

# **E-SRF**

**EKC Security  
Reporting Facility**

## **Access Analysis Reports Guide for RACF**



E-SRF V2R1  
EKC Inc.  
E9808106-1

E-SRF™ is a proprietary product developed and maintained by

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- 3) the Software does not introduce any MVS integrity exposures. The program code, with the exception of one utility, runs totally in non-authorized, problem state. The one utility, EKCRXCAT, requires APF-authorization to read the MVS System Catalogs.
- 4) the software shall be year 2000 compliant, and shall function correctly in the next century according to published specifications as long as regular software maintenance is applied.

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**Version 2, Release 1 April, 2005**  
**E9808106-1**

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# Chapter 1 : E-SRF/RACF Access Analysis Reports

## **Introduction**

For data owners using RACF (*with the renaming of MVS as OS/390, IBM has also “renamed” RACF as the OS/390 Security Server*) as their Resource Security System, determining who has access to their data would seem to be fairly simple and straightforward, but it is often not so. For datasets, RACF allows, and IBM strongly encourages, the use of generic profiles rather than discrete profiles. These generic profiles control access to multiple datasets, rather than the one-to-one relationship used by discrete profiles, and the choice of which generic profile is governed by relatively straightforward rules. However, in order to make the determination of which profile will control access to a specific dataset, one must really look at the entire set of profiles and scan them just as if RACF would.

For resources, such as transactions, the situation becomes even murkier. For example, transactions can be protected by discrete profiles, meaning there is a one-to-one relationship between the specific transaction and its corresponding profile which grants access; or they can be protected by generic profiles, meaning there is a many-to-one relationship between a set of transactions and a single generic profile; and finally, transactions can be protected by multiple generic profiles, meaning there can be a one-to-many relationship between a single transaction or set of transactions and a set of profiles. (*RACF actually “merges” the multiple “Grouping Class” profiles into a single profile for efficiency during execution, but from an administrative point of view, they are maintained as individual distinct profiles.*) This same set of relationships can be applied to any resource protected by RACF including output dataset controls, specific application calls within programs, etc.

The access list, that is, the list of which users can access the data and what access they can have (e.g. read, alter, etc.), is contained within the selected profile(s). In the case of resources protected by multiple profiles, the access lists from all those profiles are merged together. The RACF access list contains either the specification of individual users, or pre-defined groups of users. If a user is specified directly in an access list, then the access permission associated with that specification would be used to control access. If the user is not specified directly in the access list, then the highest access permission for any group specified in the access list that the user is a member of will be used. (*See the RACF Security Administrators Guide for an exact description of how access permissions are determined.*)

Finally, there are a series of user attributes that help determine access permission if the user is not specified, either directly or indirectly, in the access list. These include “special” and “operations” which are controlled both on a system-wide basis and on a profile-ownership basis when a RACF Group is the owner of a profile. (*See the RACF Security Administrators Guide for information relating to “Scope-of-control” and how it relates to granting access to resources.*)

Thus, even though it seems simple for the data owner to just get a list of who can access his data and how, it is not that easy.

For user managers, since RACF maintains its access control data on the basis of resources, it is virtually impossible to answer the question – “what data can the employees under my control access and what can they do to it?” The manager would need to know each and every group that each user is a member of and search all the access lists for all the profiles to determine what access each of them would have.

For auditors, both these views of the access control data are important. That is, they want to look at: given a set of data, who can access it and what can they do to it. They also want to be able to look at an individual user, or set of users, and determine what data they can access and what they can do to it.

With the introduction of OS/390 Open Edition (recently renamed UNIX System Services), there are even more complexities. Open Edition uses UNIX-style access controls to control access to the Open Edition files. These are read-write-execute permission levels for users matching the Open Edition User Identification Number (UID), the Group Identification Number (GID), and all other users who are associated with each file on a one-to-one basis. The UID for the user is taken from the User's RACF User Profile and, similarly, the GID is taken from the RACF Group Profile. All RACF User and Group profiles have undefined UID's and GID's initially. However, there is a method to specify a default UID and GID that should be utilized in the case where there is no User UID or Group GID specified.

In UNIX System Services, a user with a UID of 0 is a Superuser and this user has full access to all files on the system. UNIX System Services allows users to have non-zero UID's and still obtain a superuser state via the UNIX System Services "SU" command by authorizing this upgraded access via the RACF FACILITY class profile BPX.SUPERUSER. Similarly, UNIX System Services extends the UNIX-style security by subsetting this authorization by the use of the RACF FACILITY class profile BPX.DAEMON. See the OS/390 Open Edition Planning Guide (BPXB203) for further information.

## ***The E-SRF/RACF Access Analysis System***

The E-SRF/RACF Analysis System uses and/or provides the following components:

- **The RACF Database Unload Utility (IRRDBU00).** This IBM-supplied utility unloads the RACF Database into a sequential dataset. This is the only portion of the E-SRF/RACF system that must be run on the active RACF system. Every other process can be run on another RACF system or even one without RACF active.
- **The E-SRF/RACF Database Load Utility (EKCRRCDB).** This E-SRF supplied utility takes as input the output of the RACF Database Unload Utility, merges and consolidates many of the records, and creates a database (a VSAM cluster) that is used by all subsequent E-SRF components.
- **The E-SRF/RACF Pseudo Resource Name Generator (EKCRRPST).** This E-SRF supplied utility will produce pseudo dataset and resource names that correspond to the discrete and generic profiles and members of RACF grouping profiles. These pseudo dataset and resource names can be used as input to the Analysis Reports to produce output that is relevant to the data owners and the user managers.
- **The E-SRF Catalog Dataset Name Generator (EKCRXCAT).** This E-SRF supplied utility reads the MVS Master Catalog and the User Catalogs and produces a sequential dataset with an entry for each dataset (*only one entry is produced for each set of Generation Data Group datasets*) found in the catalogs. These actual dataset names can be used as input to the Dataset Analysis Reports to produce output for the data owners and the user managers. Caution should be taken when using the output



of this utility as input for the Dataset Analysis Reports because it is not unusual for the volume to be immense, sometimes over one million entries, while the output of the Pseudo Resource Name Generator is usually counted in the thousands, or at most, tens of thousands.

- **The E-SRF/RACF DataOwner Dataset Report (EKCRDDDS).** This E-SRF supplied report analyzes the access permissions for the set of datasets specified and produces a report listing the maximum access each user (or a subset of the users) has to each dataset.
- **The E-SRF/RACF DataOwner Resource Report (EKCRDRS).** This E-SRF supplied report analyzes the access permissions for the set of resources (transactions, etc.) specified and produces a report listing the maximum access each user (or a subset of the users) has to each resource.
- **The E-SRF/RACF DataOwner Open Edition Report (EKCRDOE).** This E-SRF supplied report analyzes the access permissions for the set of UNIX System Services Files specified and produces a report listing the maximum access each user (or a subset of the users) has to each file.
- **The E-SRF/RACF Userid-Owner Dataset Report (EKCRUDS).** This E-SRF supplied report analyzes the access permissions for the set of users specified to all the datasets (or subset of the datasets).
- **The E-SRF/RACF Userid-Owner Resource Report (EKCRURS).** This E-SRF supplied report analyzes the access permissions for the set of users specified to all the resources (or a subset of the resources). Most of the time this report would be run against resources within a single class – answering the question, “what can this set of users do on a particular CICS production region?”
- **The E-SRF/RACF Userid Differences Report (EKCRUDF).** This E-SRF supplied report analyzes the output of the E-SRF/RACF Userid-Owner Dataset Report and the E-SRF/RACF Userid-Owner Resource Report, groups users who have identical access patterns, and then reports on the differences between each unique group of users. This allows the User Manager or Auditor to spot questionable additional access permissions, to better group users for access authority, to clean up their RACF grouping structure, etc.

## ***Grouping of Users and Resources***

The Data-Owner Access Analysis Reports group together datasets, UNIX System Services files, and resources with similar access patterns according to a set of rules described below under Report Output Styles. The Userid-Owner Access Analysis Reports similarly groups together Users with similar access patterns. This grouping can be bypassed by the use of a keyword SEPARATE in all the reports.

## **Report Output Styles**

The output of the E-SRF/RACF Reports is in two styles. Depending on the style chosen, the reports will utilize differing algorithms for combining resources with similar access patterns (in the case of the DataOwner Reports) or users with similar access patterns (in the case of the Userid-Owner Reports). The two different styles are the detailed reports (this is the default output style) or the summary report (specified by the use of the SUMMARY keyword).

**Detailed:** In this report style, the information displayed includes access permission, the profile used for determining access, the RACF Group the user was a member of that gave him the permission, the conditional access type and the conditional access element in the case of conditional permissions. The reports, in attempting to group users or resources together, only combine resources or groups with identical access patterns, including how RACF would have arrived at each decision. This is referred to as the “tight-fit” algorithm for combining resources and users.

**Summary:** In this report style, only the access permissions are displayed with an indication of whether the access was conditional or not. The reports, in attempting to group users or resources together, combines them on the basis of access and whether it was conditional or not. How RACF would have arrived at the access decision is ignored.

## **Notes Output**

Both styles of reports display Notes on certain accesses that at least should be acknowledged by the Security Administrator or Data Owner. These are significant items that require follow-up attention, such as a profile having the WARNING attribute (that is, accesses are always allowed), a user with the RACF SPECIAL attribute being in the access list (RACF may have automatically added the user), etc.

## **Export Data Files**

Optionally, the E-SRF/RACF Access Analysis can produce data files in either Personal Computer Data Interchange Format or in mainframe type fixed field records. See the section on Export Data Files for further information. The installation can develop subsequent procedures that make this information available in a more installation-specific form or place it on a server database for subsequent inquiries.

## **Using EKC Resource Grouping to Select Resources**

Although the E-SRF/RACF Access Analysis Reports allow selection on either a High-level index mask (INDEX keyword), a Resource class mask (CLASS keyword), or a UNIX System Services Directory mask (DIRECTORY keyword), often the data for a particular application or under the control of a particular data owner is spread over multiple high-level indices or has transactions in multiple resource classes. The EKC Resource Grouping Facility enables the algorithmic grouping of datasets and resources into resource groups. These resource groups can be used for selection of datasets or resources in the E-SRF/RACF Access Analysis Reports via the RSGROUP keyword, which will accept, as an argument, a list of resource name masks. See the EKC Resource Grouping Facility Guide for further information.

## **The RACF Naming Convention Table (ICHNCV00)**

This table is optional and is used in installations where the local dataset naming conventions are not compatible with the RACF dataset naming conventions. The E-SRF/RACF Access Analysis Reports support, under most conditions, the dataset name conversions defined in the optional RACF Naming Convention Table. If the Naming Convention Table makes changes based upon the Userid of the user, the current connect group of the user, or the volume serial number that the dataset resides on, the specified conversion for the specific dataset will be skipped and an audit comment will be produced. These should be investigated and approved by the Security Administrator and Data Processing Auditor if this situation is encountered as they may introduce a security exposure.

## **The RACF Class Name Table (ICHRRCDE)**

The E-SRF/RACF Access Analysis Reports support fully the IBM-supplied and installation-added classes in the RACF Class Name Table.

## **Assumptions Made By E-SRF In Analyzing Access**

E-SRF assumes that the operating RACF system has “always call.” (*Always call is active on any system with the following components added: MVS/370 Data Facility Product Release 1.1, MVS/XA\* Data Facility Product Version 1, Release 1.2, Device Support Facility Release 7, DFDSS Release 2.1, DFHSM Version 2, or DFHSM Version 1 with APAR OZ74633 – that is to say, any relatively well-maintained MVS system.*) It also assumes that PROTECTALL(FAILURES) is in effect. If PROTECTALL(FAILURES) is not in effect, the keyword NOPROTECTALL should be used for the Dataset Reports (EKRRDDS and EKRRUDS). (*PROTECTALL(FAILURES) signifies that all datasets are protected by default. Default resource protection is defined in the RACF Class Name Table Definition for each resource class.*)

E-SRF does not take into account Started Task access to data that bypass RACF Security Controls due to the Started Task having the Privileged or Trusted attributes via the STARTED Class or the module ICHRIN03, nor does it take into account volume level controls such as the DASDVOL Class controls. These attributes are described in the RACF Security Administrators Guide and they should be regularly audited by a Data Processing Auditor to assure proper controls are being placed on their usage.

## **Operation On A System Without RACF Installed Or On A Different RACF System**

The E-SRF/RACF System runs fully on a system without RACF installed or on a RACF system other than the one being analyzed. The only portion of the system that must be run on the operational RACF system is the RACF Database Unload (IBM utility - IRRDBU00). However, there are some guidelines that must be followed:

### **Execution on a system without RACF installed**

The RACF Class Name Table (ICHRRCDE) from the RACF system must be copied to a load-module library accessible from the executing system. When the EKCRPSD (Pseudo Dataset/Resource Name Generator Utility), the EKCRDRS (DataOwner Resource Report), or the EKCRURRS (Userid-Owner Resource Report) are executed, the XTRNTBL DD card must be added to the JCL and the XTRNCSNT (Use External Class Name Table) keyword must be used.

If the RACF Naming Convention Table is in use, it must be copied to a load-module library accessible from the executing system. When the EKCRDDDS (DataOwner Dataset Report) or the EKCRUDS (Userid-Owner Dataset Report) are executed, the XTRNTBL DD card must be added to the JCL and the XTRNNCVT (Use External Naming Convention Table) keyword must be used.

### **Execution on a different system with RACF installed**

If either the RACF Class Name Table or the RACF Naming Convention Table is different, or might be different, than the system that the analysis is to be executed on, follow the guidelines above for a system without RACF. There is no loss of performance or any other negatives in using caution and copying over the relevant tables.

### **Execution of the Open Edition/UNIX System Services Access Analysis on a system without Open Edition**

The only portion of the Open Edition Access Analysis that must be performed on the originating system is the collection of the Open Edition File names into an Open Edition File and the transfer of that file to an MVS dataset. This is done by a simple Job using standard OS/390-supplied utilities.

## **Dataset/Resource Renaming Exits**

The E-SRF/RACF Access Analysis Reports support installation modules that will rename the dataset or resource names being processed. These exits are specified by the EXIT keyword in each report, the operand of which is the installation module name. The module must be stored in the load module path of the executing report. The interface specifications are listed in a later section of this manual. These exits should be reviewed by the Security Administrator to assure that any name changes mimic the changes made in the operational RACF system.

## **Notes On Dataset Names Used In This Manual**

The examples in this manual assume that the dataset names utilized are:

SYS1.ESRF.LOAD	Load Module Library
SYS1.ESRF.APFLOAD	APF-Authorized Load Library *
SYS1.ESRF.VSAM	E-SRF Database (VSAM Cluster)
SYS1.ESRF.PDSNS	Pseudo Dataset Names
SYS1.ESRF.PRSNS	Pseudo Resource Names
SYS1.ESRF.CDSNS	Cataloged Dataset Names
SYS1.ESRF.RULEOBJ	E-SRF Grouping Rules**
SYS1.RACF	RACF Database Name

*\*EKCRXCAT - the utility to produce dataset names from the MVS Catalogs is the only module that requires Authorized Program Facility (APF) status.*

*\*\* See the EKC Grouping Rule Reference Manual for further information.*

## **Masking Conventions Used In E-SRF/RACF**

Some of the parameters for the E-SRF/RACF Access Analysis Reports accept masking characters. The conventions for the masking characters follow the RACF conventions, i.e., % indicates a single non-blank character, a trailing \* indicates any number of characters, a double \*\* as an index level or an Open Edition directory level indicates any number of intermediate levels, etc.

## Chapter 2 : Defining the E-SRF/RACF Database with IDCAMS

The IBM-supplied utility, Access Method Services (IDCAMS), is used to define the E-SRF/RACF Database. It is a standard VSAM cluster and the space parameters will have to be adjusted as experience with the system is obtained by each installation.

### ***JCL Statements To Run This Utility***

```
//DEFINE EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  DEFINE CLUSTER(NAME(SYS1.ESRF.VSAM) CYL(75,25) -
  RECORDSIZE(1024,4096) -
  FREESPACE(0,0) KEYS(156,0) REUSE VOL(xxxxxxx))
/*
```

# Chapter 3 : Building the E-SRF/RACF Intermediate Database - EKCRRCDB

## *Description*

The E-SRF/RACF Intermediate Database Generator (EKCRRCDB) takes as input the dataset produced by the IBM-supplied RACF Database Unload Utility (IRRDBU00), merges and combines the data, and produces the E-SRF/RACF Database that will be used for all future functions of the system. This database is stored in a VSAM cluster.

## *Input Control Parameters*

There are no input control parameters.

## *Data Definition (DD) Control Cards Required for EKCRRCDB*

<b>STEPLIB</b>	If the program is not in a system linklist library, this definition must refer to the E-SRF Program Library
<b>SYSPRINT</b>	Listing output
<b>RACFUNLD</b>	Dataset containing the output of the IBM RACF Database Unload Utility
<b>EKCRVSAM</b>	The E-SRF/RACF VSAM Cluster to hold the Database
<b>SORTOUT</b>	Temporary work dataset
<b>WORK1</b>	Temporary work dataset
<b>WORK2</b>	Temporary work dataset
<b>WORK3</b>	Temporary work dataset
<b>WORK4</b>	Temporary work dataset
<b>WORK5</b>	Temporary work dataset
<b>WORK6</b>	Temporary work dataset

## *Resulting Condition Codes*

<b>0</b>	Processing successful
<b>4</b>	Unable to open SYSPRINT output file
<b>8</b>	Insufficient Storage
<b>12</b>	No records to process
<b>16</b>	Processing error

## **JCL Statements to Run the RACF Database Unload and the RACF Database Load**

```
//*
//* UNLOAD THE RACF DATABASE USING THE IBM SUPPLIED UTILITY
//*
//* FOR DETAILS, SEE THE RACF SECURITY ADMINISTRATORS GUIDE -
//* MANUAL NUMBER ICH1A705
//*
//UNLOAD EXEC PGM=IRRDBU00,PARM=NOLOCKINPUT
//SYSPRINT DD SYSOUT=*
//INDD1 DD DSN=SYS1.RACF,DISP=SHR refers to RACF Database
//OUTDD DSN=&RACF,DISP=(NEW,PASS),SPACE=(CYL,(50,10)),
// UNIT=VIO,DCB=BLKSIZE=4096
//*
//* BUILD THE E-SRF/RACF DATABASE
//*
//EKCRRCDB EXEC PGM=EKCRRCDB
//STEPLIB DD DSN=SYS1.ESRF.LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//RACFUNLD DD DSN=&RACF,DISP=OLD
//EKCRVSAM DD DSN=SYS1.ESRF.VSAM,DISP=OLD
//SORTOUT DD UNIT=VIO,SPACE=(CYL,(10,10))
//WORK1 DD UNIT=VIO,SPACE=(CYL,(10,10))
//WORK2 DD UNIT=VIO,SPACE=(CYL,(10,10))
//WORK3 DD UNIT=VIO,SPACE=(CYL,(10,10))
//WORK4 DD UNIT=VIO,SPACE=(CYL,(10,10))
//WORK5 DD UNIT=VIO,SPACE=(CYL,(10,10))
//WORK6 DD UNIT=VIO,SPACE=(CYL,(10,10))
```



# Sample Output Listing

```
EKCRRCDB-04.25.97          ESRF: RACF UNLOAD DATABASE PROCESSOR
MON, JUNE 25, 1997  11:52          PAGE.....1
PROCESSING JOURNAL

EKCRRCDB-200 ENTERING RECORD SPLITTER
EKCRRCDT-200 PROCESSING STATISTICS FOR RACF UNLOAD DATA FILE:
INPUT RECORDS:      1,078,320
OUTPUT RECORDS:
  RECORD TYPE      COUNT
    1..            355,658
    2..            351,736
    203             347,880
    4..             6,829
    5..            16,217

EKCRRCDB-201 ENTERING SORT FOR TYPE 1.. RECORDS
EKCRRCDB-202 ENTERING PROCESSING ROUTINE FOR TYPE 1.. RECORDS
EKCRRCDB-200 PROCESSING STATISTICS FOR GROUP (1..) RECORDS:
INPUT RECORDS:      355,658
  RECORD TYPE      COUNT
    100             3,892
    101             3,890
    102             347,876
OUTPUT RECORDS:      3,892

EKCRRCDB-201 ENTERING SORT FOR TYPE 2.. RECORDS
EKCRRCDB-202 ENTERING PROCESSING ROUTINE FOR TYPE 2.. RECORDS
EKCRRCDB-200 PROCESSING STATISTICS FOR GROUP (2..) RECORDS:
INPUT RECORDS:      351,736
  RECORD TYPE      COUNT
    200             1,605
    202              742
    205             347,880
    220             1,509
OUTPUT RECORDS:      1,605

EKCRRCDB-201 ENTERING SORT FOR TYPE 4.. RECORDS
EKCRRCDB-202 ENTERING PROCESSING ROUTINE FOR TYPE 4.. RECORDS
EKCRRCDB-200 PROCESSING STATISTICS FOR GROUP (4..) RECORDS:
INPUT RECORDS:      6,829
  RECORD TYPE      COUNT
    400             1,949
    402              3
    404             4,875
    410              2
OUTPUT RECORDS:      8,505

EKCRRCDB-201 ENTERING SORT FOR TYPE 5.. RECORDS
EKCRRCDB-202 ENTERING PROCESSING ROUTINE FOR TYPE 5.. RECORDS
EKCRRCDB-200 PROCESSING STATISTICS FOR GROUP (5..) RECORDS:
INPUT RECORDS:      16,217
  RECORD TYPE      COUNT
    500             1,326
    503             6,625
    505             8,266
OUTPUT RECORDS:      1,326

EKCRRCDB-201 ENTERING SORT FOR TYPE INTERMEDIATE RECORDS
EKCRRCDB-203 LOADING VSAM CLUSTER
EKCRRCDB-100 BUILD OF VSAM CLUSTER SUCCESSFUL
EKCRRCDB-101 INPUT RECORDS:      15,372  OUTPUT RECORDS:      15,372
EKCRRCDB-250 END OF PROCESSING
```

# Chapter 4 : Building a Dataset Containing Open Edition/UNIX System Services File Names

## *Description*

The MVS Dataset containing the UNIX System Services File Names is built by executing the UNIX "ls" command (List file and directory names and attributes) in Batch to build an Open Edition file and then executing the TSO command OGET command (Copy an Open Edition HFS file into an MVS dataset). This is done using two IBM-supplied Batch facilities – BPXBATCH for the Open Edition portion and IKJEFT01 (the TSO Terminal Monitor Program) for the TSO portion.

## *JCL Statements to Build the MVS Dataset Containing the Open Edition File Names*

```
/**
/** THIS JOB CAUSES OPEN MVS TO DO A FULL LIST OF ALL THE FILES
/** IN THE HFS FILE SYSTEM.  THE OUTPUT IS PLACED IN A FILE CALLED
/** /home/barry/dirlist.  ANY ERROR MESSAGES ARE PLACED IN
/** /home/barry/direrr.
/**
/** AFTER THE OMVS PORTION IS COMPLETE, THE TSO TMP IS EXECUTED
/** AND THE FILE IS COPIED TO A STANDARD MVS DATASET.
/**
/**
/** FIRST, USE OPEN MVS BATCH TO INVOKE THE LS COMMAND
/**
/** NOTE:  ON THE FLAGS FOR THE LS COMMAND, "RF" IS IN
/** CAPS, AND "ln" ARE IN LOWER CASE
/**
/**DIRLIST EXEC PGM=BPXBATCH,PARM='SH ls -Rfln /'
/**STDOUT DD PATH='/home/barry/dirlist',
/** PATHOPTS=(OWRONLY,OCREAT,OTRUNC),PATHMODE=SIRWXU
/**STDERR DD PATH='/home/barry/direrr',
/** PATHOPTS=(OWRONLY,OCREAT,OTRUNC),PATHMODE=SIRWXU
/**
/** THEN USE THE TSO TERMINAL MONITOR PROGRAM IN BATCH
/** TO FIRST DELETE THE DATASET BARRY.DIRLIST.DATA AND
/** THEN COPY THE HFS DIRLIST FILE INTO A NEW VERSION OF IT.
/**
/**COPYMVS EXEC PGM=IKJEFT01
/**SYSTSPRT DD SYSOUT=*
/**SYSTSIN DD *
DEL DIRLIST.DATA
OGET '/home/barry/dirlist' DIRLIST.DATA
/*
```

# Chapter 5 : The E-SRF/RACF Pseudo Resource Name Generator - EKCRPSD

## *Description*

The E-SRF/RACF Pseudo Dataset/Resource Name Generator (EKCRPSD) produces two output datasets – one containing pseudo dataset names and the other containing pseudo resource names. The pseudo names are generated from the E-SRF Intermediate RACF Database and follow these rules:

### **Datasets**

1. Names are generated in the Enhanced Generic Naming style even if the database does not use Enhanced Generic Naming. For example, if a profile is named ABC.JUNK\*, a pseudo name of ABC.JUNK\*\* will be generated.
2. No names with &RACUID or &RACGPID will be generated. They are just skipped.

### **Resources**

1. Pseudo names are only generated for those resource classes defined in the RACF Class/Name Table. If this table is not correct on the running system, then the XTRNCSNT keyword should be used and a DD card for XTRNTBL should be inserted in the JCL pointing to a library with the correct RACF Class/Name Table. For Grouping class profiles, a pseudo resource name will be created under the associated Member class for each Member defined in the profile.
2. No names referencing RACF Variables – e.g. starting with an Ampersand (&) – will be generated.

## *The Input Control Parameters*

### **Keywords:**

**DATASETS** - Produce pseudo dataset names – the DSNAME DD card must be present.

**RESOURCES** - Produce pseudo resource names – the RSNAME DD card must be present.

**XTRNCSNT** – Do not use the RACF Class Name Table for the executing system, but rather load it from a library defined by the XTRNTBL DD card.

**Note:** If no SYSIN control card file is present, this utility will deduce the operations requested by the DD cards present in the JCL. In other words, if the DSNAME DD card is present, it will produce pseudo dataset names; if the RSNAME DD card is present, it will produce pseudo resource names; and if the XTRNTBL DD card is present, it will load a version of the RACF Class/Name Table from that library.

## **Data Definition (DD) Control Cards - Required**

<b>STEPLIB</b>	If the program is not in a system linklist library, this definition must refer to the E-SRF Program Library
<b>SYSPRINT</b>	Listing output
<b>IRACFDB</b>	E-SRF/RACF Database

## **Data Definition (DD) Control Cards - Optional**

<b>SYSIN</b>	Control card definitions
<b>DSNAMES</b>	Output dataset to contain the pseudo dataset names
<b>RSNAMES</b>	Output dataset to contain the pseudo resource names
<b>XTRNTBL</b>	Dataset containing the RACF Class Name Table Definition Module if it is not the same as that on the executing system.

## **Resulting Condition Codes**

<b>4</b>	Syntax error in input control cards or nothing specified to do
<b>8</b>	Insufficient Storage
<b>12</b>	No dataset or resource names generated
<b>16</b>	RACF class/name table interface error
<b>20</b>	RACF database interface error
<b>24</b>	Unable to load critical module
<b>28</b>	Unable to open critical ddname

## **Sample JCL Statements to Run This Utility**

```
//EKCRPSD EXEC PGM=EKCRPSD
//STEPLIB DD DSN=SYS1.ESRF.LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//RSNAMES DD DSN=SYS1.ESRF.PRSNS,DISP=OLD
//DSNAMES DD DSN=SYS1.ESRF.PDSNS,DISP=OLD
//IRACFDB DD DSN=SYS1.ESRF.VSAM,DISP=SHR
```

## Sample Output Listing

```
EKCRRPST-06.15.97          ESRF: RACF PSEUDO DATASET/RESOURCE NAME GENERATOR
THU, JUNE 26, 1997  9:52                                PAGE.....1
PROCESSING JOURNAL

EKCRRPST-100 DATABASE STATISTICS:

LAST RACF SYSTEM ENTRY VALIDATION: 19-JUL-97 @ 14:14
      ESRF DATABASE BUILD: 25-JUN-97 @ 06:56

EKCRRPST-103 NUMBER OF PSEUDO RESOURCE NAMES WRITTEN:      6,160

EKCRRPST-104 NUMBER OF PSEUDO NAMES SKIPPED BECAUSE OF RACF VARIABLES:      7

EKCRRPST-200 PROCESSING COMPLETE -- OUTPUT MUST BE SORTED PRIOR TO USE BY ACCESS ANALYSIS REPORTS

EKCRRPST-201 SORTING SHOULD BE DONE USING: SORT FIELDS=(21,44,CH,A)
```

# Chapter 6 : The Cataloged Dataset Name Generator Utility - EKCRXCAT

## ***Description***

This program reads the MVS Master Catalog and User Catalogs and produces a sequential dataset with an entry for each dataset found in the catalogs. This listing can then be used as input for the DataOwner and LogonidOwner Reports.

The DDNAME **CATALOGS** may be specified as an output file that will contain a list of the catalogs processed. To use this DDNAME, you must specify a JCL Parameter field of "DASD". In this case, certain output fields are modified and an additional output dataset is created to make the output more usable by DASD managers. *(This feature has nothing to do with E-SRF/Access Analysis, but was requested by DASD managers when they first used this product to enable them to more easily manage their MVS Catalogs.)*

## ***Data Definition (DD) Control Cards - Required***

<b>STEPLIB</b>	If the program is not in a system linklist library, this definition must refer to the E-SRF Program Library
<b>SYSPRINT</b>	Listing output
<b>DSNAMES</b>	The output dataset that will contain the dataset names from the MVS Catalogs.
<b>SYSUT1</b>	Temporary work dataset
<b>SYSUT2</b>	Temporary work dataset

The MVS Catalogs are dynamically allocated so no data definitions are needed for them.

## ***Data Definition (DD) Control Cards - Optional***

<b>CATALOGS</b>	Output dataset that will contain Catalog Dataset Information if the DASD Exec card parameter field is specified. In DASD mode, all of the records are written to the DSNAMES ddname and additionally, the "C" records are also written to the CATALOGS ddname.
-----------------	--

## Resulting Condition Codes

0	Processing successful
4	Unable to open SYSPRINT dataset
8	Insufficient Storage
12	Logical error in processing
16	Module not APF Authorized*

*\*The EKCRXCAT-Cataloged Dataset Name Generator Utility requires Authorized Program Facility (APF) authorization in order to open and read the MVS Catalogs using the standard VSAM access method. If this error occurs, contact your MVS Systems Programmer and request that this E-SRF Module be moved to an APF-authorized system library.*

**Note:** The output of the EKCRXCAT service program must be sorted so that the dataset names are in alphabetical order prior to being usable by DataOwner or Userid-Owner Dataset Reports. The dataset name begins in Column 17 of the output. Use SORT FIELDS=(17,44,CH,A).

## Sample JCL Statements to Run This Utility

```
/*
/* EXTRACT THE DATASET NAMES FROM THE MVS CATALOGS
/*
//EKCRXCAT EXEC PGM=EKCRXCAT,REGION=2048K
//STEPLIB DD DSN=SYS1.ESRF.APFLOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//DSNAMES DD DSN=&DSNS,SPACE=(CYL,(20,10)),DISP=(,PASS),
// UNIT=VIO,DCB=BLKSIZE=4096
//SYSUT1 DD UNIT=VIO,SPACE=(TRK,(5,5))
//SYSUT2 DD UNIT=VIO,SPACE=(TRK,(5,5))
/*
/* SORT THE DATASET NAMES INTO ALPHABETICAL ORDER
/*
//SORT EXEC PGM=SORT
//SORTLIB DD DSN=SYS1.SORTLIB,DISP=SHR
//SYSOUT DD SYSOUT=*
//SORTIN DD DSN=&DSNS,DISP=(OLD,DELETE)
//SORTOUT DD DSN=SYS1.ESRF.CDSNS,DISP=OLD
//SYSIN DD *
SORT FIELDS=(17,44,CH,A)
/*
```

## Sample Output Listing

```
ESRF: CATALOG DATASET NAME GENERATOR - V 2.0
TUE, JUNE 4, 1996 8:27 PAGE...1
PROCESSING JOURNAL:

EKCRXCAT-900 PROCESSING CATALOG: MVSV5.MASTER.CATALOG
EKCRXCAT-900 PROCESSING CATALOG: USERCAT.MVSWK1
EKCRXCAT-900 PROCESSING CATALOG: USERCAT.MVSV5D
EKCRXCAT-900 PROCESSING CATALOG: USERCAT.MVSV5R
EKCRXCAT-900 PROCESSING CATALOG: USERCAT.P390DX

EKCRXCAT-901 CATALOG STATISTICS:
  CATALOGS PROCESSED:      5
  RECORDS READ:           3,758
  RECORDS SKIPPED:        106
  NONVSAM ENTRIES:       2,276
  CLUSTER ENTRIES:        63
  GDG ENTRIES:            1
  ALIAS ENTRIES:         1,257
  USER CATALOGS:          5
  DSNAMES WRITTEN:       3,701

EKCRXCAT-902 PROCESSING COMPLETE -- OUTPUT MUST BE SORTED PRIOR TO USE BY DATAOWNER REPORTS

EKCRXCAT-903 SORTING SHOULD BE DONE USING: SORT FIELDS=(17,44,CH,A)
```

## Data Output Format - Standard

**Col 1-8** SYSID (SMF system identifier) of the system that EKCRXCAT ran on.

**Col 9-16** Volser that dataset resides on or \*GDG in the case of a GDG (generation data group). The “generic” use of “\*\*\*\*\*” (six asterisks) to indicate the IPL volume will be replaced with the actual volser of the IPL volume in use. Eight asterisks indicate that EKCRXCAT was unable to locate the volser in the catalog records. For Alias entries, EKCRXCAT will set volser to the actual volser of the real dataset.

**Col 17-...** variable length, with a minimum of 44 characters. The dataset name from the catalog entry.



## **Data Output Format - DASD Request**

**Col 1-4** nnnn - the sequence number of the catalog being processed. The Master Catalog will begin with 0000 and subsequent catalogs processed will be 0001, 0002, etc.

**Col 5** The dataset type:

<b>A</b>	Alias entry
<b>C</b>	Catalog entry - defines the name of the catalog being processed
<b>X</b>	Catalog entry index name - the index component name of the catalog entry
<b>U</b>	User Catalog Name
<b>N</b>	Non-VSAM dataset
<b>V</b>	VSAM Cluster Name
<b>D</b>	VSAM Cluster Data Component Name
<b>I</b>	VSAM Cluster Index Component Name

**Col 6-8** blank

**Col 9-16** The volser that the dataset resides on. With the following exceptions:

<b>*GDG</b>	For Generation Data Group definitions
<b>*ALIAS</b>	For Alias definitions
<b>*****</b>	For datasets cataloged on the "generic" IPL volume

**Col 17-...** variable length, with a minimum of 44 characters. The dataset name from the catalog entry.

# Chapter 7 : RACF DataOwner Dataset Report - EKCRDDDS

## **Description**

The E-SRF DataOwner Dataset Report provides the DataOwner an overview of who can access his or her datasets and under what conditions. Optionally, a data file can be produced in either Personal Computer - Data Interchange Format (DIF) or Mainframe fixed column format for post processing by a relational database (such as Microsoft Access) or other program.

## **The Input Control Parameters**

### **RACF Definition Keywords**

**NOPROTECTALL** - Indicates that the RACF parameter PROTECTALL(FAILURES) is **not** in force for this system.

**XTRNNCVT** - Indicates that the analysis process should use an external RACF Naming Convention Table rather than the one active on the processing system. The only case this would be used is if the RACF Naming Convention Table is being used to change the names of datasets prior to RACF validation and the system the report is being processed on is not the system that generated the RACF Database and the naming conventions are different between the two systems. The EKCRDDDS report will obtain the RACF Naming Convention Table from the Load Module Library defined in the XTRNTBL DD Card. The RACF Naming Convention Table Load Module (ICHNCV00) should be copied to this library from the system that produced the RACF database being processed. If the analysis is being done on a system without RACF active, this parameter must be used.

### **Dataset Selection Keywords**

**RSGROUP**(groupname-mask1,groupname-mask2, ...) - the EKC resource dataset groups to be processed. The groupnames are based upon the EKC Grouping Rules (*see the EKC Grouping Rule Reference Manual for further information*). The EKC Grouping Rules allow the selection of datasets to be processed based upon algorithmic rules. Multiple indices can be combined to form one group as well as a single high-level index being split into multiple groups. If no grouping rules exist for the Groupname specified, datasets with the same high-level index as the Groupname specified will be selected. Multiple RSGROUP keywords may be specified.

**UGROUP**(groupname-mask1,groupname-mask2, ...) - This allows selection of the users to be process based upon the EKC Grouping Rules (*see the EKC Grouping Rule Reference Manual for further information*). The EKC Grouping Rules allow the selection of Users based upon algorithmic rules. Multiple disparate users can be combined to form a single group. Multiple **UGROUP** keywords may be specified

**INDEX**(high-level-index-mask) - if the **INDEX** keyword is specified, the **RSGROUP** keyword is ignored and datasets matching the high-level index will be selected. References to the EKC Grouping Rule database are not made. For example, the keyword **INDEX**(SYS\*) would include all datasets beginning with SYS, such as SYS1, SYS2, SYSTEM, etc.

**DSLIS**T - a card-image file to be used as input. See file description below for details. Do not use **RSGROUP** or **INDEX** selection. All datasets described in the DSLIST file are used for processing.

**COMPRESS**(mask1,mask2,...,mask16) - a mask that will be used to compress groups of datasets, such as Generation Data Groups or DB2 archive datasets, down to a single dataset for the purposes of this report. Digits in the mask indicate numbers in the index segment. The default compression masks are: G0000V00, A0000000, and B0000000. Parameters specified in this field will add to the defaults, not replace them.

### ***User Selection Keywords***

**SELECT**(name, type, start, length, value) - defines a sub-field of the Installation Data Field.

**Name** any eight character name to be assigned to the field. If this field is listed in USERFIELDS for printing on the output, this is the name that will be used as the column heading.

**Type** the field type – currently only CHAR -- Character is supported.

**Start** the starting position relative to the start of the Installation Data Field (the first character of the Installation Data Field is considered position 1).

**Length** the length of the field.

**Value** a mask that specifies selection criteria.

**SELECT**(field name, value) - allows the use of specific pre-defined field names within the User Profile Record to be used as selection criteria. Additional permissible field names are: **USERID** (allows selection based upon a mask of the Userid), **OWNERID** (allows selection based upon the Ownerid), and **DFTGROUP** (allows selection based upon the Default Connect Group). (*If your installation has requirements for selection based upon other fields of the User Profile Records, please contact EKC Technical Support.*) The value may be masked, such as using the form **SELECT**(OWNERID,SSD\*), which would select all users who are owned by a user or groupname beginning with SSD.

**SELECT(UGROUP,grouping-class,imageid)** - allows selection of users based upon the EKC Grouping Rules. A resource in the grouping class specified with the resource name of: "imageid.ownerid default group userid" is created and the groupname returned by the Grouping Facility is checked against the groups specified in the **UGROUP** keyword. If the groupname matches one of those groups, the user is selected. Note that the ownerid, default group, and userid are each eight character fields filled with blanks. (See the EKC Resource Grouping Facility manual for further information.)

**IFGROUP**(group1, group2 ...) - restricts the analysis to Users who are connected to any of the specified groups - where group-*i* is a RACF group.

**INCREVOKED** - Normally, RACF Users that are in REVOKED status will be excluded from further processing. This option forces the report to include them. Users can be revoked either because their User Profile is REVOKEd or because the date the report was run was not within the REVOKE and RESUME dates in the profile. In either of these cases, the Userid will appear with a "R-" in front of it, as in R-USERID in the reports.

### **Output Control Keywords**

**TITLE**(title) - the title that will appear on the top of each page of the report output. The title is limited to 64 characters and will be centered on the output beginning on the second page.

**USERFIELDS**(usrfield1,usrfield2, ... , usrfield8) - a list of additional fields to be displayed when this report displays a User Profile Record. The names refer to the names defined in the SELECT keywords. The report always displays the Userid and the Name field. Additional defined character fields may be displayed along with these fields as long as the total displayed length fits on one print line. Specific fields from the User Profile Record may also be displayed. Supported fields are Ownerid (**OWNERID**), Last Access Date (**ACC-DATE**), and Default Connect Group (**DFTGROUP**).

Currently, the available space is 30 characters.

All Installation Data Sub-fields to be displayed must have been previously defined with a SELECT statement. If no selection is actually required on these fields, use a mask of a single asterisk "\*" to bypass actual selection.

**LINES**(n-lines) - the number of lines per page of output - 55 is default. "U" can be used to prevent page ejects except at section breaks.

**MAXUSERS**(m-users) - the maximum number of Userids to display when listing who can access datasets. If this limit is reached, a message indicating this is produced and the remainder of the Userid Profile Record displays is skipped. The maximum value for this field is 9999, although the letter "U" can be used for "unlimited." The default value is 50.

**MODIFYONLY** - specifies that the report output include only dataset permissions of UPDATE, CONTROL, or ALTER. Any permission that is READ or EXECUTE only will be ignored.

**SUMMARY** - specifies that a summary output should be created. The summary output also invokes a "loose-fit" algorithm for combining datasets with identical access patterns. In the loose-fit algorithm, the only criteria are users, access permission, and conditional or not-conditional. This excludes differences of **how** RACF would have produced the permission, such as via different groups, Global Access Table Checking, etc. In the SUMMARY report, the profile listing and the notes sections are skipped.

**SEPARATE** - No operands. Do not combine datasets with identical access patterns. Generates a separate listing for each dataset to be printed.

**NOPROFS** - This parameter causes the report to skip the printing of the referenced Global Access Checking Table (GAC) and the referenced profiles.

**NOGROUPS** - This subsection of profile listing section lists the referenced groups and the members of each one. This parameter causes the report to skip this sub-section.

**NONOTES** - As the report is processing, sometimes it comes across a condition that, although it may be perfectly valid, should be at least verified by the Data Owner or Security Administrator. In these cases, the output line in question is flagged and a “comment” is printed in the Notes Section. This parameter skips the printing of the Notes.

**NOWARN** - Do not issue warning messages based upon discrepancies within the RACF Database.

**NOINFO** - Do not issue informational messages based upon the RACF Database.

**EXPORT(DIF|RECORD)** - This parameter causes an output file to be written in either PC-Data Interchange Format (DIF) or standard fixed column with RECORD format.

## ***Optional Input File Format – DSLIST***

DSLIST defines a card-image file that contains a list of datasets whose access patterns are to be analyzed. No selection is made via the RSGROUP or INDEX processes – all datasets within the DSLIST file are processed. Duplicates, however, are eliminated.

Input is defined as:

- Asterisk or blank in Column 1 – a comment
- Dataset names – one per card, beginning in column 1

```
//DSLIST DD *
*
* This is the data input stream from the DSLIST ddname
*
PAYROLL.MASTER.DATA
PAYROLL.UPDATES.DATA
*
* End of input stream
*
/*
```

## **Data Definition (DD) Control Cards - Required**

<b>STEPLIB</b>	If the program is not in a system linklist library, this definition must refer to the E-SRF Program Library
<b>SYSPRINT</b>	Listing output
<b>IRACFDB</b>	E-SRF/RACF Database
<b>SYSIN</b>	Control card definitions

## **Data Definition (DD) Control Cards - Optional**

<b>DSNAMES</b>	Dataset containing the pseudo dataset names
<b>DSLIS</b>	Dataset containing a list of specific dataset names
<b>GRPRULES</b>	Dataset containing the EKC Grouping Rule Object Records
<b>EXPORT</b>	Output dataset to contain the Data Interchange Format Records
<b>XTRNTBL</b>	Dataset containing the RACF Conversion Name Table Definition Module if it is not the same as that on the executing system.
<b>WRAPPER</b>	Wrapper page definitions. See the section in this manual that describes the Wrapper controls.

## **Resulting Condition Codes**

<b>4</b>	Syntax error in input control cards or unable to open SYSPRINT
<b>8</b>	Insufficient Storage
<b>12</b>	No dataset or Userids selected
<b>16</b>	EKC Grouping Rule interface error
<b>20</b>	RACF database interface error
<b>24</b>	Unable to load critical module
<b>28</b>	Unable to open critical ddname

## **Sample JCL Statements to Run This Report**

```
//EKCRDDDS EXEC PGM=EKCRDDDS
//STEPLIB DD DSN=SYS1.ESRF.LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//DSNAMES DD DSN=SYS1.ESRF.PDSNS,DISP=SHR
//IRACFDB DD DSN=SYS1.ESRF.VSAM,DISP=SHR
//SYSIN DD *
    TITLE(LISTING OF PAYROLL DATASET AUTHORIZATIONS)
    INDEX(PAYROLL)
    USERFIELDS(OWNERID,ACC-DATE)
/*
```

# Sample Output Listing

EKCRRDD5-06.25.97 ESRF: RACF DATAOWNER DATASET REPORT PAGE....1  
 WED, JUNE 25, 1997 13:45  
 PROCESSING JOURNAL

EKCRRDD5-001 INPUT CONTROL CARDS:

TITLE(LISTING OF PAYROLL DATASET AUTHORIZATIONS)  
 INDEX(PAYROLL)  
 USERFIELDS(OWNERID,ACC-DATE)

EKCRRD5I-100 DATABASE STATISTICS:

LAST RACF SYSTEM ENTRY VALIDATION: 19-JUN-97 @ 14:14  
 ESRF DATABASE BUIL: 25-JUN-97 @ 06:26

EKCRRD5I-101 GROUP AND USER STATISTICS:

NUMBER OF GROUPS: 3,892  
 NUMBER OF GROUP CONNECTS: 347,880

EKCRRD5I-102 NUMBER OF USERIDS IN DATABASE: 1,605  
 NUMBER OF USERIDS SELECTED: 1,605

EKCRRDD5-205 DATASET NAMES: RECORDS READ: 958,572 -- MATCHING DATASET NAMES KEPT: 187  
 -- NUMBER WITHOUT DUPLICATES: 187  
 ----

ESRF: RACF DATAOWNER DATASET REPORT PAGE....2  
 WED, JUNE 25, 1997 13:45 LISTING OF PAYROLL DATASET AUTHORIZATIONS  
 ACCESS VIA RACF PROFILES. FIRST DATASET IN GROUP: PAYROLL.MASTER

VOLSER	DATASET NAME	PROFILE NAME
	PAYROLL.MASTER	PAYROLL.MASTER.**
	PAYROLL.MASTER.JOURNAL.GDG	PAYROLL.MASTER.JOURNAL.**

ACCESS	USERID	NAME	OWNERID	ACC-DATE	RACF REASON	NOTES/ GROUP	COND-TYPE	COND-ELMT
M ALTER	BIGSHRM	ROGER M BIGSHOT	RACFADM	19-JUN-97	USER IN ACCESS LIST	SYS. SPECIAL	-	SEE NOTE 1
ALTER	PAYPROD	PAYROLL PRODUCTION	PAYRADM	19-JUN-97	USER IN ACCESS LIST			
READ	SMITHSM	SUSAN SMITH	PAYRADM	19-JUN-97	USER IN GROUP IN ACCESS LIST	PAYSUP		
READ	WILLSBS	BARRY S WILLS	PAYRADM	17-JUN-97	USER IN GROUP IN ACCESS LIST	PAYSUP		

ESRF: RACF DATAOWNER DATASET REPORT PAGE....3  
 WED, JUNE 25, 1997 13:45 LISTING OF PAYROLL DATASET AUTHORIZATIONS  
 ACCESS VIA RACF PROFILES. FIRST DATASET IN GROUP: PAYROLL.UPDATES.APRIL

VOLSER	DATASET NAME	PROFILE NAME
	PAYROLL.UPDATES.APRIL	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.AUGUST	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.DECEMBER	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.FEBRUARY	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.JANUARY	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.JULY	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.JUNE	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.MARCH	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.MAY	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.NOVEMBER	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.OCTOBER	PAYROLL.UPDATES.**
	PAYROLL.UPDATES.SEPTEMBER	PAYROLL.UPDATES.**

ACCESS	USERID	NAME	OWNERID	ACC-DATE	RACF REASON	NOTES/ GROUP	COND-TYPE	COND-ELMT
READ	ADAMSJM	JOHN M ADAMS	PAYRADM	15-JUN-97	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	BROCKKJ	KAHTY BROCK	PAYRADM	..-.-.-.	USER IN GROUP IN ACCESS LIST	PAYCLK		
M ALTER	BIGSHRM	ROGER M BIGSHOT	RACFADM	19-JUN-97	USER IN ACCESS LIST	SYS. SPECIAL	-	SEE NOTE 1
READ	DAMERJM	JIM DAMERON	PAYRADM	19-JUN-97	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	LOSTESQ	SUSAN LOSTER	PAYRADM	15-JUN-97	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	KROCKWJ	WALTER J CROCK	PAYRADM	5-JUN-97	USER IN GROUP IN ACCESS LIST	PAYCLK		
ALTER	PAYPROD	PAYROLL PRODUCTION	PAYRADM	19-JUN-97	USER IN ACCESS LIST			
M READ	SMITHSM	SUSAN SMITH	PAYRADM	19-JUN-97	USER IN GROUP IN ACCESS LIST	PAYCLK		
M READ	WILLSBS	BARRY S WILLS	PAYRADM	17-JUN-97	USER IN GROUP IN ACCESS LIST	PAYCLK		

GLOBAL ACCESS TABLE FOR CLASS: DATASET  
ACCESS NAME

UPDATE &RACGPID.\*\*  
ALTER &RACUID.\*\*

REFERENCED PROFILES:

-----  
GENERIC PAYROLL.MASTER.JOURNAL.\*\*  
UACC=NONE OWNER=PAYRADM DATA=PAYROLL MASTER JOURNAL GDG

STANDARD ACCESS LIST  
ACCESS USER/GROUP NAME  
ALTER BIGSRM ROGER M BIGSHOT  
READ PAYRADM  
ALTER PAYPROD PAYROLL PRODUCTION

NO ELEMENTS IN CONDITIONAL ACCESS LIST

-----  
GENERIC PAYROLL.MASTER.\*\*  
UACC=NONE OWNER=PAYRADM DATA=PAYROLL MASTER DATABASE

STANDARD ACCESS LIST  
ACCESS USER/GROUP NAME  
ALTER BIGSRM ROGER M BIGSHOT  
READ PAYRADM  
ALTER PAYPROD PAYROLL PRODUCTION

NO ELEMENTS IN CONDITIONAL ACCESS LIST

-----  
GENERIC PAYROLL.UPDATES.\*\*  
UACC=NONE OWNER=PAYRADM DATA=PAYROLL UPDATES MONTHLY JOURNAL

STANDARD ACCESS LIST  
ACCESS USER/GROUP NAME  
ALTER BIGSRM ROGER M BIGSHOT  
READ PAYCLK  
READ PAYSUP  
ALTER PAYPROD PAYROLL PRODUCTION

NO ELEMENTS IN CONDITIONAL ACCESS LIST

-----  
GROUP: PAYCLK SUPERIOR GROUP: PAYRADM OWNERID: PAYRADM DATA: PAYROLL CLERKS  
USERID NAME LAST-ACCESS SYSTEM-STATUS GROUP-STATUS SYSTEM-PRIV GROUP-PRIV  
ADAMSJM JOHN M ADAMS 15-JUN-97  
BROCKKJ KATHY J BROCK .-.-.-.  
DAMERJM JIM DAMERON 19-JUN-97  
LOSTESQ SUSAN LOSTER 15-JUN-97  
KROCKWJ WALTER J KROCK 5-JUN-97  
SMITHSM SUSAN SMITH 19-JUN-97  
WARDWLM WILLIAM WARD 15-APR-97 REVOKED  
WILLSBS BARRY S WILLS 17-JUN-97

-----  
GROUP: PAYSUP SUPERIOR GROUP: PAYRADM OWNERID: PAYRADM DATA: PAYROLL SUPERVISORS  
USERID NAME LAST-ACCESS SYSTEM-STATUS GROUP-STATUS SYSTEM-PRIV GROUP-PRIV  
BIGSHRM ROGER M BIGSHOT 19-JUN-97 SPEC  
SMITHSM SUSAN SMITH 19-JUN-97  
WILLSBS BARRY S WILLS 17-JUN-97

NOTE 1 - USER HAS SYSTEMS SPECIAL PRIVILEGES AND HAS ALTER ACCESS.  
THE USER MAY HAVE BEEN ADDED AUTOMATICALLY BY RACF.



## ***Comments on the Output Listing***

### **Section 0 - Processing Log**

This section contains the input control statements, normal processing statements, and error messages.

### **Section 1 - Datasets With No Associated Profile**

If the RACF Data Option PROTECTALL is not chosen, datasets with no corresponding profile will not be protected. This section lists the datasets with no associated profile if the RACF SETROPTS Option PROTECTALL is not in effect.

### **Section 2 - Access Via RACF Profiles**

This section lists the access permissions for each user to the datasets selected. This permission takes into account special RACF privileges such as SPECIAL, OPERATIONS, etc.

Some notes:

1. The user profile fields, **OWNERID** (Profile Owner) and **ACC-DATE** (last system access date) have been requested to be printed via the **USERFIELDS** keyword.
2. The letter “**M**” in front of an access permission indicates that there were multiple entries for this User-id in the Profile Access List. This may be due to the User-id being a member of multiple groups. The highest access authority is listed along with the first groupname that gave the user that access authority in case there were multiple groups that gave the user the same authority.

### **Section 3 - Referenced RACF Global Access Table Entries and Referenced Profiles**

This section lists the referenced RACF Global Access Table Entries and the Referenced RACF Dataset Profiles with their associated Access Lists.

### **Section 4 - Referenced RACF Groups**

This section lists the referenced RACF Groups and the members of each Group.

### **Section 5 - Notes and Information**

This section lists items that should be called to the attention of the Security Officer or Data Owner or assumptions that were made in the access analysis.

# Chapter 8 : RACF DataOwner Open Edition/UNIX System Services Report - EKCRROE

## **Description**

The E-SRF DataOwner Open Edition Report provides the DataOwner an overview of who can access his or her Open Edition files. Optionally, a data file can be produced in either Personal Computer - Data Interchange Format (DIF) or Mainframe fixed column format for post processing by a relational database (such as Microsoft Access) or other program.

## **The Input Control Parameters**

### **RACF Definition Keywords**

**XTRNRCDT** - Indicates that the analysis process should use an external RACF Class Descriptor Table rather than the one active on the processing system. The EKCRROE report will obtain the RACF Class Descriptor Table from the Load Module Library defined in the XTRNTBL DD Card. The RACF Class Descriptor Table Load Module (ICHRRCDE) should be copied to this library from the system that produced the RACF database being processed. If the analysis is being done on a system without RACF active, this parameter must be used.

### **Open Edition File Selection Keywords**

**RSGROUP**(groupname-mask1,groupname-mask2, ...) - the EKC resource file groups to be processed. The groupname is based upon the EKC Grouping Rules (*see the EKC Grouping Rule Reference Manual for further information*). The EKC Grouping Rules allow the selection of files to be processed based upon algorithmic rules. Multiple directories can be combined to form one group as well as a single directory being split into multiple groups. EKC Grouping Rules for the Open Edition File System are stored under the E-SRF Resource Class ESRFOMVS. Multiple RSGROUP keywords may be specified.

**UGROUP**(groupname-mask1,groupname-mask2, ...) - This allows selection of the users to be process based upon the EKC Grouping Rules (*see the EKC Grouping Rule Reference Manual for further information*). The EKC Grouping Rules allow the selection of Users based upon algorithmic rules. Multiple disparate users can be combined to form a single group. Multiple **UGROUP** keywords may be specified.

**DIRECTORY**(Directory Mask) - If the **DIRECTORY** keyword is specified, the **RSGROUP** keyword is ignored and files matching the directory mask will be selected. References to the EKC Grouping Rule database are not made. For example, the keyword **DIRECTORY**(/home/ssd\*) would include all files stored in directories beginning with /home/ssd, such as /home/ssdabc, /home/ssddef, /home/ssdqrt, etc. Selection by the **DIRECTORY** keyword is all done in upper case – meaning that the file names are uppercased before the comparison is made to the **DIRECTORY** mask.

**FILELIST** - a card-image file to be used as input. See file description below for details. Do not use **RSGROUP** or **DIRECTORY** selection. All files described in the FILELIST file are used for processing.

### **User Selection Keywords**

**SELECT**(name, type, start, length, value) - defines a sub-field of the Installation Data Field.

<b>Name</b>	any eight character name to be assigned to the field. If this field is listed in USERFIELDS for printing on the output, this is the name that will be used as the column heading.
<b>Type</b>	the field type – currently only CHAR -- Character is supported.
<b>Start</b>	the starting position relative to the start of the Installation Data Field (the first character of the Installation Data Field is considered position 1).
<b>Length</b>	the length of the field.
<b>Value</b>	a mask that specifies selection criteria.

**SELECT**(field name, value) - allows the use of specific pre-defined field names within the User Profile Record to be used as selection criteria. Additional permissible field names are: **USERID** (allows selection based upon a mask of the Userid), **OWNERID** (allows selection based upon the Ownerid), and **DFTGROUP** (allows selection based upon the Default Connect Group). *(If your installation has requirements for selection based upon other fields of the User Profile Record, please contact EKC Technical Support.)* The value may be masked, such as using the form **SELECT(OWNERID,SSD\*)**, which would select all users who are owned by a user or groupname beginning with SSD.

**SELECT(UGROUP,grouping-class,imageid)** - allows selection of users based upon the EKC Grouping Rules. A resource in the grouping class specified with the resource name of: "imageid.ownerid default group userid" is created and the groupname returned by the Grouping Facility is checked against the groups specified in the **UGROUP** keyword. If the groupname matches one of those groups, the user is selected. Note that the ownerid, default group, and userid are each eight character fields filled with blanks. *(See the EKC Resource Grouping Facility manual for further information.)*

**IFGROUP**(group1, group2 ...) - restricts the analysis to Users who are connected to any of the specified groups - where group-*i* is a RACF group.

**INCREVOKED** - Normally, RACF Users that are in REVOKED status will be excluded from further processing. This option forces the report to include them. Users can be revoked either because their User Profile is REVOKEd or because the date the report was run was not within the REVOKE and RESUME dates in the profile. In either of these cases, the Userid will appear with a "R-" in front of it, as in R-USERID in the reports.

## **Output Control Keywords**

**TITLE**(title) – the title that will appear on the top of each page of the report output. The title is limited to 64 characters and will be centered on the output beginning on the second page.

**USERFIELDS**(usrfield1,usrfield2, ... , usrfield8) - a list of additional fields to be displayed when this report displays a User Profile Record. The names refer to the names defined in the SELECT keywords. The report always displays the Userid and the Name field. Additional defined character fields may be displayed along with these fields as long as the total displayed length fits on one print line. Specific fields from the User Profile Record may also be displayed. Supported fields are Ownerid (**OWNERID**), Last Access Date (**ACC-DATE**), and Default Connect Group (**DFTGROUP**).

Currently, the available space is 30 characters.

All Installation Data Sub-fields to be displayed must have been previously defined with a SELECT statement. If no selection is actually required on these fields, use a mask of a single asterisk "\*" to bypass actual selection.

**LINES**(n-lines) - the number of lines per page of output - 55 is default. "U" can be used to prevent page ejects except at section breaks.

**MAXUSERS**(m-users) - the maximum number of Userids to display when listing who can access datasets. If this limit is reached, a message indicating this is produced and the remainder of the Userid Profile Record displays is skipped. The maximum value for this field is 9999, although the letter "U" can be used for "unlimited." The default value is 50.

**MODIFYONLY** - specifies that the report output include only dataset permissions of UPDATE, CONTROL, or ALTER. Any permission that is READ or EXECUTE only will be ignored.

**SEPARATE** - No operands. Do not combine datasets with identical access patterns. Generates a separate listing for each dataset to be printed.

**NOGROUPS** - This subsection of profile listing section lists the referenced groups and the members of each one. This parameter causes the report to skip this sub-section.

**NONOTES** - As the report is processing, sometimes it comes across a condition that, although it may be perfectly valid, should be at least verified by the Data Owner or Security Administrator. In these cases, the output line in question is flagged and a "comment" is printed in the Notes Section. This parameter skips the printing of the Notes.

**NOWARN** - Do not issue warning messages based upon discrepancies within the RACF Database.

**NOINFO** - Do not issue informational messages based upon the RACF Database.

**NOSUPERUSER** - Skip the section of the report that lists the Superusers – that is all users that have a UID of 0 in the RACF Database.

**NOBPXSUPER** - Skip the section of the report that lists the users authorized to the RACF FACILITY Class Profile BPX.SUPERUSER that allows them to obtain Superuser State via the Open Edition "su" command.

**NODAEMON** - Skip the section of the report that lists the users authorized to the RACF FACILITY Class Profile BPX.DAEMON that further restricts Superuser authority within Open Edition.

**NOPROGRAM** - Skip the section of the report that lists the Set-Userid-upon-execution and Set-Groupid-upon-execution programs that may allow access to Open Edition files being reported upon.

**EXPORT(DIF|RECORD)** - This parameter causes an output file to be written in either PC-Data Interchange Format (DIF) or standard fixed column with RECORD format.

**UPCASE** - Normally Open Edition filenames are in a mixed upper and lower case. This causes the output of the report to list everything in upper case.

## ***Optional Input File Format – FILELIST***

FILELIST defines a card-image file that contains a list of file names whose access patterns are to be analyzed. No selection is made via the RSGROUP or DIRECTORY processes – all files within the FILELIST file are processed assuming that they exist within the Open Edition File System. Duplicates, however, are eliminated.

Input is defined as:

- Asterisk or blank in Column 1 – a comment
- File names – one per card, beginning in column 1

```
//FILELIST DD *
*
* This is the data input stream from the FILELIST ddname
*
/prod/payroll/master
/prod/payroll/upd0398
*
* End of input stream
*
/*
```

## **Data Definition (DD) Control Cards - Required**

<b>STEPLIB</b>	If the program is not in a system linklist library, this definition must refer to the E-SRF Program Library
<b>SYSPRINT</b>	Listing output
<b>IRACFDB</b>	E-SRF/RACF Database
<b>HFSNAMES</b>	MVS file containing the Open Edition File System file names
<b>SYSIN</b>	Control card definitions

## **Data Definition (DD) Control Cards - Optional**

<b>FILELIST</b>	Dataset containing a list of specific file names
<b>GRPRULES</b>	Dataset containing the EKC Grouping Rule Object Records
<b>EXPORT</b>	Output dataset to contain the Data Interchange Format Records
<b>XTRNTBL</b>	Dataset containing the RACF Class Name Table Definition Module if it is not the same as that on the executing system.
<b>WRAPPER</b>	Wrapper page definitions. See the section in this manual that describes the Wrapper controls.

## **Resulting Condition Codes**

<b>4</b>	Syntax error in input control cards or unable to open SYSPRINT
<b>8</b>	Insufficient Storage
<b>12</b>	No file names or Userids selected
<b>16</b>	EKC Grouping Rule interface error
<b>20</b>	RACF database interface error
<b>24</b>	Unable to load critical module
<b>28</b>	Unable to open critical ddname

## **Sample JCL Statements to Run This Report**

```
//EKCRROE EXEC PGM=EKCRROE
//STEPLIB DD DSN=SYS1.ESRF.LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//HFSNAMES DD DSN=SYS1.ESRF.HFSNAMES,DISP=SHR
//IRACFDB DD DSN=SYS1.ESRF.VSAM,DISP=SHR
//SYSIN DD *
    TITLE(LISTING OF OPEN EDITION AUTHORIZATIONS)
    DIRECTORY(/PROD/PAYROLL)
    USERFIELDS(OWNERID,ACC-DATE)
/*
```

## Sample Output

```
EKCRDOE-02.26.98          ESRF: RACF DATAOWNER OPEN EDITION REPORT
THU, FEBRUARY 26, 1998   8:13                               PAGE.....1
PROCESSING JOURNAL

EKCRDOE-001 INPUT CONTROL CARDS:

      TITLE(SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT)
      DIRECTORY(/HOME/BARRY/)
      USERFIELDS(OWNERID,ACC-DATE)
      NOWARN

EKCRDBI-100 DATABASE STATISTICS:

LAST RACF SYSTEM ENTRY VALIDATION: 25-FEB-98 @ 15:13
      ESRF DATABASE BUILD: 25-FEB-98 @ 15:15

EKCRDBI-101 GROUP AND USER STATISTICS:

      NUMBER OF GROUPS:          66
NUMBER OF GROUP CONNECTS:      144

EKCRDBI-102 NUMBER OF USERIDS IN DATABASE:      107
      NUMBER OF USERIDS SELECTED:      107

EKCRDOE-205 FILE NAMES: RECORDS READ:          2,907 -- MATCHING FILE NAMES KEPT:      9
```

-----  
 ESRF: RACF DATAOWNER OPEN EDITION REPORT  
 THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT PAGE.....2  
 USERS WITH SUPERUSER AUTHORITY -- O/E UID = 0:

ACCESS	S-USERID	NAME	OWNERID	ACC-DATE	ACCESS REASON	NOTES
R W X	BPXROOT	UNKNOWN	DAVER	..-.-.-.	SUPERUSER	NOTE 1
R W X	DCEKERN	UNKNOWN	P390	..-.-.-.	SUPERUSER	NOTE 1
R W X	IBMUSER		IBMUSER	21-JAN-98	SUPERUSER	NOTE 1
R W X	OMVS	UNKNOWN	P390	15-JAN-98	SUPERUSER	NOTE 1
R W X	OMVSKERN	UNKNOWN	P390	..-.-.-.	SUPERUSER	NOTE 1
R W X	OPEN1	UNKNOWN	P390	31-OCT-95	SUPERUSER	NOTE 1
R W X	OPEN2	UNKNOWN	P390	..-.-.-.	SUPERUSER	NOTE 1
R W X	OPEN3	UNKNOWN	P390	..-.-.-.	SUPERUSER	NOTE 1
R W X	P390	UNKNOWN	IBMUSER	20-FEB-98	SUPERUSER	NOTE 1
R W X	RLOGIND	UNKNOWN	DAVER	..-.-.-.	SUPERUSER	NOTE 1

-----  
 ESRF: RACF DATAOWNER OPEN EDITION REPORT  
 THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT PAGE.....3  
 USERS WITH BPX.SUPERUSER AUTHORITY TO O/E SU COMMAND:

ACCESS	S-USERID	UID_NUMBER	NAME	OWNERID	ACC-DATE	ACCESS REASON	GROUP
R W X	BARRY	2229	BARRY SCHRAGER	IBMUSER	25-FEB-98	IN ACCESS LIST	
R W X	BOBL	5839	BOB LUDWIG	IBMUSER	25-FEB-98	IN ACCESS LIST	
R W X	DAVER	7646	DAVE ROHM	LEW	24-FEB-98	IN ACCESS LIST	
R W X	EB	5576	EB KLEMENS	IBMUSER	18-FEB-98	IN ACCESS LIST	
R W X	LEW	7	LEW WRIGHT	IBMUSER	25-FEB-98	IN ACCESS LIST	

-----  
 ESRF: RACF DATAOWNER OPEN EDITION REPORT  
 THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT PAGE.....4  
 USERS WITH BPX.DAEMON AUTHORITY TO SUPERUSER FUNCTIONS:

ACCESS	S-USERID	UID_NUMBER	NAME	OWNERID	ACC-DATE	ACCESS REASON	GROUP
R W X	BOBL	5839	BOB LUDWIG	IBMUSER	25-FEB-98	IN ACCESS LIST	
R W X	DAVER	7646	DAVE ROHM	LEW	24-FEB-98	IN ACCESS LIST	
R W X	OMVSKERN	0	UNKNOWN	P390	..-.-.-.	IN ACCESS LIST	

-----  
 ESRF: RACF DATAOWNER OPEN EDITION REPORT  
 THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT PAGE.....5  
 ACCESS TO FILES VIA O/E UID/GID AUTHORITY - FIRST FILE IN GROUP:/home/barry

NOTES/COMMENTS	FILE TYPE	PERMISSIONS	OWNING_UID	GROUP_ID_#	FILE NAME
	DIRECTORY	RWX R-X R-X	2229	3	/home/barry
	EXECUTABLE	RWX R-X R-X	2229	3	/home/barry/profile

ACCESS	S-USERID	UID_NUMBER	NAME	OWNERID	ACC-DATE	ACCESS REASON	GROUP	NOTES
R W X	BARRY	2229	BARRY SCHRAGER	IBMUSER	25-FEB-98	O/E UID MATCH		
R W X	BARRY2	2229	BARRY SCHRAGER	2 LEW	20-FEB-98	O/E UID MATCH		
R - X	BOBL	5839	BOB LUDWIG	IBMUSER	25-FEB-98	MBR OF O/E GROUP	SSD	
R - X	EB	5576	EB KLEMENS	IBMUSER	18-FEB-98	MBR OF O/E GROUP	SSD	
R - X	TOMC	101	TOM CARNEAL	IBMUSER	24-FEB-98	MBR OF O/E GROUP	SSD	
R - X	*OTHER*		ALL OTHER USERS			O/E "OTHER" PERM		

-----  
 ESRF: RACF DATAOWNER OPEN EDITION REPORT  
 THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT PAGE.....6  
 ACCESS TO FILES VIA O/E UID/GID AUTHORITY - FIRST FILE IN GROUP:/home/barry/data15

NOTES/COMMENTS	FILE TYPE	PERMISSIONS	OWNING_UID	GROUP_ID_#	FILE NAME
	DATA FILE	RW- RW- ---	2229	3	/home/barry/data15
	DATA FILE	RW- RW- ---	2229	3	/home/barry/dirlist
	DATA FILE	RW- RW- ---	2229	3	/home/barry/runit

ACCESS	S-USERID	UID_NUMBER	NAME	OWNERID	ACC-DATE	ACCESS REASON	GROUP	NOTES
R W -	BARRY	2229	BARRY SCHRAGER	IBMUSER	25-FEB-98	O/E UID MATCH		
R W -	BARRY2	2229	BARRY SCHRAGER	2 LEW	20-FEB-98	O/E UID MATCH		
R W -	BOBL	5839	BOB LUDWIG	IBMUSER	25-FEB-98	MBR OF O/E GROUP	SSD	
R W -	EB	5576	EB KLEMENS	IBMUSER	18-FEB-98	MBR OF O/E GROUP	SSD	
R W -	TOMC	101	TOM CARNEAL	IBMUSER	24-FEB-98	MBR OF O/E GROUP	SSD	

-----  
 ESRF: RACF DATAOWNER OPEN EDITION REPORT  
 THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT PAGE.....7  
 ACCESS TO FILES VIA O/E UID/GID AUTHORITY - FIRST FILE IN GROUP:/home/barry/direrr

NOTES/COMMENTS	FILE TYPE	PERMISSIONS	OWNING_UID	GROUP_ID_#	FILE NAME
	EXECUTABLE	RWX --- ---	2229	3	/home/barry/direrr



ACCESS	S-USERID	UID_NUMBER	NAME	OWNERID	ACC-DATE	ACCESS REASON	GROUP	NOTES
R W X	BARRY	2229	BARRY SCHRAGER	IBMUSER	25-FEB-98	O/E UID MATCH		
R W X	BARRY2	2229	BARRY SCHRAGER 2 LEW		20-FEB-98	O/E UID MATCH		
-----								
ESRF: RACF DATAOWNER OPEN EDITION REPORT								
THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT								PAGE....8
ACCESS TO FILES VIA O/E UID/GID AUTHORITY - FIRST FILE IN GROUP:/home/barry/pgml								
NOTES/COMMENTS FILE TYPE PERMISSIONS OWNING_UID GROUP_ID_# FILE NAME								
EXECUTABLE RWX R-X --X 2229 3 /home/barry/pgml								
-----								
ACCESS	S-USERID	UID_NUMBER	NAME	OWNERID	ACC-DATE	ACCESS REASON	GROUP	NOTES
R W X	BARRY	2229	BARRY SCHRAGER	IBMUSER	25-FEB-98	O/E UID MATCH		
R W X	BARRY2	2229	BARRY SCHRAGER 2 LEW		20-FEB-98	O/E UID MATCH		
R - X	BOBL	5839	BOB LUDWIG	IBMUSER	25-FEB-98	MBR OF O/E GROUP	SSD	
R - X	EB	5576	EB KLEMENS	IBMUSER	18-FEB-98	MBR OF O/E GROUP	SSD	
R - X	TOMC	101	TOM CARNEAL	IBMUSER	24-FEB-98	MBR OF O/E GROUP	SSD	
- - X	*OTHER*		ALL OTHER USERS			O/E "OTHER" PERM		
-----								
ESRF: RACF DATAOWNER OPEN EDITION REPORT								
THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT								PAGE....9
ACCESS TO FILES VIA O/E UID/GID AUTHORITY - FIRST FILE IN GROUP:/home/barry/pgm99								
NOTES/COMMENTS FILE TYPE PERMISSIONS OWNING_UID GROUP_ID_# FILE NAME								
SET-UID/GID VULNERABLE EXECUTABLE RWX RWS --X 2229 1234 /home/barry/pgm99								
-----								
ACCESS	S-USERID	UID_NUMBER	NAME	OWNERID	ACC-DATE	ACCESS REASON	GROUP	NOTES
R W X	BARRY	2229	BARRY SCHRAGER	IBMUSER	25-FEB-98	O/E UID MATCH		
R W X	BARRY2	2229	BARRY SCHRAGER 2 LEW		20-FEB-98	O/E UID MATCH		
R W X	TOMC	101	TOM CARNEAL	IBMUSER	24-FEB-98	MBR OF O/E GROUP	ESRF	
- - X	*OTHER*		ALL OTHER USERS			O/E "OTHER" PERM		
-----								
ESRF: RACF DATAOWNER OPEN EDITION REPORT								
THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT								PAGE....10
ACCESS TO FILES VIA O/E UID/GID AUTHORITY - FIRST FILE IN GROUP:/home/barry/test1								
NOTES/COMMENTS FILE TYPE PERMISSIONS OWNING_UID GROUP_ID_# FILE NAME								
SET-UID/GID VULNERABLE DATA FILE RW- RW- --- 2229 1234 /home/barry/test1								
-----								
ACCESS	S-USERID	UID_NUMBER	NAME	OWNERID	ACC-DATE	ACCESS REASON	GROUP	NOTES
R W -	BARRY	2229	BARRY SCHRAGER	IBMUSER	25-FEB-98	O/E UID MATCH		
R W -	BARRY2	2229	BARRY SCHRAGER 2 LEW		20-FEB-98	O/E UID MATCH		
R W -	TOMC	101	TOM CARNEAL	IBMUSER	24-FEB-98	MBR OF O/E GROUP	ESRF	
-----								
ESRF: RACF DATAOWNER OPEN EDITION REPORT								
THU, FEBRUARY 26, 1998 8:13 SAMPLE RACF OPEN EDITION ACCESS ANALYSIS REPORT								PAGE....11
PROGRAM FILES WITH SET-USER-ID OR SET-GROUP-ID ATTRIBUTES:								
NOTES PERMISSIONS UID_SET GID_SET FILE NAME								
NOTE 11 RWX RWX --X ----- 1234 /home/barry/pgm99								

-----  
 GROUP: ESRF SUPERIOR GROUP: SYS1 OWNERID: IBMUSER DATA:  
 OPEN EDITION GROUP ID #: 1234

USERID	NAME	LAST-ACCESS	SYSTEM-STATUS	GROUP-STATUS	SYSTEM-PRIV	GROUP-PRIV	UID-NUMBER
BARRY	BARRY SCHRAGER	25-FEB-98			SPEC OPER		2229
TOMC	TOM CARNEAL	24-FEB-98			SPEC OPER		101

-----  
 GROUP: SSD SUPERIOR GROUP: SECADMIN OWNERID: SECADMIN DATA: SYSTEMS SOFTWARE DEV  
 OPEN EDITION GROUP ID #: 3

USERID	NAME	LAST-ACCESS	SYSTEM-STATUS	GROUP-STATUS	SYSTEM-PRIV	GROUP-PRIV	UID-NUMBER
BARRY	BARRY SCHRAGER	25-FEB-98			SPEC OPER		2229
BOBL	BOB LUDWIG	25-FEB-98			SPEC OPER		5839
EB	EB KLEMENS	18-FEB-98			SPEC OPER		5576
TOMC	TOM CARNEAL	24-FEB-98			SPEC OPER		101

- NOTE 1 - USER HAS SUPERUSER AUTHORITY VIA THEIR RACF PROFILE WHICH SPECIFIES UID(0)
- NOTE 7 - ENHANCED MVS OPEN EDITION SECURITY IN EFFECT.
- NOTE 9 - ONLY USERS WITH O/E UID NUMBERS ARE LISTED IN REFERENCED GROUPS SECTION.
- NOTE 11- THIS PROGRAM, WHEN EXECUTED, SETS THE EFFECTIVE UID OR GID NUMBER OF THE SESSION TO ITS OWN.  
 THIS MAY PRESENT A SECURITY EXPOSURE IF ITS PROCESS IS NOT TIGHTLY CONTROLLED.

## Comments on the Output Listing

### Section 0 - Processing Log

This section contains the input control statements, normal processing statements, and error messages.

### Section 1 - USERS WITH SUPERUSER AUTHORITY – O/E UID = 0

Users with Open Edition Superuser Authority have access to all files in the Open Edition File System. These Userids are “special” because their Open Edition MVS UID is 0 in their RACF User Profiles.

### Section 2 - USERS WITH BPX.SUPERUSER AUTHORITY TO THE O/E SU COMMAND

Users who are authorized to the RACF FACILITY Class Resource BPX.SUPERUSER have the ability to enter the Open Edition “su” command that will set their effective UID to 0, giving them at least temporary Superuser Authority.

### **Section 3 - USERS WITH BPX.DAEMON AUTHORITY TO SUPERUSER FUNCTIONS**

Open Edition provides an enhanced level of security if the RACF FACILITY Class Profile BPX.DAEMON is defined. See the OS/390 Open Edition Planning Guide for more information.

### **Section 4 - ACCESS TO FILES VIA THE O/E UID/GID AUTHORITY**

This section of the report groups together files with identical access and then lists the users who have access to the files and their access authority.

### **Section 5 - PROGRAM FILES WITH SET-USER-ID OR SET-GROUP-ID ATTRIBUTES**

Open Edition has a facility called Set-Userid-upon-execution and Set-GroupID-upon-execution. This allows for the facility to collect information from a wide variety of users into a single file in a controlled environment. An example of this usage is for an e-mail system. However, care should be taken that this facility does not allow access to a normal user's files in an uncontrolled manner. Programs with this authority should be investigated to determine whether they are desired.

### **Section 6 - REFERENCED GROUPS AND MEMBERS**

This section lists the RACF Groups referenced in the report and the members of each group who have an Open Edition UID assigned to them.

### **Section 7 - NOTES**

This section lists the notations made throughout the reporting process.

# Chapter 9 : RACF Userid-Owner Dataset Report - EKCRRUDS

## ***Description***

The E-SRF Userid-Owner Dataset Report provides the User Manager an overview of what datasets and under what conditions a selected set of Userids can access. A common use of this report would be for a Manager to see what datasets the personnel under his or her authority could access. Optionally, a data file can be produced in either Personal Computer - Data Interchange Format or Mainframe fixed column format for post processing by a relational database (such as Microsoft Access) or other program.

## ***The Input Control Parameters***

### ***RACF Definition Keywords***

**NOPROTECTALL** - Indicates that the RACF parameter PROTECTALL(FAILURES) is **not** in force for this system.

**XTRNNCVT** - Indicates that the Report Process should use an external RACF Naming Convention Table rather than the one active on the processing system. The only case this would be used is if the RACF Naming Convention Table is being used to change the names of datasets prior to RACF validation and the system the report is being processed on is not the system that generated the RACF Database and the naming conventions are different between the two systems. The EKCRRUDS report will obtain the RACF Naming Convention Table from the Load Module Library defined in the XTRNTBL DD Card. The RACF Naming Convention Table Load Module (ICHNCV00) should be copied to this library from the system that produced the RACF database being processed. If the analysis is being done on a system without RACF active, this parameter must be used.

### ***Dataset Selection Keywords***

**RSGROUP**(groupname-mask1,groupname-mask2, ...) - the EKC resource dataset groups to be processed. The groupnames are based upon the EKC Grouping Rules. (*See the EKC Grouping Rule Reference Manual for further information.*) The EKC Grouping Rules allow the selection of datasets to be processed based upon algorithmic rules. Multiple indices can be combined to form one group as well as a single high-level index being split into multiple groups. If no grouping rules exist for the Groupname specified, datasets with the same high-level index as the Groupname specified will be selected. Multiple RSGROUP keywords may be specified.

**UGROUP**(groupname-mask1,groupname-mask2, ...) - This allows selection of the users to be process based upon the EKC Grouping Rules. (*See the EKC Grouping Rule Reference Manual for further information.*) The EKC Grouping Rules allow the selection of Users based upon algorithmic rules. Multiple disparate users can be combined to form a single group. Multiple **UGROUP** keywords may be specified.

**INDEX**(high-level-index-mask) - If the **INDEX** keyword is specified, the **RSGROUP** keyword is ignored and datasets matching the high-level index will be selected. References to the EKC Grouping Rule database are not made. For example, the keyword **INDEX(SYS\*)** would include all datasets beginning with **SYS**, such as **SYS1**, **SYS2**, **SYSTEM**, etc.

**COMPRESS**(mask1,mask2,...,mask16) - a mask that will be used to compress groups of datasets, such as Generation Data Groups or DB2 archive datasets, down to a single dataset for the purposes of this report. Digits in the mask indicate numbers in the index segment. The default compression masks are: **G0000V00**, **A0000000**, and **B0000000**. Parameters specified in this field will add to the defaults, not replace them.

### **User Selection Keywords**

**SELECT**(name, type, start, length, value) - defines a sub-field of the Installation data field.

<b>Name</b>	any eight character name to be assigned to the field. If this field is listed in <b>USERFIELDS</b> for printing on the output, this is the name that will be used as the column heading.
<b>Type</b>	the field type – currently only <b>CHAR</b> - Character is supported.
<b>Start</b>	the starting position relative to the start of the Installation Data Field (the first character of the Installation Data Field is considered position 1).
<b>Length</b>	the length of the field.
<b>Value</b>	a mask that specifies selection criteria.

**SELECT**(field name, value) - allows the use of specific field names within the User Profile Record to be used as selection criteria. Additional permissible field names are: **USERID** (allows selection based upon the Userid), **OWNERID** (allows selection based upon the profile owner), and **DFTGROUP** (allows selection based upon the default connect group). The value may be masked, such as using the form **SELECT(OWNERID,SSD\*)**, which would select all users who are owned by a user or groupname beginning with **SSD**.

**SELECT(UGROUP,grouping-class,imageid)** - allows selection of users based upon the EKC Grouping Rules. A resource in the grouping class specified with the resource name of: "imageid.ownerid default group userid" is created and the groupname returned by the Grouping Facility is checked against the groups specified in the **UGROUP** keyword. If the groupname matches one of those groups, the user is selected. Note that the ownerid, default group, and userid are each eight character fields filled with blanks. (*See the EKC Resource Grouping Facility manual for further information.*)

**IFGROUP**(group1, group2 ...) - restricts the analysis to Users who are connected to any of the specified groups - where group-*i* is a RACF group.

**INCREVOKED** - Normally, RACF Users that are in **REVOKED** status will be excluded from further processing. This option forces the report to include them. Users can be revoked either because their User Profile is **REVOKE**d or because the date the report was run was not within the **REVOKE** and **RESUME** dates in the profile. In either of these cases, the Userid will appear with a "R-" in front of it, as in **R-USERID** in the reports.

## Output Control Keywords

**TITLE**(title) – the title that will appear on the top of each page of the report output. The title is limited to 64 characters and will be centered on the output beginning on the second page.

**USERFIELDS**(usrfield1,usrfield2, ... , usrfield8) - a list of additional fields to be displayed when this report displays a User Profile Record. The names refer to the names defined in the SELECT keywords. The report always displays the Userid and the Name field. Additional defined character fields may be displayed along with these fields as long as the total displayed length fits on one print line. Specific fields from the User Profile Record may also be displayed. Supported fields are Ownerid (**OWNERID**), Last Access Date (**ACC-DATE**), and Default Connect Group (**DFTGROUP**).

Currently, the available space is 60 characters.

All Installation Data Sub-fields to be displayed must have been previously defined with a SELECT statement. If no selection is actually required on these fields, use a mask of a single asterisk "\*" to bypass actual selection.

**LINES**(n-lines) - the number of lines per page of output - 55 is default. "U" can be used to prevent page ejects except at section breaks.

**MAXDSNSUSERS**(m-dsnsusers) - the maximum number of dataset namesUserids to process within an index. If this limit is reached, a message indicating this is produced and the remainder of the dataset names is skipped. The maximum value for this field is 9999, although the letter "U" can be used for "unlimited." The default value is 50.

**MODIFYONLY** - specifies that the report output include only dataset permissions of UPDATE, CONTROL, or ALTER. Any permission that is READ or EXECUTE only will be ignored.

**SUMMARY** - specifies that a summary output should be created. The summary output also invokes a "loose-fit" algorithm for combining datasets with identical access patterns. In the loose-fit algorithm, the only criteria are users, access permission, and conditional or not-conditional. This excludes differences of how RACF would have produced the permission, such as via different groups, Global Access Table Checking, etc. In the SUMMARY report, the cross reference, profile list and the notes sections are skipped.

**SEPARATE** - No operands. Do not combine datasets with identical access patterns. Generates a separate listing for each dataset to be printed.

**PROFLIST** - Normally, the report will bypass printing of the referenced profiles because it is often a very large amount of output. The PROFLIST parameter forces the printing of this section of the report.

**NOXREF** - Bypass the printing of the profile usage cross reference section of the report.

**NOGROUPS** - This subsection of the profile listing section lists the referenced groups and the members of each one. This parameter causes the report to skip this sub-section.

**NONOTES** - As the report is processing, sometimes it comes across a condition that, although it may be perfectly valid, should be at least verified by the Data Owner. This parameter skips the printing of the Notes.

**NOWARN** - Do not issue warning messages based upon discrepancies within the RACF Database.

**NOINFO** - Do not issue informational messages based upon the RACF Database.

**EXPORT(DIF|RECORD)** - This parameter causes an output file to be written in either PC-Data Interchange Format (DIF) or standard fixed column with RECORD format.

### ***Data Definition (DD) Control Cards - Required***

<b>STEPLIB</b>	If the program is not in a system linklist library, this definition must refer to the E-SRF Program Library
<b>SYSPRINT</b>	Listing output
<b>IRACFDB</b>	E-SRF/RACF Database
<b>SYSIN</b>	Control card definitions

### ***Data Definition (DD) Control Cards - Optional***

<b>DSNAMES</b>	Dataset containing the pseudo dataset names
<b>GRPRULES</b>	Dataset containing the EKC Grouping Rule Object Records
<b>EXPORT</b>	Output dataset to contain the Data Interchange Format Records
<b>XTRNTBL</b>	Dataset containing the RACF Conversion Name Table Definition Module if it is not the same as that on the executing system.
<b>WRAPPER</b>	Wrapper page definitions. See the section in this manual that describes the Wrapper controls.

### ***Resulting Condition Codes***

<b>4</b>	Syntax error in input control cards or unable to open SYSPRINT
<b>8</b>	Insufficient Storage
<b>12</b>	No dataset or Userids selected
<b>16</b>	EKC Grouping Rule interface error
<b>20</b>	RACF database interface error
<b>24</b>	Unable to load critical module
<b>28</b>	Unable to open critical ddname

### ***Sample JCL Statements to Run This Report***

```
//EKCRUDS EXEC PGM=EKCRUDS
//STEPLIB DD DSN=SYS1.ESRF.LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//DSNAMES DD DSN=SYS1.ESRF.PDSNS,DISP=SHR
//IRACFDB DD DSN=SYS1.ESRF.VSAM,DISP=SHR
//SYSIN DD *
    TITLE(LISTING OF DATASET AUTHORIZATIONS FOR PAYROLL
SUPERVISORS)
    IFGROUP(PAYSUP) SUMMARY
/*
```

# Sample Output Listing

```

EKCRUDS-08.01.97                      ESRF: RACF USEROWNER DATASET REPORT
FRI, AUGUST 1, 1997  9:53                      PAGE.....1
PROCESSING JOURNAL

EKCRUDS-001 INPUT CONTROL CARDS:

        TITLE(LISTING OF DATASET AUTHORIZATIONS FOR PAYROLL SUPERVISORS)
        IFGROUP(PAYSUP) SUMMARY

EKCRUDS-200 SUMMARY OUTPUT REQUESTED, COMBINATION OF USERS WILL BE MADE USING LOOSE-FIT ALGORITHM

EKCRDBI-100 DATABASE STATISTICS:

LAST RACF SYSTEM ENTRY VALIDATION: 19-JUN-97 @ 14:14
        ESRF DATABASE BUILD: 25-JUN-97 @ 06:26

EKCRDBI-101 GROUP AND USER STATISTICS:

        NUMBER OF GROUPS:      3,892
NUMBER OF GROUP CONNECTS:      347,880

EKCRDBI-102 NUMBER OF USERIDS IN DATABASE:      1,605
        NUMBER OF USERIDS SELECTED:      3

EKCRUDS-205 DATASET NAMES: RECORDS READ:      10,883 -- MATCHING DATASET NAMES KEPT: 10,883
-- NUMBER OF DUPLICATES:      0
-----

                                ESRF: RACF USEROWNER DATASET REPORT
FRI, AUGUST 1, 1997  9:53  LISTING OF DATASET AUTHORIZATIONS FOR PAYROLL SUPERVISORS  PAGE.....2
ACCESS VIA RACF PROFILES. FIRST USER IN GROUP: BIGSHRM

        USERID  NAME
        -----
        BIGSHRM  ROGER M BIGSHOT
        -----

        ACCESS VOLSER  DATASET NAME                      NOTES
        -----
        ALTER          ADMIN.IDEAS.DATA
        ALTER          ADMIN.**
        ALTER          PAYROLL.MASTER.**
        ALTER          PAYROLL.MASTER.JOURNAL.**
        ALTER          PAYROLL.UPDATES.**
        UPDATE         PAYROLL.**
        ALTER          PAYSUP.**
        ALTER          SMITHSM.**
        UPDATE         SYS1.BROADCAST
        READ           SYS1.MAN***
        READ           SYS1.TSO.**
        -----

                                ESRF: RACF USEROWNER DATASET REPORT
FRI, AUGUST 1, 1997  9:53  LISTING OF DATASET AUTHORIZATIONS FOR PAYROLL SUPERVISORS  PAGE.....3
ACCESS VIA RACF PROFILES. FIRST USER IN GROUP: SMITHSM

        USERID  NAME
        -----
        SMITHSM  SUSAN M SMITH
        -----

        ACCESS VOLSER  DATASET NAME                      NOTES
        -----
        ALTER          ADMIN.IDEAS.DATA
        READ           PAYROLL.MASTER.**
        READ           PAYROLL.MASTER.JOURNAL.**
        READ           PAYROLL.UPDATES.**
        ALTER          PAYSUP.**
        ALTER          SMITHSM.**
        UPDATE         SYS1.BROADCAST
        READ           SYS1.TSO.**
        -----

                                ESRF: RACF USEROWNER DATASET REPORT
FRI, AUGUST 1, 1997  9:53  LISTING OF DATASET AUTHORIZATIONS FOR PAYROLL SUPERVISORS  PAGE.....4
ACCESS VIA RACF PROFILES. FIRST USER IN GROUP: WILLSBS

        USERID  NAME
        -----
        WILLSBS  BARRY S WILLS
        -----

```



ACCESS VOLSER	DATASET NAME	NOTES
ALTER	ADMIN.IDEAS.DATA	
READ	PAYROLL.MASTER.**	
READ	PAYROLL.MASTER.JOURNAL.**	
READ	PAYROLL.UPDATES.**	
ALTER	PAYSUP.**	
UPDATE	SYS1.BROADCAST	
READ	SYS1.TSO.**	
ALTER	WILLSBS.**	

## ***Comments on the Output Listing***

### **Section 0 - Processing Log**

This section contains the input control statements, normal processing statements, and error messages.

### **Section 1 - Access Via RACF Profiles**

This section lists the access permissions for each user to the datasets selected. This permission takes into account special RACF privileges such as SPECIAL, OPERATIONS, etc.

### **Section 2 - Referenced RACF Profile Cross Reference**

If the full output report style is chosen (SUMMARY keyword not specified), the reference number of the profile used to make the access decision is displayed in Section 1 for each access. This section cross references the profile reference numbers with the actual profile name.

### **Section 3 - Referenced Global Access Table Classes**

If a RACF Class specified in the Global Access Table was used to determine access permissions, then the Global Access Table entries regarding that class will be displayed.

### **Section 4 - Referenced RACF Profiles**

The RACF profiles used to determine access are displayed along with the access lists for each of them.

## **Section 5 - Referenced RACF Groups**

This section lists the referenced RACF Groups and the members of each Group.

## **Section 6 - Notes and Information**

This section lists items that should be called to the attention of the Security Officer or Data Owner or assumptions that were made in the access analysis.

# Chapter 10 : RACF DataOwner Resource Report - EKCRDRS

## **Description**

The E-SRF DataOwner Resource Report provides the DataOwner an overview of who can access his or her resources (such as CICS transaction names, etc.) and under what conditions. Optionally, a data file can be produced in either Personal Computer - Data Interchange Format or Mainframe fixed column format for post processing by a relational database (such as Microsoft Access) or other program.

## **The Input Control Parameters**

### **RACF Definition Keywords**

**XTRNRCDT** - Indicates that the Report Process should use an external RACF Resource Class Descriptor Table rather than the one active on the processing system. The only case this would be used is if the RACF Resource Class Descriptor Table was modified to add additional member and grouping classes and the system the report is being processed on is not the system that generated the RACF Database and the defined classes are different between the two systems. The EKCRDRS report will obtain the RACF Resource Class Descriptor Table from the Load Module Library defined in the XTRNTBL DD Card. The RACF Resource Class Descriptor Table Load Module (ICHRCDE) should be copied to this library from the system that produced the RACF database being processed. If the analysis is being done on a system without RACF active, this parameter must be used.

### **Resource Selection Keywords**

**RSGROUP**(groupname-mask1,groupname-mask2, ...) - the EKC resource groups to be processed. The groupnames are based upon the EKC Grouping Rules. (*See the EKC Grouping Rule Reference Manual for further information.*) The EKC Grouping Rules allow the selection of resources to be processed based upon algorithmic rules. Multiple resource classes can be combined to form one group as well as a single resource class being split into multiple groups. Multiple RSGROUP keywords may be specified.

**UGROUP**(groupname-mask1,groupname-mask2, ...) - This allows selection of the users to be process based upon the EKC Grouping Rules. (*See the EKC Grouping Rule Reference Manual for further information.*) The EKC Grouping Rules allow the selection of Users based upon algorithmic rules. Multiple disparate users can be combined to form a single group. Multiple **UGROUP** keywords may be specified.

**CLASS**(high-level-index-mask) - If the **CLASS** keyword is specified, the **RSGROUP** keyword is ignored and resource names matching the CLASS will be selected. References to the EKC Grouping Rule database are not made.

**RSLIST** - a card-image file to be used as input. See file description below for details. Do not use **RSGROUP** or **CLASS** selection. All datasets described in the RSLIST file are used for processing.

### **User Selection Keywords**

**SELECT**(name, type, start, length, value) - defines a sub-field of the Installation data field.

**Name** any eight character name to be assigned to the field. If this field is listed in USERFIELDS for printing on the output, this is the name that will be used as the column heading.

**Type** the field type – currently only CHAR - Character is supported.

**Start** the starting position relative to the start of the Installation Data Field (the first character of the Installation Data Field is considered position 1).

**Length** the length of the field.

**Value** a mask that specifies selection criteria.

**SELECT**(field name, value) - allows the use of specific field names within the User Profile Record to be used as selection criteria. Additional permissible field names are: **USERID**, **OWNERID**, and **DFTGROUP**. The value may be masked, such as using the form **SELECT(OWNERID,SSD\*)**, which would select all users who are owned by a user or groupname beginning with SSD.

**SELECT(UGROUP,grouping-class,imageid)** - allows selection of users based upon the EKC Grouping Rules. A resource in the grouping class specified with the resource name of: "imageid.ownerid default group userid" is created and the groupname returned by the Grouping Facility is checked against the groups specified in the **UGROUP** keyword. If the groupname matches one of those groups, the user is selected. Note that the ownerid, default group, and userid are each eight character fields filled with blanks. (See *the EKC Resource Grouping Facility manual for further information.*)

**IFGROUP**(group1, group2 ...) - restricts the analysis to Users who are connected to any of the specified groups - where group-*i* is a RACF group.

**INCREVOKED** - Normally, RACF Users that are in REVOKED status will be excluded from further processing. This option forces the report to include them. Users can be revoked either because their User Profile is REVOKEd or because the date the report was run was not within the REVOKE and RESUME dates in the profile. In either of these cases, the Userid will appear with a "R-" in front of it, as in R-USERID in the reports.

### **Output Control Keywords**

**TITLE**(title) - the title that will appear on the top of each page of the report output. The title is limited to 64 characters and will be centered on the output beginning on the second page.

**USERFIELDS**(usrfield1,usrfield2, ... , usrfield8) - a list of additional fields to be displayed when this report displays a User Profile Record. The names refer to the names defined in the SELECT keywords. The report always displays the Userid and the Name field. Additional defined character fields may be displayed along with these fields as long as the total displayed length fits on one print line. Specific fields from the User Profile Record may also be displayed. Supported fields are Ownerid (**OWNERID**), Last Access Date (**ACC-DATE**), and Default Connect Group (**DFTGROUP**).

Currently, the available space is 30 characters.

All Installation Data Sub-fields to be displayed must have been previously defined with a SELECT statement. If no selection is actually required on these fields, use a mask of a single asterisk "\*" to bypass actual selection.

**LINES**(n-lines) - the number of lines per page of output - 55 is default. "U" can be used to prevent page ejects except at section breaks.

**MAXUSERS**(m-users) - the maximum number of Userids to display when listing who can access datasets. If this limit is reached, a message indicating this is produced and the remainder of the Userid Profile Record displays is skipped. The maximum value for this field is 9999, although the letter "U" can be used for "unlimited." The default value is 50.

**MODIFYONLY** - specifies that the report output include only dataset permissions of UPDATE, CONTROL, or ALTER. Any permission that is READ or EXECUTE only will be ignored.

**SUMMARY** - specifies that a summary output should be created. The summary output also invokes a "loose-fit" algorithm for combining resources with identical access patterns. In the loose-fit algorithm, the only criteria are users, access permission, and conditional or not-conditional. This excludes differences of how RACF would have produced the permission, such as via different groups, Global Access Table Checking, etc. In the SUMMARY report, section 3 and the notes section are skipped.

**SEPARATE** - No operands. Do not combine datasets with identical access patterns. Generates a separate listing for each dataset to be printed.

**NOPROFS** - This parameter causes the report to skip the printing of the referenced Global Access Checking Table (GAC) and the referenced profiles.

**NOGROUPS** - This subsection lists the referenced groups and the members of each one. This parameter causes the report to skip this sub-section.

**NONOTES** - As the report is processing, sometimes it comes across a condition that, although it may be perfectly valid, should be at least verified by the Data Owner. This parameter skips the printing of the Notes.

**NOWARN** - Do not issue warning messages based upon discrepancies within the RACF Database.

**NOINFO** - Do not issue informational messages based upon the RACF Database.

**EXPORT(DIF|RECORD)** - This parameter causes an output file to be written in either PC-Data Interchange Format (DIF) or standard fixed column with RECORD format.

## **Optional Input File Format – RSLIST**

RSLIST defines a card-image file that contains a list of resource names whose access patterns are to be analyzed. No selection is made via the RSGROUP or CLASS processes – all resource names within the RSLIST file are processed. Duplicates are eliminated.

Input is defined as:

- Asterisk or blank in Column 1 – a comment
- Resource names – one per card, with the class name beginning in column 1 and the resource name itself beginning in column 10

```
//RSLIST DD *
*
* This is the data input stream from the RSLIST ddname
*
TCICSTRN PAYR
TCICSTRN HRUP
*
* End of input stream
*
/*
```

## **Data Definition (DD) Control Cards - Required**

<b>STEPLIB</b>	If the program is not in a system linklist library, this definition must refer to the E-SRF Program Library
<b>SYSPRINT</b>	Listing output
<b>IRACFDB</b>	E-SRF/RACF Database
<b>SYSIN</b>	Control card definitions

## **Data Definition (DD) Control Cards - Optional**

<b>RSNAMES</b>	Dataset containing the resource names
<b>DSLIST</b>	Dataset containing a list of specific resource names
<b>GRPRULES</b>	Dataset containing the EKC Grouping Rule Object Records
<b>EXPORT</b>	Output dataset to contain the Data Interchange Format Records
<b>XTRNTBL</b>	Dataset containing the RACF Class Name Table Definition Module if it is not the same as that on the executing system.
<b>WRAPPER</b>	Wrapper page definitions. See the section in this manual that describes the Wrapper controls.

## **Resulting Condition Codes**

<b>4</b>	Syntax error in input control cards or unable to open SYSPRINT
<b>8</b>	Insufficient Storage
<b>12</b>	No dataset or Userids selected
<b>16</b>	EKC Grouping Rule interface error
<b>20</b>	RACF database interface error
<b>24</b>	Unable to load critical module
<b>28</b>	Unable to open critical ddname

## **Sample JCL Statements to Run This Report**

```
//EKCRDRS EXEC PGM=EKCRDRS
//STEPLIB DD DSN=SYS1.ESRF.LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//RSNAMES DD DSN=SYS1.ESRF.PRSNS,DISP=SHR
//IRACFDB DD DSN=SYS1.ESRF.VSAM,DISP=SHR
//SYSIN DD *
    TITLE(AUTHORIZATION FOR SELECTED PAYROLL TRANSACTIONS)
    RSLIST
/*
//RSLIST DD *
TIMS      HRUPDT
TIMS      PAYINQ
TIMS      PAYUPD
TIMS      PAYVAC
TIMS      PAYSIC
TIMS      HRHIRE
TIMS      HRTERM
TIMS      HRXFER
/*
```

# Sample Output Listing

EKCRDRS-06.25.97 ESRF: RACF DATAOWNER RESOURCE REPORT PAGE.....1  
 WED, JUNE 25, 1997 13:45  
 PROCESSING JOURNAL

EKCRDRS-001 INPUT CONTROL CARDS:

TITLE(AUTHORIZATIONS FOR SELECTED PAYROLL TRANSACTIONS)  
 RSLIST

EKCRDBI-100 DATABASE STATISTICS:

LAST RACF SYSTEM ENTRY VALIDATION: 19-JUN-97 @ 14:14  
 ESRF DATABASE BUILD: 25-JUN-97 @ 06:26

EKCRDBI-101 GROUP AND USER STATISTICS:

NUMBER OF GROUPS: 3,892  
 NUMBER OF GROUP CONNECTS: 347,880

EKCRDBI-102 NUMBER OF USERIDS IN DATABASE: 1,605  
 NUMBER OF USERIDS SELECTED: 1,605

EKCRDRS-221 RESOURCES WILL BE READ FROM RSLIST INPUT FILE

EKCRDRS-222 RSLIST INPUT RESOURCE NAMES:

TIMS HRUPDT  
 TIMS PAYINQ  
 TIMS PAYUPD  
 TIMS PAYVAC  
 TIMS PAYSIC  
 TIMS HRHIRE  
 TIMS HRTERM  
 TIMS HRXFER

EKCRDRS-205 RESOURCE NAMES: RECORDS READ: 8 -- MATCHING RESOURCE NAMES KEPT: 8  
 -- NUMBER WITHOUT DUPLICATES: 8

ESRF: RACF DATAOWNER RESOURCE REPORT AUTHORIZATIONS FOR SELECTED PAYROLL TRANSACTIONS PAGE.....2  
 WED, JUNE 25, 1997 13:45  
 ACCESS VIA RACF PROFILES. FIRST RESOURCE IN GROUP: TIMS... HRHIRE

CLASS	RESOURCE NAME	CLASS	PROFILE NAME	GROUPING	PROF	MEMBER NAME
TIMS...	HRHIRE	GIMS....	HRTRANS			HRHIRE
TIMS...	HRTERM	GIMS....	HRTRANS			HRTERM
TIMS...	HRXFER	GIMS....	HRTRANS			HRXFER

ACCESS	USERID	NAME	RACF REASON	NOTES/ GROUP	COND- TYPE	COND- ELMT
READ	BIGSHRM	ROGER M BIGSHOT	USER IN ACCESS LIST			
READ	CROWLCM	CANDY M CROWLEY	USER IN GROUP IN ACCESS LIST	HRSTAFF		
READ	KIRKSM	SAMUEL M KIRK	USER IN GROUP IN ACCESS LIST	HRSTAFF		
READ	MIDLJLS	JOHN S MIDDLE	USER IN GROUP IN ACCESS LIST	HRSTAFF		



CLASS	RESOURCE NAME	CLASS	PROFILE NAME	GROUPING	PROF MEMBER NAME
TIMS....	HRUPDT	TIMS....	HRUPDT		

ACCESS	USERID	NAME	RACF REASON	NOTES/ GROUP	COND-TYPE	COND-ELMT
READ	ADAMSJM	JOHN M ADAMS	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	BROCKKJ	KATHY BROCK	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	BIGSHRM	ROGER M BIGSHOT	USER IN ACCESS LIST			
READ	CROWLCM	CANDY M CROWLEY	USER IN GROUP IN ACCESS LIST	HRSTAFF		
READ	DAMERJM	JIM DAMERON	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	KIRKSM	SAMUEL M KIRK	USER IN GROUP IN ACCESS LIST	HRSTAFF		
READ	LOSTESQ	SUSAN LOSTER	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	KROCKMJ	WALTER J KROCK	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	MIDLJJS	JOHN S MIDDLE	USER IN GROUP IN ACCESS LIST	HRSTAFF		
M READ	SMITHSM	SUSAN SMITH	USER IN GROUP IN ACCESS LIST	PAYCLK		
M READ	WILLSBS	BARRY S WILLS	USER IN GROUP IN ACCESS LIST	PAYCLK		

CLASS	RESOURCE NAME	CLASS	PROFILE NAME	GROUPING	PROF MEMBER NAME
TIMS....	PAYINQ	GIMS....	PAYMAINT		PAYINQ
TIMS....	PAYSIC	GIMS....	PAYMAINT		PAYSIC
TIMS....	PAYVAC	GIMS....	PAYMAINT		PAYVAC

ACCESS	USERID	NAME	RACF REASON	NOTES/ GROUP	COND-TYPE	COND-ELMT
READ	ADAMSJM	JOHN M ADAMS	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	BROCKKJ	KATHY BROCK	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	BIGSHRM	ROGER M BIGSHOT	USER IN ACCESS LIST			
READ	DAMERJM	JIM DAMERON	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	LOSTESQ	SUSAN LOSTER	USER IN GROUP IN ACCESS LIST	PAYCLK		
READ	KROCKMJ	WALTER J KROCK	USER IN GROUP IN ACCESS LIST	PAYCLK		
M READ	SMITHSM	SUSAN SMITH	USER IN GROUP IN ACCESS LIST	PAYCLK		
M READ	WILLSBS	BARRY S WILLS	USER IN GROUP IN ACCESS LIST	PAYCLK		

CLASS	RESOURCE NAME	CLASS	PROFILE NAME	GROUPING	PROF MEMBER NAME
TIMS....	PAYUPD	TIMS....	PAYUPD		

ACCESS	USERID	NAME	RACF REASON	NOTES/ GROUP	COND-TYPE	COND-ELMT
READ	BIGSHRM	ROGER M BIGSHOT	USER IN ACCESS LIST			
READ	SMITHSM	SUSAN SMITH	USER IN GROUP IN ACCESS LIST	PAYSUP		
READ	WILLSBS	BARRY S WILLS	USER IN GROUP IN ACCESS LIST	PAYSUP		

NO GLOBAL ACCESS TABLE CLASSES WERE REFERENCED

REFERENCED PROFILES:

TYPE: GROUPING CLASS: GIMS NAME: HRTRANS  
UACC: NONE OWNER: HRADM DATA: HR HIRE, FIRE, XFER TRANSACTIONS  
PROFILE MEMBER NAMES:

HRHIRE HRTERM HRXFER

STANDARD ACCESS LIST

ACCESS	USER/GROUP	NAME
READ	BIGSHRM	ROGER M BIGSHOT
READ	HRSTAFF	

NO ELEMENTS IN CONDITIONAL ACCESS LIST

-----  
TYPE: MEMBER           CLASS: TIMS            NAME: HRUPDT  
UACC: NONE            OWNER: HRADM          DATA: HR, UPDATE PERSONNEL INFO

STANDARD ACCESS LIST

ACCESS	USER/GROUP	NAME
READ	BIGSHRM	ROGER M BIGSHOT
READ	HRSTAFF	
READ	PAYCLK	
READ	PAYSUP	

NO ELEMENTS IN CONDITIONAL ACCESS LIST  
-----

TYPE: GROUPING        CLASS: GIMS            NAME: PAYMAINT  
UACC: NONE            OWNER: HRADM          DATA: PAYROLL MAINTENANCE

PROFILE MEMBER NAMES:

PAYINQ            PAYSIC            PAYVAC

STANDARD ACCESS LIST

ACCESS	USER/GROUP	NAME
READ	BIGSHRM	ROGER M BIGSHOT
READ	PAYCLK	
READ	PAYSUP	

NO ELEMENTS IN CONDITIONAL ACCESS LIST  
-----

TYPE: MEMBER           CLASS: TIMS            NAME: PAYUPD  
UACC: NONE            OWNER: HRADM          DATA: PAYROLL UPDATES

STANDARD ACCESS LIST

ACCESS	USER/GROUP	NAME
READ	BIGSHRM	ROGER M BIGSHOT
READ	PAYSUP	

NO ELEMENTS IN CONDITIONAL ACCESS LIST  
-----

WED, JUNE 25, 1997 13:45                                ESRF: RACF DATAOWNER RESOURCE REPORT  
REFERENCED RACF GROUPS:                                AUTHORIZATIONS FOR SELECTED PAYROLL TRANSACTIONS   PAGE.....7

-----  
GROUP: HRSTAFF        SUPERIOR GROUP: HRADM    OWNERID: HRADM        DATA: HUMAN RESOURCES STAFF  
USERID    NAME                                LAST-ACCESS   SYSTEM-STATUS   GROUP-STATUS   SYSTEM-PRIV   GROUP-PRIV  
CROWLCM   CANDY M CROWLEY                19-JUN-97  
KIRKSM    SAMUEL M KIRK                15-JUN-97  
MIDDLEJS  JOHN S MIDDLE                19-JUN-97  
-----

```

GROUP: PAYCLK      SUPERIOR GROUP: PAYRADM  OWNERID: PAYRADM  DATA: PAYROLL CLERKS
USERID  NAME          LAST-ACCESS      SYSTEM-STATUS    GROUP-STATUS    SYSTEM-PRIV    GROUP-PRIV
ADAMSJM JOHN M ADAMS     15-JUN-97
BROCKKJ KATHY J BROCK   ..-.-.-.-
DAMERJM JIM DAMERON    19-JUN-97
LOSTESQ SUSAN LOSTER    15-JUN-97
KROCKWJ WALTER J KROCK  5-JUN-97
SMITHSM SUSAN SMITH     19-JUN-97
WARDWLM WILLIAM WARD     15-APR-97      REVOKED
WILLSBS BARRY S WILLS   17-JUN-97
-----
GROUP: PAYSUP      SUPERIOR GROUP: PAYRADM  OWNERID: PAYRADM  DATA: PAYROLL SUPERVISORS
USERID  NAME          LAST-ACCESS      SYSTEM-STATUS    GROUP-STATUS    SYSTEM-PRIV    GROUP-PRIV
BIGSHRM ROGER M BIGSHOT 19-JUN-97
SMITHSM SUSAN SMITH     19-JUN-97
WILLSBS BARRY S WILLS   17-JUN-97
-----
-----
                                ESRF: RACF DATAOWNER RESOURCE REPORT
WED, JUNE 25, 1997 13:45          AUTHORIZATIONS FOR SELECTED PAYROLL TRANSACTIONS  PAGE.....8
NOTES AND INFORMATION:

NOTE 1 - USER IS SPECIFICALLY LISTED IN THE ACCESS LIST, HAS THE SYSTEMS SPECIAL PRIVILEGE, AND HAS
ALTER ACCESS. THE USER MAY HAVE BEEN ADDED AUTOMATICALLY BY RACF.

NOTE 8 - RACF WOULD DEFER THE ACCESS DECISION TO THE RESOURCE MANAGER (E.G. CICS, IMS, ETC.).
A PARAMETER TO THIS PROGRAM INDICATED THAT THE RESOURCE MANAGER WOULD DENY ACCESS IN THIS
CIRCUMSTANCE.

```

## ***Comments on the Output Listing***

### **Section 0 - Processing Log**

This section contains the input control statements, normal processing statements, and error messages.

### **Section 1 - Resources With No Associated Profile**

Under RACF, resources with no corresponding profile will not be protected unless the CLASS Default in the Class Descriptor Table indicates to prevent all undefined accesses. This section lists the datasets with no protection.

### **Section 2 - Access Via RACF Profiles**

This section lists the access permissions for each user to the resources selected. This permission takes into account special RACF privileges such as SPECIAL, OPERATIONS, etc.

### **Section 3 - Referenced Global Access Table Classes**

If a RACF Class specified in the Global Access Table was used to determine access permissions, then the Global Access Table entries regarding that class will be displayed.

#### **Section 4 - Referenced RACF Profiles**

The RACF profiles used to determine access are displayed along with the access lists for each of them.

#### **Section 5 - Referenced RACF Groups**

This section lists the referenced RACF Groups and the members of each Group.

#### **Section 6 - Notes and Information**

This section lists items that should be called to the attention of the Security Officer or Data Owner or assumptions that were made in the access analysis.

# Chapter 11 : RACF Userid-Owner Resource Report - EKCRURRS

## **Description**

The E-SRF Userid-Owner Resource Report provides the User Manager an overview of what resources (such as CICS transactions) and under what conditions a selected set of Userids can access. A common use of this report would be for a Manager to see what transactions the personnel under his or her authority could access. Optionally, a data file can be produced in either Personal Computer - Data Interchange Format or Mainframe fixed column format for post processing by a relational database (such as Microsoft Access) or other program.

## **The Input Control Parameters**

### **RACF Definition Keywords**

**XTRNRCDT** - Indicates that the Report Process should use an external RACF Class Name Table (sometimes referred to as the Class Descriptor Table) rather than the one active on the processing system. The only case this would be used is if the RACF Resource Class Descriptor Table was modified to add additional member and grouping classes and the system the report is being processed on is not the system that generated the RACF Database and the defined classes are different between the two systems. The EKCRURRS report will obtain the RACF Class Name Table from the Load Module Library defined in the XTRNTBL DD Card. The RACF Class Descriptor Table (ICHRRCDE) should be copied to this library from the system that produced the RACF database being processed. If the analysis is being done on a system without RACF active, this parameter must be used.

### **Resource Selection Keywords**

**RSGROUP**(groupname-mask1,groupname-mask2, ...) - the EKC resource dataset groups to be processed. The groupnames are based upon the EKC Grouping Rules. (*See the EKC Grouping Rule Reference Manual for further information.*) The EKC Grouping Rules allow the selection of Resources to be processed based upon algorithmic rules. Multiple indices can be combined to form one group as well as a single high-level index being split into multiple groups. If no grouping rules exist for the Groupname specified, datasets with the same high-level index as the Groupname specified will be selected. Multiple RSGROUP keywords may be specified.

**UGROUP**(groupname-mask1,groupname-mask2, ...) - This allows selection of the users to be process based upon the EKC Grouping Rules. (*See the EKC Grouping Rule Reference Manual for further information.*) The EKC Grouping Rules allow the selection of Users based upon algorithmic rules. Multiple disparate users can be combined to form a single group. Multiple **UGROUP** keywords may be specified

**CLASS**(high-level-index-mask) - If the **CLASS** keyword is specified, the **RSGROUP** keyword is ignored and resource names matching the CLASS will be selected. References to the EKC Grouping Rule database are not made.

## **User Selection Keywords**

**SELECT**(name, type, start, length, value) - defines a sub-field of the Installation data field.

- Name** any eight character name to be assigned to the field. If this field is listed in USERFIELDS for printing on the output, this is the name that will be used as the column heading.
- Type** the field type – currently only CHAR - Character is supported.
- Start** the starting position relative to the start of the Installation Data Field (the first character of the Installation Data Field is considered position 1).
- Length** the length of the field.
- Value** a mask that specifies selection criteria.

**SELECT**(field name, value) - allows the use of specific field names within the User Profile Record to be used as selection criteria. Additional permissible field names are: **USERID** (allows selection based on the Userid), **OWNERID** (allows selection based on the profile Owner), and **DFTGROUP** (allows selection based upon the default connect group). The value may be masked, such as using the form **SELECT(OWNERID,SSD\*)**, which would select all users who are owned by a user or groupname beginning with SSD.

**SELECT(UGROUP,grouping-class,imageid)** - allows selection of users based upon the EKC Grouping Rules. A resource in the grouping class specified with the resource name of: "imageid.ownerid default group userid" is created and the groupname returned by the Grouping Facility is checked against the groups specified in the **UGROUP** keyword. If the groupname matches one of those groups, the user is selected. Note that the ownerid, default group, and userid are each eight character fields filled with blanks. (See *the EKC Resource Grouping Facility manual for further information.*)

**IFGROUP**(group1, group2 ...) - restricts the analysis to Users who are connected to any of the specified groups - where group-*i* is a RACF group.

**INCREVOKED** - Normally, RACF Users that are in REVOKED status will be excluded from further processing. This option forces the report to include them. Users can be revoked either because their User Profile is REVOKEd or because the date the report was run was not within the REVOKE and RESUME dates in the profile. In either of these cases, the Userid will appear with a "R-" in front of it, as in R-USERID in the reports.

## **Output Control Keywords**

**TITLE**(title) - the title that will appear on the top of each page of the report output. The title is limited to 64 characters and will be centered on the output beginning on the second page.

**USERFIELDS**(usrfield1,usrfield2, ... , usrfield8) - a list of additional fields to be displayed when this report displays a User Profile Record. The names refer to the names defined in the SELECT keywords. The report always displays the Userid and the Name field. Additional defined character fields may be displayed along with these fields as long as the total

displayed length fits on one print line. Specific fields from the User Profile Record may also be displayed. Supported fields are Ownerid (**OWNERID**), Last Access Date (**ACC-DATE**), and Default Connect Group (**DFTGROUP**).

Currently, the available space is 60 characters.

All Installation Data Sub-fields to be displayed must have been previously defined with a SELECT statement. If no selection is actually required on these fields, use a mask of a single asterisk "\*" to bypass actual selection.

**LINES**(n-lines) - the number of lines per page of output - 55 is default. "U" can be used to prevent page ejects except at section breaks.

**MAXRSNS**(m-rsns) - the maximum number of resource names to process within a class. If this limit is reached, a message indicating this is produced and the remainder of the resource names is skipped. The maximum value for this field is 9999, although the letter "U" can be used for "unlimited." The default value is 50.

**MODIFYONLY** - specifies that the report output include only dataset permissions of UPDATE, CONTROL, or ALTER. Any permission that is READ or EXECUTE only will be ignored.

**SUMMARY** - specifies that a summary output should be created. The summary output also invokes a "loose-fit" algorithm for combining Resources with identical access patterns. In the loose-fit algorithm, the only criteria are users, access permission, and conditional or not-conditional. This excludes differences of **how** RACF would have produced the permission, such as via different groups, Global Access Table Checking, etc. In the SUMMARY report, the cross reference, profile list and the notes sections are skipped.

**SEPARATE** - No operands. Do not combine Resources with identical access patterns. Generates a separate listing for each Resource to be printed.

**PROFLIST** - Normally, the report will bypass printing of the referenced profiles because often it is a very large amount of output. The PROFLIST parameter forces the printing of this section of the report.

**NOXREF** - Bypass the printing of the profile usage cross reference section of the report.

**NOGROUPS** - This subsection of the profile listing section lists the referenced groups and the members of each one. This parameter causes the report to skip this sub-section.

**NONOTES** - As the report is processing, sometimes it comes across a condition that, although it may be perfectly valid, should be at least verified by the Data Owner. This parameter skips the printing of the Notes.

**NOWARN** - Do not issue warning messages based upon discrepancies within the RACF Database.

**NOINFO** - Do not issue informational messages based upon the RACF Database.

**NOXREF** - Do not produce a Resource Profile Cross Reference. This is the default if SUMMARY is used.

**EXPORT(DIF|RECORD)** - This parameter causes an output file to be written in either PC-Data Interchange Format (DIF) or standard fixed column with RECORD format.

## **Data Definition (DD) Control Cards - Required**

<b>STEPLIB</b>	If the program is not in a system linklist library, this definition must refer to the E-SRF Program Library
<b>SYSPRINT</b>	Listing output
<b>IRACFDB</b>	E-SRF/RACF Database
<b>SYSIN</b>	Control card definitions

## **Data Definition (DD) Control Cards - Optional**

<b>RSNAMES</b>	Dataset containing the resource names
<b>GRPRULES</b>	Dataset containing the EKC Grouping Rule Object Records
<b>EXPORT</b>	Output dataset to contain the Data Interchange Format Records
<b>XTRNTBL</b>	Dataset containing the RACF Class Name Table Definition Module if it is not the same as that on the executing system.
<b>WRAPPER</b>	Wrapper page definitions. See the section in this manual that describes the Wrapper controls.

## **Resulting Condition Codes**

<b>4</b>	Syntax error in input control cards or unable to open SYSPRINT
<b>8</b>	Insufficient Storage
<b>12</b>	No dataset or Userids selected
<b>16</b>	EKC Grouping Rule interface error
<b>20</b>	RACF database interface error
<b>24</b>	Unable to load critical module
<b>28</b>	Unable to open critical ddname

## **Sample JCL Statements to Run This Report**

```
//EKCRURRS EXEC PGM=EKCRURRS
//STEPLIB DD DSN=SYS1.ESRF.LOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//RSNAMES DD DSN=SYS1.ESRF.PRSNS,DISP=SHR
//IRACFDB DD DSN=SYS1.ESRF.VSAM,DISP=SHR
//SYSIN DD *
    TITLE(LISTING OF CICS TRANS AUTH FOR PAYROLL ADMINISTRATORS)
    IFGROUP(PAYADMIN) CLASS(TCICSTRN)
    SUMMARY
/*
```



# Sample Output Listing

```

EKCRURRS-06.17.97          ESRF: RACF USERID-OWNER RESOURCE REPORT
THU, JUNE 26, 1997      9:58                                PAGE.....1
PROCESSING JOURNAL

EKCRURRS-001 INPUT CONTROL CARDS:

        TITLE(AUTHORIZATIONS FOR PAYROLL DEPT EMPLOYEES)
        IFGROUP(PAYCLK,PAYSUP,HRSTAFF)  RSGROUP(HRTRANS)
        SUMMARY

EKCRURRS-200 SUMMARY OUTPUT REQUESTED, COMBINATION OF RESOURCES WILL BE MADE USING LOOSE-FIT ALGORITHM

EKCRRDBI-100 DATABASE STATISTICS:

LAST RACF SYSTEM ENTRY VALIDATION: 19-JUL-97 @ 14:14
        ESRF DATABASE BUILD: 25-AUG-97 @ 06:26

EKCRRDBI-101 GROUP AND USER STATISTICS:

        NUMBER OF GROUPS:      3,892
NUMBER OF GROUP CONNECTS:      347,880

EKCRRDBI-102 NUMBER OF USERIDS IN DATABASE:      1,605
        NUMBER OF USERIDS SELECTED:      8

EKCRURRS-205 RESOURCE NAMES: RECORDS READ:      6,160 -- MATCHING RESOURCE NAMES KEPT:      8
-- NUMBER OF DUPLICATES:      0
-----

                                ESRF: RACF USERID-OWNER RESOURCE REPORT
THU, JUNE 26, 1997      9:58                                AUTHORIZATIONS FOR PAYROLL DEPT EMPLOYEES      PAGE.....2
ACCESS VIA RACF PROFILES. FIRST USER IN SET: ADAMSJM

        USERID      NAME

ADAMSJM  JOHN M ADAMS
BROCKKJ  KATHY J BROCK
DAMERJM  JIM DAMERON
LOSTESQ  SUSAN LOSTER
KROCKWJ  WALTER J KROCK
SMITHSM  SUSAN SMITH
WILLSBS  BARRY S WILLS
-----

ACCESS  CLASS      RESOURCE NAME      NOTES

READ    TIMS      HRUPDT
READ    TIMS      PAYINQ
READ    TIMS      PAYSIC
READ    TIMS      PAYVAC
-----

                                ESRF: RACF USERID-OWNER RESOURCE REPORT
THU, JUNE 26, 1997      9:58                                AUTHORIZATIONS FOR PAYROLL DEPT EMPLOYEES      PAGE.....3
ACCESS VIA RACF PROFILES. FIRST USER IN SET: BIGSHRM

        USERID      NAME

BIGSHRM  ROGER M BIGSHOT
-----

ACCESS  CLASS      RESOURCE NAME      NOTES

READ    TIMS      HRHIRE
READ    TIMS      HRTERM
READ    TIMS      HRUPDT
READ    TIMS      HRXFER
READ    TIMS      PAYINQ
READ    TIMS      PAYSIC
READ    TIMS      PAYVAC
READ    TIMS      PAYUPD
-----

                                ESRF: RACF USERID-OWNER RESOURCE REPORT
THU, JUNE 26, 1997      9:58                                AUTHORIZATIONS FOR PAYROLL DEPT EMPLOYEES      PAGE.....4
ACCESS VIA RACF PROFILES. FIRST USER IN SET: SMITHSM

        USERID      NAME

SMITHSM  SUSAN SMITH
WILLSBS  BARRY S WILLS
-----

```

ACCESS	CLASS	RESOURCE NAME	NOTES
READ	TIMS	HRHIRE	
READ	TIMS	HRTERM	
READ	TIMS	HRUPDT	
READ	TIMS	HRXFER	

## ***Comments on the Output Listing***

### **Section 0 - Processing Log**

This section contains the input control statements, normal processing statements, and error messages.

### **Section 1 - Resources With No Associated Profile**

Under RACF, resources with no corresponding profile will not be protected unless the CLASS Default in the Class Descriptor Table indicates to prevent all undefined accesses. This section lists the datasets with no protection.

### **Section 2 - Access Via RACF Profiles**

This section lists the access permissions for each user to the resources selected. This permission takes into account special RACF privileges such as SPECIAL, OPERATIONS, etc.

### **Section 3 - Referenced Profile Vector Cross Reference**

Unless the SUMMARY option is chosen, the output of Section 2 will list a profile reference number for each access listed. This section will list each profile reference number and its associated profile(s). Multiple profiles may be listed if the resource is covered by multiple members of a RACF Grouping Profile.

### **Section 4 - Referenced Global Access Table Classes**

If a RACF Class specified in the Global Access Table was used to determine access permissions, then the Global Access Table entries regarding that class will be displayed.

### **Section 5 - Referenced RACF Profiles**

The RACF profiles used to determine access are displayed along with the access lists for each of them.

## **Section 6 - Referenced RACF Groups**

This section lists the referenced RACF Groups and the members of each Group.

## **Section 7 - Notes and Information**

This section lists items that should be called to the attention of the Security Officer or Data Owner or assumptions that were made in the access analysis.

# Chapter 12 : RACF Userid Differences Report - EKCRRUDF

## *Description*

The E-SRF/RACF Userid Differences Report accepts as input the EXPORT output of the E-SRF/RACF Userid-Owner Dataset Report and the E-SRF/RACF Userid-Owner Resource Report. It analyzes the access patterns of each user, groups together users with identical access permissions, and then lists what permission changes are necessary to make the unique groups have identical access.

This allows the User Manager or Auditor to easily identify questionable additional access authority that one or a few of their users may have, allows the cleanup of old access and no-longer-needed access permissions, provides for better grouping of users based on Job Function and for the general cleanup of the RACF database.

## *The Input Control Parameters*

### *Grouping Selection Keywords*

Each unique group of users' access permissions is compared to every other unique group of users. The Grouping Selection Keywords indicate to the analysis program which sets of groups to report on. The selection is done via two conditions – PERCENT and COUNT, and if either of these conditions is met, the set of groups is called “selected” and later reported on.

PERCENT is the percent of changes to access permissions in the access list of either unique group. For example, 25 would indicate that the set of two unique groups should be selected if less than 25 percent of its access permissions had to be added or changed.

COUNT is the total number of changes to access permissions in the access list of both groups combined. For example, 15 would indicate that the set of two unique groups should be selected if less than 15 access permissions had to be added or changed.

**PERCENT**(nnnn|U) - specifies the maximum percentage of changes for selection. “U” specifies an unlimited amount effectively selecting all combinations of unique groups for later reporting. Ten (10) percent is the default.

**COUNT**(nnnn|U) - specifies the maximum number of changes for selection. “U” specifies an unlimited amount effectively selecting all combinations of unique groups for later reporting. Fifteen (15) is the default.

## **Output Control Keywords**

**TITLE**(title) - the title that will appear on the top of each page of the report output. The title is limited to 64 characters and will be centered on the output beginning on the second page.

**LIMITED** - specifies that only the information for unique groups selected via the PERCENT or COUNT keywords is to be printed. The information on non-selected groups is bypassed.

**LINES**(n-lines) - the number of lines per page of output - 55 is default. "U" can be used to prevent page ejects except at section breaks.

**NORESOURCES** - specifies that the listing of each resource that a unique group has access to is to be bypassed. The report will list the differences between the groups, but not the detailed listing of the resources accessible by each group.

**NOWARN** - specifies that warning messages about duplicate or invalid input records are to be bypassed. The only time messages are produced that must be analyzed is when discrete dataset profiles are used and there is a duplicate, fully qualified generic profile, with the exact same name.

## **Data Definition (DD) Control Cards - Required**

<b>STEPLIB</b>	If the program is not in a system linklist library, this definition must refer to the E-SRF Program Library
<b>SYSPRINT</b>	Listing output
<b>SYSIN</b>	Control card definitions
<b>INRSNSxx</b>	The datasets produced by the EKRRUDS and EKRRURS EXPORT(RECORD) function selection. "xx" can be any one or two characters or numbers.

## **Output Sections**

### **Section 0: Processing Log**

This section lists the input control cards, statistics about the records read, etc. and any error conditions that may have been encountered during the processing of the data.

### **Section 1: Group Combination Information**

This section lists the information on each combination of unique groups. If the LIMIT option was chosen, only those group combinations that are selected based upon the criteria of the PERCENT and COUNT keywords are listed. Information listed includes a representative Userid and User's Name, the number of users in the group, the number of resources accessible by the group, the number of resources that need to be added to make its access pattern identical to the other group.

## **Section 2: Information on Each Group**

This section lists the information on each unique group. If the LIMIT option was chosen, only those groups that are part of a selected combination will be displayed. The display consists of the group number, the number of members, the number of accessible resources, whether the group was selected as part of a combination or not, the list of all the members of the group (Userids and Name), and unless the NORESOURCE option was selected, a list of all the resources the group had access to and the access permission they had.

## **Section 3: Differences Between Groups**

This section lists each of the selected combinations of groups and the additional RACF permissions that need to be added to make their access patterns identical.

## ***Resulting Condition Codes***

- 4** Syntax error in input control cards or unable to open SYSPRINT
- 8** Insufficient Storage
- 12** No access or resource records provided
- 24** Unable to load critical module
- 28** Unable to open critical ddname

## ***Sample JCL Statements to Run This Report***

```
//JOB LIB DD DSN=SYS1.ESRF.LOAD,DISP=SHR
// *
// * COPY THE COMMON CONTROL CARDS FOR THE DATASET AND
// * RESOURCE ANALYSIS STEPS TO A TEMPORARY DATASET
// * WHICH WILL LATER BE USED AS SYSIN CONTROL CARDS
// * FOR BOTH STEPS
// *
//DATA EXEC PGM=IEBGENER
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=*
//SYSUT2 DD DSN=&INPUT,DISP=(,PASS),SPACE=(TRK,(1,1)),
// UNIT=SYSDA
//SYSUT1 DD *
TITLE(DEVELOP EXPORT DATASET FOR USE BY DIFFERENCES REPORT)
SUMMARY EXPORT(RECORD)
IFGROUP(HRSTAFF)
/*
// *
// * DEVELOP THE PSEUDO DATASET AND RESOURCE NAMES DERIVED
// * FROM THE PROFILE NAMES IN THE RACF DATABASE
// *
//PSEUDO EXEC PGM=EKCRRPSD
```

```

//SYSPRINT DD SYSOUT=*
//IRACFDB DD DSN=SYS1.ESRF.VSAM,DISP=SHR
//DSNAMES DD DSN=&DSNS,DISP=(,PASS),SPACE=(TRK,(20,10)),
//
//          DCB=BLKSIZE=6144,UNIT=SYSDA
//RSNAMES DD DSN=&RSNS,DISP=(,PASS),SPACE=(TRK,(20,10)),
//
//          DCB=BLKSIZE=6144,UNIT=SYSDA
//*
//*      DEVELOP THE EXPORT FILE OF THE DATASET ACCESS ANALYSIS
//*
//BLDUDS EXEC PGM=EKCRRUDS,REGION=4M
//SYSPRINT DD SYSOUT=*
//DSNAMES DD DSN=&DSNS,DISP=OLD
//IRACFDB DD DSN=SYS1.ESRF.VSAM,DISP=SHR
//EXPORT DD DSN=&UDS,DISP=(,PASS),SPACE=(TRK,(50,50)),
//
//          DCB=BLKSIZE=6144,UNIT=SYSDA
//SYSIN DD DSN=&INPUT,DISP=(OLD,PASS)
//*
//*      DEVELOP THE EXPORT FILE OF THE RESOURCE ACCESS ANALYSIS
//*
//BLDURS EXEC PGM=EKCRRURS,REGION=4M
//SYSPRINT DD SYSOUT=*
//RSNAMES DD DSN=&RSNS,DISP=OLD
//IRACFDB DD DSN=SYS1.ESRF.VSAM,DISP=SHR
//EXPORT DD DSN=&URS,DISP=(,PASS),SPACE=(TRK,(50,50)),
//
//          DCB=BLKSIZE=6144,UNIT=SYSDA
//SYSIN DD DSN=&INPUT,DISP=OLD
//*
//*      RUN THE E-SRF USERID DIFFERENCES REPORT
//*
//RUNUDF EXEC PGM=EKCRRUDF,REGION=4M
//SYSPRINT DD SYSOUT=*
//INRSNSDS DD DSN=&UDS,DISP=OLD
//INRSNSRS DD DSN=&URS,DISP=OLD
//SYSIN DD *
TITLE(ANALYSIS OF ACCESS PERMISSIONS OF HUMAN RESOURCES STAFF)
LIMIT NORESOURCES
PERCENT(5)
/*

```

## Chapter 13 : Export Data Files

Optionally, all E-SRF/RACF Access Analysis Reports can create an output dataset that can be used as input to a Personal Computer Based Word Processor or Database System or as input for another Mainframe application. The keyword used in all the reports is EXPORT and it may optionally contain an operand.

### ***EXPORT or EXPORT(DIF) Format***

This is the default EXPORT output format and is chosen if the keyword EXPORT is used with no operand. The output dataset would be created in PC - Data Interchange Format or comma-delimited format. The first output record will contain the field names and subsequent records will be variable length with each field separated by a comma. Fields that may contain commas, such as the name field, are enclosed with double quotation marks (“...”).

The field names are:

**CLASS** - The Resource Class Name. **DATASET** is used for the Dataset class. **ESRFOMVS** is used for Open Edition File Names. Otherwise, the class specified is the class of the resource name.

**RSNAME** - The Resource Name. In the case of the Dataset class, it is the dataset name. In the case of Open Edition, it is the file name.

**MULTIPLE** - If there were multiple methods in which the user could obtain this access to the resource, then a **YES** will appear. Otherwise, a **NO** will appear in this field.

**ACCESS** - The access permission: **EXECUTE**, **READ**, **UPDATE**, **CONTROL** or **ALTER**. For Open Edition, the access permissions are of the form **RWX**, meaning Read, Write and Execute allowed. If the permission is not allowed, a dash will be placed in the location. For example, **R-X** means Read and Execute allowed, but Write is not allowed.

**CONDITIONAL** - An indicator whether the access was conditional or not. Will contain a **YES** or **NO**.

**USER\_ID** - The RACF Userid of the user.

**USER\_NAME** - The name of the user from the RACF User Profile Record.



**REASON** - The reason why RACF would have allowed access. These are:

**USERID=HLI** - The Userid matched the High Level Index (*This reason will only appear in systems with NOPROTECTALL in effect.*)

**GAC\_TABLE** - The access was allowed by the RACF Global Access Table.

**USERID\_IN\_ACL** - The Userid was specified directly in the Access Control List

**GROUP\_IN\_ACL** - The Userid was a member of a RACF Group that was specified in the Access Control List.

**SYSTEM\_OPER** - The Userid had Systems Operations Authority and in this instance, allowed access to the resource.

**GROUP-OPER** - The Userid had Group Operations Authority for a particular RACF Group, and in this instance, allowed access to the resource.

**ALL\_RACF\_USERS** - All RACF defined users were allowed this access to the resource.

**ALL\_USERS** - All users of the system were allowed this access to the resource.

**SPECIAL\_PRIV** - The Userid had SYSTEM-SPECIAL authority and in this instance, allowed access to the dataset.

**CREATE\_AUTH** - The Userid had Create Authority in a particular RACF Group, and in this instance, allowed access to the resource.

**CSNT\_DFLT** - The RACF Class Name Table Default for this resource was to allow access.

**RSRC\_MGR\_DECISION** – The RACF Class Name Table would have returned an indicator that the decision was left to the Resource Manager (such as CICS, etc.) to decide whether the access should be allowed or not.

**UID\_MATCH** - For Open Edition, the UID of the User matched the UID of the file.

**GID\_MATCH** - For Open Edition, the GID of the file matched one of the GID's of the Groups that the User is connected to.

**OTHER\_MATCH** - For Open Edition, the permission for "All other users."

**GROUP** - The RACF Groupname that gave the User this authority if the authority was obtained via membership in a Group.

**COND\_TYPE** - The Conditional Access Type if the access was conditional. Possible types are: **CONSOLE**, **TERMINAL**, **JES\_INPUT**, and **PROGRAM**.

**COND\_ELEMENT** - The Conditional Access Element name if the access was conditional.

## ***EXPORT(RECORD) Format***

The output dataset is to be produced as a variable length record with fixed length fields with the exception of the resource name (which appears last), which is a variable length field.

The field definitions are:

<b><u>Columns</u></b>	<b><u>Description</u></b>
1-3	Multiple access permissions - <b>YES/NO</b>
4	Blank
5-12	Access Type (same definitions as for DIF format)
13	Blank
14-16	Conditional permission - <b>YES/NO</b>
17	Blank
18-25	Userid
26	Blank
27-46	User Name from RACF User Profile Record
47	Blank
48-63	Reason Code (same definitions as for DIF format)
64	Blank
65-72	RACF Group giving highest access
73	Blank
74-82	Conditional Access Type (same definitions as for DIF format)
83	Blank
84-91	Conditional Access Element name
92	Blank
93-100	Resource Class Name
101	Blank
102 to end of record	Resource Name

# Chapter 14 : Wrappers - Defining Front and Back Wrappers

## *Function*

In the following reports, the installation may define Wrapper information to be printed in the front and back of the report. The E-SRF Access Analysis Reports that support this function are:

- EKCRRDDS - DataOwner Dataset Report
- EKCRRDRS - DataOwner Resource Report
- EKCRRDOE - DataOwner Open Edition Report
- EKCRRUDS - Userid Owner Dataset Report
- EKCRRURS - Userid Owner Resource Report

The Wrapper functionality is invoked by adding the WRAPPER DD card to the Job Control Language for the report. The Wrappers are formatted as follows:

23 lines of 72 characters each on the front Wrapper page, which is centered in the top portion of the page and 18 lines of 132 characters each at the bottom of the page, which describes the abbreviations used in the report. The information for the bottom portion of the page is supplied with E-SRF although it can be modified via the \$DESCMOD control card in the Wrapper definitions.

44 lines of 72 characters each on the back Wrapper page.

The WRAPPER DD card defines a card-image dataset (or member of a dataset) with the following control cards:

\* -- as the first character of a line, not within a front or back wrapper definition, defines a comment.

\$HEAD1 - the top Header Line of the Wrapper pages

\$HEAD2 - the middle Header Line of the Wrapper pages

\$HEAD3 - the bottom Header Line of the Wrapper pages

\$DESCMOD= the installation load module that is to replace the E-SRF supplied portion of the bottom of the front Wrapper page. See description of definition below.

\$FRONT - the beginning of the Front Wrapper Page definition – all lines following until another \$ control card is encountered are placed on the Front Wrapper Page.

\$BACK - the beginning of the Back Wrapper Page definition – all lines following until another \$ control card is encountered are placed on the Back Wrapper Page. If no Back Wrapper Page Definitions are encountered, the Back Wrapper Page is not printed.

## ***Sample Wrapper Input***

\$HEAD1=ABC COMPANY SECURITY ACCESS CONTROL REPORT

\$FRONT

PLEASE READ THE FOLLOWING REPORT CAREFULLY AND REVIEW THE ACCESS CONTROL INFORMATION CONTAINED THEREIN.

THE SECURITY OF OUR COMPANY MAY DEPEND ON IT.

SINCERELY,

THE MANAGEMENT

\$BACK

IF ANY CHANGES IN ACCESS AUTHORITY ARE REQUIRED PLEASE CALL INFORMATION SECURITY AT 555-3456. OTHERWISE, PLEASE SIGN THIS REPORT AND RETURN IT TO INFORMATION SECURITY.

I APPROVE THE ABOVE REFERENCED SECURITY ACCESS LISTS.

PLEASE SIGN HERE:

\_\_\_\_\_

PLEASE PRINT NAME HERE:

\_\_\_\_\_





## The WRAPDEF Macro Instruction

The WRAPDEF Macro Instruction is of the following format:

```
WRAPDEF ROW,COL,'TEXT'
```

Where ROW defines the line number, COL defines the Column number ("CENTER") means center the text, and TEXT defines the text to be displayed.

The input must be terminated by a WRAPDEF END statement.

## Sample Description Load Module Definition

```
RDRW      TITLE 'WRAPPER DEFINITIONS FOR EKCRDRS'
*
*      THIS CSECT DEFINES THE WRAPPER DEFINITIONS FOR THE
*      E-SRF/RACF DATAOWNER RESOURCE REPORT - EKCRDRS
*
*      COPYRIGHT EKC, INC. -- 1998
*
EKCRDRW CSECT
SPACE 1
WRAPDEF 1,1,'ABBREVIATIONS USED IN REPORT'
WRAPDEF 3,2,'M" BEFORE THE ACCESS PRIVILEGE INDICATES THAT THX
           E USER IS INCLUDED'
WRAPDEF 4,6,'IN MULTIPLE GROUPS THAT HAVE ACCESS TO THESE RESOX
           URCES.'
WRAPDEF 5,2,'"*" BEFORE THE ACCESS PRIVILEGE INDICATES THAT THX
           E ACCESS IS CONDITIONAL'
WRAPDEF 6,2,'"R-" IN FRONT OF THE USERID INDICATES THAT THE USX
           ERID IS IN REVOKED STATUS'
WRAPDEF 8,1,'THE SUMMARY KEYWORD INVOKES THE SUMMARY VERSION OX
           F THIS REPORT.  THE SUMMARY VERSION USES A "LOOSE FIT"'
WRAPDEF 9,1,'ALGORITHM IN WHICH THE ONLY CRITERIA USED TO GROUX
           P TOGETHER ACCESSES ARE THE USERS, THE ACCESS PERMISSIONX
           '
WRAPDEF 10,1,'AND WHETHER THE ACCESS WAS CONDITIONAL OR NOT.'
WRAPDEF 11,1,'HOW RACF MADE THIS DETERMINATION, SUCH AS VIA DIX
           FFERENT GROUPS, THE GLOBAL ACCESS TABLE, ETC., IS IGNOREX
           D.'
WRAPDEF 13,1,'PREDEFINED USER FIELDS WHICH CAN BE DISPLAYED VIX
           A THE USERFIELDS KEYWORD ARE:'
WRAPDEF 14,3,'OWNERID (THE USER PROFILE OWNER), ACC-DATE (THE X
           DATE OF THE LAST SYSTEM ACCESS), AND DFTGROUP (THE USERSX
           DEFAULT GROUP)'
WRAPDEF 16,CENTER,'E-SRF IS A PROPRIETARY PRODUCT OF EKC, INC.X
           , ROSEMONT, ILLINOIS, USA.'
WRAPDEF 18,CENTER,'FOR TECHNICAL SUPPORT IN NORTH AMERICA, CALX
           L 847-296-8035.'
WRAPDEF END
END
```

# Chapter 15 : Dataset/Resource Renaming Exits

## ***The Dataset and Resource Name Renaming Exits***

These exits are called after all selections (based upon the CLASS or RSGROUP keywords in the case of resources and the INDEX or RSGROUP keywords in the case of datasets) have been made.

The parameter list is two words long. The first word contains the address of an eight byte area containing the Resource Class and the second word contains the address of a 256 byte area containing the resource name.

In the case of datasets, the Class is set to "DATASET." The exit should put the new name of the resource class or resource name in the areas provided.

If the resource class is set to "DATASET," it may not be changed by the Exit. Standard OS Register Conventions and calling sequences are used.



# Chapter 16 : Notes Produced by RACF Access Analysis

## ***EKRRDDS - The DataOwner Dataset Report***

**NOTE 1: USER HAS SYSTEMS SPECIAL PRIVILEGES AND HAS ALTER ACCESS. THE USER MAY HAVE BEEN AUTOMATICALLY ADDED BY RACF.**

RACF will automatically add the creator of a profile to the access list of the profile. If a user is specifically mentioned on the access list and the user has systems special privileges, there is a distinct possibility the user was added automatically by RACF without the knowledge of the creator. Beginning with RACF 2.3, which comes with OS/390 Release 3, there is a SETROPTS Option (NOADDCREATOR) to deactivate this.

**NOTE 2: USER HAS CREATE AUTHORITY WITHIN GROUP. THE USER MAY CREATE DATASETS. OTHER ACCESS IS DETERMINED BY NORMAL RACF PERMISSIONS.**

If a user is connected to a group with "Create" authority and the controlling profile is within the scope-of-control, the user can create datasets covered by the profile. This message will only appear if the user does not have sufficient authority to create datasets under the normal RACF access controls.

**NOTE 3: USER HAS OPERATIONS AUTHORITY, BUT IS CONNECTED TO THE GROUP WITH USE AUTHORITY.**

The user specified has Systems Level Operations Authority, but is connected to the Owning Group with "Use" authority, thus negating the privileges of operations authority.

**NOTE 4: SPECIFIED PROFILE IS IN WARNING MODE. ALL ACCESSES WILL BE ALLOWED. THE ACCESS PATTERNS REPORTED HEREIN ARE BASED ON THE ACCESS LIST DEFINITIONS AND ASSUME THAT THE PROFILE WILL BE CHANGED TO NOWARNING.**

The indicated profiles are in Warning mode. This means that RACF will continue to allow accesses even if they are prohibited under the RACF Profiles. The E-SRF/RACF Reports will report on accesses as if the profiles were not in Warning mode. The Security Administrator should investigate and approve profiles in Warning mode.

**NOTE 5: ONLY SELECTED USERS PROCESSED. SOME EXCLUDED USERS MAY HAVE DIFFERENT AUTHORITY.**

The DataOwner Report has been run with a subset of users (selected by the SELECT or IFGROUP keywords). Just because a limited number of users are listed as having access in the report, one should not assume that this is the total limit of users having access in the live RACF system.

**NOTE 6: THIS DATASET IS PROTECTED VIA A DISCRETE PROFILE. THE SAME DATASET MAY HAVE DIFFERENT ACCESS AUTHORITY ON DIFFERENT VOLUMES.**

When RACF protects a dataset with a discrete profile, the volume serial number is associated with the discrete profile. If the dataset were moved to another volume, then a different RACF profile would apply for access to this dataset.

**NOTE 7: DATASETS MARKED WITH “X-“ HAVE HAD THEIR NAMES MODIFIED BY EITHER THE NAMING CONVENTION TABLE OR AN INSTALLATION EXIT. THE MODIFIED NAME HAS BEEN USED FOR ANALYSIS.**

RACF supports the renaming of dataset names to meet the RACF conventions. Thus, the real dataset name may not be the dataset name used for access control determination. The referenced datasets are ones whose names have been changed by the RACF Naming Convention Table or an installation exit prior to access control determination.

### ***EKCRRDRS - The DataOwner Resource Report***

**NOTE 1: USER HAS SYSTEMS SPECIAL PRIVILEGES AND HAS ALTER ACCESS. THE USER MAY HAVE BEEN ADDED AUTOMATICALLY BY RACF.**

RACF will automatically add the creator of a profile to the access list of the profile. If a user is specifically mentioned on the access list and the user has systems special privileges, there is a distinct possibility the user was added automatically by RACF without the knowledge of the creator. Beginning with RACF 2.3, which comes with OS/390 Release 3, there is a SETROPTS Option (NOADDCREATOR) to deactivate this.

**NOTE 2: USER HAS CREATE AUTHORITY WITHIN GROUP. THE USER MAY CREATE RESOURCES. OTHER ACCESS IS DETERMINED BY NORMAL RACF PERMISSIONS.**

If a user is connected to a group with “Create” authority and the controlling profile is within the scope-of-control, the user can create resources covered by the profile. This message will only appear if the user does not have sufficient authority to create resources under the normal RACF access controls.

**NOTE 3: USER HAS OPERATIONS AUTHORITY, BUT IS CONNECTED TO THE GROUP WITH USE AUTHORITY.**

The user specified has Systems Level Operations Authority, but is connected to the Owning Group with “Use” authority, thus negating the privileges of operations authority.

**NOTE 4: SPECIFIED PROFILE IS IN WARNING MODE. ALL ACCESSES WILL BE ALLOWED. THE ACCESS PATTERNS REPORTED HEREIN ARE BASED ON THE ACCESS LIST DEFINITIONS AND ASSUME THAT THE PROFILE WILL BE CHANGED TO NOWARNING.**

The indicated profiles are in Warning mode. This means that RACF will continue to allow accesses even if they are prohibited under the RACF Profiles. The E-SRF/RACF Reports will report on accesses as if the profiles were not in Warning mode. The Security Administrator should investigate and approve profiles in Warning mode.

**NOTE 5: ONLY SELECTED USERS PROCESSED. SOME EXCLUDED USERS MAY HAVE DIFFERENT AUTHORITY.**

The DataOwner Report has been run with a subset of users (selected by the SELECT or IFGROUP keywords). Just because a limited number of users are listed as having access in the report, one should not assume that this is the total limit of users having access in the live RACF system.

**NOTE 6: THERE WERE NO PROFILES DEFINED TO DETERMINE ACCESS TO THIS RESOURCE. THE CLASS NAME TABLE DEFAULT RETURN CODE INDICATES THAT THE RESOURCE MANAGER (E.G. CICS, IMS, ETC.) MUST DETERMINE ACCESS.**

No RACF Profiles were defined that had control over this resource. For each Resource Class, there is an entry in the RACF Class Name Table. This entry indicates what action RACF is to take if there is no profile associated with the resource. The possibilities are Allow, Deny or leave the decision to the caller – e.g. the resource manager. In the resources referenced by this Note, the determination was left to the resource manager. See your CICS, IMS, etc. systems programmer to determine what action the resource manager has been configured to take under these circumstances.

**NOTE 7: USER ADDED BECAUSE OF OPERATIONS AUTHORITY. OPERATIONS AUTHORITY TO RESOURCES CAN BE CONTROLLED BY A RACF CLASS NAME TABLE OPTION.**

The indicated user has been added to the access list for a particular resource because the user has Operations authority. The decision as to whether to allow users with Operations authority access to resources is made based on a parameter for the resource class entry in the RACF Class Name Table. See your RACF systems programmer for more details.

**NOTE 8: RACF WOULD DEFER THE ACCESS DECISION TO THE RESOURCE MANAGER (E.G. CICS, IMS, ETC.). A PARAMETER TO THIS PROGRAM INDICATED THAT THE RESOURCE MANAGER WOULD DENY ACCESS IN THIS CIRCUMSTANCE.**

The conditions of Note 6 above existed – that is, there was no profile having control over the resource and the resource class entry in the RACF Class Name Table indicated that the determination was to be left to the resource manager. However, the DENY keyword was specified with this class as an operand. The analysis report then assumed that the resource manager would have been configured to deny access under these circumstances. This assumption should be verified with the systems programmer for the particular resource manager in question.

## ***EKCRRUDS - The Userid Owner Dataset Report***

**NOTE 1: USER HAS SYSTEMS SPECIAL PRIVILEGES AND HAS ALTER ACCESS. THE USER MAY HAVE BEEN ADDED AUTOMATICALLY BY RACF.**

RACF will automatically add the creator of a profile to the access list of the profile. If a user is specifically mentioned on the access list and the user has systems special privileges, there is a distinct possibility the user was added automatically by RACF without the knowledge of the creator. Beginning with RACF 2.3, which comes with OS/390 Release 3, there is a SETROPTS Option (NOADDCREATOR) to deactivate this.

**NOTE 2: USER HAS CREATE AUTHORITY WITHIN GROUP. THE USER MAY CREATE DATASETS. OTHER ACCESS IS DETERMINED BY NORMAL RACF PERMISSIONS.**

If a user is connected to a group with "Create" authority and the controlling profile is within the scope-of-control, the user can create datasets covered by the profile. This message will only appear if the user does not have sufficient authority to create datasets under the normal RACF access controls.

**NOTE 3: USER HAS OPERATIONS AUTHORITY, BUT IS CONNECTED TO THE GROUP WITH USE AUTHORITY.**

The user specified has Systems Level Operations Authority, but is connected to the Owning Group with "Use" authority, thus negating the privileges of operations authority.

**NOTE 4: SPECIFIC PROFILE IS IN WARNING MODE. ALL ACCESSES WILL BE ALLOWED. THE ACCESS PATTERNS REPORTED HEREIN ARE BASED ON THE ACCESS LIST DEFINITIONS AND ASSUME THAT THE PROFILE WILL BE CHANGED TO NOWARNING.**

The indicated profiles are in Warning mode. This means that RACF will continue to allow accesses even if they are prohibited under the RACF Profiles. The E-SRF/RACF Reports will report on accesses as if the profiles were not in Warning mode. The Security Administrator should investigate and approve profiles in Warning mode.

**NOTE 5: ONLY SELECTED USERS PROCESSED. SOME EXCLUDED USERS MAY HAVE DIFFERENT AUTHORITY.**

The DataOwner Report has been run with a subset of users (selected by the SELECT or IFGROUP keywords). Just because a limited number of users are listed as having access in the report, one should not assume that this is the total limit of users having access in the live RACF system.

**NOTE 6: THIS DATASET IS PROTECTED VIA A DISCRETE PROFILE. THE SAME DATASET MAY HAVE DIFFERENT ACCESS AUTHORITY ON DIFFERENT VOLUMES.**

When RACF protects a dataset with a discrete profile, the volume serial number is associated with the discrete profile. If the dataset were moved to another volume, then a different RACF profile would apply for access to this dataset.

**NOTE 7: DATASETS MARKED WITH “X-“ HAVE HAD THEIR NAMES MODIFIED BY EITHER THE NAMING CONVENTION TABLE OR AN INSTALLATION EXIT. THE MODIFIED NAME HAS BEEN USED FOR ANALYSIS.**

RACF supports the renaming of dataset names to meet the RACF conventions. Thus, the real dataset name may not be the dataset name used for access control determination. The referenced datasets are ones whose names have been changed by the RACF Naming Convention Table or an installation exit prior to access control determination.

### ***EKRRURS - The Userid-Owner Resource Report***

**NOTE 1: USER HAS SYSTEMS SPECIAL PRIVILEGES AND HAS ALTER ACCESS. THE USER MAY HAVE BEEN ADDED AUTOMATICALLY BY RACF.**

RACF will automatically add the creator of a profile to the access list of the profile. If a user is specifically mentioned on the access list and the user has systems special privileges, there is a distinct possibility the user was added automatically by RACF without the knowledge of the creator. Beginning with RACF 2.3, which comes with OS/390 Release 3, there is a SETROPTS Option (NOADDCREATOR) to deactivate this.

**NOTE 2: USER HAS CREATE AUTHORITY WITHIN GROUP. THE USER MAY CREATE RESOURCES. OTHER ACCESS IS DETERMINED BY NORMAL RACF PERMISSIONS.**

If a user is connected to a group with “Create” authority and the controlling profile is within the scope-of-control, the user can create resources covered by the profile. This message will only appear if the user does not have sufficient authority to create resources under the normal RACF access controls.

**NOTE 3: USER HAS OPERATIONS AUTHORITY, BUT IS CONNECTED TO THE GROUP WITH USE AUTHORITY.**

The user specified has Systems Level Operations Authority, but is connected to the Owning Group with “Use” authority, thus negating the privileges of operations authority.

**NOTE 4: SPECIFIED PROFILE (“W-“) IS IN WARNING MODE. ALL ACCESSES WILL BE ALLOWED. THE ACCESS PATTERNS REPORTED HEREIN ARE BASED ON THE ACCESS LIST DEFINITIONS AND ASSUME THAT THE PROFILE WILL BE CHANGED TO NOWARNING.**

The indicated profiles are in Warning mode. This means that RACF will continue to allow accesses even if they are prohibited under the RACF Profiles. The E-SRF/RACF Reports will report on accesses as if the profiles were not in Warning mode. The Security Administrator should investigate and approve profiles in Warning mode.

**NOTE 5: ONLY SELECTED USERS PROCESSED. SOME EXCLUDED USERS MAY HAVE DIFFERENT AUTHORITY.**

The DataOwner Report has been run with a subset of users (selected by the SELECT or IFGROUP keywords). Just because a limited number of users are listed as having access in the report, one should not assume that this is the total limit of users having access in the live RACF system.

**NOTE 6: THERE WERE NO PROFILES DEFINED TO DETERMINE ACCESS TO THIS RESOURCE. THE CLASS NAME TABLE DEFAULT RETURN CODE INDICATES THAT THE RESOURCE MANAGER (E.G. CICS, IMS, ETC.) MUST DETERMINE ACCESS.**

No RACF Profiles were defined that had control over this resource. For each Resource Class, there is an entry in the RACF Class Name Table. This entry indicates what action RACF is to take if there is no profile. The possibilities are Allow, Deny or leave the decision to the caller – e.g. the resource manager. In the resources referenced by this Note, the determination was left to the resource manager. See your CICS, IMS, etc. systems programmer to determine what action the resource manager has been configured to take under these circumstances.

**NOTE 7: USER ADDED BECAUSE OF OPERATIONS AUTHORITY. OPERATIONS AUTHORITY TO RESOURCES CAN BE CONTROLLED BY A RACF CLASS NAME TABLE OPTION.**

The indicated user has been added to the access list for a particular resource because the user has Operations authority. The decision as to whether to allow users with Operations authority access to resources is made based on a parameter for the resource class entry in the RACF Class Name Table. See your RACF systems programmer for more details.

**NOTE 8: THE DENY KEYWORD PARAMETER WAS USED INDICATING THAT THE RESOURCE MANAGER WOULD DENY ACCESS TO A SPECIFIED SERIES OF CLASSES IF THERE WAS NO PROFILE COVERING THE ACCESS. THIS REPORT MAKES THE ASSUMPTION THAT THIS IS VALID.**

If there is no profile covering a specific access request, RACF will use the default access in the RACF Class Name Table for the Class of the resource being validated. This default access can be Allow, Deny or can leave the determination up to the specific resource manager (e.g. CICS, IMS, etc.). The DENY keyword indicates to the Access Analysis program that the specific resource manager for that Class would deny access if RACF left the decision up to it. The report output makes the assumption that this is valid; however, it is suggested that the RACF Systems Programmer verify this for the resource classes involved.

## ***EKCRRDOE - The DataOwner Open Edition Report***

**NOTE 1: USER HAS SUPERUSER AUTHORITY VIA THEIR RACF PROFILE WHICH SPECIFIES UID(0).**

The User Indicted has a RACF User Profile with UID(0) in their OMVS Segment. A user with a UID(0) is a Superuser under Open Edition and can access any file in the File System.

**NOTE 2: OPERATIONS AUTHORITY ALLOWED FOR FACILITY CLASS. THIS IS NOT A STANDARD RACF SETTING.**

The RACF Class Name Table entry for the FACILITY Class was changed from the way IBM shipped it to allow for RACF Operations Authority over the class. This means that anyone with Operations authority would be allowed access to the Open Edition BPX profiles, making the planning for Open Edition File Security much more difficult to manage.

**NOTE 3: ALL USERS ALLOWED TO FACILITY CLASS PROFILE: BPX.SUPERUSER. THIS ALLOWS \*ANYONE\* TO OBTAIN SUPERUSER AUTHORITY.**

In the RACF FACILITY Class Profile, either the UACC was set to a value other than NONE, or a Userid(\*) was specified in the Access List with an authority greater than NONE. This allows anyone to obtain Superuser authority via the Open Edition "su" command.

**NOTE 4: GLOBAL ACCESS TABLE CHECKING IN EFFECT FOR FACILITY CLASS PROFILE: BPX. SOMETHING. THIS IS A SECURITY EXPOSURE.**

In determining the access authorities for the BPX.SUPERUSER and BPX.DAEMON FACILITY Class profiles, a determination was made that there is a Global Access Table entry for one of these resources. This is a security exposure since the Global Access Table does not provide enough specification for adequate protection of these resources.

**NOTE 5: USER HAS SYSTEMS SPECIAL ACCESS AND HAS ALTER ACCESS. THE USER MAY HAVE BEEN ADDED AUTOMATICALLY BY RACF.**

In determining the access authorities for the BPX.SUPERUSER and BPX.DAEMON FACILITY Class profiles, a determination was made that a Userid was in the Access List, that Userid had ALTER access, and that the Userid had SYSTEMS SPECIAL authority. In earlier releases RACF would automatically add the Userid creating the Profile with these attributes. A determination should be made as to whether this is what was intended.

**NOTE 6: STANDARD UNIX TYPE SECURITY IN EFFECT**

No profile was found for the FACILITY Class Profile BPX.DAEMON. This added profile provides enhanced protection in an Open Edition environment. See the OS/390 Open Edition Planning Guide for further information.

**NOTE 7: ENHANCED OPEN EDITION SECURITY IN EFFECT**

A FACILITY Class Profile for BPX.DAEMON was located. This increases the Security for the Open Edition environment. See the OS/390 Open Edition Planning Guide for further information.

**NOTE 8: FACILITY CLASS PROFILE BPX. IN WARN MODE. THIS ALLOWS ANYONE AUTHORITY.**

In determining the access authorities for the BPX.SUPERUSER and BPX.DAEMON FACILITY Class profiles, a determination was made that one of the profiles was in RACF WARN mode. This indicates to RACF that no one should be prevented access to the Resource, allowing anyone access to the Superuser authorities protected by the profiles.

**NOTE 9: ONLY USERS WITH O/E UID NUMBERS ARE LISTED IN THE REFERENCED GROUPS SECTION.**

When the listing of the Userids in each RACF Group referenced in the report is done, only the users with an assigned Open Edition UID are listed. These are the only users who can access Open Edition Resources.

**NOTE 10: OTHER USER CATEGORY MAY BE MISLEADING BECAUSE ONLY A SUBSET OF USERS WAS SELECTED.**

When listing the authority of the “other” users based upon the Open Edition “other” user access levels, this authority may not apply to some users who would have had either access via the User Owner level or the Group ID level but were not listed because they were not selected via one of the User selection criteria.

**NOTE 11: THIS PROGRAM, WHEN EXECUTED, SETS THE EFFECTIVE UID OR GID NUMBER OF THE SESSION TO ITS OWN. THIS MAY PRESENT A SECURITY EXPOSURE IF ITS PROCESS IS NOT TIGHTLY CONTROLLED.**

Open Edition has a facility called Set-Userid-upon-execution and Set-GroupID-upon-execution. This allows for the facility to collect information from a wide variety of users into a single file in a controlled environment. An example of this usage is for an e-mail system. However, care should be taken that this facility does not allow access to a normal user’s files in an uncontrolled manner. Programs with this authority should be investigated to determine whether they are desired.



# Chapter 17 : Messages Produced by E-SRF/RACF Access Analysis

## ***EKCRRNCV - RACF Name Conversion Table Support Routine***

**EKCRRNCV-200 THE FOLLOWING CONVENTIONS REFERENCED RACF VARIABLES THAT THIS ANALYSIS COULD NOT PROCESS.**

**THESE CONVENTIONS SHOULD BE REVIEWED BY INFORMATION SECURITY OR AUDITING.**

<b>CONVENTION NAME</b>	<b>VARIABLE</b>	<b>VALUE OF 1<sup>ST</sup> REFERENCE</b>
------------------------	-----------------	--

A table is printed with the convention names, the RACF variables, the value of the 1<sup>st</sup> reference to the variable and the number of references for each convention encountered. Examples of these kind of references include the use of the current Userid, the current connect group, etc. Use of these variables within the naming convention table should be closely scrutinized because they have the power to avoid the intent of the RACF controls.

**EKCRRNCV-901 ERROR RETURNED FROM CONVENTION NAME: NAME**

In processing the RACF Convention Table, the specified convention returned a value of **NEXT=ERROR**. See your RACF Systems Programmer for further details.

**EKCRRNCV-902 ERROR RETURNED FROM DATASET NAME PARSE ROUTINE.**

In processing the specified dataset name, the syntax was invalid. This should be accompanied by a message from EKCRRTN with more details.

**EKCRRNCV-903 ERROR RETURNED FROM EKCRRTN. R15: NN**

A serious error was returned from the dataset parsing routine. This should be accompanied by a message from EKCRRTN with more details.

**EKCRRNCV-904 LOGICAL ERROR PROCESSING CONVENTION: NAME**

A logical error was encountered processing the convention name specified. Please keep the output, get a copy of the assembly of the installation RACF Naming Convention Table Module, and call EKC Technical Support.

**EKCRRNCV-905 LOGICAL ERROR OBTAINING VARIABLE INFORMATION PROCESSING CONVENTION: NAME**

In processing the convention table, a logical error was encountered obtaining the value of a variable. Please keep the output, obtain a copy of the assembly of the installation RACF Naming Convention Table Module from your RACF Systems Programmer, and call EKC Technical Support.

## **EKCRRDBI - RACF Database Interface Module**

### **EKCRRDBI-100 DATABASE STATISTICS:**

**LAST RACF SYSTEM ENTRY VALIDATION: DATE AND TIME**

**ESRF DATABASE BUILD: DATE AND TIME**

The date and time of the last RACF System Entry Validation is displayed. This will be the approximate time the RACF Database Unload Utility was run to extract the data from the RACF Database. The ESRF Database Build data and time is the time that the E-SRF Intermediate Database Build Utility was run.

### **EKCRRDBI-101 GROUP AND USER STATISTICS:**

**NUMBER OF GROUPS: NNNNNN**

**NUMBER OF GROUP CONNECTS: NNNNNN**

This is the number of Groups defined in the RACF database in addition to the number of user-group connects that exist. Each time a user is connected to a group is counted as one.

### **EKCRRDBI-102 NUMBER OF USERIDS IN DATABASE: NNNN**

**NUMBER OF USERIDS SELECTED: NNNN**

This displays the number of RACF Userids defined in the RACF database. The number of Userids selected is dependent on the SELECT, IFGROUP and INCREVOKED keywords. These will be the Userids used for later processing.

### **EKCRRDBI-103 NO ENHANCED GENERIC NAMING ASSUMED**

As the RACF unloaded database was processed by EKCRRADB (the E-SRF/RACF Database Load Utility), no dataset profiles with Enhanced Generic Naming were found. Therefore, the report has been configured to process dataset names with no enhanced generic naming patterns.

### **EKCRRDBI-200 TOO MANY DISCRETE PROFILES FOR DATASET**

More than 1024 discrete profiles were located for a single dataset. This is an arbitrary limitation in the programs. Call EKC Technical Support.

### **EKCRRDBI-201 UNABLE TO RETRIEVE GENERIC PROFILE**

Although the database interface program found a profile previously, when it came time to find it again, it could not. Call EKC Technical Support.

### **EKCRRDBI-202 INVALID PROFILE PASSED FOR ACL BUILD**

A dataset profile was passed for processing by the resource access list building routine or a resource profile was passed for processing by the dataset processing routine. Call EKC Technical Support

### **EKCRRDBI-203 INDEX OF DATASET > 8 CHARACTERS**

A dataset index level may not be greater than 8 characters long.

### **EKCRRDBI-204 UNABLE TO RETRIEVE PROFILE, KEY: KEY**

The database interface routine was unable to retrieve a profile that it should have been able to. Call EKC Technical Support.

**EKRRDBI-205 TOO MANY PROFILES ASSOCIATED WITH RESOURCE**

More than 256 resource profiles were associated with a single resource name. There can be a maximum of one member class profile and any number of grouping class profiles. This is an arbitrary limitation in the programs. Call EKC Technical Support.

**EKRRDBI-300 GROUP HAS NO USERS CONNECTED TO IT**

In the display of the referenced groups, this group had no users connected to it.

**EKRRDBI-500 USER PROFILE GHOST OWNER. USERID: USERID OWNERID: OWNERID**

The referenced Userid Profile had an Owner who is no longer defined in the RACF Database. This is an informational message although the RACF Security Administrator should eventually repair the condition.

**EKRRDBI-501 GROUP PROFILE GHOST OWNER. USERID: GROUPID OWNERID: OWNERID**

The referenced Group Profile had an Owner who is no longer defined in the RACF Database. This is an informational message although the RACF Security Administrator should eventually repair the condition.

**EKRRDBI-502 GROUP PROFILE GHOST SUPERIOR. GROUPID: GROUPID SUPERIOR ID: SUPERIOR ID**

The referenced Group Profile had a Superior Group which is no longer defined in the RACF Database. This is an informational message although the RACF Security Administrator should eventually repair the condition.

**EKRRDBI-503 USER: USERID CONNECTED TO GROUP: GROUPID BUT THE GROUP DOES NOT EXIST**

The User Profile of the specified Userid specifies that it is connected to a Group, but the corresponding Group profile does not exist. The RACF Administrator should correct this problem; however, it will have no effect on the processing of the E-SRF Access Analysis Reports.

**EKRRDBI-504 USER: USERID CONNECTED TO GROUP: GROUPID BUT THE INVERSE CONNECT DOES NOT EXIST – REPAIRED**

The User Profile of the specified Userid specifies that it is connected to a Group, but the corresponding Group profile does not list the Userid as being a member. The RACF Administrator should correct this problem; however, it will have no effect on the processing of the E-SRF Access Analysis Reports because it will have updated the tables it uses for analysis.

**EKRRDBI-505 CLASS IN DATABASE, BUT NOT IN RACF CLASS DESCRIPTOR TABLE: CLASS**

Profiles for the specified resource class are contained in the RACF database; however, the RACF Class Descriptor table does not define them. This definition is necessary because it defines the relationship between RACF Member and Grouping Classes, the default return code if no profile is found, whether Operations authority is active for this Class, etc. Most likely, the analysis is being run on a system different than the native system for the RACF database being analyzed. The corrective action is to copy the RACF Class Descriptor Table Load Module (ICHRRCDE in SYS1.LINKLIB or another Linklist library) to any load module library of the system upon which the report is being run, add a XTRNRC DT keyword to the input commands, and add a XTRNTBL ddname JCL card defining the load library that has the Class Name Table corresponding to the RACF database. Because no member class and grouping class correspondence has been defined, any resource validations that utilize members of grouping class profiles for access validations will be incorrect in the output of this report execution.

**EKCRRDBI-900 INSUFFICIENT STORAGE, PROCESSING CODE: CODE**

A request for additional storage was denied. Attempt to re-run the report with a larger region size. If this fails, call EKC Technical Support.

**EKCRRDBI-901 UNABLE TO OPEN DDNAME: DDNAME**

The Database Interface was unable to open the dataset defined by the DDNAME specified. Correct this problem and re-run the report.

**EKCRRDBI-904 TABLE BUILD ERROR, PROCESSING CODE: CODE**

In the process of building the tables required for later processing, an unexpected error occurred. Call EKC Technical Support.

**EKCRRDBI-907 NO USER RECORDS IN DATABASE**

No User Profile Records were found in the database. Look at the output of the job that built the database (EKCRRCDB) and determine if there was a problem that could be corrected.

**EKCRRDBI-908 NO USERS SELECTED TO PROCESS**

No User Profile Records matched the selection criteria (SELECT and IFGROUP keywords). Review the selection criteria and re-run the report.

**EKCRRDBI-920 ERROR RETURNED FROM EKCRSEL. R15: CODE**

An unexpected error was returned from the SELECT keyword processing routine. Call EKC Technical Support.

**EKCRRDBI-921 DSN PROFILE REQ - BUT NOT INITIALIZED**

The Database Interface Routine was asked to provide a dataset profile, but it was not initialized. Call EKC Technical Support.

**EKCRRDBI-922 ERROR RETURNED FROM EKCRPTN. R15: CODE**

An unexpected error was returned from the Pattern Matching processing routine. Call EKC Technical Support.

**EKCRRDBI-923 ERROR RETURNED FROM EKCRINP. R15: CODE**

An unexpected error was returned from the database input processing routine. Call EKC Technical Support.

**EKCRRDBI-924 ERROR RETURNED FROM EKCRCSN. R15: CODE**

An unexpected error was returned from the RACF Class Name Table Interface routine. Call EKC Technical Support.

**EKCRRDBI-925 RSN PROFILE REQ - BUT NOT INITIALIZED**

The Database Interface Routine was asked to provide a resource profile, but it was not initialized. Call EKC Technical Support.

**EKCRRDBI-926 PROCESS ERROR - NO PROFILE ADDRESS**

The Database Interface Routine was asked to develop an access list but no profiles were supplied. Call EKC Technical Support.

## ***EKCRRDDS - The DataOwner Dataset Report***

### **EKCRRDDS-001 INPUT CONTROL CARDS**

Signifies the beginning of the input control cards.

### **EKCRRDDS-205 DATASET NAMES: RECORDS READ: NNNNN**

**--- MATCHING DATASET NAMES KEPT: NNNNN**

**--- NUMBER WITHOUT DUPLICATES: NNNNN**

Provides the number of dataset names read from the DSNAMES input ddname, the number matching the selection criteria (specified in the RSGROUP or INDEX keyword), and the number left after duplicates have been eliminated.

### **EKCRRDDS-208 NUMBER OF DATASETS COMPRESSED USING MASKS: NNNNN**

Normally datasets, such as Generation Data Group datasets, are compressed down to a single dataset name so as to not cause excess processing time or clutter up the report output. Note that if the DSNAMES input is from either of the two E-SRF/RACF supplied utilities (EKCRRPDS or EKCRXCAT), generation data group names will already have been reduced down to one name.

### **EKCRRDDS-220 SPECIFIED INDEX WILL BE USED FOR GROUPING**

The INDEX keyword was provided. The index mask will be compared to the high-level index of all the input datasets. Those datasets with a high-level index that matches the mask will be selected for processing.

### **EKCRRDDS-221 DATASETS WILL BE READ FROM DSLIST INPUT FILE**

The DSLIST keyword was provided. The datasets used for processing will be read from the input dataset defined by the DSLIST ddname.

### **EKCRRDDS-222 DSLIST INPUT DATASETS**

The listing of the input statements from the DSLIST ddname follows.

### **EKCRRDDS-262 DATASETS IN THIS GROUP**

Datasets with identical (in the case of the “tight-fit” algorithm being used) or similar (in the case of the “loose-fit” algorithm being used because the SUMMARY keyword was specified) access patterns are combined in the report to show grouping and reduce the size of the output. This function can be eliminated via the use of the SEPARATE keyword.

### **EKCRRDDS-270 NUMBER OF RECORDS EXPORTED TO INTERMEDIATE FILE: NNNNN**

Indicates the number of records written to the EXPORT data file that can then be used by another mainframe program or transferred to a PC for input to a database, etc.

### **EKCRRDDS-290 NO USERS HAVE ACCESS TO THESE DATASETS**

The report determined that no users have access to the group of datasets specified. This could have occurred because a subset of the user population was selected and none of them had access.

### **EKCRRDDS-291 HOWEVER, ONLY A SUBSET OF USERIDS WERE SELECTED**

This accompanies message EKCRRDDS-290 when a subset of users were selected.

**EKCRRDDS-300 PROFILE IN WARNING MODE - SEE NOTE 4**

The profile specified is in Warning Mode. RACF will not deny accesses for profiles in Warning Mode. This profile should be reviewed to see if the WARN attribute can be removed.

**EKCRRDDS-500 MAXIMUM USERS REACHED - REMAINDER SKIPPED**

The number of users listed in any one portion of the report is limited by the number specified in the MAXUSER keyword. The default value for this limit is 50. To specify an unlimited value, specify MAXUSER(U).

**EKCRRDDS-900 INSUFFICIENT STORAGE - TYPE: REQUEST TYPE**

A request for storage was denied. Attempt to re-run the report specifying a larger region size. If this fails, call EKC technical support.

**EKCRRDDS-901 UNABLE TO OPEN DDNAME**

The report was unable to open the specified ddname. Specify the ddname in the JCL and re-run the report.

**EKCRRDDS-902 UNABLE TO LOAD CRITICAL MODULE: MODULE**

The module specified was not located in the reports STEPLIB, JOBLIB, or in the MVS System Linklist. If the module name was the renaming exit module specified in the EXIT keyword, check to make sure that it is in a STEPLIB of the execution job step. If not, contact the Systems Programmer who installed E-SRF to repair this problem.

**EKCRRDDS-904 TOO MANY FIELDS SPECIFIED FOR KEYWORD: KEYWORD**

Too many operands – e.g. FIELDS(A,B,C,...,Z) were specified.

**EKCRRDDS-905 OPERAND NULL OR TOO LARGE FOR KEYWORD: KEYWORD**

The operand specified for the keyword was too large or null

**EKCRRDDS-907 \*\*\* INVALID SYNTAX \*\*\***

The input line listed had invalid syntax.

**EKCRRDDS-908 \*\*\* INVALID OR AMBIGUOUS KEYWORD OR VALUE: KEYWORD**

The keyword specified is either not defined or it is only a partial specification of the entire keyword and it matches more than one of the reports keywords, making it ambiguous.

**EKCRRDDS-911 NO DATASET NAMES TO PROCESS**

After the selection process, there were no dataset names selected for processing.

**EKCRRDDS-912 INVALID DATASET: DATASET REASON: REASON**

The dataset name provided had invalid syntax for the reason specified.

**EKCRRDDS-913 UNABLE TO OPEN: DDNAME**

The report was unable to open the specified ddname. Supply it and re-run the report.

**EKCRRDDS-951 VALUE NULL, GREATER THAN MAX, OR INVALID FOR KEYWORD: KEYWORD**

The value for the keyword specified was not valid.

**EKCRRDDS-961 RACF DATABASE INTERFACE ERROR. FUNCTION: NN ERROR CODE: CODE**

There was an unrecoverable error while the E-SRF RACF Database Interface Module was processing. Call EKC Technical Support.

**EKCRRDDS-962 ERROR RETURNED FROM EKCRREL, R15: NN**

An unrecoverable error occurred during select userid processing. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRDDS-963 ERROR RETURNED FROM EKCRDXD, R15: NN**

An unrecoverable error occurred during processing the output data exchange format dataset. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRDDS-994 \*\*\* GROUPING RECORD MANAGER ERROR, R15=NN**

An unrecoverable error was returned from the EKC Grouping Manager. In the absence of other obvious error messages in the report output or the Job's SYSLOG, call EKC technical support.

## ***EKCRRDRS - The DataOwner Resource Report***

**EKCRRDRS-001 INPUT CONTROL CARDS**

Signifies the beginning of the input control cards.

**EKCRRDRS-205 RESOURCE NAMES: RECORDS READ: NNNNN**

--- MATCHING RESOURCE NAMES KEPT: NNNNN

--- NUMBER WITHOUT DUPLICATES: NNNNN

Provides the number of dataset names read from the RSNAMES input ddname, the number matching the selection criteria (specified in the RSGROUP or CLASS keyword), and the number left after duplicates have been eliminated.

**EKCRRDRS-220 SPECIFIED CLASS WILL BE USED FOR GROUPING**

The CLASS keyword was provided. The class mask will be compared to the resource class of the input resource names. Those resource names with a class that matches the mask will be selected for processing.

**EKCRRDRS-221 RESOURCES WILL BE READ FROM RSLIST INPUT FILE**

The RSLIST keyword was provided. The datasets used for processing will be read from the input dataset defined by the RSLIST ddname.

**EKCRRDRS-222 RSLIST INPUT RESOURCE NAMES**

The listing of the input statements from the RSLIST ddname follows.

**EKCRRDRS-262 RESOURCES IN THIS GROUP**

Resources with identical (in the case of the "tight-fit" algorithm being used) or similar (in the case of the "loose-fit" algorithm being used because the SUMMARY keyword was specified) access patterns are combined in the report to show grouping and reduce the size of the output. This function can be eliminated via the use of the SEPARATE keyword.

**EKCRRDRS-270 NUMBER OF RECORDS EXPORTED TO INTERMEDIATE FILE: NNNNN**

Indicates the number of records written to the EXPORT data file that can then be used by another mainframe program or transferred to a PC for input to a database, etc.

**EKCRRDRS-290 NO USERS HAVE ACCESS TO THESE RESOURCES**

The report determined that no users have access to the group of resources specified. This could have occurred because a subset of the user population was selected and none of them had access.

**EKCRRDRS-291 HOWEVER, ONLY A SUBSET OF USERIDS WERE SELECTED**

This accompanies message EKCRRDRS-290 when a subset of users were selected.

**EKCRRDRS-300 PROFILE IN WARNING MODE - SEE NOTE 4**

The profile specified is in Warning Mode. RACF will not deny accesses for profiles in Warning Mode. This profile should be reviewed to see if the WARN attribute can be removed.

**EKCRRDRS-500 MAXIMUM USERS REACHED - REMAINDER SKIPPED**

The number of users listed in any one portion of the report is limited by the number specified in the MAXUSER keyword. The default value for this limit is 50. To specify an unlimited value, specify MAXUSER(U).

**EKCRRDRS-900 INSUFFICIENT STORAGE - TYPE: REQUEST TYPE**

A request for storage was denied. Attempt to re-run the report specifying a larger region size. If this fails, call EKC technical support.

**EKCRRDRS-901 UNABLE TO OPEN DDNAME**

The report was unable to open the specified ddname. Specify the ddname in the JCL and re-run the report.

**EKCRRDRS-902 UNABLE TO LOAD CRITICAL MODULE: MODULE**

The module specified was not located in the reports STEPLIB, JOBLIB, or in the MVS System Linklist. If the module name was the renaming exit module specified in the EXIT keyword, check to make sure that it is in a STEPLIB of the execution job step. If not, contact the Systems Programmer who installed E-SRF to repair this problem.

**EKCRRDRS-904 TOO MANY FIELDS SPECIFIED FOR KEYWORD: KEYWORD**

Too many operands – e.g. FIELDS(A,B,C,...,Z) were specified.

**EKCRRDRS-905 OPERAND NULL OR TOO LARGE FOR KEYWORD: KEYWORD**

The operand specified for the keyword was too large or null

**EKCRRDRS-907 \*\*\* INVALID SYNTAX \*\*\***

The input line listed had invalid syntax.

**EKCRRDRS-908 \*\*\* INVALID OR AMBIGUOUS KEYWORD OR VALUE: KEYWORD**

The keyword specified is either not defined or it is only a partial specification of the entire keyword and it matches more than one of the reports keywords, making it ambiguous.



**EKCRRDRS-911 NO RESOURCE NAMES TO PROCESS**

After the selection process, there were no Resource Names remaining to be processed.

**EKCRRDRS-912 INVALID RESOURCE: RESOURCE REASON: REASON**

The resource name provided had invalid syntax for the reason specified.

**EKCRRDRS-913 UNABLE TO OPEN: DDNAME**

The report was unable to open the specified ddname. Supply it and re-run the report.

**EKCRRDRS-951 VALUE NULL, GREATER THAN MAX, OR INVALID FOR KEYWORD: KEYWORD**

The value for the keyword specified was not valid.

**EKCRRDRS-961 RACF DATABASE INTERFACE ERROR. FUNCTION: NN ERROR CODE: CODE**

There was an unrecoverable error while the E-SRF RACF Database Interface Module was processing. Call EKC Technical Support.

**EKCRRDRS-962 ERROR RETURNED FROM EKCRSEL, R15: NN**

An unrecoverable error occurred during select Userid processing. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRDRS-963 ERROR RETURNED FROM EKCRDXD, R15: NN**

An unrecoverable error occurred during processing the output data exchange format dataset. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRDRS-994 \*\*\* GROUPING RECORD MANAGER ERROR, R15=NN**

An unrecoverable error was returned from the EKC Grouping Manager. In the absence of other obvious error messages in the report output or the Job's SYSLOG, call EKC technical support.

***EKCRRDOE - DataOwner Open Edition Report*****EKCRRDOE-001 INPUT CONTROL CARDS:**

Signifies the beginning of the input control cards.

**EKCRRDOE-205 FILE NAMES: RECORDS READ: NNNNN**

**--- MATCHING FILE NAMES KEPT: NNNNN**

Provides the number of file names read from the HFSNAMES input ddname and the number matching the selection criteria (specified in the RSGROUP or DIRECTORY keyword).

**EKCRRDOE-206 THE FOLLOWING FILE NAMES WERE NOT FOUND**

Provides a list of the file names specified in the FILELIST input dataset that were not found in the HFSNAMES input dataset, which has all the Open Edition information about the file names.

**EKCRROE-221 FILENAMES WILL BE READ FROM FILELIST INPUT FILE**

The FILELIST keyword was encountered and this indicates to the report that it should accept a specific list of file names to report on. These file names are in the dataset defined by the FILELIST ddname.

**EKCRROE-222 FILENAMES SPECIFIED:**

A listing of the input of the dataset specified by the FILELIST ddname follows.

**EKCRROE-270 NUMBER OF RECORDS EXPORTED TO INTERMEDIATE FILE: NNNN**

The EXPORT keyword indicated that a data interchange file be written containing the access permissions for each file and Userid. The number of records written to the file is indicated.

**EKCRROE-290 NO (SELECTED) USERS HAVE ACCESS TO THESE FILES**

The selected set of Userids had no access to the set of file names listed.

**EKCRROE-292 INVALID FILE NAME SYNTAX**

There was a syntax error in the file name specified.

**EKCRROE-300 PROFILE IN WARNING MODE - SEE NOTE 8**

The indicated profile is in RACF WARN mode. This allows anyone access to the resource protected by the profile.

**EKCRROE-500 MAXIMUM USERS REACHED - REMAINDER SKIPPED**

The number of users listed in any one portion of the report is limited by the number specified in the MAXUSER keyword. The default value for this limit is 50. To specify an unlimited value, specify MAXUSER(U).

**EKCRROE-900 INSUFFICIENT STORAGE - TYPE: REQUEST TYPE**

A request for storage was denied. Attempt to re-run the report specifying a larger region size. If this fails, call EKC technical support.

**EKCRROE-901 UNABLE TO OPEN DDNAME**

The report was unable to open the specified ddname. Specify the ddname in the JCL and re-run the report.

**EKCRROE-902 UNABLE TO LOAD CRITICAL MODULE: MODULE**

The module specified was not located in the reports STEPLIB, JOBLIB, or in the MVS System Linklist. If the module name was the renaming exit module specified in the EXIT keyword, check to make sure that it is in a STEPLIB of the execution job step. If not, contact the Systems Programmer who installed E-SRF to repair this problem.

**EKCRROE-903 TOO MANY FIELDS SPECIFIED FOR KEYWORD: KEYWORD**

Too many operands – e.g. FIELDS(A,B,C,...,Z) were specified.

**EKCRROE-904 OPERAND NULL OR TOO LARGE FOR KEYWORD: KEYWORD**

The operand specified for the keyword was too large or null.

**EKCRROE-905 \*\*\* INVALID SYNTAX \*\*\***

The input line listed had invalid syntax.

**EKRRDOE-906 \*\*\* INVALID OR AMBIGUOUS KEYWORD OR VALUE: KEYWORD**

The keyword specified is either not defined or it is only a partial specification of the entire keyword and it matches more than one of the reports keywords, making it ambiguous.

**EKRRDOE-907 NO SELECTION CRITERIA – RSGROUP, DIRECTORY, OR FILELIST MUST BE SPECIFIED.**

Some selection criteria for the file names to be processed must be specified.

**EKRRDOE-908 MUTUALLY EXCLUSIVE KEYWORD USED: KEYWORD**

The Keyword specified is mutually exclusive with a prior Keyword used. An example would be the use of both **RSGROUP** and **DIRECTORY** together.

**EKRRDOE-909 INVALID SYNTAX: TEXT**

The indicated text had an invalid syntax.

**EKRRDOE-910 NO FILE NAMES TO PROCESS**

After the selection process, there were no file names selected for processing.

**EKRRDOE-911 FILE(S) SPECIFIED BUT NOT FOUND IN DIRECTORY**

Files specified in the FILELIST ddname were not found in the HFSNAMES ddname directory of all the files in the Open Edition HFS file system.

**EKRRDOE-920 VALUE NULL, GREATER THAN MAX, OR INVALID FOR KEYWORD: KEYWORD**

The value for the keyword specified was not valid.

**EKRRDOE-961 RACF DATABASE INTERFACE ERROR. FUNCTION: NN ERROR CODE: CODE**

There was an unrecoverable error while the E-SRF RACF Database Interface Module was processing. Call EKC Technical Support.

**EKRRDOE-962 ERROR RETURNED FROM EKCRSEL, R15: NN**

An unrecoverable error occurred during select userid processing. If there are no other obvious error messages, call EKC Technical Support.

**EKRRDOE-963 ERROR RETURNED FROM EKCRDXD, R15: NN**

An unrecoverable error occurred during processing the output data exchange format dataset. If there are no other obvious error messages, call EKC Technical Support.

**EKRRDOE-964 ERROR RETURNED FROM EKCRPTN, R15: NN**

An unrecoverable error occurred during processing of the RACF Pattern Matching function. If there are no other obvious error messages, call EKC Technical Support.

**EKRRDOE-965 ERROR RETURNED FROM EKCRINP, R15: NN**

An unrecoverable error occurred during processing of Open Edition **HFSNAMES** input dataset. If there are no other obvious error messages, call EKC Technical Support.

**EKRRDOE-966 ERROR RETURNED FROM EKCRCSN, R15: NN**

An unrecoverable error occurred during processing of the RACF Class Name Table module. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRDOE-967 \*\*\* GROUPING RECORD MANAGER ERROR, R15=NN**

An unrecoverable error was returned from the EKC Grouping Manager. In the absence of other obvious error messages in the report output or the Job's SYSLOG, call EKC technical support.

***EKCRRDXD - Data Exchange Support Module*****EKCRRDXD-901 INVALID OUTPUT TYPE SPECIFIED: TYPE**

The only two output types supported are DIF and RECORD.

**EKCRRDXD-902 INVALID FUNCTION CALL: CALL**

A logic error occurred within processing. Please keep the output and call EKC Technical Support.

**EKCRRDXD-903 UNABLE TO OPEN DDNAME: DDNAME**

The service routine was unable to open the ddname specified. Add the ddname specified (it is the Data Exchange Format DD name, probably EXPORT) and rerun the report.

**EKCRRDXD-904 GENERATED OUTPUT RECORD TOO LONG FOR: RESOURCE NAME**

The maximum length of the generated output record including the variable length resource or dataset name is currently 255 characters. If this is a problem, please call EKC technical support.

**EKCRRDXD-911 ERROR RETURNED FROM EKCRREDBI. R15: NN PROCESSING CODE: CODE**

An internal logic error occurred. Please keep the output and call EKC Technical Support.

***EKCRRINP - RACF Database Input Service Routine*****EKCRRINP-900 INSUFFICIENT STORAGE, PROCESSING CODE: CODE**

A request for storage was denied. Attempt to re-run the report specifying a larger region size. If this fails, call EKC technical support.

**EKCRRINP-901 UNABLE TO OPEN DDNAME: DDNAME**

The service routine was unable to open the ddname specified. When using the E-SRF/RACF Access Analysis Reports it should be IRACFDB, which specifies the E-SRF/RACF Database. Add the DD card and rerun the report.

**EKCRRINP-902 ERROR RETURNED FROM VSAM, PROCESSING CODE: CODE - RETURN CODE: NN - REASON CODE: NN**

An error was returned from VSAM. The other information, along with the information supplied in EKCRRINP-903 will help EKC Technical Support diagnose the error.

**EKCRRINP-903 KEY: DATABASE LOOKUP KEY**

The key of the record that caused the EKCRRINP-902 error.

**EKRRINP-904 TABLE BUILD ERROR, PROCESSING CODE: CODE**

There was an internal error within the service routine. Please keep the output and call EKC Technical Support.

**EKRRINP-905 ERROR RETURNED FROM VSAM GENCB. LABEL: LABEL R15: NN**

There was an internal error within the service routine. Please keep the output and call EKC Technical Support.

**EKRRINP-906 NO STATISTICS RECORD IN DATABASE**

The EKRRRCDB utility provides a statistics record in the E-SRF/RACF Database on which many decisions are made. This record was missing. Please keep the output and call EKC Technical Support.

## ***EKRRPSD - Pseudo Dataset/Resource Name Generator Utility***

**EKRRPSD-001 INPUT CONTROL CARDS**

Signifies the beginning of the input control cards.

**EKRRPSD-101 NO EXTENDED GENERIC NAMING ASSUMED (NOEGN)**

The E-SRF/RACF Database Load Utility (EKRRRCDB) has indicated that there was no use of the double asterisk (\*\*) in the generic dataset names. Generic dataset patterns of the form ABC.JUNK\* will be converted to a pseudo name of ABC.JUNK\*.\* to correspond with the extended pattern and the true meaning of the trailing asterisk in a non-extended generic naming environment.

**EKRRPSD-102 NUMBER OF PSEUDO DATASET NAMES WRITTEN: NNNNN**

The number of pseudo dataset names created by this utility and written to the DSNAMES output ddname is indicated.

**EKRRPSD-103 NUMBER OF PSEUDO RESOURCE NAMES WRITTEN: NNNNN**

The number of pseudo resource names created by this utility and written to the RSNames output ddname is indicated.

**EKRRPSD-104 NUMBER OF PSEUDO RESOURCE NAMES SKIPPED BECAUSE OF RACF VARIABLES: NNNNN**

RACF Generic Profiles can contain RACF Variables and the profiles apply to the profile names after the variable substitution has been made. Currently the pseudo name generator does not support the substitution of RACF variables other than the current Userid (&RACUID) or the current connect group (&RACGPID). If this is a problem, please call EKC Technical Support.

**EKRRPSD-901 UNABLE TO OPEN: DDNAME – PROCESSING TERMINATED**

The EKRRPSD utility was unable to open a ddname that was critical to its processing. Correct this error and rerun the utility.

**EKRRPSD-903 NEITHER DATASETS NOR RESOURCES SPECIFIED. NOTHING TO DO.**

Neither the DATASETS nor the RESOURCES keywords were specified in the SYSIN ddname. If there was no SYSIN ddname specified, then the utility would have looked for the presence of a DSNAMES or RSNames ddname to make its decision. If neither of these are specified, this error message will also result. Correct the error and rerun the utility.

**EKCRRPSD-907 \*\*\* INVALID SYNTAX \*\*\***

The control card listed has invalid syntax. Correct the error and rerun the utility.

**EKCRRPSD-908 INVALID OR AMBIGUOUS KEYWORD OR VALUE: KEYWORD**

The keyword specified is ambiguous or unknown or the keyword value specified therein is ambiguous or unknown.

**EKCRRPSD-910 UNRECOVERABLE ERROR RETURNED FROM EKCRRCNSN. R15: NN**

There was an unrecoverable error processing the RACF Resource Class Naming Table. There should be additional messages from the EKCRRCNSN module. In the absence of any obvious errors, please keep the output and call EKC Technical Support.

**EKCRRPSD-911 UNRECOVERABLE ERROR RETURNED FROM EKCRRIINP. R15: NN**

There was an unrecoverable returned from the EKC RACF Database Read Routine (EKCRRIINP). There should be additional messages from the EKCRRIINP module. In the absence of any obvious errors, please keep the output and call EKC Technical Support.

## ***EKRRPTN - RACF Pattern Masking Support Module***

**EKRRPTN-100 SOURCE MASK/TARGET IS NULL**

The pattern masking and matching routine was given a source mask or target string that is null. This is an error that should not occur. Save the output and call EKC Technical Support.

**EKRRPTN-101 SEGMENT GREATER THAN 8 CHARACTERS**

The pattern masking routine was presented with a dataset name that had a segment greater than eight characters long, which is a violation of MVS Dataset Naming Conventions.

**EKRRPTN-102 MASK/TARGET CONTAINS NULL SEGMENT**

The pattern masking routine was presented with a mask or target with a null segment. A null segment is defined as two consecutive periods or a period as the last character.

**EKRRPTN-200 [MASK|TARGET] NOT INITIALIZED PRIOR TO COMPARE CALL**

The pattern masking routine was requested to compare a target resource name with a resource mask. However, it had not been presented with one of the items previously. This is an error that should not occur. Save the output and call EKC Technical Support.

## ***EKRRSEL - User Profile Select/Display Service Module***

**EKRRSEL-900 NUMBER OF FIELDS SPECIFIED EXCEEDS MAXIMUM (16)**

A maximum of sixteen fields can be specified for Userid selection and output User Profile field displays. This is an arbitrary limitation in the program. If this is a problem, please call EKC Technical Support.

**EKRRSEL-901 NOT ENOUGH SUB-FIELDS SPECIFIED**

At least one sub-field of the SELECT keyword was missing. Correct the error and rerun the report.

**EKCRSEL-902 FIELD TYPE NOT SUPPORTED FOR: NAME**

The field type specified for the field named NAME is not currently supported.

**EKCRSEL-903 OFFSET SPECIFIED IS ZERO OR EXCEEDS MAXIMUM: NAME**

The offset within the RACF User Profile Installation Data Field is either zero (the first byte of the Installation Data Field is defined as one) or exceeds the maximum (254).

**EKCRSEL-904 SIZE OF FIELD SPECIFIED EXCEEDS MAXIMUM (254): NAME**

The size of the field specified, coupled with the offset of its starting position, exceeds the maximum length of the RACF User Profile Installation Data Field (254).

**EKCRSEL-905 INVALID NUMERIC SPECIFICATION: NAME**

Either the offset or the length of a field contained an invalid numeric specification.

**EKCRSEL-910 FIELD SPECIFIED NOT PREVIOUSLY DEFINED: NAME**

The output field specified in the USERFIELDS keyword was not previously defined in a SELECT keyword. All installation-defined fields in the RACF Installation Data Field must be defined in a SELECT keyword even if no selection is actually being done on that keyword. This can be accomplished by the use of a selection mask as in:

**SELECT(DEPT,CHAR,64,8,\*)**

**EKCRSEL-911 TOTAL WIDTH OF FIELDS SPECIFIED, EXCEEDS MAXIMUM ALLOWED**

The total width of the fields specified in the USERFIELDS keyword for output with the Userid, exceeds the allowed maximum, currently 60 characters.

**EKCRSEL-913 INVALID INTERNAL FIELD TYPE - CALL EKC**

An internal processing logic error was encountered. This is an error that should not occur. Save the output and call EKC Technical Support.

## ***EKRRUDF - The Userid Differences Report***

**EKRRUDF-001 INPUT CONTROL CARDS:**

Signifies the beginning of the input control cards.

**EKRRUDF-005 INVALID INPUT RECORD ENCOUNTERED FROM DDNAME: XXXXX REASON: RRRR, USERID: UUUU; ACCESS PERMISSION: AAAA, RESOURCE CLASS: CCCCCC, NAME: NNNNN**

An access permission for a user was read that was in conflict with a previous access in the input dataset. Please analyze the result and attempt to repair conflicting rules. Otherwise, call EKC support.

**EKRRUDF-006 PROCESSING COMPLETE FOR DDNAME: DDDDD NUMBER OF RECORDS READ: NNNNN**

The input dataset read from DDNAME: DDDDD is complete. The number of records read is displayed.

**EKRRUDF-007 NUMBER OF USERS DEFINED: NNNNNNN**

The total number of distinct Userids encountered is displayed.

**EKCRUDF-008 NUMBER OF UNIQUE GROUPS DEFINED: NNNNNNN**

The User Differences Reports groups together users who have identical access patterns to datasets and resources. Each group of users is counted as one group. The number of distinct groups of users is displayed.

**EKCRUDF-101 ACCESSES ALLOWED TO USERID DATASETS VIA THE GLOBAL ACCESS TABLE WILL BE IGNORED**

Normally users are given access to their own datasets – that is datasets beginning with their Userid – via the Global Access Table. These accesses will be ignored for the purposes of this report so that users can be grouped together based upon their accesses to datasets other than their own.

**EKCRUDF-110 SELECTION CRITERIA: LESS THAN NNNN RESOURCES OR LESS THAN PPPP PERCENT ADDITIONS AND DELETIONS**

The report only reports on some of the unique groups of users. The criteria is specified in the input control cards. Selection criteria includes less than, say, 10 different resource accesses, or less than a percentage of differences between two groups.

**EKCRUDF-111 NUMBER OF COMBINATIONS SELECTED: NNNNN**

This is the number of Group to Group combinations that will be reported on.

**EKCRUDF-112 GROUPS ARE SORTED BY THE TOTAL NUMBER OF ADDITIONS AND DELETIONS REQUIRED TO MAKE GROUPS IDENTICAL**

For each pair of groups, the total number of changes necessary to make the groups identical is computed. The table showing each pair of groups is sorted from the least number to the most – e.g. the groups that are closest to being identical to the ones that are very far from being identical.

**EKCRUDF-113 COMBINATIONS ARE SELECTED IF THE TOTAL NUMBER OF RESOURCES TO BE ADDED TO BOTH GROUPS IS LESS THAN THE COUNT SPECIFIED OR THE PERCENTAGE CHANGE TO BOTH GROUPS IS LESS THAN THE MAXIMUM SPECIFIED.**

This is the selection criteria for which group pairs will be displayed on the report.

**EKCRUDF-120 GROUP NUMBER: NN NUMBER OF MEMBERS: MMM NUMBER OF ACCESSABLE RESOURCES: RRRR SELECTED: YES/NO**

This is the heading for each group.

**EKCRUDF-130 ONLY SELECTED USER GROUPS AND COMBINATIONS WILL BE DISPLAYED**

This is based upon the use of the LIMITED keyword. Instead of producing output for all groups of users, only those that were in a group pair that met the selection criteria are listed.

**EKCRUDF-200 RESOURCES NEEDED TO BE ADDED TO EACH GROUP TO MAKE THEM IDENTICAL TO EACH OTHER. GROUPS: NNNN AND MMMM**

The resources and their accesses necessary to be added to each group of identical users to make their access pattern identical to the other group are listed.

**EKCRUDF-201 THE FOLLOWING RESOURCES NEED TO BE ADDED TO GROUP: NNN**

This is the list of resource accesses to be added to one of the groups to make their access identical to the other group.



**EKCRUDF-202 NO RESOURCES NEEDED TO BE ADDED TO GROUP: NNNN**

No resources needed to be added to one of the two groups. It was sufficient to add the resources to the other one to make the accesses identical between the two groups.

**EKRRUDS - The Userid-Owner Dataset Report****EKRRUDS-001 INPUT CONTROL CARDS**

Signifies the beginning of the input control cards.

**EKRRUDS-200 SUMMARY OUTPUT REQUESTED. COMBINATION OF USERS WILL BE MADE USING LOOSE-FIT ALGORITHM**

The report will be in summary format meaning that the reasons for the RACF access permission will not be displayed. The combination of users having similar access will be made using the loose-fit algorithm, which means that the users' access patterns will be compared as to only the datasets and their access to them, excluding any information as to why RACF would have allowed the access.

**EKRRUDS-205 DATASET NAMES: RECORDS READ: NNNNN**

-- MATCHING DATASET NAMES KEPT: NNNNN

--- NUMBER OF DUPLICATES: NNNNN

The number of dataset names read, kept after the selection process, and the number of duplicate names discarded are reported.

**EKRRUDS-208 NUMBER OF DATASETS COMPRESSED USING MASKS: NNNNN**

Normally datasets, such as Generation Data Group datasets, are compressed down to a single dataset name so as to not cause excess processing time or clutter up the report output.

**EKRRUDS-220 SPECIFIED INDEX WILL BE USED FOR GROUPING**

The INDEX keyword was provided. The index mask will be compared to the high-level index of all the input datasets. Those datasets with a high-level index that matches the mask will be selected for processing.

**EKRRUDS-270 NUMBER OF RECORDS EXPORTED TO INTERMEDIATE FILE: NNNNN**

Indicates the number of records written to the EXPORT data file that can then be used by another mainframe program or transferred to a PC for input to a database, etc.

**EKRRUDS-300 PROFILE IN WARNING MODE - SEE NOTE 4**

The indicated profile is in RACF WARNING mode. This means that although the profile's access list may deny access to a user, the access will still be allowed by RACF. The Access Analysis Reports will display access based upon the assumption that the profile will be taken out of WARNING mode. This is something that should be investigated and authorized by the Security Administrator.

**EKRRUDS-500 MAXIMUM NUMBER OF DATASET NAMES REACHED - REMAINDER SKIPPED.**

The number of datasets listed for any group of users is limited by the number specified in the MAXDSN keyword parameter. The default for this parameter is 50. The maximum size of the parameter is 9999; however, the letter "U" can be used to specify an unlimited number of datasets.

**EKCRRUDS-900 INSUFFICIENT STORAGE - TYPE: REQUEST TYPE**

A request for storage was denied. Attempt to re-run the report specifying a larger region size. If this fails, call EKC technical support.

**EKCRRUDS-901 UNABLE TO OPEN DDNAME**

The report was unable to open the specified ddname. Specify the ddname in the JCL and re-run the report.

**EKCRRUDS-902 UNABLE TO LOAD CRITICAL MODULE: MODULE**

The module specified was not located in the reports STEPLIB, JOBLIB, or in the MVS System Linklist. If the module name was the renaming exit module specified in the EXIT keyword, check to make sure that it is in a STEPLIB of the execution job step. If not, contact the Systems Programmer who installed E-SRF to repair this problem.

**EKCRRUDS-904 TOO MANY FIELDS SPECIFIED FOR KEYWORD: KEYWORD**

Too many operands – e.g. FIELDS(A,B,C,...,Z) were specified.

**EKCRRUDS-905 OPERAND NULL OR TOO LARGE FOR KEYWORD: KEYWORD**

The operand specified for the keyword was too large or null

**EKCRRUDS-907 \*\*\* INVALID SYNTAX \*\*\***

The input line listed had invalid syntax.

**EKCRRUDS-908 \*\*\* INVALID OR AMBIGUOUS KEYWORD OR VALUE: KEYWORD**

The keyword specified is either not defined or it is only a partial specification of the entire keyword and it matches more than one of the reports keywords, making it ambiguous.

**EKCRRUDS-911 NO DATASET NAMES TO PROCESS**

After the selection process, there were no dataset names selected for processing.

**EKCRRUDS-912 INVALID DATASET: DATASET REASON: REASON**

The dataset name provided had invalid syntax for the reason specified.

**EKCRRUDS-913 UNABLE TO OPEN: DDNAME**

The report was unable to open the specified ddname. Supply it and re-run the report.

**EKCRRUDS-914 DATASET NAME REJECTED BY RACF NAMING CONVENTION TABLE**

The RACF Naming Convention Table indicated that the syntax of this dataset was unacceptable. It would have been rejected by RACF.

**EKCRRUDS-920 NO USER SELECTION CRITERIA SPECIFIED**

There were no user selection keywords specified, such as either of the SELECT or IFGROUP keywords. This access analysis report works with a subset of the user community and indicates what access they have. Specify a SELECT or an IFGROUP keyword and rerun the report.

**EKCRRUDS-921 BOTH RSGROUP AND INDEX SPECIFIED - THEY ARE MUTUALLY EXCLUSIVE.**

The selection of a group of datasets on which to analyze the access contained both the INDEX and the RSGROUP keywords. They are mutually exclusive. Use the EKC Resource Grouping Facility to specify the subset of datasets desired and rerun the report.

**EKCRRUDS-922 NO USERS SELECTED**

The selection criteria specified resulted in no users being selected for processing. Correct the error in criteria and rerun the report.

**EKCRRUDS-923 TABLE BUILD ERROR, PROCESSING CODE: CODE**

There was an internal error within the access analysis report. Please keep the output and call EKC Technical Support.

**EKCRRUDS-951 VALUE NULL, GREATER THAN MAX, OR INVALID FOR KEYWORD: KEYWORD**

The value specified for the indicated keyword is invalid. Correct the error and rerun the report.

**EKCRRUDS-961 RACF DATABASE INTERFACE ERROR. FUNCTION: FUNCTION**

An error was returned from the EKC RACF Database Interface Module, EKCRRDBI. There should be an error message from that module also. Please keep the output and call EKC Technical Support.

**EKCRRUDS-962 ERROR RETURNED FROM EKCRSEL, R15: NN**

An unrecoverable error occurred during select userid processing. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRUDS-963 ERROR RETURNED FROM EKCRDXD, R15: NN**

An unrecoverable error occurred during processing the output data exchange format dataset. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRUDS-964 ERROR RETURNED FROM EKCRNCV, R15: NN**

An unrecoverable error occurred during processing of the RACF Naming Convention Table. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRUDS-994 \*\*\* GROUPING RECORD MANAGER ERROR, R15=NN**

An unrecoverable error was returned from the EKC Grouping Manager. In the absence of other obvious error messages in the report output or the Job's syslog, call EKC technical support.

***EKCRRURS - The Userid-Owner Resource Report*****EKCRRURS-001 INPUT CONTROL CARDS**

Signifies the beginning of the input control cards.

**EKCRRURS-205 RESOURCE NAMES: RECORDS READ: NNNNN**

--- MATCHING RESOURCE NAMES KEPT: NNNNN

--- NUMBER WITHOUT DUPLICATES: NNNNN

Provides the number of resource names read from the RSNAMES input ddname, the number matching the selection criteria (specified in the RSGROUP or CLASS keyword), and the number left after duplicates have been eliminated.

**EKRRURS-220 SPECIFIED CLASS WILL BE USED FOR GROUPING**

The CLASS keyword was provided. The class mask will be compared to the resource class of the input resource names. Those resource names with a class that matches the mask will be selected for processing.

**EKRRURS-262 RESOURCES IN THIS GROUP**

Resources with identical (in the case of the “tight-fit” algorithm being used) or similar (in the case of the “loose-fit” algorithm being used because the SUMMARY keyword was specified) access patterns are combined in the report to show grouping and reduce the size of the output. This function can be eliminated via the use of the SEPARATE keyword.

**EKRRURS-270 NUMBER OF RECORDS EXPORTED TO INTERMEDIATE FILE: NNNNN**

Indicates the number of records written to the EXPORT data file that can then be used by another mainframe program or transferred to a PC for input to a database, etc.

**EKRRURS-500 MAXIMUM RESOURCES REACHED - REMAINDER SKIPPED**

The number of resources listed in any one portion of the report is limited by the number specified in the MAXRSNS keyword. The default value for this limit is 50. To specify an unlimited value, specify MAXRSNS(U).

**EKRRURS-900 INSUFFICIENT STORAGE - TYPE: REQUEST TYPE**

A request for storage was denied. Attempt to re-run the report specifying a larger region size. If this fails, call EKC technical support.

**EKRRURS-901 UNABLE TO OPEN DDNAME**

The report was unable to open the specified ddname. Specify the ddname in the JCL and re-run the report.

**EKRRURS-902 UNABLE TO LOAD CRITICAL MODULE: MODULE**

The module specified was not located in the reports STEPLIB, JOBLIB, or in the MVS System Linklist. If the module name was the renaming exit module specified in the EXIT keyword, check to make sure that it is in a STEPLIB of the execution job step. If not, contact the Systems Programmer who installed E-SRF to repair this problem.

**EKRRURS-904 TOO MANY FIELDS SPECIFIED FOR KEYWORD: KEYWORD**

Too many operands – e.g. FIELDS(A,B,C,...,Z) were specified.

**EKRRURS-905 OPERAND NULL OR TOO LARGE FOR KEYWORD: KEYWORD**

The operand specified for the keyword was too large or null

**EKRRURS-907 \*\*\* INVALID SYNTAX \*\*\***

The input line listed had invalid syntax.

**EKRRURS-908 \*\*\* INVALID OR AMBIGUOUS KEYWORD OR VALUE: KEYWORD**

The keyword specified is either not defined or it is only a partial specification of the entire keyword and it matches more than one of the reports keywords, making it ambiguous.

**EKCRRURS-909 NO USER SELECTION CRITERIA SPECIFIED**

There were no user selection keywords specified, such as either of the SELECT or IFGROUP keywords. This access analysis report works with a subset of the user community and indicates what access they have. Specify a SELECT or an IFGROUP keyword and rerun the report.

**EKCRRURS-910 NO USERS SELECTED - REPORT TERMINATED**

Using the selection criteria provided (SELECT and IFGROUP), no users were selected for processing. Correct the error in specification and rerun the report.

**EKCRRURS-912 INVALID RESOURCE: RESOURCE REASON: REASON**

The resource name provided had invalid syntax for the reason specified.

**EKCRRURS-913 UNABLE TO OPEN: DDNAME**

The report was unable to open the specified ddname. Supply it and re-run the report.

**EKCRRUDS-923 TABLE BUILD ERROR, PROCESSING CODE: CODE**

There was an internal error within the access analysis report. Please keep the output and call EKC Technical Support.

**EKCRRURS-951 VALUE NULL, GREATER THAN MAX, OR INVALID FOR KEYWORD: KEYWORD**

The value for the keyword specified was not valid.

**EKCRRURS-961 RACF DATABASE INTERFACE ERROR. FUNCTION: NN ERROR CODE: CODE**

There was an unrecoverable error while the E-SRF RACF Database Interface Module was processing. Call EKC Technical Support.

**EKCRRURS-962 ERROR RETURNED FROM EKCRSEL, R15: NN**

An unrecoverable error occurred during select Userid processing. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRURS-963 ERROR RETURNED FROM EKCRDXD, R15: NN**

An unrecoverable error occurred during processing the output data exchange format dataset. If there are no other obvious error messages, call EKC Technical Support.

**EKCRRURS-994 \*\*\* GROUPING RECORD MANAGER ERROR, R15=NN**

An unrecoverable error was returned from the EKC Grouping Manager. In the absence of other obvious error messages in the report output or the Job's syslog, call EKC technical support.