIELD TO SAVE MILITARY TIME
NOTE ************************************************************

DEF TIMEHOLD(8.0) = 0
        .
        .
        .
NOTE ************************************************************
NOTE SAVE MILITARY TIME TO THOUSANDTHS OF A SECOND
NOTE ************************************************************

SET TIMEHOLD=TIME100
        .
        .
        .
 CONTROL (LOGONID) DATE TIMEHOLD
```

The program modification on the previous page produces the following changes in this report.

```
03/29/02                       LOGON AND PASSWORD VIOLATIONS
                  STARTING DATE: 03-29-02    ENDING DATE: 03-29-02
                  STARTING TIME: 10.59       ENDING TIME:  3.04
------------------------------------------------------------------------------
    DATE    TIME          LOGONID    JOBNAME    SUBMITTOR    SOURCE    PROGRAM
                                                LID/PROC
------------------------------------------------------------------------------
03-29-02   2.48.36  PM  AUEDRL                               H06L83D
                        AUEDRL
03-29-02  10.59.30  AM  AUEJJV                               H06L84F
                        AUEJJV
03-29-02   1.24.58  PM  SSESWB     SSESWB      LOGON         V4L3E0
                        SSESWB
03-29-02   2.02.48  PM  SVNSKS     SVNSKS      LOGON         V4L3EA
                        SVNSKS
03-29-02  11.09.55  AM  TLCISO     STARMAN     STARMAN       USCHGOVB
03-29-02  11.21.50  AM  TLCISO     TLCISO      LOGON         V4L3ED
03-29-02   2.20.10  PM  TSTRJM                               H06L867
                        TSTRJM
```

Note: When you use sort logic, the DATE and TIME variables in the title no longer contain the start time. Therefore, if you use these fields in the title, the report logic is modified to reflect the first presort record. This technique is demonstrated in the complete modified report at the end of this chapter.

Format Print Lines

Use the PRINT statement to format print lines in a report. A report can contain multiple print lines. Print lines are formatted with explicit or automatic spacing. You can print entire print lines or individual fields conditionally.

In the following example, the print line is rearranged. Since the primary sort is by logonid, the logonid is placed at the top-most field. The print order of the other fields is also changed.

You can print the calculated field (AMPM) without spacing next to the time by specifying 0 (zero) space between TIMESECONDS and AMPM. The English language REASON field, determined by the DECODE statement in RCTAB, prints at the end of the print line. The print line length, set by OPTION PRINT=, increases to 132 to accommodate the larger printout area.

```
PRINT LOGONID
      VTYPE
      DATE
      TIMESECONDS 0
      AMPM
      JOBNAME
      SUBMITTOR
      PROGRAM
      SOURCE
      CPU
      REASON
```

The previous program modification produces the following changes to this report.

```
03/29/02                                    LOGON AND PASSWORD VIOLATIONS

                 STARTING DATE: 03-29-02    ENDING DATE: 03-29-02
                 STARTING TIME: 10.59       ENDING TIME:  3.04
--------------------------------------------------------------------------------
LOGONID  VIO      DATE  TIME     JOBNAME   SUBMITTOR  PROGRAM   SOURCE     CPU
         TYPE                              LID/PROC
--------------------------------------------------------------------------------
AUEDRL   VIO  03-29-02  2.48.36PM                               H06L83D    CAI1
AUEDRL
AUEJJV   VIO  03-29-02 10.59.30AM                               H06L84F    CAI1
AUEJJV
SSESWB   VIO  03-29-02  1.24.58PM  SSESWB    LOGON              V4L3E0     CAI1
SSESWB
SVNSKS   VIO  03-29-02  2.02.48PM  SVNSKS    LOGON              V4L3EA     CAI1
SVNSKS
TLCISO   VIO  03-29-02 11.09.55AM  STARMAN   STARMAN            USCHGOVB   CAI1
TLCISO   VIO  03-29-02 11.21.50AM  TLCISO    LOGON              V4L3ED     CAI1
TLCISO
TSTRJM   VIO  03-29-02  2.20.10PM                               H06L867    CAI1
```

Modified Source Program

The following pages contain a complete expanded copy of the program that produces the modified report. Again, the field definitions for the COPY statements and the RCTAB statement in this input program are included to help illustrate this example. Normally, you specify the COPY HDRECORD, COPY PRECORD, and COPY RCTAB statements only, and without including the field definitions. Following this input program is a copy of the report.

```
 1        NOTE *------------------------------------------------------------*
 2        NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 PW REPORT *
 3        NOTE *------------------------------------------------------------*
 4
 5         OPTION PRINTER=132
 6
 7        NOTE *------------------------------------------------------------*
 8        NOTE * TO USE SRAM SORT REMOVE NOTE BELOW                        *
 9        NOTE *------------------------------------------------------------*
10        NOTE OPTION SORT=SRAM
11
12         ACFFLT: FILE ACFSMFR RECORD=23576
13
14        COPY HDRECORD
16    1
17    1   NOTE EARL FLAT FILE - COMMON HEADER FIELDS
18    1     DEF RDW        1-4     X 'RDW'
19    1     DEF INDICATOR  5       X 'FLAT' 'IND'
20    1     DEF RECTYPE    6       X 'REC' 'TYPE'
21    1     DEF SEQUENCE   7       X 'SEQ' 'NUM'
22    1     DEF OPSYSTEM   8       X 'OPERATING' 'SYSTEM'
23    1     DEF HRESERV1   9       X
24    1
25    1   NOTE TIME TO 100THS OF A SECOND
26    1     DEF TIME100    10-17   N 'TIME'
27    1     DEF TIME       10-13   N 'TIME'                 PICTURE 'Z9.99'
28    1
29    1   NOTE REDEFINE TIME FIELD INTO SMALLER COMPONENTS
30    1     DEF HOUR       10-11   N 'TIME-HH'
31    1     DEF MINUTE     12-13   N 'TIME-MM'
32    1     DEF SECOND     14-15   N 'TIME-SS'
33    1     DEF DATE       18-23   N 'DATE' PIC '99-99-99'
34    1
35    1   NOTE REDEFINE DATE FIELD INTO SMALLER COMPONENTS
36    1     DEF MONTH      18-19   N 'DATE-MM'
37    1     DEF DAY        20-21   N 'DATE-DD'
38    1     DEF YEAR       22-23   N 'DATE-YY'
39    1     DEF FCTCODE    24      U 'FUNCTION'    PIC H
40    1     DEF SMFUID     25-32   X 'SMF' 'UID'
41    1     DEF MODULE     33-40   X 'MODULE'
42    1     DEF LOGONID    41-48   X 'LOGONID'
43    1     DEF UID        49-72   X 'UID'
44    1     DEF SOURCE     73-80   X 'SOURCE'
45    1     DEF CPU        81-84   X 'CPU'
46    1     DEF SYSID      85-92   X 'SYSTEM' 'ID'
47    1     DEF EVENTSID   93-100  X 'EVENT' 'SYSID'
48    1     DEF LIDSID     101-108 X 'LID' 'SYSID'
49    1     DEF USERSID    109-116 X 'USER' 'SYSID'
50    1     DEF JOBNAME    117-124 X 'JOBNAME'
```

```
51  1    DEF RDRTIME    125-132  N 'RDR' 'TIME'
52  1    DEF RDRDATE    131-138  N 'RDR' 'DATE'
53  1    DEF SUBMITTOR 139-146  X 'SUBMITTOR' 'LID/PROC'
54  1    DEF DELTOD     147-154  N 'TIME OF' 'DELETE'
55  1    DEF VERSION    155-157  X 'VERSION'
56  1    DEF HRESERV2   158-232  X 'RESERVED'
57  1    DEF USERAREA   233-744 X 'USER AREA'
58  1    NOTE END OF COMMON HEADER FIELDS
59
60       COPY PRECORD
62  1    NOTE  FLAT FILE TYPE 'P' FIELDS
63  1    DEF APFIND         745-747 X 'APF' 'AUTH'
64  1    DEF PROGRAM        748-755 X 'PROGRAM'
65  1    DEF REASON_NUMBER   756-758 N 'REASON' 'CODE' PIC 'ZZ9'
66  1      DEF REASON_STRING 756-758 X 'REASON'
67  1    DEF LOG            759-761 X 'LOG' 'VIO'
68  1    DEF EXITRSN        762-764 X 'USER EXIT' 'REASON'
69  1    DEF AUTHDEV        765-772 X 'USER AUTH' 'DEVICE'
70  1    DEF PFLAG          773     B
71  1    DEF LABSID         774-777 X 'LAB' 'CPU'
72  1    DEF PCNTL          778     B
73  1    DEF PROCIND        779     X 'P'
74  1    DEF PRESERVE       780-819 X 'RESERVED'
75       DEF RC=ACFSMFR 1-4 B
76
77       NOTE ****************************************************
78       NOTE REDEFINE FIELDS TO CHANGE HEADINGS
79       NOTE ****************************************************
80
81       DEF USERID = LOGONID 1-8 X 'USER''S' 'ID'
82       DEF VTYPE  = LOG 1-3 X 'VIO' 'TYPE'
83
84       NOTE ****************************************************
85       NOTE REDEFINE TIME TO ADD SECONDS
86       NOTE ****************************************************
87
94       DEF TIMESECONDS = TIME100 1-6 N 'TIME   ' PIC 'Z9.99.99'
89
90       NOTE ****************************************************
91       NOTE WORK FIELD TO DESIGNATE MORNING OR AFTERNOON
92       NOTE ****************************************************
93
94       DEF AMPM (2) = ' ' ' '
95
96       NOTE ****************************************************
97       NOTE DEF WORK FIELD TO SAVE MILITARY TIME
98       NOTE ****************************************************
99
100      DEF TIMEHOLD(8.0) = 0
```

```
101
102        NOTE *******************************************************
103        NOTE DEFINE FIELDS FOR TIME AND DATE IN HEADER AND FIRST TIME SWITCH
104        NOTE *******************************************************
105
106        DEF OLDTIME(4.0) = 0 'TIME' PIC 'Z9.99'
107        DEF OLDDATE(6.0) = 0 'DATE' PIC '99-99-99'
108        DEF ONETIME(1.0) = 0
109
110        GET ACFFLT
111        GOTO EOJ (RC=-1)
112
113
114        NOTE *******************************************************
115        NOTE FIRST TIME LOGIC TO PUT DATE AND TIME IN TITLE
116        NOTE *******************************************************
117
118        IF ONETIME = 0 AND RECTYPE 'P' AND PROGRAM NOT 'SSD5' THEN
119        SET OLDTIME = TIME
120        SET OLDDATE = DATE
121        SET ONETIME = ONETIME + 1
122        ENDIF
123
124        COPY RCTAB
125
126        NOTE *******************************************************
127        NOTE SAVE MILITARY TIME TO THOUSANDTHS OF A SECOND
128        NOTE *******************************************************
129
130    1   NOTE   TABLE LOOKUP FOR COMMON REASON CODES
131    1    DECODE REASON_STRING INTO REASON  (X 50)
132    1    '001' = 'CALLER NOT AUTHORIZED'
133    1    '004' = 'LOGONID NOT FOUND'
134    1    '006' = 'A PASSWORD IS NOT ALLOWED FOR LOGONID'
135    1    '007' = 'A PASSWORD IS REQUIRED FOR LOGONID'
136    1    '008' = 'UNAUTHORIZED INPUT SOURCE FOR LOGONID'
137    1    '009' = 'LOGONID NOT VALID FOR SUBMISSION BY THIS PGM'
138    1    '010' = 'LOGONID CANCELLED'
139    1    '011' = 'LOGONID SUSPENDED'
140    1    '012' = 'PASSWORD NOT MATCHED'
141    1    '013' = 'LOGONID SUSPENDED BECAUSE OF PASSWORD VIOLATIONS'
142    1    '014' = 'LOGONID EXPIRED'
143    1    '015' = 'INVALID PASSWORD SYNTAX'
144    1    '016' = 'A LOGONID IS REQUIRED'
145    1    '017' = 'PASSWORD FOR LOGONID HAS EXPIRED'
146    1    '018' = 'INVALID SYNTAX FOR NEW PASSWORD; OLD PW EXPIRED'
147    1    '019' = 'PASSWORD LESS THAN MINIMUM LENGTH'
148    1    '020' = 'NEW PASSWORD < MINIMUM LENGTH; OLD PW EXPIRED'
149    1    '021' = 'PASSWORD EXPIRED AND CANNOT BE ALTERED'
```

```
150   1   '022' = 'MUSASS LOGONID ALREADY IN USE'
151   1   '023' = 'NEW PASSWORD = OLD PASSWORD; OLD PW EXPIRED'
152   1   '025' = 'SRF SUPPORT NOT FOUND'
153   1   '026' = 'ACCESS DENIED BY INSTALLATION EXIT'
154   1   '028' = 'PASSWORD REVALIDATION - NO LOGONID RECORD'
155   1   '029' = 'PASSWORD REVALIDATION - PASSWORD NOT MATCHED'
156   1   '030' = 'STC LOGONID CANNOT BE USED FOR NORMAL ACCESS'
157   1   '031' = 'LOGONID DOES NOT HAVE THE STC ATTRIBUTE'
158   1   '032' = 'LOGONID/SOURCE COMBINATION NOT VALID'
159   1   '033' = 'INVALID SYNTAX FOR NEW PASSWORD ON NJE JOB'
160   1   '034' = 'NEW PASSWORD LESS THAN MIN LENGTH ON NJE JOB'
161   1   '037' = 'NEW PASSWORD DENIED BY INSTALLATION EXIT'
162   1   '038' = 'LOGONID INHERITANCE NOT ALLOWED FOR LOGONID'
163   1   '045' = 'NOT AUTHORIZED FOR ACCESS TO MUSASS'
164   1   '048' = 'ACFFDR COULD NOT BE LOCATED'
165   1   '049' = 'FDE FOR ACTIVE AUTH SUPPORT NOT LOCATED'
166   1   '050' = 'NO AUTHEXIT LIST ENTRY FOUND FOR LIDFIELD"
167   1   '051' = 'USER AUTH EXTENSION BLOCK NOT PASSED'
168   1   '052' = 'RSB COULD NOT BE LOCATED FOR AUTH RECORD'
169   1   '053' = 'INFO-STOR D/B NOT AVAILABLE'
170   1   '054' = 'D/B FAILURE OCCURRED FOR USER AUTH RECORD'
171   1   '055' = 'ACCESS DENIED BY USER AUTH SUPPORT'
172   1   '056' = 'USER AUTH DIALOG FACILITY NOT SUPPORTED'
173   1   '057' = 'STORAGE GETMAIN/FREEMAIN ERROR'
174   1   '060' = 'ZONE RECORD FOR LOGONID TIME ZONE NOT FOUND'
175   1   '061' = 'SYSTEM ACCESS DENIED. LOGON TIME NOT WITHIN SHIFT'
176   1   '062' = 'ERROR IN SHIFT PROCESSING ROUTINES'
177   1   '063' = 'SHIFT RECORD FOR LOGONID NOT FOUND'
178   1   '073' = 'NEW PASSWORD DENIED BY INSTALLATION EXIT'
179   1   '075' = 'DDB LOGONID ACQUISITION FAILED'
180   1   '076' = 'LOGONID NOT FOUND FOR DDB ACQUISITION'
181   1   '077' = 'DDB REMOTE LOGONID UPDATE FAILED'
182   1   '078' = 'LOGONID NOT FOUND FOR DDBREMOTE UPDATE'
183   1   '095' = 'NO HALFWAY ENCRYPTED PASSWORD AVAILABLE FOR USERID'
184   1   '096' = 'NO LOGONID GIVEN FOR PASSWORD EXTRACT CALL'
185   1   '097' = 'JOB SUBMITTED ON NON-ACF2 SYSTEM; NO DEFAULT LOGONID GIVEN'
186   1   '098' = 'ACF2 NOT INITIALIZED'
187   1   '099' = 'ERROR DURING PROCESSING'
188   1   '101' = 'DDB GET-UPDATE OF LOGONID FAILED'
189   1   '105' = 'NO ROOM IN DATABASE FOR REQUEST'
190   1   '106' = 'ACF00ERU PROCESSING ERROR FOR LOGONID'
191   1   '115' = 'NEW PASSWORD CANNOT BE THE SAME AS LOGONID'
192   1   '116' = 'NEW PASSWORD CANNOT BE ALL NUMERIC'
193   1   '117' = 'NEW PASSWORD CONTAINS A RESERVED WORD PREFIX'
194   1   '118' = 'NEW PASSWORD MATCHES A PREVIOUS PASSWORD'
195   1   '127' = 'LOGONID RECORD DEQ FAILURE'
196   1   '128' = 'INVALID SYNTAX FOR NEW PASSWORD; NONE SET'
197   1   '129' = 'PASSWORD SUCCESSFULLY ALTERED'
198   1   '130' = 'NEW PASSWORD < MINIMUM LENGTH - NONE SET'
```

```
199  1    '131' = 'NEW PASSWORD EQUALS OLD - NONE SET'
200  1    '132' = 'NEW PASSWORD NOT ALLOWED'
201  1    '133' = 'NEW PASSWORD DENIED BY INSTALLATION EXIT'
202  1    '134' = 'YOUR PASSWORD WILL EXPIRE ON DDD'
203  1    '135' = 'SYSTEM ACCESS ALLOWED BASED ON LOGSHIFT'
204  1    '136' = 'NEW PSWD NOT SET; MINDAYS HAVE NOT PASSED'
205  1    '200' = 'INVALID PASSWORD/AUTHORITY FOR ID'
206  1    '254' = 'MON-LOG SPECIFIED IN USER LOGONID'
207  1    '255' = 'NEW PASSWORD EXIT'
208  1      ELSE 'UNKNOWN REASON'
209     SET TIMEHOLD=TIME100
210
211    NOTE ********************************************************
212    NOTE SET AM/PM FIELD
213    NOTE ********************************************************
214
215      IF HOUR < 12 THEN
216          SET AMPM='AM'
217      ELSE
218          SET AMPM='PM'
219      ENDIF
220
221    NOTE ********************************************************
222    NOTE SET HOUR COMMON HOUR
223    NOTE ********************************************************
224
225      DECODE HOUR INTO HOUR
226          < 13 = HOUR
227          > 12 = (HOUR - 12)
228
229      REPORT 'LOGON AND PASSWORD VIOLATIONS'
230      TITLE ' '
231      TITLE @18 'STARTING DATE:' 1 OLDDATE @45 'ENDING DATE:' 1 &DATE.
232      TITLE @18 'STARTING TIME:' 1 OLDTIME @45 'ENDING TIME:' 1 &TIME.
233      FOOT 'SECURITY REPORTING SYSTEM'
234
235
236    NOTE  SELECT ONLY TYPE 'P' RECORDS. PRINT DETAIL LINE FOR EACH RECORD
237     SELECT RECTYPE  'P'  AND PROGRAM NOT 'SSD5'
238
239      CONTROL (LOGONID) DATE TIMEHOLD
240      PRINT LOGONID
241          VTYPE
242          DATE
243          TIMESECONDS 0
244          AMPM
245          JOBNAME
246          SUBMITTOR
247          PROGRAM
```

```
248                SOURCE
249                CPU
250                REASON
251        END
```

Modified Report

The sample program on the preceding pages produces the following report.

```
03/29/02                                  LOGON AND PASSWORD VIOLATIONS
                    STARTING DATE: 03-29-02    ENDING DATE: 03-29-02
                    STARTING TIME: 10.59       ENDING TIME:  3.04
--------------------------------------------------------------------------------
LOGONID VIO    DATE  TIME      JOBNAME   SUBMITTOR  PROGRAM   SOURCE   CPU
        TYPE                             LID/PROC
--------------------------------------------------------------------------------
AUEDRL  VIO  03-29-02  2.48.36PM                              H06L83D  CAI1
AUEDRL
AUEJJV  VIO  03-29-02 10.59.30AM                              H06L84F  CAI1
AUEJJV
SSESWB  VIO  03-29-02  1.24.58PM  SSDSWB    LOGON             V4L3E0   CAI1
SSESWB
SVNSKS  VIO  03-29-02  2.02.48PM  SVMSKS    LOGON             V4L3EA   CAI1
SVNSKS
TLCISO  VIO  03-29-02 11.09.55AM  STARMAN   STARMAN           USCHGOVB CAI1
TLCISO  VIO  03-29-02 11.21.50AM  TLCISO    LOGON             V4L3ED   CAI1
TLCISO
TSTRJM  VIO  03-29-02  2.20.10PM                              H06L867  CAI1
TSTRJM
END OF REPORT
                                              SECURITY REPORTING SYSTEM
  REPORT   RECORDS READ   LINES PRINTED      1          7           54
**** REPORT PHASE ENDED   0.40 SECONDS.
```

Use Information from the User Exit

CA ACF2 provides a user exit point and sample exit program in the SMF preprocessor (ACFRPTPP). This exit lets users add data normally not available in the SMF record. Information the user exit acquires can be stored in the 512 byte user area, starting in position 233 of the ACFFLT file.

As an example, suppose that each logonid record has the name of the security administrator who created the record. The exit could return the security administrator's name. If the name was stored in the first 20 positions of the user area, it is programmed as follows:

```
DEF SECURITY_NAME 233 252 X 'SECURITY' 'OFFICER'
```

This information is reported in the following way. The records are sorted by security administrator (SECURITY_NAME). When security administrators' names change, the report skips to the top of a new page. Therefore, reports are easily separated and sent to the appropriate security administrator:

```
CONTROL (SECURITY_NAME) NEWPAGE LOGONID DATE TIMEHOLD
PRINT SECURITY_NAME
      LOGONID
      VTYPE
      DATE
      TIMESECONDS 0
      AMPM
      JOBNAME
      SUBMITTOR
      PROGRAM
      SOURCE
      CPU
      REASON
```

The user exit lets you satisfy more reporting demands by reporting on user specific information.

Chapter 4: Sample Reports

This chapter describes the CA Earl sample report generators provided with CA ACF2. You can use these reports as they appear or modify them to fit the needs of your site. For information on how to modify these reports, see the "Customizing Reports" chapter.

For additional and more detailed information on the CA Earl language statements or use, see the CA Earl Reference Guide.

This section contains the following topics:

Table of CA Earl Sample Reports

The following table contains descriptions of the sample reports CA ACF2 provides. The CA ACF2 SMF record subtypes used in each report and the name of the input file the CA Earl preprocessor program, ACFRPTPP, uses are also listed.

Report	Title	Description	Record Subtype	ACFRPTPP Input Files
RPTCR	TSO Command Statistics Log	Audit information from the CA ACF2 TSO interface routines.	T	SMFCR
RPTDDB	DDB Transmission Report	Distributed database information	Z	SMFZR
RPTDS	Data set Access Report	All data set activity, including NEXTKEY records used	D	SMFDR
RPTDS2	Data set Violations by Violator Name	Loggings, warnings, and violations sorted by violator name		

Report	Title	Description	Record Subtype	ACFRPTPP Input Files
RPTDS3	Data set Violations by Violation Type	Loggings, warnings, and violations sorted by violation		
RPTDS4	Data set Violations by Rule Owner	Loggings, warnings, and violations sorted by owner name		
RPTDS5	Data set Transition Program Report	All data set activity logged, **excluding** NEXTKEY information		
RPTEL	Infostorage Modification Log	SMF records issued for CA ACF2 recovery purposes and changes to the Infostorage databaseSMF records issued for CA ACF2 recovery purposes and changes to the Infostorage database	E	SMFER
RPTEL1	Infostorage Modification Summary	Summary of RPTEL		
RPTJL	Restricted Logonid Job Log	Indicates the path for jobs using a restricted logonid	J	SMFTR
RPTLL	Logonid Modification Log	Update activity report for CA ACF2 Logonid database	L	SMFJR
RPTLL2	Logonid Modification Summary	Summary of update activity for CA ACF2 Logonid databaseSummary of update activity for CA ACF2 Logonid database		
RPTNV	Environment Report	Loggings of operator commands, system IPLs, and possible losses of SMF data	A, G	SMFNR
RPTOM1	UNIX/OMVS Summary Report	UNIX System Services summary report of all accesses	O	SMFOR
RPTOM2	UNIX/OMVS 'CHECK_ACCESS' Report	UNIX System Services report of 'CHECK_ACCESS' accesses	O	SMFOR
RPTOM3	UNIX/OMVS 'INIT_USP' Report	UNIX System Services report of 'INIT_USP' accesses	O	SMFOR
RPTPW	Invalid Password Report	Invalid password violations and invalid submission paths	P	SMFPR
RPTPW2	Invalid Password/Authority Log - Logonid Summary	Reports a summary of sign-on violations and loggings		
RPTPW3	Off Hours Invalid Password Usage	Reports sign-on violations and loggings during non-business hours (6:00 PM to 5:59 PM)		
RPTPW4	Invalid Sign-ons by Source	Reports invalid sign-ons sorted by source		

Report	Title	Description	Record Subtype	ACFRPTPP Input Files
RPTRL	Rule Modification Log	Provides recent update activity to the Rule database	R	SMFRR
RPTRL2	Rule Modification Summary	Reports a summary of rule modifications		
RPTRV	Resource Event Log	Resource access requests: access type, user, and the final disposition of the access	V	SMFVR
RPTRV2	Resource Violations by Violator Name	Resource violations sorted by violator's name		
RPTST	SAF Trace Report	Information collected by the SECTRACE command	S	SMFSR
RPTVIOS	Violations by Logonid	Reports violations sorted by logonid of the violator	D, P, V	SMFDR, SMFPR, SMFVR

CA Earl Statements

The following list consists of CA Earl command statements. These statements are exclusive to the CA Earl program language. Use them only in the context intended by CA Earl. This list can help you understand the sample reports in this chapter. For a more complete list, see the *CA Earl Reference Guide*.

CALL (D)(T)

A data manipulation statement, also called a processing statement. Invokes a user-supplied routine. CALL is used without a suffix to determine operations performed on input data before output selection or with the suffix (D) at detail print time or with suffix (T) at total time.

CONTROL

A report specification statement. Specifies data sequence and automatic subtotal control-breaks.

COPY

A library retrieval statement. Retrieves CA Earl source modules from the CA Earl library.

DECODE (D)(T)

A data manipulation statement like CALL. Translates a set of specified values for a given field.

DEFINE

A declaration statement. Defines file data fields or working storage fields.

END

A termination statement. Signifies the end of the CA Earl source statements.

ENDIF

A logic flow statement. Signifies the end of a group of statements covered by an IF statement.

ENDPROC

A logic flow statement. Signifies the end of a group of statements covered by a PROC statement.

EXITPROC

A logic flow statement. Returns control from a procedure to the statement following the PERFORM statement that invoked the procedure without executing the following statements in the procedure.

FILE

A declaration statement. Identifies and describes input and output files.

GET (D)(T)

A file handling statement. Reads a record from and input file or database.

IF (D)(T)

A logic flow statement. Executes one or more data manipulation, file handling, or logic flow statements conditionally.

NOTE

A comment statement.

OPTION

A function that overrides default compile and execute functions.

PRINT

A report specification statement. Determines the format and contents of a report. You must supply to CA Earl in the above sequence.

REPORT

A report specification statement. Provides the heading lines for a report.

SELECT

A report specification statement. Selects the data records to include in a report.

The following is a brief explanation of the categories that are presented in this chapter. Not all of these categories appear in each report input. These categories are presented here for a brief explanation of their content.

NOTE

Specifies comment lines. These lines are ignored during processing.

OPTIONS

Specifies run options for processing. These options can include:

- **PRINTER=**—Specifies the width of the printed line on the output. CA Earl uses this value to determine the spacing of columns and to center the title of the report.

- **LIST OFF|ON**—Produces or suppresses a listing of the CA Earl report program that process the report. This lets you examine the record descriptions used in the report or, if you have written your own report program, to examine it for errors. LIST OFF suppresses this listing. LIST ON prints it.

- **SORT=**—Specifies the sort method CA Earl uses to process the report. The default sort method for VM reports is SRAM.

INPUT FILE

Defines the file exit name.

FIELD DEFS

Defines the names, positions, field types, default titles, and other criteria for the fields CA Earl uses for processing reports. COPY statements imbed copybook files containing field descriptions used in the various reports. The "CA-ACF2 File Layouts" appendix describes these copybooks. You can also define work fields for customizing reports here.

READ FILE

Defines the files to read for processing.

PROCESS LOGIC

Defines special processing of data. The DECODE statements translate values, such as numeric reason codes, into more useful data, such as text.

SET UP

Selects the title, column headers, and records to print in the reports. You can use the REPORT and SELECT statements, described in the previous section, to add a line below the report title on each page. The EXCLUDE parameter of the REPORT statement suppresses the default column headers. This lets you define your own headers in the PRINT statement (described in the following).

PRINT LOGIC

Formats the records for printing. This section uses the CA Earl CONTROL and PRINT statements to sort and format records for printing.

The CONTROL statement sorts the records according the values of the fields specified in the statement. The following parameters are also used in this statement:

- **SKIP**—Skips a space when the value of the header it appears after changes.

- **Parentheses**—Subtotals the header to print every time the value of the associated field changes.

- **BREAK**—Prints the value of the field associated with the header preceding the BREAK statement only when that value changes. The field is then suppressed until the next time its value changes.

- **ONE**—A counter used for accumulating the subtotals for each header.

The PRINT statement prints the headers listed. If you did not specify column placements, CA Earl automatically spaces the headers across the page based on the width of the report, specified in the PRINTER= option (see above). Parameters used can include:

- **DOUBLE SPACING**—Skips a line before printing the current line.

- **@nnfieldname**—Prints the header at column *nn* (absolute placement). If you did not specify column values for headers, CA Earl spaces them automatically.

- **''**—Prints a blank line.

- **IFTAG&x.**—If the records processed were assigned to groups (see SELECT above), this statement prints the record only if it was assigned to a specific group, indicated by the letter replacing *x*.

- **TOTALS ONLY**—Prints only the total number of occurrences for each combination of values reported, plus a grand total for all events.

- **(ONE)**—Prints subtotals for each record.

VARIATIONS

Contains statements you can precede by NOTE. To use the statements, remove NOTE.

Sample Type T Report

This section contains the output the sample type T report generated. This report uses the same type T SMF records that the CA ACF2 TSO Command Statistics Log Report (ACFRPTCR) uses. We also present a brief explanation of the output and a copy of the input used to generate this report.

RPTCR Sample Report (z/OS and OS/390 Only)

Type	Report	Function
T	RPTCR	Provides the same information as ACFRPTCR.

This sample report mimics ACFRPTCR, which reports TSO command information including logonid, sequence number, command name, time of day, and calling program.

Output

Following is a sample of the RPTCR output.

```
03/29/02              TSO COMMAND STATISTICS LOG
RUN DATE:      03/29/02        RUN TIME:+ 09.14.52
```

```
-------------------------------------------------------------------------------------
LOGONID     SEQ       COMMAND          TTOD+ CONTROL      ENVIRONMENT NUMBER     PROGRAM
-------------------------------------------------------------------------------------
TLC001       0        EX            07-38-41-98+
IKJEFT02    IKJEFT02
                      TLC001           1      TEST        07-38-43-89+
IKJEFT02    IKJEFT02
                      TLC001           2      EX          07-38-45-55+
IKJEFT02    IKJEFT02
                      TLC001           3      FREE        07-38-45-96+
IKJEFT02    IKJEFT02
                      TLC001           4      ALLOC       07-38-46-20+
IKJEFT02    IKJEFT02
                      TLC001           5      ALLOC       07-38-47-36+
IKJEFT02    IKJEFT02
                      TLC001           6      ALLOC       07-38-48-30+
IKJEFT02    IKJEFT02
                      TLC001           7      ALLOC       07-38-49-31+
IKJEFT02    IKJEFT02
                      TLC001           8      ALLOC       07-38-50-01+
IKJEFT02    IKJEFT02
                      TLC001           9      ALLOC       07-38-51-32+
IKJEFT02    IKJEFT02
                      TLC001          10      ALLOC       07-38-52-07+
IKJEFT02    IKJEFT02
                      TLC001          11      ALLOC       07-38-53-01+
IKJEFT02    IKJEFT02
                      TLC001          12      SPF         07-38-57-27+
IKJEFT02    IKJEFT02
                      TLC001          13      DSN         07-40-21-63+
ISRPTC      ISRPTC
                      TLC001          14      PDS         07-41-47-47+
ISRPTC      ISRPTC
                      TLC001          15      SUBMIT      07-44-02-66+
ISREDIT     ISREDIT
                      TLC001          16      IOF         07-45-12-53+
ISREDIT     ISREDIT
                      TLC001          17      ACF         07-47-21-08+
IKJEFT02    IKJEFT02
                      TLC001          18      LOGOFF      07-48-26-14+
IKJEFT02    IKJEFT02
                      TLC001           0      EX          08-03-33-40+
IKJEFT02    IKJEFT02
                      TLC001           1      TEST        08-03-35-05+
IKJEFT02    IKJEFT02
                      TLC001           2      EX          08-03-37-20+
IKJEFT02    IKJEFT02
                      TLC001           3      FREE        08-03-37-60+
IKJEFT02    IKJEFT02
```

```
                          TLC001         4       ALLOC         08-03-37-94+
IKJEFT02      IKJEFT02
                          TLC001         5       ALLOC         08-03-39-25+
IKJEFT02      IKJEFT02
                          TLC001         6       ALLOC         08-03-40-28+
IKJEFT02      IKJEFT02
                          TLC001         7       ALLOC         08-03-40-98+
IKJEFT02      IKJEFT02
                          TLC001         8       ALLOC         08-03-41-62+
IKJEFT02      IKJEFT02
                          TLC001         9       ALLOC         08-03-42-40+
IKJEFT02      IKJEFT02
                          TLC001        10       ALLOC         08-03-42-88+
IKJEFT02      IKJEFT02
                          TLC001        11       ALLOC         08-03-43-55+
IKJEFT02      IKJEFT02
                          TLC001        12       SPF           08-03-50-52+
IKJEFT02      IKJEFT02
                          TLC001        13       SEARCH        08-04-45-12+
ISRPTC        ISRPTC
                          TLC001        14       DSN           08-07-09-20+
ISRPTC        ISRPTC
                          TLC001        15       DSN           08-07-30-88+
ISRPTC        ISRPTC
                          TLC001        16       ALLOC         08-07-41-53+
ISRPTC        ISRPTC
                          TLC001        17       PDS           08-07-52-75+
ISRPTC        ISRPTC
                          TLC001        18       LOGOFF        08-09-49-46+
IKJEFT02      IKJEFT02
                          TLC012         4       ALLOC         08-06-15-95+
IKJEFT02      IKJEFT02
                          TLC001        15       SUBMIT        09-40-22-46+
ISREDIT       ISREDIT
                          TLC001        16       IOF           09-40-41-57+
ISPTASK       ISPTASK
                          TLC001        17       SUBMIT        09-42-03-81+
ISREDIT       ISREDIT
                          TLC001        18       IOF           09-43-03-86+
ISPTASK       ISPTASK
                          TLC001        19       LOGOFF        10-13-23-59+
IKJEFT02      IKJEFT02
 END OF REPORT
1  REPORT    RECORDS READ   LINES PRINTED
        1             116              137
-**** REPORT PHASE ENDED    0.60 SECONDS.
 **** END OF PROCESSING PHASE
 ****      116 HITFILE RECORDS WRITTEN
```

Use this report to track the use of TSO commands such as ALLOCATE, ACF, FREE, and so on.

Sample Input Program for the RPTCR Report

The following is a brief explanation of the program for this report.

```
NOTE *------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 CR REPORT  *
NOTE *------------------------------------------------------------*
 OPTION PRINTER=132
 OPTION LIST OFF
 OPTION OMIT DETAIL BLANK LINES
NOTE *----------------------------------------------------------*
NOTE * CHANGE LOG:                                      *
NOTE *                                                  *
NOTE * RELEASE: 6.3                                     *
NOTE *                                                  *
NOTE * TA3985D  07/14/98  Z0012                         * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.            * TA3985D
NOTE *                                                  *
NOTE * RELEASE: 6.5                                     *
NOTE *                                                  *
NOTE * TA6015G  03/13/02  Z0037                         * TA6015G
NOTE *          REBRANDING CHANGES.                     * TA6015G
NOTE *                                                  *
NOTE * END OF LOG.                                      *
NOTE *                                                  *
NOTE *----------------------------------------------------------*


NOTE *------------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW              *
NOTE *------------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                    ! TA3985D


COPY HDRECORD
COPY TRECORD

DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)
REPORT
TITLE 'TSO COMMAND DETAIL STATISTICS LOG'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT
      'PAGE' PAGENUMBER

 SELECT RECTYPE='T'

 PRINT DOUBLE SPACING @1 LOGONID
      TSEQ
      TCOMMAND
      TTOD
```

```
        TPROGRAM
        TENVIRONMENT
NOTE *--------------------------------------------------*
NOTE * TO RUN THE FULL DETAIL REPORT REMOVE 'NOTE'      *
NOTE * FROM THE FOLLOWING PRINT LINES                   *
NOTE *--------------------------------------------------*
NOTE PRINT @27 TBUFF1
NOTE PRINT @27 TBUFF2
NOTE PRINT @27 TBUFF3
NOTE PRINT @27 TBUFF4

  END
```

Highlights

The following letters correspond directly to the letters and braces on the previous page. Each brace highlights a significant part of the customized CA Earl report.

A   OPTIONS

Sorts with the user sort program. To sort the information using the CA-SRAM method, remove the word NOTE from the line containing the statement OPTION SORT=SRAM. To sort by another method, use this option to specify that method.

Note: If you are a VM site, SRAM SORT is the default.

B   INPUT FILE

Specifies which file is used as input. You must include this statement exactly as it is shown in the sample.

C   FIELD DEFS

COPY statements here imbed macro library file definitions into the source program. Further values are also defined in the source program. The HDRECORD file contains field definitions common to all CA Earl reports. The TRECORD file contains field definitions explicit to the type T reports.

D   READ FILE

Reads the input file records.

E   SETUP

Changes the title of the report to TSO COMMAND STATISTICS LOG, centered at the top of each page of the report. The TITLE statement adds a line below this line containing the date (RUN DATE) and time (RUN TIME) that the report was run. The SELECT statement selects all type T records for processing.

F   PRINT LOGIC

Prints the headers across the page in the order shown. The headers are automatically spaced based on the value of the PRINTER= statement at the beginning of the program.

G   VARIATIONS

Provides variations of the report.

Sample Type Z Reports

The next section contains the output the sample type Z report generated. This report uses the same type Z SMF records that the CA ACF2 report ACFRPTDB uses. We also present a brief explanation of the output and a copy of the input used to generate each report.

RPTDDB Sample Report (zOS and OS/390 Only)

This sample report mimics ACFRPTDB, which reports the following distributed database activity:

- Date

- Time

- Network type

- Function

- Journal type

- Request mode

- Action mode

- Return code

- Reason code

- Component ID

- Module ID

- CA ACF2 action

Sample Input Program for the RPTDDB Report

The following is a brief explanation of the program for this report.

```
NOTE *------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 DB REPORT*
NOTE *------------------------------------------------------------*

 OPTION PRINTER=132
 OPTION LIST OFF

NOTE *---------------------------------------------------------*
NOTE * CHANGE LOG:                                      *
NOTE *                                                  *
NOTE * RELEASE: 6.3                                     *
NOTE *                                                  *
NOTE * TA3985D  07/14/98  Z0012                         * TA3985D
NOTE *            INCREASED RECORD LENGTH OF ACFSMFR FILE   * TA3985D
NOTE *            FOR LONGER OMVS SMF RECORDS.            * TA3985D
NOTE *                                                  *
NOTE * RELEASE: 6.5                                     *
NOTE *                                                  *
NOTE * TA6015G  03/12/02  Z0037                         * TA6015G
NOTE *            REBRANDING CHANGES.                   * TA6015G
NOTE *                                                  *
NOTE * END OF LOG.                                      *
NOTE *                                                  *
NOTE *---------------------------------------------------------*

NOTE *------------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW             *
NOTE *------------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                         ! TA3985D

COPY HDRECORD
COPY ZRECORD

DEF TIME2      10-15 N 'TIME' PIC 'Z9.99.99'
DEF RC=ACFSMFR 1-4 B
 GET ACFFLT
GOTO EOJ (RC=-1)

REPORT 'DDB TRANSMISSION REPORT'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT

NOTE   SELECT ONLY TYPE 'Z' RECORDS. PRINT SUMMARY LINE FOR EACH RECORD
NOTE   PRINT DETAIL LINE IF IT EXISTS.

 SELECT 'A' RECTYPE='Z' AND SEQUENCE ='1' AND ZACF NOT= 'ACF'
 SELECT 'B' RECTYPE='Z' AND SEQUENCE ='1' AND ZACF = 'ACF'
 SELECT 'C' RECTYPE='Z' AND SEQUENCE ='2'
```

```
IFTAG B; PRINT DOUBLE SPACING
        ZLID DATE TIME2 ZSUBSYS ZFUNCTION ZTRANSMIT
        ZRNODE
        @78 ZANODE
        @88 ZRET
        @96 ZREA
       @103 ZCOMPON
       @114 ZMODULE
       @125 ZACF2MSG

IFTAG B; PRINT ' '
IFTAG B; PRINT @78 ZREQN
               @88 ZRETC
               @96 ZRESC
              @103 ZSUFCOMP
              @114 ZSUFMOD
              @125 ZMSGACF2

IFTAG A; PRINT
        ZLID DATE TIME2 ZSUBSYS @36 ZFUNCTION ZTRANSMIT
        ZRNODE
        @78 ZANODE
        @88 ZRET
        @96 ZREA
       @103 ZCOMPON
       @114 ZMODULE
       @125 ZACF2MSG


IFTAG C; PRINT @78 ZREQN
               @88 ZRETC
               @96 ZRESC
              @103 ZSUFCOMP
              @114 ZSUFMOD
              @125 ZMSGACF2

END
```

Highlights

The following letters correspond directly to the letters and braces on the previous page. Each brace highlights a significant part of the customized CA Earl report.

A   OPTIONS**.**

Sorts with the user sort program. To sort the information using the CA-SRAM method, remove the word NOTE from the line containing the statement OPTION SORT=SRAM. To sort by another method, use this option to specify that method.

Note: If you are a VM site, SRAM SORT is the default.

B   INPUT FILE

Specifies which file is used as input. You must include this statement exactly as it is shown in the sample.

C   FIELD DEFS

COPY statements here imbed macro library file definitions into the source program. Further values are also defined in the source program. The HDRECORD file contains field definitions common to all CA Earl reports. The ZRECORD file contains field definitions explicit to the type Z reports. The field called TIME2 redefines the TIME field to specify time in hours, minutes, and seconds. PIC 'Z9.99.99' formats the field as *hh.mm.ss*.

D   READ FILE

Reads the input file records.

E   SETUP

Sets up changes the title of the report to DDB TRANSMISSION REPORT, centered at the top of each page of the report. The TITLE statement adds a line below this containing the date (DATEOFREPORT) and time (TIMEOFREPORT) that the report was run. The SELECT statement selects all type Z records and assigns the records to groups based on sequence number and whether or not the record is a CA ACF2 record.

F   PRINT LOGIC

Prints detail lines for a current type Z record based on the group (A, B, or C) that the record was assigned to by the SELECT statements described above. For each record in group A, one line prints. For each record in group B, two lines print, separated by a blank line. For each record in group C, one line prints.

Sample Type D Reports

The next four sections contain the output the provided sample type D reports generate. These reports use the same type D SMF records that the CA ACF2 Data Set/Program Event Report (ACFRPTDS) uses. We also present a brief explanation of the output and a copy of the input used to generate each report.

RPTDS Sample Report

Type	Report	Function
D	RPTDS	Provides the same information as ACFRPTDS, including NEXTKEY information.

This sample report mimics ACFRPTDS, which reports:

- **For z/OS and OS/390:** Data set loggings, data set access violations, data set access trace requests, and program use loggings and violations.

- **For VM:** Loggings and violations for minidisks, CMS files, OS and VSE data sets, and attachable DASD devices.

Sample Input Program for the RPTDS Report

The following is a brief explanation of the program for this report.

```
NOTE *----------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 DS REPORT*
NOTE *----------------------------------------------------------*

 OPTION PRINTER=132
 OPTION LIST OFF


NOTE *--------------------------------------------------------*
NOTE * CHANGE LOG:                                        *
NOTE *                                                    *
NOTE * RELEASE: 6.3                                       *
NOTE *                                                    *
NOTE * TA3985D  07/14/98  Z0012                           * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE   * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.              * TA3985D
NOTE *                                                    *
NOTE * RELEASE: 6.5                                       *
NOTE *                                                    *
NOTE * TA6015G  03/13/02  Z0037                           * TA6015G
 NOTE *          REBRANDING CHANGES.                       * TA6015G
NOTE *                                                    *
NOTE * END OF LOG.                                        *
NOTE *                                                    *
NOTE *--------------------------------------------------------*


NOTE *------------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE 'NOTE' BELOW            *
NOTE *------------------------------------------------------*
NOTE OPTION SORT=SRAM


 ACFFLT: FILE ACFSMFR RECORD=23756                          ! TA3985D

COPY HDRECORD
COPY DRECORD

DEF RC=ACFSMFR 1-4 B
GET ACFFLT
GOTO EOJ (RC=-1)

REPORT EXCLUDE 'DATASET ACCESS REPORT'
TITLE ' '
TITLE 'RUN DATE:' DATEOFREPORT  'RUN TIME:' TIMEOFREPORT


NOTE  SELECT ONLY TYPE 'D' RECORDS.
NOTE  PRINT 3 DETAIL LINES FOR EACH RECORD WITHOUT NEXTKEYS AND
NOTE  PRINT 6 DETAIL LINES FOR EACH RECORD WITH NEXTKEYS
```

```
SELECT 'A' RECTYPE  'D' AND NEXTKEY_COUNT NOT = 0
SELECT 'B' RECTYPE  'D' AND NEXTKEY_COUNT = 0
PRINT DOUBLE SPACING
      @2  DSN      @57 UID      @89 LIBRARY
PRINT @13 MAJOR    @20 MINOR @29 RMRC      @48 STAPE
      @59 LOGONID @68 NAME   @90 PGMNAME @99 DDNAME @108 LIBVOL
PRINT @13  VOLUME  @20  RULEKEY  @29 DRTYPE  DSTYPE      PATH
      @59  JOBNAME @68  STEPNAME @77 JOBID   @86 CPU    @91 SOURCE
      @107 DATE    @116 TIME

IFTAG A; PRINT 'NEXTKEYS:' @13 NEXTKEY1
IFTAG A; PRINT @13 NEXTKEY2
IFTAG A; PRINT @13 NEXTKEY3
 END
```

Highlights

The following letters correspond directly to the letters and braces on the previous page. Each brace highlights a significant part of the customized CA Earl report.

A   OPTIONS

Sorts the information with the user sort program. To sort the information using the CA-SRAM method, remove the word NOTE from the line containing the statement OPTION SORT=SRAM. To sort by another method, use this option to specify that method.

Note: If you are a VM site, SRAM SORT is the default.

B   INPUT FILE

Specifies which file to use as input. You must include this statement exactly as it is shown in the sample.

C   FIELD DEFS

COPY statements here imbed macro library file definitions into the source program. Further values are also defined in the source program. The HDRECORD file contains field definitions common to all CA Earl reports. The DRECORD file contains field definitions explicit to the type D reports.

D   READ FILE

Reads the input file records.

E   SETUP

Tells CA Earl not to print the default headings of the columns.

All type D records are selected for this report. These type D records are then tagged A if they have a NEXTKEY value; or these records are tagged B if no NEXTKEY value is found. The IFTAG statements later in the report define the disposition of these two categories.

F   PRINT LOGIC

Prints detail lines for a current type D record based on the group that the SELECT statements (described above) assigned to the record. Each PRINT statement specifies explicit column placements. The first three PRINT statements print for all records, regardless of group. The first of these printed lines is double-spaced. For each record assigned to group A, three additional lines containing the first three NEXTKEY values print.

RPTDS2 Sample Report

Type	Report	Function
D	RPTDS2	Provides a summary of data set violations by violator name.

This report sorts data set violations by the name of the user that caused the violation. This report mimics the RPTDS, which reports:

- **For z/OS and** OS/390: Data set loggings, data set access violations, data set access trace requests, and program use loggings and violations.

- For VM: Loggings and violations for minidisks, CMS files, OS and VSE data sets, and attachable DASD devices.

Output

Following is a sample of the RPTDS2 output.

```
03/29/02                      DATASET VIOLATIONS BY VIOLATOR NAME                          PAGE     1
-------------------------------------------------------------------------------------------------------
NAME                  SEVERITY       DSN NUMBER
                      TYPE
-------------------------------------------------------------------------------------------------------
JANE SMITH            LOGGING        SYS94128.T113126.RA000.CAENFCPF.R0000020          1
JANE SMITH            LOGGING        SYS94128.T113126.RA000.CAENFCPF.R0000021          1
JANE SMITH            LOGGING        SYS94128.T120519.RA000.HUNCH03.R0000024           1
JANE SMITH            LOGGING        SYS94128.T160329.RA000.ENF.R0000004               1
JANE SMITH            LOGGING        SYS94128.T203509.RA000.ENF9403.R0000002           1
JANE SMITH            LOGGING        SYS94128.T203509.RA000.ENF9403.R0000003           1
JANE SMITH            LOGGING        SYS94128.T203509.RA000.ENF9403.R0000005           1
                                                                                ----------
JANE SMITH            LOGGING                                                         38
                                                                                ----------
                                                                                ----------
JANE SMITH                                                                            38
                                                                                ----------
ARTHUR JONES          LOGGING        DEMO.PROD.CLIST                                   1
ARTHUR JONES          LOGGING        MCLDA01.ISPFPARM.CLIST                            1
                                                                                ----------
ARTHUR JONES          LOGGING                                                          2
                                                                                ----------
                                                                                ----------
ARTHUR JONES                                                                           2
                                                                                ----------
DENNIS EDWARDS        LOGGING                                                          1
DENNIS EDWARDS        LOGGING        TSSDFO.MLPALIB                                    2
                                                                                ----------
DENNIS EDWARDS        LOGGING                                                          3
                                                                                ----------
                                                                                ----------
DENNIS EDWARDS                                                                         3
                                                                                ----------
MARY HAMMOND          LOGGING        QATNR.ACTSETUP.CLIST                              2
                                                                                ----------
MARY HAMMOND          LOGGING                                                          2
                                                                                ----------
                                                                                ----------
MARY HAMMOND                                                                           2
                                                                                ----------
ELIZABETH AMES        VIOLATION      TSS.KO43                                          2
ELIZABETH AMES        VIOLATION      TSS.KO43.VFIXES                                   2
                                                                                ----------
ELIZABETH AMES        VIOLATION                                                        4
                                                                                ----------
```

```
                                                     ----------
ELIZABETH AMES                                            4
                                                     ----------
                                                     ----------
GRAND TOTAL                                              284
                                                     ----------

1  REPORT    RECORDS READ    LINES PRINTED
       1             284              299
-**** REPORT PHASE ENDED   0.80 SECONDS.
```

In comparison to the RPTDS report, this report is a summary. You can use this report to get a brief look at the number of violations incurred by a user. If you find anything that looks suspicious, you can run a more detailed report, such as RPTDS on the user in question.

Sample Input Program for the RPTDS2 Report

The following is a brief explanation of the program for this report.

NOTE *--*

```
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 "D" RECORD*
NOTE *-----------------------------------------------------------*

 OPTION PRINTER=132
 OPTION LIST OFF


NOTE *--------------------------------------------------------*
NOTE * CHANGE LOG:                                           *
NOTE *                                                       *
NOTE * RELEASE: 6.3                                          *
NOTE *                                                       *
NOTE * TA3985D  07/14/98  Z0012                              * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE     * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.                * TA3985D
NOTE *                                                       *
NOTE * RELEASE: 6.5                                          *
NOTE *                                                       *
NOTE * TA6015G  03/13/02  Z0037                              * TA6015G
NOTE *           REBRANDING CHANGES.                         * TA6015G
NOTE *                                                       *
NOTE * END OF LOG.                                           *
NOTE *                                                       *
NOTE *--------------------------------------------------------*


NOTE *---------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE 'NOTE' BELOW              *
NOTE *---------------------------------------------------*
NOTE OPTION SORT=SRAM


 ACFFLT: FILE ACFSMFR RECORD=23756                         ! TA3985D

COPY HDRECORD
COPY DRECORD

DEF RC=ACFSMFR 1-4 B
DEF ONE (6.0) = 1 'NUMBER'

GET ACFFLT
GOTO EOJ (RC=-1)

NOTE IF THERE IS NO NAME PUT IN LOGONID
DECODE NAME INTO NAME_WORK (X 20)
 ' ' = LOGONID
ELSE NAME 'NAME'

REPORT 'DATASET VIOLATIONS BY VIOLATOR NAME'

 SELECT RECTYPE  'D'
```

```
CONTROL (NAME_WORK) (DSTYPE) (DSN) ONE
 PRINT TOTALS ONLY NAME_WORK DSTYPE DSN (ONE)
END
```

RPTDS3 Sample Report

Type	Report	Function
D	RPTDS3	Provides a summary of data set violations by violation type.

This sample report provides a list of violations sorted by violation types. Use this report to track the types of violations that are occurring at your site. You can run more reports for more detailed information on particular violations. This report mimics RPTDS, which reports:

- **For z/OS and OS/390:** Data set loggings, data set access violations, data set access trace requests, and program use loggings and violations.

- **For VM:** Loggings and violations for minidisks, CMS files, OS and VSE data sets, and attachable DASD devices.

Output

Following is a sample of the RPTDS3 output.

```
03/29/02              DATASET VIOLATIONS BY VIOLATION TYPE          PAGE   1
--------------------------------------------------------------------------------
      SEVERITY    DATASET                                     NUMBER
      TYPE        NAME
--------------------------------------------------------------------------------
      LOGGING     TLC.ACB.JCL                                      2
                  TLC.BSDBHA.LEL                                   2
                  TLC.BSDTGP.CICS                                  2
                  TLC.BSDUKR.LEL                                   2
                  TLC.PAC15AD.ACB15S20.ACB1501.G0078V00            1
                  TLC.PAC15AD.ACB15S20.ACB1501.G0080V00            3
                  TLC.PROD.INCLUDES                              118
                  TLC.PROD.LEL                                    58
                  TLC.PROD.LOADLIB                               294
                  TLC.PROD.PLI                                    59
                  TLC.TEST.INCLUDES                               16
                  TLC.TEST.PLI                                    13
                                                            ----------
      LOGGING                                                   570
                                                            ----------
      VIOLATION   ACF2DOC.STAR.IMS                                 2
                                                            ----------
      VIOLATION                                                   2
                                                            ----------
      WARN/VIO    MSGGK.OPRAIDER.TEXT                              6
                  OPR.SAT.LOAD                                     3
                  OPR.STARS.LIST                                   2
                                                            ----------
      WARN/VIO                                                   11
                                                            ----------
                                                            ----------
GRAND TOTAL                                                     1052
                                                            ----------
   REPORT   RECORDS READ   LINES PRINTED
        1        1052              167
```

The report above shows the number of loggings of each type (logging, violation, and warn/vio) against each data set, subtotals for each type of violation, and a grand total of all violations at the end of the report.

Sample Input Program for the RPTDS3 Report

The following is a brief explanation of the program for this report.

```
            NOTE *-------------------------------------------------------------*
            NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 "D" RECORD*
            NOTE *-------------------------------------------------------------*

             OPTION PRINTER=80
             OPTION LIST OFF


            NOTE *-----------------------------------------------------------*
            NOTE * CHANGE LOG:                                      *
            NOTE *                                                  *
            NOTE * RELEASE: 6.3                                     *
            NOTE *                                                  *
            NOTE * TA3985D  07/14/98  Z0012                         * TA3985D
            NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE * TA3985D
            NOTE *          FOR LONGER OMVS SMF RECORDS.            * TA3985D
            NOTE *                                                  *
            NOTE * RELEASE: 6.5                                     *
            NOTE *                                                  *
            NOTE * TA6015G  03/13/02  Z0037                         * TA6015G
            NOTE *          REBRANDING CHANGES.                     * TA6015G
            NOTE *                                                  *
            NOTE * END OF LOG.                                      *
            NOTE *                                                  *
            NOTE *-----------------------------------------------------------*


            NOTE *---------------------------------------------------*
            NOTE * TO USE SRAM SORT REMOVE 'NOTE' BELOW          *
            NOTE *---------------------------------------------------*
            NOTE OPTION SORT=SRAM


             ACFFLT: FILE ACFSMFR RECORD=23756                        ! TA3985D

            COPY HDRECORD
            COPY DRECORD

            DEF RC=ACFSMFR 1-4 B
            DEF ONE (6.0) = 1 'NUMBER'

            GET ACFFLT
            GOTO EOJ (RC=-1)

            REPORT 'DATASET VIOLATIONS BY VIOLATION TYPE'

             SELECT RECTYPE  'D' AND DRTYPE 'DATASET'
             CONTROL (DSTYPE) BREAK (DSNAME) ONE
             PRINT TOTALS ONLY DSTYPE DSNAME (ONE)
            END
```

RPTDS4 Sample Report

Type	Report	Function
D	RPTDS4	Provides a summary of data set violations by rule owner.

This sample report sorts violations by ownership of the rule set that was violated. This report reflects subtotals and a grand total in the summary. This report mimics RPTDS, which reports:

- **For z/OS and OS/390:** Data set loggings, data set access violations, data set access trace requests, and program use loggings and violations.

- **For VM:** Loggings and violations for minidisks, CMS files, OS and VSE data sets, and attachable DASD devices.

Output

Following is a sample of the RPTDS4 output.

```
03/29/02                    DATASET VIOLATIONS BY RULE OWNER              PAGE     1
-------------------------------------------------------------------------------------
RULE        RULE       LOGONID     SEVERITY    DATASET           NUMBER
OWNER       TYPE        NAME
-------------------------------------------------------------------------------------
TSS         TSS        POUFR01     VIOLATION   TSS.KO43          2
            TSS        POUFR01     VIOLATION   TSS.KO43.VFIXES   2
                                                                ----------
TSS         TSS        POUFR01     VIOLATION                     4
                                                                ----------
                                                                ----------
TSS         TSS        POUFR01                                   4
                                                                ----------
TSS         TSS        SSDSMS      LOGGING     TSS.J1529402.ACFMAC  2
                                                                ----------
TSS         TSS        SSDSMS      LOGGING                       2
                                                                ----------
                                                                ----------
TSS         TSS        SSDSMS                                    2
                                                                ----------
TSS         TSS        TSSSMS      VIOLATION   TSS.J1529402.ACFMAC  1
                                                                ----------
TSS         TSS        TSSSMS      VIOLATION                     1
                                                                ----------
                                                                ----------
TSS         TSS        TSSSMS                                    1
                                                                ----------
                                                                ----------
TSS         TSS                                                  7
                                                                ----------
                                                                ----------
TSS                                                             7
                                                                ----------
                                                                ----------
GRAND TOTAL                                                     281
                                                                ----------
1  REPORT    RECORDS READ    LINES PRINTED
1  281            441              -
**** REPORT PHASE ENDED   0.90 SECONDS.
```

This report provides the rule owner with information about activity against his administered rules.

Sample Input Program for the RPTDS4 Report

The following is a brief explanation of the program for this report.

```
NOTE *-------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 "D" RECORD*
NOTE *-------------------------------------------------------------*

 OPTION PRINTER=132
 OPTION LIST OFF

NOTE *----------------------------------------------------------*
NOTE * CHANGE LOG:                                           *
NOTE *                                                       *
NOTE * RELEASE: 6.3                                          *
NOTE *                                                       *
NOTE * TA3985D  07/14/98  Z0012                              * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE     * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.                * TA3985D
NOTE *                                                       *
NOTE * RELEASE: 6.5                                          *
NOTE *                                                       *
NOTE * TA6015G  03/13/02  Z0037                              * TA6015G
NOTE *           REBRANDING CHANGES.                         * TA6015G
NOTE *                                                       *
NOTE * END OF LOG.                                           *
NOTE *                                                       *
NOTE *----------------------------------------------------------*

NOTE *------------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE 'NOTE' BELOW           *
NOTE *------------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                        ! TA3985D

COPY HDRECORD
COPY DRECORD

DEF RC=ACFSMFR 1-4 B
DEF ONE (6.0) = 1 'NUMBER'

GET ACFFLT
GOTO EOJ (RC=-1)

NOTE IF THERE IS NO OWNER INDICATE NO OWNER SPECIFIED
DECODE OWNER INTO OWNER_WORK (X 24)
 ' ' = 'NO OWNER SPECIFIED'
ELSE OWNER 'RULE' 'OWNER'

REPORT 'DATASET VIOLATIONS BY RULE OWNER'
```

```
   SELECT RECTYPE  'D' AND DRTYPE 'DATASET' AND DSTYPE NOT 'TRACE REQ'
   CONTROL (OWNER_WORK) SKIP BREAK
   (RULEKEY) (LOGONID) (DSTYPE) (DSNAME) ONE
   PRINT TOTALS ONLY OWNER_WORK RULEKEY LOGONID DSTYPE DSNAME (ONE)
END
```

Highlights

The following letters correspond directly to the letters and braces on the previous page. Each brace highlights a significant part of the customized CA Earl report.

A   OPTION

Sorted with the user sort program. To sort the information with the CA-SRAM method, remove the word NOTE from the line containing the statement OPTION SORT=SRAM. To sort by another method, use this option to specify that method.

Note: If you are a VM site, SRAM SORT is the default.

B   INPUT FILE

Specifies which file is used as input. You must include this statement exactly as it is shown in the sample.

C   FIELD DEFS

COPY statements here imbed macro library file definitions into the source program. Further values are also defined in the source program. The HDRECORD file contains field definitions common to all CA Earl reports. The DRECORD file contains field definitions explicit to the type D reports.

This section also defines a numeric data item called ONE with a value of 1. This item is used as a counter in the CONTROL statement to produce subtotals.

D   READ FILE

Reads the input file records.

E   PROCESS LOGIC

Specifies that if no owner is found, substitute the term NO OWNER SPECIFIED. If, however, an owner is found for the record, print the name of the owner.

F   SETUP

Selects only data set violations that are not due to trace requests.

G   PRINT LOGIC

Sorts the records first according to the value of the OWNER_WORK field, then in the OWNER_WORK groups, according to the value of RULEKEY. Each group of similar RULEKEY records is sorted by DSTYPE, then similar DSTYPE records are sorted by DSNAME. The item ONE accumulates subtotals for each of these groupings. A subtotal prints each time the value of OWNER_WORK, RULEKEY, DSTYPE, or DSNAME changes.

One line prints for each change of data set name (DSN). This line contains the name, type of violation, data set name, and a subtotal for each user. The total of all violations reported prints at the end of the report.

RPTDS5 Sample Report (z/OS and OS/390 Only)

Type	Report	Function
D	RPTDS5	Reports the same information as RPTDS, excluding NEXTKEY information.

This report mimics RPTDS, which reports:

- **For z/OS and OS/390:** Data set loggings, data set access violations, data set access trace requests, and program use loggings and violations.

- **For VM:** Loggings and violations for minidisks, CMS files, OS and VSE data sets, and attachable DASD devices.

Output

Following is a sample of the RPTDS5 output.

```
03/29/02                        DATASET TRANSITION PROGRAM REPORT
                                RUN DATE:      03-29-02      RUN TIME:17.03.04
TLC.STARLOAD.LOCK                                    PAY99TLCISO
SYS1.LINKLIB
DELETE        NOACCESS                        TLCISO   TECH LID -JOINT     IEHPROGM
TSTCAT TLC    DATASET  LOGGING                STARMAN  RENAME  JOB4531 PAY1 USCHGOVB
03-29-02    8.26
TLC.STARLOAD.LOCK                                     PAY99TLCISOSYS1.LINKLIB
ALLOC         NOACCESS                        TLCISO   TECH LID -JOINT     IEFSD060
TSTCAT TLC    DATASET  LOGGING                STARMAN  LOCK    JOB4531 PAY1 USCHGOVB
03-29-02    8.26
0 ACF2SRC.BASE.CNTL                                   CBS99SVSRRDISR.V3R2M0.ISRLOAD
DA-OPN INPUT    RULELOG                 SVSRRD   RONERTDESILOES      ISRUDL   ISP08595 MVSR1A
SSD103 ACF2SRC  DATASET  LOGGING        SVSRRD   $GDNCSPF TSU1082 PAY1 A47IX021
03-29-02    9.16
0 ACF2SRC.BASE.CNTL                                   CBS99SVSRRDISR.V3R2M0.ISRLOAD
DA-OPN INPUT    RULELOG                 SVSRRD   RONERTDESILOES      ISRUDL   ISP08595 MVSR1A
SSD103 ACF2SRC  DATASET  LOGGING        SVSRRD   $GDNCSPF TSU1082 PAY1 A47IX021
03-29-02    9.16
0 ROSEMONT.STATUS.REPORT                              PAY99TLCRPKISR.V3R2M0.ISRLOAD
DA-OPN OUTPUT   RULELOG                 TLCRPK   RONERT PKLINE       ISREDIT ISP09561 MVSR1A
WRK001 ROSEMONT DATASET  LOGGING        TLCRPK   $PAYISPF TSU1098 PAY1 H06IX057
03-29-02    9.17
0 ROSEMONT.STATUS.REPORT                              PAY99TLCRPKISR.V3R2M0.ISRLOAD
DA-OPN OUTPUT   RULELOG                 TLCRPK   RONERT PKLINE       ISREDIT ISP09561 MVSR1A
WRK001 ROSEMONT DATASET  LOGGING        TLCRPK   $PAYISPF TSU1098 PAY1 H06IX057 03-29-02   9.19
0 ROSEMONT.STATUS.REPORT                              PAY99TLCRPKISR.V3R2M0.ISRLOAD
DA-OPN OUTPUT   RULELOG                 TLCRPK   RONERT PKLINE       ISREDIT ISP09561 MVSR1A
WRK001 ROSEMONT DATASET  LOGGING        TLCRPK   $PAYISPF TS1098 PAY1 H06IX057 03-29-02    9.20
0 ROSEMONT.STATUS.REPORT                              PAY99TLCRPK+ ISR.V3R2M0.ISRLOAD
DA-OPN OUTPUT   RULELOG                 TLCRPK   RONERT PKLINE       ISREDIT ISP09561 MVSR1A
WRK001 ROSEMONT DATASET  LOGGING        TLCRPK   $PAYISPF TS1098 PAY1 H06IX057 03-29-02    9.20
0 ROSEMONT.STATUS.REPORT                              PAY99TLCRPKISR.V3R2M0.ISRLOAD
DA-OPN OUTPUT   RULELOG                 TLCRPK   RONERT PKLINE       ISREDIT ISP09561 MVSR1A
WRK001 ROSEMONT DATASET  LOGGING        TLCRPK   $PAYISPF TS1098 PAY1 H06IX057 03-29-02    9.22
0 ROSEMONT.STATUS.REPORT                              PAY99TLCRPKISR.V3R2M0.ISRLOAD
DA-OPN OUTPUT   RULELOG                 TLCRPK   RONERT PKLINE       ISREDIT ISP09561 MVSR1A
WRK001 ROSEMONT DATASET  LOGGING        TLCRPK   $PAYISPF TS1098 PAY1 H06IX057 03-29-02    9.23
0 ACF2SRC.BASE.CNTL                                   CBS99SVSRRDSYS1.LINKLIB
DA-OPN INPUT    RULELOG                 SVSRRD   RONERTDESILOES      DSNCHECK SYS00005
SSD103 ACF2SRC  DATASET  LOGGING        SVSRRD   $GDNCSPF TS1082 PAY1 A47IX021 03-29-02    9.35
0 ACF2SRC.BASE.CNTL(ACFCMPLR)                         CBS99SVSRRDSYS1.LINKLIB
DA-OPN INPUT    RULELOG                 SVSRRD   RONERTDESILOES      TRANSMIT SYS00007
SSD103 ACF2SRC  DATASET  LOGGING        SVSRRD   $GDNCSPF TS1082 PAY1 A47IX021 03-29-02    9.35

 END OF REPORT
```

```
1  REPORT    RECORDS READ   LINES PRINTED
       1          255            830
-**** REPORT PHASE ENDED   0.14 SECONDS.
 **** END OF PROCESSING PHASE
 ****     255 HITFILE RECORDS WRITTEN
```

Use this report for a detailed look at data set activity, without NEXTKEY information.

Sample Input Program for the RPTDS5 Report

The following is a brief explanation of the program for this report.

```
NOTE *----------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 DS REPORT*
NOTE *----------------------------------------------------------*

 OPTION PRINTER=132
 OPTION LIST OFF

NOTE *---------------------------------------------------------*
NOTE * CHANGE LOG:                                         *
NOTE *                                                     *
NOTE * RELEASE: 6.3                                        *
NOTE *                                                     *
NOTE * TA3985D  07/14/98  Z0012                            * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE   * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.              * TA3985D
NOTE *                                                     *
NOTE * RELEASE: 6.5                                        *
NOTE *                                                     *
NOTE * TA6015G  03/13/02  Z0037                            * TA6015G
NOTE *           REBRANDING CHANGES.                       * TA6015G
NOTE *                                                     *
NOTE * END OF LOG.                                         *
NOTE *                                                     *
NOTE *---------------------------------------------------------*

NOTE *-------------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE 'NOTE' BELOW            *
NOTE *-------------------------------------------------------*
NOTE OPTION SORT=SRAM


 ACFFLT: FILE ACFSMFR RECORD=23756                          ! TA3985D

COPY HDRECORD
COPY DRECORD

DEF RC=ACFSMFR 1-4 B

 GET ACFFLT
GOTO EOJ (RC=-1)

REPORT EXCLUDE 'DATASET TRANSITION PROGRAM REPORT'
TITLE ' '
TITLE 'RUN DATE:' DATEOFREPORT   'RUN TIME:' TIMEOFREPORT


 SELECT RECTYPE 'D'

 PRINT DOUBLE SPACING
```

```
             @2  DSN      @57 UID      @89 LIBRARY

    PRINT @13 MAJOR    @20 MINOR @29 RMRC      @48 STAPE
          @59 LOGONID @68 NAME   @90 PGMNAME @99 DDNAME @108 LIBVOL


    PRINT @13  VOLUME  @20  RULEKEY  @29 DRTYPE  DSTYPE     PATH
          @59  JOBNAME @68  STEPNAME @77 JOBID   @86 CPU    @91 SOURCE
          @107 DATE    @116 TIME
      END
```

Sample Type E Reports

The following two sections contain the output the provided sample type E reports generate. These reports use the same type E SMF records that the CA ACF2 Infostorage Update Log (ACFRPTEL) uses. We also present a brief explanation of the output and a copy of the input that generated each report.

RPTEL Sample Report (z/OS and OS/390 Only)

Type	Report	Function
E	RPTEL	Provides an updated activity report for the CA ACF2 Infostorage database.

This report mimics the CA ACF2 Infostorage Update Log (ACFRPTEL) to report activity for the Infostorage database, which reports date, time, record key, jobname, logonid, change, CPU, and model.

Output

Following is a sample of the RPTEL output.

```
03/29/02                          INFO-STOR MODIFICATION LOG
                                  RUN DATE:      03-29-02      RUN TIME:17.36.26
---------------------------------------------------------------------------------
DATE      TIME   RECORD                        JOBNAME   LOGONID   CHANGE   CPU   MODEL
                 KEY
---------------------------------------------------------------------------------
03-29-02  8.32  CTSOSSDRPW1                     MSTJCL00  MSTJCL00  CHANGE   PAY1
03-29-02  8.52  CTSOSSDRPW1                     MSTJCL00  MSTJCL00  CHANGE   PAY1
03-29-02 12.43  CTSOSSDBAD                      MSTJCL00  MSTJCL00  CHANGE   PAY1
03-29-02 15.07  CTSOSSDBAD                      MSTJCL00  MSTJCL00  CHANGE   PAY1
03-29-02 15.30  CTSOTLCCBU                      MSTJCL00  MSTJCL00  CHANGE   PAY1

 END OF REPORT
1  REPORT    RECORDS READ   LINES PRINTED
        1              5              15
-**** REPORT PHASE ENDED   0.10 SECONDS.
```

Use this report to determine what changes were made to the Infostorage database records and who made the changes. You can request varying degrees of detail for this report.

Sample Input Program for the RPTEL Report

The following is a brief explanation of the program for this report.

```
NOTE *----------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 EL REPORT*
NOTE *----------------------------------------------------------*

 OPTION PRINTER=132
 OPTION LIST OFF


NOTE *--------------------------------------------------------*
NOTE * CHANGE LOG:                                   *
NOTE *                                               *
NOTE * RELEASE: 6.3                                  *
NOTE *                                               *
NOTE * TA3985D  07/14/98  Z0012                      * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE   * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.         * TA3985D
NOTE *                                               *
NOTE * RELEASE: 6.5                                  *
NOTE *                                               *
NOTE * TA6015G  03/13/02  Z0037                      * TA6015G
NOTE *          REBRANDING CHANGES.                  * TA6015G
NOTE *                                               *
NOTE * END OF LOG.                                   *
NOTE *                                               *
NOTE *--------------------------------------------------------*


NOTE *----------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW            *
NOTE *----------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                    ! TA3985D


COPY HDRECORD
COPY ERECORD1
COPY ERECORD2

DEF WHOLEHDR   8-232 X
DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

REPORT 'INFO-STOR MODIFICATION LOG'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT

NOTE   SELECT ONLY TYPE 'E' RECORDS. PRINT SUMMARY LINE FOR EACH RECORD
NOTE   PRINT DETAIL LINE IF IT EXISTS.

SELECT 'A' RECTYPE='E' AND SEQUENCE = '1' AND EFUNCTION NOT = 'BFORREPL'
```

```
SELECT 'B' RECTYPE='E' AND SEQUENCE = '2' AND EFUNCTION NOT = 'BFORREPL'

NOTE *----------------------------------------------------------------*
NOTE * IF BFORREPL RECORDS ARE TO BE REPORTED REMOVE THE 'NOTE' BELOW*
NOTE *----------------------------------------------------------------*
NOTE SELECT 'C' RECTYPE = 'E'

 CONTROL WHOLEHDR SEQUENCE

 IFTAG A;PRINT DATE TIME EKEY JOBNAME LOGONID EFUNCTION CPU EMODEL

NOTE *----------------------------------------------------------------*
NOTE * IF BFORREPL RECORDS ARE TO BE REPORTED REMOVE THE 'NOTE' BELOW*
NOTE *----------------------------------------------------------------*

NOTE IFTAG C;PRINT DATE TIME EKEY JOBNAME LOGONID EFUNCTION CPU EMODEL

 IFTAG B;PRINT @12 ECHANGENAME EBEFORE_SHORT EAFTER_SHORT

 END
```

Highlights

The following letters correspond directly to the letters and braces on the previous page. Each brace highlights a significant part of the customized CA Earl report.

A   OPTIONS. This information is sorted with the user sort program. To sort the information with the CA-SRAM method, remove the word NOTE from the line containing the statement OPTION SORT=SRAM. To sort by another method, use this option to specify that method.

Note: If you are a VM site, SRAM SORT is the default.

B   INPUT FILE. Specifies which file is used as input. You must include this statement exactly as it is shown in the sample.

C   FIELD DEFS. HDRECORD, ERECORD1, and ERECORD2 are imbedded in this sample. In addition to the COPY statements, we have also defined an item called WHOLEHDR to be columns 8 through 232 of each record. This item pairs off any records that together report a single modification event. That is, if an infostorage modification that was made wrote two flat file records, we want to pair those records off together. Since for each of those pairs, columns 8 through 232 is identical, we can use that portion of the record as the primary sort field, thus assuring that those pairs occur together in the sorted flat file. This sample imbeds the HDRECORD, ERECORD1, and ERECORD2 field definition files.

D   READ FILE. The file the report reads for processing.

E   SETUP. Defines a report header and one additional header (TITLE) line for pages of the report. Assigns the current record to a group based on the contents of certain record fields. For example, if the record has the value E in the RECTYPE field and the value 1 in the SEQUENCE field, and the EFUNCTION value is **bold** BFORREPL, then the record is assigned to group A. Records are assigned to group B on the same criteria, except for the SEQUENCE value. All records with RECTYPE E are assigned to group C. (It is possible for a record to be assigned to more than one group.) These groups are used later for selecting detail information.

F   PRINT LOGIC. The CONTROL statement sorts the records so that for each recorded event, the summary record occurs first, followed by the detail record, if there is one. WHOLEHDR was defined as the portion of a record excluding the SEQUENCE field and some other items at the front of the record. Sorting first on WHOLEHDR results in pairs of records that have identical header information (including time and date) occurring together. Each such pair consists of the summary record and the detail record (if there is one). Since SEQUENCE is the second sort item, each such pair is then arranged with the summary record (SEQUENCE=1) occurring first and the detail record (SEQUENCE=2) occurring next.

If the current record is in group A, then it was a summary record. We print identifying information from this record, including date, time, record key, changer's logonid, and the change type (EFUNCTION).

If the NOTE was removed to activate the SELECT "C" statement and if the current record is in group C, then it was a BFORREPL type record. These have only summary records written in the flat file. If the NOTE is removed from the IFTAG C statement, then the report prints the same information for this record as it prints for the group A record.

If the current record is in group B, then it was a detail record and (because of the sort logic) was immediately preceded by a summary record from group A. We then print detail information about the change to the infostorage record consisting of the name of the field that was changed, the first portion of the field value before it was changed, and the first portion of the field value after the change. See the descriptions of EBEFORE-SHORT and EAFTER-SHORT for exactly how much of the field value is actually reported here.

RPTEL1 Sample Report (z/OS and OS/390 Only)

Type	Report	Function
E	RPTEL1	Summary of updated activity report for the CA ACF2 Infostorage database.

This report provides a list of changes made to the Infostorage database records sorted by type of change, record key, date, and time of the change. This report does not include the person who made the change or other detailed information.

Output

Following is a sample of the RPTEL1 output.

```
03/29/02                 INFO-STOR MODIFICATION SUMMARY              PAGE1
                  RUN DATE:    03-29-02    RUN TIME:    17.37.38
--------------------------------------------------------------------------------
 CHANGE       RECORD                                          DATE     TIME
             KEY
--------------------------------------------------------------------------------
0 CHANGE      CTSOSSDBAD                                     03-29-02   12.43
              CTSOSSDBAD                                     03-29-02   15.07
              CTSOSSDRPW1                                    03-29-02    8.32
              CTSOSSDRPW1                                    03-29-02    8.52
              CTSOTLCCBU                                     03-29-02   15.30


  CHANGE


 END OF REPORT


1  REPORT    RECORDS READ    LINES PRINTED
       1              5               17
-**** REPORT PHASE ENDED   0.10 SECONDS.
```

Use this report for an overview of changes to infostorage records. You can run RPTEL to examine in detail changes that look suspicious.

Sample Input Program for the RPTEL1 Report

The following is a brief explanation of the program for this report.

```
NOTE *-------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 EL REPORT*
NOTE *-------------------------------------------------------------*

 OPTION PRINTER=80
NOTE OPTION LIST OFF


NOTE *-----------------------------------------------------------*
NOTE * CHANGE LOG:                                      *
NOTE *                                                  *
NOTE * RELEASE: 6.3                                     *
NOTE *                                                  *
NOTE * TA3985D  07/14/98  Z0012                         * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE  * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.            * TA3985D
NOTE *                                                  *
NOTE * RELEASE: 6.5                                     *
NOTE *                                                  *
NOTE * TA6015G  03/13/02  Z0037                         * TA6015G
NOTE *           REBRANDING CHANGES.                    * TA6015G
NOTE *                                                  *
NOTE * END OF LOG.                                      *
NOTE *                                                  *
NOTE *-----------------------------------------------------------*


NOTE *--------------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW            *
NOTE *--------------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                       ! TA3985D


COPY HDRECORD
COPY ERECORD1
COPY ERECORD2

DEF WHOLEHDR   8-232 X
DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

REPORT 'INFO-STOR MODIFICATION SUMMARY'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT

NOTE   SELECT ONLY TYPE 'E' RECORDS. PRINT SUMMARY LINE FOR EACH RECORD
NOTE   PRINT DETAIL LINE IF IT EXISTS.

 SELECT RECTYPE='E' AND SEQUENCE = '1' AND EFUNCTION NOT = 'BFORREPL'
```

```
CONTROL (EFUNCTION) BREAK EKEY DATE TIME

PRINT EFUNCTION EKEY DATE TIME

END
```

Highlights

The following letters correspond directly to the letters and braces on the previous page. Each brace highlights a significant part of the customized CA Earl report.

A **OPTIONS**. In this example, this information is sorted with the user sort program. To sort the information with the CA-SRAM method, remove the word NOTE from the line containing the statement OPTION SORT=SRAM. To sort by another method, use this option to specify that method.

Note: If you are a VM site, SRAM SORT is the default.

B **INPUT FILE**. Specifies which file is used as input. You must include this statement exactly as it is shown in the sample.

C **FIELD DEFS**. This sample imbeds HDRECORD, ERECORD1, and ERECORD2. In addition to the COPY statements, we have also defined an item called WHOLEHDR to be columns 8 through 232 of each record. This item is used in the sort logic to pair off any records that together report a single modification event. That is, if an infostorage modification resulted in two flat file records being written, we want to pair those records off together. Since for each of those pairs, columns 8 through 232 is identical, we can use that portion of the record as the primary sort field, thus assuring that those pairs occur together in the sorted flat file.

D **READ FILE**. The file the report reads for processing.

E **SETUP**. Defines a report header and one additional header (TITLE) line for pages of the report. Selects the current record for further processing based on the contents of certain record fields. In particular, if the record has the value E in the RECTYPE field and the value 1 in the SEQUENCE field, and the EFUNCTION value is **not** BFORREPL, then the record is selected for further processing. If the record does not meet these criteria, then further statements in this report do not process the record.

F **PRINT LOGIC**. The CONTROL statement sorts the records first by the value of EFUNCTION, then sorts each group of records with like EFUNCTION values into groups with like EKEY values. The records are then sorted by DATE, and finally by TIME.

The BREAK statement following EFUNCTION causes this field to print only once each time the EFUNCTION value changes and suppresses it until the next time the value changes. EKEY, DATE, and TIME print for every report entry.

One line prints containing EFUNCTION (if changed from the previous entry), EKEY, DATE, and TIME.

Sample Type J Report

The following section contains the output generated by the sample type J report provided. This report uses the same type J SMF records that the CA ACF2 Restricted Logonid Job Log (ACFRPTJL) uses. We also present a brief explanation of the output and a copy of the input that generated the report.

RPTJL Sample Report (z/OS and OS/390 Only)

Type	Report	Function
J	RPTJL	Indicates the path of submission for jobs using a restricted logonid.

This report mimics the CA ACF2 Restricted Logonid Job Log (ACFRPTJL) to indicate path submission for jobs using a restricted logonid. This report includes:

- Date
- Time
- Submittor logonid or procname
- Path
- Jobname
- Program
- Submission
- Whether the logonid is an STC
- Whether the program is APF authorized

Output

Following is a sample of the RPTJL output.

```
03/29/02                      CA ACF2 RESTRICTED LOGONID REPORT
                              DATE:     03-29-02      TIME:17.26.21
-------------------------------------------------------------------------------------
DATE      TIME   SUBMITTOR   LOGONID     JOBNAME PROGRAM   SUBMISSION   STC   AP
                             LID/PROCNAME
PATH --------------------------------------------------------------------------------
0
03-29-02  7.22   OPRRDR      SKKHKPG     JESLINES IEBGENER  USCHGOMA    STC
03-29-02  7.43               DFT3820     SHAWA01            SYSTEMB
03-29-02  8.03               DFT3820     SHAWA01            SYSTEMB
03-29-02  8.26   USRCAH      DFT3820     USRCAH             USCHGOVB
03-29-02  8.49   TLCRMZ      DFT3820     TLCRMZ             USCHGOVB
03-29-02  9.01               DFT3820     HARCA01            SYSTEMB
03-29-02  9.03   TLCMRE      DFT3820     TLCMRE             USCHGOVB
03-29-02  9.05               DFT3820     TOWTI01            SYSTEMC
03-29-02  9.08               DFT3820     TOWTI01            SYSTEMC
03-29-02  9.15               DFT3820     LECTH01            SYSTEMB
03-29-02  9.17   TLCRJL      DFT3820     TLCRJL             USCHGOVB
03-29-02  9.24   TLCRJL      DFT3820     TLCRJL             USCHGOVB
03-29-02  9.24   TLCRJL      DFT3820     TLCRJL             USCHGOVB
03-29-02  9.30   TLCRJL      DFT3820     TLCRJL             USCHGOVB
03-29-02  9.37               DFT3820     WILAL01            SYSTEMB
03-29-02  9.38               DFT3820     WILAL01            SYSTEMB
03-29-02  9.39               DFT3820     WILAL01            SYSTEMB
03-29-02  9.54   SSDRPW      DFT3820     SSDRPW             USCHGOVB
03-29-02  10.19  TLCMRE      DFT3820     TLCMRE             USCHGOVB
03-29-02  10.20              DFT3820     DARDE01            SYSTEMC
03-29-02  10.24              DFT3820     DARDE01            SYSTEMC
03-29-02  15.37  TLCYMB      DFT3820     TLCYMB             USCHGOVB
03-29-02  15.43  TLCPM       DFT3820     TLCPM              USCHGOVB
03-29-02  15.46  OPRRDR      CDSUCC1     CA1COPY IEBGENER   USCHGOMA    STC
03-29-02  15.51  USRKLC      DFT3820     USRKLC             USCHGOVB
03-29-02  15.51  OPRRDR      CDSUCC1     CA1DSN  IEBGENER   USCHGOMA    STC
03-29-02  15.51  OPRRDR      CDSUCC1     CA1VOL  IEBGENER   USCHGOMA    STC
03-29-02  15.55  TLCPM       DFT3820     TLCPM              USCHGOVB
03-29-02  16.03  TLCJMC      DFT3820     TLCJMC             USCHGOVB
03-29-02  16.18              DFT3820     HUSHA01            SYSTEMB
 END OF REPORT
1  REPORT   RECORDS READ   LINES PRINTED
       1          102            117
-**** REPORT PHASE ENDED   0.60 SECONDS.
 **** END OF PROCESSING PHASE
 ****     102 HITFILE RECORDS WRITTEN
```

You can use this report to determine if restricted logonid controls are properly in place.

Sample Input Program for the RPTJL Report

The following is a brief explanation of the program for this report.

```
NOTE *--------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 JL REPORT*
NOTE *--------------------------------------------------------------*

 OPTION PRINTER=132
 OPTION LIST ON

NOTE *------------------------------------------------------------*
NOTE * CHANGE LOG:                                        *
NOTE *                                                    *
NOTE * RELEASE: 6.3                                       *
NOTE *                                                    *
NOTE * TA3985D  07/14/98  Z0012                           * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE  * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.             * TA3985D
NOTE *                                                    *
NOTE * RELEASE: 6.5                                       *
NOTE *                                                    *
NOTE * TA6015G  03/13/02  Z0037                           * TA6015G
NOTE *           REBRANDING CHANGES.                      * TA6015G
NOTE *                                                    *
NOTE * END OF LOG.                                        *
NOTE *                                                    *
NOTE *------------------------------------------------------------*

NOTE *---------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW               *
NOTE *---------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                       ! TA3985D

COPY HDRECORD
COPY JRECORD

DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

REPORT 'CA ACF2 RESTRICTED LOGONID REPORT'
TITLE 'DATE:' DATEOFREPORT  'TIME:' TIMEOFREPORT
NOTE   SELECT TYPE 'J'
 SELECT RECTYPE 'J'
     PRINT DATE
           TIME
           SUBMITTOR
           LOGONID
           JOBNAME
```

```
                        JPROGRAM
                        JPATH
                        JSTC
                        JAPF
            END
```

Highlights

The following letters correspond directly to the letters and braces on the previous page. Each brace highlights a significant part of the customized CA Earl report.

A   OPTIONS. In this example, this information is sorted with the user sort program. To sort the information with the CA-SRAM method, remove the word NOTE from the line containing the statement OPTION SORT=SRAM. To sort by another method, use this option to specify that method.

Note: If you are a VM site, SRAM SORT is the default.

B   INPUT FILE. Specifies which file is used as input. You must include this statement exactly as it is shown in the sample.

C   FIELD DEFS. This sample imbeds the HDRECORD and JRECORD field definition files.

D   READ FILE. The file the report reads for processing.

E   SETUP. The REPORT statement in this set up changes the title of the report to CA ACF2 RESTRICTED LOGONID REPORT, centered at the top of each report page. The TITLE statement adds a line below this that prints the date (DATEOFREPORT) and time (TIMEOFREPORT) that the report was run. The SELECT statement selects all type J records for report processing.

F   PRINT LOGIC. The fields listed in this section print in the order shown. CA Earl uses the default column headers and spaces them automatically based on the width specified above in the PRINTER= option.

G   VARIATIONS. This section adds the reason code (REASON) for the records processed. To print the reason code on the detail line with the other information listed in the PRINT statement, remove NOTE from the REASON line in variation 1. To print the reason code on a separate detail line, remove NOTE from the PRINT REASON statement in variation 2.

Sample Input Program for the RPTLL Report

The following is a brief explanation of the program for this report.

```
NOTE *----------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 LL REPORT*
NOTE *----------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF


NOTE *---------------------------------------------------------*
NOTE * CHANGE LOG:                                    *
NOTE *                                                *
NOTE * RELEASE: 6.3                                   *
NOTE *                                                *
NOTE * TA3985D  07/14/98  Z0012                       * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE    * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.          * TA3985D
NOTE *                                                *
NOTE * RELEASE: 6.5                                   *
NOTE *                                                *
NOTE * TA6015G  03/13/02  Z0037                       * TA6015G
NOTE *          REBRANDING CHANGES.                   * TA6015G
NOTE *                                                *
NOTE * END OF LOG.                                    *
NOTE *                                                *
NOTE *---------------------------------------------------------*


NOTE *-----------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW             *
NOTE *-----------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                    ! TA3985D


COPY HDRECORD
COPY LRECORD1
COPY LRECORD2

DEF WHOLEHDR   8-232 X
DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

REPORT 'LOGONID MODIFICATION LOG'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT

NOTE  SELECT ONLY TYPE 'L' RECORDS. PRINT SUMMARY LINE FOR EACH RECORD
NOTE  PRINT DETAIL LINE IF IT EXISTS.

 SELECT 'A' RECTYPE='L' AND SEQUENCE = '1' AND FUNCTION NOT = 'UPDATE'
```

```
        SELECT 'B' RECTYPE='L' AND SEQUENCE = '2' AND FUNCTION NOT = 'UPDATE'

NOTE *------------------------------------------------------------*
NOTE * IF UPDATE RECORDS ARE TO BE REPORTED REMOVE THE 'NOTE' BELOW*
NOTE *------------------------------------------------------------*
NOTE SELECT 'C' RECTYPE = 'L'

 CONTROL WHOLEHDR SEQUENCE
 IFTAG A;PRINT DATE TIME LKEY JOBNAME LOGONID FUNCTION CPU MODEL

NOTE *------------------------------------------------------------*
NOTE * IF UPDATE RECORDS ARE TO BE REPORTED REMOVE THE 'NOTE' BELOW*
NOTE *------------------------------------------------------------*

NOTE IFTAG C;PRINT DATE TIME LKEY JOBNAME LOGONID FUNCTION CPU MODEL

 IFTAG B;PRINT @12 CHANGENAME BEFORE_SHORT AFTER_SHORT

 END
```

Highlights

The following letters correspond directly to the letters and braces on the previous page. Each brace highlights a significant part of the customized CA Earl report.

A   OPTIONS. In this example, this information is sorted with the user sort program. To sort the information with the CA-SRAM method, remove the word NOTE from the line containing the statement OPTION SORT=SRAM. To sort by another method, use this option to specify that method.

Note: If you are a VM site, SRAM SORT is the default.

B   INPUT FILE. Specifies which file is used as input. You must include this statement exactly as it is shown in the sample.

C   FIELD DEFS. This report uses the copybooks HDRECORD, LRECORD1, and LRECORD2.

– LRECORD1—Contains summary fields for VM systems. These summary fields report what changed in the Logonid database and who changed it.

– LRECORD2—Contains detailed fields for z/OS and OS/390 systems.

In addition to the COPY statements that bring in descriptions of the records processed in this report, we also defined an item called WHOLEHDR to be columns 8 through 232 of each record. This item is used later, in the sort logic, to pair off any records that together report a single modification event. That is, if a logonid modification was made that results in two flat file records being written, we want to pair off those records together. Since for each of those pairs, columns 8 through 232 is identical, we can use that portion of the record as the primary sort field, thus assuring that those pairs occur together in the sorted flat file.

D   READ FILE. The file the report reads for processing.

E   SETUP. Defines a report header and one additional header (TITLE) line for pages of the report. Assigns the current record to a group based on the contents of certain record fields. For example, if the record has the value L in the field RECTYPE and the value 1 in the SEQUENCE field and the FUNCTION field does not have UPDATE as its value, then the record is assigned to group A. Records are assigned into group B on the same criteria except for the SEQUENCE value. Group C gets **all** the records with RECTYPE L. Notice, as is the case here, that it is possible for a record to be assigned to more than one group. We can use these groups later on for selective printing of detail information.

F   PRINT LOGIC. Sorts the records so that for each recorded event, the summary record occurs first, followed by the detail record if there is one. WHOLEHDR was defined, basically, as the portion of a record excluding the SEQUENCE field and some other items at the front of the record. Sorting first on WHOLEHDR results in pairs of records that have identical header information (including time and date) occurring together. Each such pair consists of the summary record and the detail record (if there is one). Since SEQUENCE is the second sort item, each such pair is then arranged with the summary record (SEQUENCE=1) occurring first and the detail record (SEQUENCE=2) occurring next.

If the current record is in group A, then it was a summary record. We print identifying information from this record, including date, time, record key, changer's logonid, and the change type (FUNCTION).

If the NOTE was removed to activate the SELECT "C" statement and if the current record is in group C, then it was an UPDATE type record. These have only summary records written in the flat file. If the NOTE is removed from the IFTAG C statement, then the report prints the same information for this record as it printed for the group A record.

Sample Input Program for the RPTLL2 Report

The following is a brief explanation of the program for this report.

```
NOTE *-----------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 LL REPORT*
NOTE *-----------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF


NOTE *--------------------------------------------------------*
NOTE * CHANGE LOG:                                   *
NOTE *                                               *
NOTE * RELEASE: 6.3                                  *
NOTE *                                               *
NOTE * TA3985D  07/14/98  Z0012                      * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE  * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.         * TA3985D
NOTE *                                               *
NOTE * RELEASE: 6.5                                  *
NOTE *                                               *
NOTE * TA6015G  03/13/02  Z0037                      * TA6015G
 NOTE *          REBRANDING CHANGES.                   * TA6015G
NOTE *                                               *
NOTE * END OF LOG.                                   *
NOTE *                                               *
NOTE *--------------------------------------------------------*


NOTE *-----------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW              *
NOTE *-----------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                    ! TA3985D


COPY HDRECORD
COPY LRECORD1
COPY LRECORD2

DEF WHOLEHDR   8-232 X
DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

REPORT 'LOGONID MODIFICATION SUMMARY'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT

NOTE  SELECT ONLY TYPE 'L' RECORDS. PRINT SUMMARY LINE FOR EACH RECORD
NOTE  PRINT DETAIL LINE IF IT EXISTS.

 SELECT RECTYPE='L' AND SEQUENCE = '1' AND FUNCTION NOT = 'UPDATE'
```

```
CONTROL (FUNCTION) BREAK LKEY DATE TIME

PRINT FUNCTION LKEY DATE TIME

END
```

Sample Input Program for the RPTNV Report

The following is a brief explanation of the program for this report.

```
NOTE *-------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 NV REPORT*
NOTE *-------------------------------------------------------------*

 OPTION PRINTER=132
 OPTION LIST OFF


NOTE *----------------------------------------------------------*
NOTE * CHANGE LOG:                                      *
NOTE *                                                  *
NOTE * RELEASE: 6.3                                     *
NOTE *                                                  *
NOTE * TA3985D  07/14/98  Z0012                         * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.            * TA3985D
NOTE *                                                  *
NOTE * RELEASE: 6.5                                     *
NOTE *                                                  *
NOTE * TA6015G  03/13/02  Z0037                         * TA6015G
NOTE *          REBRANDING CHANGES.                     * TA6015G
NOTE *                                                  *
NOTE * END OF LOG.                                      *
NOTE *                                                  *
NOTE *----------------------------------------------------------*


NOTE *---------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW               *
NOTE *---------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                        ! TA3985D


COPY HDRECORD
COPY ARECORD

DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

REPORT 'CA ACF2 ENVIRONMENT REPORT'
TITLE 'DATE:' DATEOFREPORT  'TIME:' TIMEOFREPORT
NOTE   SELECT TYPE 'A'
   SELECT RECTYPE 'A'
     PRINT AEVENT_LOG
           ARESULT
           AMSG1 0
           AMSG2
  END
```

Sample Input Program for the RPTPW Report

The following is a brief explanation of the program for this report.

```
                    NOTE *--------------------------------------------------------------*
                    NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 PW REPORT*
                    NOTE *--------------------------------------------------------------*

                     OPTION PRINTER=80
                     OPTION LIST OFF


                    NOTE *-----------------------------------------------------------*
                    NOTE * CHANGE LOG:                                      *
                    NOTE *                                                  *
                    NOTE * RELEASE: 6.3                                     *
                    NOTE *                                                  *
                    NOTE * TA3985D  07/14/98  Z0012                         * TA3985D
                    NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE * TA3985D
                    NOTE *           FOR LONGER OMVS SMF RECORDS.            * TA3985D
                    NOTE *                                                  *
                    NOTE * RELEASE: 6.5                                     *
                    NOTE *                                                  *
                    NOTE * TA6015G  03/13/02  Z0037                         * TA6015G
                    NOTE *           REBRANDING CHANGES.                     * TA6015G
                    NOTE *                                                  *
                    NOTE * END OF LOG.                                      *
                    NOTE *                                                  *
                    NOTE *-----------------------------------------------------------*


                    NOTE *-------------------------------------------------------*
                    NOTE * TO USE SRAM SORT REMOVE NOTE BELOW                *
                    NOTE *-------------------------------------------------------*
                    NOTE OPTION SORT=SRAM

                     ACFFLT: FILE ACFSMFR RECORD=23756                      ! TA3985D


                    COPY HDRECORD
                    COPY PRECORD


                    DEF RC=ACFSMFR 1-4 B


                    GET ACFFLT
                    GOTO EOJ (RC=-1)


                    COPY RCTAB



                    REPORT 'INVALID PASSWORD REPORT'
                    TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT
                    NOTE   SELECT ONLY TYPE 'P' RECORDS. PRINT DETAIL LINE FOR EACH RECORD
                     SELECT RECTYPE  'P'
                     PRINT DATE
                          TIME
```

```
                  LOGONID
                  JOBNAME
                  SUBMITTOR
                  SOURCE
                  PROGRAM
                  REASON_NUMBER
                  LOG
                  CPU
NOTE ------------------- REPORT VARIATIONS --------------------------
NOTE 1: TO PRINT THE REASON CODE ON THE DETAIL LINE CHANGE THE OPTION
NOTE    STATEMENT FROM 'PRINTER=80' TO 'PRINTER=132' AND REMOVE 'NOTE'
NOTE     FROM THE FOLLOWING STATEMENT:
NOTE    REASON
NOTE --------------------------------------------------------------------
NOTE 2: TO PRINT THE REASON CODE ON A SEPARATE DETAIL LINE REMOVE 'NOTE'
NOTE     FROM THE FOLLOWING STATEMENT:
NOTE    PRINT REASON
NOTE --------------------------------------------------------------------
 END
```

Sample Input Program for the RPTPW2 Report

The following is a brief explanation of the program for this report.

```
NOTE *------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 "P" RECORD*
NOTE *------------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF


NOTE *---------------------------------------------------------*
NOTE * CHANGE LOG:                                           *
NOTE *                                                       *
NOTE * RELEASE: 6.3                                          *
NOTE *                                                       *
NOTE * TA3985D  07/14/98  Z0012                              * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE     * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.                * TA3985D
NOTE *                                                       *
NOTE * RELEASE: 6.5                                          *
NOTE *                                                       *
NOTE * TA6015G  03/13/02  Z0037                              * TA6015G
NOTE *            REBRANDING CHANGES.                        * TA6015G
NOTE *                                                       *
NOTE * END OF LOG.                                           *
NOTE *                                                       *
NOTE *---------------------------------------------------------*


NOTE *------------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW                 *
NOTE *------------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                         ! TA3985D


COPY HDRECORD
COPY PRECORD

NOTE REDEFINE HOUR FOR FLAG TEST
DEF HOUR_NUMBER = HOUR 1-2 N

DEF RC=ACFSMFR 1-4 B
DEF ONE=1 'NUMBER'

GET ACFFLT
GOTO EOJ (RC=-1)



COPY RCTAB



REPORT 'INVALID PASSWORD/AUTHORITY LOG - LOGONID SUMMARY'
```

```
TITLE 'RUN:' DATEOFREPORT TIMEOFREPORT
NOTE  SELECT ONLY TYPE 'P' RECORDS. PRINT SUMMARY BY LID.
 SELECT RECTYPE  'P'

 CONTROL (LOGONID) (REASON) ONE
 PRINT TOTALS ONLY LOGONID REASON (ONE)
 END
```

Sample Input Program for the RPTPW3 Report

The following is a brief explanation of the program for this report.

```
NOTE *-------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 PW REPORT*
NOTE *-------------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF


NOTE *---------------------------------------------------------*
NOTE * CHANGE LOG:                                      *
NOTE *                                                  *
NOTE * RELEASE: 6.3                                     *
NOTE *                                                  *
NOTE * TA3985D  07/14/98  Z0012                         * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE   * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.              * TA3985D
NOTE *                                                  *
NOTE * RELEASE: 6.5                                     *
NOTE *                                                  *
NOTE * TA6015G  03/13/02  Z0037                         * TA6015G
NOTE *            REBRANDING CHANGES.                   * TA6015G
NOTE *                                                  *
NOTE * END OF LOG.                                      *
NOTE *                                                  *
NOTE *---------------------------------------------------------*


NOTE *--------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW            *
NOTE *--------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                       ! TA3985D


COPY HDRECORD
COPY PRECORD

DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

COPY RCTAB



REPORT 'OFF HOURS INVALID PASSWORD USAGE'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT
NOTE  SELECT ONLY TYPE 'P' RECORDS. PRINT DETAIL LINE FOR EACH RECORD
 SELECT RECTYPE  'P' AND (HOUR < 06 OR HOUR > 17)
 PRINT DATE
      TIME
```

```
                        LOGONID
                        JOBNAME
                        SUBMITTOR
                        SOURCE
                        PROGRAM
                        REASON_NUMBER
                        LOG
                        CPU
            END
```

Sample Input Program for the RPTPW4 Report

The following is a brief explanation of the program for this report.

```
NOTE *------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 PW REPORT*
NOTE *------------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF


NOTE *---------------------------------------------------------*
NOTE * CHANGE LOG:                                    *
NOTE *                                                *
NOTE * RELEASE: 6.3                                   *
NOTE *                                                *
NOTE * TA3985D  07/14/98  Z0012                       * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE    * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.         * TA3985D
NOTE *                                                *
NOTE * RELEASE: 6.5                                   *
NOTE *                                                *
NOTE * TA6015G  03/13/02  Z0037                       * TA6015G
NOTE *           REBRANDING CHANGES.                  * TA6015G
NOTE *                                                *
NOTE * END OF LOG.                                    *
NOTE *                                                *
NOTE *---------------------------------------------------------*


NOTE *----------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW               *
NOTE *----------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                      ! TA3985D


COPY HDRECORD
COPY PRECORD

DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

COPY RCTAB


REPORT 'INVALID SIGNON BY SOURCE'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT
NOTE  SELECT ONLY TYPE 'P' RECORDS. PRINT DETAIL LINE FOR EACH RECORD

 SELECT RECTYPE  'P'
```

```
CONTROL (SOURCE) LOGONID DATE TIME REASON


PRINT SOURCE LOGONID DATE TIME REASON
 END
```

Sample Input Program for the RPTRL Report

The following is a brief explanation of the program for this report.

```
NOTE *------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 RL REPORT*
NOTE *------------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF


NOTE *----------------------------------------------------------*
NOTE * CHANGE LOG:                                       *
NOTE *                                                   *
NOTE * RELEASE: 6.3                                      *
NOTE *                                                   *
NOTE * TA3985D  07/14/98  Z0012                          * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE  * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.             * TA3985D
NOTE *                                                   *
NOTE * RELEASE: 6.5                                      *
NOTE *                                                   *
NOTE * TA6015G  03/13/02  Z0037                          * TA6015G
NOTE *          REBRANDING CHANGES.                      * TA6015G
NOTE *                                                   *
NOTE * END OF LOG.                                       *
NOTE *                                                   *
NOTE *----------------------------------------------------------*


NOTE *-------------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW              *
NOTE *-------------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                     ! TA3985D


COPY HDRECORD
COPY RRECORD

DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

COPY FUNCTAB

REPORT 'RULE MODIFICATION LOG'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT

NOTE  SELECT ONLY TYPE 'R' RECORDS. PRINT DETAIL LINE FOR EACH RECORD
 SELECT RECTYPE = 'R' AND CHANGE NOT = 'BFORREPL'
 PRINT DATE
      TIME
```

```
            RKEY
            JOBNAME
            LOGONID
            CHANGE
            CPU
END
```

Sample Input Program for the RPTRL2 Report

The following is a brief explanation of the program for this report.

```
NOTE *-----------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 "R" RECORD*
NOTE *-----------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF


NOTE *---------------------------------------------------------*
NOTE * CHANGE LOG:                                             *
NOTE *                                                         *
NOTE * RELEASE: 6.3                                            *
NOTE *                                                         *
NOTE * TA3985D  07/14/98  Z0012                                * TA3985D
NOTE *           INCREASED RECORD LENGTH OF ACFSMFR FILE       * TA3985D
NOTE *           FOR LONGER OMVS SMF RECORDS.                  * TA3985D
NOTE *                                                         *
NOTE * RELEASE: 6.5                                            *
NOTE *                                                         *
NOTE * TA6015G  03/13/02  Z0037                                * TA6015G
NOTE *           REBRANDING CHANGES.                           * TA6015G
NOTE *                                                         *
NOTE * END OF LOG.                                             *
NOTE *                                                         *
NOTE *---------------------------------------------------------*


NOTE *-------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW              *
NOTE *-------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                      ! TA3985D


COPY HDRECORD
COPY RRECORD

DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

COPY FUNCTAB


REPORT 'RULE MODIFICATION SUMMARY'
TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT

NOTE  SELECT ONLY TYPE 'R' RECORDS.

 SELECT RECTYPE='R' AND CHANGE NOT = 'BFORREPL'
```

```
CONTROL (CHANGE) BREAK RKEY DATE TIME

PRINT CHANGE RKEY DATE TIME

END
```

Sample Input Program for the RPTRV Report

The following pages contain a brief explanation of the program to run the RPTRV report.

```
NOTE *------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 RV REPORT*
NOTE *------------------------------------------------------------*

 OPTION PRINTER=105
 OPTION PAGE=99
 OPTION LIST OFF


NOTE *--------------------------------------------------------*
NOTE * CHANGE LOG:                                           *
NOTE *                                                       *
NOTE * RELEASE: 6.3                                          *
NOTE *                                                       *
NOTE * TA3985D  07/14/98  Z0012                              * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE      * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.                 * TA3985D
NOTE *                                                       *
NOTE * RELEASE: 6.5                                          *
NOTE *                                                       *
NOTE * TA6015G  03/13/02  Z0037                              * TA6015G
NOTE *          REBRANDING CHANGES.                          * TA6015G
NOTE *                                                       *
NOTE * END OF LOG.                                           *
NOTE *                                                       *
NOTE *--------------------------------------------------------*


NOTE *-----------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW                 *
NOTE *-----------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                         ! TA3985D

NOTE  FLAT FILE COMMON HEADER FIELDS
 COPY HDRECORD

NOTE COPY TYPE 'V' FIELDS
 COPY VRECORD
DEF RC=ACFSMFR 1-4 B

GET ACFFLT
GOTO EOJ (RC=-1)

NOTE SET UP PLACE HOLDER FOR BLANK DISPMOD AND KEYMOD FIELDS

DECODE DISPMOD INTO DISPMOD_WORK
  ' ' = '    -    '
ELSE DISPMOD
```

```
DECODE KEYMOD INTO KEYMOD_WORK
  ' ' = '   -   '
ELSE KEYMOD

 REPORT EXCLUDE 'GENERALIZED RESOURCE LOG'
 TITLE 'RUN DATE:' DATEOFREPORT 'RUN TIME:' TIMEOFREPORT
NOTE  SELECT ONLY TYPE 'V' RECORDS. PRINT DETAIL LINE FOR EACH RECORD

 SELECT 'A' RECTYPE 'V' AND NEXTKEY_CNT > 5
 SELECT 'B' RECTYPE 'V' AND NEXTKEY_CNT > 10
 SELECT 'C' RECTYPE 'V' AND NEXTKEY_CNT > 15
 SELECT 'D' RECTYPE 'V' AND NEXTKEY_CNT > 20
 SELECT 'E' RECTYPE 'V' AND NEXTKEY_CNT < 5 AND NEXTKEY_CNT > 0
 SELECT 'F' RECTYPE 'V' AND NEXTKEY_CNT = 0


 PRINT DOUBLE SPACING
        @1  RCLASS
        @2  '-'
        @3  RTYPE
        @6  '-'
        @7  RNAME
        @49 LOGFLAG
        @50 RECMODE
        @59 RCLASSIN
        @60 '-'
        @61 RTYPEIN
        @64 '-'
        @65 RNAMEIN
 PRINT @1  UID
        @26 SOURCE
        @35 CPU
        @49 DISPOSITION
        @58 DISPMOD_WORK
        @67 KEYMOD_WORK
 PRINT @8  DATE
        @14 TIME
        @16 JOBNAME
        @25 LOGONID
        @34 RLIDNAME
        @58 PREVALRC
        @62 RESMGRRC
        @66 INTERPRC
        @70 POSTVARC
        @74 FINALRC

 PRINT ' '
 PRINT @1 'RSRC:' @7 RESOURCE_L1
 PRINT @7 RESOURCE_L2
```

```
PRINT @7 RESOURCE_L3
PRINT ' '

PRINT @1 'RLP RECID: '
      @12 RLPRECID
      @53 'RLP EXPN: '
      @63 RLPEXPNM
PRINT ' '

IFTAG E; PRINT @1 'NEXT KEYS: ' @12 NEXTKEY_1 NEXTKEY_2
IFTAG E; PRINT @12 NEXTKEY_3 NEXTKEY_4
IFTAG E; PRINT @12 NEXTKEY_5

IFTAG A; PRINT
IFTAG A; PRINT @1 'NEXT KEYS: ' @12 NEXTKEY_1 NEXTKEY_2
IFTAG A; PRINT @12 NEXTKEY_3 NEXTKEY_4
IFTAG A; PRINT @12 NEXTKEY_5 NEXTKEY_6
IFTAG A; PRINT @12 NEXTKEY_7 NEXTKEY_8
IFTAG A; PRINT @12 NEXTKEY_9 NEXTKEY_10

IFTAG B; PRINT @1 'NEXT KEYS: ' @12 NEXTKEY_1 NEXTKEY_2
IFTAG B; PRINT @12 NEXTKEY_3  NEXTKEY_4
IFTAG B; PRINT @12 NEXTKEY_5  NEXTKEY_6
IFTAG B; PRINT @12 NEXTKEY_7  NEXTKEY_8
IFTAG B; PRINT @12 NEXTKEY_9  NEXTKEY_10
IFTAG B; PRINT @12 NEXTKEY_11 NEXTKEY_12
IFTAG B; PRINT @12 NEXTKEY_13 NEXTKEY_14
IFTAG B; PRINT @12 NEXTKEY_15

IFTAG C; PRINT @1 'NEXT KEYS: ' @12 NEXTKEY_1 NEXTKEY_2
IFTAG C; PRINT @12 NEXTKEY_3  NEXTKEY_4
IFTAG C; PRINT @12 NEXTKEY_5  NEXTKEY_6
IFTAG C; PRINT @12 NEXTKEY_7  NEXTKEY_8
IFTAG C; PRINT @12 NEXTKEY_9  NEXTKEY_10
IFTAG C; PRINT @12 NEXTKEY_11 NEXTKEY_12
IFTAG C; PRINT @12 NEXTKEY_13 NEXTKEY_14
IFTAG C; PRINT @12 NEXTKEY_15 NEXTKEY_16
IFTAG C; PRINT @12 NEXTKEY_17 NEXTKEY_18
IFTAG C; PRINT @12 NEXTKEY_19 NEXTKEY_20

IFTAG D; PRINT @1 'NEXT KEYS: ' @12 NEXTKEY_1 NEXTKEY_2
IFTAG D; PRINT @12 NEXTKEY_3  NEXTKEY_4
IFTAG D; PRINT @12 NEXTKEY_5  NEXTKEY_6
IFTAG D; PRINT @12 NEXTKEY_7  NEXTKEY_8
IFTAG D; PRINT @12 NEXTKEY_9  NEXTKEY_10
IFTAG D; PRINT @12 NEXTKEY_11 NEXTKEY_12
IFTAG D; PRINT @12 NEXTKEY_13 NEXTKEY_14
IFTAG D; PRINT @12 NEXTKEY_15 NEXTKEY_16
IFTAG D; PRINT @12 NEXTKEY_17 NEXTKEY_18
```

```
IFTAG D; PRINT @12 NEXTKEY_19 NEXTKEY_20
IFTAG D; PRINT @12 NEXTKEY_21 NEXTKEY_22
IFTAG D; PRINT @12 NEXTKEY_23 NEXTKEY_24
IFTAG D; PRINT @12 NEXTKEY_25
END
```

Sample Input Program for the RPTRV2 Report

The following is a brief explanation of the program for this report.

```
NOTE *------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 RV REPORT*
NOTE *------------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF


NOTE *---------------------------------------------------------*
NOTE * CHANGE LOG:                                         *
NOTE *                                                     *
NOTE * RELEASE: 6.3                                        *
NOTE *                                                     *
NOTE * TA3985D  07/14/98  Z0012                            * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE    * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.               * TA3985D
NOTE *                                                     *
NOTE * RELEASE: 6.5                                        *
NOTE *                                                     *
NOTE * TA6015G  03/13/02  Z0037                            * TA6015G
NOTE *          REBRANDING CHANGES.                        * TA6015G
NOTE *                                                     *
NOTE * END OF LOG.                                         *
NOTE *                                                     *
NOTE *---------------------------------------------------------*


NOTE *-----------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE NOTE BELOW                 *
NOTE *-----------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                        ! TA3985D


NOTE  FLAT FILE COMMON HEADER FIELDS
 COPY HDRECORD

NOTE COPY TYPE 'V' FIELDS
 COPY VRECORD

DEF RC=ACFSMFR 1-4 B
DEF ONE (6.0) = 1 'NUMBER'

GET ACFFLT
GOTO EOJ (RC=-1)


NOTE IF THERE IS NO NAME PUT IN LOGONID
DECODE RLIDNAME INTO NAME_WORK (X 20)
 ' ' = LOGONID
ELSE RLIDNAME 'NAME'
```

```
REPORT 'RESOURCE VIOLATIONS BY VIOLATOR NAME'

 SELECT RECTYPE  'V' AND RECMODE NOT 'TRC'
 CONTROL (NAME_WORK) (RECMODE) (RKEYIN) ONE
 PRINT TOTALS ONLY NAME_WORK RECMODE RKEYIN (ONE)
END
```

Sample Input Program for the RPTST Report

The following is a sample of the program to run the RPTST report.

```
NOTE *-------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 "S" RECORD*
NOTE *-------------------------------------------------------------*
NOTE * CHANGE LOG:                                    *
NOTE *                                                *
NOTE * RELEASE: 6.3                                   *
NOTE *                                                *
NOTE * TA3985D  07/14/98  Z0012                       * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE  * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS.          * TA3985D
NOTE *                                                *
NOTE * RELEASE: 6.5                                   *
NOTE *                                                *
NOTE * TA6015G  03/13/02  Z0037                       * TA6015G
NOTE *          REBRANDING CHANGES.                   * TA6015G
NOTE *                                                *
NOTE * END OF LOG.                                    *
NOTE *                                                *
NOTE *-------------------------------------------------------------*

 OPTION PRINTER=121



 ACFFLT: FILE ACFSMFR RECORD=23756                          ! TA3985D

COPY HDRECORD
COPY SRECORD1
DEF ETIME 10-17 N PICTURE 'Z9.99.99.99'

DEF RC=ACFSMFR 1-4 B
DEF ONE (6.0) = 1 'NUMBER'

DEF LSMFID   = 'SMFID='
DEF LTOD     = 'TOD='
DEF LUSERID  = 'USER ID='
DEF LTRACEID = 'TRACE ID='
DEF LRS      = 'RET/RES='
DEF LJOBNAME = 'JOBNAME='
DEF LASID    = 'ASID='
DEF LPGM     = 'PROGRAM='
DEF LMRB     = 'CURR RB='
DEF LMODE    = 'MODE='
DEF LAUTH    = 'APF='
DEF LLOCKS   = 'LOCKS='

GET ACFFLT
GOTO EOJ (RC=-1)
```

```
REPORT EXCLUDE 'CA ACF2 SECURITY EVENT TRACE REPORT'

 SELECT RECTYPE 'S'

 PRINT DOUBLE SPACING @2 LSMFID 1 CPU @23 LTOD 1 ETIME
                      @43 LTRACEID 1 TRACEID @63 LUSERID 1 USERID

 PRINT @2 LJOBNAME 1 JOB_NAME @23 LASID 1 ASID
       @43 LPGM 1 PGM @63 LMRB 1 MRB

 PRINT @2 LRS @11 RETC @12 '/' @13 RESC @23 LMODE 1 MODE
       @43 LAUTH 1 AUTH @63 LLOCKS 1 LOCKS

 PRINT
 PRINT @2 RACR1
 PRINT @2 RACR2
 PRINT @2 RACR3
 PRINT @2 RACR4
 PRINT @2 RACR5

 END
```

Sample Input Program for the RPTVIOS Report

The following is a brief explanation of the program for this report.

```
NOTE *--------------------------------------------------------------*
NOTE * THIS EARL PROGRAM IS BASED ON THE CA ACF2 "D" RECORD*
NOTE *                          AND THE CA ACF2 "P" RECORD*
NOTE *                          AND THE CA ACF2 "V" RECORD*
NOTE *--------------------------------------------------------------*

 OPTION PRINTER=80
 OPTION LIST OFF
NOTE *-----------------------------------------------------*
NOTE * CHANGE LOG:                                         *
NOTE *                                                     *
NOTE * RELEASE: 6.3                                        *
NOTE *                                                     *
NOTE * TA3985D  07/14/98  Z0012                            * TA3985D
NOTE *          INCREASED RECORD LENGTH OF ACFSMFR FILE    * TA3985D
NOTE *          FOR LONGER OMVS SMF RECORDS. CORRECT A FEW * TA3985D
NOTE *          MISCELLANEOUS PROBLEMS ENCOUNTERED.        * TA3985D
NOTE *                                                     *
NOTE * RELEASE: 6.5                                        *
NOTE *                                                     *
NOTE * TA6015G  03/13/02  Z0037                            * TA6015G
NOTE *          REBRANDING CHANGES.                        * TA6015G
NOTE *                                                     *
NOTE * END OF LOG.                                         *
NOTE *                                                     *
NOTE *-----------------------------------------------------*


NOTE *------------------------------------------------------*
NOTE * TO USE SRAM SORT REMOVE 'NOTE' BELOW                 *
NOTE *------------------------------------------------------*
NOTE OPTION SORT=SRAM

 ACFFLT: FILE ACFSMFR RECORD=23756                          ! TA3985D


COPY HDRECORD
COPY DRECORD
COPY PRECORD
COPY VRECORD


DEF RC=ACFSMFR 1-4 B
DEF ONE (6.0) = 1 'NUMBER'
DEF TYPE_VIO (9) = ' ' 'VIO' 'TYPE'                         ! TA3985D


GET ACFFLT
GOTO EOJ (RC=-1)
 IF RECTYPE ='D'
 THEN SET TYPE_VIO = DSTYPE
  ELSE
   IF RECTYPE = 'V'
```

```
        THEN SET TYPE_VIO = RECMODE
         ELSE
          IF RECTYPE = 'P' AND REASON_NUMBER > 128            ! TA3985D
          THEN SET TYPE_VIO ='LOG'
           ELSE
            SET TYPE_VIO ='VIO'
          ENDIF
      ENDIF
    ENDIF


DECODE RECTYPE INTO NAME_RESOURCE (X 44)
'D' = DSNAME
'P' = 'SIGNON'
'V'= RKEYIN
ELSE 'UNKNOWN' 'RESOURCE' 'NAME'

REPORT 'VIOLATIONS BY LOGONID'

 SELECT 'A' RECTYPE  'D' AND DRTYPE 'DATASET' AND DSTYPE NOT 'TRACE REQ'
 SELECT 'B' RECTYPE  'P'
 SELECT 'C' RECTYPE  'V' AND RECMODE NOT 'TRC'

 CONTROL (LOGONID) (NAME_RESOURCE) (TYPE_VIO) ONE
 PRINT TOTALS ONLY LOGONID NAME_RESOURCE TYPE_VIO (ONE)

END
```

Sample Type L Report

The following two sections contain the output the sample type L reports generated. These reports use the same type L SMF records that the CA ACF2 Logonid Modification Log (ACFRPTLL) uses. We also present a brief explanation of the output and a copy of the input that generated each report.

RPTLL Sample Report (z/OS and OS/390 Only)

Type	Report	Function
L	RPTLL	Provides an updated activity report for the CA ACF2 Logonid database.

This report mimics the CA ACF2 Logonid Modification Log (ACFRPTLL) to report activity for the Logonid database, which reports:

■ **For z/OS and OS/390:** Information that includes the date, time, record key, jobname, logonid, and the change that occurred.

■ **For VM:** Information is provided in a summary format (due to SMF restrictions).

Output

Following is a sample of the RPTLL output.

```
03/29/02                    LOGONID MODIFICATION LOG                    PAGE    1
                  RUN DATE:   03-29-02    RUN TIME:   17.15.06
-----------------------------------------------------------------------------------
     DATE    TIME    RECORD     JOBNAME    LOGONID    CHANGE     CPU     MODEL
                     KEY
-----------------------------------------------------------------------------------
03-29-02   10.40   TLCGEST    TLCDFO     TLCDFO     CHANGE     TLC1
           PASSWORD    ---NON PRINTABLE---     ---NON PRINTABLE---
03-29-02   11.29   TLCFAD     TLCFAD     TLCFAD     CHANGE     TLC1
           MAXDAYS     00000                  00030
03-29-02   11.58   TLCKGS     TLCKGS     TLCKGS     CHANGE     TLC1
           PROMPT      NOPROMPT               PROMPT
03-29-02   11.58   TLCKGS     TLCKGS     TLCKGS     CHANGE     TLC1
           MODE        MODE                   MODE
03-29-02   11.59   TLCKGS     TLCKGS     TLCKGS     CHANGE     TLC1
           INTERCOM    INTERCOM               INTERCOM
```

Use this report as a reference for logonid modifications.

RPTLL2 Sample Report (z/OS and OS/390 Only)

Type	Report	Function
L	RPTLL2	Reports a summary of logonid modifications.

This report displays a summary of those Logonid that are altered by anything other than the normal update that occurs when a user logs on. This report mimics the CA ACF2 Logonid Modification Log (ACFRPTLL) to report activity for the Logonid database, which reports:

■ **For z/OS and OS/390:** Detailed information.

■ **For VM:** Summary format (due to SMF restrictions).

Output

Following is a sample of the RPTLL2 output.

```
03/29/02                    LOGONID MODIFICATION SUMMARY                    PAGE    1
                RUN DATE:     03/29/02    RUN TIME:    15.48.12
------------------------------------------------------------------------------------
                    CHANGE        RECORD           DATE       TIME
                                  KEY
                    CHANGE        HGERARD       03-29-02      12.49
                                  TLCJLC        03-29-02      11.12
                                  TLCLAS        03-29-02      11.13
                                  TLCSJB        03-29-02      11.13
                                  TLCDAH        03-29-02      11.13
                                  TLCMJC        03-29-02      11.12
                                  TLCMJC        03-29-02      11.14
                                  TLCRJC        03-29-02      11.12
                                  TLCAMZ        03-29-02      13.32
                                  TLCFOS        03-29-02      14.25
                                  TLCFOS        03-29-02      14.25
                                  TLCISO        03-29-02       4.17

                    CHANGE

                    INSERT        HGERARD       12-02-98      12.48

                    INSERT

END OF REPORT

  REPORT    RECORDS READ    LINES PRINTED
       1            13              28
```

Use this report as a quick look at activity in your Logonid database. Should you discover anything suspicious looking, run the RPTLL report for more detailed information.

Sample Type N Reports

The following sections contain the output the sample type N reports generate. We also present a brief explanation of the output and a copy of the input that generated each report.

RPTNV Sample Report

Type	Report	Function
N	RPTNV	Provides the same information as ACFRPTNV.

This report mimics the Environment Report (ACFRPTNV) that provides a logging of each START, STOP or PURGE, and MODIFY operator commands issued. This report also produces loggings of system IPLs and possible losses of SMF data.

Output

Following is a sample of the RPTNV output.

```
03/29/02                              CA ACF2 ENVIRONMENT REPORT
-------------------------------------------------------------------------------------------------
ENVIRONMENT    RESULT              ACF2 MESSAGES
EVENT
-------------------------------------------------------------------------------------------------
ACF2 START     OPERATOR INPUT PARM=
ACF2 MESSAGE                    MSG = ACF79505 GSO INITIAL START IN PROGRESS FOR SYSTEM: PAY1
ACF2 MESSAGE                    MSG = ACF79506 GSO REFRESHING APPLDEF
ACF2 MESSAGE                   MSG = ACF7A216 RSB AVXRVNDF NOT FOUND IN LPA, BYPASSING RECID NODEDEF
ACF2 MESSAGE                   MSG = ACF7A216 RSB AVXRVOPT NOT FOUND IN LPA, BYPASSING RECID OPTIONS
ACF2 MESSAGE                  MSG = ACF7A216 RSB AVXRVPRX NOT FOUND IN LPA, BYPASSING RECID PROXY.**
ACF2 MESSAGE                  MSG = ACF7A216 RSB AVXRVUAF NOT FOUND IN LPA, BYPASSING RECID ********
ACF2 MESSAGE                    MSG = ACF79506 GSO REFRESHING AUTHEXIT
ACF2 MESSAGE                    MSG = ACF79506 GSO REFRESHING TSO2741
ACF2 MESSAGE                    MSG = ACF79506 GSO REFRESHING WARN
ACF2 MESSAGE                    MSG = ACF79507 GSO PROCESSING COMPLETED WITHOUT ERROR
ACF2 START     COMMAND SUCCESSFUL     PARM=
ACF2 MESSAGE                    MSG = ACF79505 CAC INITIAL START IN PROGRESS FOR SYSTEM: PAY1


 END OF REPORT
1  REPORT    RECORDS READ   LINES PRINTED
      1             50              59
-**** REPORT PHASE ENDED   0.40 SECONDS.
 **** END OF PROCESSING PHASE
 ****      50 HITFILE RECORDS WRITTEN
```

Console commands can affect CA ACF2 security processing. You can use this report to help you determine if such events are too frequent or suspicious in any other way.

Sample Type O Reports

The following sections contain the output the sample type O reports generate. We also present a brief explanation of the output and a copy of the input that generated each report.

RPTOM1 Sample Report

Type	Report	Function
O	RPTOM1	

This report provides a logging of Unix System Services calls.

Output

```
01/04/03                    CA ACF2 OPEN EDITION MVS SUMMARY REPORT                        PAGE  1
                          DATE:        01/04/03      TIME:       15.35.43
--------------------------------------------------------------------------------------------------
SERVICE          DATE  TIME    SUBMITTOR LOGONID JOBNAME  USER    GROUP    UID   GID   SAF   RC
RSN
                                LID/PROC
--------------------------------------------------------------------------------------------------
INIT_USP         03-19-03 14.40  OMVS     OMVS    OMVS    OMVSGRP   0      22     0     0     0
Successful - Logging active by Trace/Audit options
INIT_USP         03-19-03 14.40  BPXOINIT BPXOINIT BPXOINIT OMVSGRP  0      22     0     0     0
Successful - Logging active by Trace/Audit options
CHECK_PRIVILEGE  03-19-03 14.41  BPXOINIT BPXOINIT BPXOINIT OMVSGRP  0      22     0     0     0
Successful - Logging active by Trace/Audit options
INIT_USP         03-19-03 14.41  BPXOINIT ETCINIT  BPXOINIT OMVSGRP  0      22     0     0     0
Successful - Logging active by Trace/Audit options
SET_EFFECTIV_UID 03-19-03 14.41  BPXOINIT ETCINIT  BPXOINIT OMVSGRP  0      22     0     0     0
Successful - Logging active by Trace/Audit options
SET_EFFECTIV_GID 03-19-03 14.41  BPXOINIT ETCINIT  BPXOINIT OMVSGRP  0      22     0     0     0
Successful - Logging active by Trace/Audit options
```

RPTOM2 Sample Report

Type	Report	Function
O	RPTOM2	

Output

```
01/04/03                     CA ACF2 OPEN EDITION MVS CHECK_ACCESS REPORT            PAGE   2
                             DATE:      01/04/03      TIME:      15.25.56
--------------------------------------------------------------------------------------------
-------
SERVICE        DATE     TIME   SUBMITTOR  LOGONID  JOBNAME  USER    GROUP  UID    GID   SAF   RC
RSN
                               LID/PROC
--------------------------------------------------------------------------------------------
-------
CHECK_ACCESS   04-01-03 13.25             SVMTJD   SVMTJD   SVMTJD  *      61457  6     8     8
4
Failed - User not authorized to access file
FUNCTION : open                 USER TYPE: Local
REQUESTED ACCESS: Search
PATHNAME:
/u/users/secwrk/svmtjd/testdir/elf2

FILENAME:
testdir

FILE PERMISSIONS:  OWNER: rwx  GROUP: ---  OTHER: ---
OWNING UID:        0    OWNING GID         6
VOLUME: OMVS01  FILE IDENTIFIER #: 0046880000
AUDIT OPTIONS:
USER: READ Failure WRITE Failure EXEC/SEARCH Failure
```

RPTOM3 Sample Report

Type	Report	Function
O	RPTOM3	

report

Output

```
          01/04/03                CA ACF2 OPEN EDITION MVS INIT_USP REPORT                PAGE
          2
                         DATE:      01/04/03      TIME:      15.34.35
-----------------------------------------------------------------------------------------------
SERVICE      DATE      TIME    SUBMITTOR LOGONID  JOBNAME  USER    GROUP UID      GID   SAF   RC  RSN
                               LID/PROC
-----------------------------------------------------------------------------------------------
INIT_USP   3-19-03   14.42    FTPD     FTPD     FTPD     OMVSGRP   0    22       0     0     0
Successful - Logging active by Trace/Audit options
HOME:
/
PROGRAM:
/bin/sh
INIT_USP   3-19-03   14.42    PORTMAP  PORTMAP  PORTMAP   *       0    44444    0     0     0
Successful - Logging active by Trace/Audit options
HOME:

PROGRAM:

INIT_USP   3-19-03   14.42    PORTMAP  PORTMAP  PORTMAP   *       0    44444    0     0     0
Successful - Logging active by Trace/Audit options
HOME:

PROGRAM:

INIT_USP   3-19-03   14.42    PORTMAP  PORTMAP  PORTMAP   *       0    44444    0     0     0
Successful - Logging active by Trace/Audit options
HOME:
```

Sample Type P Reports

The following sections contain the output the sample type P reports generate. We also present a brief explanation of the output and a copy of the input that generated each report.

RPTPW Sample Report

Type	Report	Function
P	RPTPW	Provides the same information as ACFRPTPW.

This report mimics the Invalid Password/Authority Log (ACFRPTPW) that provides a listing of all unsuccessful or logged system access attempts. This includes:

- Date

- Time

- Logonid

- Jobname

- Submittor logonid or procedure

- Source Program, if any

- Reason code

- Log or violation

- CPU

Output

Following is a sample of the RPTPW output.

```
03/29/02                     INVALID PASSWORD REPORT                    PAGE     1
                  RUN DATE:    03-29-02    RUN TIME:    11.13.33
--------------------------------------------------------------------------------
DATE      TIME LOGONID  JOBNAME  SUBMITTOR SOURCE   PROGRAM   REASON  LOG  CPU
                                 LID/PROC                     CODE    VIO
--------------------------------------------------------------------------------
03-29-02  8.32 EXEJAS   EXEJAS   LOGON     LV951               12     VIO  TLC1
03-29-02  8.32 EXEJAS   EXEJAS   LOGON     LV951               12     VIO  TLC1
03-29-02  9.13 TLCFKH   TLCFKH   LOGON     LV822               17     VIO  TLC1
03-29-02  9.18 TLCGEST  TLCGEST  LOGON     LV853               12     VIO  TLC1
03-29-02  9.18 TLCGEST  TLCGEST  LOGON     LV853               12     VIO  TLC1
03-29-02  9.43 TLCFKH   TLCFKH   LOGON     LV822               12     VIO  TLC1
```

You can use this report to determine whether logon controls are implemented properly and to show possible break–in attempts or similar problems.

RPTPW2 Sample Report

Type	Report	Function
P	RPTPW2	Reports a summary of sign-on violations and loggings.

This report mimics the Invalid Password/Authority Log (ACFRPTPW) that is a summary of those logonids with sign-on loggings and violations.

- **For z/OS and OS/390:** Includes the logonid, reason, and total number of violations.
- **For VM:** Includes the logonid, reason, and total number of violations.

Output

Following is an excerpt of the RPTPW2 output.

```
03/29/02         INVALID PASSWORD/AUTHORITY LOG - LOGONID SUMMARY      PAGE    1
                        RUN:    03-29-02    14.23.28
--------------------------------------------------------------------------------
LOGONID    REASON                                          NUMBER
--------------------------------------------------------------------------------
TLCJAS     PASSWORD NOT MATCHED                              2
                                                           ----
TLCJAS                                                       2
                                                           ----
TLCFKH     PASSWORD FOR LOGONID HAS EXPIRED                  1
TLCFKH     PASSWORD NOT MATCHED                              1
                                                           ----
TLCFKH                                                       2
                                                           ----
TLCGEST    PASSWORD NOT MATCHED                              2
                                                           ----
TLCGEST                                                      2
                                                           ----
                                                           ----
GRAND TOTAL                                                  6
                                                           ----
REPORT    RECORDS READ    LINES PRINTED
  1              6              22
```

Use this report to identify unusual activity against a specific logonid, and to start investigation into possible unauthorized access attempts.

RPTPW3 Sample Report

Type	Report	Function
P	RPTPW3	Reports sign-on violations and loggings due to shift (time) constraints.

This report mimics the Invalid Password/Authority Log (ACFRPTPW) that is a report that displays sign-on violations that occurred during off hours.

■ **For z/OS and OS/390:** Includes the date, time, logonid, jobname, logonid/procedure, program, and reason code.

■ **For VM:** Includes the date, time, logonid, jobname, logonid/procedure, program, and reason code.

Output

Following is a sample of the RPTPW3 output.

```
03/29/02                     OFF HOURS INVALID PASSWORD USAGE                  PAGE     1
                     RUN DATE:    03-29-02    RUN TIME:    14.49.15
-------------------------------------------------------------------------------
    DATE   TIME LOGONID  JOBNAME  SUBMITTOR SOURCE     PROGRAM   REASON  LOG  CPU
                                  LID/PROC                        CODE   VIO
-------------------------------------------------------------------------------
03-29-02 18.20 TLCAMZT   TLCAMZT  LOGON     TERMAZ                  32   VIO  CPU1
03-29-02 18.21 TLCAMZ    TLCAMZ   LOGON     TERMAZ                  12   VIO  CPU1
03-29-02 18.21 TLCAMZT   TLCAMZT  LOGON     LV826                   17   VIO  CPU1
03-29-02 18.55 TLCRKC    TLCRKC   LOGON     LV840                    4   VIO  CPU1
03-29-02 18.55 TLCRJC    TLCRJC   LOGON     LV840                   12   VIO  CPU1
03-29-02 20.17 TLCLRG    TLCLRG   LOGON     LV840                   12   VIO  CPU1


END OF REPORT


  REPORT    RECORDS READ   LINES PRINTED
     1            6              15
```

This report identifies people trying to log on with invalid logonids or passwords during non-business hours (that is, a hacker who tries to log on by guessing the password).

RPTPW4 Sample Report

Type	Report	Function
P	RPTPW4	Reports invalid sign-ons by source.

This report mimics the Invalid Password/Authority Log (ACFRPTPW), which is a report that displays sign-on violations and loggings by source.

■ **For z/OS and OS/390:** Includes the source, logonid, date, time, reason, and a summary of the report.

■ **For VM:** Includes the source, logonid, date, time, reason, and a summary of the report.

Output

Following is a sample of the RPTPW4 output.

```
03/29/02                    INVALID SIGNON BY SOURCE                    PAGE    1
                    RUN DATE:    03-29-02    RUN TIME:    14.57.10
--------------------------------------------------------------------------------
SOURCE  LOGONID    DATE TIME REASON


--------------------------------------------------------------------------------
LV822   TLCFKH  03-29-02 9.13 PASSWORD FOR LOGONID HAS EXPIRED
LV822   TLCFKH  03-29-02 9.43 PASSWORD NOT MATCHED

LV853   TLCGEST 03-29-02 9.18 PASSWORD NOT MATCHED
LV853   TLCGEST 03-29-02 9.18 PASSWORD NOT MATCHED

LV951   TLCJAS  03-29-02 8.32 PASSWORD NOT MATCHED
LV951   TLCJAS  03-29-02 8.32 PASSWORD NOT MATCHED

END OF REPORT
  REPORT    RECORDS READ    LINES PRINTED
      1            6                24
**** REPORT PHASE ENDED   0.30 SECONDS.
```

This report reveals if a particular source is having multiple violations with different logonids. If so, there may be reason for investigation.

Sample Type R Reports

The following sections contain the output the sample type R reports generate. We also present a brief explanation of the output and a copy of the input that generated each report.

RPTRL Sample Report

Type	Report	Function
R	RPTRL	Provides the same information as ACFRPTRL.

This report mimics the CA ACF2 Access Rule Update Journal (ACFRPTRL), which reports each update to the Rule database on z/OS, OS/390 and VM systems.

Output

Following is a sample of the RPTRL output.

```
03/29/02                      RULE MODIFICATION LOG                     PAGE    1
                    RUN DATE:    03-29-02     RUN TIME:    17.11.15
--------------------------------------------------------------------------------
         DATE    TIME    RECORD      JOBNAME     LOGONID     CHANGE      CPU
                         KEY
--------------------------------------------------------------------------------
      03-29-02  16.33   TLCPJC       TLCPJC      TLCPJC     REPLACE     TLC1

END OF REPORT

 REPORT    RECORDS READ   LINES PRINTED
     1             1            10
```

This report reveals when updates are made to the Rule database. If unusual updates occur, you can run more reports for more information.

RPTRL2 Sample Report

Type	Report	Function
R	RPTRL2	Reports a summary of rule modifications.

This report mimics the CA ACF2 Access Rule Update Journal (ACFRPTRL). This report summarizes changes made to access rule sets.

- **For z/OS and OS/390:** Includes the date, time, change, record key, and a summary of all the rule changes by type change.

- **For VM:** Includes the date, time, change, record key, and a summary of all the rule changes by type change.

Output

Following is an excerpt of the RPTRL2 output.

```
03/29/02                  RULE MODIFICATION SUMMARY                    PAGE     1
                 RUN DATE:    03/29/02    RUN TIME:    15.58.34
--------------------------------------------------------------------------------
                 CHANGE     RECORD        DATE     TIME
                            KEY
--------------------------------------------------------------------------------
                 REPLACE    ACF2DOR       03-29-02   10.08
                            ACF2DOR       03-29-02   10.24
                            TLCDAH        03-29-02   22.07
                            TLCDAH        03-29-02   22.07
                            TLCDAH        03-29-02   22.17
                            TLCDAH        03-29-02   22.17
                            TLCDAH        03-29-02   22.21
                            TLCDAH        03-29-02   22.21
                            TLCDAH        03-29-02   22.26
                            TLCDAH        03-29-02   22.28
                            TLCDAH        03-29-02   22.40
                            TLCDAH        03-29-02   22.46
                            TLCDAH        03-29-02   22.52
                            TLCYL         03-29-02   16.13

                 REPLACE

END OF REPORT

  REPORT    RECORDS READ    LINES PRINTED
      1           14              26
```

An unusual number of changes to a user's rule set can indicate that the user needs instruction on writing access rules.

Sample Type V Reports

The following sections contain the output the sample type V reports generate. We also present a brief explanation of the output and a copy of the input that generates each report.

RPTRV Sample Report

Type	Report	Function
V	RPTRV	Provides the same information as ACFRPTRV.

This report mimics the CA ACF2 Generalized Resource Event Log (ACFRPTRV) that reports results of resource violations and loggings.

■ **For z/OS and OS/390:** Includes a report describing the nature of resource accesses, the user requesting the access, and the final disposition of the access.

■ **For VM:** Includes a report describing the nature of resource accesses, the user requesting the access, and the final disposition of the access.

Output

Following is an excerpt of the RPTRV output.

```
03/29/02                    GENERALIZED RESOURCE LOG
```

```
  + PAGE       1                            RUN DATE:   03/29/02  RUN TIME:       09.16.18
0R-KNW-NEXTKEY7                                 TRC     R-KNW-NEXTKEY1
 SSDKW                    ******** VEGA        RULE       -      -
 03-29-02  9.20 SSDKW                                    0    4    4    0    4

 RSRC:
1111111112222222223333333334444444445555555556666666667777777778888888889999999995010100111111
1111212121212131313131314141414141515151515161616161617171717171718181818181959595940202020212112122
2222222232323232324242424242525252525262626262627272727272828282828294949494930303030313131313323232

 NEXT KEYS: NEXTKEY2                                     NEXTKEY3
           NEXTKEY4                                     NEXTKEY5
           NEXTKEY6                                     NEXTKEY7

0R-KNW-NEXTKEY1                                  TRC     R-KNW-NEXTKEY1
 SHS  SSDMJC             ******** VEGA          NO-RULE  NON-CNCL    -
 03/29/02  9.20 SSDKW     SSDMJC   MARTY HAS GONE        0    0   20    0    4

 RSRC:
1111111112222222223333333334444444445555555556666666667777777778888888889999999995010100111111
1111212121212131313131314141414141515151515161616161617171717171718181818181959595940202020212112122
2222222232323232324242424242525252525262626262627272727272828282828294949494930303030313131313323232

0R-KNW-NEXTKEY1                                  TRC     R-KNW-NEXTKEY1
 SHS  SSDKW              ******** VEGA          NO-RULE  SEC-OFF     -
 03/29/02  9.21 SSDKW     SSDKW                         0    0   20    0    4

 RSRC:
1111111112222222223333333334444444445555555556666666667777777778888888889999999995010100111111
1111212121212131313131314141414141515151515161616161617171717171718181818181959595940202020212112122
2222222232323232324242424242525252525262626262627272727272828282828294949494930303030313131313323232

 END OF REPORT
1  REPORT    RECORDS READ   LINES PRINTED
        1            4             90
-**** REPORT PHASE ENDED   0.50 SECONDS.
 **** END OF PROCESSING PHASE
 ****      4 HITFILE RECORDS WRITTEN

03-29-02                         GENERALIZED RESOURCE LOG
                          RUN DATE:    03-29-02     RUN TIME:     14.09.58
R-BSP-ACFAE***                                  LOG     R-BSP-ACFAEMTP
TLC99ACCRPW          L819    TLC1           NO-RULE  NON-CNCL DIRECTRY
03-29-02  8.13 ACCPCICS ACCRPW   RON WEST                0    0   20    0    4

 R-STR-REVIEW                                   *VIO     R-STR-REVIEW
TLC99MGMSJB          LV82D   TLC1           RULE       -      -
03-29-02  8.33 MGMSJB    MGMSJB   SALLY BROWN            0    4   16    0   16
```

```
 R-BTA-REVIEW                                   *VIO     R-BTA-REVIEW
TLC  TLCRJC              LV849    TLC1          NO-RULE     -        -
03-29-02  8.35 TLCRJC    TLCRJC   ROB COLMAN              0    4   20   0   16


R-STR-REVIEW                                    *VIO     R-STR-REVIEW
TLC99MGMSJB              LV82D    TLC1          RULE        -        -
03-29-02  8.42 TLCSJB    TLCSJB   SALLY BROWN             0    0   16   0   16


 R-ACF-SM                                        TRC     R-ACF-SM
TLC  TLCISO              LV841    TLC1          RULE        -      DIRECTRY
03-29-02  9.00 TLCMRON   TLCISO   TECH LID - JOINT        0    0    8   0   8
```

The RPTRV report generator processes the SMF records the generalized resource facility issued, producing a report describing the nature of resource access, the user requesting the access, and the final disposition of the access. If anything seems out of the ordinary, you can run more reports for further information.

RPTRV2 Sample Report

Type	Report	Function
V	RPTRV2	Reports a summary of resource violations sorted by violator's name.

This report mimics the CA ACF2 Generalized Resource Event Log (ACFRPTRV). This report is a summary of resource violations, sorted by the logonid that caused the violation.

- **For z/OS and OS/390:** Includes the name of the violator, the type of logging record, the look up key, and the number of violations that occurred.

- **For VM:** Includes the name of the violator, the type of logging record, the look up key, and the number of violations that occurred.

Output

Following is an excerpt of the RPTRV2 output.

```
03/29/02              RESOURCE VIOLATIONS BY VIOLATOR NAME          PAGE    1
-------------------------------------------------------------------------------
NAME                 REC  LOOKUP KEY                               NUMBER
                     MODE
-------------------------------------------------------------------------------
A TECH LID - JOINT   LOG  RBTBPM                   1
A TECH LID - JOINT   LOG  RCAIACF41ZAP             1
A TECH LID - JOINT   LOG  RCAICEMT                 2
                                                ----------
A TECH LID - JOINT   LOG                           4
                                                 ---------
                                                 ---------
A TECH LID - JOINT                                 4
                                                 ---------
AL DEEMS             VIO  RQBDAA                   2
AL DEEMS             VIO  RQBDRNENH                2
AL DEEMS             VIO  RQBDTFDUP                2
AL DEEMS             VIO  RQBDTFENH                2
AL DEEMS             VIO  RQBDTGPER                2
                                                 ---------


03/29/02              RESOURCE VIOLATIONS BY VIOLATOR NAME          PAGE    5
-------------------------------------------------------------------------------
NAME                 REC  LOOKUP KEY                               NUMBER
                     MODE
-------------------------------------------------------------------------------
                                                 ---------
GRAND TOTAL                      369                          ---------- REPORT
RECORDS READ   LINES PRINTED
           1           369              224
```

This report is a review of resource violations. Should anything suspicious appear, run the RPTRV report for more detailed information.

Sample Type S Report

The following sections contain the output the sample type S report generated. We also present a brief explanation of the output and a copy of the input that generated the report.

RPTST Sample Report (z/OS and OS/390 Only)

Type	Report	Function
S	RPTST	Provides information based on the ACF2 S record.

This report provides information the SECTRACE command collected. This command traces System Authorization Facility (SAF) calls, allowing you to determine whether your SAF controls are implemented properly. For information on using the SECTRACE command, see the "Special Usage Considerations," chapter in the *Systems Programmer Guide*.

Output

Following is an excerpt of the RPTST output.

```
03/29/02                                ACF2 SECURITY EVENT TRACE REPORT
0 SMFID= XE75         TOD= 14.42.19.32   TRACE ID= IPL       USER ID=
   JOBNAME= CONSOLE     ASID= 000A__        PROGRAM= IEAVMQWR   CURR RB= SVC034
   RET/RES= 0/0         MODE= TASK          APF= AUTHORIZED     LOCKS= NONE

  RACROUTE REQUEST=AUTH,REQSTOR='IEE7003D',SUBSYS='CONSOLE ',DECOUPL=YES,
          MSGRTRN=YES,MSGSUPP=YES,MSGSP=0,WORKA=,ATTR=READ,
          CLASS='OPERCMDS',DSTYPE=N,ENTITY=('MVS.CONTROL.S ...',NONE),
          FILESEQ=0,GENERIC=ASIS,LOG=ASIS,LOGSTR='K S,DEL=RD',
          RELEASE=1.9,STATUS=NONE,TAPELBL=STD,UTOKEN=
0 SMFID= XE75         TOD= 14.42.43.05   TRACE ID= IPL       USER ID=
   JOBNAME= CONSOLE     ASID= 000A__        PROGRAM= IEAVMQWR   CURR RB= SVC034
   RET/RES= 0/0         MODE= TASK          APF= AUTHORIZED     LOCKS= NONE

   RACROUTE REQUEST=TOKENBLD,REQSTOR='IEECB940',SUBSYS='CONSOLE ',
          DECOUPL=YES,MSGRTRN=YES,MSGSUPP=YES,MSGSP=0,WORKA=,
          POE='03 ...',RELEASE=1.9,SESSION=CONSOPER,TOKNIN=,TOKNOUT=

0 SMFID= XE75         TOD= 14.42.43.09   TRACE ID= IPL       USER ID=
   JOBNAME= CONSOLE     ASID= 000A__        PROGRAM= IEAVMQWR   CURR RB= SVC034
   RET/RES= 0/0         MODE= TASK          APF= AUTHORIZED     LOCKS= NONE

  RACROUTE REQUEST=AUTH,REQSTOR='IEE3503D',SUBSYS='CONSOLE ',DECOUPL=YES,
          MSGRTRN=YES,MSGSUPP=YES,MSGSP=0,WORKA=,ATTR=READ,
          CLASS='OPERCMDS',DSTYPE=N,ENTITY=('MVS.DISPLAY.SMF ...',NONE),
          FILESEQ=0,GENERIC=ASIS,LOG=ASIS,LOGSTR='D SMF',RELEASE=1.9,
          STATUS=NONE,TAPELBL=STD,UTOKEN=
0 SMFID= XE75         TOD= 14.42.43.36   TRACE ID= IPL       USER ID=
   JOBNAME= *MASTER*    ASID= 0001__        PROGRAM= *PMSVRB*   CURR RB= *PMSVR B*
   RET/RES= 0/0         MODE= TASK          APF= AUTHORIZED     LOCKS= NONE

  RACROUTE REQUEST=FASTAUTH,REQSTOR='PROGMCHK',SUBSYS='CONTENTS',MSGSP=0,
          WORKA=,ATTR=READ,CLASS='PROGRAM ',ENTITY=('IEECB956'),
          RELEASE=1.8,WKAREA=

0  END OF REPORT
1  REPORT    RECORDS READ   LINES PRINTED
       1           239            2210
-**** REPORT PHASE ENDED   0.13 SECONDS.
 **** END OF PROCESSING PHASE
 ****     239 HITFILE RECORDS WRITTEN
```

Sample Multiple Types Report

The following section contains the output of a sample report that uses multiple SMF input records generated. We also present a brief explanation of the output and a copy of the input that generated each report.

RPTVIOS Sample Report

Type	Report	Function
Multiple	RPTVIOS	Reports violations by logonid.

This report uses type D, P, and V records to report various violations, which are sorted by the logonid that caused the violation.

- **For z/OS and OS/390:** Includes the logonid, resource name, the violation type, and the number of violations for that logonid.

- **For VM:** Includes the logonid, resource name, the violation type, and the number of violations for that logonid.

Output

Following is a sample of the RPTVIOS output.

```
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--------------------------------------------------------------------------------
LOGONID   RESOURCE                              VIO        NUMBER
          NAME                                  TYPE
--------------------------------------------------------------------------------
TLCRRT    RESTREVIEW                            VIO           1
                                                          ----------
TLCRRT    RESTREVIEW                                          1
                                                          ----------
                                                          ----------
TLCRRT                                                        1
                                                          ----------
TLCTCICS  TLC.PRDC.CICS160.EGIINTRA             LOGGING       2
                                                          ----------
TLCTCICS  TLC.PRDC.CICS160.EGIINTRA                           2
                                                          ----------
TLCTCICS  TLC.PRDC.CICS160.EGIRSD               LOGGING       1
                                                          ----------
TLCTCICS  TLC.PRDC.CICS160.EGIRSD                             1
                                                          ----------
TLCTCICS  TLC.PRDC.CICS160.EGITEMP              LOGGING       2
```

This report displays all violations and loggings (data set, sign-on, and resource) in one report.

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