CA-Deliver™ for OS/390 & z/OS

Reference Guide

1.7

Computer Associates™

Contents

Chapter 1: Introduction

Chapter 2: Introducing CA-Deliver

Chapter 3: Initialization Parameters

Chapter 4: User Exits

Chapter 5: Operator Commands

Chapter 6: Utilities

Chapter 7: The CA-Deliver Database

Chapter 8: Model Banner Pages

Chapter 9: Setting Up Print Attributes for CA-Deliver

Chapter 10: Accessing CA-Deliver Programs From CA-GSS

Chapter 11: NJE Unattended Download

Chapter 12: Security

Chapter 13: Messages and Codes

Glossary

Index

Chapter 1

Introduction

Welcome to CA-Deliver, a document management tool that provides automatic distribution of documents created on the mainframe.

This chapter presents an overview of this guide and describes the main features and capabilities of CA-Deliver; this chapter also contains information you need to know to use CA-Deliver and describes the other chapters in this guide.

What's in This Guide?

The *CA-Deliver Reference Guide* includes the following chapters:

Chapter 1, "Introduction" describes how to use this guide.

Chapter 2, "Introducing CA-Deliver" outlines operating system requirements for CA-Deliver, describes how CA-Deliver tasks work, describes how CA-Deliver obtains print attributes, describes the rules for running more than one CA-Deliver system concurrently, and lists types of report processing.

Chapter 3, "Initialization Parameters" explains how to set and change initialization parameters.

Chapter 4, "User Exits" lists and describes user exits that allow you to customize CA-Deliver.

Chapter 5, "Operator Commands" lists and describes CA-Deliver operator commands that are used to control CA-Deliver.

Chapter 6, "Utilities" describes CA-Deliver utilities which you use to obtain and maintain information about the status, contents, and structure of the CA-Deliver database.

Chapter 7, "The CA-Deliver Database" describes the elements in the CA-Deliver database and the utilities you use to initially build and modify data.

Chapter 8, "Model Banner Pages" provides information about model banner pages, attribute and control characters, and symbolic variables.

Chapter 9, "Setting Up Print Attributes for CA-Deliver" provides information about the printer set up member and XEROX 9700 parameters.

Chapter 10, "Accessing CA-Deliver Programs From CA-GSS" describes how CA-Deliver and CA-GSS work together to establish a host command environment in CA-GSS.

Chapter 11, "NJE Unattended Download" discusses CA-Deliver's unattended download feature.

Chapter 12, "Security" describes how to implement internal and external security for the CA-Deliver database and the access levels which are managed by the security table or the security user exit.

Chapter 13, "Messages and Codes" describes the user abend codes and routine error messages generated by CA-Deliver, and provides procedures to respond to the messages.

The "Glossary" provides definitions for acronyms, abbreviations, and terms used throughout this guide that pertain to CA-Deliver.

Who Should Read This Guide?

This guide is targeted to system administrators who are responsible for managing report distribution and tracking.

This guide assumes you are familiar with IBM computer system terms and concepts and that you have a basic working knowledge of IBM JCL. You should also have a working knowledge of MVS online facilities since the CA-Deliver panels behave like ISPF panels.

Product Documentation

The following publications are supplied with CA-Deliver 1.7:

- *CA-Deliver Getting Started*
- *CA-Deliver Administrator Guide*
- *CA-Deliver Reference Guide*

Contacting Technical Support

Technical support is available 24 hours a day, 7 days a week.

For technical assistance with CA-Deliver, contact Computer Associates Technical Support at http://esupport.ca.com.

Conventions Used in This Guide

This section explains the conventions used to present information in this guide. We recommend that you take the time to familiarize yourself with these conventions.

Commands and Parameters

Commands and parameters are shown in `this font.` You enter these examples in CA-Deliver exactly as shown.

Boldface

Keywords, symbols, or punctuation that you must enter as shown are represented in **boldface**.

Variables

Italic text shown with a command indicates a user-defined variable. For example, in place of the variable *printer-id.data,* you might enter VPS.JESDS. The actual value you provide for a variable, however, depends on how you install and set up CA-Deliver at your installation.

Commands

Commands you can issue via the online facility are represented by uppercase letters, for example:

- HELP
- SELECT

The word Enter represents the following keys on your keyboard:

- ENTER, Enter, or enter
- RETURN, Return, or return
- ↵

PF Keys

Programmable function keys, or PF keys, are represented by the uppercase letters PF followed by one or two digits:

- PF1
- PF12

Note: On most keyboards, PF keys are located either at the top or to the right of the main part of the keyboard. PF keys are usually marked PF or simply F followed by 1 or 2 digits, for example, PF1 or F12.

New Features and Enhancements in This Release

CA-Deliver 1.7 contains many enhancements, which make the online administration of reports easier and faster. Some of these new features for Release 1.7 are as follows:

SORT command for display list data. This allows you to sort by any field on the following display panels:

- Active Report List (Primary and Alternate) panels
- Active Bundle List (Primary and Alternate) panels
- Bundle Selection List panel
- Bundle Distribution Specifications panel
- Bundle Report Specifications panel
- Distribution Selection List panel
- Job Selection List panel
- Report Selection List panel
- Report Distribution Specifications panel
- Report XREF for Distid panel

When a display panel is sorted, the number of rows in the table will appear in the message area at the top right corner of the display.

Filtering of selection list data to restrict lists to just the set of data you need. Filtering fields are supported on several selection list panels to refine or restrict the number of entries displayed in a list. Filtering is available on the following panels:

- Active Report List (Primary and Alternate) panels
- Active Bundle List (Primary and Alternate) panels
- Bundle Selection List panel
- Distribution Selection List panel
- Job Selection List panel
- Report Selection List panel

4-digit years on all online panels. Online panels and batch reports that contain a date now display a 4-digit year. CA-Deliver also supports eight date formats:

- MM/DD/YYYY (default)
- DD/MM/YYYY
- YYYY/MM/DD
- YYYY/DD/MM
- MM/DD/YY
- DD/MM/YY
- YY/MM/DD
- YY/DD/MM

COPY command enhanced to copy all of the data under a job. With the COPY command, you no longer have to copy each individual report. The COPY command, copy tabular command, and repeat tabular command have been enhanced on the Reports for Job panel to copy all of the report definition data when the copied or repeated report identifier reference is renamed.

The COPY command has additional parameters to allow automatic renaming of the report identifier names when the job data is copied.

Automatic copy facility. For panels that support copying of data into a table, the previously required after (A) or before (B) tabular command is not required if the data is copied into an empty table.

FIND command support. The FIND command is now available on the following panels:

- Bundle Distribution Specifications panel
- Bundle Report Specifications panel
- Reports for Job panel
- Report Distribution Specifications panel

For panels that support the SORT command, the FIND command locates data based on the first or only sort field.

Distribution Lists to make report distribution easier. You can now have multiple distribution points defined to a single Distid.

Distribution specifications, similar to the Report Distribution Specifications panel, can now be defined to a distribution list. This facility allows distribution specifications to be defined externally from the report definition and shared across multiple reports.

Distribution Lists contain a Distribution Identifier display. A display containing the distribution lists that a distribution identifier has been defined to can be obtained from the Distribution Selection List panel via the SL tabular command.

The new Distribution Lists with Distid panel displays the distribution list name, destination, external writer, copies, output indicator, CA-View logical view restriction indicator, CA-View delete restriction indicator, and CA-View reprint restriction indicator.

The output and viewing requirements defined in the distribution list for a distribution identifier can be changed, added, or deleted.

REDISPLAY command extended to more panels. The REDISP command, which can be specified as RED, REFRESH, or REF, is now available on the following panels:

- Bundle Selection List panel
- Distribution Selection List panel
- Job Selection List panel
- Report Selection List panel

Automatic selection based on cursor position on many panels. An entry can be automatically selected by placing the cursor on the desired line and pressing the Enter key. This type of selection is equivalent to an S tabular command.

The automatic selection feature is available on the following panels:

- Primary Selection Menu panel
- Bundle Selection List panel
- Bundle Distribution Specifications panel
- Bundle Report Specifications panel
- Distribution Selection List panel
- Job Selection List panel
- Reports for Job panel
- Report Selection List panel
- Report Distribution Specifications panel
- Report Xref for Distid panel

Multiple internal security tables. This allows you to run many CA-Deliver tasks with individualized security tables. You should define only one table per database.

External security interface. This allows you to have CA-Deliver make calls to an external security manager by specifying a CA-Deliver initialization parameter, rather than using its own internal security table.

Report Description added on Bundle Report Specifications panel. The report description displays to the right of the report identifier on the Bundle Report Specifications panel.

First address line added on the Bundle Distribution Specifications panel. The first address line displays to the right of the distribution identifier on the Bundle Distribution Specifications panel.

Four character selection codes internally supported. Four character selection codes are supported on display lists that support the edit tabular commands that are used to copy, delete, move, repeat, and insert entries.

The actual panels, as distributed, still contain a two character selection code so display data will not be lost. The panels, however, can be modified at the client's discretion to provide a larger selection code field.

Enhanced Active Reports/Bundle command. A specific or generic identifier can be specified on the "A" command from the Primary Selection Menu. This identifier is used as filtering criteria to refine the Active Report or Bundle List.

Inactivate force command added to various panels. The UF tabular command has been added to the following panels:

- Job Selection List panel
- Reports for Job panel
- Report Selection List panel

J selection command changed. The J selection code, which is supported on the Active Report List and Report Selection List panels, now positions the Reports for Job panel at the selected report identifier in the list.

z/OS 1.2 JOBID changed. In z/OS Version 1 Release 2, IBM changed job identifiers from three letters followed by five numbers to one letter followed by seven numbers. CA-Deliver 1.7 supports this change.

Bundle display from Report Definition. A list of bundles can be displayed and maintained from the Report Definition Attributes panel. A new primary command (B) has been added to the Report Definition Attributes panels to access the bundle list.

Report display from Distribution Selection List. A list of reports defined to a distribution list can be obtained from the Distribution Selection List or Distribution Lists with Distid panels via the "SR" tabular command.

The new report list displays the report identifier, destination, external writer, copies, output indicator, CA-View logical view restriction indicator, CA-View delete restriction indicator, and CA-View reprint restriction indicator.

The output and viewing requirements for the reports can be changed, added, or deleted.

External writer added to various panels. An external writer identification has been added to the following panels:

- Report Definition Distribution Specifications Panel
- Distribution Data Panel
- New Distribution List Distribution Specifications Panel

CA-Connect destination identification. The distribution data panel has been changed to allow designation to a CA-Connect destination.

Previously, a CA-Connect destination was identified by placing "PREVAIL/XP-CONNECT" in the first address line of the distribution identifier. A new field has been added to the panel to make that designation. The database conversion process will recognize and appropriately convert the old form of designation.

Full page text search. The Report Definition Text Specification panel has been changed to allow a full page text search.

The line field on the Report Definition Text Specification panel now allows you to specify an asterisk (*) to search all lines on a page (up to a maximum of 255 lines).

Accordingly, the column field specification has been changed to allow you to specify an asterisk (*) to search all the columns on a line instead of the previous specification of a blank.

No IPLs. When maintenance was applied to certain CSA modules on prior releases of the product, an IPL of the MVS system was required to activate the maintenance. The CA-Deliver started task now has a new "REFRESH" startup parameter that can be used to reload static CSA modules.

Enhanced Recoverability. The CA-Deliver started task has been enhanced to recognize and respond to abends of the process request subtask, checkpoint subtask, history detail subtask, and network input subtask.

Also, the CA-Deliver request queue will be validated and recovered, if necessary, when the CA-Deliver started task is started.

SAPI Support. The network input subtask of the CA-Deliver started task now supports the new IBM SAPI interface instead of the old IBM PSO interface for selecting SYSOUT data sets from JES.

The IBM SAPI interface allows retrieval of output statement information for a SYSOUT data set. The IBM SAPI provides a standardized interface for both JES2 and JES3.

With the SAPI interface, SYSOUT data sets from jobs or DD statements that are not defined to the CA-Deliver database will be requeued to the new class, destination, and forms specified on the NETCLSL, NETDEST, and NETFORM initialization parameters. The same occurs for reports defined as MONITOR. These requeued SYSOUT data sets will retain their original job name and job identifier. If an error occurs while requeuing the SYSOUT data set, a RMOPS208 message will be generated, and the SYSOUT data set will be placed in a hold status. Basic, stacked, interleaved, and control reports will be produced under the CA-Deliver started task and retain the name of the CA-Deliver started task name. UNDEF reports will only be generated for stacked reports.

Reduced Below-the-line Storage. With prior releases of CA-Deliver, 696 bytes of below-the-line storage was needed for each recipient of a report. If 1000 stacked reports are defined for a DD statement with 10 recipients each, 7 meg (1000 x 10 x 696) of below-the-line storage was needed. The new release now uses only 168 bytes of below-the-line storage for each recipient when the report is being produced.

In other words, the below-the-line storage is used only when the page selection text (text specifications) has matched for a report. Direct to View archival reports no longer require additional below-the-line storage.

Checkpoint File Blocks Recovered. With prior releases of CA-Deliver, CRJ and CRB blocks were never returned to the free chain. The new release now frees all blocks.

Deletion of output statements. During the distribution process, CA-Deliver allocates output statements to properly distribute reports to recipients. Previously, these created output statements were not deleted and could cause serious problems with the CA-Deliver started task.

The network input task and bundle output task are long running subtasks of the CA-Deliver started task. Both of these tasks create output statements to distribute reports or bundles. Since the output statements are not deleted, SWA control block storage can be exhausted and cause the CA-Deliver started task to abend with a S878 abend.

The new release now deletes output statements after sysout data sets are allocated for a report.

Stacked Report Performance. Basic history data was previously created when the DD statement for a series of stacked reports was opened. Basic history data for stacked reports that did not have any selectable pages will contain null history entries with no lines, pages, or queued date.

The new release produces basic history data for a report when the page selection text (text specifications) is matched to a page of data. Basic history data will not be generated if no page data is matched. The intent of this enhancement is to reduce the overall number of database I/Os performed by the CA-Deliver started task, thus increasing the overall performance and throughput of started task.

This streamlined performance only applies to sites that are not recording history detail data.

RMOPARMS. BAL, BALSEL, BALOFFPW, and BALSEP and BALDEC are obsolete and must be removed from RMOPARMS.

Batch utilities changes. The database build utility (RMODBB) has been enhanced with the ability to define and maintain the new distribution list records. You can also use RMODBB to assign a bundle wait for late time indication, report distribution external writer, distribution external writer, CA-Connect destination designation, and to sort the report distribution specifications, distribution list specifications, bundle report specifications, and bundle distribution specifications.

The general report writer (RMOGRW) has been enhanced to print or output the new distribution list records. You can also use RMOGRW to print or output the bundle wait for late time indication, bundle remaining interval time, bundle active count, bundle pending count, bundle ready count, reports bundled count, report distribution external writer, distribution external writer, and CA-Connect destination designation.

The internal date format for RMOGRW has changed to a binary number of days since 1900 to resolve date calculation, such as CDATE-3. The printing format of date fields is now based on the default date format which may alter the format of existing reports. The EDIT function has also been enhanced to allow formatting of a four-digit year.

Optimized delete of distribution identifiers. Cross-reference records are now utilized to stream-line the removal of distribution references from report and bundle records when a distribution record is deleted as opposed to sequentially reading and scanning all report and bundle records.

Common component upgraded. The EBC Common Component has been upgraded to Release 2.3. If you are running cross-memory (XMS) regions with CA-View and CA-Deliver combined, you should upgrade these regions to use the latest release of the EBC code.

Before Upgrading from Releases 5.1 and 1.6. Upgrade considerations from Releases 5.1 and 1.6 are discussed in Step 24 in the section "Installing CA-Deliver" in the *CA-Deliver Getting Started Guide*. Do **not** bring up CA-Deliver 1.7 without reviewing this step.

Chapter

2

Introducing CA-Deliver

CA-Deliver allows you to manipulate report output in many ways. You can create a report from one entire report as defined by a SYSOUT DD statement or make a report from parts of multiple reports as defined by a SYSOUT DD statement.

CA-Deliver also allows you to bundle reports. Bundling allows you to put all reports to be delivered to a given destination—for example, an accounts receivable department—into a bundle for easy and accurate distribution.

This chapter covers the following topics:

- Purpose of this guide
- Operating system and other version level prerequisites for CA-Deliver
- How CA-Deliver interfaces with CA-View
- How CA-Deliver tasks work
- Rules for running two or more CA-Deliver systems concurrently
- Types of CA-Deliver report processing
- How CA-Deliver obtains print attributes

Operating System and Version Level Prerequisites for Using CA-Deliver

You must use Release 1.7 or a later release of CA-View with CA-Deliver 1.7 for CA-View to work properly.

You must use MVS/ESA Release 5 or a later version.

CA-Deliver uses the dynamic allocation facilities to allocate IBM 3800 printer attributes such as BURST, CHARS, and MODIFY to print reports.

Users who do not have IBM SAPI support will need CA-Command and CA-GSS to Use PAGEDEF and FORMDEF through network input. You need Version 4.4 of CA-Sysview/E and Version 2.5 of CA-GSS to use PAGEDEF and FORMDEF through network input processing.

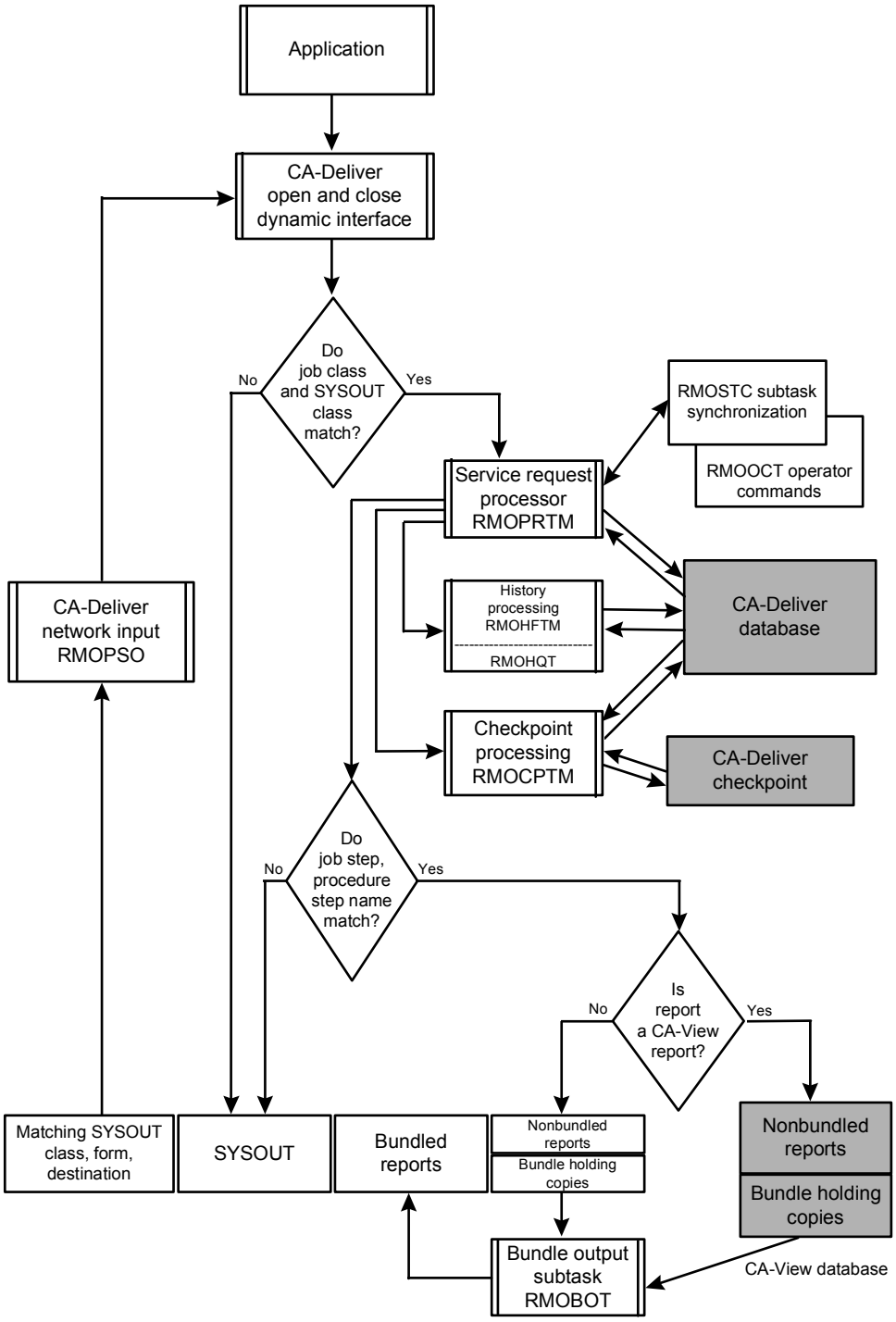
You need CA-GSS for RMODBASE, RMODBB, and RMOGRW GREXX communication. You need Version 2.6 of CA-GSS to communicate with the RMODBASE, RMODBB, and RMOGRW GREXX programs.

How CA-Deliver Interfaces With CA-View

With CA-Deliver and CA-View, you can automatically distribute reports to disk, back up reports to tape, view reports online, and easily reprint reports. CA-View is described in your CA-View documentation.

Illustration of CA-Deliver Tasks

The following illustrates how CA-Deliver tasks work.


Application
CA-Deliver open and close dynamic interface
Do job class and SYSOUT class match?
No
Yes
RMOSTC subtask synchronization
RMOOCT operator commands
Service request processor RMOPRTM
CA-Deliver network input RMOPSO
History processing RMOHFTM
RMOHQT
CA-Deliver database
Checkpoint processing RMOCPTM
CA-Deliver checkpoint
Do job step, procedure step name match?
No
Yes
Is report a CA-View report?
No
Yes
Matching SYSOUT class, form, destination
SYSOUT
Bundled reports
Nonbundled reports
Bundle holding copies
Nonbundled reports
Bundle holding copies
Bundle output subtask RMOBOT
CA-View database

How CA-Deliver Tasks Work

The CA-Deliver task is a started task that controls the production of reports and tracks the distribution of reports. It is automatically marked as "non-swappable."

The CA-Deliver started task sets the dynamic interface between CA-Deliver and your operating system.

This section explains the following:

- How CA-Deliver tasks work: pre-spool
- How CA-Deliver tasks work: post-spool
- How to use network input with a shared database
- How CA-Deliver started task data sets are allocated

How CA-Deliver Tasks Work: Pre-Spool

When you start the CA-Deliver started task on each operating system at your installation, each started task remains active until the operating system on which it is running is brought down.

The CA-Deliver started task obtains control whenever a data set is opened or closed by a job. The started task first checks to see whether the SYSOUT is a SYSOUT to control.

Open Processing

For open processing, the CA-Deliver started task verifies whether:

- The class of the job is specified by the JOBCLSL initialization parameter
- The SYSOUT class is specified by the SYSCLSL initialization parameter
- The job name is defined for the CA-Deliver database
- The job step name and procedure step name match
- One or more report definitions exist in the CA-Deliver database for the DD statement of the data set

Close Processing

For close processing, the started task verifies that the data set was selected by CA-Deliver when it was opened. Once the started task verifies that the SYSOUT being opened is to be controlled, it modifies the Access Method Control block for the data set so that it gains control every time a record is written for the data set.

Note: If your application opens and closes the same SYSOUT data set more than once while executing, we recommend that you use post-spool processing to direct all output to the same report.

How CA-Deliver Tasks Work: Post-Spool

Network input is a post-spool operation of CA-Deliver whereby reports can be written to the JES spool first by an application, then retrieved by CA-Deliver later for processing.

Network input was originally intended to enable a report created at a node in a multi-node network (that did not run CA-Deliver) to be distributed and tracked by CA-Deliver when routed for printing to another node in the network that *did* run CA-Deliver. However, the operation is now much broader in scope in that any report can be written to spool regardless of its node in the network and then later retrieved by CA-Deliver for processing via network input.

In order for a report to be input to CA-Deliver via network input, the report must be defined in the CA-Deliver database and must be created with the same SYSOUT attributes that were defined to the CA-Deliver task for network input at initialization time.

One or more of the following attributes can be used to define network input to CA-Deliver:

- The SYSOUT class (specified by the NETCLSL initialization parameter)
- The SYSOUT destination (specified by the NETDEST initialization parameter)
- The Forms name (specified by the NETFORM initialization parameter)

CA-Deliver supports two IBM interfaces for retrieving network input data from JES:

- The old Process SYSOUT interface (PSO)
- The new SYSOUT Application Interface (SAPI)

The SAPI interface is supported at OS/390 1.3 or higher. CA-Deliver will automatically use the SAPI interface if supported by the operating system.

Process SYSOUT Interface

With the Process SYSOUT interface, network input data sets are processed as follows:

- Network input data sets from a job or a DD statement that are not defined to JES will be created under an UNDEF report. If an UNDEF report is not defined, the network input data will be copied to a new data set under the new class, new destination, and/or new forms referenced by the NETCLSL, NETDEST, and NETFORMS initialization parameters.
- The copied, distributed or UNDEF reports will appear under the name of the CA-Deliver started task.
- Output statement parameters, such as PAGEDEF, FORMDEF, NAME, ADDRESS, TITLE, and so on, are not retrieved. The PAGEDEF and FORMDEF output parameters can be retrieved if the GSS interface is installed.
- No accounting data will be obtained.
- If the COPIES parameter is specified for a network input data set, each individual copy will be obtained separately by network input and processed as a separate report request.

SYSOUT Application Interface

With the SYSOUT Application Interface, network input data sets are processed as follows:

- Network input data sets from a job or a DD statement that are not defined to JES will be requeued to the new class, new destination, and/or new forms referenced by the NETCLSL, NETDEST, and NETFORMS initialization parameters.

  These network input data sets will retain their original jobname, job ID, and accounting information. The network input data sets will reside in a non-held status whether or not the new class references a held class. If an error occurs while requeuing the network input data set, the network input data set will be placed in a held status.
- Distributed reports will appear under the name of the CA-Deliver started task.
- Output statement parameters, such as PAGEDEF, FORMDEF, NAME, ADDRESS, TITLE, and so on, will be retrieved are processed the same as in the pre-spool environment.
- Accounting information will be obtained. Reports distributed via network input will not have the accounting information attached, but it is accessible via user exits and retained in archival copies of the report.
- The copies parameter is supported for report distribution specifications that indicate copies as "*".

Example 1

Assume that CA-Deliver runs at node N1 and that SYSOUT class E has been reserved and defined to CA-Deliver for network input. To have a report routed to and printed by CA-Deliver, it must be created with the following attributes:

```
DEST=N1
SYSOUT=E
```

From another CPU, for non-shared spool, the JCL is as follows:

```
//STEP1    EXEC PGM=IEBGENER
//SYSUT1   DD   DSN=JCL.DATA(LISTING),DISP=SHR
//SYSUT2   DD   SYSOUT=E,DEST=N1
//SYSIN    DD   DUMMY
//SYSPRINT DD SYSOUT=A
```

In the preceding example, the initialization parameter NETCLSL must be set to NETCLSL=E/A, where the value A is the class to which SYSOUT data is to be written if the extracted job does not match the definition in the CA-Deliver database.

Example 2

Assume that CA-Deliver runs at node N1 and that destination R100 has been reserved and defined to CA-Deliver for network input. To have a report routed to and printed by CA-Deliver, it must be created with the following attribute:

```
DEST=N1R100
```

From another CPU, for non-shared spool, the JCL is:

```
//STEP1    EXEC PGM=IEBGENER
//SYSUT1   DD   DSN=JCL.DATA(LISTING),DISP=SHR
//SYSUT2   DD   SYSOUT=B,DEST=N1R100
//SYSIN    DD   DUMMY
//SYSPRINT DD SYSOUT=A
```

In the preceding example, the initialization parameter NETDEST must be set to NETDEST=R100.

How to Use Network Input With a Shared Database

If you use network input and you share one CA-Deliver database across more than one CPU in a shared spool environment, you must set initialization parameters NETCLSL, NETDEST, and NETFORM to unique values on each CPU.

Although network input is an alternative to pre-spool operation of CA-Deliver, it is not recommended as a substitute for pre-spool operation because:

- Network input necessitates additional overhead since the reports must be both written to and read from spool before they can be processed by CA-Deliver.
- Not all attributes of a report can be obtained by CA-Deliver for IBM operating system levels that do not support SAPI.
- There is a delay when reports are processed by CA-Deliver in that they are not normally available to CA-Deliver until after the job that creates them is completed.

How CA-Deliver Started Task Data Sets Are Allocated

The CA-Deliver started task dynamically allocates SYSOUT data sets as needed for copies of reports.

The report definition in the CA-Deliver database is examined for print attributes used to allocate the data sets. Any attributes specified in the report definition are used "as is." For any attributes omitted from the report definition, the corresponding print attribute, as specified in the JCL for the DD statement, is obtained from the operating system SIOT and JFCB and used. In addition, if the initialization parameter OUTPUT is set to OUTPUT=YES, SJF services are invoked to obtain the print attributes in the first OUTPUT JCL statement, if any. During network input processing, the print attributes are obtained from JES.

Prior to producing any data for a report, the model banner page is read into memory and the starting banner page is constructed from the definition data for the report and output.

When the SYSOUT data set is closed and the CA-Deliver task gains control, records remaining in memory are written out for the reports, the ending banner page is constructed and output, and the dynamically-allocated data sets are closed and (optionally) freed.

Rules for Running Two or More CA-Deliver Systems Concurrently

We recommend that you use a test CA-Deliver database and run CA-Deliver as a separate task when following the procedures in this guide so that you do not inadvertently change or lose data in your production database or cause problems in your production environment.

Before setting up a unique, separate CA-Deliver test system, your system administrator must do the following:

- Define a separate and unique database for your CA-Deliver system.
- Assign a unique and separate identifier to your CA-Deliver system.

  Use the SYSID initialization parameter, which is a single letter, number, or national character ($, #, @), to define the identifier of a system.
- Assign a unique and separate combination of network input attributes to your system if it is used for network input (that is, you must specify unique values for initialization parameters NETCLSL, NETDEST, and NETFORM).
- Assign a unique and separate combination of bundle holding copy attributes (BNDLCLS and BNDLDEST) to your system if it is to use SPOOL to retain bundle holding copies.
- Create and maintain a unique and separate started task procedure and set of initialization parameters for your separate and unique system.

Using the SYSID Initialization Parameter

The SYSID initialization parameter establishes a unique identifier for each CA-Deliver system. The collating sequence of the identifiers determines the order in which the CA-Deliver systems are offered control of SYSOUT. The default identifier used if your system administrator does not specify a SYSID is $ ($ is the highest in the collating sequence).

Types of Report Processing

CA-Deliver performs the following types of report processing:

- Basic report processing
- Stacked report processing
- Interleaved report processing
- Monitored data output
- Control break report processing

Each type of report processing is described in this section.

Basic Report Processing

In basic report processing, there is a one-to-one correspondence between the SYSOUT data set and the report. Only one report is defined for the SYSOUT DD statement. Records are written out as they are obtained.

Stacked Report Processing

Stacked reports are processed as follows:

1. Output records for a page accumulate in memory until the last line referenced in the report identification text has been passed to CA-Deliver or the end of the page is reached. A new page is defined by a skip to channel 1 carriage control.
2. Exclusive segments within the report identification text are examined in order by report for a match.

   Any exclusive segment that has already been used and is not defined as reusable, is not examined, and is ignored. The first exclusive segment for which a match occurs is marked as currently selected, and the exclusive segment previously marked as currently selected, if any, is unmarked (that is, not currently selected). If matching text is not found, the exclusive segment previously marked as currently selected remains marked as currently selected.

3. The beginning definitions of overlapping segments within the report identification text are examined for matches.

   Any overlapping segment that has already been used and is not defined as reusable is not examined and is ignored. Any overlapping segment for which a match is found on its beginning definition is marked as currently selected. Any overlapping segments already marked as currently selected remain marked as currently selected.

4. The page is written to any report with a currently selected segment. If no reports have currently selected segments, the page is discarded (only if the undefined report identifier UNDEF, which is described later in this guide, is not used).

5. Currently selected segments are identified as used, and in the case of non-reusable segments, are no longer examined when searching for subsequent matches.

6. The ending definitions of overlapping segments within the report identification text are examined for matches. Any overlapping segment for which a match is found is unmarked (that is, not currently selected).

Interleaved Report Processing

In interleaved report processing, multiple reports are associated with the same SYSOUT data set. The individual records of the reports are interleaved and contain a one-character interleave identifier that is used to separate the reports.

If a SYSOUT data set does not contain carriage controls in its record format (for example, DCB=RECFM=FB), the interleave identifier is the first character of each record. If a SYSOUT data set contains carriage controls in its record format (for example, DCB=RECFM=FBA), the carriage control is the first character of each record and the interleave identifier is the second character of each record.

Example

Record 1 of report 1 is written, record 1 of report 2 is written, records 2 through 8 of report 1 are written, record 1 of report 3 is written, and so on. The interleave identifier of all of the records in report 1 contain the same character, the interleave identifier of all of the records in report 2 contain the same character (but different from report 1), and so on.

Specifications are defined in the report definition attributes to identify how the reports are separated. These specifications are referred to as *report identification text*.

As each record is processed, it is written to the appropriate report based on its interleave identifier. The interleave identifier is removed from the record before it is written. If no appropriate report is defined, the record is discarded.

Monitored Data Output

Monitored data output is another type of report processing in which only one report is defined for a SYSOUT data set.

In monitored data output, the SYSOUT data set is written out unchanged, exactly as defined in the JCL (or as specified when the DD statement is dynamically allocated). Banner pages are not produced for monitored data output.

Although the SYSOUT data set is not modified, the report is identified and tracked, and historical data is maintained. You can also use CA-View to archive the data set automatically.

Monitored data output provides the means by which to migrate to your first implementation of CA-Deliver. Using a CA-Deliver utility to scan the job JCL, you can subsequently construct and load the CA-Deliver database with report definitions automatically. After loading report definitions, you can track and archive reports immediately.

Control Break Report Processing

Individual pages within a data set are separated to produce unique reports. Specifications are defined in the report definition attributes to identify the field that invokes the separator. These specifications are referred to as *control break identification*. When the contents of the defined control break field changes, a separator is printed between pages and processing continues until the contents change again.

Note: Reports of type CNTL honor the STKMODE initialization parameter. Therefore, if STKMODE= RECORD, the RECORD that contains the field defined is compared. If STKMODE=LINE, the LINE is selected for comparison in the print position as it appears on a page. If STKMODE is defined as LINE, carriage control is honored.

How CA-Deliver Obtains Print Attributes

When the OUTPUT=YES initialization parameter is used, CA-Deliver extracts print attributes from //OUTPUT statements and dynamically creates //OUTPUT statements as necessary to produce reports, following the same rules used by the operating system for overrides.

CA-Deliver obtains print attributes for a report from the internal representation of the DD and OUTPUT JCL statements (from the JFCB, SIOT, and SWB control blocks).

Obtaining Print Attributes

If a SYSOUT DD statement references more than one //OUTPUT statement, CA-Deliver uses only the first statement to obtain print attributes. Other statements are ignored.

CA-Deliver obtains print attributes for the following //OUTPUT parameters:

- BURST
- CHARS
- CLASS
- COPIES=*nn*
- DEST
- FCB
- FLASH
- FORMDEF
- FORMS
- GROUPID
- LINECT
- MODIFY
- PAGEDEF
- PRMODE
- PRTY
- UCS
- USERLIB
- WRITER

FORMAT JES3 Control Statement Is Not Supported Directly

The //*FORMAT JES3 control statement is not directly supported by CA-Deliver as the parameters on the statement are kept on the JES3 spool volume and are not available to CA-Deliver.

Note: Although CA-Deliver does not use the //*FORMAT control statement, JES3 can still apply the statement to a report DD statement dynamically allocated by CA-Deliver.

Any //*FORMAT statement (that is, the //*FORMAT statement contains DDNAME=) is applied; however, only those parameters not specified by CA-Deliver to allocate the DD statement dynamically are used. It is unlikely, however, that any specific //*FORMAT statement (that is, the //*FORMAT statement contains DDNAME=*ddname*) is applied since the DDNAME of the dynamically allocated DD statement is generated by the operating system.

Chapter

3

Initialization Parameters

You are provided with a set of parameters that initialize CA-Deliver when you start the CA-Deliver started task. This chapter describes the initialization parameters and presents them in alphabetical order.

This chapter covers the following topics:

- The location, syntax, and syntax rules of initialization parameters
- The BNDLMOUT initialization parameter, attributes, and the first report in a bundle
- The bundle output task and the BOT initialization parameter
- Initialization parameters

Overview of Initialization Parameters

You define CA-Deliver initialization parameters in the data set named RMOPARMS. You define the RMOPARMS data set in the start procedure JCL by specifying a DD statement named RMOPARMS. The RMOPARMS data set contains fixed, 80-byte records (blocked or unblocked).

CA-Deliver reads the information in positions 1 to 71 of the records in RMOPARMS. CA-Deliver ignores information in positions 72 to 80 so you can use positions 72 to 80 for other purposes (for example, to contain sequence numbers).

Initialization Parameter Syntax

Syntax

parameter=value

where:

Value	Description
parameter	Specifies the name of the initialization parameter
value	Specifies the value to be assigned to the initialization parameter

Syntax Rules

When specifying initialization parameters, do the following:

1. Specify one initialization parameter per record.
2. Do **not** insert blank spaces between the initialization parameter and the equals sign or between the equals sign and the parameter value. The following is an example of a valid statement:

   ```
   ARCH1=DIRECT
   ```

3. Continue an initialization parameter statement onto the next record by doing **one** of the following:
   - Move the statement so that its last character extends past column 71.

     In this case CA-Deliver looks for the remainder of the statement in column 1 of the next record.
   - Insert a comma at the end of the record to be continued and enter the remainder of the statement in the next record.

     CA-Deliver ignores leading blanks in the next record.

Inserting Initialization Parameter Comments

To insert a record-long comment in RMOPARMS, enter an asterisk (*) in the first column. Characters after the asterisk are ignored.

To insert an in-line comment, enter a space at the end of the initialization parameter statement. Characters after the space are ignored.

JOBCLSL Initialization Parameter

The JOBCLSL initialization parameter is **required**. You must specify a value for this parameter for CA-Deliver to operate properly.

The sample data set RMOPARMS in CAI.PPOPTION contains default initialization parameters.

BNDLMOUT, Attributes, and the First Report in a Bundle

When you set the initialization parameter BNDLMOUT to NO or use the default for the CA-Deliver started task, the attributes used to print a bundle (except for carriage control attributes) are obtained from the first report in the bundle that is written. All reports in the bundle are consequently printed with the same attributes.

When you set the initialization parameter BNDLMOUT to YES for batch bundling only, each report is printed with its own attributes except for destination and class. In order to accomplish this, a new DD statement is allocated and used whenever any attribute changes. This means that there are several SYSOUT DD statements for the bundle. In order to ensure that the SYSOUT DD statements print together, an OUTPUT JCL statement is dynamically created with the GROUPID parameter and is referenced by the DD statements.

If a bundle distribution identifier is not defined in the bundle definition attributes, then the distribution identifier for the first distribution point in the bundle is used.

Bundle Output Task and the BOT Initialization Parameter

The BOT (bundle output task) initialization parameter is a subtask of the CA-Deliver started task that periodically scans the active bundle queue for bundles that are ready to print. The time period between scan actions is specified by the BNDLSCAN initialization parameter.

When CA-Deliver runs on multiple operating systems in an installation, a bundle output task normally executes under CA-Deliver on each operating system. However, you can choose not to run the bundle output task on an operating system. BOT specifies whether the bundle output task is initially started. In addition, operator commands are provided to start and stop the bundle output task.

Note: Running BOT on multiple operating systems that share the same database can affect performance.

If a bundle is defined with job statements, the bundle output task submits a batch job to compose and print the bundle. The job that is submitted corresponds to skeleton JCL member RMOJCLB. By submitting separate batch jobs to compose the bundles, parallel processing can be achieved. If no job statements are defined for a bundle, it is printed directly by the bundle output task.

Initialization Parameters

The following table provides the format, default setting, and a description of each initialization parameter:

Parameter	Format	Default	Description
ARCH	ARCH=*n*	ARCH=0	Specifies the default archive criteria to be used by CA-Deliver reports that are to be archived to CA-View when no archive criteria value is specified in the ARCH field on the Report Definition Attributes panel Specify a value from 0–9 inclusive for *n* (*n* identifies and references archive criteria you specify with either ARCH*n* initialization parameter described below). For example, if you specify ARCH=2, archive criteria you specify for initialization parameter ARCH2 (ARCH2=//SAR/T, or ARCH2=DIRECT) are used by default for CA-Deliver reports that are archived to CA-View. **Note:** Specifying 0 indicates that, by default, reports are not to be archived to the CA-View database.

Parameter	Format	Default	Description

ARCH*n*
(Form 1)
	ARCH*n*=*c*/
	dddddddd/
	ffffffff/
	m
		None	Specifies a set of criteria, which is identified and referenced by the value *n*, that defines the attributes for CA-Deliver reports that will be archived to CA-View via spool
			
			You can specify a value from 1–9 inclusive for *n*. This format specifies a set of SYSOUT attributes for using spool as the intermediate holding area for reports to be sent to CA-View for archiving. The set of SYSOUT attributes comprises the following:
			
			c — The SYSOUT class
			
			dddddddd — The destination
			
			ffffffff — The forms name
			
			m — The archive medium, D (disk) or T (tape), all separated by slashes (/)
			
			These attributes are positional. If you do not specify an archive medium, reports are archived to disk by default.
			
			For any report identified for archiving, the appropriate set of archival criteria is used to allocate a special SYSOUT data set to be spun off for archival by CA-View.
			
			Assume, for example, that your installation has CA-View installed and is archiving all SYSOUT with a forms name of SAR (the appropriate SAR initialization option is FORM=SAR). You then define two sets of archive criteria, numbered 1 and 2, for archiving reports to disk and tape as follows:
			
			`ARCH1=//SAR/D`
			
			`ARCH2=//SAR/T`

Parameter	Format	Default	Description
ARCH*n* (Form 1) *(Continued)*			You can also define multiple specifications of an individual ARCH*n* parameter for archival to multiple CA-View databases. For example: `ARCH1=S///D` Specifies archival via spool class S `ARCH1=T//SAR/D` Specifies archival via spool class T with a forms name of SAR `ARCH1=DIRECT` Specifies archival to the database specified in the SAR= initialization parameter `ARCH1=DIRECT/PROD.VIEW` Specifies archival to the PROD.VIEW database
ARCH*n* (Form 2)	ARCH*n*= DIRECT/ *database prefix*	None	Specifies archival to a specific CA-View database directly, rather than passing the reports to spool where *n* is a value from 1–9 You can specify ARCH*n*=DIRECT to default to the database name specified in the SAR= initialization parameter or specifically reference the CA-View database prefix. For example: `ARCH2=DIRECT/PROD.VIEW` You can also define multiple specifications of an individual ARCH*n* parameter for archival to multiple CA-View databases. For example: `ARCH1=DIRECT` Specifies archival to the database specified in the SAR= initialization parameter `ARCH1=DIRECT/TEST.VIEW` Specifies archival to the TEST.VIEW database `ARCH1=S///D` Specifies archival via spool class S
AUTHTID	AUTHTID = *x*	AUTHTID=B	Specifies the suffix character for the security table load module, RMOATHT*x*, that will be used to authorize access to database data and functions If CA-Deliver started tasks for the same database are started on multiple systems, these CA-Deliver started tasks must use the same AUTHTID setting. **Note:** The RMODBASE utility always uses the default security table, RMOATHTB. For more information about the security table, see the chapter "Security."

Parameter	Format	Default	Description
AUTOACT	AUTOACT= *xxx*	AUTOACT= YES	Specifies whether a report can be automatically activated by CA-Deliver when opened If AUTOACT=NO is specified, CA-Deliver excludes any report from processing that has not been previously activated.
BEGINDAY	BEGINDAY= *xxxx*	BEGINDAY= the value of the TIME parameter	Specifies the time of day in a 24-hour format (for example, 1420 represents 2:20 P.M.) when a new day starts for bundle processing This allows bundles to remain open and active through the daily cycle time. **Note:** See the TIME parameter later in this section.
BANNER	BANNER= *xxxxxxxx*	BANNER= DEFAULT	Specifies the name of the default model banner page used to print non-bundled reports To specify that no banner pages are produced for reports as a default, do not specify a value for this initialization parameter (BANNER=).
BNDLBNR1	BNDLBNR1= *xxxxxxxx*	BNDLBNR1= BDFLTB	Specifies the name of the default model banner page to be used for the bundle banner page when printing a bundle To specify that no bundle banner pages are produced for bundles as a default, code the BNDLBNR1 option with no value (BNDLBNR1=).
BNDLBNR2	BNDLBNR2= *xxxxxxxx*	BNDLBNR2= BDFLTD	Specifies the name of the default model banner page to be used for the distribution banner page when printing a bundle To specify that no distribution banner pages are produced for bundles as a default, code the BNDLBNR2 option with no value (BNDLBNR2=).
BNDLBNR3	BNDLBNR3= *xxxxxxxx*	BNDLBNR3= BDFLTR	Specifies the name of the default model banner page to be used to print the report banner page for a bundle To specify that no report banner pages are produced for bundles as a default, code the BNDLBNR3 option with no value (BNDLBNR3=).

Parameter	Format	Default	Description
BNDLCLS	BNDLCLS=*x*	BNDLCLS=9	Specifies the SYSOUT class (cannot be a held class or a class assigned to a printer) to be used for the bundle holding copy of a report that is retained in the spool for bundling The SYSOUT class defined by BNDLCLS and the destination defined by BNDLDEST are used together to output to spool a copy of a report that is bundled. The copy must be retained on spool until the bundle is complete for printing. Therefore, the combination of BNDLCLS and BNDLDEST must be unique in the installation and must never be printed by the installation. **Note:** When direct-to-View archival is in effect for a report to be bundled, no bundle holding copy of the report is created in spool. Instead, the archival copy of the report on the CA-View database is used when creating the bundle.
BNDLCONF	BNDLCONF=*xxx*	BNDLCONF=NO	Specifies whether you want the bundle confirmation facility to be activated **Note:** Bundle confirmation can also be specified for an individual bundle on the Bundle Definition Attributes panel.
BNDLDEST	BNDLDEST=*xxxxxxxx*	None	Specifies the SYSOUT destination to be used for the bundle holding copy of a report that is retained on spool for bundling ***WARNING!*** *The destination specified in this parameter must be defined to JES. Failure to do this can result in RMOPS102 or RMOPS202 messages and a U-0002 Abend in the bundle job.* See the BNDLCLS option for more information.
BNDLHDTL	BNDLHDTL=*xxx*	BNDLHDTL=NO	Specifies whether accurate counts of lines and pages will be available for bundled copies of reports This option requires that you set BNDLMOUT=YES and HDETAIL=YES in addition to installing the RMOJ2XIT, RMOFSSUX, RMOJ3X21 exits, as appropriate (depending on your environment).

Parameter	Format	Default	Description
BNDLINT	BNDLINT=*nnnn*	BNDLINT=0000	Specifies the default bundling interval to be used for a bundle when no bundling interval is specified in the bundle definition Specify hours and minutes in 24-hour format (for example, 0220 represents two hours twenty minutes). If you omit this value or specify 0000, continuation bundles are not produced. **Note:** This initialization parameter specifies a time interval, **not** the time of day.
BNDLMOUT	BNDLMOUT=*xxx*	BNDLMOUT=NO	Specifies whether a batch-submitted bundling job can use multiple DD statements to produce a bundle By using multiple DD statements, reports with different print attributes can be bundled but still printed with their different attributes. To ensure that the multiple DD statements are printed together, the bundling job uses the GROUPID parameter of the OUTPUT JCL statement. Specify BNDLMOUT=YES if the following is true: ■ The batch-submitted bundling job executes on a JES2 system ■ You also specify OUTPUT=YES ■ You specify &USERSET=YES in the JES2 initialization parameters
BNDLSCAN	BNDLSCAN=*nn*	BNDLSCAN=2	Specifies the time interval (in minutes) that the bundle output task waits between scans of the active checkpoint when looking for bundles to compose or submit
BNDLWAIT	BNDLWAIT=*xxx*	BNDLWAIT=NO	Specifies the default value for whether a bundle must wait for the end of a bundling interval before it can be printed If BNDLWAIT=NO is specified (or defaulted), bundles **do not** wait but print as soon as all of the reports needed for the bundle are created (unless overridden in the bundle definition).
BOT	BOT=*xxx*	BOT=YES	Specifies whether the bundle output task is started at initialization time

Parameter	Format	Default	Description

CC*X*	CC*X*= *c1/b1/a1, c2/b2/a2,...*	None	Specifies a set of user-defined carriage control specifications for carriage control identifiers *X*
			
			Specify any alphanumeric character (other than A or M) for *X*, the carriage control identifier.
			
			■ *c* specifies the carriage control character
			
			Specify *c* as either a one-character carriage control character or a two-character hexadecimal representation of the carriage control character.
			
			Note: You must specify the characters blank, comma (,), and slash (/) in hexadecimal representation (40, 6B, and 61, respectively).
			
			■ *b1, b2, …, b99* specifies the number of lines to skip to (0 to 99) before writing the data
			
			■ *c1, c2, …, c12* specifies the channel to skip to (1 to 12) before writing the data
			
			To indicate that no data is written, specify an asterisk (*) where:
			
			■ *a1, a2, …, a99* specifies the number of lines to skip (0 to 99) after the data is written or the total number of lines to skip when no data is written (when you specify an asterisk [*] for *b*)
			
			■ *c1, c2, …, c12* specifies the channel to skip (1 to 12) to after the data is written or the channel to skip to when no data is written (when you specify an asterisk [*] for *b*)
			
			For example, to define and assign the standard set of ASA carriage controls to the identifier U, specify the following:
			
			`CCU=40/1/0,0/2/0,-/3/0,+/0/0,`
			`1/C1/0,2/C2/0,3/C3/0,4/C4/0,`
			`5/C5/0,6/C6/0,7/C7/0,8/C8/0,`
			`9/C9/0,A/C10/0,B/C11/0,C/C12/0`

Parameter	Format	Default	Description
DAYS	DAYS= *xxxxxxx*	DAYS= YYYYYYY	Specifies whether a new cycle will automatically initiate on one of the seven days of the week (Monday through Sunday) Y indicates that a new cycle is to be automatically initiated on a particular day. N inhibits the automatic initiation of a new cycle on a particular day. **Note:** See the TIME parameter later in this section.
EXTSEC	EXTSEC=	EXTSEC=NO	Specifies whether external security calls will be made If you specify YES or UNIQUE, external security calls will be made. The difference between them is in the resource names that will be used. Specify EXTSEC=UNIQUE if you need separate rules for one or more regions. External security calls will then use the "RMO#." prefix, where the # sign will be replaced with the region's SYSID= value. **Note:** For EXTSEC=YES or EXTSEC=UNIQUE to be in effect, the CA-Deliver started task must have been started at least once since the last IPL. If you specify NO, external security calls will not be made.
FREEALL	FREEALL= *xxx*	FREEALL= NO	Specifies whether all SYSOUT data sets created by CA-Deliver are freed at close time and spun off for printing If you specify NO or you use the default, only SYSOUT data sets created by CA-Deliver for a DD statement in which the FREE=CLOSE parameter is specified are freed at close time.

Parameter	Format	Default	Description
GSS	GSS=*xxx*	GSS=NO	Specifies whether the page and form definitions (PAGEDEF and FORMDEF) are to be obtained from GSS when processing a JES2 spool network input SYSOUT If you specify NO, page and form definitions are not obtained from GSS. If you specify YES, page and form definitions are obtained. Also, if you specify YES, you need to install Release 4.4 of CA-Sysview/E Command and Release 2.5 of CA-GSS. For details about CA-GSS, see your CA-GSS documentation. For more information about the Command command, see your CA-Sysview/E documentation. **Note:** This parameter is ignored if the IBM operating system supports SAPI (SYSOUT Application Interface).
HDETAIL	HDETAIL=*xxx*	HDETAIL=NO	Specifies whether the detailed historical data is maintained for reports and bundles If you specify NO, only basic report data is provided. If you specify YES, history detail information will be recorded for all reports and bundles (if BNDLHDTL is specified as YES). To post lines and pages back to CA-Deliver by JES, you must install the exits RMOJ2XIT, RMOFSSUX, and/or RMOJ3X21 as appropriate (depending on your environment). **Note:** If you specify YES, history detail data can significantly increase the size of your CA-Deliver database.
INBSSN	INBSSN=*xxxx*	None	Specifies that CA-Deliver is to interface with CA-Balancing Include the 4-digit or 4-character (alphanumeric) CA-L-Serv identifier (*xxxx*) that identifies the subsystem name of the CA-L-Serv that manages the CA-Balancing database. See your CA-Balancing and CA-L-Serv documentation for additional information.

Parameter	Format	Default	Description
JES2LVL	JES2LVL=*n*	JES2LVL=2	Specifies the level of JES2 that is interfacing with CA-Deliver This parameter only affects CA-Deliver's network input process. Valid level numbers and their meanings are as follows: **Level Number** — **JES2 Release** 0 — User assembled 1 — 4.1 NJE to SP1.3.2 2 — SP1.3.3 to SP2.2.0 3 — SP3.1.1 4 — SP3.1.3 5 — SP4.0 to OS/390 5.2.2 **Note:** This parameter is ignored if the IBM operating system supports SAPI (SYSOUT Application Interface).
JOBCLSL	JOBCLSL= *xxxxxxxx*	JOBCLSL= You must enter a value. An asterisk (*) means all classes are defined for CA-Deliver.	Specifies a list of 1–38 classes of jobs to which report processing is limited This initialization parameter is required. The job classes for Time Sharing Options sessions and started tasks are specified as @ and $, respectively. Assume, for example, that production jobs run in classes P and Q. Also, assume that production jobs are sometimes run using the same jobname for test purposes in a class other than P and Q. To limit CA-Deliver processing only to the times the production jobs are run in production, specify the following statement: `JOBCLSL=PQ` **Note:** JOBCLSL works in conjunction with the initialization parameter SYSCLSL.
LOGO	LOGO=*xxx*	LOGO=YES	Specifies whether the initial CA-Deliver logo panel displays when you enter CA-Deliver through an online interface
MAXHIST	MAXHIST=*nn*	MAXHIST=3	Specifies the maximum number of generations of a report or a bundle of reports for which historical data is maintained

Parameter	Format	Default	Description
MAXJESQ	MAXJESQ= *nnn*	MAXJESQ=10	Specifies the maximum time in minutes to wait for a bundle holding copy on spool queued by JES and available for bundling The default value should be sufficient in most cases.
NAME	NAME= *database prefix*	None	Specifies the high-level, 1- to 17-byte name of the CA-Deliver database
NETCLSL	NETCLSL= *cccccccc*/ *nnnnnnnn*	None	Specifies a list of 1–8 classes of SYSOUT data (*cccccccc*) to be used by CA-Deliver to select SYSOUT data sets for processing from the JES spool Follow the selection classes with a list of 1–8 new SYSOUT classes (*nnnnnnnn*), which positionally correspond to the selection classes assigned to the SYSOUT (only if a match for JOBNAME is not found in the CA-Deliver database). You must separate selection classes from new classes with a slash (/). The options NETCLSL, NETDEST, and NETFORM are used together to define a unique set of network input criteria. If you omit all three options, CA-Deliver does not perform network input processing. **Note:** NETCLSL must be unique within a single MVS image. Using network input attributes on multiple systems running CA-Deliver is described in the *CA-Deliver Administrator Guide*.
NETDEST	NETDEST= *dddddddd*/ *nnnnnnnn*	None	Specifies the selection destination (*dddddddd*) used by CA-Deliver to select reports for processing from the JES spool Follow the selection destination with the new destination (*nnnnnnnn*) assigned to the reports. You must separate the selection destination from the new destination with a slash (/). **Note:** NETDEST must be unique within a single MVS image. Using network input attributes on multiple systems running CA-Deliver is described in the *CA-Deliver Administrator Guide*.

Parameter	Format	Default	Description
NETFORM	NETFORM= *fffffff*/ *nnnnnnnn*	None	Specifies the forms name (*fffffff*) used by CA-Deliver to select reports for processing from other nodes in the network The selection forms name is followed by the new forms name (*nnnnnnnn*) assigned to the reports. The selection forms name is separated from the new forms name by a slash (/). **Note:** NETFORM must be unique within a single MVS image. Using network input attributes on multiple systems running CA-Deliver is described in the *CA-Deliver Administrator Guide*.
NETONLY	NETONLY= *xxx*	NETONLY= NO	Specifies whether network input is the only method of operation for CA-Deliver When you specify NETONLY=YES, the realtime operation of CA-Deliver cannot be used since no dynamic interface is installed; when you specify NETONLY=NO, both the realtime and network input operations of CA-Deliver can be used.
NETRERUN	NETRERUN= *xxx*	NETRERUN= NO	Notifies CA-Deliver that you are running CA-Rerun or CA-11 at a different destination To indicate that you are **not** running CA-Rerun or CA-11 at a different destination, specify NETRERUN=NO; to indicate that you are running CA-Rerun or CA-11 at a remote destination, specify NETRERUN=YES.
OFFPW	OFFPW= *xxxxxxxx*	no password required	Specifies the password that a user must provide to withdraw CA-Deliver from an operating system
OUTPUT	OUTPUT= *xxx*	OUTPUT=NO	Specifies whether OUTPUT JCL statements are to be processed by CA-Deliver You must specify OUTPUT=NO if your release of the operating system does not support the OUTPUT JCL statement. **Note:** The OUTPUT JCL statement was introduced with MVS SP 1.3.3. For more information about the OUTPUT JCL statement, see the chapter "Introducing CA-Deliver."

Parameter	Format	Default	Description
PRBTASK	PRBTASK=*n*	PRBTASK=1	Specifies the number (*n*) of external service requests that CA-Deliver will process concurrently Specify a value between 1 and 8 inclusive for *n*.
PREVRUN	PREVRUN= *xxxxxx*/ *xxxxxx*	PREVRUN= KEEP/KEEP	Specifies that reports from the most recently run job for CA-Deliver are to be flagged, deleted, or left unprocessed as follows: The first value is for reports that have not been archived by CA-View. The second value is for reports that have been archived; it takes precedence over the first value. ■ FLAG is used in the exception code column to indicate that the report has been rerun ■ DELETE is used only when a report is stored in the CA-View database or is a bundle holding copy in the spool ■ KEEP is used when a report is to be left unprocessed Explicitly specify the value for unarchived reports first, then a slash (/), and finally the value for archived reports, for example: `PREVRUN=FLAG/FLAG` **Note:** This initialization parameter works only if you set up the interface between CA-Rerun or CA-11 and CA-Deliver. Setting up this interface is described in *CA-Deliver Getting Started*.
REDISP	REDISP= *xxx*	REDISP= NO or OFF	If set to YES, specifies that all users can display (refresh) online selection lists by pressing ENTER instead of entering the REDISP input command on the command line (the default procedure)

Parameter	Format	Default	Description
RMSWARN	RMSWARN= YES/NO	RMSWARN= NO	Determines how RMORMS will react to an inactive CA-Deliver started task When set to YES, RMORMS will issue the RMORRS18 message, but it will not ABEND the job. Normal CA-11 restart processing continues. When set to NO, the default, RMORRS18 will be issued and the job will ABEND with code U0004. This parameter is intended for use when CA-Deliver is not active, jobs not defined to CA-Deliver need CA-11 processing, and RMORMS is executed to call CA-11 (U11RMS). **Note:** With RMSWARN=YES, there will be no CA-Deliver restart processing for jobs defined to an inactive CA-Deliver. To ensure that restart processing happens, set RMSWARN to NO.
RPTNPROD	RPTNPROD= '*text-string*'	None	Specifies that a page containing the string *text-string* will be output if no data is output for a stacked or interleaved report You can use a maximum of 69 characters for *text-string*. You can include special and blank characters in *text-string*. If you include special or blank characters, you must enclose *text-string* in single quotation marks.
RPTENQ	RPTENQ= YES/NO	RPTENQ=NO	Enables (YES) or disables (NO) exclusive ENQ to be used at the report level to serialize access to bundle holding copies residing on spool
SAR	SAR= *high-level-name*	None	Specifies the high-level name of the default CA-View database for direct-to-View archival This is the database in which the bundle holding copies will reside.
SARBUFCT	SARBUFCT= *xxx*	10	Specifies the number of buffers for archiving direct-to-View The number of buffers refers to the number of database blocks to be retained internally before writing on a report basis. ***WARNING!*** *Memory is allocated from the application address space.*

Parameter	Format	Default	Description
SETCMD	SETCMD=*xxx*	SETCMD=NO	Enables (YES) or disables (NO) the SET operator command **Note:** The SETPW initialization parameter (described below) specifies the password that an operator must enter to use the SET operator command.
SETPAGE	SETPAGE=*xxx*	SETPAGE=NO	Specifies whether report output will be overridden to a process mode (PRMODE) of PAGE If you specify NO, the process mode (PRMODE) you specified is retained. If you specify YES, the process mode (PRMODE) is overridden to PAGE.
SETPW	SETPW=*xxxxxxxx*	no password required	Specifies the password that an operator must enter to use the SET operator command You can specify up to eight characters. **Note:** The SETCMD initialization parameter, which you use to enable and disable the SET operator command, is described earlier in this chapter.
SMF	SMF=*xxx*	SMF=NO	Specifies whether CA-Deliver is to create special type 6 SMF records If you specify NO, CA-Deliver will not create special type 6 SMF records. If you specify YES, CA-Deliver will create special type 6 SMF records.
SMF30	SMF30=*xxx*	SMF30=NO	Specifies whether type 30 SMF records are produced by your operating system and are used by CA-Deliver to determine job termination If you specify NO, type 5 SMF records must be produced by your operating system for CA-Deliver to determine job termination.
START	START=*xxxxxxxx*	no start procedure	Specifies the name of the report activation procedure that is started at the start of a new daily cycle

Parameter	Format	Default	Description
STKCHN*n*	STKCHN*n*= *line*	None	Specifies the "skip to" line number for printer channels 2–12 for stacked report processing *n* Specifies the channel and has a value of 2–12 *line* Specifies the number of the line the printer skips to when receiving the skip-to-channel command
STKMODE	STKMODE= *xxxxxx*	STKMODE= LINE	Indicates whether line or record mode processing is to be used to produce stacked reports In line mode processing, carriage control characters determine line spacing when searching for text to separate stacked reports. In record mode processing, carriage control characters are ignored (except for a skip to line one channel command) and each record is considered a line when searching for text to separate stacked reports. In line mode, blank lines are counted; in record mode they are not.
STKNOTXT	STKNOTXT= *xxx*	STKNOTXT= XCL	Specifies the default if no report identification text is specified ALL includes all report pages in the output XCL includes report pages that are not explicitly matched by other exclusive reports **Note:** Stacked reports without any text are treated as an exclusive report "catch-all" definition.
STNAME*n*	STNAME*n*= *xxxxxxxx*	STNAME*n*= none	Specifies the 1–8 character name of the 1–5 optional tracking stations for which detailed historical data for reports and bundles can be posted *n* represents a value from 1–5 inclusive.
STOPPW	STOPPW= *xxxxxxxx*	no password required	Specifies the password that is required to stop CA-Deliver on an operating system

Parameter	Format	Default	Description
SYSCLSL	SYSCLSL= *xxxxxxxx*	all SYSOUT classes	Specifies a list of 1–36 classes of SYSOUT to which report processing is limited Only those DD statements in the specified SYSOUT class are selected by CA-Deliver. For example, assume that your SYSOUT falls into classes S and R, and that production SYSOUT is sometimes produced using the same job name for test purposes in a class other than S and R. To limit CA-Deliver processing only to the times the production jobs are run in production, the following statement is specified: `SYSCLSL=SR` Additional information is presented in the description of the initialization parameter JOBCLSL earlier in this chapter. **Note:** If you use CA-Spool and CA-Spool has been instructed to intercept the same class and destination that CA-Deliver is intercepting, CA-Spool will intercept the file. In this environment, be careful to select a SYSOUT class that is not being used by CA-Spool.
SYSID	SYSID=*x*	SYSID=$	Specifies a unique identifier for the CA-Deliver system The identifier consists of a single national character ($, #, @, A–Z, 0–9). The collating sequence of the identifiers determines the order in which the CA-Deliver systems are offered control of SYSOUT.
TEXT	TEXT=*xxxx*	TEXT= CAPS	Specifies CAPS or ASIS according to whether report identification text is translated to uppercase (CAPS) when entered for a report definition or left as is (ASIS)

Parameter	Format	Default	Description
TIME	TIME= *nnnn*	TIME=0	Specifies the time of day in a 24-hour format (for example, 1420 represents 2:20 P.M.) when a new daily cycle will automatically be initiated Specify 0 to suppress the automatic initiation of any daily cycle. If you specify N for a particular day for the DAYs initialization parameter, the daily cycle on that day is not automatically initiated. **Note:** See the DAYS parameter earlier in this section.
WARNING	WARNING= *xxx*	WARNING= YES	Specifies whether operator warning RMOSTC32 displays when you or an operator starts CA-Deliver If you specify YES, you are prompted to reply either Y (Yes) or N (No) to continue processing.

Chapter 4

User Exits

This chapter lists the user exits, includes their locations, and describes how to make them available.

Summary of CA-Deliver User Exits

The user exits and their functions are listed in the following table:

User Exit	Function
RMOATHUX	Authorization exit
RMOBPCUX	Banner page creation exit
RMOBPTUX	Bundle print exit
RMOFSSUX	Print status capture exit
RMOJCLUX	JCL scan exit
RMOJS2UX	JES2 control block mapping exit
RMOOMSUX	Online management system exit
RMOPRBUX	Process request exit
RMORECUX	Record analysis exit
RMORPTUX	Banner page record insertion exit
RMORRQUX	Report request exit
RMOSMFUX	System Management Facilities exit
RMOSUBUX	Batch submit user exit
RMOUS*x*UX	User ID determination exits

What is a User Exit?

A *user exit* is a function that allows you to modify CA-Deliver code to fit your own needs.

Location of the User Exit Source Code

The source code for the CA-Deliver user exits is distributed in CAI.CAISRC or CAI.PPOPTION. The mapping macros for the CA-Deliver control blocks are distributed in CAI.CAIMAC.

Making the User Exits Available

Use the SMP USERMODs in CAI.SAMPJCL to modify, assemble, and link the exits with authorization code 1 and place them in the library that contains the CA-Deliver load modules.

You can tailor the user exits by using the appropriate USERMODs.

Using CA-Deliver User Exits

This section describes each user exit and explains how you can customize CA-Deliver with user exits.

RMOATHUX - Authorization Exit

RMOATHUX is used to determine whether a user or job is authorized to access the CA-Deliver database; a parameter list is passed to this exit identifying the request type and the address of the record requiring authorization.

The standard exit that is supplied with CA-Deliver authorizes all users and jobs to update the database.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 1	Address of the authorization parameter list (mapped by RMOAPL0)
Reg 13	Address of a standard 72-byte register save area
Reg 14	Return address
Reg 15	Entry point address

Contents on Return From the Exit

On return from the exit, registers 2–13 must contain the same contents that they contained on entry, and the exit must place a return code in register 15. The return codes are:

0	The user/job is authorized
4	The user/job is not authorized

You must link edit this exit with authorization code 1 and place it in the library that contains the CA-Deliver load modules.

Installation

To install and modify exit RMOATHUX use SMP USERMOD HB17ATHX in CAI.SAMPJCL. Sample exit RMOATHU1 in CAI.PPOPTION can be modified and installed as RMOATHUX.

Note: RMOATHUX is link edited with authorization code 1 and placed in CAI.CAILIB.

RMOBPCUX - Banner Page Creation Exit

RMOBPCUX is used to modify a banner page before it is written out for a report. A control block is passed to the exit containing the banner page that has been created from the model banner page data set.

This exit can modify the banner page according to your needs. The banner page is composed of 133-byte lines. Lines can be deleted from the banner page; however, no additional lines can be added to the banner page, since no additional storage is available.

The standard exit that is supplied with CA-Deliver returns without modifying the banner page.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 0	Address of the bundle print attribute (mapped by macro RMOBPA)
Reg 1	Address of the model banner page control block (mapped by macro RMOMBP)
Reg 13	Address of a standard 72-byte register save area
Reg 14	Return address
Reg 15	Entry point address

Contents on Return From the Exit

On return from the exit, registers 2–13 must contain the same contents that they contained on entry.

You must link edit this exit with authorization code 1 and place it in the library that contains the CA-Deliver load modules.

Installation

To install and modify exit RMOBPCUX, use SMP USERMOD HB17BPCX in CAI.SAMPJCL. Sample exit RMOBPCU1 in CAI.PPOPTION can be modified and installed as RMOBPCUX.

Note: RMOBPCUX is link edited with authorization code 1 and placed in CAI.CAILIB.

RMOBPTUX - Bundle Print Exit

RMOBPTUX is used to examine and/or change any banner page contents or any report records within a bundle, allowing you to override standard banner page printing (including report banners, distribution information, and bundle banners) for a bundle.

This exit also gives you the ability to print banner pages when you want them. You can include data specified from this exit in both banner pages and reports. For example, if you want banner pages to print for only a portion of the reports in a bundle (instead of the standard bundle printing setup where all reports get banner pages), RMOBPTUX allows you to examine the bundle and select specific reports for banner page printing.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 0 Type of call:

- 0 Initial call, no record passed
- 4 Final call, no record passed
- 8 Banner page creation
- 12 Record passed

Reg 1 Address of parameter list (mapped by RMOBPX)

Reg 13 Address of a standard, 72-byte register save area

Reg 14 Return address

Reg 15 Entry point address

Contents on Return From the Exit

The return codes are:

- 0 Write data or complete processing
- 4 Generate a separator banner page; user exit is recalled with entry code 8 to obtain the separator banner page name

Installation

To install and modify exit RMOBPTUX, use SMP USERMOD HB17BPTX in CAI.SAMPJCL.

Note: RMOBPTUX is link edited with authorization code 1 and placed in CAI.CAILIB.

BPXTYPE and BPXFLAG Fields

The BPXTYPE and BPXFLAG fields indicate the type of banner page to be printed.

You can set BPXTYPE to the following values:

- BUNDLE
- DISTRIBUTION
- REPORT
- SEPARATOR BANNER PAGE

Optionally, you can use the BPXFLAG flag to indicate that a banner page is either a beginning or an ending banner page.

Note: When you specify SEPARATOR BANNER PAGE for BPXTYPE, you must specify BPXFLAG.

RMOFSSUX - Print Status Capture Exit

RMOFSSUX allows CA-Deliver to capture the print status of jobs printed on AFP devices; it is a stand-alone exit within PSF address space. Because this exit is optional, it is located in CAI.PPOPTION. USERMOD HB17FSSX in CAI.SAMPJCL can be used to tailor RMOFSSUX, but the JCL that follows must be used to install it.

To use RMOFSSUX, you need the following:

- Link edit control statements for RMOFSSUX
- The following JCL:

```
//RMOFSS  JOB ACCOUNT,PROGRAMMER
//AL      EXEC HLASMCL,PARM.C=(OBJECT,NODECK,NORLD,NOUSING),
//   PARM.L='LET,LIST,SIZE=(256K,36K),XREF,RENT'
//C.SYSLIB     DD DISP-SHR,DSN=CAI.CAIMAC
//             DD DISP=SHR,DSN=SYS1.MACLIB
//             DD DISP=SHR,DSN=SYS1.MODGEN
//C.SYSIN      DD DISP=SHR,DSN=CAI.PPOPTION(RMOFSSUX)
//L.SYSLMOD    DD DISP=SHR,DSN=CAI.CAILIB
//L.LINKLIB    DD DISP=SHR,DSN=SYS1.LINKLIB
//L,SYSIN      DD*
   CHANGE APSUX02(IBMUX02)
   INCLUDE LINKLIB(APSUX02)
   ALIAS APSUX02
   ALIAS APSUX03
   NAME RMOFSSUX(R)
/*
```

- Ensure that EXIT23 is turned off in JES2, and JOBSETs and DSSEPs are turned on for the printer (SEP=Y; SEPDS=Y)
- Put the library containing RMOFSSUX in the STEPLIB of the JES FSS STC ahead of any other copies of the APSUX02 and APSUX03 exits

Note: When RMOFSSUX is entered, exits RMOJ2U23 and RMOJ3X45 are turned off.

RMOJCLUX - JCL Scan Exit

RMOJCLUX is the user exit to the JCL scan utility. This exit is invoked for every SYSOUT data set in the input job JCL. RMOJCLUX changes any value passed to it for the SYSOUT data set including the report identifier; it can also reject the SYSOUT data set by setting a return code.

The standard exit that is supplied with CA-Deliver returns without modifying or rejecting anything.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 1	Address of the JCL common storage area (mapped by macro RMOJCA)
Reg 13	Address of a standard 72-byte register save area
Reg 14	Return address
Reg 15	Entry point address

Contents on Return From the Exit

On return from the exit, registers 2–13 must contain the same contents that they contained on entry, and the exit must place a return code in register 15. The return codes are:

0	Process the SYSOUT data set
4	Reject the SYSOUT data set

You must link edit this exit with authorization code 1 and place it in the library that contains the CA-Deliver load modules.

Installation

To install and modify exit RMOJCLUX, use SMP USERMOD HB17JCLX in CAI.SAMPJCL.

Note: RMOJCLUX is link edited with authorization code 1 and placed in CAI.CAILIB.

RMOJS2UX - JES2 Control Block Mapping Exit

RMOJS2UX is invoked by the network input sub-task for IBM operating system levels that do not support SAPI (SYSOUT Application Interface) to extract print attributes for a JES2 SYSOUT data set when the initialization parameter JES2LVL=0 is specified. This user exit obtains the address and offsets of JES2 data areas.

Note: In general, a value other than JES2LVL=0 should be specified and this user exit should **not** be used. When the standard PDDB (Peripheral Data Definition Blocks) supplied by IBM have been changed, this user exit is available.

Installation

There is no load module supplied for this exit, only source code. To use the exit, it must be assembled as is with the site's source library. You must link edit this exit with authorization code 1 and place it in the library that contains the CA-Deliver load modules. After link editing the exit, you must execute the CA-Deliver initialization program with the initialization option JES2LVL=0. To install this exit, use SMP USERMOD HB17JS2X in CAI.SAMPJCL.

RMOOMSUX - Online Management System Exit

RMOOMSUX is invoked prior to calling display services; it allows you to examine or change the online exit block (OXB) and its contents. The address of the OXB is passed to RMOOMSUX so that it can identify the display function and panel.

The contents of the OXB are:

- UPL address
- Online panel name
- Address of exit communication area
- Work area
- Length of OXB

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 1 Address of the online exit block (mapped by macro RMOOXB)

Reg 13 Address of a standard 72-byte register save area

Reg 14 Return address

Reg 15 Entry point address

Note: RMOOMSUX can change the panel name to invoke an alternate panel.

Installation

To install and modify exit RMOOMSUX, use SMP USERMOD HB17OMSX in CAI.SAMPJCL.

Note: RMOOMSUX is link edited with authorization code 1 and placed in CAI.CAILIB.

RMOPRBUX - Process Request Exit

RMOPRBUX is invoked whenever a process request is made to the CA-Deliver started task, prior to any job name translation, and runs in the started task address space. The address of the Process Request Block (PRB) is passed to the exit. This exit can examine and/or modify the PRB as desired. The PRB identifies the type of request and provides data needed for CA-Deliver to process the request.

A process request is used primarily for cross-address space service requests to extract report definitions from the CA-Deliver database, construct banner pages, and process job completions.

The standard exit that is supplied with CA-Deliver returns without modifying any data.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 1	Address of the Process Request Block (mapped by macro RMOPRB)
Reg 13	Address of a standard 72-byte register save area
Reg 14	Return address
Reg 15	Entry point address

Contents on Return From the Exit

On return from the exit, registers 2–13 must contain the same contents that they contained on entry. It is given control in 31-bit addressing mode for MVS/XA and ESA.

Installation

To install and modify exit RMOPRBUX, use SMP USERMOD HB17PRBX in CAI.SAMPJCL.

Note: RMOPRBUX is reentrant with authorization code 1 and placed in CAI.CAILIB.

RMORECUX - Record Analysis Exit

RMORECUX is used to analyze all SYSOUT records processed by CA-Deliver under the control of the CA-Deliver started task, except for those records processed under monitored data output.

After all records are processed, this exit frees any storage obtained by the exit during processing.

The standard exit that is supplied with CA-Deliver returns without modifying any data.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 1	Address of the parameter list
Reg 13	Address of a standard 72-byte register save area
Reg 14	Return address
Reg 15	Entry point address

Contents on Return From the Exit

On return from the exit, registers 2–13 must contain the same contents that they contained on entry, and the exit must place a return code in register 15. The return codes are:

0	Process the record normally, no changes to the record were made
4	Changes were made to the record; processes the modified record
8	Reject the record immediately; do not use for resolving stacked reports
12	Reject the record after using it to resolve stacked reports; changes may have been made to the record

Installation

To install and modify exit RMORECUX, use SMP USERMOD HB17RECX in CAI.SAMPJCL.

Note: RMORECUX is reentrant with authorization code 1, and placed in the library containing the CA-Deliver load modules. It is given control in 31-bit addressing mode for MVS/XA and ESA.

RMORPTUX - Banner Page Record Insertion Exit

RMORPTUX is used to insert records directly before and directly after a banner page is printed; it is called at the beginning and end of processing of an output report.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 1 Address of the parameter list:

Offset	L	Description
X'00'	4	Function Code
X'04'	4	Address of Carriage Control
X'08'	4	Address of Record Data
X'0C'	4	Record Data Length
X'10'	4	ICB Address
X'14'	4	256-Byte User Work Area

Note: You must pass the address of record data, plus the length and address of carriage control.

Reg 13 Address of a standard, 72-byte register save area

Reg 14 Return address

Reg 15 Entry point address

Contents on Return From the Exit

On return from the exit, registers 2–13 must contain the same contents that they contained on entry, and the exit must place a return code in register 15. The return codes are:

0 No record returned

4 Insert record into report and call exit again

Note: The return codes directly above are ignored for the final call of the exit.

Installation

To install and modify exit RMORPTUX, use SMP USERMOD HB17RPTX in CAI.SAMPJCL.

Note: RMORPTUX is link edited with authorization code 1, and placed in the library containing the CA-Deliver load modules. It is given control in 31-bit addressing mode for MVS/XA and ESA.

RMORRQUX - Report Request Exit

RMORRQUX is used to pass and modify the job name, step name, procedure step name, DDname, forms name, and extracted accounting data; this exit also examines output priority, output class, and output destination. All fields (except for the accounting data) are used to search the CA-Deliver database. The initial accounting data passed to the exit consists of 20 bytes; the first 10 bytes of the first accounting field followed by the first 10 bytes of the second accounting field of the job statement.

Note: Modifying these fields does not change the attributes of the reports produced; the changed fields are used only for searching the CA-Deliver database.

This exit is invoked whenever SYSOUT is opened for a job whose job class is one of those processed by CA-Deliver or whenever a SYSOUT data set is received from another destination in the network for processing by CA-Deliver. The exit is invoked immediately before a search of the CA-Deliver database is made for report definition data.

RMORRQUX also issues a return code to indicate that CA-Deliver is not to process SYSOUT.

The standard exit that is supplied with CA-Deliver returns without modifying any data.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 1	Address of the interface control block (mapped by macro RMOICB)
Reg 13	Address of a standard 72-byte register save area
Reg 14	Return address
Reg 15	Entry point address

Contents on Return From the Exit

On return from the exit, registers 2–13 must contain the same contents that they contained on entry, and the exit must place a return code in register 15. The return codes are:

0	Search the database and processes the DD statement
4	Does not process the DD statement

Installation

To install and modify exit RMORRQUX, use SMP USERMOD HB17RRQX in CAI.SAMPJCL. Three sample exits, RMORRQU1, RMORRQU2, and RMORRQU3, are supplied in CAI.PPOPTION for user exit RMORRQUX.

Note: RMORRQUX is link edited with authorization code 1 and placed in the library that contains the CA-Deliver load modules.

RMOSMFUX - System Management Facilities Exit

RMOSMFUX is used to examine and modify a record or suppress the writing of a record; it is invoked whenever a special type 6 SMF record is to be written by CA-Deliver.

The standard exit that is supplied with CA-Deliver returns the same SMF records to be written that it receives.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 1	Address of the special type 6 SMF record (mapped by macro RMOSMF6)
Reg 13	Address of a standard 72-byte register save area
Reg 14	Return address
Reg 15	Entry point address

Contents on Return From the Exit

On return from the exit, registers 2–13 must contain the same contents that they contained on entry, and the exit must place a return code in register 15. The return codes are:

0	The SMF record whose address is in register 1 is to be written
4	No SMF record is to be written

Note: The format of special type 6 SMF records is described in the chapter "Setting Up Print Attributes for CA-Deliver."

Installation

To install and modify exit RMOSMFUX, use SMP USERMOD HB17SMFX in CAI.SAMPJCL.

Note: RMOSMFUX is link edited with authorization code 1 and placed in CAI.CAILIB.

RMOSUBUX - Batch Submit User Exit

RMOSUBUX is used to examine records and control the submission of jobs for CA-Deliver Batch Bundle processing; this exit may examine and modify the record, or it may suppress the writing of the record.

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 0 Type of call:

- 0 Initial call, no record passed
- 4 Record is passed to the exit
- 8 Final call, no record passed
- 12 Record passed

Reg 1 Address of parameter list (mapped by RMOBPL)

Reg 13 Address of a standard 72-byte register save area

Reg 14 Return address

Reg 15 Entry point address

Contents on Return From the Exit

For record passed and final calls, the return codes are ignored. For initial calls only, the return codes are:

0 CA-Deliver is to submit the records after they have been processed by the exit.

4 CA-Deliver is not to submit the records; the exit handles the submission of the records as they are passed to it.

Installation

To install and modify exit RMOSUBUX, use SMP USERMOD HB17SUBX in CAI.SAMPJCL.

Note: RMOSUBUX is link edited with authorization code 1 and placed in CAI.CAILIB.

RMOUSxUX - User ID Determination Exits

The RMOUS*x*UX exits represent the user ID determination exits for the online facility. The exits are:

User Exit	Description
RMOUSAUX	For native VTAM online facility
RMOUSRUX	For CA-Roscoe online facility
RMOUSTUX	For native TSO and SPF/ISPF online facility
RMOUSXUX	For CICS online facility

The exits are called by the appropriate online facility option to supply and verify the user ID whenever the online facility option is initially invoked by a user. The exit may optionally request CA-Deliver to prompt the user for a user ID and password.

The standard exits that are supplied with CA-Deliver perform the following.

User Exit	Function
RMOUSAUX (VTAM)	Prompts you for user ID and password
RMOUSRUX (CA-Roscoe)	Extracts the CA-Roscoe user ID
RMOUSTUX (TSO/SPF/ISPF)	Extracts the user ID from the PSCB
RMOUSXUX (CICS)	Prompts you for user ID and password

Contents on Entry to the Exit

The contents of the significant general registers on entry to the exit are:

Reg 1 Address of the parameter list (mapped by RMOUPL)

Reg 13 Address of a standard 72-byte register save area

Reg 14 Return address

Reg 15 Entry point address

Contents on Return From the Exit

On return from the exit, registers 2–13 must contain the same contents that they contained on entry, and the exit must place a return code in register 15. The return codes are:

0 Allows user to access CA-Deliver

4 Denies access to the user

8 Prompts user for user ID and password and returns control to exit

Installation

To install and modify the following exits, use the SMP USERMOD in SAMPJCL as follows:

User Exit	USERMOD
RMOUSAUX	HB17USAX
RMOUSRUX	HB17USRX
RMOUSTUX	HB17USTX
RMOUSXUX	HB17USXX

Two sample exits are supplied in PPOPTION:

- RMOUSAO1 for RMOUSAUX
- RMOUSXO1 for RMOUSXUX

Note: These exits are link edited into CAI.CAILIB with an authorization code of 1.

Chapter

5

Operator Commands

This chapter explains how to issue the CA-Deliver operator commands that are used to control CA-Deliver, and includes how to do the following:

- Start, stop, and withdraw CA-Deliver
- Refresh CA-Deliver system routines
- Free reports and bundles from a system
- Start and stop the optional CA-Balancing
- Start, post, and stop the bundle output task
- Reset the in-storage buffers
- Display currently active parameters on the console
- Set initialization parameters while CA-Deliver is running
- Unlock the checkpoint

Starting CA-Deliver

To start CA-Deliver on an operating system, issue the following command:

```
S RMOSTC
```

where *RMOSTC* represents your STC name

> **Tip:** After the CAIRIM starts, add the command S *RMOSTC* to member COMMND*xx* of SYS1.PARMLIB to automatically start the CA-Deliver task at each IPL.

Refreshing CA-Deliver System Routines

Certain CA-Deliver system routines are not automatically reloaded when CA-Deliver is started. CA-Deliver system routines are service routines that are shared by all active CA-Deliver on a given MVS system. If SMP/E maintenance is applied to the product, new versions of the system routines can be reloaded by issuing the following start command:

```
S RMOSTC,PARM=REFRESH
```

where *RMOSTC* represents your STC name

Since the CA-Deliver system routines are shared, only one CA-Deliver started task needs to be restarted with the REFRESH parameter. If CA-Deliver is started on multiple MVS systems, a refresh must be issued for each MVS system that is running CA-Deliver. When CA-Deliver is started with the REFRESH parameter, an EBCSVR03 or RMOASR01 message will accompany each system routine that has changed.

WARNING! *The REFRESH parameter should not be used as a standard startup parameter especially when multiple release levels or maintenance levels are running on the same MVS system. This procedure could cause loading and use of back-leveled versions of the CA-Deliver system routines.*

Stopping CA-Deliver

To stop CA-Deliver on an operating system, issue the following command:

```
P RMOSTC
```

where *RMOSTC* represents your STC name

Note: The execution of jobs monitored by the CA-Deliver initialization parameters JOBCLSL, SYSCLSL, and/or NETCLSL, NETDEST, and NETFORM go into a wait mode until the CA-Deliver task is started again.

Withdrawing CA-Deliver

You may completely withdraw CA-Deliver from an operating system at any time. When you withdraw CA-Deliver, all dynamic interrupts from the system are consequently removed, any service requests by jobs are canceled, and CA-Deliver is terminated.

After you withdraw CA-Deliver from a system, CA-Deliver distribution and tracking facilities continue to be performed on the current DD for each job in progress. The DD statements currently being processed will not have ending banner pages, history will not be completed for that report, and the checkpoint information may not reflect the true status. All subsequent DDs for the current step, and all subsequent steps, are no longer under CA-Deliver control. CA-Deliver distribution and tracking facilities, however, are not performed on new jobs you execute.

- To withdraw the CA-Deliver that is active on an operating system, issue the following command:

  `F RMOSTC,OFF`

  where *RMOSTC* represents your STC name

- To withdraw the CA-Deliver that is not active on an operating system (for example, after it is stopped) issue the following command:

  `S RMOSTC,PARM=OFF`

  where *RMOSTC* represents your STC name

Freeing Reports and Bundles From a System

If an operating system fails, reports and bundles that were open or being processed on the failed operating system remain queued until you restart CA-Deliver on that operating system.

To explicitly free queued reports and bundles so that you can submit them to other available operating systems, issue the following command:

`F RMOSTC,FREE xxxx`

where *RMOSTC* represents your STC name, and *xxxx* specifies the system identifier of the operating system on which the reports and bundles to be freed are queued.

Note: Do not free reports for an operating system that is active.

Starting and Stopping CA-Balancing

You must start and stop CA-Balancing by issuing the INBSTC operator command in the CA-Balancing started task.

Starting and stopping CA-Balancing is described in the *CA-Balancing System Guide*.

Starting the Bundle Output Task

To explicitly start the bundle output task on an operating system on which CA-Deliver is running, issue the following command:

```
F RMOSTC,BOT ON
```

where *RMOSTC* represents your STC name

Stopping the Bundle Output Task

To stop the bundle output task, issue the following command:

```
F RMOSTC,BOT OFF
```

where *RMOSTC* represents your STC name

Posting the Bundle Output Task

At periodic intervals (defined by the BNDLSCAN initialization parameter), the bundle output task scans the active bundle queue for bundles that are ready to print.

To post the bundle output task to wake up and scan the active bundle queue now, rather than waiting for the interval to expire, issue the following command:

```
F RMOSTC,BOT POST
```

where *RMOSTC* represents your STC name

Resetting the In-Storage Buffers

CA-Deliver maintains a number of buffers in storage. These can be refreshed by issuing the following command:

```
F RMOSTC,RESET
```

where *RMOSTC* represents your STC name

This will cause a complete refresh of the following buffered data:

- Distribution Data Entries
- Banner Pages
- PRSET Entries
- Bundle Definition Table
- Jobname Translation Table

Important! *If you change the Jobname Translation Table (referenced by the RMOJTAB DD statement), you must issue the F RMOSTC RESET command to refresh the in-storage copy of the table.*

Note: CA-Deliver itself issues the RESET command when any initialization parameter is changed with the SET operator command.

Displaying Currently Active Parameters

To display currently active parameters on the console (a series of write-to-operator messages with values in effect), issue the following command:

```
F RMOSTC,DISPLAY
```

where *RMOSTC* represents your STC name

Setting an Initialization Parameter While CA-Deliver Is Running

To set an initialization parameter while CA-Deliver is running, issue the following command:

```
F RMOSTC,SET initparm=operand
```

where *RMOSTC* represents your STC name, *initparm* represents the initialization parameter you want to set, and *operand* represents the value to which you want to set the initialization parameter.

Initialization parameters that you can set with this operator command are listed below and are described in the chapter "Initialization Parameters."

ARCH	DAYS	START
BANNER	FREEALL	STKCHN*n*
BEGINDAY	GSS	STKMODE
BNDLBNR*n*	HDETAIL	STNAME*n*
BNDLCONF	JOBCLSL	TEXT
BNDLHDTL	LOGO	TIME
BNDLINT	MAXHIST	
BNDLWAIT	SMF	

Note: You **cannot** set initialization parameters that are not listed above. Initialization parameters and the operands they take are listed alphabetically in the chapter "Initialization Parameters." You must set the SETCMD initialization parameter before this operator command will work.

Unlocking the Checkpoint

You can unlock the checkpoint if the CA-Deliver started task abnormally ends on a system, or if a system running CA-Deliver fails while the CA-Deliver system has the checkpoint locked. As long as the checkpoint is locked on a system, no other system can get it.

Never unlock a started task that shows the **RMOSTC01 CA-DELIVER IS INITIALIZED** message.

WARNING! Under no circumstances *should you unlock the checkpoint when the system on which it is locked is still working. For example, if a system hangs while the checkpoint on it is locked, the system could subsequently "break free" and resume processing. In this case, the checkpoint would be severely damaged if an operator had freed it.*

To unlock the checkpoint, issue the following command:

```
F RMOSTC,UNLOCK
```

where *RMOSTC* represents your STC name

Chapter

6

Utilities

The utilities described in this chapter are used to obtain and maintain information about the status, contents, and structure of the CA-Deliver database.

This chapter covers the following:

- Definition and description of a control statement
- Using the conversion utilities RMODBB and RMOJCL
- RMOBPR - batch bundle posting
- RMOCPMAP - Checkpoint Map Utility
- RMODBASE - database maintenance
- RMODBB - database construction from existing data
- RMOGRW - general report writer
- RMOHTP - batch detail history reporting
- RMOIFMAP - index file mapping utility
- RMOJCL - automatic database construction from JCL
- RMOJCS - enhanced database construction from JCL
- RMOPRE - taking action on the most recently produced reports
- How CA-Deliver works with page and form definitions
- RMOPSF - form and page definition modification
- RMORAP - activating and deactivating reports from batch
- RMORMS - using CA-11 with CA-Deliver
- The Rerun Processing Status report generated by RMORMS
- RMORPT - batch reporting
- RMORXB - rebuilding cross-reference records
- RMOUTIL - migration support

What Is a Control Statement?

A *control statement* is a parameter that defines, augments, or modifies how a job control statement operates. You specify control statements in a card image data set.

Example

The BLOAD control statement, which you use with the RMODBASE utility program, loads the model banner page members in the model banner page library to a CA-Deliver database.

Syntax

The syntax of a control statement can take one of two forms:

- `control-statement` *`operand operand ...`*
- `/control-statement` *`operand operand ...`*

Syntax Rules

The rules for using control statements are as follows:

- You must place a control statement that does not require a slash in a single card image anywhere between columns 1 and 71 (inclusive).

  Note: You can precede a control statement that does not require a slash with one or more blanks.

- For control statements that require a slash:
  - You must place the slash in column 1.
  - You must place the control statement anywhere between columns 2 and 71 (inclusive).
  - Do not use a slash on continued lines.
- You must insert one or more blanks between a control statement and the first operand.
- You must insert one or more blanks or commas between each subsequent operand.
- You must use a new card image to specify control statements that span more than one line. A control statement logically continues from column 71 of the preceding line to column 1 of the next line.
- You must place an asterisk in column 1 of a card image to specify a comment. All text on the line following the asterisk is treated as a comment.

Saving Time With Conversion Utilities RMODBB and RMOJCL

The following is a list of tasks that must be performed when setting up your database for report processing:

1. Define the distribution identifiers.
2. Define the jobs.
3. Define the text specifications for separating reports.
4. Add distribution identifiers to the reports.
5. Modify report attributes, if necessary.

Tip: You can eliminate many of the preceding tasks by using the conversion utilities RMODBB and RMOJCL in CAI.CAIPPOPTION.

To quickly set up your database, do the following:

1. Run the RMOJCL utility to construct the job and report definitions in the CA-Deliver database.
2. Run the RMODBB utility to define the distribution identifiers and add them to the reports.
3. Review and modify the definitions in the database, and specify text specifications for separating report data, special instructions, and other special print attributes.
4. When you are ready to place a report under full control of CA-Deliver, change the type of report processing in the job definition from monitored data output to the type of report processing you want.

   For more information about conversion utilities, see the *CA-Deliver Administrator Guide*.

RMOBPR - Batch Bundle Posting

Use the RMOBPR batch utility program to post one or more bundles for printing.

Important! *The CA-Deliver started task must be executing on the same operating system as all batch and online facilities that access checkpoint data detail, historical data, as well as facilities you use to delete definitions for these batch and online facilities to work.*

Example

To post bundles CASH1, ACCT275, and ACCT277 for printing, execute the following job, which is located in RMOBPR in CAI.PPOPTION:

```
//EXAMPLE JOB  ACCOUNT,PROGRAMMER
//BUN     EXEC PGM=RMOBPR,PARM='DELIVER.SYSTEM1,CASH1,ACCT275,
//             ACCT277'
//RMOBID  DD   DSN=RMO.BIDLIB,DISP=OLD
```

Job Control Statements

Specify the following JCL to execute RMOBPR:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the name of the program (PGM=RMOBPR) and the parameters (PARM=) for the program Use the PARM parameter to specify the high-level name of a CA-Deliver database and at least one or more bundle identifiers which you use to identify the bundles you want to print. For example: `PARM='RMO, SYSTEM1,BID1,BID2'` You must separate each bundle identifier with a comma. The PARM parameter can be 100 characters in length.
RMOBID DD	Defines the sequential data set that contains the bundles you want to print Specify one bundle identifier per record. You can specify bundle identifiers either with this job control statement or through the EXEC job control statement parameters. This job control statement is optional.

RMOCPMAP - Checkpoint Map Utility

The RMOCPMAP diagnostic utility is used by Computer Associates Technical Support to determine how the space in the CA-Deliver Checkpoint is being used. The output contains a breakdown of the type of records in use and amount of free space.

Sample JCL

To run RMOCPMAP, specify the following JCL:

```
//...          JOB ...
//STEP1        EXEC PGM=RMOCPMAP
//STEPLIB      DD DISP=SHR,DSN=CAI.CAILIB  <===  Deliver load library
//SRMOCPTIN    DD DISP=SHR,DSN=COPY.OF.DELIVER.CHCKPT
//SYSPRINT     DD SYSOUT=*
```

The input specified on the RMOCPTIN DD statement must be a copy of the CA-Deliver Checkpoint. You can create this input with IEBGENER as follows:

```
//…           JOB
//STEP1       EXEC PGM=IEBGENER
//SYSUT1      DD DSN=dlvrdb.hlq.RMODBASE.C0000001,DISP=SHR
//SYSUT2      DD DSM=copy.of.deliver.checkpt,disp=(,catlg),
//            UNIT=uuuu,VOL=SER=vvvvvv,SPACE=(CYL,(cc)),
//            DCB=(RECFM=F,LRECL=4096,BLKSIZE=4096)
//SYSPRINT    DD SYSOUT=*
//SYSIN       DD DUMMY
```

Note: The space allocation should match that of the checkpoint file.

CA-Deliver Checkpoint Space Analysis

RMOCPMAP produces the following report on SYSPRINT:

CA-DELIVER CHECKPOINT SPACE ANALYSIS

	RECORDS	BYTES	
FREE BLOCKS	882	3,612,672	49%
FREE CRJ	24,861	1,292,772	17%
FREE CRB	15,949	318,980	4%
RCE	898	21,552	- - -
CRJ	26,697	1,388,244	18%
CRB	31,991	639,820	8%
BCE	33	1,188	- - -
UNUSED RCE	1,992	47,808	- - -
UNUSED BCE	80	47,808	- - -
CLR BLOCKS	4	16,384	- - -
OVERHEAD		30,500	
TOTAL		7,372,800	
TOTAL IN FILE		7,372,800	
DIFFERENCE		0	

STATUS (AS REPORTED BY RMODBASE)

CYLINDERS:	20
BLOCKS:	1,800
USED BLOCKS:	918
PERCENT USED:	51%

Types of Records in a CA-Deliver Checkpoint

To interpret the Checkpoint Analysis Report, you must know the kinds of records that are kept in the checkpoint.

Record	Description
RCE Checkpoint Report Entry	Describes reports on the Active Report List panels and points to the following: CRJ Checkpoint Report Job Entry There is one CRJ per job that contains the report. CRB Checkpoint Report Bundle Entry There is one CRB per report/job contained in the bundle. An RCE is used when a new report ID is activated. CRJs and CRBs are used when a new instance of a report is activated. There is one RCE Checkpoint Report Entry per active report ID.
BCE Checkpoint Bundle Entry	Describes bundles on the Active Bundle List panel A BCE is used when a new bundle is activated. There is one BCE Checkpoint Bundle Entry per active bundle.

Number of Records in a CA-Deliver Checkpoint

A checkpoint block can hold the following number of records:

Record	Size
RCE	170
BCE	113
CRJ	78
CRB	204

Checkpoint Contents Report

A report of the contents of the checkpoint is also available. Specify PARM=D on the EXEC statement.

Note: The Checkpoint Contents Report is a dump of the checkpoint and can be quite large. It is intended for use by Computer Associates Technical Support.

RMODBASE - Database Maintenance

Use the RMODBASE utility program (located in CAI.PPOPTION) to define and maintain the CA-Deliver database. Specifically, you use RMODBASE (which runs authorized) to do the following:

- Define a new database
- Add additional space to a database
- Create and copy the checkpoint data set
- Copy a database
- Rename a database
- Delete a database
- Provide usage statistics on a database
- Load the online library to a database
- Load the model banner page library to a database
- Load the printer setup library to a database
- Unload a database
- Load a previously unloaded database
- Delete history data from a database
- Convert the obsolete format of records to a record format compatible with the latest version of CA-Deliver
- Change from Express Delivery Release 5.1 or CA-Deliver Release 1.6 to CA-Deliver Release 1.7

WARNING! *RMODBASE will always use the default security table, RMOATHTB.*

Job Control Statements

Specify the following JCL to execute RMODBASE:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the name of the program (PGM=RMODBASE) and optional parameters (PARM=) for the program Use the optional PARM parameter to specify the high-level name of a CA-Deliver database (PARM='RMO. SYSTEM1').
STEPLIB DD	Identifies the load library that contains RMODBASE If the program resides in a linklist library, you can omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn*, where *nnn* represents a number that is a multiple of 121.
RMOOLIB DD	Identifies the online library that contains the panel, message, and skeleton JCL members you want to load into the database Specify this job control statement only if you use the OLOAD Control Statement, which is described later in this chapter.
RMOBLIB DD	Identifies the model banner page library that contains the model banner pages you want to load into the database Specify this job control statement only if you use the BLOAD Control Statement, which is described later in this chapter.
RMOPLIB DD	Identifies the printer setup library that contains the printer setup members you want to load into the database Specify this job control statement only if you use the PLOAD Control Statement, which is described later in this section.
RMOLOAD DD	Identifies a sequential input data set that contains the unloaded database you want to load Specify this job control statement only if you use the LOAD Control Statement, which is described later in this chapter.

JCL	Description
RMOUNLD DD	Identifies a sequential output data set to which you want to unload the database Specify this job control statement only if you use the UNLOAD Control Statement, which is described later in this chapter.
SYSIN DD	Specifies the name of the card image data set where the control statements you want to input are located

Be aware of the following:

- You can execute CONVERT, COPY, DELETE, HDELETE, LOAD, MAKECKPT, and RENAME against the CA-Deliver database specified by the NAME control statement only when the CA-Deliver started task is not executing.
- You can execute ADDDS, BLOAD, OLOAD, PLOAD, UNLOAD, and STATUS against any CA-Deliver database, whether the CA-Deliver started task is executing or not.

  Note: ADDDS, BLOAD, and OLOAD are required for a new install.

ADDDS Control Statement

The ADDDS control statement is used to create a new space or add additional space to an existing CA-Deliver database. Space is added by creating a new data set and formatting it with fixed-length blocks. You must first define the high-level name of the database with the NAME control statement (or the PARM parameter of the EXEC JCL statement). ADDDS optionally supports IBM's System Managed Storage (SMS).

Syntax for a Non-SMS Data Set

```
ADDDS UNIT=unit VOLSER=volser CYLINDER=cyls BLKSIZE=b
```

Syntax for an SMS Data Set

```
ADDDS CYLINDER=cyls BLKSIZE=b DATACLAS=dc MGMTCLAS=mc STORCLAS=sc
```

where:

unit Specifies the unit name to be used to dynamically allocate a new data set for the CA-Deliver database

This operand is optional.

volser Specifies the volume serial number on which to allocate the new data set for the CA-Deliver database

This operand is optional.

cyls Specifies the number of contiguous cylinders to allocate to the data set for the CA-Deliver database, between 1 and 65535

This operand is required.

b Specifies the block size of the data set for the CA-Deliver database, between 3476 and 16383 bytes

This operand is optional and if you leave this operand blank, the default (3476 bytes) is used. This operand is valid only for the first extent of the database.

Note: When converting databases, if you specify a value for this operand that is smaller than was originally specified for the "from" database, you must specify a value for the delete history operand in the COPY or LOAD control statement.

dc Specifies the SMS data class you want to assign to the data set for the CA-Deliver database

This operand is optional and works only if you have IBM's SMS.

mc Specifies the SMS management class you want to assign to the data set for the CA-Deliver database

This operand is optional and works only if you have IBM's SMS.

sc Specifies the SMS storage class you want to assign to the data set for the CA-Deliver database

This operand is optional and works only if you have IBM's SMS.

Interdependency of ADDDS Parameters

The following table summarizes the interdependency of the ADDDS parameters for SMS and non-SMS data sets; it illustrates the parameters that you must use, parameters you can optionally use, and parameters you do not specify.

Parameter	Data Set Not Managed by SMS	Data Set Managed by SMS
BLKSIZE	Optional	Optional
CYLINDER	Required	Required
DATACLAS	Do not specify	Optional
MGMTCLAS	Do not specify	Optional
STORCLAS	Do not specify	Optional
UNIT	Optional	Do not specify
VOLSER	Optional	Do not specify

Calculating Cylinders for Your CA-Deliver Database

There is no exact method for computing the number of cylinders required for a CA-Deliver database. You can, however, use the formula in this section to initially calculate the number of cylinders to set aside for the CA-Deliver database.

Note: The amount of space you actually require can vary significantly from the value you calculate. Use the STATUS control statement periodically to determine the actual space you use and adjust the number of cylinders accordingly.

Use the following formula to calculate cylinders for your CA-Deliver database:

1. Add the following numbers:
   - The total number of jobs that produce reports
   - The total number of different reports that can be produced
   - The total number of individuals to which reports are distributed (the number of distribution identifiers)
2. Divide the sum of the preceding numbers by 250 and then round the result up to the next integer.
3. If you plan to maintain detailed historical data (set the initialization parameter HDETAIL to YES), do the following:
   - Add the total number of different reports that can be produced to the total number of different bundles that can be produced.
   - Multiply the result by the maximum number of generations of historical data you plan to maintain (the value you specify for the initialization parameter MAXHIST).
   - Divide the product by 180 and round the value up to the next integer (180 is the blocks per cylinder on an IBM 3380 at a block size of 3476).
4. The value you calculate is the number of cylinders to use (do not use fewer than three cylinders).

BLOAD Control Statement

The BLOAD control statement is used to load the model banner page members in the model banner page library to the database. The model banner page library is defined with DD statement RMOBLIB. The model banners were installed into CAI.CAIMBP during the SMP Apply step.

The high-level name of the database must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
BLOAD
```

CONVERT Control Statement

The CONVERT control statement is used to convert the obsolete format of records in an old database to a record format that is compatible with the latest version of CA-Deliver that you are using.

Important! *You do not need to convert if your old database is Express Delivery 5.1 or CA-Deliver 1.6. However, you must use the VERSION control statement to label the CA-Deliver database.*

Convert your pre-5.1 Express Delivery database after you unload the database in a sequential data set with Express Delivery Release 4.2 or an earlier version of the RMODBASE utility. You define the input (unloaded) copy of the database with DD statement RMOCONV.

The CONVERT control statement reads records in the sequential data set and moves fields from each old record to a new record. The CONVERT control statement also initializes new fields that do not exist in the old record and expands the old record length to the new, longer record length.

Syntax

```
CONVERT buffer-option reserve-option history-option
```

where:

buffer-option
Specifies either BUFFER, to buffer records written to the output database that improves performance and reduces input/output time, or NOBUFFER to eliminate buffering

If omitted, NOBUFFER is used by default.

Note: When using BUFFER, an unsuccessful completion could corrupt the output database.

reserve-option
Specifies either RESERVE, to place a reserve on the output database for the duration of the convert operation, or NORESERVE, to not place a reserve on the output database

Specify NORESERVE only if you are certain that no one else could be updating the output database while the CONVERT operation is in process.

If omitted, RESERVE is used by default.

history-option
Deletes detail history when you convert a database

Specify either HISTDEL to delete the detail history subfile only, or HISTDELALL to delete the history subfile and all basic history records.

COPY Control Statement

The COPY control statement is used to copy a database. The output database should be a newly created, empty database.

Note: To merge databases, you must use the RMOUTIL utility.

The high-level name of the output database must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
COPY from-name reserve-option buffer-option history-option
```

where:

from-name
Specifies the high-level name of the database to be copied

This operand is required.

reserve-option
Specifies either RESERVE, to place a reserve on the output database for the duration of the copy operation, or NORESERVE, to not place a reserve on the output database

Specify NORESERVE only if you can be certain that no one else could be updating the output database while the COPY operation is in process.

If omitted, RESERVE is used by default.

buffer-option
Specifies either BUFFER, to buffer records written to the output database that improves performance and reduces input/output time, or NOBUFFER, to eliminate buffering

If omitted, NOBUFFER is used by default.

Note: When using BUFFER, an unsuccessful completion could corrupt the output database.

history-option
Deletes detail history when you copy a database

Specify either HISTDEL to delete the detail history subfile only, or HISTDELALL to delete the history subfile and all basic history records.

Note: When converting databases, if you specify a value for the BLKSIZE operand in the ADDDS control statement that is smaller than was originally specified for the "from" database, you must specify a value for *history-option*.

DELBAN Control Statement

The DELBAN control statement is used to delete a specified banner page member from the database.

Syntax

```
DELBAN banner-member-name
```

where *banner-member-name* specifies the name of the banner page member you want to delete.

DELETE Control Statement

The DELETE control statement is used to delete a database.

The high-level name of the database must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
DELETE
```

DELPAN Control Statement

The DELPAN control statement is used to delete a specified online panel member from the database.

Syntax

```
DELPAN online-panel-member-name
```

where *online-panel-member-name* specifies the name of the online panel member you want to delete.

DELPRSET Control Statement

The DELPRSET control statement is used to delete a specified printer setup member from the database.

Syntax

```
DELPRSET prset-member-name
```

where *prset-member-name* specifies the name of the printer setup member you want to delete.

HDELETE Control Statement

The HDELETE control statement is used to delete history data from the CA-Deliver database. The high-level name of the database must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

WARNING! *Before you issue the HDELETE control statement, you must stop all CA-Deliver started tasks that reference the CA-Deliver database from which you are deleting history data.*

Syntax

```
HDELETE detail-option
```

where:

detail-option Specifies whether to delete or clear the records that contain existing history-definition data in the CA-Deliver database

Valid options are as follows:

DETAIL	Deletes the detail records This is the default.
ALL	Also deletes the basic history records

LOAD Control Statement

The LOAD control statement is used for recovery purposes to load the CA-Deliver database from a sequential, previously unloaded file. You define the input (unloaded) copy of the database with DD statement RMOLOAD.

The high-level name of the database must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement). If the database is an existing database containing data, the records are added to the records already contained in the database; any duplicate records are replaced. The output database should be a newly created, empty database.

Syntax

```
LOAD buffer-option reserve-option history-option
```

where:

buffer-option

Specifies either BUFFER to buffer records written to the output database that improves performance and reduces input/output time or NOBUFFER to eliminate buffering

If omitted, NOBUFFER is used by default.

WARNING! *When using BUFFER, an unsuccessful completion could corrupt the output database.*

reserve-option

Specifies either RESERVE, to place a reserve on the output database for the duration of the copy operation, or NORESERVE, to not place a reserve on the output database

Use NORESERVE only when you are certain that no one else could be updating the output database while the LOAD operation is in process.

If omitted, RESERVE is used by default.

history-option

Deletes detail history when you load a database

You can specify either HISTDEL to delete the detail history subfile only or HISTDELALL to delete the history subfile and all basic history records.

Note: When converting databases, if you specify a value for the BLKSIZE operand in the ADDDS control statement that is smaller than was originally specified for the "from" database, you must specify a value for *history-option*.

MAKECKPT Control Statement

The MAKECKPT control statement is used to create and re-create the checkpoint.

Syntax for a Non-SMS data set

```
MAKECKPT UNIT=unit VOLSER=volser CYLINDER=cyls empty-opt
```

Syntax for an SMS data set

```
MAKECKPT CYLINDER=cyls DATACLAS=dc MGMTCLAS=mc STORCLAS=sc empty-opt
```

where:

unit
Specifies the unit name to be used to dynamically allocate the new checkpoint

This operand is optional.

volser
Specifies the volume serial number on which to allocate the new checkpoint

This operand is required.

cyls
Specifies the number of contiguous cylinders to allocate to the new checkpoint, from 2–65534

You must specify an even number of cylinders. If you specify an odd number, one is added to the value.

This operand is required.

Note: Although you can specify from 2–65534 cylinders for this operand, CA-Deliver currently supports a maximum of 40 cylinders.

empty-opt
Specifies whether a new, empty checkpoint is to be created, if one already exists

If you specify EMPTY, a new, completely empty checkpoint is created.

This operand is optional.

If omitted, data from the old, existing checkpoint (if it exists) is copied to the new checkpoint.

dc
Specifies the SMS data class you want to assign to the data set for the CA-Deliver database

This operand is optional and works only if you have IBM's SMS.

mc Specifies the SMS management class you want to assign to the data set for the CA-Deliver database

This operand is optional and works only if you have IBM's SMS.

sc Specifies the SMS storage class you want to assign to the data set for the CA-Deliver database

This operand is optional and works only if you have IBM's SMS.

Example

```
MAKECKPT UNIT=3380 VOLSER=MVS501 CYLINDER=22
```

Tip: For best performance, place the checkpoint on a fast-write, cached device; never place it on the same volume as the CA-Deliver or CA-View databases.

Interdependency of MAKECKPT Parameters

The following table summarizes the interdependency of the MAKECKPT parameters for SMS and non-SMS data sets; it lists the parameters that you must use, parameters you can optionally use, and parameters you do not specify.

Parameter	Data Set Not Managed by SMS	Data Set Managed by SMS
UNIT	Optional	Do not specify
VOLSER	Optional	Do not specify
CYLINDER	Required	Required
DATACLAS	Do not specify	Optional
MGMTCLAS	Do not specify	Optional
STORCLAS	Do not specify	Optional

WARNING! *When you allocate your database, be sure to allocate enough space for both your data and a copy of half of the allocated cylinders for your checkpoint data set. If you do not allocate enough space, the checkpoint task abnormally ends, and takes CA-Deliver down in the process.*

Example of Determining Enough Cylinders

Assume that you are presently using an Express Delivery 4.2 database for which you have allocated 50 cylinders. Of those 50 cylinders, you have allocated 65535 checkpoint entries (approximately six cylinders) for the checkpoint subfile, which is stored on either a cache or a solid state device. You keep the rest of your database, which contains index data, on a 3380 DASD device.

To convert to CA-Deliver 1.7, you calculate that you need to allocate a total of 65 cylinders for your new CA-Deliver 1.7 database and 10 cylinders for your checkpoint data set.

Why 65 cylinders for your database and 10 cylinders for your checkpoint? To begin, you estimate that you need 10 cylinders for your checkpoint data set. (You simply estimate this number.) You may need to increase this number after you start running CA-Deliver 1.7 and consequently determine a more realistic number.

You then determine that you need to allocate 40 cylinders for the CA-Deliver 1.7 database itself and half as many more cylinders as you allocated for your checkpoint—or 5 cylinders—to handle the recovery of your checkpoint data set. At this point, the total cylinders that you calculate you need for your database is 45. But because the length of records used by CA-Deliver 1.7 is increased from 32756 to 65535 bytes, you must also determine that you need to allocate an additional 20 cylinders—or half of the number of cylinders that you originally allocated—for your CA-Deliver database. The total number of cylinders that you subsequently allocate for your CA-Deliver 1.7 database is 65.

Calculating Cylinders for Your Checkpoint

Because the length of a checkpoint (the number of bytes per checkpoint) in the checkpoint data set can vary, you can only determine the number of cylinders to set aside for your checkpoint by trial and error.

If, while running CA-Deliver, you receive error message RMOCPT05 80 PERCENT UTILIZATION OF CHECKPOINT DSN=DATA SET NAME on your console, shut down CA-Deliver, increase the number of cylinders allocated for your checkpoint with RMODBASE by 25%, then restart CA-Deliver. You can run the RMOCPMAP utility to determine how the checkpoint space is being used.

Tip: For best performance, place the checkpoint on a fast-write, cached device.

NAME Control Statement

The NAME control statement is used to specify the high-level name of the CA-Deliver database. The NAME control statement applies to all control statements that follow until another NAME control statement is encountered or changed by the RENAME control statement.

If omitted, the high-level name specified as the PARM parameter on the EXEC JCL statement is used.

Syntax

```
NAME high-level-name
```

where *high-level-name* specifies the high-level name for the CA-Deliver database. It is comprised of one or more qualifiers separated by periods. The maximum length of the name is 17 characters. This operand is required.

OLOAD Control Statement

The OLOAD control statement is used to load the panel, message, and skeleton JCL members in the online library to the database. The online library is defined with the DD statement RMOOLIB.

The high-level name of the database must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
OLOAD
```

PLOAD Control Statement

The PLOAD control statement is used to load the printer setup members in the printer setup library to the database. The printer setup library is defined with the DD statement RMOPLIB.

The high-level name of the database must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
PLOAD
```

You can specify a maximum of 50 print lines in a printer setup member.

Note: The PRSET field on the Report Definition Attributes panel, which you use to specify the name of the printer setup member in the CA-Deliver database, is described in the *CA-Deliver Administrator Guide*.

RENAME Control Statement

The RENAME control statement is used to rename a database.

The high-level name of the database to be renamed must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
RENAME new-name
```

where *new-name* specifies the high-level name to which the database is to be renamed. This operand is required.

After completing the rename operation, the high-level name of the database that is used by subsequent operations is set to the new name of the database.

For example, the statement:

```
RENAME RMO.NEWSYS1
```

is identical to the following two statements:

```
RENAME RMO.NEWSYS1
NAME RMO.NEWSYS1
```

STATUS Control Statement

The STATUS control statement is used to display usage statistics on the CA-Deliver database.

The high-level name of the database must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
STATUS
```

UNLOAD Control Statement

The UNLOAD control statement is used to unload the CA-Deliver database to a sequential, output file for back-up purposes. The records in the database are written in ascending key-sequence order to the RMOUNLD data set as variable length records. The high-level name of the database must have been previously defined with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
UNLOAD reserve-option history-option
```

where:

reserve-option specifies RESERVE to place a reserve on the database for the duration of the unload. If omitted, no reserve is placed on the database.

Note: Do not specify NORESERVE; it is not a valid option for the unload.

history-option deletes detail history when you unload a database.

You can specify only HISTDELALL to delete the detail history subfile and all basic history.

Note: When converting databases, if you specify a value for the BLKSIZE operand in the ADDDS control statement that is smaller than was originally specified for the "from" database, you must specify a value for *history-option*.

Tip: Back up your CA-Deliver data sets regularly. You can recover your database with the LOAD control statement, which automatically reorganizes a CA-Deliver database when restoring it. You can use IEBCOPY or any partitioned data set copy utility to back up (and recover) partitioned data sets such as the model banner page library.

VERSION Control Statement

The VERSION control statement is used to set the database version.

Note: The VERSION control statement can only be used to change between Express Delivery Release 5.1 and CA-Deliver Release 1.6, and between either of these and CA-Deliver Release 1.7.

The high-level name of the database must have been defined previously with the NAME control statement (or the PARM parameter of the EXEC JCL statement). The database must also have been previously created via the ADDS control statement.

Syntax

```
VERSION releasenumber
```

where *releasenumber* specifies the number of the CA-Deliver release to which the database is to be set.

If not specified, this parameter defaults to the current release.

Examples of Control Statements

The following example (which is located in RMODBASE in CAI.PPOPTION) illustrates how to create a new database with a high-level name of DELIVER.SYSTEM1 and allocate 10 cylinders on 3380 volume RMO001.

Note: The high-level name is limited to 17 characters.

```
//EXAMPLE1 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
NAME DELIVER.SYSTEM1
VERSION 1.7
ADDDS CYLINDER=10 UNIT=3380 VOLSER=RMO001
MAKECKPT CYLINDER=10 UNIT=3380 VOLSER=RMO004 EMPTY
//
```

The database defined in the previous example is out of space. For this part of the example, an additional 40 cylinders are added on 3380 volume RMO002. After space is added, statistics are displayed.

```
//EXAMPLE2 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
NAME DELIVER.SYSTEM1
ADDDS UNIT=3380 VOLSER=RMO002 CYLINDER=40
STATUS
//
```

Changes are made to the online library, which is to be reloaded to DELIVER.SYSTEM1.

```
//EXAMPLE3 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE,PARM='DELIVER.SYSTEM1'
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//RMOOLIB  DD DSN=CAI.CAIOLIBE,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
OLOAD
//
```

The checkpoint data set is to be expanded for existing database DELIVER.SYSTEM1, as shown in the following example.

```
//EXAMPLE4 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
NAME DELIVER.SYSTEM1
MAKECKPT UNIT=3380 VOLSER=RMO004 CYLINDER=10
STATUS
//
```

Changes have been made to the model banner page library. It is to be reloaded to database DELIVER.SYSTEM1.

```
//EXAMPLE4 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE,PARM='DELIVER.SYSTEM1'
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//RMOBLIB  DD DSN=CAI.CAIMBP,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
BLOAD
//
```

Database DELIVER.SYSTEM1 has continually grown in size with the addition of many data sets. For performance reasons it is to be copied to one new large database. The name of the old database (RMO.OLDSYS1) is to be kept. This sample job is shown below.

```
//EXAMPLE5 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
NAME DELIVER.SYSTEM1
RENAME RMO.OLDSYS1
NAME DELIVER.SYSTEM1
ADDDS CYLINDER=60 UNIT=3380 VOLSER=RMO001
MAKECKPT UNIT=3380 VOLSER=RMO004 CYLINDER=10
COPY RMO.OLDSYS1
//
```

Database RMO.OLDSYS1 is no longer being used and is to be deleted. This sample JCL shows how to delete a database.

```
//EXAMPLE6 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
NAME RMO.OLDSYS1
DELETE
//
```

The CA-Deliver database is to be unloaded on a periodic basis for backup purposes; the unloaded backup is to be a generation data set on tape. Sample JCL is shown below.

```
//EXAMPLE7 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD SYSOUT=*
//RMOUNLD  DD DSN=RMO.BACKUP.RMODBASE(+1),
//         DISP=(,CATLG),UNIT=TAPE
//SYSIN    DD *
NAME DELIVER.SYSTEM1
UNLOAD
//
```

The CA-Deliver database is to be recovered. It is to be restored from the most recent backup (see the previous example). The database is named DELIVER.SYSTEM1 and is first to be renamed to RMO.OLDSYS1. This sample job recovers the database as shown below.

```
//EXAMPLE8 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=*
//RMOLOAD  DD  DSN=RMO.BACKUP.RMODBASE(+0),DISP=OLD
//SYSIN    DD  *
NAME DELIVER.SYSTEM1
RENAME RMO.OLDSYS1
NAME DELIVER.SYSTEM1
ADDDS CYLINDER=60 UNIT=3380 VOLSER=RMO001
MAKECKPT UNIT=3380 VOLSER=RMO004 CYLINDER=10
LOAD
//
```

The CA-Deliver database is to have all history records (including basic history) deleted. The following sample deletes the history records.

```
//EXAMPLE9 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *
NAME DELIVER.SYSTEM1
HDELETE ALL
//
```

The following sample job converts the Express Delivery Release 4.0 unload data set RMO40.UNLOAD into the new database named DELIVER.SYSTEM1.

```
//EXAMPL10 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMODBASE
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//RMOCONV  DD  DSN=RMO40.UNLOAD,DISP=OLD
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *
NAME DELIVER.SYSTEM1
CONVERT
//
```

RMODBB - Database Construction From Existing Data

You use the CA-Deliver online facility to define distribution identifiers as described in the *CA-Deliver Administrator Guide*. If your distribution information is in a machine-readable form, you can also use the RMODBB utility to define and assign distribution identifiers to users and locations.

The RMODBB utility program allows you to initially construct or modify the CA-Deliver database from existing data you are currently maintaining about the reports you produce and distribute. The utility allows you to quickly and easily add distribution specifications to the report definitions created by the RMOJCL utility from its scan of your JCL for the job.

The RMODBB utility can also be used to perform batch updating (including adding, changing, deleting, and renaming) of job, report, distribution, and bundle identifiers in the CA-Deliver database.

The RMODBB utility reads any sequential file containing fixed, variable, or undefined length records. Control statements define the data fields to be added to or modified in the database and provide the format of the records in the input file.

Important! *The CA-Deliver started task must be executing on the same operating system as all batch and online facilities that access checkpoint data, detail historical data, as well as facilities you use to delete definitions for these batch and online utilities to work.*

Job Control Statements

You must specify the following JCL to execute RMODBB:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the utility program name (PGM=RMODBB) and optionally, the high-level name of the CA-Deliver database as the PARM parameter (PARM='DELIVER.SYSTEM1')
STEPLIB DD	Identifies the load library that contains RMODBB If the utility program resides in a linklist library, you can omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn*, where *nnn* represents a number that is a multiple of 121.
DATA DD	Defines the sequential input data set The data set can contain fixed, variable, or undefined length records.
SYSIN DD	Specifies the name of the card image data set where the control statements you want to input are located

The keyword TEST can be coded as the second sub-parameter of the PARM field in the EXEC control statement to indicate that a test run of the utility is to be made (for example, PARM='DELIVER.SYSTEM1,TEST'). A test run processes all the input data; however, no data is actually added to the CA-Deliver database.

DBASE Control Statement

The DBASE control statement is used to specify the high-level name of the CA-Deliver database. The DBASE control statement applies to all control statements following it until another DBASE control statement is encountered.

If omitted, the high-level name specified as the PARM parameter on the EXEC JCL statement is used.

Syntax

```
/DBASE NAME=high-level-name
```

where *high-level-name* specifies the high-level name for the CA-Deliver database; it is composed of one or more qualifiers separated by periods. The maximum length of the name is 17 characters. This operand is required.

Data Definition Control Statements

There are four control statements that you can use to modify the data definitions in the CA-Deliver database. These control statements are as follows:

Job Control Statement	Description
/BNDLDEF	Adds, changes, deletes, or renames bundle definitions
/DISTDEF	Adds, changes, deletes, or renames distribution definitions
/JOBDEF	Adds, changes, deletes, or renames report specifications for job definitions
/RPTDEF	Adds, changes, deletes, or renames report definitions

Syntax

```
keyword=(column,length)
```

where:

keyword Specifies the name of the data field

column Specifies the beginning column number of the data field in the input records

length Specifies the length of the data field in the input records

The length can be omitted to use the default length. If omitted, the parentheses surrounding the column and length can also be omitted, for example, keyword=column.

Each data definition control statement processes the complete input data file from the beginning. If necessary, a data record is extended on the right side with blanks to satisfy the parameter specifications.

BNDLDEF Control Statement

The BNDLDEF control statement is used to add, change, delete, and rename bundle definitions. The parameters and their descriptions and defaults are as follows:

BNDLDEF Keyword	Description	Default Length	Required
BANNER1	Model banner page name for bundle	8	No
BANNER2	Model banner page name for distribution	8	No
BANNER3	Model banner page name for reports	8	No
BCONFIRM	Bundle confirmation indicator The data values are: Y Specifies that a bundle is not to be printed until a user enters the P tabular command on the Active Bundle List panel N Specifies that a user does not need to enter the P tabular command on the Active Bundle List panel to print the bundle Blank Uses the value to which the initialization parameter BNDLCONF is set	1	No
BDISTID	Distribution identifier for distributing the complete bundle	8	No
BID	Bundle identifier	10	Yes

BNDLDEF Keyword	Description	Default Length	Required
DENTNO	Distribution identifier entry number The data values are: U — Identifies the distribution entry (by number) that is to be updated DD — Identifies the distribution entry that is to be deleted Blank — Identifies where the entry is to be inserted The data value must be from 0–32767. See the topic Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters later in this section.	3	No
DESC	Bundle description	24	No
DISTID	Specifies the distribution identifier that is to be added to the end of the distribution specifications for the bundle definition Blank specifies that no distribution identifier is added for the record.	8	No
DRELNO	Specifies the distribution identifier relative entry number The data values are as follows: U — Identifies the relative occurrence of the distribution identifier (ODISTID or DISTID) that is to be updated DD — Identifies the relative occurrence of the distribution identifier (ODISTID or DISTID) that is to be deleted Blank — Specifies after which an entry is to be inserted The data value must be from 0–32766. See the topic Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters later in this section.	3	No

BNDLDEF Keyword	Description	Default Length	Required
FUNCTION	Processing function The data values are: Blank — Adds or changes bundle definitions; this is the default function D — Deletes the bundle definition; only the BID parameter is used DD — Deletes all distribution specifications, a series of distribution entries, or an individual distribution entry See the topic Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters later in this section. DI — Deletes all special instructions or an individual special instruction entry See the topic Using the IENTNO Parameter later in this section. DR — Deletes all report identifiers, a series of report identifiers, or an individual report identifier See the topic Using Combinations of the RENTNO, RRELNO, ORID and RID Parameters later in this section.	2	No

BNDLDEF Keyword	Description		Default Length	Required
FUNCTION *(Continued)*	R	Renames the bundle definition; only the OBID and BID parameters are used Specify the original and new bundle identifiers, respectively.		
	SD	Sorts the distribution specifications for the bundle in ascending sequence		
	SR	Sorts the report specifications for the bundle in ascending sequence		
	U	Updates bundle definition, bundle report identifiers, bundle distribution identifiers, or bundle special instructions		
IENTNO	Special instruction entry number The data value identifies the special instruction entry by number that is to be updated (function U), deleted (function DI), or where the entry is to be inserted (function blank). The data value must be from 0–32766. See the topic Using the IENTNO Parameter later in this section.		3	No
INST	Special instruction line to be added This parameter is used to add one instruction line to the end of the instructions for the bundle definition. If the data record contains a blank value for INST, no instruction line is added for the record. Any trailing blanks in the data value are truncated from the instruction line.		75	No

BNDLDEF Keyword	Description	Default Length	Required
INST *(Continued)*	To retain trailing blanks, enclose the instruction line within single quotation marks within the data record. A single quotation mark within the instruction line must be coded as one single quotation mark. Do not duplicate single quotation marks.	75	No
INTERVAL	Bundling interval in an *hh:mm* format	5	No
JOBCARD*n*	Job card *n*, where *n* is a value from 1–4	72	No
LATE	Late time based on 24-hour clock in an *hh:mm* format	5	No
OBID	Original bundle identifier for Rename function	10	Yes, for the Rename function
ODISTID	Original distribution identifier The data value identifies the distribution identifier that is to be updated (function U), deleted (function DD), or after which an entry is to be inserted (function blank). See the topic Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters later in this section.	8	No
ORID	Original report identifier The data value identifies the report identifier that is to be updated (function U), deleted (function DR), or after which an entry is to be inserted (function blank). See the topic Using Combinations of the RENTNO, RRELNO, ORID and RID Parameters later in this section.	12	

BNDLDEF Keyword	Description	Default Length	Required
RENTNO	Report identifier entry number The data value identifies the report entry by number that is to be updated (function U), deleted (function DR), or where the entry is to be inserted (function blank). The data value must be from 0–32766. See the topic Using Combinations of the RENTNO, RRELNO, ORID and RID Parameters later in this section.	3	No
RID	Report identifier to be added This parameter is used to add one report identifier to the end of the report specifications for the bundle definition. If the data record contains a blank value for RID, no report identifier is added for the record.	12	No
RRELNO	Report identifier relative entry number The data value identifies the relative occurrence of the report identifier (ORID or RID data value) that is to be updated (function U), deleted (function DR), or after which an entry is to be inserted (function blank). The data value must be from 0–32766. See the topic Using Combinations of the RENTNO, RRELNO, ORID and RID Parameters later in this section.	3	No
WAIT	Wait indicator The data values are Y, N, and blank.	1	No
WAITL	Wait-for-late indicator The data values are Y, N, and blank.	1	No

Rules for Processing Each Data Record (When Adding or Changing)

- If a bundle definition exists for the bundle identifier, that definition is used; otherwise, a new bundle definition is created with all data fields initialized to blanks.
- The data fields in the bundle definition for which parameters were specified on the /BNDLDEF control statement are set to the values from the data record; the data fields for which no parameters were specified on the /BNDLDEF control statement remain unchanged.

DISTDEF Control Statement

The DISTDEF control statement is used to add, change, delete, and rename distribution definitions. The parameters and their meanings and defaults are presented in the following table:

DISTDEF Keyword	Description	Default Length	Required
A*n*	Address line *n*, where *n* has a value from 1–9	72	No
CLASS	SYSOUT class	1	No
CONNECT	Indicates whether or not output is being sent to CA-Connect destination The data values are Y, N, and blank. The default is N.	1	No
DESC	Description for distribution list	24	No
DEST	Destination for printing reports	17	No
DISTID	Distribution identifier	8	Yes

DISTDEF Keyword	Description	Default Length	Required
FUNCTION	Processing function The data values are: Blank — Adds or changes distribution definitions; this is the default D — Deletes the distribution definition; only the DISTID parameter is used DL — Deletes all distribution specifications, a series of distribution entries, or an individual distribution entry See the topic Using Combinations of the LENTNO, LRELNO, LDISTID, and LODISTID Parameters later in this section. R — Renames the distribution definition; only the ODISTID and DISTID parameters are used, and specifies the original and new distribution identifiers SL — Sorts distribution specifications for the distribution list in ascending sequence If distribution identifiers are grouped, the group will be sorted first and then merged into the list based on the first distribution identifier in the group. U — Updates the distribution identifier or distribution list	2	No
LDEL	Deletion indicator for distribution identifier in distribution list The data values are Y, N, and blank.	1	No

DISTDEF Keyword	Description	Default Length	Required
LDEST	Destination of printed reports for distribution identifier in distribution list The parameters LDISTID, LDEST, LGROUP, LNDISTID, and LWRITER are used together to add a single distribution specification to the distribution list. If LGROUP is omitted or the data record contains a blank value for LGROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group. If LGROUP is specified and the data record contains a non-blank value for LGROUP, then the distribution identifier is added to the end of the last group. If the data record contains a blank value for LDISTID, no distribution specification is added for the record. LDEST is only added to the definition, if specified, for the first distribution identifier for a group.	17	No
LDISTID	Distribution identifier to be added to a distribution list To create a new distribution list, the LDISTID field must specified. The parameters LDISTID, LDEST, LGROUP, and LNDISTID are used together to add a single distribution specification to the distribution list. If LGROUP is omitted or the data record contains a blank value for LGROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group.	8	Yes, if LDEL, LDEST, LGROUP, LNDISTID, or LWRITER is specified.

DISTDEF Keyword	Description	Default Length	Required
LDISTID *(Continued)*	If LGROUP is specified and the data record contains a non-blank value for LGROUP, then the distribution identifier is added to the end of the last group. If the data record contains a blank value for LDISTID, no distribution specification is added for the record. LDEST is only added to the definition, if specified, for the first distribution identifier for a group. See the topic Using Combinations of the LENTNO, LRELNO, LDISTID, and LODISTID Parameters later in this section.	8	Yes, if LDEL, LDEST, LGROUP, LNDISTID, or LWRITER is specified.
LENTNO	Distribution identifier entry number in distribution list The data value identifies the distribution entry by number that is to be updated (function U), deleted (function DL), or to locate where the entry is to be inserted (function blank). The data value must be from 0–32767. To specify a larger default length (3), you must override the field length via the statement. See the topic Using Combinations of the LENTNO, LRELNO, LDISTID, and LODISTID Parameters later in this section.	3	No

DISTDEF Keyword	Description	Default Length	Required
LGROUP	Grouping indicator for distribution identifier in distribution list The parameters LDISTID, LDEST, LGROUP, LNDISTID, and LWRITER are used together to add a single distribution specification to the distribution list. If LGROUP is omitted or the data record is blank for LGROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group. If LGROUP is specified and the data record contains a non-blank value for LGROUP, then the distribution identifier is added to the end of the last group. If the data record is blank for LDISTID, no distribution specification is added.		No
LNDISTID	Number of copies of the report to be produced for distribution identifier in distribution list The parameters LDISTID, LDEST, LGROUP, LNDISTID, and LWRITER are used together to add a single distribution specification to the distribution list. If LGROUP is omitted or the data record contains a blank value for LGROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group. If LGROUP is specified and the data record contains a non-blank value for LGROUP, then the distribution identifier is added to the end of the last group. If the data record contains a blank value for LDISTID, no distribution specification is added for the record.		No

DISTDEF Keyword	Description	Default Length	Required
LODISTID	Original distribution identifier in distribution list Identifies the distribution identifier in the distribution that is to be updated (function U), deleted (function DL), or after which an entry is to be inserted (function blank). See the topic Using Combinations of the LENTNO, LRELNO, LDISTID, and LODISTID Parameters later in this section.	8	No
LOUT	Output indicator for distribution identifier in distribution list LDISTID must be specified with this parameter. The data values are T (tracking), Y, N, and blank.	1	No
LREPRT	Reprint indicator for distribution identifier in distribution list The data values are Y, N, and blank.	1	No
LRELNO	Distribution identifier relative entry number in distribution list The data value identifies the relative occurrence of the distribution identifier (LODISTID or LDISTID data value) that is to be updated (function U), deleted (function DL), or after which an entry is to be inserted (function blank). The data value must be from 0–32767. To specify a larger default length (3), you must override the field length via the statement. See the topic Using Combinations of the LENTNO, LRELNO, LDISTID, and LODISTID Parameters later in this section.	3	No
LRVIEW	View restriction indicator for distribution identifier in distribution list The data values are Y, N, and blank.	1	No

DISTDEF Keyword	Description	Default Length	Required
LWRITER	External writer name of printed reports for distribution identifier in distribution list The parameters LDISTID, LDEST, LGROUP, LNDISTID, and LWRITER are used together to add a single distribution specification to the distribution list. If LGROUP is omitted or the data record is blank for LGROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group. If LGROUP is specified and the data record contains a non-blank value for LGROUP, then the distribution identifier is added to the end of the last group. If the data record is blank for LDISTID, no distribution specification is added for the record.	8	No
ODISTID	Original distribution identifier for Rename function	8	Yes, for the Rename function
WRITER	External writer name	8	No

Rules for Processing Each Data Record (When Adding or Changing)

- If a distribution definition exists for the distribution identifier, that definition is used; otherwise, a new distribution definition is created with all data fields initialized to blanks.
- To create a new distribution list, the DISTID and LDISTID parameters must be specified. The LDISTID, LODISTID, LENTNO, LRELNO, LNDISTID, LDEST, LWRITER, LGROUP, LOUT, LRVIEW, LREPRT, and LDEL keywords will be ignored if the distribution identifier is not a distribution list.
- The data fields in the distribution definition for which parameters were specified on the /DISTDEF control statement are set to the values from the data record; the data fields for which no parameters were specified on the /DISTDEF control statement remain unchanged.

JOBDEF Control Statement

The JOBDEF control statement is used to add, change, delete, and rename report specifications for jobs. The parameters and their meanings and defaults are presented in the following table:

JOBDEF Keyword	Description	Default Length	Required
DD	DDname	8	No
DESC	Job description	24	No
FUNCTION	Processing function The data values are: Blank — Adds or changes job definitions This is the default function. D — Deletes the job definition and all reports defined for it; only the JOB parameter is used R — Renames the job definition; only the OJOB and JOB parameters are used, and specifies the original and new job names, respectively	2	No
INSERT	Report identifier of an existing entry in the job definition after which the new report entry is to be inserted	12	No
JOB	Job name	8	Yes
JPREVRUN	Job-level option Indicates if previously run reports are: D — Deleted F — Processed unchanged but flagged K — Processed and kept unchanged If you omit JPREVRUN and PREVRUN, the value of SPREVRUN is used.		No

JOBDEF Keyword	Description	Default Length	Required
OJOB	Original job name for the Rename function	8	Yes, for the Rename function
PREVRUN	Report-level option that indicates if previously run reports are: D Deleted F Processed unchanged but flagged K Processed and kept unchanged If you omit PREVRUN, the value of JPREVRUN is used.	1	No
PROCSTEP	Procedure step name	8	No
RID	Report identifier	12	Yes, for the Add/Change function
SPREVRUN	System-level option that indicates if previously run reports are: D Deleted F Processed unchanged but flagged K Processed and kept unchanged If you omit SPREVRUN, JPREVRUN, and PREVRUN, the value K (keep) is used.	1	No
STEP	Step name	8	No
TYPE	Report type The data values you can specify are as follows: Blank Basic report processing M Monitored data output I Interleaved report processing S Stacked report processing C Control break report processing	1	No

Rules for Processing Each Data Record (When Adding or Changing)

- If a job definition exists for the job name, that definition is used; otherwise a new job definition is created.
- If the report identifier exists in the job definition, its entry in the job definition is used. The data fields in the entry for which parameters were specified on the /JOBDEF control statement are set to the values from the data record; the data fields for which no parameters were specified on the /JOBDEF control statement remain unchanged.
- If the report identifier already exists for a different job definition, an error message is issued and the data record is skipped.
- If the report identifier does not exist, an entry for it is added. If parameter INSERT is specified and exists in the definition, the new entry is inserted immediately after the entry; if parameter INSERT is specified and has a blank value, the new entry is inserted as the first entry in the job definition.
- A report definition is added or modified as necessary.

RPTDEF Control Statement

The RPTDEF control statement is used to add or change report definition attributes. The parameters and their meanings and defaults are presented in the following table:

RPTDEF Keyword	Description	Default Length	Required
ARCH	Archival criteria number The data value must be numeric and from 0–9.	1	No
BANNER	Model banner page name	8	No
BURST	Burst indicator for IBM 3800 printing The data values are Y, N, and blank.	1	No
CC	Carriage control identifier	1	No
CCOL	Control break column number The data value must be numeric and from 0–255. A zero or blank value for CCOL, CLEN, or CLINE field indicates that the value is not to be changed. Values for all three control break fields must be provided for a newly created control report.	3	No

RPTDEF Keyword	Description	Default Length	Required
CHAR*n*	Character arrangement table name *n*, where *n* is a value from 1–4	4	No
CLASS	SYSOUT class	1	No
CLEN	Control break field length The data value must be numeric and from 0–255. A zero or blank value for CCOL, CLEN, or CLINE field indicates that the value is not to be changed. Values for all three control break fields must be provided for a newly created control report.	3	No
CLINE	Control break line number The data value must be numeric and from 0–255. A zero or blank value for CCOL, CLEN, or CLINE field indicates that the value is not to be changed. Values for all three control break fields must be provided for a newly created control report.	3	No
CNORM	Control break normalization indicator This indicator determines whether leading blanks are to be ignored in the control break data. The data values are Y, N, and blank.	3	No
COPIES	Copies indicator The data values are Y, N, and blank.	1	No
COPYG*n*	IBM 3800 copy group *n*, where *n* is a value from 1–8 The data value must be numeric and from 0–255.	3	No
CSEP	Control break separator banner page name	8	No
DEL	Deletion indicator The data values are Y, N, and blank.	1	No

RPTDEF Keyword	Description	Default Length	Required
DENTNO	Distribution identifier entry number The data value identifies the distribution entry by number that is to be updated (function U), deleted (function DD), or to locate where the entry is to be inserted (function blank). The data value must be from 0–32767. To specify a larger default length (3), you must override the field length via the statement. See the topic Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters later in this section.	3	No
DESC	Report description	24	No
DEST	Destination for printed reports The parameters DISTID, DEST, GROUP, NDISTID, and WRITER are used together to add a single distribution specification to the report definition. If GROUP is omitted or the data record contains a blank value for GROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group. If GROUP is specified and the data record contains a non-blank value for GROUP, then the distribution identifier is added to the end of the last group. If the data record contains a blank value for DISTID, no distribution specification is added for the record. DEST is only added to the definition, if specified, for the first distribution identifier for a group.	17	No

RPTDEF Keyword	Description	Default Length	Required
DISTID	Distribution identifier to be added to the definition The parameters DISTID, DEST, GROUP, NDISTID, and WRITER are used together to add a single distribution specification to the report definition. If GROUP is omitted or the data record contains a blank value for GROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group. If GROUP is specified and the data record contains a non-blank value for GROUP, then the distribution identifier is added to the end of the last group. If the data record contains a blank value for DISTID, no distribution specification is added for the record. DEST is only added to the definition, if specified, for the first distribution identifier for a group. See the topic Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters later in this section.	8	Yes, if DEL, DEST, GROUP, NDISTID, or WRITER is specified.

RPTDEF Keyword	Description	Default Length	Required
DRELNO	Distribution identifier relative entry number The data value identifies the relative occurrence of the distribution identifier (ODISTID or DISTID data value) that is to be updated (function U), deleted (function DD), or after which an entry is to be inserted (function blank). The data value must be from 0–32767. To specify a larger default length (3), you must override the field length via the statement. See the topic Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters later in this section.	3	No
FCB	Forms control image name	4	No
FLASH	IBM 3800 forms flash overlay name	4	Yes, if FLASHCT is specified
FLASHCT	IBM 3800 forms flash count Data values must be numeric and from 0–255.		No
FORM	Special forms name	8	No
FORMDEF	Form definition name for the IBM 3800 printing subsystem	6	No
FUNCTION	Processing function The data values are as follows: DD Deletes all distribution specifications, a series of distribution entries, or an individual distribution entry See the topic Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters later in this section.	2	No

RPTDEF Keyword	Description		Default Length	Required
FUNCTION *(Continued)*	DI	Deletes all special instructions or an individual special instruction entry See the topic Using the IENTNO Parameter later in this section.	2	No
	DT	Deletes all text specifications or an individual text specification entry See the topic Using the TENTNO Parameter later in this section.		
	D	Deletes the report definition and all references to it; only the RID parameter is used		
	R	Renames the report definition (only the ORID and RID parameters are used), and specifies the original and new report identifiers, respectively		
	SD	Sorts distribution specifications for the report in ascending sequence If distribution identifiers are grouped, the group will be sorted first and then merged into the list based on the first distribution identifier in the group.		
	U	Updates the report definition, report distribution data, report text, or report special instruction		
	Blank	Adds or changes report definitions; this is the default		

RPTDEF Keyword	Description	Default Length	Required
GROUP	Grouping indicator for distribution identifier The parameters DISTID, DEST, GROUP, NDISTID, and WRITER are used together to add a single distribution specification to the report definition. If GROUP is omitted or the data record is blank for GROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group. If GROUP is specified and the data record contains a non-blank value for GROUP, then the distribution identifier is added to the end of the last group. If the data record is blank for DISTID, no distribution specification is added for the record.		No
IENTNO	Special instruction entry number The data value identifies the special instruction entry by number that is to be updated (function U), deleted (function DI), or to locate where the entry is to be inserted (function blank). The data value must be from 0–32766. See the topic Using the IENTNO Parameter later in this section.	3	No

RPTDEF Keyword	Description	Default Length	Required
INST	Special instruction line to be added The INST parameter is used to add one instruction line to the end of instructions for the report definition. If the data record is blank for INST, no instruction line is added for the record. Any trailing blanks in the data value are truncated from the instruction line. To retain trailing blanks, enclose the instruction line within single quotation marks within the data record. A single quotation mark within the instruction line must be coded as one single quotation mark. Do not duplicate single quotation marks.	75	No
LATE	Late time based on a 24-hour clock in an *hh:mm* format (for example, 14:20)	5	No
MODIFY	Copy modification module name	4	Yes, if TRC is specified
NDISTID	Number of copies of the report to be produced for the distribution identifier The parameters DISTID, DEST, GROUP, NDISTID, and WRITER are used together to add a single distribution specification to the report definition. If GROUP is omitted or the data record contains a blank value for GROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group. If GROUP is specified and the data record contains a non-blank value for GROUP, then the distribution identifier is added to the end of the last group. If the data record contains a blank value for DISTID, no distribution specification is added for the record.		No

RPTDEF Keyword	Description	Default Length	Required
ODISTID	Original distribution identifier Identifies the distribution identifier that is to be updated (function U), deleted (function DD), or after which an entry is to be inserted (function blank). See the topic Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters later in this section.	8	No
OPTCDJ	OPTCD=J indicator for 3800 printing The data values are Y, N, and blank.	1	No
ORID	Original report identifier for the Rename function	12	Yes, for the Rename function
OUT	CA-View output indicator DISTID must be specified with this parameter. The data values are T (tracking), Y, N, and blank.	1	No
PAGEDEF	Page definition name for the IBM 3800 printing subsystem	6	No
PRMODE	Process mode required to print a SYSOUT data set Specify LINE, PAGE, or a valid mode printer defined specifically for your site.	8	No
PRSET	Printer setup name	8	No
PRTY	Priority at which a SYSOUT data set enters the output queue Specify a decimal value from 0 (lowest priority) to 255 (highest priority).	3	No
REPRT	Reprint indicator The data values are Y, N, and blank.	1	No
RID	Report identifier	12	Yes

RPTDEF Keyword	Description	Default Length	Required
RVGE5	View restriction indicator The data values are Y, N, and blank. The parameter is the same as RVIEW but retained for compatible with older releases.	1	No
RVIEW	View restriction indicator The data values are Y, N, and blank.	1	No
TENTNO	Number that identifies the identification text entry by the number to be updated (function U), deleted (function DT), or to locate where the entry is to be inserted (function blank) Data values must be in the range 0–32766. See the topic Using the TENTNO Parameter later in this section.	3	No
TEXT	Report identification text The parameters TEXT, TEXTCOL, TEXTLINE, TEXTOP, TEXTREUS, and TEXTTYPE are used together to add a single report identification text entry to the end of the specifications for the report definition. If the data record contains a blank value for TEXT or a blank value for TEXTLINE, then no identification text specification is added for the record. Any trailing blanks in the data value for TEXT are truncated. To retain trailing blanks, enclose the identification text within single quotation marks within the data record. Leading blanks are retained if they are enclosed in single quotation marks on the input record. A single quotation mark within the identification text must be coded as one single quotation mark. Do not duplicate single quotation marks—the text is always entered "as is"; it is not translated to uppercase.	53	Yes, if either TEXTCOL, TEXTLINE, TEXTOP, TEXTREUS, or TEXTTYPE is specified

RPTDEF Keyword	Description	Default Length	Required
TEXTCOL	Column number on report page to look for report identification text The data values must be in the range 0–32767 or "*". A zero value or "*" indicates that the entire report line is to be scanned for the report identification text. The parameters TEXT, TEXTCOL, TEXTLINE, TEXTOP, TEXTREUS, and TEXTTYPE are used together to add a single report identification text entry to the end of the specifications for the report definition. If the data record contains a blank value for TEXT or a blank value for TEXTLINE, then no identification text specification is added for the record. To specify a larger default length (3) for TEXTCOL, you must override the field length via the statement.	3	No
TEXTLINE	Line number on report page to look for report identification text The data value must be in the range 0–255 or "*". A zero value or "*" indicates that each line of the report page, up to 255 lines, is to be scanned for the report identification text. The parameters TEXT, TEXTCOL, TEXTLINE, TEXTOP, TEXTREUS, and TEXTTYPE are used together to add a single report identification text entry to the end of the specifications for the report definition. If the data record contains a blank value for TEXT or a blank value for TEXTLINE, then no identification text specification is added for the record.	3	Yes, if TEXT or TEXTCOL is specified

RPTDEF Keyword	Description	Default Length	Required
TEXTOP	Text comparison operator Text in the report is compared to the text in the database. Specify **one** of the following values: EQ, blank = equal to NE or ^= not equal to LT or < less than GT or > greater than LE or <= less than or equal to GE or >= greater than or equal to The parameters TEXT, TEXTCOL, TEXTLINE, TEXTOP, TEXTREUS, and TEXTTYPE are used together to add a single report identification text entry to the end of the specifications for the report definition.	2	No
TEXTREUS	Segment reusability indicator The data values are Y, N, and blank. The parameters TEXT, TEXTCOL, TEXTLINE, TEXTOP, TEXTREUS, and TEXTTYPE are used together to add a single report identification text entry to the end of the specifications for the report definition.	1	No
TEXTTYPE	Type of text entry Specify **one** of the following values: A, & Continuation test using "and" logic B Beginning test on overlapping segment E Ending test on overlapping segment O, | Continuation test using "or" logic P Tests for selecting a page overlapping segment X Beginning test on exclusive segment Blank Treat as X for first entry and A for entries other than first	1	No
TRC	IBM 3800 copy modification table reference character	1	No

RPTDEF Keyword	Description	Default Length	Required
UCS	Universal character set name	4	No
USCOL*n*	Control break column number of user field number *n*, where *n* equals 1–9 Data values must be numeric and from 0–255. A blank value for the USCOL*n*, USLEN*n*, or USLINE*n* field indicates that the value is not to be changed. You must provide values for all three related user fields when initially setting their values. To remove their values, specify a zero value for all three related user fields.	3	No
USLEN*n*	Control break field length of user field number *n*, where *n* equals a value from 1–9 Data values must be numeric, and from 0–255. A blank value for the USCOL*n*, USLEN*n*, or USLINE*n* field indicates that the value is not to be changed. You must provide values for all three related user fields when initially setting their values. To remove their values, specify a zero value for all three related user fields.	3	No
USLINE*n*	Control break line number of user field number *n*, where *n* is a value of 1–9 Data values must be numeric and from 0–255. A blank value for the USCOL*n*, USLEN*n*, or USLINE*n* field indicates that the value is not to be changed. You must provide values for all three related user fields when initially setting their values. To remove their values, specify a zero value for all three related user fields.	3	No

RPTDEF Keyword	Description	Default Length	Required
WRITER	External writer name for printed reports The parameters DISTID, DEST, GROUP, NDISTID, and WRITER are used together to add a single distribution specification to the report definition. If GROUP is omitted or the data record is blank for GROUP, then the distribution identifier is added to the end of the distribution specifications as a new, single-identifier group. If GROUP is specified and the data record contains a non-blank value for GROUP, then the distribution identifier is added to the end of the last group. If the data record is blank for DISTID, no distribution specification is added for the record.	8	No

Rules for Processing Each Data Record (When Adding or Changing)

- If a report definition does not already exist, an error message is issued and the data record is skipped.
- The data fields in the report definition for which parameters were specified on the /RPTDEF control statement are set to the values from the data record; the data fields for which no parameters were specified on the /RPTDEF control statement remain unchanged. See the following parameters for variations on this rule:
  - DESTID, DEST, GROUP, and NDISTID
  - INST
  - TEXT, TEXTCOL, TEXTLINE, TEXTOP, TEXTREUS, and TEXTTYPE

Example

A sequential file contains distribution specifications and the identifiers of the reports that are to be used for each distribution specification. The name of the file is PROD.DIST.SPECS. The format of the records in the file is as follows:

Position	Field Description
1–8	DISTID
9–28	Address line 1
29–48	Address line 2
49–68	Address line 3
69–80	Report identifier 1
81–92	Report identifier 2
93–104	Report identifier 3
105–116	Report identifier 4
117–128	Report identifier 5
129–140	Report identifier 6
141–152	Report identifier 7
153–164	Report identifier 8
165–176	Report identifier 9
177–188	Report identifier 10
189–190	FUNCTION keyword

As a result, the following job, which is located in RMODBB in CAI.PPOPTION, is executed:

```
//EXAMPLE  JOB  ACCOUNT,PROGRAMMER
//DBB      EXEC PGM=RMODBB,PARM='DELIVER.SYSTEM1'
//STEPLIB  DD   DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD   SYSOUT=A
//DATA     DD   DSN=PROD.DIST.SPECS,DISP=SHR
//SYSIN    DD   *
/DISTDEF   DISTID=1 A1=(9,20) A2=(29,20) A3=(49,20)
/RPTDEF    RID=69  DISTID=1 FUNCTION=(189,2)
/RPTDEF    RID=81  DISTID=1 FUNCTION=(189,2)
/RPTDEF    RID=93  DISTID=1 FUNCTION=(189,2)
/RPTDEF    RID=105 DISTID=1 FUNCTION=(189,2)
/RPTDEF    RID=117 DISTID=1 FUNCTION=(189,2)
/RPTDEF    RID=129 DISTID=1 FUNCTION=(189,2)
/RPTDEF    RID=141 DISTID=1 FUNCTION=(189,2)
/RPTDEF    RID=153 DISTID=1 FUNCTION=(189,2)
/RPTDEF    RID=165 DISTID=1 FUNCTION=(189,2)
/RPTDEF    RID=177 DISTID=1 FUNCTION=(189,2)
//
```

Using Combinations of Parameters and Functions

You can use combinations of the parameters and functions of the BNDLDEF, DISTDEF, and RPTDEF control statements to modify the data definitions in the CA-Deliver database. These combinations and the specific operations they perform are outlined in this section.

Using Combinations of the DENTNO, DRELNO, DISTID, and ODISTID Parameters

Normally you specify **one** of the following:

- ODISTID to change, update, or delete distribution information and DISTID to add distribution information
- ODISTID or DISTID to change, update, or delete specific report IDs within a bundle

In cases when you have defined multiple ODISTIDs or DISTIDs with the same name, the DRELNO and DENTNO parameters should be used to identify which ODISTIDs or DISTIDs you want to process.

The parameters DENTNO, DRELNO, DISTID, and ODISTID can be used to identify a specific distribution entry or a series of distribution entries that are:

- To be updated (function U)
- To be deleted (function DD)
- To locate where a distribution entry is to be inserted or added (function blank)

The DENTNO and DRELNO parameters are ignored if the data value is zero or blank.

The DENTNO parameter maintains precedence over the other parameters.

Operations Performed Against the Distribution Specifications

The following table describes the operations performed against the distribution specifications for combinations of parameters and functions. Insertion and deletion immediately affect the sequencing of the distribution specifications and also affect the sequencing of subsequent operations.

Parameter	Blank Function	U Function	DD Function
DENTNO	Not applicable; DISTID required for addition	Updates DISTID at entry number	Deletes DISTID at entry number
DENTNO and DISTID	Adds DISTID at entry number	Updates DISTID at entry number	Deletes DISTID at entry number DISTID ignored
DRELNO and ODISTID	Not applicable; DISTID required for addition	Updates relative occurrence of ODISTID	Deletes relative occurrence of ODISTID
DRELNO, ODISTID, and DISTID	Adds DISTID after the relative occurrence of ODISTID	Updates/renames relative occurrence of ODISTID; renames if DISTID is not equal to ODISTID	Deletes relative occurrence of ODISTID; DISTID is ignored
DRELNO and DISTID	Adds DISTID after the relative occurrence of DISTID	Updates the relative occurrence of DISTID	Deletes the relative occurrence of DISTID
ODISTID and DISTID	Adds DISTID after the first occurrence of ODISTID	Updates/renames all occurrences of ODISTID; renames if DISTID is not equal to ODISTID	Deletes all occurrences of DISTID
DISTID	Adds DISTID to the end of DISTID specifications	Updates all occurrences of DISTID	Deletes all occurrences of DISTID
DENTNO, DRELNO, ODISTID, and DISTID not specified	Not applicable	Updates first DISTID entry	Deletes all DISTID specifications

Using the IENTNO Parameter

Normally you specify the INST parameter to add special instructions. In some cases, when you want to add or update specific special instructions, the IENTNO parameter should be used.

The parameter IENTNO can be used to identify a specific special instruction entry that is:

- To be updated (function U)
- To be deleted (function DI)
- To locate where a special instruction entry is to be inserted or added (function blank)

The IENTNO parameter is ignored if the data value is zero or blank.

To specify a larger default length (3) for IENTNO, you must override the field length via the statement.

Operations Performed Against the Special Instruction Specifications

The following table describes the operations performed against the special instruction specifications for the IENTNO parameter. Insertion and deletion immediately affect the sequencing of the special instruction specifications and also affect the sequencing of subsequent operations.

Parameter	Blank function	U Function	DI Function
IENTNO	Adds special instruction line at entry number	Updates special instruction line at entry number	Deletes special instruction line at entry number
IENTNO not specified	Adds special instruction line at end of special instruction specifications	Updates first special instruction entry	Deletes all special instruction specifications

Using Combinations of the RENTNO, RRELNO, ORID and RID Parameters

Normally you specify ORID or RID to change, update, or delete specific report IDs within a bundle. In cases when you have defined multiple report IDs with the same name, the RRELNO and RENTNO parameters should be used to identify which report IDs you want to process.

The parameters RENTNO, RRELNO, RID, and ORID can be used to identify a specific report entry or a series of report entries that are:

- To be updated (function U)
- To be deleted (function DR)
- To locate where a report entry is to be inserted or added (function blank)

The RENTNO and RRELNO parameters are ignored if the data value is zero or blank.

The RENTNO parameter maintains precedence over the other parameters.

Operations Performed Against the Report Specifications

The following table describes the operations performed against the report specifications for combinations of parameters and functions. Insertion and deletion immediately affect the sequencing of the report specifications and also affect the sequencing of subsequent operations.

Parameter	Blank Function	U Function	DR Function
RENTNO	Not applicable; RID required for addition	Updates report at entry number	Deletes report at entry number
RENTNO and RID	Adds RID at entry number	Updates/renames RID at entry number	Deletes report at entry number; RID is ignored
RRELNO and ORID	Not applicable; RID required for addition	Updates/renames relative occurrence of ORID	Deletes relative occurrence of ORID
RRELNO, ORID, and RID	Adds RID after the relative occurrence of ORID	Updates/renames relative occurrence of ORID; renames if RID not equal to ORID	Deletes relative occurrence of ORID; RID is ignored

Parameter	Blank Function	U Function	DR Function
RRELNO and RID	Adds RID after the relative occurrence of RID	Updates the relative occurrence of RID	Deletes the relative occurrence of RID
ORID and RID	Adds RID after the first occurrence of ORID	Updates/renames all occurrences of ORID; rename if RID not equal to ORID	Deletes all occurrences of RID; RID is ignored
RID	Adds RID to end of report specifications	Updates all occurrences of RID	Deletes all occurrences of RID
RENTNO, RRELNO, ORID, and RID not specified	Not applicable	Updates first report entry	Deletes all report specifications

Using the TENTNO Parameter

Normally you specify an identification text entry according to the instructions for TEXT, TEXTCOL, TEXTLINE, TEXTOP, TEXTREUS, and TEXTTYPE. TENTNO should be used in cases when control at the level of entry numbers is required.

The parameter TENTNO can be used to identify a specific identification text entry that is:

- To be updated (function U)
- To be deleted (function DT)
- To locate where an identification text entry is to be inserted or added (function blank)

The TENTNO parameter is ignored if the data value is zero or blank.

To specify a larger default length (3) for TENTNO, you must override the field length via the statement.

Operations Performed Against the Identification Text Specifications

The following table describes the operations performed against the identification text specifications for combinations of parameters and functions. Insertion and deletion immediately affect the sequencing of the identification text specifications and also affect the sequencing of subsequent operations.

Parameter	Blank Function	U Function	DT Function
TENTNO	Adds text line at entry number	Updates text line at entry number	Deletes text line at entry number
TENTNO not specified	Adds text line at end of text specifications	Updates first text entry	Deletes all text specifications

Using Combinations of the LENTNO, LRELNO, LDISTID, and LODISTID Parameters

Normally you specify LODISTID to change, update, or delete distribution information and LDISTID to add distribution information in a distribution list.

In cases when you have defined multiple LODISTIDs or LDISTIDs with the same name, the LRELNO and LENTNO parameters should be used to identify which LODISTIDs or LDISTIDs you want to process.

The parameters LENTNO, LRELNO, LDISTID, and LODISTID can be used to identify a specific distribution entry or a series of distribution entries that are:

- To be updated (function U)
- To be deleted (function DL)
- To locate where a distribution entry is to be inserted or added (function blank)

The LENTNO and LRELNO parameters are ignored if the data value is zero or blank.

The LENTNO parameter maintains precedence over the other parameters.

Operations Performed Against the Distribution List Specifications

The following table describes the operations performed against the distribution list distribution specifications for combinations of parameters and functions. Insertion and deletion immediately affect the sequencing of the distribution specifications and also affect the sequencing of subsequent operations.

Parameter	Blank Function	U Function	DL Function
LENTNO	Not applicable; LDISTID required for addition	Updates LDISTID at entry number	Deletes LDISTID at entry number
LENTNO and LDISTID	Adds LDISTID at entry number	Updates LDISTID at entry number	Deletes LDISTID at entry number LDISTID ignored
LRELNO and LODISTID	Not applicable; LDISTID required for addition	Updates relative occurrence of LODISTID	Deletes relative occurrence of LODISTID
LRELNO, LODISTID, and LDISTID	Adds LDISTID after the relative occurrence of LODISTID	Updates/renames relative occurrence of LODISTID; renames if LDISTID is not equal to ODISTID	Deletes relative occurrence of LODISTID; LDISTID is ignored
LRELNO and LDISTID	Adds LDISTID after the relative occurrence of LDISTID	Updates the relative occurrence of LDISTID	Deletes the relative occurrence of LDISTID
LODISTID and LDISTID	Adds LDISTID after the first occurrence of LODISTID	Updates/renames all occurrences of LODISTID; renames if LDISTID is not equal to LODISTID	Deletes all occurrences of LDISTID
LDISTID	Adds LDISTID to the end of LDISTID specifications	Updates all occurrences of LDISTID	Deletes all occurrences of LDISTID
LENTNO, LRELNO, LODISTID, and LDISTID not specified	Not applicable	Updates first LDISTID entry	Deletes all LDISTID specifications

RMOGRW - General Report Writer

The RMOGRW program is a general purpose reporting utility that provides hard copy printout or data set output of information in the CA-Deliver database. The utility can obtain any information from the following database records:

- Job descriptor record
- Report descriptor record
- Report history record
- Report detail history record
- Distribution data record
- Bundle descriptor record
- Bundle history record
- Bundle detail history record
- Active report status record
- Active bundle status record

The database records are not referenced explicitly, but implicitly through the use of field names. The utility accesses the appropriate database records depending on the field names that are referenced. A full list of field names is provided later in this chapter.

The utility provides free-format control statements to sort, print, output, compare, and select fields from the database. In addition, statements are provided to define report titles, to define special fields, and to manipulate special fields. These special fields can also be used for sorting, printing, and other purposes.

Important! *The CA-Deliver started task must be executing on the same operating system as all batch and online facilities that access checkpoint data detail, historical data, as well as facilities you use to delete definitions for these batch and online facilities to work.*

Job Control Statements

Specify the following JCL to execute RMOGRW:

JCL Statement	Description
JOB	Initiates the job
EXEC	Specifies the program name (PGM=RMOGRW) and optionally, the high-level name of the CA-Deliver database as the PARM parameter (PARM='DELIVER.SYSTEM1') You may also need to specify a region size (REGION=4096K is recommended).
STEPLIB DD	Identifies the load library that contains RMOGRW If the program resides in a linklist library, you can omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn*, where *nnn* represents a number that is a multiple of 121.
PRTFILE DD	Defines the sequential output data set (normally SYSOUT) to which the hard copy report is to be written via the PRINT control statement The DD statement name can be changed by use of the CONTROL control statement.
OUTFILE DD	Defines the sequential output data set to which records are to be output via the OUTPUT control statement The DD statement name can be changed by use of the CONTROL control statement. The DCB parameters LRECL, BLKSIZE, and RECFM are needed to avoid a system error.
SORTLIB DD	Defines the load library containing the sort library programs
SORTWK01 DD	Defines sort work disk space
SORTWK02 DD	Defines sort work disk space
SORTWK03 DD	Defines sort work disk space
SYSOUT DD	Defines the sort message data set
SYSIN DD	Specifies the name of the card image data set where the control statements you want to input are located

Control Statements

Specify the following control statements to execute RMOGRW:

Control Statement	Description
BREAK	Discontinues processing of a repetitive group of statements (DO control statement) and proceeds with the statement following the repetitive group of statements
CONTINUE	Performs the next iteration of a repetitive group of statements (DO control statement)
CONTROL	Specifies alternate values for line count, line size, database high-level name, print file DDname, output filename, and database selection sequence
DEFINE	Defines the fields to be used to store data or values
DO	Specifies the beginning of a repetitive group of statements
ELSE	Specifies the statements that are to be executed when a false condition is determined for an IF control statement
END	Specifies the end of a repetitive group of statements (DO control statement), the end of a conditional operation (IF control statement), the end of at-end logic (ON control statement), or the end of the control statements
IF	Specifies the beginning of a conditional operation
NEXT	Retrieves the next occurrence of a field. You can use this statement only for address and special instruction lines, text entries (line number, column number, text data), history entries, report identifiers, and distribution identifiers
ON	Specifies the statements that are to be executed when no more database records or sort records are available
OUTPUT	Specifies the writing of data to the output data set
PRINT	Specifies the writing of data to the print data set
RELEASE	Specifies that a sort record is to be constructed and sorted
SELECT	Specifies a condition or restriction to selection of information from the CA-Deliver database
SET	Specifies the setting of a defined field (DEFINE control statement)

Control Statement	Description
SORT	Specifies a specific sort sequence to be used in ordering information written to the print and output files
STOP	Specifies the end of a control statement processing phase
THEN	Specifies the statements that are to be executed when a true condition is determined for an IF control statement
TITLE	Specifies the definition of a report title

Field Names

Field names are used to reference and maintain information or data by the general report writer:

- Database field references information from the database.

  Database fields are presented chronologically and by database record.
- Defined field saves information independent from the database.

  These fields are defined by the DEFINE control statement.
- Reserved field contains the current date, current time, line size, column position, and so on.

Each field name can contain a single type of data. The types of data that can be maintained are as follows:

- Binary (B)
- Character (C)
- Packed (P)
- Date (D)

Dates are maintained as number of days from January 1, 1900 in a binary format.

Julian dates are carried as 4-byte, packed fields defined as 0*CYYDDDF*.

where:

C Represents the century as follows:
0 Represents years 1990 through 1999
1 Represents years 2000 through 2099

YY Represents the last two digits of the year

DDD Represents the day of the year (000 to 366)

F Represents the 4-bit sign character

Example The Julian date x'0101025C' represents January 25, 2001.

Sequence in Which Database Records Are Accessed

The RMOGRW utility program accesses database records based on the database fields that are referenced. The following guidelines determine the sequence in which database records are accessed:

- If database fields from the job descriptor record are referenced, database records are retrieved in job name (JOB) sequence.
- If database fields from the report descriptor record are referenced other than report identifier (RID), database records are retrieved in report identifier (RID) sequence.
- If database fields from the bundle descriptor record or bundle active status record are referenced without referencing database fields from the job descriptor record, report descriptor record, or report active status record other than report identifier (RID), database records are retrieved in bundle identifier (BID) sequence.
- If database fields are referenced from the distribution data record only, database records are retrieved in distribution identifier (DID) sequence.

Since the database fields that are referenced do not necessarily imply the true intent of your request, the sequence in which database records are accessed can be overridden by the CONTROL control statement.

Database Fields for Job Descriptor Record

The following table describes the database fields for the job descriptor record:

Field Name	Description	Length	Type
DD	DD statement name	8	C
JDATE	Date the job was last updated online	4	D
JDESC	Description for job identifier	24	C
JOB	Job name	8	C
JOBNAME	Same as JOB	8	C
JPREVRUN	Job-level option that indicates if previously run reports are: D Deleted F Processed unchanged but flagged K Processed unchanged If you omit JPREVRUN and PREVRUN, the value of SPREVRUN is used.	1	C
JTIME	Time when the job was last updated online	4	P
JUSER	User to make the last update to job online	8	C
NRID	Number of report identifiers for job or bundle	2	B
PREVRUN	Report-level option that indicates if previously run reports are: D Deleted F Processed unchanged but flagged K Processed unchanged If you omit PREVRUN, the value of JPREVRUN is used.	1	C
PROCSTEP	Procedure step name for report	8	C
RID	Report identifier	12	C

Field Name	Description	Length	Type
SPREVRUN	System-level option that indicates if previously run reports are: D Deleted F Processed unchanged but flagged K Processed unchanged If you omit SPREVRUN, JPREVRUN, and PREVRUN, the value K (keep) is used.	1	C
STEP	Step name of report	8	C

Database Fields for Report Descriptor Record

The following table describes the database fields for the report descriptor record:

Field Name	Description	Length	Type
ARCH	Archival criteria number	1	C
BANNER	Report banner page name	8	C
BID	Bundle identifier	10	C
BURST	Burst indicator for 3800 printing	1	C
CC	Carriage control identifier	1	C
CCOL	Control break column number	1	B
CHARS	Report control statement entry; print set used	4	C
CHARS*n*	Character arrangement table name for 3800 printing, where *n* can range from 1–4	4	C
CLASS	SYSOUT class of the report	1	C
CLEN	Control break field length	1	B
CLINE	Control break line number	1	B
CNORM	Control break normalization indicator Valid values are: Y Suppresses leading blanks in the control break data Blank Does not suppress leading blanks in control break data	1	C
COPIES	Copies indicator	1	C

Field Name	Description	Length	Type
COPYG*n*	Copy group for IBM 3800 printing; *n* can be a number from 1–8	1	B
CSEP	Control break separator banner page name	8	C
DCOPIES	Number of copies of report for distribution identifier	1	B
DEST	Print destination for report	17	C
DID	Distribution identifier	8	C
DISTID	Same as DID	8	C
FCB	Form control image name	4	C
FLASH	Forms flash overlay name for IBM 3800 printing	4	C
FLASHCT	Forms flash count for IBM 3800 printing	1	B
FORM	Special forms name	8	C
FORMDEF	Form definition for IBM 3800 printing	6	C
GROUP	Grouping indicator for distribution identifier Valid values are: * Groups the distribution identifier Blank Does not group the distribution identifier	1	C
INST	Special instruction line for report	75	C
INSTLEN	Length of report instruction line (INST)	1	B
INSTLEN*n*	Length of report instruction line (INST*n*)	1	B
INST*n*	Special instruction line *n* for report	75	C
LATE	Report late time	5	C
MODIFY	Copy modification module name	4	C
NDISTID	Number of distribution identifiers for report or bundle	2	B
NINST	Number of special instruction lines for report	2	B
NTEXT	Number of text entries for report	2	B
OPTCDJ	OPTCD=J indicator for IBM 3800 printing	1	C

Field Name	Description		Length	Type
OUT	Output indicator for distribution identifier		1	C
	Y	Printed output is to be created for the recipient		
	N	No printed output or tracking data is to be created		
	T	No printed output is to be created, but tracked data is to be created		
PAGEDEF	Page definition for an IBM 3800 printer		6	C
PRMODE	Process mode required to print a SYSOUT data set The data values are LINE, PAGE, or a valid process mode defined specifically for your site.		8	C
PRSET	Printer setup name		8	C
PRTY	Output priority at which a SYSOUT data set enters the output queue		1	B
RDATE	Date report was last updated online		4	D
RDD	DD statement name for report		8	C
RDEL	Restricted deletion indicator		1	C
	Y	The user associated with the distribution identifier is allowed to delete the report from CA-View		
	N	The user associated wiht the distribution identifier is not allowed to delete report from CA-View		
RDESC	Description for report identifier		24	C
REPRT	Reprint indicator		1	C
	Y	The user associated with the distribution identifier can reprint the report in CA-View		
	N	The user associated with the distribution identifier t reprint the report in CA-View		
RID	Report identifier		12	C
RJOB	Name of job that created the report		8	C

Field Name	Description	Length	Type
RPROCSTEP	Procedure step name for report	8	C
RSTEP	Name of step that created the report	8	C
RTIME	Time when the report was last updated online	4	P
RTYPE	Type of report: C Control report M Monitored report processing I Interleaved report processing S Stacked report processing Blank Basic report processing	1	C
RUSER	User to make the last update of the report online	8	C
RVGE5	View restriction indicator The parameter is the same as RVIEW but is retained for compatibility with older releases.	1	C
RVIEW	View restriction indicator for distribution identifier Y The user associated with the distribution identifier can only view the report through a non-secured logical view and cannot use the VIEW command N The user associated to the distribution identifier can access any view of the report in CA-View	1	C
TEXT	Report identification text	72	C
TEXTCOL	Column number on report page to look for report identification text	2	B
TEXTCOL*n*	Specific entry for TEXTCOL	2	B
TEXTLEN	Length of report text line (TEXT field)	1	B
TEXTLEN*n*	Length of report text line (TEXT*n* field)	1	B
TEXTLINE	Line number on report page to look for report identification text	1	B
TEXTLINE*n*	Specific entry for TEXTLINE	1	B
TEXT*n*	Specific report identification text line	72	C

Field Name	Description	Length	Type
TEXTOP	Text comparison operator	2	C
	The report identification text is compared against the report page data based on the comparison operator to determine qualifying pages for the report.		
	EQ Equal to		
	NE Not equal to		
	LT Less than		
	GT Greater than		
	LE Less than or equal to		
	GE Greater than or equal to		
TEXTREUSE	Reusable indicator for report identification text	1	C
	Y Reusable		
	Blank Not reusable		
TEXTTYPE	Type of report identification text	1	C
	A Logical "and" continuation test		
	B Beginning test for overlapping segment		
	E Ending test for overlapping segment		
	O Logical "or" continuation test		
	P Test for selecting a page overlapping segment		
	X Beginning test for exclusive segment		
TEXTTYPE*n*	Specific entry for TEXTTYPE	1	C
TRC	Copy modification table reference character for printing on an IBM 3800 printer	1	B
TYPE	Report processing type	1	C
	Blank Basic report processing		
	C Control report processing		
	M Monitored report processing		
	I Interleaved report processing		
	S Stacked report processing		

Field Name	Description	Length	Type
UCS	Universal character set name	4	C
USCOL*n*	Control break column number of user field	1	B
USLEN*n*	Control break field length of user field	1	B
USLINE*n*	Control break line number of user field	1	B
WRITER	External writer name for distribution identifier	8	C

Database Fields for Report History Record

The following table describes the database fields for the report history record:

Field Name	Description	Length	Type
HDATE	Date when the report was queued	4	D
HGEN	Relative generation of the report	4	C
HJID	Job identifier that produced the report	8	C
HJOB	Name of job that produced the report	8	C
HLINES	Number of lines queued for the report	4	B
HPAGES	Number of pages queued for the report	4	B
HRBLK	Report history original history file block number	4	B
HRDATE	Date when the report was produced	4	D
HRDATE*n*	Specific history entry for HDATE	4	D
HRGEN	Relative generation of the report	4	C
HRGEN*n*	Specific history entry for HGEN	4	C
HRJID	Job number of the report	8	C
HRJID*n*	Specific history entry for HJID	8	C
HRJOB	Job name for the report	8	C
HRJOB*n*	Specific history entry for HJOB	8	C
HRLINES	Lines printed for the report	4	B
HRLINES*n*	Specific history entry for HLINES	4	B

Field Name	Description	Length	Type
HRPAGES	Pages printed for the report	4	B
HRPAGES*n*	Specific history entry for HPAGES	4	B
HRPREVRUN	Indicates whether a previously run job was deleted, not rerun, processed unchanged, or processed unchanged but flagged Valid values are: Blank Not rerun D Deleted K Processed unchanged F Processed unchanged but flagged	1	C
HRTIME	Time when the report was produced	4	P
HRTIME*n*	Specific history entry for HTIME	4	P
HTIME	Time when the report was queued	4	P
NRHIST	Number of history entries for the report	2	B
RID	Report identifier	12	C

Database Fields for Report Detail History Record

The following table describes the database fields for the report detail history record:

Field Name	Description	Length	Type
HDRBHDN	Unique bundle history detail number for a report	10	C
HDRBID	Bundle identifier of bundle where the report resides	10	C
HDRBSN	Bundle sequence number	2	B
HDRDATE	Date when the report was printed	4	D
HDRDDN	DDname used for the produced report	8	C
HDRDID	Distribution identifier for the report	8	C
HDRHDN	History detail number for the report	10	C

Field Name	Description	Length	Type
HDRJID	Job identifier that produced the report	8	C
HDRJOB	Job name that produced the report	8	C
HDRLINES	Number of lines printed	4	B
HDRPAGES	Number of pages printed	4	B
HDRPDT1	Date posted at station 1	4	D
HDRPDT2	Date posted at station 2	4	D
HDRPDT3	Date posted at station 3	4	D
HDRPDT4	Date posted at station 4	4	D
HDRPDT5	Date posted at station 5	4	D
HDRPID	Identifier of printer that produced the report	8	C
HDRPTM1	Time when posted at station 1	4	P
HDRPTM2	Time when posted at station 2	4	P
HDRPTM3	Time when posted at station 3	4	P
HDRPTM4	Time when posted at station 4	4	P
HDRPTM5	Time when posted at station 5	4	P
HDRRID	Report identifier	12	C
HDRSTA1	Name of station 1	8	C
HDRSTA2	Name of station 2	8	C
HDRSTA3	Name of station 3	8	C
HDRSTA4	Name of station 4	8	C
HDRSTA5	Name of station 5	8	C
HDRTIME	Time when the report is printed	4	P
HDRUSR1	User ID for station 1	12	C
HDRUSR2	User ID for station 2	12	C
HDRUSR3	User ID for station 3	12	C
HDRUSR4	User ID for station 4	12	C
HDRUSR5	User ID for station 5	12	C

Database Fields for Distribution Data Record

The following table describes the database fields for the distribution data record:

Field Name	Description	Length	Type
A	Address line for distribution identifier	72	C
A*n*	Address line *n* for distribution identifier	72	C
DCLASS	SYSOUT class for distribution identifier	1	C
DCONNECT	CA-Connect destination indicator: Y Printed output is being sent to a CA-Connect destination N Printed output is not being sent to a CA-Connect destination	1	C
DDATE	Date the distribution identifier was last updated online	4	D
DDEST	Print destination for distribution identifier	17	C
DID	Distribution identifier	8	C
DISTID	Same as DID	8	C
DLIST	Indicates whether the distribution identifier (DID) is a distribution list Y Distribution identifier is a distribution list N Distribution identifier is not a distribution list	1	C
DTIME	Time when the distribution identifier was last updated online	4	P
DUSER	User to make the last update of the distribution identifier online	8	C
DWRITER	External writer name	8	C
LA	Address line for distribution identifier in distribution list	72	C
LA*n*	Address line *n* for distribution identifier in distribution list	72	C

Field Name	Description	Length	Type
LCOPIES	Number of copies of report for distribution identifier in distribution list	1	B
LDEL	Restricted delete indicator for distribution identifier in distribution list Y User associated to the distribution identifier is allowed to delete the report from CA-View N User associated to the distribution identifier is not allowed to delete the report from CA-View	1	C
LDESC	Descriptor for distribution list The A field name may also be used to extract the description for a distribution list	24	C
LDEST	Print destination for distribution identifier in distribution list	17	C
LDISTID	Distribution identifier in distribution list	8	C
LGROUP	Grouping indicator for distribution identifier in distribution list * The distribution identifier is grouped Blank The distribution identifier is not grouped	1	C
LNDISTID	Number of distribution identifiers in distribution list	4	B
LOUT	Output indicator for distribution identifier in distribution list Y Printed output is to be created for the recipient N No printed output or tracking data is to be created T No printed output is to be created, but tracked data is to be created	1	C

Field Name	Description	Length	Type
LREPRT	Reprint indicator for distribution identifier in distribution list Y User assoicated to the distribution identifier can reprint the report in CA-View N The user associated with the distribution identifier cannot reprint the report in CA-View	1	C
LRVIEW	View restriction indicator for distribution identifier in distribution list Y The user associated with the distribution identifier can only view the report through a non-secured logical view and cannot use the VIEW command N User associated to the distribution identifier can access any view of the report in CA-View	1	C
LWRITER	External writer name for distribution identifier in distribution list	8	C
NA	Number of address lines for distribution identifier	2	B
NLA	Number of address lines for distribution identifier in distribution list	2	B

Note: The distribution list fields defined in this section cannot be referenced with fields from other database records.

Database Fields for Bundle Descriptor Record

The following table describes the database fields for the bundle descriptor record:

Field Name	Description	Length	Type
BA	Bundle address line for bundle distribution (BDIST)	72	C
BA*n*	Bundle address line *n* for bundle distribution (BDIST)	72	C
BBANNER1	Bundle banner page name	8	C
BBANNER2	Bundle distribution banner page name	8	C
BBANNER3	Bundle report banner page name	8	C
BCLASS	Bundle class for bundle distribution (BDIST)	1	C
BCONFIRM	Bundle confirmation indicator: Y That the bundle requires confirmation to print N That the bundle does not require confirmation to print Blank That initialization parameter BNDLCONF is used	1	C
BDATE	Date the bundle was last updated online	4	D
BDESC	Description for bundle identifier	24	C
BDEST	Bundle destination for bundle distribution (BDIST)	17	C
BDIST	Bundle distribution identifier	8	C
BID	Bundle identifier	10	C
BINST	Special instruction line for bundle	75	C
BINSTLEN	Length of bundle instruction line (BINST field)	1	B
BINSTLEN*n*	Length of bundle instruction line (BINST*n* field)	1	B
BINST*n*	Special instruction line *n* for bundle	75	C
BINTERVAL	Bundle interval time	5	C
BINVL	Same as BINTERVAL	5	C

Field Name	Description	Length	Type
BJCD	Bundle job card	72	C
BJCD*n*	Bundle job card where *n* can be a number from 1–4.	72	C
BLATE	Late time for the bundle	5	C
BTIME	Time when bundle was last updated online	4	P
BUSER	User identifier to make last update to bundle	8	C
BWAIT	Bundling wait for interval indicator: Y Wait for interval to bundle N Do not wait for interval to bundle Blank Use default value	1	C
BWAITL	Bundling wait for late time indicator: Y The bundle will not print until the late time has expired N The bundle need not wait for the late time to expire if all reports it needs are available for bundling Blank Use default value	1	C
DID	Distribution identifier	8	C
DISTID	Same as DID	8	C
NBA	Number of bundle address lines	2	B
NBINST	Number of bundle instruction lines	2	B
NDISTID	Number of distribution identifiers for report or bundle	2	B
NRID	Number of report identifiers for job or bundle	2	B
RID	Report identifier	12	C

Database Fields for Bundle History Record

The following table describes the database fields for the bundle history record:

Field Name	Description	Length	Type
BID	Bundle identifier	10	C
HBBLK	Bundle history block number	4	B
HBDATE	Date when bundle was queued	4	D
HBGEN	Relative generation of bundle	4	C
HBJID	Job number of job that produced bundle	8	C
HBJOB	Job name of job that produced the bundle	8	C
HBLINES	Number of lines queued for the bundle	4	B
HBPAGES	Number of pages queued for the bundle	4	B
HBSEQ	Bundle history entry sequence number	2	B
HBTIME	Time when bundle was queued	4	P
NBHIST	Number of history entries for bundle	2	B

Database Fields for Bundle Detail History Record

The following table describes the database fields for the bundle detail history record:

Field Name	Description	Length	Type
HDBBID	Bundle identifier	10	C
HDBBSN	Bundle sequence number	2	B
HDBDATE	Date when bundle was printed	4	D
HDBDDN	DDname used to print bundle	8	C
HDBDID	Distribution identifier for bundle	8	C
HDBHDN	History detail number for bundle	10	C
HDBJID	Job identifier of job that printed bundle	8	C
HDBJOB	Name of the job that printed the bundle	8	C

Field Name	Description	Length	Type
HDBLINES	Number of lines printed	4	B
HDBPAGES	Number of pages printed	4	B
HDBPDT1	Date posted at station 1	4	D
HDBPDT2	Date posted at station 2	4	D
HDBPDT3	Date posted at station 3	4	D
HDBPDT4	Date posted at station 4	4	D
HDBPDT5	Date posted at station 5	4	D
HDBPID	Identifier of printer that printed bundle	8	C
HDBPTM1	Time when bundle was posted at station 1	4	P
HDBPTM2	Time when bundle was posted at station 2	4	P
HDBPTM3	Time when bundle was posted at station 3	4	P
HDBPTM4	Time when bundle was posted at station 4	4	P
HDBPTM5	Time when bundle was posted at station 5	4	P
HDBRHDN	History detail number of bundled report	10	C
HDBRID	Report identifier contained in bundle	12	C
HDBSTA1	Name of station 1	8	C
HDBSTA2	Name of station 2	8	C
HDBSTA3	Name of station 3	8	C
HDBSTA4	Name of station 4	8	C
HDBSTA5	Name of station 5	8	C
HDBTIME	Time when the bundle printed	4	P
HDBUSR1	User identification for station 1	12	C
HDBUSR2	User identification for station 2	12	C
HDBUSR3	User identification for station 3	12	C
HDBUSR4	User identification for station 4	12	C
HDBUSR5	User identification for station 5	12	C

Database Fields for Active Report Status Record

The following table describes the database fields for the active report status record:

Field Name	Description		Length	Type
ABID	Bundle identifier for active report entry		10	C
ACTIVE	Active report indicator:		1	C
	Y	Report is activated		
	Blank	Report is not activated		
AJOB	Job name for active report entry		8	C
CPUID	CPU that report is being produced on		4	C
EXCP	Exception indicator for report:		1	C
	Blank	No exception		
	N	Report was not produced		
	L	Report is late		
JOBID	Job number		8	C
RID	Report identifier		12	C
STAT	Status of report:		1	C
	Blank	Report has not been processed yet		
	B	Report is awaiting bundling		
	O	Report is open		
	Q	Report is queued for print		
	P	Report is purged		

Database Fields for Active Bundle Status Record

The following table describes the database fields for the active bundle status record:

Field Name	Description		Length	Type
BACTCNT	Indicates the number of reports activated for the bundle		4	B
BCPUID	Central processing unit on which the bundle is being produced		4	C
BEXCP	Bundle exception indicator:		1	C
	Blank	No exception		
	A	Abend		
	N	NPROD		
	I	Bundle is incomplete		
BID	Bundle identifier		10	C
BPNDCNT	Indicates the number of reports pending activation for the bundle		4	B
BRDYCNT	Indicates the number of reports that are ready to be bundled		4	B
BRINTERVAL	Indicates the remaining interval time in minutes and seconds at which time a bundle can be produced		5	C
BRINVL	Same as BRINTERVAL		5	C
BRPTCNT	Indicates the number of reports that have been bundled		4	B
BSTAT	Bundle status:		1	C
	Blank	Bundle has not been processed		
	O	Bundle is open		
	Q	Bundle is queued for print		
	P	Bundle print requested		
BSUB	Bundle submission indicator:		1	C
	Y	Bundle batch job has been submitted		
	Blank	Bundle batch job has not been submitted		
WTR#	External writer name of report being bundled		6	C

Reserved Fields

The following table describes reserved fields:

Field Name	Description	Length	Type
CDATE	The current date	4	D
COL	The current column number of the printed report being processed	4	B
CTIME	The current time	4	P
DATABASE	Database high-level name	17	C
LINECNT	Printable line per report page that has been processed	4	B
LINESIZE	Width of report in characters	4	B
OUTFILE	DD statement name of output file	8	C
PRTFILE	DD statement name of print file	8	C

Expression

An *expression* can be a field name, a constant, a function, or an operation, as described in the following table:

Field Name	Description
Field name	A database field name, defined field name, or a reserved field name
Constant	A data value that has an invariant, self-defined value For instance, 1 and ABC are constant values that are not altered during the execution of the statements.

Field Name	Description

Function	A special routine that is set up to convert, extract, or manipulate data values
	
	Functions you can use are as follows:
	
	`BINARY(`*`expression`*`)`
	Converts the specified *expression* to internal binary format, resulting in a signed four-byte binary number.
	
	`CHAR(`*`expression`*`)`
	Converts the specified *expression* to character format
	
	`DATE(`*`expression`*`)`
	Converts the specified *expression* to internal date format. If *expression* is a character field, the character string must be formatted in the default date format with a date separator character (normally a slash) between the month, day, and year. If expression is a binary or packed field, the field specifies a julian date with the century indicator in form, CYYDDD.
	
	`EDIT(`*`exp-1`*`,`*`exp-2`*`)`
	exp-1 specifies the expression whose value is to be edited
	
	exp-2 specifies the edit-pattern to be used for editing *exp-1*; *exp-2* is a constant (for example, '*ZZZZ9*')
	
	The edit-pattern character for a character field is as follows:
	
	X Specifies substitution of a character from *exp*
	
	Edit-pattern characters for a numeric field (binary or packed) are as follows:
	
	$ Specifies the substitution of a currency symbol or a floating currency symbol
	
	* Specifies that an asterisk or a rolling asterisk is to be substituted in place of a leading zero
	
	– Specifies the substitution of a sign or floating sign for a negative value, blank for a positive value. + – specifies the substitution of a sign or floating sign. + is substituted for a positive and - for a negative value
	
	. Specifies the substitution of a decimal point
	
	, Specifies the substitution of a comma
	
	The substitution and suppression of this character can be affected by floating edit characters and zero suppression edit characters.

Field Name	Description	
Function *(Continued)*	Edit-pattern characters for date fields are as follows:	
	X	Specifies the substitution of a numeric character
	Z	Specifies the substitution of a numeric character; if the corresponding digit is a leading zero, blank is substituted
	9	Specifies the substitution of a numeric character
	D	Specifies the substitution of a one-digit day
	DD	Specifies the substitution of a two-digit day
	DDD	Specifies the substitution of a Julian day
	M	Specifies the substitution of a one-digit month
	MM	Specifies the substitution of a two-digit month
	Y	Specifies the substitution of a one-digit year
	YY	Specifies the substitution of a two-digit year
	YYY	Specifies the substitution of a three-digit year
		The three-digit year is the number of year from 1900. Year 2000 will be represented as 100.
	YYYY	Specifies the substitution of a full four-digit year
	Z	Specifies the substitution of one character from data in the form *MMDDYYYY YYYDDD* (Gregorian and Julian)
	9	Specifies the substitution of one digit from data in the form *MMDDYYYY YYYDDD* (Gregorian and Julian)

Field Name	Description		
Function *(Continued)*	Editing examples:		
	Sending Field	**Edit-pattern**	**Resulting Field**
	'ABCDEF'	X-X-X	A-B-C
	'A2534RW'	XXX/XXX/XXX	A25/34R/W
	'BDF'	AXCXEX	ABCDEF
	0	9999	0000
	0	ZZZZ	
	123	ZZ,ZZ9	123
	395	**,**9	***395
	960	$$,$$9	$960
	1005	ZZ,ZZ9	1,005
	1256	-----9	1256
	3471	+++++9	+3471
	-523	--,--9	-523
	-7000	++,++9	-7,000
	-9275	ZZ,ZZ9	9,275-
	24569	Z,ZZZ.99+	245.69+
	192543	XX:XX:XX	19:25:43
	999999	ZZZ9	****
	36554 (date)	MM/DD/YYYY	01/30/2000
	36583 (date)	YYYY.MM.DD	2000.02.28
	36645 (date)	DD/MM/YY.DDD	30/04/00.121
	36671 (date)	99/99/9999 999.999	05/26/2000 100.147

Field Name	Description

Function *(Continued)*	`PACK(exp)`
	Converts the specified expression to internal packed format
	The resulting value is an 8-byte signed, packed number.
	`PREV(field-name)`
	Specifies the usage of the previous data value for *field-name*
	`SUBSTR(exp,pos,len)`
	Specifies the usage of a subset of the specified expression
	The SUBSTR expression must result in or be a character value. *pos* specifies the beginning character to be extracted. *len* specifies the number of characters to be extracted.
	`TRANS(field,expression-value,expression-result [expression-value, expression-result,…])`
	Specifies the matching of two values (*expression* and *expression-value*) and the use of a translated result *(expression-result)*
	Expression-value and expression-result may be repeated for each desired value and result. An asterisk can be specified as expression-value to indicate any value. If a matching value is not found after interrogation of all values, expression is used as the translated result.

Operation	A group of field names, constants, or functions separated by operators: *field/constant/function op field/constant/function* The valid operators (*op*) are: + for adding fields – for subtracting fields * for multiplying fields / for dividing fields || for concatenating fields The evaluation and computation of an operation is from left to right in the following order: 1. Concatenation 2. Multiplication and division 3. Addition and subtraction The order of evaluation and computation can be altered by enclosing a portion or portions of an operation in parentheses. These parenthetic sections are evaluated first and follow the same order of evaluation as the total operation.

Condition

A *condition* is a group of expressions separated by comparison operators and logical operators. In other words, a condition is used to compare two or more sets of expressions.

Syntax

expression-1 co expression-2 [*lo expression-3 co expression-4 ...*]

where

expression-1, *expression-2*, and, optionally, *expression-3* and *expression-4* specify an expression whose value is compared. In addition, *expression-2* and *expression-4* can contain a list of expressions (for example, ('ABC','DEF',...)). The list of expressions must be enclosed in parentheses.

co is a comparison operator as follows:

=	equal
EQ	equal
^=	not equal
<>	not equal
><	not equal
NE	not equal
<	less than
LT	less than
>	greater than
GT	greater than
^<	greater than or equal to (not less than)
<^	greater than or equal to (not less than)
>=	greater than or equal to
=>	greater than or equal to
GE	greater than or equal to
^>	less than or equal to (not greater than)
>^	less than or equal to (not greater than)
<=	less than or equal to
=<	less than or equal to
LE	less than or equal to

lo is a logical operator as follows:

AND	Conditions on both sides of the logical operator must be true
&	Same as AND
OR	Either condition surrounding the logical operator can be true
|	Same as OR

A condition is broken down into groups separated by the OR logical operator if there is any. If this group or any one of these groups is evaluated as true, the total condition is evaluated the same. The process of grouping can be altered by enclosing a portion or portions of the condition in parentheses.

Examples

Check if job name is equal to P25135:

```
JOB = 'P25135'
```

Check if report identifier begins with an R, S, or T:

```
SUBSTR(RID,1,1) = ('R','S','T')
```

Check if history lines are between 5000 and 10000 lines (inclusive):

```
HLINES => 5000 AND HLINES <= 10000
```

BREAK Control Statement

The BREAK control statement is used in conjunction with the DO control statement to stop iteration and processing of the DO group where the BREAK control statement is imbedded. Processing continues with the control statement following the DO group.

Syntax

```
BREAK
```

The BREAK control statement contains no additional parameters.

CONTINUE Control Statement

The CONTINUE control statement is used in conjunction with the DO control statement to perform the next iteration and processing of the DO group where the CONTINUE control statement is imbedded. If the scope or bounds of the DO operation are reached, processing continues with the control statement following the DO group.

Syntax

```
CONTINUE
```

CONTROL Control Statement

The CONTROL control statement is used to alter the default specification for line count, line size, database DDname, print file DDname, and output file name.

Syntax

```
CONTROL    LINECNT=n                    LINESIZE=n
           DATABASE=high-level-name     PRTFILE=name
           OUTFILE=name                 ACTIVE=status
           SEQ=sequence                 SELECT=selection
```

where:

LINECNT=*n*	Specifies the maximum lines printed per page of output *n* must be a number greater than 10. The default line count is 60 lines. Aliases of LINECNT are LINECOUNT, LINES, LC, and L.
LINESIZE=*n*	Specifies the maximum width of a print line including the carriage control *n*
DATABASE= *high-level-name*	Specifies the *high-level name* of the CA-Deliver database If omitted, the *high-level name* specified in the PARM parameter on the EXEC JCL statement is used. Aliases for DATABASE are DB and D.
PRTFILE=*name*	Specifies the name of the DD statement to which the PRINT control statement writes its output The default DDname is PRTFILE. Aliases for PRTFILE are PRT, PF, and P.
OUTFILE=*name*	Specifies the name of the DD statement to which the OUTPUT control statement writes its output The default ddname is OUTFILE. Aliases for OUTFILE are OUT, OF, and O.
ACTIVE=*status*	Specifies whether to use the current or previous active status data when reporting *status* can be specified as C or CURRENT for the current active status data or P or PREV for the previous generation active status data.
SEQ=*sequence*	Specifies the sequence in which database records are selected from the database *sequence* can be specified as JOB for job sequence, RID for report sequence, BID for bundle sequence, or DID or DISTID for the distribution identifier sequence. DID (or DISTID) is only allowed when database fields from the distribution data record are referenced.

SELECT=*selection* Identifies a specific selection of identifiers to retrieve from the database

x may be specified as a specific identifier (PROD123), a generic identifier (PROD*), or a range of identifiers (A:B). A list of specific identifiers, generic identifiers, or ranges of identifiers can be specified by enclosing the list in parentheses.

Example

To specify a line width of 80, a line count of 55, and a print DD statement of PRINT, you enter the following:

```
/CONTROL LINESIZE=80 LINECNT=55 PRTFILE=PRINT
```

DEFINE Control Statement

The DEFINE control statement is used to define fields to retain or store the content of data or values.

Syntax

```
DEFINE        field        BIN(len)
                           CHAR(len)
                           DATE
                           PACK(len)
```

Alternate specifications are specified in a columnar fashion.

WARNING! *Do not use the same name as any field in the database or unpredictable results will occur.*

where:

field Specifies the name of the field to be defined

The name can be 1–12 characters in length and must begin with an alphabetic or national character ($, #, @). Multiple field names can be defined by enclosing a list of field names in parentheses.

BIN(*len*) Specifies that the field is to be defined as a binary field

len specifies the length of the binary field.

The length is specified in bytes and can be a number from 1–4. Binary fields other than 4 bytes do not carry a sign. The alias for BIN is BINARY.

If the length is omitted, the field is 4 bytes in length.

CHAR(*len*)	Specifies that the field is to be defined as a character field *len* specifies the length. The length, specified in bytes, can be a number from 1–256. The alias for CHAR is CHARACTER. If the length is omitted, the field is 1 byte in length.
DATE	Specifies the definition of a date field A date field is maintained internally as the number of days since January 1, 1900 in binary. Date fields will print (PRINT control statement) in the default date format and output (OUTPUT control statement) as a 4-byte packed Julian date. These formats may be altered by using the EDIT function.
PACK(*len*)	Specifies that the field is to be defined as a packed field *len* specifies the length of the packed field. The length is specified in bytes and can be a number from 1–8. The aliases for PACK are PACKED, DEC, and DECIMAL. The default length for the field type (8 bytes) is used if the length is omitted. Defined fields are not sent to or received from sort unless the field is part of the SORT control statement.

Examples

To define a 20-byte character field named CHR, specify:

```
/DEFINE CHR CHAR(20)
```

To define three fields I, J, and K as binary, specify:

```
/DEFINE (I,J,K) BIN
```

DO Control Statement

The DO control statement is used to repeat a given set of statements a specified number of times until a certain condition is met or while a certain condition is met. The set of statements following the DO control statement and preceding the corresponding END control statement constitute a DO group. This DO group continues to execute as long as all necessary conditions are met. As a point of reference, the function and evaluation of the DO control statement itself is referred to as DO operation.

Syntax

```
DO    field = expression-1 TO expression-2 BY expression-3
      FOREVER UNTIL(condition) WHILE(condition)
```

where:

field	Specifies the name of the defined field (DEFINE control statement) that is to be set and incremented during the DO operation
expression-1	Specifies an expression that defines the initial value for the DO operation
expression-2	Specifies an expression that defines the final value or limit for the DO operation When the final value is exceeded, execution of the DO group is ended.
expression-3	Specifies an expression that defines the incrementing value for the DO operation If BY increment-expression is not specified, a value of +1 is used for an ascending range (*expression-1* is less than or equal to *expression-* 2), and a value of -1 is used for a descending range (*expression-1* greater than *expression-2*).
FOREVER	Specifies continual execution of the DO group The FOREVER keyword is mutually exclusive with the field = *expression-1* TO *expression-2* BY *expression-3* specification.
UNTIL (*condition*)	Specifies that the execution of the DO group is to continue until the given *condition* is true
WHILE (*condition*)	Specifies that the execution of the DO group is to continue while the specified *condition* is true

All operands for the DO control statement are optional. If no operands are specified, or only field = *expression-1* is specified, the DO group is executed one time only. The DO group continues to be executed until **one** of the following conditions is met:

- The value for field exceeds the range specified by *expression-1* to *expression-2*.
- A true *condition* is received for the UNTIL *condition*.
- A false *condition* is received for the WHILE *condition*.

The execution of the DO group can also be interrupted by a BREAK control statement, by a STOP control statement, or by an end-of-data condition retrieving database records or sort records.

DO control statements can be nested within IF control statements or other DO control statements to any level. Care should be taken when coding the UNTIL or WHILE conditions to avoid an infinite loop.

The DO control statement is very convenient for printing multiple occurrences of address lines, special instruction lines, text specification entries, and history entries. The following example shows the printing of multiple occurrences of the text specification line, column, and text.

Example

```
/DEFINE I BIN
/DO I = 1 TO NTEXT BY 1
/   PRINT TEXTLINE  COL(3)
/   PRINT TEXTCOL
/   PRINT TEXT
/   NEXT TEXT
/END
```

ELSE Control Statement

The ELSE control statement is used in conjunction with the IF control statement to indicate the statement(s) that receives control when a false condition is determined on the IF control statement.

Syntax

```
ELSE
```

END Control Statement

The END control statement is used to specify the end of a DO control statement, an IF control statement, or an ON control statement. There must be a one-to-one correspondence between each DO/IF and END control statement. An END control statement at the lowest level (level 1) indicates the last control statement.

Syntax

```
END
```

IF Control Statement

The IF control statement can be used for conditional execution of statements.

The evaluation of the IF control statement determines a true or false condition. If the condition is true, processing continues with the next statement. If the condition is false, processing continues with the statement following the corresponding ELSE control statement or END control statement if an ELSE control statement was not provided. The group of statements related to the IF control statement must be concluded with END.

Syntax

```
IF condition THEN
   …
   …
ELSE
   …
   …
END
```

where:

condition	Specifies the condition that is to be checked to determine the sequence of statements to be executed
ELSE	Used to nest the IF control statement to any level within DO or other IF control statements The ELSE control statement is optional.

Examples

To print a more explanatory description for the database field EXCP, specify:

```
/IF EXCP = ' '
/   PRINT ' '
/   END
/IF EXCP = 'N'
/   PRINT 'NOT PRODUCED'
/   END
/IF EXCP = 'L'
/   PRINT 'LATE'
/   END
```

A more efficient but less readable method is:

```
/IF EXCP = ' '
/   PRINT ' '
/ELSE
/   IF EXCP = 'N'
/   PRINT 'NOT PRODUCED'
/   ELSE
/         IF EXCP = 'L'
/               PRINT 'LATE'
/        END
/    END
/END
```

NEXT Control Statement

The NEXT control statement is used to retrieve the next value of a database field. This statement can be used only for retrieving address lines, special instruction lines, text specification entries, history entries, report identifiers, and distribution identifiers.

Syntax

```
NEXT field [, field, …]
```

where *field* specifies the name of the field whose next value is to be retrieved.

The valid field names that can be referenced on the statement are A, BA, BID, BINST, BHIST, DISTID, HIST, INST, RECORD, RID, and TEXT.

Note: The RECORD field allows you to obtain the next record from the database or the next sort record from the database.

When the NEXT control statement is issued for a field that has no more occurrences, the related field is set to zeros or blanks depending on the field type. RID and DISTID are mutually exclusive with the SORT control statement.

An example of the NEXT control statement is provided in the explanation of the DO control statement.

ON Control Statement

The ON control statement is used to designate a series of statements that are to be processed when no more database records or sort records are available for processing.

The ON control statement may be supplied only once for non-sort logic (no SORT control statement), presort logic (statements preceding the SORT control statement), and logic after the sort (statements following the SORT control statement). The series of statements designated by the ON control statement is terminated by the END control statement.

Syntax

```
ON ENDDATA
   …
END
```

Example

The ON control statement is used for a variety of purposes, but it is especially convenient for printing final totals, as shown below:

```
/DEFINE BCNT BIN
/PRINT BID 'BUNDLE,IDENTIFIER'
/SET BCNT=BCNT+1
/ON ENDDATA
/      PRINT 'TOTAL BUNDLES =' SKIP(2)
/      PRINT BCNT
/END
```

OUTPUT Control Statement

The OUTPUT control statement is used to write data to the output file.

Syntax

```
OUTPUT [expression-1] [COL(expression)] [SKIP]
```

where:

expression-1	Specifies an expression that determines the data to be written to the output file
COL(*expression*)	Specifies an expression that determines the position to which *expression-1* is written A value of 1 represents the first position of the output record. If this value is less than the current column position, the current output record is written to the output file, and *expression-1* is placed in the new output record.
SKIP	Causes the current output record to be written to the output file

The data from each OUTPUT control statement is queued contiguously in the output record. The output record is written under the following conditions:

- Statement processing has completed processing for a given database record, and the next OUTPUT control statement does not specify the COL operand.
- The COL operand is specified with a value less than the current column position.
- The output record size is exceeded.
- OUTPUT directs the output record to be written (SKIP parameter).

The data written to the output record is written in its internal format. This circumstance can be altered by use of the EDIT function or by moving the data to a defined field.

Examples

To output bundle identifier and bundle status, use the following statements:

```
/OUTPUT BID
/OUTPUT BSTAT
```

To output distribution identifier in column 1 and the first address line in column 20, specify the following OUTPUT control statements:

```
/OUTPUT DID COL(1)
/OUTPUT A1 COL(20)
```

To output distribution identifier and all address lines as separate records, use:

```
/DEFINE I BIN
/DO I = 1 TO NA BY 1
/         OUTPUT DID SKIP
/         OUTPUT A
/         NEXT A
/END
```

PRINT Control Statement

The PRINT control statement is used similarly to the OUTPUT control statement. The PRINT control statement writes data to the print file.

Syntax

```
PRINT [expression-1 [expression-2]] [COL(expression)] [SKIP(expression)][PAGE]
```

where:

expression-1 — Specifies an expression that determines the data to be placed in the print record

expression-2 — Specifies an expression that determines the data to be used as subheadings for *expression-1*

If *expression-2* contains a comma (for example, 'REPORT,IDENTIFIER'), the data is split at that point and written on separate heading lines. The heading data is aligned to the same position as *expression-1*.

COL(*expression*) — Specifies an expression that determines the position on the output record that *expression-1* is written

A value of 1 represents the first print position (character after the carriage control character). If this value is less than the current column position, the current print record is written to the print file, and *expression-1* is placed in the new print record.

If COL is specified without an expression, the data is positioned directly after the previous print data.

If COL*(expression)* is omitted, *expression-1* is positioned two characters from the previous print data.

SKIP(*expression*) — Specifies an expression that determines the number of lines to be skipped before printing the next print record

This specification causes the current print record to be written to the print file and the column position to be reset to the first column. If SKIP is specified without an expression, one line is skipped.

PAGE — Specifies that the next print record is to be printed at the top of a new page

This specification also causes the current print record to be written to the print file and the column position to be reset to the first column.

Note: If both PAGE and SKIP(*expression*) are specified, SKIP(*expression*) is ignored.

The data from each PRINT control statement is queued up contiguously in the print record. The print record is written under the following conditions:

- Statement processing has completed processing for a given database record, and the next PRINT control statement does not specify the COL operand.
- The COL operand is specified with a value less than the current column position.
- The print record size is exceeded.
- The PRINT control statement directs the print record to be written (SKIP or PAGE is specified).

Examples

To cause a control break (skip to the top of a new page) when the first character of the report identifier changes, enter the following:

```
/IF SUBSTR(RID,1,1) ^= SUBSTR(PREV(RID),1,1)
/         PRINT PAGE
/END
```

To print the first special instruction line in column 3 after skipping 2 lines, enter the following:

```
/PRINT INST1 COL(3) SKIP(2)
```

To print job name, step name, procedure step name, DDname, and report identifier with meaningful headings, enter the following statements:

```
/PRINT JOB 'JOB,NAME'
/PRINT STEP 'STEP,NAME'
/PRINT PROCSTEP 'PROCEDURE,STEP NAME'
/PRINT DD 'DD,NAME'
/PRINT RID 'REPORT,IDENTIFIER'
```

To print a descriptive title preceding the field being printed, specify:

```
/PRINT 'CLASS='||CLASS
```

The same data can be printed using separate statements as follows:

```
/PRINT 'CLASS='
/PRINT CLASS COL
```

RELEASE Control Statement

The RELEASE control statement is used to signal the construction and release of a sort record to the sort. The actual data released to the sort is dependent on the current values of database fields and defined fields. The RELEASE control statement is only allowed in logic before the sorting (statements preceding the SORT control statement).

The RELEASE control statement is designed to reduce the amount of records that are released to the sort and to allow sorting of iterative fields, such as TEXT (report text line), INST (report instruction line), BINST (bundle instruction line), and A (distribution address line).

If the logic before the sorting drops through to the SORT control statement, an implied release is assumed. Be careful when coding the RELEASE control statement to avoid the release of identical information.

Syntax

```
RELEASE
```

Example

The following example restricts the sort selection to production jobs by interrogating the first four positions of the job description.

```
/DO FOREVER
/   IF SUBSTR(JDESC,1,4) = 'PROD'
/      RELEASE
/   END
/NEXT RECORD
/END
/SORT RID
/PRINT RID
/PRINT RDESC
/END
```

SELECT Control Statement

The SELECT control statement is used to restrict statement processing to certain database records. The placement of the SELECT control statement is crucial, since it is interrogated at its relative position in the control statement flow. Normally, the SELECT control statement is placed at the beginning of the control statement flow or just after the SORT control statement. Only one SELECT control statement is allowed, and it cannot be embedded within an IF or DO control statement.

Syntax

```
SELECT condition
```

where *condition* specifies the condition that is to be checked to determine which records to select from the database.

Example

To process only the job names that begin with P1, specify the following:

```
/SELECT SUBSTR(JOB,1,2) = 'P1'
```

SET Control Statement

The SET control statement is used to set a define field to a specific value.

Syntax

```
SET field=expression-1
```

where:

field	Specifies the name of the defined field that is to receive the data
expression-1	Specifies an expression that determines the data or value to be placed in the defined field

Examples

To set field DEPT to positions 1–20 of address line 2, enter the following:

```
/DEFINE DEPT CHAR(20)
/SET DEPT = A2
```

Similarly, if DEPT was in columns 21–40 of address line 2, you would extract this information as follows:

```
/DEFINE DEPT CHAR(20)
/SET DEPT = SUBSTR(A2,21,20)
```

SORT Control Statement

The SORT control statement orders information that will eventually be written to the print and output files. Capabilities are provided to sort up to 15 fields in ascending or descending sequence.

Syntax

```
SORT field[-seq][,field[-seq]], …]
```

where:

field	Specifies the name of the field to be sorted This field can be a database field, a defined field, or a reserved field.
-seq	Specifies the sequence for sorting the field The sequence A is used for sorting in ascending sequence; the sequence D is used for sorting in descending sequence. If omitted, the field is sorted in ascending sequence.

The SORT control statement cannot be embedded within IF or DO control statements. Statements supplied before the SORT control statement are considered statements that are executed before the sort record is released to the sort, and statements following the SORT control statement are statements that are executed after the sort record is returned from the sort.

Sorting is not necessary for a majority of report requests. The CA-Deliver database currently maintains crucial information in sequential order. The sequence of data retrieved from the database without sorting is determined by the following:

- If database fields from the job descriptor record are referenced, database records are retrieved in job name (JOB) sequence.
- If database fields from the report descriptor record are referenced other than report identifier (RID), database records are retrieved in report identifier (RID) sequence.
- If database fields from the bundle descriptor record or bundle active status record are referenced without referencing database fields from the job descriptor record, report descriptor record, or report active status record other than report identifier (RID), database records are retrieved in bundle identifier (BID) sequence.
- If database fields are referenced from the distribution data record only, database records are retrieved in distribution identifier (DID) sequence.

Since the database fields that are referenced do not necessarily imply the true intent of your request, the sequence in which database records are accessed can be overridden by the CONTROL control statement. See the CONTROL control statement for further information.

Examples

To sort distribution identifiers and report identifiers in ascending sequence for a cross reference report, enter the following:

```
/SORT DID, RID
```

The same sort criteria could be given by explicitly specifying the sort sequence:

```
/SORT DID-A, RID-A
```

To print a list of report identifiers with the amount of distribution identifiers from the largest to the smallest, specify the following:

```
/SORT NDID-D, RID-A
/PRINT RID 'REPORT,IDENTIFIER'
/PRINT NDID 'NUM,DISTIDS'
```

STOP Control Statement

The STOP control statement signals the end of a processing phase and the start of the next processing phase, if applicable. The processing phases (in order) are:

- Non-sort logic or logic before the sorting (statements preceding the SORT control statement)
- End-of-data logic (ON control statement) for non-sort or pre-sort logic
- Post-sort logic (statements following the SORT control statement)
- End-of-data logic (ON control statement) for post-sort logic

The pre-sort and post-sort designations are not applicable if sorting is not requested (no SORT control statement).

Syntax

```
STOP
```

Example

The following example concludes processing when the first digit of JOB is greater than or equal to "B":

```
/IF SUBSTR(JOB,1,1) GE 'B'
/         STOP
/END
/PRINT JOB
```

THEN Control Statement

The THEN control statement is used in conjunction with the IF control statement to specify the statements that are to be executed when a true condition is determined for the IF control statement. The THEN control statement does not have to be specified, but if it is, it can be specified at the end of the IF control statement specification or as a separate statement.

Syntax

```
THEN
```

If the THEN control statement is specified as a separated statement, this control statement must directly follow the corresponding IF control statement.

TITLE Control Statement

The TITLE control statement is used to define a report title for the printed report.

Syntax

```
TITLE expression-1
```

where *expression-1* specifies the expression whose data is used for the report title. This data is printed on the second line of the printed report and centered between the margins.

The TITLE control statement does not cause the report to eject to the top of a new page. The data for the TITLE control statement is saved and printed with each subsequent page. To force a page break, you must use the PRINT control statement (for example, PRINT PAGE). This PRINT control statement should be specified before the TITLE control statement to ensure that the current report record is written. If the TITLE control statement is not supplied, a report title of 'GENERAL REPORT WRITER UTILITY' is used.

Examples

To set a report title of REPORT ATTRIBUTES, you enter:

```
TITLE 'REPORT ATTRIBUTES'
```

If you want to include the report identifier with a title similar to the previous example, you enter:

```
TITLE 'REPORT ATTRIBUTES FOR' ||RID
```

Example 1

The following statements, which are located in RMOGRW01 in CAI.PPOPTION, produce a report that contains a job name, step name, procedure step name, DDname, report identifier, report type, and active status. The report is produced with headings and a title. Each job name is printed on a new page.

```
//EXAMPLE1 JOB  ACCOUNT,PROGRAMMER
//RMOGRW   EXEC PGM=RMOGRW
//STEPLIB  DD   DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD   SYSOUT=*
//PRTFILE  DD   SYSOUT=*
//SYSIN    DD   *
/CONTROL DATABASE=DELIVER.SYSTEM1
/PRINT PAGE
/TITLE 'REPORTS FOR JOB '||JOB
/DEFINE I BIN
/DO I = 1 TO NRID BY 1
/   PRINT STEP 'STEP,NAME' SKIP(1)
/   PRINT PROCSTEP 'PROCEDURE,NAME'
/   PRINT DD ',DDNAME'
/   PRINT RID '  REPORT,IDENTIFIER'
/   IF TYPE = ' '
/      PRINT ' ' 'REPORT, TYPE'
/   END
/   IF TYPE = 'D'
/      PRINT 'DIRECT' 'REPORT, TYPE'
/   END
/   IF TYPE = 'I'
/      PRINT 'INTER' 'REPORT, TYPE'
/   END
/   IF TYPE = 'S'
/      PRINT 'STACK' 'REPORT, TYPE'
/   END
/   IF ACTIVE = 'Y'
/      PRINT 'YES' ',ACTIVE'
/   ELSE
/      PRINT ' ' ',ACTIVE'
/   END
/   NEXT RID
/END
```

Example 1

The following illustrates the report produced by Example 1:

```
01/26/1999 16:41:02                CA-DELIVER                          PAGE  15
RMOGRW                        REPORTS FOR JOB CDCL10

STEP      PROCEDURE  DDNAME    REPORT        REPORT    ACTIVE
NAME      NAME                 IDENTIFIER    TYPE

DCL10     DCL10      SYSOUT    CDCL10-R3     MONITR
DCL10     DCL20      SYSOUT    CDCL10-R4     MONITR
DCL10     DCL20      DS04      DCL20-1
DCL10     DCL20      DSO5      DCL20-2
DCL10     DCL30      SYSPRINT  CDCL10-R8     MONITR
DCL10     DCL40      SYSOUT    CDCL10-R9     STACK
                               CDCL10-R9A    STACK
                               CDCL10-R9B    STACK
DCL10     DCL50      SYSOUT    CDCL10-R10
```

Example 2

A formatted report containing report identifiers, report attributes, special instructions, text specifications, and distribution identifiers is produced from this example, which is located in RMOGRW02 in CAI.PPOPTION. Each report identifier appears on a separate page.

```
//EXAMPLE2 JOB  ACCOUNT,PROGRAMMER
//RMOGRW   EXEC PGM=RMOGRW
//STEPLIB  DD   DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD   SYSOUT=*
//PRTFILE  DD   SYSOUT=*
//SYSIN    DD   *
/CONTROL DATABASE=DELIVER.SYSTEM1
/PRINT PAGE
/TITLE 'REPORT DEFINITION ATTRIBUTES'
/PRINT 'ID='||RID COL(1)
/PRINT 'JOB='||JOB COL(26)
/IF TYPE = ' '
/   PRINT 'TYPE=' COL(51)
/END
/IF TYPE = 'D'
/   PRINT 'TYPE=DIRECT' COL(51)
/END
/IF TYPE = 'I'
/   PRINT 'TYPE=INTER' COL(51)
/END
/IF TYPE = 'S'
/   PRINT 'TYPE=STACK' COL(51)
/END
/PRINT 'STEP='||STEP COL(1)
/PRINT 'PROCSTEP='||PROCSTEP COL(26)
/PRINT 'DDNAME='||DD COL(51)
/PRINT 'REPORT ATTRIBUTES:' SKIP(2)
/PRINT 'ARCH='||ARCH COL(3)
/PRINT 'BANNER='||BANNER COL(26)
/PRINT 'BURST='||BURST COL(51)
/PRINT 'CC='||CC COL(3)
/PRINT 'CLASS='||CLASS COL(26)
/PRINT 'COPIES='||COPIES COL(51)
/PRINT 'FCB='||FCB COL(3)
/PRINT 'FORM='||FORM COL(26)
/PRINT 'FLASH=('||FLASH||','||
   EDIT(FLASHCT,'ZZZ')||')' COL(51)
/PRINT 'LATE='||LATE COL(3)
/PRINT 'OPTCDJ='||OPTCDJ COL(26)
/PRINT 'UCS='||UCS COL(51)
/PRINT 'CHARS=('||CHARS1||','||
 CHARS2||','||
 CHARS3||','||
 CHARS4||')' COL(3)
/PRINT  'MODIFY=('||MODIFY||','||
   EDIT(TRC,'ZZZ')||')' COL(51)
/PRINT 'COPYG=('||
   EDIT(COPYG1,'ZZZ')||','||
   EDIT(COPYG2,'ZZZ')||','||
   EDIT(COPYG3,'ZZZ')||','||
   EDIT(COPYG4,'ZZZ')||','||
   EDIT(COPYG5,'ZZZ')||','||
   EDIT(COPYG6,'ZZZ')||','||
   EDIT(COPYG7,'ZZZ')||','||
   EDIT(COPYG8,'ZZZ')||')'  COL(3)
```

```
/DEFINE I BIN
/PRINT 'TEXT SPECIFICATIONS:' SKIP(2)
/DO I = 1 TO NTEXT BY 1
/   PRINT EDIT(TEXTLINE,'ZZZ') COL(3)
/   PRINT EDIT(TEXTCOL,'ZZZ') COL(8)
/   PRINT TEXT COL(12)
/   NEXT TEXT
/END
/PRINT 'SPECIAL INSTRUCTIONS:' SKIP(2)
/DO I = 1 TO NINST BY 1
/   PRINT INST COL(3)
/   NEXT INST
/END
/PRINT 'DISTRIBUTION IDENTIFIERS:' SKIP(2)
/DO I = 1 TO NDID BY 1
/   PRINT GROUP COL(3)
/   PRINT DISTID
/   PRINT DEST
/   NEXT DISTID
/END
```

Example 2

The following illustrates the report produced by Example 2:

```
01/26/2000 16:42:32                  CA-DELIVER                              PAGE  4
RMOGRW                    REPORT DEFINITION ATTRIBUTES

ID=A/P-LABELS             JOB=F00758               TYPE=
STEP=F00758               PROCSTEP=F00758          DDNAME=SYSOUT

REPORT ATTRIBUTES:
  ARCH=1                  BANNER=                  BURST=N
  CC=                     CLASS=                   COPIES=
  FCB=                    FORM=LBLS                FLASH=(    ,    )
  LATE=08:00              OPTCDJ=                  UCS=
  CHARS=(    ,    ,    ,    )                     MODIFY(     ,     )
  COPYG=(    ,    ,    ,    ,    ,    ,    ,    ,    )

TEXT SPECIFICATIONS:

SPECIAL INSTRUCTIONS:
  LABELS TO RUN THIS JOB ARE PROVIDED BY THE ACCOUNTS PAYABLE DEPARTMENT.
  ANY EXCESS SHOULD BE RETURNED TO THEM.
  PLEASE DELIVER TO CONTROLS WHEN THE LABELS ARE DONE.

DISTRIBUTION IDENTIFIERS:
       #0118010
  *    #0118011
  *    #0118012
  *    #0118013
       #0118020    RMT158
       #0118035
```

Example 3

The following example, which is located in RMOGRW03 in CAI.PPOPTION, lists the address lines and destination for each distribution identifier:

```
//EXAMPLE3 JOB  ACCOUNT,PROGRAMMER
//RMOGRW   EXEC PGM=RMOGRW
//STEPLIB  DD   DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD   SYSOUT=*
//PRTFILE  DD   SYSOUT=*
//SYSIN    DD   *
/CONTROL  DATABASE=DELIVER.SYSTEM1
/TITLE  'DISTRIBUTION SPECIFICATIONS'
/PRINT DISTID 'DISTRIBUTION, IDENTIFIER' SKIP(2)
/PRINT DDEST 'DISTRIBUTION,DESTINATION'
/DEFINE (DCOL,I) BIN
/SET DCOL = COL+2
/DO I = 1 TO NA BY 1
/   PRINT A 'DISTRIBUTION,   LINES' COL(DCOL)
/   NEXT A
/END
```

Example 3

The following illustrates the report produced by Example 3:

```
01/26/2000 17:24:33                CA-DELIVER                          PAGE  7
RMOGRW                     DISTRIBUTION SPECIFICATIONS

DISTRIBUTION  DISTRIBUTION       DISTRIBUTION
IDENTIFIER    DESTINATION        LINES

#0132068      LOCAL              CORP IND RELATIONS
                                 2534
                                 THACKERER, N.
                                 CRP
                                 COURIER
                                 BH-LP
                                 013200

#0132069      LOCAL              CORP PAYROLL
                                 2534
                                 JEFFERY, D.
                                 CRP
                                 COURIER
                                 BH-LP
                                 013200

#0132070      LOCAL              COST ACCOUNTING
                                 2513
                                 MOSS, A.
                                 041
                                 COURIER
                                 46-28
                                 013200

#0132075      LOCAL              COST ACCT
                                 2513
                                 MOSS, A.
                                 041
                                 COURIER
                                 46-28
                                 013200
```

Example 4

The following example, which is located in RMOGRW04 in CAI.PPOPTION, produces a report containing bundle identifiers, bundle attributes, special instructions, report identifiers, and distribution identifiers. Each bundle identifier appears on a separate page. Report identifiers and distribution identifiers print horizontally.

```
//EXAMPLE4 JOB  ACCOUNT,PROGRAMMER
//RMOGRW   EXEC PGM=RMOGRW
//STEPLIB  DD   DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD   SYSOUT=*
//PRTFILE  DD   SYSOUT=*
//SYSIN    DD   *
/CONTROL DATABASE=DELIVER.SYSTEM1
/PRINT PAGE
/TITLE 'BUNDLE DEFINITION FOR '||BID
/PRINT 'ATTRIBUTES:' SKIP(2)
/PRINT 'BANNER=('||BBANNER1||','||
 BBANNER2||','||
 BBANNER3||')' COL(3)
/PRINT 'DIST='||BDIST COL(3)
/PRINT 'LATE='||BLATE COL(3)
/DEFINE I BIN
/PRINT 'SPECIAL INSTRUCTIONS:' SKIP(2)
/DO I = 1 TO NBINST BY 1
/   PRINT BINST COL(3)
/   NEXT BINST
/END
/DEFINE PCOL BIN
/SET PCOL = 999
/PRINT 'REPORT IDENTIFIERS:' SKIP(2)
/DO I = 1 TO NRID BY 1
/   IF PCOL+12 > LINESIZE-1
/           SET PCOL = 3
/   END
/   PRINT RID COL(PCOL)
/   SET PCOL=PCOL+14
/   NEXT RID
/END
/SET PCOL = 999
/PRINT 'DISTRIBUTION IDENTIFIERS:' SKIP(2)
/DO I = 1 TO NDID BY 1
/   IF PCOL+12 > LINESIZE-1
/           SET PCOL = 3
/   END
/   PRINT DISTID COL(PCOL)
/   SET PCOL=PCOL+14
/   NEXT DISTID
/END
```

Example 4

The following illustrates the report produced by Example 4:

```
01/26/2000 18:06:25                  CA-DELIVER                          PAGE  92
RMOGRW                     BUNDLE DEFINITION FOR U90314

ATTRIBUTES:
  BANNER=(*    ,     ,*    )
  DIST=
  LATE=

SPECIAL INSTRUCTIONS:

REPORT IDENTIFIERS:
  U90314-R1    U90314-R2    U90314-R3    U90314-R4    U90314-R5    U90314-R6
  U90314-R7    U90314-R8    U90314-R9    U90314-R10   U90314-R11   U90314-R12
  U90314-R13   U90314-R14   U90314-R15   U90314-R16   U90314-R17   U90314-R18
  U90314-R19   U90314-R20   U90314-R21   U90314-R22   U90314-R23   U90314-R24
  U90314-R25   U90314-R26   U90314-R27   U90314-R28   U90314-R29   U90314-R30
  U90314-R31   U90314-R32   U90314-R33   U90314-R34   U90314-R35   U90314-R36
  U90314-R37   U90314-R38   U90314-R39   U90314-R40   U90314-R41   U90314-R42

DISTRIBUTION IDENTIFIERS:
  #0118341     #0118465     #0118350     #0118085     #0118095     #0118147
  #0132670
```

RMOHTP - Batch Detail History Reporting

The RMOHTP utility can be used for detail history tracking. RMOHTP tracks bundles and reports to a maximum of five stations using default data or data specified in control cards.

Job Control Statements

Specify the following JCL to execute RMOHTP:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the program name (PGM=RMOHTP) and, optionally, the high-level name of the CA-Deliver database as the PARM parameter (PARM='RMO. SYSTEM1')
STEPLIB DD	Identifies the load library that contains RMOHTP If the program resides in a linklist library, you can omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn*, where *nnn* represents a number that is a multiple of 121.
SYSIN DD	Specifies the name of the card image data set where the control statements you want to input are located
STATION*n* DD	Defines the 1–5 sequential data sets (where *n*=1–5) containing tracking data for posting reports and bundles at station *n* Parameters specified in this statement override default data.

Data Control Statement

The DATA control statement is used to specify the default user data for posting to the detailed data. If you do not specify a DATA control statement, the default user data for posting is the job name.

Syntax

```
DATA xxxxxxxxxxxx
```

where *xxxxxxxxxxxx* specifies a maximum of 12 characters of the user data.

DATE Control Statement

The DATE control statement is used to specify the default date for posting to the detailed historical data. If you do not specify a DATE control statement, the default date for the posting is the system date.

Syntax

```
DATE xxxxxxxxxx
```

where *xxxxxxxxxx* specifies the posting default date set in RMODFMT (for example, 02/20/00).

NAME Control Statement

The NAME control statement is used to specify the high-level name of the CA-Deliver database. If omitted, the high-level name specified as the PARM parameter on the EXEC JCL statement is used.

Syntax

```
NAME high-level-name
```

where *high-level-name* specifies the high-level name for the CA-Deliver database. It is comprised of one or more qualifiers separated by periods. The maximum length of the name is 17 characters. This operand is required.

TIME Control Statement

The TIME control statement is used to specify the default time for posting to the detailed historical data. If you do not specify a TIME control statement, the default time for the posting is the system time.

Syntax

```
TIME xxxxxxxx
```

where *xxxxxxxx* specifies the posting default time in an *hh:mm:ss* format (for example, 08:30:00).

Station Data

Station data defining the reports and bundles by station to be posted are input from sequential data sets defined by DD statements STATION*n* (for example, data for station 1 would be input from DD statement STATION1, STATION2, ...).

The records that read input contain the following fields:

Column	Contents
1–10	History detail number (HDN)
11	blank
12–21	Posting date in the RMODFMT default date format (for example, 10/17/99)
22	blank
23–30	Posting time in an *hh:mm:ss* format (for example, 10:30:24)
31	blank
32–43	User data

The history detail number is the only field of the record that is required. The default values as defined by the other control statements such as data and time are used for any field omitted from the record.

Example

To initiate the RMOHTP batch detail history tracking program, you execute the following job, which is located in RMOHTP in CAI.PPOPTION:

```
//EXAMPLE1 JOB ACCOUNT,PROGRAMMER
//TRACK    EXEC PGM=RMOHTP
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=A,DCB=BLKSIZE=121
//SYSIN    DD  *
NAME DELIVER.SYSTEM1
DATA BATCH
//STATION1 DD  *
0000230100
0000230200 10/23/94
//STATION2 DD  *
0000230100 10/23/94
0000230200 10/24/94
//
```

RMOIFMAP - Index File Mapping Utility

The RMOIFMAP diagnostic utility is used by Computer Associates Technical Support to assess reports of index errors in a CA-Deliver database. The output lists index levels, keys, and error conditions.

Sample JCL

To run RMOIFMAP, specify the following JCL:

```
//...      JOB...
//STEP1    EXEC PGM=RMOIFMAP,PARM='DELIVER.SYSTEM1'
//STEPLIB  DD DISP=SHR,DSN=CAI.CAILIB
//SYSPRINT DD SYSOUT=*
```

where:

DELIVER.SYSTEM1 is the high-level name of your CA-Deliver database

CAI.CAILIB is the name of the CAILIB that contains the RMOIFMAP program

If this library is link-listed, you can omit the STEPLIB DD statement.

The data written to SYSPRINT is the information that Computer Associates Technical Support needs to resolve your issue.

RMOJCL - Automatic Database Construction From JCL

RMOJCL automatically constructs the CA-Deliver database by scanning your job JCL library and adding job and report description data to the database. This utility allows you to quickly and easily construct your database so that you can immediately begin using the CA-Deliver system.

The utility reads job JCL, expands the cataloged and instream procedures, performs symbolic substitution, and scans the JCL for SYSOUT DD statements. It then adds data to the CA-Deliver database for each SYSOUT data set and produces a report detailing the SYSOUT data sets. Also, control statements are available to restrict the jobs processed and to omit certain types of SYSOUT DD statements.

Note: The maximum number of reports that the RMOJCL utility can process per job is 9999.

The data that is added to the CA-Deliver database consists of the following:

- Job name
- Step name
- Procedure step name
- DDname
- Report identifier
- Report type

Syntax

jobname-Rnn

where:

jobname	Specifies the name of the job containing the SYSOUT data set
Rnn	Specifies a numeric sequence number within the job starting with 01 and incremented by 1

Note: When *nn* exceeds 99, *R* is omitted from the report identifier; when *n* exceeds 999, the dash (-) is omitted.

For example, the first SYSOUT DD statement for job S27P35 would be assigned a report identifier of S27P35-R01, the second DD statement for the job would be assigned a report identifier of S27P35-R02, and so on.

The report type that is assigned is monitored data output.

User exit RMOJCLUX is available to review and/or modify the data prior to its being added to the database. For example, should you desire a different format for the report identifiers, you could apply a different format via the user exit. For more information, see the chapter "User Exits."

Note: The job JCL and associated cataloged procedures are assumed to be free of errors. As such, no indication is given when an error condition is encountered. For example, should the utility be unable to find a cataloged procedure, the utility continues along with the next input JCL statement as if no error had occurred.

Job Control Statements

Specify the following JCL to execute RMOJCL:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the program name (PGM=RMOJCL) and, optionally, the high-level name of the CA-Deliver database as the PARM parameter (PARM='*DELIVER.SYSTEM1*')
STEPLIB DD	Identifies the load library that contains RMOJCL If the program resides in a linklist library, you can omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn*, where *nnn* represents a number that is a multiple of 121.
JOBJCL DD	Defines the sequential or partitioned data set containing the JCL for the jobs to be input For a sequential data set, the jobs should be stacked together; for a partitioned data set, each member should contain one job with the member name equal to the name of the job. In both cases, the actual job name used is the one contained on the JCL JOB statement.
PROCLIB DD	Defines the cataloged procedure libraries Multiple libraries can be specified by concatenating the DD statements for the libraries. Be sure to specify all the libraries that can be required. The procedure libraries in use at your installation can be determined by examining the JCL procedure in SYS1.PROCLIB for starting JES2 or JES3.
SYSIN DD	Specifies the name of the card image data set where the control statements you want to input are located

- The keyword TEST can be coded as the second sub-parameter of the PARM field on the EXEC statement to indicate that a test run of the utility is to be made (for example, PARM='*DELIVER.SYSTEM1*,TEST'). A test run scans the JCL and produces a detailed report of the SYSOUT DD statements. No data, however, is actually added to the CA-Deliver database.
- The keyword CHECK can be coded as the second sub-parameter of the PARM field on the EXEC statement (for example, PARM='*DELIVER.SYSTEM1*,CHECK') to compare job definitions in the CA-Deliver database to the production JCL.

Note: An RMOJCL control statement must fit entirely on one card image. Continuations are not allowed.

EXCLUDE Control Statement

The EXCLUDE control statement is used to exclude a job from processing. Only one job can be specified per EXCLUDE control statement; however, as many statements as necessary can be used.

Syntax

```
EXCLUDE jobname
```

where *jobname* specifies the name of the job to be excluded.

The EXCLUDE function name can be abbreviated as E.

NAME Control Statement

The NAME control statement is used to specify the high-level name of the CA-Deliver database. If omitted, the high-level name specified as the PARM parameter on the EXEC JCL statement is used.

Syntax

```
NAME high-level-name
```

where *high-level-name* specifies the high-level name for the CA-Deliver database; it is composed of one or more qualifiers separated by periods. The maximum length of the name is 17 characters. This operand is required.

OMIT Control Statement

The OMIT control statement is used to omit specified types of SYSOUT DD statements from processing. As many statements as necessary can be used.

Syntax

```
OMIT ddname pgmname class
```

where:

ddname — Specifies the name of the DD statement to which the control statement applies

You can specify an asterisk to indicate that the control statement applies to all DD statements.

Pgmname — Specifies the program name, as in the PGM= parameter on the EXEC JCL statements, to which the OMIT control statement applies

If omitted, the control statement applies to all programs.

You can specify an asterisk to indicate that the control statement applies to all program names.

Class — Specifies the SYSOUT class to which the OMIT control statement applies

If omitted, the control statement applies to all SYSOUT classes.

The OMIT function name can be abbreviated as O.

Examples

To omit adding report definitions for any SYSPRINT DD statement written to by the IDCAMS utility, enter the following:

```
OMIT SYSPRINT IDCAMS
```

To omit adding report definitions for any SYSUDUMP DD statement, enter the following:

```
OMIT SYSUDUMP
```

SELECT Control Statement

The SELECT control statement is used to select a specific job for processing; any other job input to the utility but not also selected for processing is excluded from processing. You can specify only one job per SELECT control statement; however, you can use as many statements as necessary.

Syntax

```
SELECT jobname
```

where *jobname* specifies the name of the job to be selected.

The SELECT function name can be abbreviated as S.

Example

The production JCL library containing all the production jobs is named PROD.JCLLIB. All jobs other than TEST1, TEST2, and TEST47 in the library are processed by the utility and job, and report description data for the jobs is added to the CA-Deliver database. The cataloged procedure libraries that can be used by the production jobs are named SYS1.PROCLIB, PROD.PROCLIB, IPO1.PROCLIB, and TEST.PROCLIB. All SYSUDUMP and SYSABEND SYSOUT DD statements are omitted from the data added to the database.

The following job, which is located in RMOJCL in CAI.PPOPTION, is executed:

```
//EXAMPLE  JOB ACCOUNT,PROGRAMMER
//JCL      EXEC PGM=RMOJCL
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=A
//JOBJCL   DD  DSN=PROD.JCLLIB,DISP=SHR
//PROCLIB  DD  DSN=SYS1.PROCLIB,DISP=SHR
//         DD  DSN=PROD.PROCLIB,DISP=SHR
//         DD  DSN=IPO1.PROCLIB,DISP=SHR
//         DD  DSN=TEST.PROCLIB,DISP=SHR
//SYSIN    DD  *
NAME DELIVER.SYSTEM1
EXCLUDE TEST1
EXCLUDE TEST2
EXCLUDE TEST47
OMIT SYSUDUMP
OMIT SYSABEND
//
```

RMOJCS - Enhanced Database Construction from JCL

The RMOJCS utility automatically constructs the CA-Deliver database by scanning your job JCL library and adding job and report description data to the database.

This utility allows you to quickly and easily construct your database so that you can immediately begin using the CA-Deliver system. It is an enhancement of the original RMOJCL utility in that it uses the common component of CA-JCLCheck to scan your PROC and JCL libraries so that CA-JCKCheck is compatible with all of the latest changes in the Job Control Language.

Note: CA-JCLCheck's common component is packaged with CA-Deliver 1.7.

If both of the following conditions are true, you should continue to use the original RMOJCL utility:

- You are not using any of the new features of Job Control Language
- You need to omit SYSOUTs based on the program, or you wish to exclude SYSOUTs based on the program or PROC name in the RMOJCLUX user exit. (RMOJCS is unable to provide program and PROC names.)

The RMOJCS utility reads the JCL and calls CA-JCLCheck's common component to extract a list of the jobs, steps, procsteps, and SYSOUT DDs in the input data. It then adds the following data to the CA-Deliver database for each SYSOUT data set and produces a report detailing the SYSOUT data sets:

- Job name
- Step name
- Procedure step name
- DDname
- Report identifier
- Report type

Also, control statements are available to restrict the jobs processed and to omit certain types of SYSOUT DD statements. The maximum number of reports that the RMOJCS utility can process per job is 9999.

Syntax

Jobname-Rnn

where:

jobname	Specifies the name of the job that contains the SYSOUT data set
Rnn	Specifies the numeric sequence number within the job starting with 1 and incremented by 1 For example, the first SYSOUT DD statement for job S27P35 would be assigned a report identifier of S27P35-R01, the second DD statement for the job would be assigned a report identifier of S27P35-R02, and so on. **Note:** When *nn* exceeds 99, R is omitted from the report identifier; when *nnn* exceeds 999, the dash (-) is omitted.

The report type that is assigned is monitored data output.

The RMOJCLUX user exit is used to review and/or modify the data prior to its being added to the database. For example, if you want a different format for the report identifiers, you could change the format via the RMOJCLUX user exit. For more information, see the chapter "User Exits."

Note: The job JCL and associated cataloged procedures are assumed to be free of errors. As such, no indication is given when an error condition is encountered. For example, should the utility be unable to find a cataloged procedure, the utility continues along with the next input JCL statement as if no error had occurred.

Job Control Statements

Specify the following JCL to execute RMOJCS:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the name of the program (PGM=RMOJCS) and, optionally, the high-level name of the CA-Deliver database as the PARM parameter (PARM='*DELIVER.SYSTEM1*') To indicate that a test run of the utility is to be made, you can code the keyword TEST as the second sub-parameter of the PARM field on the EXEC statement, for example, PARM='*DELIVER.SYSTEM1*,TEST'. A test run scans the JCL and produces a detailed report of the SYSOUT DD statements. However, no data is actually added to the CA-Deliver database. To compare job definitions in the CA-Deliver database to the production JCL, you can code the keyword CHECK as the second sub-parameter of the PARM field on the EXEC statement, for example, PARM='*DELIVER.SYSTEM1*,CHECK'. When reports on jobs are found in the JCL but not in the CA-Deliver database, and vice versa, an error is flagged.
STEPLIB DD	Identifies the load library that contains RMOJCS If the program resides in a linklist library, you can omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn,* where *nnn* represents a number that is a multiple of 121.
JOBJCL DD	Defines the sequential or partitioned data set containing the JCL for the jobs to be input For a sequential data set, the jobs should be stacked together; for a partitioned data set, each member should contain one job with the member name equal to the name of the job. In both cases, the actual job name used is the one contained on the JCL JOB statement.

JCL	Description
PROCLIB DD	Defines the cataloged procedure libraries Multiple libraries can be specified by concatenating the DD statements for the libraries. Be sure to specify all of the libraries that can be required. The procedure libraries in use at your installation can be determined by examining the JCL procedure in SYS1.PROCLIB for starting JES2 or JES3.
SYSIN DD	Specifies the name of the card image data set where the control statements you want to input are located

EXCLUDE Control Statement

The EXCLUDE control statement is used to exclude a job from processing. Only one job can be specified per EXCLUDE control statement, however, as many statements as necessary can be used.

Syntax

```
EXCLUDE jobname
```

where *jobname* specifies the name of the job to be excluded.

The EXCLUDE function name can be abbreviated as E.

Important! *An RMOJCS control statement must fit entirely on one card image – continuations are not allowed.*

NAME Control Statement

The NAME control statement is used to specify the high-level name of the CA-Deliver database. If omitted, the high-level name specified as the PARM parameter on the EXEC JCL statement is used.

Syntax

```
NAME high-level-name
```

where *high-level-name* specifies the high-level name for the CA-Deliver database; it is composed of one or more qualifiers separated by periods. The maximum length of the name is 17 characters. This operand is required.

OMIT Control Statement

The OMIT control statement is used to omit specified types of SYSOUT DD statements from processing. As many statements as necessary can be used.

Syntax

```
OMIT ddname class
```

where:

ddname specifies the name of the DD statement to which the control statement applies. You can specify an asterisk to indicate that the control statement applies to all DD statements.

class specifies the SYSOUT class to which the OMIT control statement applies. If omitted, the control statement applies to all SYSOUT classes.

You can abbreviate the OMIT function name as O.

Examples:

To omit adding report definitions for any SYSPRINT DD statement written to class X, enter the following:

```
OMIT SYSPRINT X
```

To omit adding report definitions for any SYSUDUMP DD statement, enter the following:

```
OMIT SYSUDUMP
```

SELECT Control Statement

The SELECT control statement is used to select a specific job for processing; any other job input to the utility (but not also selected for processing) is excluded from processing. You can specify only one job per SELECT control statement, however, you can use as many statements as necessary.

Syntax

```
SELECT jobname
```

where *jobname* specifies the name of the job to be selected. You can abbreviate the SELECT function name as S.

Example:

The production JCL library containing all of the production jobs is named PROD.JCLLIB. All jobs other than TEST1, TEST2, and TEST47 in the library are processed by the utility. Job and report description data for the jobs is added to the CA-Deliver database. The procedure libraries that can be used by the production jobs are named SYS1.PROCLIB, PROD.PROCLIB, IP01.PROCLIB and TEST.PROCLIB. All SYSUDUMP and SYSABEND SYSOUT DD statements are omitted from the data added to the database.

The following job, which is member RMOJCS in CAI.PPOPTION, is executed:

```
//EXAMPLE    JOB ACCOUNT,PROGRAMMER
//JCL        EXEC PGM=RMOJCS
//STEPLIB    DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT   DD  SYSOUT=A
//JOBJCL     DD  DSN=PROD.JCLLIB,DISP=SHR
//PROCLIB    DD  DSN=SYS1.PROCLIB,DISP=SHR
//           DD  DSN=PROD.PROCLIB,DISP=SHR
//           DD  DSN=IPO1.PROCLIB,DISP=SHR
//           DD  DSN=TEST.PROCLIB,DISP=SHR
//SYSIN      DD  *
NAME  DELIVER.SYSTEM1
EXCLUDE  TEST 1
EXCLUDE  TEST 2
EXCLUDE  TEST 47
OMIT  SYSUDUMP
OMIT  SYSABEND
//
```

RMOPRE - Take Action on the Most Recently Produced Reports

Use the RMOPRE utility if you have CA-11 and want to use it with CA-Deliver.

The RMOPRE batch utility program allows CA-Deliver to take action on the most recently produced reports that were generated by specified steps **before** an actual rerun job is executed. Use this batch utility program to process the most recently produced reports.

Reports on which you can take action are:

- Bundle holding copies in spool
- Bundle holding copies placed in the CA-View database by a direct-to-SAR operation
- Non-bundled reports placed in the CA-View database by a direct-to-SAR operation

Note: You cannot take action on reports that the CA-View archival task has archived in the CA-View database.

You must execute RMOPRE on the same system where the CA-Deliver database you specify as a parameter to this utility program is located.

Important! *You must use RMORMS in the most recently produced job in order to use RMOPRE to back out reports. CA-Deliver will only back out reports from the database specified in the SAR= initialization parameter.*

Syntax

```
//prererun     EXEC PGM=RMOPRE,PARM='high-level-name'
//SYSIN        DD   *
  NAME         high-level-name
  JOBNAME      job-name
  JOBNUM       job-number
  FROM-STEP    jobstep.procedurestep
  TO-STEP      jobstep.procedurestep
  EXCLUDE      jobstep.procedurestep
  LSERV-INBSSN value
```

Using AFP ACIF to Archive Reports

The CA-View ACIF interface, which allows you to archive AFP reports, does not accept direct-to-SAR reports. You cannot, therefore, automatically back out direct-to-SAR AFP ACIF reports via the standard interface between CA-Deliver and CA-View.

Setting up CA-11 (at a system level) to run with CA-Deliver is described in *CA-Deliver Getting Started*. Options you can specify online (for example, delete, flag, and keep) are described in the *CA-Deliver Administrator Guide*.

Job Control Statements

Specify the following JCL to execute RMOPRE:

JCL	Description
EXEC	Specifies the name of the program (PGM=RMOPRE) and the PARM parameter The PARM parameter specifies the 1- to 17-character, high-level name of the CA-Deliver database where the parameters are specified.
SYSIN DD	Specifies the name of the data set where the rerun control statements you want to input are located

NAME Control Statement

The NAME control statement is used to specify the high-level name of the CA-Deliver database. CA-Deliver searches databases for reports in the order you specify the databases and uses the first database that contains the executing job definition.

You can specify NAME more than once.

If omitted, the high-level name specified as the PARM parameter on the EXEC JCL statement is used.

Syntax

```
NAME high-level-name
```

where *high-level-name* specifies the high-level name for the CA-Deliver database. It contains one or more qualifiers separated by periods. The maximum length of the name is 17 characters. This operand is required.

JOBNAME Control Statement

The JOBNAME control statement is used to specify the name of the job that produces the report or reports you will rerun.

Syntax

```
JOBNAME jobname
```

where *jobname* specifies the name of the job that produced the report or reports you will rerun.

JOBNUM Control Statement

The JOBNUM control statement is used to specify the number, assigned by JES to a job as it enters the system, that distinguishes one job from another.

Syntax

```
JOBNUM job-number
```

where *job-number* specifies the JES job number of the job that produced the report or reports you will rerun.

FROM-STEP Control Statement

The FROM-STEP control statement is used to specify the job step and procedure step from which you want to rerun a job. The FROM-STEP you specify must be a step defined in the CA-Deliver job definition.

This control statement is optional. If omitted, the first step in the CA-Deliver job definition is used.

Syntax

```
FROM-STEP jobstep,procstep
```

where *jobstep,procstep* specifies the job step and the procedure step from which you want to rerun the job specified by the preceding JOB control statement. Specifying the procedure step is optional.

TO-STEP Control Statement

The TO-STEP control statement is used to specify the job step and procedure step to which you want to rerun a job. The TO-STEP you specify must be a step defined in the CA-Deliver job definition.

This control statement is optional. If omitted, the last step in the CA-Deliver job definition is used.

Syntax

```
TO-STEP jobstep,procedurestep
```

where *jobstep,procedurestep* specifies the job step and procedure step to which you want to rerun the job specified by the preceding JOB control statement. Specifying the procedure step is optional.

EXCLUDE Control Statement

The EXCLUDE control statement is used to exclude a step from processing.

You can specify EXCLUDE more than once.

Syntax

```
EXCLUDE jobstep,procedurestep
```

where *jobstep,procedurestep* specifies the job step and procedure step you want to exclude. Specifying the procedure step is optional.

LSERV-INBSSN Control Statement

The LSERV-INBSSN control statement is used to specify that CA-11 calls the CA-Balancing rerun interface routine. If omitted, this utility does not back out CA-Balancing data for corresponding CA-Deliver reports.

Syntax

```
LSERV-INBSSN value
```

where *value* specifies a 4-digit or 4-character (alphanumeric) CA-L-Serv identifier, which identifies the subsystem name of the CA-L-Serv that manages the CA-Balancing database.

For more information, see the *CA-Balancing System Guide,* the *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

Example

The following is an example that illustrates how to use RMOPRE:

```
//PRERERUN     EXEC PGM=RMOPRE,PARM='DELIVER.SYSTEM1'
//RMOJTAB      DD   DSN=RMO.RMOJTAB,DISP=SHR
//SYSIN        DD   *
  NAME         DELIVER.SYSTEM1
  JOBNAME      JOB123
  JOBNUM       1097
  FROM-STEP    STEP1.PROC1
  TO-STEP      STEP9
  EXCLUDE      STEP3.PROC1
  LSERV-INBSSN INB1
```

Using CA-Deliver With Page and Form Definitions

This section tells you what happens to, and how to accommodate reports defined by page and form definition resources when those reports are placed under the control of CA-Deliver.

You define page (PAGEDEF) and form (FORMDEF) definition resources that are specifically suited to the particular SYSOUT data produced by your application program. When you place this SYSOUT data under the control of CA-Deliver, CA-Deliver inserts banner pages before and after the SYSOUT data.

AFP software is unable to distinguish between a banner page and original SYSOUT; therefore, AFP software processes banner pages according to the page and form definition resources you defined and intended for the original SYSOUT data. As a result, CA-Deliver banner pages are output in an unexpected format.

Note: Page and form definition resources are stored in data sets in libraries such as SYS1.PDEFLIB and SYS1.FDEFLIB, which are allocated to the AFP PSF started task.

Page and Form Definition Options

If your page and form definitions are affecting the SYSOUT data in your CA-Deliver reports, you can do the following:

- Suppress the output of CA-Deliver banner pages by entering an asterisk in the BANNER field on the Report Definition Attributes panel.
- Define your own in-stream AFP (Authorized Program Facility) commands embedded in X'5A' (Hex Five Able) records in the banner pages.
- Use RMOPSF, a stand-alone utility to modify members in which PAGEDEF and FORMDEF resources are defined or to create new members in which changes that accommodate CA-Deliver banner pages are defined.

The last choice is the more viable because, in most cases, you need to print banner pages with your report and defining your own in-stream AFP commands in X'5A' records requires extra effort.

How RMOPSF Works

RMOPSF accommodates CA-Deliver banner pages as follows:

- Inserts a model data map (page format) or medium map (copy group) labeled $BANNER—which exactly matches your CA-Deliver banner pages—into the member in which your PAGEDEF and FORMDEF are defined
- Copies the first data or medium map into the same member and labels it $$FIRST (an update in place is achieved by using the same data set name for the old and new DDnames in the JCL for RMOPSF; a modified copy is created when the data set names differ)

$BANNER and $$FIRST

$BANNER and $$FIRST are not names of FORMDEF or PAGEDEF members, but internal labels in PAGEDEF and FORMDEF members.

Sample banner pages that contain these X'5A' records are provided with CA-Deliver in members TSTBNDL, TSTDIST, and TSTRPT in the library CAI.CAIMBP.

X'5A' records and the $BANNER and $$FIRST labels are included at the top and the bottom of each separator page between the statements /BEGSEP and /ENDSEP.

Using RMOPSF to Correct Banner Page Problems

To use RMOPSF to correct CA-Deliver banner page problems, do the following:

1. Determine the PAGEDEF or FORMDEF resource you want to use as a model; ensure that it will correctly format the banner page you will use.

   Note: You can create a PAGEDEF or FORMDEF in a new member or use a PAGEDEF or FORMDEF defined in a member that IBM provides.

2. Prepare the JCL code that executes RMOPSF: include the MDLFDEF or MDLPDEF control statement to specify the name of the model you want to use, and include the SELECT control statement to prevent all members in the input library from being processed.
3. Execute the RMOPSF job.
4. Did you allocate the output library for RMOPSF to the AFP PSF task (does the new library data set name differ from the old library data set name)?
   - If no, go to step 5.
   - If yes, copy your modified PAGEDEF or FORMDEF resource to a library allocated to the AFP PSF.
5. Will you use the banners TSTBNDL, TSTDIST, and TSTRPT provided with CA-Deliver?
   - If yes, go to step 6.
   - If no, insert the $BANNER IMM and IDM at the top of your banner page, insert the $$FIRST IMM and IDM at the bottom of your banner page, and then load your new banners into the CA-Deliver database with the RMODBASE utility BLOAD control statement.

   WARNING! *Do not insert $BANNER and $$FIRST records into banner pages stored in AFP resources; instead, modify banner pages stored in the CA-Deliver database.*

   Note: You do not need to recycle the CA-Deliver started task to load these members.

6. Did you change or add the name of any member in CAI.CAIMBP when you loaded it?

   - If no, go to step 7.
   - If yes, enter the new name of the members in the BANNER field of the Report Definition Attributes online panel or the Bundle Definition Attributes online panel for the report or reports that will use the modified PAGEDEF or FORMDEF.

     Note: You can also specify the new names by resetting the initialization parameters BANNER, BNDLBNR1, BNDLBNR2, BNDLBNR3, and so on, but you must recycle the CA-Deliver started task to reset initialization parameters.

7. Execute the job that generates your CA-Deliver report.

   When the report is printed by the AFP subsystem, the special commands in the banners switch to the data map or medium map with the $BANNER label to print the start banner page, switch to the page format or overlay group with the $$FIRST label to print the report data, and then switch back to the $BANNER label to print the end banner page.

   Note: RMOPSF supports a wide range of page and form definition resources but not all. For example, page and form definition resources that contain conditional logic are not currently supported.

RMOPSF - Form and Page Definition Modification

The utility program RMOPSF in CAI.CAILIB modifies form and page definitions to allow CA-Deliver banner pages to be printed with different characteristics than their corresponding reports when printed on an AFP page printer.

Examples of characteristics effected are notations and overlaps. This utility does this by taking an existing FORM or PAGE definition that contains a single medium map or data map and adds that medium map or data map to each FORM or PAGE definition selected by the utility.

Contents of FORMDEF and PAGEDEF

A FORMDEF consists of one or more medium maps and a PAGEDEF consists of one or more data maps. You can reference these maps by adding an Invoke Data Map (IDM) structured field or an Invoke Medium Map (IMM) structured field into your application program.

If IDM or IMM is omitted, the first map within the FORMDEF or PAGEDEF is automatically used.

Note: The IBM publication *PRINT SERVICES Facility Data Stream Reference*, part number SH35-0073-02, contains more information.

Example of Control Statements: ASCII

The following illustration depicts what the IMM and IDM control statements look like on the banner page in ASCII format:

```
******************************** TOP OF DATA ********************************
/BEGSEP
!..L.....$BANNER              SET COPY-GROUP (INVOKE MEDIUM MAP)
!..L     $BANNER              SET PAGE-FORMAT (INVOKE DATA MAP)
1* START BUNDLE ****************************************************************
 * START BUNDLE ***************************                DELIVER
 * START BUNDLE ***************************   REPORT DISTRIBUTION AND TRACKING
 * START BUNDLE ***************************
 * START BUNDLE ***************************                BUNDLE BANNER
 * START BUNDLE ****************************************************************
```

Example of Control Statements: Hexadecimal

The following illustration depicts what the IMM and IDM control statements look like on the banner page in hexadecimal format.

```
******************************** TOP OF DATA ********************************

 ------------------------------------------------------------------------------
/BEGSEP
6CCCECD4444444444444444444444444444444444444444444444444444444444444444444444
125725700000000000000000000000000000000000000000000000000000000000000000000000
 ------------------------------------------------------------------------------
!..L.....$BANNER              SET COPY-GROUP (INVOKE MEDIUM MAP)
501DAC0005CCDDCD44444444444444ECE4CDDE6CDDED44CDEDDC4DCCCED4DCD5444444444444444
A003BC001B21555900000000000000253036780796470D9556250454944041 7D0000000000000000
------------------------------------------------------------------------------
!..L.....$BANNER              SET PAGE-FORMAT (INVOKE DATA MAP)
501DAC0005CCDDCD44444444444444ECE4DCCC6CDDDCE44CDEDDC4CCEC4DCD54444444444444444
A003BA002B21555900000000000000253071750669413 0D955625041310417D0000000000000000
------------------------------------------------------------------------------
1* START BUNDLE ***************************************************************
F54EECDE4CEDCDC455555555555555555555555555555555555555555555555555555555555555
1C023193024543 50CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
------------------------------------------------------------------------------
 * START BUNDLE ****************************                  DELIVER
454EECDE4CEDCDC45555555555555555555555555444444444444DDCECCD6ED6CCDCECD44444
0C023193024543 50CCCCCCCCCCCCCCCCCCCCCCCCCCCC000000000000795519317704539559000 00
------------------------------------------------------------------------------
 * START BUNDLE ****************************   REPORT DISTRIBUTION AND TRACKING
454EECDE4CEDCDC4555555555555555555555555555444DCDDDE4CCEEDCCEECDD4CDC4EDCCDCDC
0C023193024543 50CCCCCCCCCCCCCCCCCCCCCCCCCCCC000957693049239924396501540391329 57
------------------------------------------------------------------------------
 * START BUNDLE ****************************
454EECDE4CEDCDC45555555555555555555555555444444444444444444444444444444444444
0C023193024543 50CCCCCCCCCCCCCCCCCCCCCCCCCCCC000000000000000000000000000000000000
------------------------------------------------------------------------------
```

Job Control Statements

Specify the following JCL to execute RMOPSF:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the program name (PGM=RMOPSF)
STEPLIB DD	Identifies the load library that contains RMODBASE If the program resides in a linklist library, you can omit this statement.

JCL	Description
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn*, where *nnn* represents a number that is a multiple of 121.
SYSUT1 DD	Defines the work disk space
SYSUT2 DD	Defines the work disk space
PDEFOLD DD	Defines the existing PAGE definition library
PDEFNEW DD	Defines the converted PAGE definition library
FDEFOLD DD	Defines the existing FORM definition library
FDEFNEW	Defines the converted FORM definition library

MDLFDEF and MDLPDEF Control Statements

The MDLFDEF and MDLPDEF control statements are used to indicate the FORM or PAGE definition that contains the medium map or data map format used when printing the banner page. This medium map or data map is given the name $BANNER and is inserted to the selected members. The model name is required only when you do not specify REMOVE; however, its use is recommended because the model name member is excluded from processing.

Syntax

```
MDLFDEF model
```

where *model* specifies the member of the FORM or PAGE definition library you want to use for printing the banner page. You must copy the model from the "old" to the "new."

REMOVE Control Statement

The REMOVE control statement is used to indicate whether to add or remove the changes to the FORM or PAGE definition. If omitted, no is used by default.

Syntax

```
REMOVE option
```

where *option* specifies either yes (Y, remove) or no (N, add).

EXCLUDE Control Statement

The EXCLUDE control statement is used to exclude a definition from processing. Only one definition can be specified per EXCLUDE control statement; however, as many statements as necessary can be used. The EXCLUDE statement must be preceded by the model control statement or it is ignored.

Syntax

```
EXCLUDE member
```

where *member* specifies the name of the definition to be excluded.

The EXCLUDE function name can be abbreviated as E.

SELECT Control Statement

The SELECT control statement is used to select a specific definition for processing; any other definition input to the utility but not also selected for processing is excluded from processing. Only one definition can be specified per SELECT control statement; however, as many statements as necessary can be used.

Syntax

```
SELECT member
```

where *member* specifies the name of the definition to be selected.

The SELECT function name can be abbreviated as S.

Note: The SELECT, EXCLUDE, and REMOVE statements must be preceded by a MODEL control statement or it is ignored. The SELECT and EXCLUDE statements are mutually exclusive.

Example

The PAGE definition from library member ESIMODEL is copied to all members in SYS1.USER.PDEFLIB except USER1, creating a new library SYS1.USER.PDEFLIB1. Also, the model MEDIA MAP added to FORM definition F1BANNER in SYS1.USER.FDEFLIB is removed.

The following job is executed:

```
//EXAMPLE  JOB ACCOUNT,PROGRAMMER
//JCL      EXEC PGM=RMOPSF
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=A
//SYSUT1   DD  DSN=&&WRK1,UNIT=SYSDA,SPACE=(TRK,(15,1))
//SYSUT2   DD  DSN=&&WRK2,UNIT=SYSDA,SPACE=(TRK,(15,1))
//PDEFOLD  DD  DSN=SYS1.USER.PDEFLIB,DISP=OLD
//PDEFNEW  DD  DSN=SYS1.USER.PDEFLIB1,DISP=(,CATLG),
// UNIT=3380,VOL=SER=MVS001,SPACE=(TRK,(5,1,5))
//FDEFOLD  DD  DSN=SYS1.USER.FDEFLIB,DISP=SHR
//FDEFNEW  DD  DSN=SYS1.USER.FDEFLIB,DISP=OLD
//SYSIN    DD  *
MDLPDEF ESIMODEL
EXCLUDE USER1
MDLFDEF
SELECT F1BANNER
REMOVE YES
/*
//
```

RMORAP - Activating and Deactivating Reports From Batch

The RMORAP utility can be used to activate or deactivate reports from a batch job or started task. An *active report* is one that is scheduled to be produced during the current daily cycle. RMORAP is designed to accept input data directly from any of the job scheduling systems available.

Two types of data can be input to the utility:

- A list of job names

  When given a list of job names as input, the program activates/deactivates all the reports produced by the specified jobs.

- A list of report identifiers

  When given a list of report identifiers as input, the program activates/deactivates only those specific reports.

When both types of data are input to the program at the same time, both types of activation/deactivation are done. When a report to be bundled is activated/deactivated, the bundles for the report are also activated/deactivated. For RMORAP requests, the job does not complete until the actual update of the checkpoint has occurred.

WARNING! *If you are using an authorization security exit or table and you try to activate/deactivate a report for which you are not authorized, the message "AUTHORIZATION FAILED" displays in the message area.*

Reports can be automatically activated at the start of each new daily cycle via the RMORAP program by doing the following:

1. Create the start procedure JCL.
2. Specify the name of the start procedure with the START initialization parameter statement.

All input data to the procedure must be created prior to the time when the procedure is to be automatically started.

Important! *The CA-Deliver started task must be executing on the same operating system as all batch and online facilities that access checkpoint data detail and historical data, as well as facilities you use to delete definitions for these batch and online facilities to work.*

Job Control Statements

Specify the following JCL to execute RMORAP:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the program name (PGM=RMORAP) and, optionally, the high-level name of the CA-Deliver database as the PARM parameter (PARM='DELIVER.SYSTEM1')
STEPLIB DD	Identifies the load library that contains RMORAP If the program resides in a linklist library, you can omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn,* where *nnn* represents a number that is a multiple of 121.
JOBACT DD	Defines the sequential data set containing the names of the jobs whose reports are to be activated or deactivated The data set can contain fixed or variable records of any length. You can omit this DD statement if job names are not to be input to the program.

JCL	Description
RPTACT DD	Defines the sequential data set containing the identifiers of the reports to be activated/deactivated The data set can contain fixed or variable records of any length. You can omit this DD statement if report identifiers are not to be input to the program.
SYSIN DD	Specifies the name of the card image data set where the control statements you want to input are located

Important! *You must use either JOBACT DD or RPTACT DD but not both. RMORAP control statements must fit entirely on one card image. Continuations are not allowed.*

JOB Control Statement

The JOB control statement is used to specify the format of the records containing the job names as input to the program. The default input format that is used if no control statement is provided is one job name per input record located in column 1 of the record.

Syntax

```
JOB nn1 nn2...
```

where *nn1* and *nn2* specify the position within the record (beginning with 1) of the job name. Multiple positions can be specified when more than one job name is contained in a record.

NAME Control Statement

The NAME control statement is used to specify the high-level name of the CA-Deliver database.

If omitted, the high-level name specified as the PARM parameter on the EXEC JCL statement is used.

Syntax

```
NAME high-level-name
```

where *high-level-name* specifies the high-level name for the CA-Deliver database. It is comprised of one or more qualifiers separated by periods. The maximum length of the name is 17 characters. This operand is required.

REPORT Control Statement

The REPORT control statement is used to specify the format of the records containing the report identifiers as input to the program. The default input format that is used if no control statement is provided is one report identifier per input record located in column 1 of the record.

Syntax

```
REPORT nn1 nn2
```

where *nn1* and *nn2* specify the position within the record (beginning with 1) of the report identifier. Multiple positions can be specified when more than one report identifier is contained in a record.

TYPE Control Statement

The TYPE control statement is used to specify the type of processing to be performed, for example, report activation or deactivation. If omitted, report activation is performed.

Syntax

```
TYPE x
```

where *x* specifies a 1- or 2-character code:

- A = performs report activation
- U = performs report deactivation
- UF = forces report deactivation in all cases

Note: Forced inactivation should only be used as a last resort to clean up entries in the database; bundle holding copies can be left on the spool volumes.

Examples

The data set RMO.JOBACT contains a list of jobs with activated reports. The names of the jobs are located in positions 1, 21, and 41 of the records as shown below:

```
//EXAMPLE  JOB ACCOUNT,PROGRAMMER
//RAP      EXEC PGM=RMORAP
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=A
//JOBACT   DD  DSN=RMO.JOBACT,DISP=SHR
//SYSIN    DD  *
NAME DELIVER.SYSTEM1
JOB 1 21 41
//
```

The following job deactivates the reports for the same list of jobs:

```
//EXAMPLE  JOB ACCOUNT,PROGRAMMER
//RAP      EXEC PGM=RMORAP
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=A
//JOBACT   DD  DSN=RMO.JOBACT,DISP=SHR
//SYSIN    DD  *
NAME DELIVER.SYSTEM1
TYPE U
JOB 1 21 41
//
```

RMORMS - Using CA-11 With CA-Deliver

Use the RMORMS utility if you have CA-11 and want to use it with CA-Deliver.

Once started, this batch utility program takes action on the most recently produced reports. Reports on which you can take action are as follows (you cannot take action on reports that CA-View has archived in the CA-View database):

- Bundle holding copies in spool
- Bundle holding copies placed in CA-View database by a direct-to-SAR operation
- Nonbundled reports placed in the CA-View database by a direct-to-SAR operation

Important! *CA-Deliver will only back out reports from the database specified in the SAR= initialization parameter.*

If you use CA-11, you must execute RMORMS instead of UCC11RMS or U11RMS as the first step in your job.

Syntax

```
//step1  EXEC PGM=RMORMS,PARM='high-level-name,CA-11-parms'
//RMONETn   DD   SYSOUT=x,DEST=dest,...,FREE=CLOSE
//RMSPARMS  DD   DSN=name,DISP=SHR
//SYSPRINT  DD   *
```

where *high-level-name* represents the name of the CA-Deliver database.

Using AFP ACIF to Archive Reports

The CA-View ACIF interface, which allows you to archive AFP reports, does not accept direct-to-SAR reports. You cannot, therefore, automatically back out direct-to-SAR AFP ACIF reports via the standard interface between CA-Deliver and CA-View.

For more information about setting up CA-11 (at a system level) to run with CA-Deliver, see *CA-Deliver Getting Started*.

Job Control Statements

Specify the following JCL to execute RMORMS:

JCL	Description
EXEC	Specifies the program name (PGM=RMORMS) and the PARM parameter The PARM parameter specifies a single 1- to 17-character, high-level name of a CA-Deliver database and the CA-11 program step parameters.
RMONET*n* DD	Specifies the destination to which the SYSOUT data set is sent The SYSOUT class, destination, and forms you specify must match the class, destination, and forms you specify for the SYSOUT that goes to the remote destination. Do not specify this job control statement if CA-11 and CA-Deliver are not executing on the same operating system.
RMSPARMS DD	Specifies the name of the data set in which the rerun control statements are to be input This job control statement is optional.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which the audit trail Rerun Processing Status report is to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn,* where *nnn* represents a number that is a multiple of 121. This job control statement is optional.

NAME Control Statement

The NAME control statement is used to specify the high-level name of the CA-Deliver database. You can specify NAME more than once.

Syntax

```
NAME high-level-name
```

where *high-level-name* represents the name of the CA-Deliver database.

FROM-NODE Control Statement

The FROM-NODE control statement is used to specify the name of the originating node on which CA-11 runs. Use NET-AND-LOCAL to indicate that your job outputs SYSOUT data sets to both the local and the remote CA-Deliver.

Syntax

```
FROM-NODE JES2-JES3-node-where-CA-11-runs NET-AND-LOCAL
```

where *JES2-JES3-node-where-CA-11-runs* represents the name of the originating destination on which CA-11 runs.

LSERV-INBSSN Control Statement

The LSERV-INBSSN control statement is used to specify that CA-11 is to call the CA-Balancing rerun interface routine. If omitted, this CA-Deliver utility does not back out CA-Balancing data for corresponding CA-Deliver reports.

Syntax

```
LSERV-INBSSN value
```

where *value* specifies a four-digit or four-character (alphanumeric) CA-L-Serv identifier, which identifies the subsystem name of the CA-L-Serv that manages the CA-Balancing database.

CA-Balancing is described in the *CA-Balancing System Guide*. CA-L-Serv is described in the *CA-L-Serv for MVS: Installation and Configuration Guide* and *CA-L-Serv for MVS: SQL Server Guide*.

Example

The following shows how to use RMORMS:

```
//step1  EXEC PGM=RMORMS,PARM='DELIVER.SYSTEM1'
//RMONET1   DD   SYSOUT=x,DEST=dest,FREE=CLOSE
//RMSPARMS  DD   DSN=RMO.RMSPARMS,DISP=SHR
//SYSPRINT  DD   *
```

Rerun Processing Status Report

The RMORMS utility program, which allows you to use CA-Deliver with CA-11, creates a status report at the end of the JES job log on the system on which CA-Deliver executes. The Rerun Processing Status report provides you with an audit trail of rerun jobs.

```
04/28/2000 15:08:09                CA-DELIVER                              PAGE   1
RMORMS                       RERUN PROCESSING STATUS

JOBID    JOB STEP PROC STEP DD NAME  REPORT ID    STATUS
-------- -------- --------- -------- ------------ ------------------------------
JOB05163 JSN1     PSN2      SYSUT2   ACCOUNT1     DELETED

JOB05163 JSN1     PSN2      SYSUT2   ACCOUNT2     FLAGGED

JOB05163 JSN2               SYSUT2   ACCOUNT3     FLAGGED

JOB05163 JSN2               SYSUT2   ACCOUNT3     FLAGGED

JOB05163 JSN3               SYSUT2   ACCOUNT4     SPOOL COPY ALREADY QUEUED, BUT
                                                     SAR OR BUNDLE HOLDING COPY
                                                     FLAGGED

JOB05163 JSN3               SYSPRINT ACCOUNT5     SPOOL COPY ALREADY QUEUED, BUT
                                                     SAR OR BUNDLE HOLDING COPY
                                                     DELETED
```

Fields

The following table describes the fields on the Rerun Processing Status report:

Field Name	Action
JOBID	Specifies the number that JES assigns to the job
JOB STEP	Specifies the name of the job step in the DD statement to which the report applies
PROC STEP	Specifies the procedure step in which the DD statement for the report is found
DD NAME	Specifies the 1–8 character name of the DD statement to which the report is written
REPORT ID	Specifies the 1–12 character name that identifies the report
STATUS	Provides the current status of the report

RMORPT - Batch Reporting

The RMORPT program is a general purpose reporting utility that provides hard copy printout of information in the CA-Deliver database. The RMORPT program provides the following functions:

- Report listing by job name
- Report listing by report identifier
- Report of distribution detail data by distribution identifier
- Report identifier cross-reference by distribution identifier
- Active report listing
- Active bundle listing
- Bundle listing by bundle identifier
- Banner page, printer setup, and online panel member listing

Job Control Statements

Specify the following JCL to execute RMORPT:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the program name (PGM=RMORPT) and, optionally, the high-level name of the CA-Deliver database as the PARM parameter (PARM='RMO. SYSTEM1')
STEPLIB DD	Identifies the load library that contains RMORPT If the program resides in a linklist library, you can omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn*, where *nnn* represents a number that is a multiple of 121.
SORTLIB DD	Defines the load library containing the sort library programs This DD statement is only necessary when producing report 4.

JCL	Description
SORTWK01 DD	Defines sort work disk space This DD statement is only necessary when producing report 4.
SORTWK02 DD	Defines sort work disk space This DD statement is only necessary when producing report 4.
SORTWK03 DD	Defines sort work disk space This DD statement is only necessary when producing report 4.
SYSOUT DD	Defines the sort message data set This DD statement is only necessary when producing report 4.
SYSIN DD	Specifies the name of the card image data set where the control statements you want to input are located

NAME Control Statement

The NAME control statement is used to specify the high-level name of the CA-Deliver database.

If omitted, the high-level name specified as the PARM parameter on the EXEC JCL statement is used. The NAME control statement applies to all control statements following it until another NAME control statement is encountered.

Syntax

```
NAME high-level-name
```

where *high-level-name* specifies the high-level name for the CA-Deliver database. The name contains one or more qualifiers separated by periods. The maximum length of the name is 17 characters. This operand is required.

REPORT Control Statement

The REPORT control statement specifies the number of the report to be produced.

Syntax

```
REPORT nn
```

where *nn* specifies the number of the report (1–10) to be produced. This operand is required.

Report Listing by Job

Use the RMORPT utility REPORT 1 control statement to obtain a report listing by job. This report provides a listing of job name, step name, procedure step name, DDname, report identifier, and report type. Job names are printed in ascending sequence followed by the report identifiers. Each report identifier occupies a separate print line.

Report Listing by Report Identifier

You can use the RMORPT utility REPORT 2 control statement to print a report listing by report identifier. This report provides a listing of report identifier, job name, step name, proc step, DDname, and distribution identifier. Report identifiers are printed in ascending sequence followed by the respective distribution identifiers. Grouped distribution identifiers appear horizontally on the print line with each new group starting on a new line.

Report of Distribution Detail Data by Distribution Identifier

Use the RMORPT utility REPORT 3 control statement to print a report listing of distribution detail data by distribution identifier. This report provides a listing of distribution identifier, destination, class, and distribution data. Distribution identifiers print in ascending sequence followed by the distribution detail lines (one per line).

Report Identifier Cross-Reference by Distribution Identifier

Use the RMORPT utility REPORT 4 control statement to print a listing of distribution identifiers and their related report identifiers. The distribution identifiers print in ascending sequence with the cross-referenced report identifiers printing horizontally on the page.

Active Report List

Use the RMORPT utility REPORT 5 control statement to print a listing of active reports. This report provides a listing of the active report identifiers and their job name, job ID, bundle identifier, external writer name of the bundle holding copy, system identifier, job status, and exception indicator. The listing appears in sequential order by report identifier.

Active Bundle List

Use the RMORPT utility REPORT 6 control statement to print a listing of active bundles. This report provides a listing of the active bundle identifiers and their system identifier, batch submission indicator, status, and exception indicator. The listing appears in sequential order by bundle identifier.

Bundle Listing by Bundle Identifier

Use the RMORPT utility REPORT 7 control statement to print a listing of bundle definitions by bundle identifier. This report provides a listing of bundle identifier, model banner page names, distribution identifier for the bundle, late time, bundling interval, submit indicator, report identifiers, and distribution identifiers.

Banner Page Member List

Use the RMORPT utility REPORT 8 control statement to print a listing of banner page members, including the date stored, time stored, and the number of records.

Printer Setup Member List

Use the RMORPT utility REPORT 9 control statement to print a listing of printer setup members, including the date stored, time stored, and the number of records.

Online Panel Member List

Use the RMORPT utility REPORT 10 control statement to print a listing of online panel members, including the date stored, time stored, and the number of records.

Examples

To produce a listing of each of the reports, execute the following job, which is located in RMORPT in CAI.PPOPTION:

```
//EXAMPLE1 JOB ACCOUNT,PROGRAMMER
//REPORT   EXEC PGM=RMORPT
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=A,DCB=BLKSIZE=121
//SORTLIB  DD  DSN=SYS1.SORTLIB,DISP=SHR
//SORTWK01 DD  UNIT=SYSDA,SPACE=(CYL,(5))
//SORTWK02 DD  UNIT=SYSDA,SPACE=(CYL,(5))
//SORTWK03 DD  UNIT=SYSDA,SPACE=(CYL,(5))
//SYSOUT   DD  SYSOUT=A
//SYSIN    DD  *
NAME DELIVER.SYSTEM1
REPORT 1
REPORT 2
REPORT 3
REPORT 4
REPORT 5
REPORT 6
REPORT 7
REPORT 8
REPORT 9
REPORT 10
//
```

At the end of the current daily cycle, a hard copy list of active reports and bundles is printed. Execute the previous job using report 5 and 6 only:

```
//EXAMPLE2 JOB ACCOUNT,PROGRAMMER
//LIST     EXEC PGM=RMORPT
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=A,DCB=BLKSIZE=121
//SYSIN    DD  *
NAME DELIVER.SYSTEM1
REPORT 5
REPORT 6
//
```

RMORXB - Rebuilding Cross-Reference Records

RMORXB is a batch utility used to rebuild cross-reference records.

The CA-Deliver database contains cross-reference records that maintain the relationship between distribution identifiers and reports, distribution identifiers and bundles, and distribution identifiers and distribution lists. On rare occasions, the cross-reference records may get out of synch due to abends or system outages. The RMORXB will rebuild these cross-reference records.

Job Control Statements

The following JCL is required to execute RMORXB:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the program name (PGM=RMORXB) and the high-level name of the CA-Deliver database as the PARM parameter (PARM='DELIVER.SYSTEM1')
STEPLIB DD	Defines the load library containing RMORXB If the program resides in a linklist library, omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which the report listing is to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn,* where *nnn* represents a number that is a multiple of 121.
SORTLIB DD	Defines the load library containing the sort library programs
SORTWK01 DD	Defines sort work disk space
SORTWK02 DD	Defines sort work disk space
SORTWK03 DD	Defines sort work disk space
SYSOUT DD	Defines the sort message data set

Example

To produce report cross references for distribution identifiers, execute the following job which is located in RMORXB in CAI.PPOPTION:

```
//EXAMPLE1 JOB ACCOUNT,PROGRAMMER
//STEP1    EXEC PGM=RMORXB,PARM='DELIVER.SYSTEM1'
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSPRINT DD  SYSOUT=A
//SORTLIB  DD  DSN=SYS1.SORTLIB,DISP=SHR
//SORTWK01 DD  UNIT=SYSDA,SPACE=(CYL,(5))
//SORTWK02 DD  UNIT=SYSDA,SPACE=(CYL,(5))
//SORTWK03 DD  UNIT=SYSDA,SPACE=(CYL,(5))
//SYSOUT   DD  SYSOUT=A
//
```

RMOUTIL - Migration Support

The RMOUTIL program is used to copy, delete, or rename bundle, distribution, job, and report definitions. The utility was designed to simplify the process of migrating or propagating database records between CA-Deliver databases.

Important! *The CA-Deliver started task must be executing on the same operating system as all batch and online facilities that access checkpoint data detail, historical data, as well as facilities you use to delete definitions for these batch and online facilities to work.*

Rule for Updating Active Definitions

You can use RMOUTIL to update definitions while the CA-Deliver started task is executing and accessing the database you specified for RMOUTIL. You cannot, however, update an active definition with RMOUTIL.

Do not update a definition when that definition is active (displayed as ACTIVE on the Report Panel) or is being used by an executing application job.

Job Control Statements

Specify the following JCL to execute RMOUTIL:

JCL	Description
JOB	Initiates the job
EXEC	Specifies the program name (PGM=RMOUTIL) and, optionally, the high-level name of the CA-Deliver sending database at the PARM parameter (PARM='RMO.SYSTEMl')
STEPLIB DD	Identifies the load library that contains RMOUTIL If the program resides in a linklist library, you can omit this statement.
SYSPRINT DD	Identifies the sequential output data set (normally the SYSOUT) to which control statements and messages are to be sent If you do not specify a SYSOUT data set, you must specify DCB=BLKSIZE=*nnn,* where *nnn* represents a number that is a multiple of 121.
SYSIN DD	Specifies the name of the card image data set where the control statements you want to input are located

COPY Control Statement

The COPY control statement is used to copy database definitions from a sending database to a receiving database. The COPY control statement supports the copying of bundle, distribution, job, and report data. All copied definitions maintain the original access information, last modified date, last modified time, and last user to modify. The sending database and receiving data are defined via the FROM and TO keywords of the NAME control statement, respectively.

Restrictions and Limitations

Due to the interconnections of database records and integrity of database operations, certain restrictions or limitations are imposed on the copy process.

Database Record	Copy Restrictions/Limitations
Bundle records	■ If the bundle record previously exists on the receiving database, the bundle record is replaced. ■ Bundle distribution identifiers that do not exist in the receiving database are added to the receiving database. ■ Bundle report identifiers that do not exist in the receiving database are not copied (for example, the report identifiers are removed from the bundle record).
Distribution records	■ If the distribution record previously exists in the receiving database, the distribution record is replaced.

Database Record	Copy Restrictions/Limitations
Job records	■ If the job record previously exists on the receiving database, the job record is replaced. ■ All reports defined to the job are copied (for example, added or replaced). ■ Report identifiers that are no longer defined to the job on the receiving database, if applicable, are deleted from the receiving database. ■ Report identifiers that are defined to another job on the receiving database, if the job previously exists, are not copied (for example, the report identifiers are removed from the copied job). ■ Distribution identifiers that are defined to reports within the job that do not exist in the receiving database are added to the receiving database. ■ Bundle references defined to reports within the job are not copied. The bundle references that reside on the receiving database (if applicable) are maintained. The RMOUJR21 message identifies the bundle identifiers that existed on the sending database.
Report records	■ Report identifiers must be previously defined on the receiving database; this can be accomplished by copying the job definition first. ■ Bundle references defined to reports within the job are not copied. The bundle references that reside on the receiving database (if applicable) are maintained. The RMOURR17 message identifies the bundle identifiers that existed on the sending database. ■ The report 'UNDEF' is copied into the receiving database only if it is explicitly specified.

Syntax

```
/COPY BID=bundle-id
      DISTID=distribution-id
      JOB=jobname
      RID=report-id
```

where:

bundle-id	Specifies the name of the bundle to be copied
distribution-id	Specifies the name of the distribution identifier to be copied DISTID can be abbreviated as DID.
jobname	Specifies the name of the job to be copied
report-id	Specifies the name of the report identifier to be copied

Note: You can use a wildcard to represent zero or more characters at the end of job names or bundle, distribution, or report identifiers. You cannot use the wildcard at the beginning or in the middle of job names or identifiers, but you can use it alone (for example, /COPY JOB=*, to copy all jobs).

The BID, DISTID, JOB, and RID keywords are mutually exclusive.

DELETE Control Statement

The DELETE control statement deletes database definitions from the sending database. The DELETE control statement supports the deleting of bundle, distribution, job, and report data. The sending database is defined via the FROM of the NAME control statement.

Syntax

```
/DELETE BID=bundle-id
        DISTID=distribution-id
        JOB=jobname
        RID=report-id
```

where:

bundle-id	Specifies the name of the bundle to be deleted
distribution-id	Specifies the name of the distribution identifier to be deleted DISTID can be abbreviated as DID.
jobname	Specifies the name of the job to be deleted
report-id	Specifies the name of the report identifier to be deleted

Note: You can use an asterisk as a wildcard to represent zero or more characters at the end of job names or bundle, distribution, or report identifiers. You cannot use the wildcard at the beginning or in the middle of job names or identifiers, but you can use it alone (/DELETE JOB=*, to delete all jobs, for example).

The BID, DISTID, JOB, and RID keywords are mutually exclusive.

NAME Control Statement

The NAME control statement is used to define the sending database and/or the receiving database.

Syntax

```
/NAME FROM=sending-data-base
      TO=receiving-data-base
```

where:

sending-data-base	Specifies the database high-level prefix of the sending database
receiving-data-base	Specifies the database high-level prefix of the receiving database This parameter is only necessary for the COPY control statement.

RENAME Control Statement

The RENAME control statement renames database definitions in the sending database. The RENAME control statement supports the renaming of bundle, distribution, job, and report data. The sending database is defined via the FROM of the NAME control statement.

Syntax

```
/RENAME BID=bundle-id
        DISTID=distribution-id
        JOB=jobname
        NEWNAME=newname
        RID=report-id
```

where:

bundle-id	Specifies the name of the bundle to be renamed
distribution-id	Specifies the name of the distribution identifier to be renamed DISTID can be abbreviated as DID.
jobname	Specifies the name of the job to be renamed
newname	Specifies the new name for the bundle, distribution, job, or report The new name must be supplied and must be different than the original.
report-id	Specifies the name of the report identifier to be renamed

Note: The BID, DISTID, JOB, and RID keywords are mutually exclusive.

Examples

The following is an example of using RMOUTIL:

```
//EXAMPLE  JOB MSGCLASS=T,NOTIFY=EXAMPLE,REGION=4096K
//STEP1    EXEC PGM=RMOUTIL
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//SYSUDUMP DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
/NAME FROM=DELIVER.SYSTEM1
/DELETE JOB=JOB1
/RENAME JOB=JOB2 NEWNAME=JOB1
/NAME FROM=RMO.SYSTEM2 TO=DELIVER.SYSTEM1
/COPY JOB=JOB2
```

JOB1 is deleted from the DELIVER.SYSTEM1 database, then JOB2 in DELIVER.SYSTEM1 is renamed to JOB1. Finally, the definition for job JOB2 from RMO.SYSTEM2 is copied to the definition of JOB2 of DELIVER.SYSTEM1.

The following is another example of using RMOUTIL:

```
//EXAMPLE  JOB MSGCLASS=T,NOTIFY=EXAMPLE,REGION=4096K
//STEP1    EXEC PGM=RMOUTIL
//STEPLIB  DD DSN=CAI.CAILIB,DISP=SHR
//SYSUDUMP DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
/NAME FROM=DELIVER.SYSTEM1
/DELETE JOB=PAY*
```

The job named PAY and all jobs that begin with the letters PAY are deleted from the DELIVER.SYSTEM1 database.

Chapter

7

The CA-Deliver Database

This chapter covers the following topics:

- Elements of the CA-Deliver database, and the utilities you use to initially build and modify data
- Types of data maintained in the CA-Deliver database
- Specifying job name translation

What is the CA-Deliver Database?

The CA-Deliver database is a set of one or more direct-access data sets that contain all of the data used by CA-Deliver. The CA-Deliver database is designed for high performance and quick access.

You create and maintain the CA-Deliver database with the RMODBASE utility, which runs authorized.

Elements of the CA-Deliver Database

This section tells you about the data sets and records that compose the CA-Deliver database.

Rules and Guidelines

You can define a maximum of 127 data sets for the CA-Deliver database. You can move data sets provided the original and new volumes are of the same device type, each data set contains an equivalent amount of cylinders as the original, and the new data sets each contain only one contiguous extent.

Tip: To improve performance, create a small number of large data sets rather than a large number of small data sets.

Database Data Set Attributes

The following attributes apply to the data sets in the CA-Deliver database:

- DSORG=DA
- RECFM=F
- BLKSIZE=3476
- SPACE=(CYL,,,CONTIG)

Note: You can change the default block size (BLKSIZE) of 3476 with the RMODBASE utility ADDDS control statement.

Syntax

index.RMODBASE.D*seq-number*

where:

index	Specifies the high-level name of the database The high-level name is composed of one or more qualifiers separated by periods. You can specify an index that is from 1 to 17 characters long.
RMODBASE	Specifies a standard part of all database data set names RMODBASE does not represent variable text and does not change.
D	A data set type indicator which specifies that the current data set is a database component
seq-number	Specifies the relative sequence number of the data set within the database The *seq-number* is assigned by CA-Deliver; it is seven digits and can contain leading zeros.

Types of Records in the Database

The types of records in the CA-Deliver database are described below:

Record Type	Abbreviation	Description
Master Control Record	MCR	Contains the control information for CA-Deliver, including the options that have been selected There is only one MCR.
Job Descriptor Record	JDR	Defines the DD statements within a job that produce reports and identifies the reports There is one JDR for each job defined.
Report Descriptor Record	RDR	Defines the attributes, including distribution specifications and separation text, for a report There is one RDR for each report defined.
Bundle Descriptor Record (BDR)	BDR	Defines the contents of a bundle There is one BDR for each bundle defined.
Distribution Descriptor Record	DDR	Defines the address lines and destinations for a distribution identifier There is one DDR for each distribution identifier defined.
Report Historical Record	RHR	Defines the historical data on a report There is one RHR for each report for which historical data exists.
Bundle Historical Record	BHR	Defines the historical data on a bundle There is one BHR for each bundle for which historical data exists.
User Attribute Control Record	UCR	Describes the attributes for the online users (for example, PF key definitions) There is one UCR for each attribute for each user.

Record Type	Abbreviation	Description
Online Member Control Record	OCR	Describes the panels, messages, and skeleton JCL members loaded from the online library There is one OCR for each panel, message, and skeleton member.
Banner Member Control Record	BCR	Describes the model banner page members loaded from the model banner page library There is one BCR for each model banner page member.
Report Distribution Cross-Reference Record	XDR	Defines a distribution identifier and its cross-referenced reports
Bundle Distribution Cross-Reference Record	XBR	Defines a distribution identifier and its cross-referenced bundles
Distribution List Cross-Reference Record	XGR	Defines a distribution identifier and its cross-referenced distribution lists
Report Control Statements	RCS	Defines the attributes of a report definition

Note: Mapping macros to the records (RMOMCR, RMOJDR, RMORDR/RMORCS, RMOBDR, RMODDR, RMORHR/RMORHE, RMOBHR/RMOBHE, RMOUCR, RMOOCR, RMOBCR, RMOXDR, RMOXBR, and RMOXGR) are provided in CAI.CAIMAC.

Structure of the Checkpoint Data Set

The checkpoint data set is divided into two sections of equal size (therefore, you need to allocate an even number of cylinders for the checkpoint data set):

- The first section is used to hold actual checkpoint data.

  The first four blocks of the checkpoint data section contain changed block masks for up to 32 different operating systems. These change masks enable each operating system to read only those blocks that have changed since the last time it accessed the checkpoint and to write only those blocks that it changes.

- The second section is used to hold recovery data, which is used if your system crashes in the middle of the writing of changed blocks.

  Data in the recovery section is recovered automatically.

Each section of the checkpoint data set can hold a maximum of 3,872 blocks.

Checkpoint Data Set Attributes

These attributes apply to the checkpoint data set in the CA-Deliver database:

- DSORG=DA
- RECFM=F
- BLKSIZE=4096
- SPACE=(CYL,,,CONTIG)

Syntax

index.RMODBASE.C*seq-number*

where:

index	Specifies the high-level name of the database The high-level name is composed of one or more qualifiers separated by periods. You can specify an index that is 1- to 17-characters.
RMODBASE	Defines a standard part of all database data set names assigned by the product It does not represent variable text and does not change.
C	Specifies a data set type indicator (which in this case indicates that the current data set is a checkpoint data set) C is assigned by the product.
seq-number	Specifies the relative sequence number of the data set within the database. The *seq-number* is assigned by CA-Deliver; it is seven digits and can contain leading zeros.

Types of Data Maintained in the CA-Deliver Database

Report and bundle definitions and historical and tracking data are maintained in the CA-Deliver database. In most cases, you use the CA-Deliver online facility to access and change data in the CA-Deliver database.

The types of data maintained in the CA-Deliver database are as follows:

- Job data is maintained in the database as individual entries identified by job name.

  An entry describes the SYSOUT DD statements within the job that CA-Deliver is to control.

- Report data is maintained as individual entries identified by a report identifier.

  An entry provides overrides to the JCL attributes for the report, assigns distribution identifiers to the report to identify the recipients of the report, and defines the manner in which multiple reports written to the same DD statement are to be separated.

- Historical data describing when the report was created is maintained for each report as well.

- Name, address, and destination data used to distribute reports to a user is maintained as individual entries identified by a distribution identifier.

- Bundle data is maintained as individual entries identified by a bundle identifier.

  An entry identifies the distribution points and reports to be included in the bundle.

- Status information about the current and prior daily cycles is maintained for active reports.

  An active report is one that you activate (that is, schedule to be created during the current cycle) or that is automatically activated by CA-Deliver when the report is being created.

- Status information about the current and prior cycles is maintained for active bundles.

  A bundle is automatically activated by CA-Deliver whenever one of the reports defined for it is activated.

Utilities for Building and Modifying the Database

Two utilities are provided to aid you in initially building the CA-Deliver database and for modifying the definitions in the database from batch. These utilities are described in the chapter "Utilities."

- RMOJCL scans the JCL for a job and automatically adds job and report description data to the CA-Deliver database.

  After executing this utility, you can begin using CA-Deliver to track and archive reports.

- RMODBB is a general purpose utility that adds and modifies the job, report, distribution, and bundle descriptions in the CA-Deliver database.

  The utility can extract the data to be added or modified from any sequential data set. The data set may be one containing existing report descriptions or distribution specifications that you currently maintain or it may be a data set you create from existing data sets.

Specifying Job Name Translation

Use control statements, which are collectively referred to as the *job name translation table*, to translate the name of an executing job into another name. The job name translation table is supplied by the CA-Deliver started task. CA-Deliver uses translated job names to search the CA-Deliver database for the job definition data and report attribute definitions for a job.

You can, for example, run a daily, weekly, and monthly release of the same job under different job names. Because the jobs are identical in the reports they produce, and because the only essential difference between the jobs is their name, you need to define only one job for the CA-Deliver database.

Use the DD statement RMOJTAB to input the control statements that compose the job name translation table.

Note: The operator command used to reset the job name translation table is described in the chapter "Operator Commands."

Rules for Job Name Translation Control Statements

Keep the following rules in mind when specifying job name translation control statements:

- You must code each control statement as one card image in columns 1–71.
- Continuations are not allowed.
- You must separate the two parameters that compose the control statement with one or more blanks or commas.
- The data set attributes must be sequential (DSORG=PS).

  You can optionally use a member of a partitioned data set by referencing the member name on the DD statement for RMOJTAB.

  Note: A partitioned data set with a member name allows you to update the job name translation table while the started task has the job name translation table allocated.
- Specify RMOJTAB data set attributes as follows:

  `RECFM=FB,LRECL=80,BLKSIZE=`*`xxxx`*

  Set the block size to an amount that optimizes the space allocation for the DASD type at your installation.

Syntax

`executing-job-name translated-job-name`

where:

executing-job-name	Specifies the job name of the executing job You can specify a generic name by appending an asterisk to the generic name. In addition, you can specify an asterisk at any position in the job name to indicate that any character can match in that position.
translated-job-name	Specifies the translated job name of the job definition in the CA-Deliver database You can specify an asterisk in any position in the job name to indicate that the corresponding character from the job name of the actual executing job is to be used.

The order of the control statements is significant in that the first control statement found whose *executing-job-name* parameter matches the job name of the actual, executing job is used. If no match is found, the actual job name is used without translation.

Example

Assume the following job name translation table is defined to the CA-Deliver started task:

```
A2765S5  A2765
PROD*        PRODJOB
*******D*******
*******W*******
*******M*******
```

The following job names will be translated as specified when they are executed:

Execution Job Name	Translated Job Name
A2765S4	A2765S4
A2765S5	A2765
A2765S6	A2765S6
PROD6432	PRODJOB
PROD297J	PRODJOB
A2765S4D	A2765S4
B654R20M	B654R20
B654R20W	B654R20
B654R20J	B654R20J

Chapter

8

Model Banner Pages

This chapter describes model banner pages, which are distributed with CA-Deliver. You create banner pages for reports and bundles based on the model banner page members you place in the CA-Deliver model banner page library.

This chapter includes the following topics:

- Definition of a model banner page library
- Definitions and examples of model banner page members
- Types of model banner page members
- Definition and description of an attribute character
- Descriptions of control statements
- Descriptions of carriage control characters
- Definitions and descriptions of symbolic variables

Model Banner Page Library

The *model banner page library* is a partitioned data set that contains members that contain fixed, 133-byte records. Use these members as models to define the format, structure, and content of banner pages.

You must load the members of the model banner page library into the CA-Deliver database before you can use them. You can use these members to create new banner page members or modify the model banner page members distributed with CA-Deliver.

Model banner page members are extracted when CA-Deliver gains control of and creates the output for a SYSOUT data set.

Using Model Banner Page Members

A *model banner page member* is a member stored in the model library data set CAI.CAIMBP, which is unloaded from the distribution tape when you install CA-Deliver. You use model banner page members to define the format, structure, and content of banner pages.

Example 1

The following is an example of the contents of a model banner page member:

```
/BEGSEP
1* START ************************************************************ START *
 * START ******         AMALGAMATED AMERICAN MANUFACTURING       ****** START *
 * START ******      TEMPLE STREET FACILITY - LOS ANGELES, CA    ****** START *
 * START ************************************************************ START *
 *  ¢&RID         &                                                        ¢*
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 ****************************************************************************
 * REPORT ID: &ID        &     DATE:  &DATE  &                             *
 * JOBNAME:   &JNAME &         TIME:  &TIME  &                             *
 * JOBID:     JID    &         CLASS: &C     &                             *
 ****************************************************************************
 * SEND REPORTS TO:                                                         *
 *    &A11                                        &                         *
 *    &A12                                        &                         *
 *    &A13                                        &                         *
 *    &A14                                        &                         *
 ****************************************************************************
 * SPECIAL INSTRUCTIONS                                                     *
 *   &INST1                                                 &               *
 *   &INST2                                                 &               *
 *   &INST3                                                 &               *
 *   &INST4                                                 &               *
 *   &INST5                                                 &               *
 *   &INST6                                                 &               *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 * START ************************************************************ START *
```

Example 2

The following is an example of another model banner page member:

```
/BEGSEP
1* START ************************************************************ START *
 * START ******         AMALGAMATED AMERICAN MANUFACTURING       ****** START
 * START ******      TEMPLE STREET FACILITY - LOS ANGELES, CA    ****** START *
 * START ************************************************************ START *
 *  ¢&RID         &                                                        ¢*
 *                                                                         *
 *                                                                         *
 *                                                                         *
 *                                                                         *
 *                                                                         *
 ***************************************************************************
 * REPORT ID: &ID        &     DATE:  &DATE  &                             *
 * JOBNAME:   &JNAME &         TIME:  &TIME  &                             *
 * JOBID:     JID    &         CLASS: &C     &                             *
 ***************************************************************************
 * SEND REPORTS TO:                                                        *
 *                                                                         *
 *    1. &A11                            &4. &A41                          &*
 *       &A12                            &   &A42                          &*
 *       &A13                            &   &A43                          &*
 *       &A14                            &   &A44                          &*
 *                                                                         *
 *    2. &A21                            &5. &A51                          &*
 *       &A22                            &   &A52                          &*
 *       &A23                            &   &A53                          &*
 *       &A24                            &   &A54                          &*
 *                                                                         *
 *    3. &A31                            &6. &A61                          &*
 *       &A32                            &   &A62                          &*
 *       &A33                            &   &A63                          &*
 *       &A34                            &   &A64                          &*
 *                                                                         *
 ***************************************************************************
 * SPECIAL INSTRUCTIONS                                                    *
 *   &INST1                                                    &           *
 *   &INST2                                                    &           *
 *   &INST3                                                    &           *
 *   &INST4                                                    &           *
 *   &INST5                                                    &           *
 *   &INST6                                                    &           *
 *                                                                         *
 * START ************************************************************ START *
```

Example 3

The following is an example of the banner page for a single user printed on single-part paper produced from the preceding model banner page member contents:

```
* START ************************************************************ START *
* START ******         AMALGAMATED AMERICAN MANUFACTURING        ****** START *
* START ******      TEMPLE STREET FACILITY - LOS ANGELES, CA     ****** START *
* START ************************************************************ START *
*     EEEEE DDDDD  IIIII TTTTTTT RRRRR  EEEEE PPPPP  TTTTTTT  0000    1       *
*     E     D    D   I      T    R    R E     P    P    T    0    0  11       *
      EEEEE D    D   I      R    RRRRR  EEEEE PPPPP     T    O    O   1       *
*     E     D    D   I      T    R  R   E     P         T    0    0   1       *
*     E     D    D   I      T    R   R  E     P         T    0    0   1       *
*     EEEEE DDDDD  IIIII    T    R    R EEEEE P         T     0000  11111     *
*********************************************************************************
* REPORT ID: EDITREPT01       DATE:  01/26/94                                   *
* JOBNAME:   TRJOB01          TIME:  07:36:04                                   *
* JOBID:     JOB 3697         CLASS: E                                          *
*********************************************************************************
* SEND REPORTS TO:                                                              *
*    ACCOUNTANT                                                                 *
*    DEPT. 29                                                                   *
*********************************************************************************
* SPECIAL INSTRUCTIONS                                                          *
*   VERIFY DATA, CORRECT ERRORS AND RUN PRODUCTION WHEN READY                   *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
* START ************************************************************ START *
```

Example 4

The following is the banner page produced from the preceding model banner page member contents for a group of four users printed on multi-part paper.

Note: In the following example, the report was printed on 4-part paper, but the model banner page member contained six distribution specification fields so it could be used to produce 6-part paper forms.

```
* START ************************************************************ START *
* START ******         AMALGAMATED AMERICAN MANUFACTURING        ****** START *
* START ******      TEMPLE STREET FACILITY - LOS ANGELES, CA     ****** START *
* START ************************************************************ START *
*     EEEEE DDDDD  IIIII TTTTTTT RRRRR  EEEEE PPPPP  TTTTTTT  0000    1       *
*     E     D    D   I      T    R    R E     P    P    T    0    0  11       *
      EEEEE D    D   I      R    RRRRR  EEEEE PPPPP     T    O    O   1       *
*     E     D    D   I      T    R  R   E     P         T    0    0   1       *
*     E     D    D   I      T    R   R  E     P         T    0    0   1       *
*     EEEEE DDDDD  IIIII    T    R    R EEEEE P         T     0000  11111     *
*********************************************************************************
* REPORT ID: EDITREPT01       DATE:  01/26/94                                   *
* JOBNAME:   TRJOB01          TIME:  07:36:04                                   *
* JOBID:     JOB 3697         CLASS: E                                          *
*********************************************************************************
* SEND REPORTS TO:                                                              *
*                                                                               *
*    1. MS. RITA SMITH                  4. CRITICAL REPORT FILE                 *
*       DEPT. 27                           DEPT. 27                             *
*       BLDG. A32-MS58G                    BLDG. A32-MS58G                      *
*       TEMPLE STREET FACILITY             TEMPLE STREET FACILITY               *
*                                                                               *
*    2. MS. JANE DOE                    5.                                      *
*       DEPT. 27                                                                *
*       BLDG. A32-MS58G                                                         *
*       TEMPLE STREET FACILITY                                                  *
*                                                                               *
*    3. PRODUCTION CONTROL              6.                                      *
*       DEPT. 27                                                                *
*       BLDG. A32-MS58G                                                         *
*       TEMPLE STREET FACILITY                                                  *
*                                                                               *
*********************************************************************************
* SPECIAL INSTRUCTIONS                                                          *
*   CRITICAL REPORT - EXPEDITE                                                  *
*   CRITICAL REPORT - EXPEDITE                                                  *
*   CRITICAL REPORT - EXPEDITE                                                  *
*   CRITICAL REPORT - EXPEDITE                                                  *
*                                                                               *
*                                                                               *
*                                                                               *
* START ************************************************************ START *
```

Types of Model Banner Page Members

You can use the following types of model banner page members:

Type of Model Banner Page Member	Description
Non-bundled report	Creates banner pages for a non-bundled report
Separator	Creates separator pages in reports that contain control breaks
Bundle	Creates the banner pages that are inserted before and after a complete bundle
Distribution	Creates the banner pages that are inserted into a bundle before and after the complete set of reports for each distribution identifier
Report	Creates the banner pages that are inserted into a bundle immediately before and after each report

Specifying a Banner Page

Use the BANNER initialization parameter or BANNER field on the Report Definition Attributes panel to specify the name of the model banner page member you want to use for non-bundled reports.

Use the SEPARATOR field on the Control Break Identification sub-panel of the Report Definition Attributes panel to specify the name of the model banner page member you want to use for separator pages.

Use the BNDLBNR1, BNDLBNR2, and BNDLBNR3 initialization parameters or the BANNER field on the Bundle Definition Attributes panel to specify, respectively, the name of the model bundle, distribution, and bundled report banner page member you want to use in a bundle of reports.

For more information about initialization parameters, see the chapter "Initialization Parameters." Online panels are described in the *CA-Deliver Administrator Guide*.

Using Attribute Characters

Use attribute characters to define the contents and layout of model banner pages. An *attribute character* is a special character you insert in the body of a model banner page member to define the beginning and end of symbolic variables and the location and size of text displayed on a banner page (symbolic variables are described later in this chapter).

The default attribute characters are described in the table below.

Note: You can change default attribute characters to characters you want to use with the /ATTR model banner page member control statement, which is described later in this chapter.

Attribute Character	Symbol	Description
Ampersand	&	Used to define the start and end point of a symbolic variable you want inserted on a line on a banner page The first ampersand you insert defines the beginning of the symbolic variable. The second ampersand you insert defines the end of the symbolic variable. If you do not insert a second ampersand, the end of the line defines the end of the symbolic variable.
Percent symbol	%	Used to center text or a symbolic variable on a line Symbolic variables are inserted before they are centered.
Exclamation point	!	Used to convert text or a symbolic variable to large block letters on a line Large block letters measure 14 characters wide by 12 lines high.
Underscore	_	Used to convert text or a symbolic variable to small block letters on a line Small block letters measure nine characters wide by seven lines high.

Attribute Character	Symbol	Description
Logical Not	¬	Used to convert text or a symbolic variable to large block letters and then centers the text or symbolic variable on a line Large block letters measure 14 characters wide by 12 lines high. Symbolic variables are inserted before they are centered.
Cent symbol	¢	Used to convert text or a symbolic variable to small block letters and then centers the text or symbolic variable on a line Small block letters measure nine characters wide by seven lines high. Symbolic variables are inserted before they are centered.

Converted Block Letters

On the output banner page, converted block letters are output starting on the line that contains the attribute character and ending on subsequent lines.

Substituting Text of Varying Lengths

If the length of text substituted for a symbolic variable exceeds the length you specify for the symbolic variable in the model banner page member, the substituted text is truncated.

If the length of text substituted for a symbolic variable is shorter than the length you specify in the model banner page member, the substituted text is padded with blanks at the end.

Using Control Statements for Model Banner Page Members

Use a set of control statements to define the contents, structure, and layout of model banner page members. Control statements are described in this section.

/BEGSEP Control Statement

The /BEGSEP control statement defines the start of a report banner page until the end of the member or until an /END, /ENDSEP, or another /BEGSEP control statement is encountered. You must insert the /BEGSEP control statement in column 1 of a record.

/ENDSEP Control Statement

The /ENDSEP control statement defines the end of a report banner page until the end of the member or until /END, /BEGSEP, or another /ENDSEP control statement is encountered. You must insert the /ENDSEP control statement in column 1 of a record.

Use the /END control statement to terminate a banner page. You must insert the /END control statement in column 1 of a record.

/ATTR Control Statement

Use the /ATTR control statement to change the default attribute characters to attribute characters you want.

The /ATTR control statement, which applies only to the banner page in which it is found, remains in effect until the end of the banner page member or until another /ATTR control statement is encountered.

You must insert the /ATTR control statement in column 1 of a record.

Syntax

/ATTR *123456*

where:

1 Represents the character you want to use instead of ampersand (&), which you use to define the start and end points of a symbolic variable on a line

2 Represents the character you want to use instead of percent symbol (%), which you use to center text or a symbolic variable on a line

3 Represents the character you want to use instead of exclamation point (!), which you use to convert text or a symbolic variable to large block letters on a line

4 Represents the character you want to use instead of underscore (_), which you use to convert text or a symbolic variable to small block letters on a line

5 Represents the character you want to use instead of logical not (¬), which you use to convert text or a symbolic variable to large block letters and then center the text or symbolic variable on a line

6 Represents the character you want to use instead of cent symbol (¢), which you use to convert text or a symbolic variable to small block letters and then center the text or symbolic variable on a line

/ATTR Control Statement Syntax Rules

The following rules apply when specifying attribute characters with the /ATTR control statement:

- You must specify a character in position 1; you cannot specify a blank in position 1.
- To indicate that you do not want to change an attribute character, either insert a blank in positions 2–6, or insert the default attribute character in that position.
- You must insert a blank between /ATTR and the character in position 1.

Using Carriage Control Characters

The body of a banner page member comprises data lines. You specify carriage control in position 1 of a data line. Carriage control characters you can use in banner page members are discussed in this chapter.

Carriage Control on a Data Line

The following is an example of a carriage control character on a data line:

```
1* START ********************************************** START *
```

where *1*, in position 1 of this data line, is a carriage control character.

Types of Carriage Control Characters

The following carriage control characters can be used in a data line:

Carriage Control Character	Definition
1	Used to skip to channel 1 (a new page) and print the text on the line
2–9	Used to skip to channel 2, 3, 4, 5, 6, 7, 8, or 9 and print the text on the line
A, B, C	Used to skip to channel 10, 11, or 12 and prints the text on the line
+	Used to remain on the current line and print over the text on the current line
X'07'	Used to issue the special IBM 3800 printing subsystem "end of transmission" command
X'17'	Used to issue the special IBM 3800 printing subsystem "mark form" command
X'5A'	Used to issue the special IBM 3800 printing subsystem "control record" command
Blank or any character not listed in this table	Used to drop down one line on the output banner page and prints the text on the line

Rules for Carriage Control Characters

- You must specify carriage control characters in position 1 of a data line, and text and symbolic variables in positions 2–133.
- You can insert up to 200 data lines into the body of a banner page member.

Using Symbolic Variables

A *symbolic variable* is a software element capable of assuming a set of values. Use symbolic variables in model banner page members to identify the location where you want to insert a value or text.

Example

The following is an example of a symbolic variable for which the SYSOUT destination of a report is inserted:

```
&DEST
```

Note: The ampersand in the example above indicates the start of a symbolic variable.

Types of Symbolic Variables

The following list describes symbolic variables:

Symbolic Variable	Abbrev.	Char. Length	Purpose
A*nm*	None	72	Used to insert the 1–3 digit position number of the distribution identifier within a group of distribution identifiers (*n*), and the one-digit number of the address line of a distribution identifier (*m*) For example, A124 inserts address line 4 of the 12th distribution identifier in the group. For non-bundled report banner pages, the group comprises distribution identifiers grouped in the report definition. For bundled reports and bundle banner pages, the group comprises identifiers defined for the bundle in which reports actually exist. For distribution banner pages, the group comprises the single identifier for which reports are being printed. For report banner pages, the group comprises the single identifier for which the report is printed. If a group does not contain "*m*" identifiers, the value of this symbolic variable is blank. This variable does not work in banner pages for reports that contain control breaks.
BA*m*	None	72	Used to insert the one-digit number of the address line of a distribution identifier (*m*) specified in the bundle definition Blank is substituted for this variable in non-bundled report banner pages. This variable does not work in banner pages for reports that contain control breaks.

Symbolic Variable	Abbrev.	Char. Length	Purpose
BHDN	None	10	Used to insert the history detail number of a bundle of reports, which remains the same for the entire bundle This variable does not work in banner pages for bundles that consist of reports that contain control breaks.
BID	None	10	Used to insert the identifier for the bundle Blank is substituted for this variable in non-bundled report banner pages. This variable does not work in banner pages for reports that contain control breaks.
BSNO	None	5	Used to insert the bundle sequence number Blank is substituted for this variable in non-bundled report banner pages. This variable does not work in banner pages for reports that contain control breaks.
CDATE	None	8	Used to insert the creation date of the report or reports in the default date format with a two-digit year, for example, 10/01/97 For non-bundled report banner pages, the creation date is identical to the print date except if the report is archived; in this case the creation date corresponds to the date the report was archived. For bundled reports and distribution and bundle banner pages, the creation date is identical to the print date. For report banner pages, the creation date is identical to the date the report bundle holding copy was created. This variable does not work in banner pages for reports that contain control breaks.

Symbolic Variable	Abbrev.	Char. Length	Purpose
CDATE4	None	10	Used to insert the creation date of the report or reports in the default date format with a four-digit year, for example, 10/01/1997 For non-bundled report banner pages, the creation date is identical to the print date except if the report is archived; in this case the creation date corresponds to the date the report was archived. For bundled reports and distribution and bundle banner pages, the creation date is identical to the print date. For report banner pages, the creation date is identical to the date the report bundle holding copy was created. This variable does not work in banner pages for reports that contain control breaks.
CLASS	C	1	Used to insert the SYSOUT class of the report or reports
COPIES	None	3	Used to insert the number of copies of the report For non-bundled report banner pages, the number of copies to be distributed is inserted. For bundled reports, 0 is inserted. This variable does not work in banner pages for reports that contain control breaks.

Symbolic Variable	Abbrev.	Char. Length	Purpose
CTIME	None	8	Used to insert the time when a report is created in an *hh:mm:ss* format, for example, 10:45:59 For non-bundled report banner pages, the creation time is identical to the print time except if the report is archived; in this case the creation time corresponds to the time the report was archived. For bundled reports and distribution and bundle banner pages, the creation time is identical to the print time. For report banner pages, the creation date is identical to the time the report bundle holding copy was created. This variable does not work in banner pages for reports that contain control breaks.
CTIMEP	None	8	Used to insert the time when a report is created in an *hh.mm.ss* format, for example, 10.45.59 For non-bundled report banner pages, the creation time is identical to the print time except if the report is archived; in this case the creation time corresponds to the time the report was archived. For bundled reports and distribution and bundle banner pages, the creation time is identical to the print time. For report banner pages, the creation time is identical to the time the report bundle holding copy was created. This variable does not work in banner pages for reports that contain control breaks.

Symbolic Variable	Abbrev.	Char. Length	Purpose
DATE	None	8	Used to insert the date when the report or reports are printed in the default date format with a two-digit year, for example, 10/01/97
DATE4	None	10	Used to insert the date when the report or reports are printed in the default date format with a four-digit year, for example, 10/01/1997
DDNAME	DD	8	Used to insert the DDname for the report or reports Blank is substituted for this variable in bundle and distribution banner pages.
DESC	None	24	Used to insert the description of a report or bundle from the DESC field on either the Report or Bundle Definition Attributes panel Blank is substituted for this variable in bundle and distribution banner pages.
DEST	None	8	Used to insert the SYSOUT destination of a report or bundle
DHDN*n*	None	10	Used to insert the history detail number for a report within a group of reports for a specific distribution identifier, identified by *n* (a DHDN is created for each report in a bundle of reports) This variable does not work in banner pages for reports that contain control breaks. **Note:** Use this symbolic variable on report banner pages only.

Symbolic Variable	Abbrev.	Char. Length	Purpose
DIST*n*	None	8	Inserts the 1 to 3-digit position number of the distribution identifier within a group of distribution identifiers (*n*) You do not need to explicitly specify the first distribution identifier; DIST and DIST1 are identical. For non-bundled report banner pages, the group comprises distribution identifiers grouped in the report definition. For bundled reports and bundle banner pages, the group comprises identifiers defined for the bundle in which reports actually exist. For distribution banner pages, the group comprises the single identifier for which reports are being printed. For report banner pages, the group comprises the single identifier of the printed report.
FORMS	None	8	Used to insert the name of the forms used
HDN*n*	None	10	Used to insert the HDN (history detail number) of each report in a bundle of reports identified by *n* An HDN is created for each report in a bundle of reports. This variable does not work in banner pages for reports that contain control breaks. **Note:** Use this symbolic variable on report banner pages only.

Symbolic Variable	Abbrev.	Char. Length	Purpose
INST*m*	None	72	Used to insert the one- to three-digit number of the instruction line (*m*) specified either on the Special Instructions sub-panel of the Report Definition Attributes panel for a report, or on the Special Instructions sub-panel of the Bundle Definition Attributes panel for a bundle You do not need to explicitly specify the first distribution identifier; INST and INST1 are identical. For distribution banner pages, the instructions printed are the instructions specified for the first report for the distribution identifier. If instruction lines are not defined, blank is inserted for this variable.
JOBID	JID	8	This variable specifies the subsystem job identifier of a report Blank is substituted for this variable in bundle and distribution banner pages.
JOBNAME	None	8	This variable specifies the job name for a report Blank is substituted for this variable in bundle and distribution banner pages.
LINES	None	9	This variable specifies the number of lines in a report, an entire bundle of reports, or all reports for a distribution identifier 0 is inserted for this variable on start banner pages; the correct number of lines is inserted on end banner pages.
NAME	None	8	Used to insert the name of the model banner page member used as the basis for a banner page

Symbolic Variable	Abbrev.	Char. Length	Purpose
PAGES	None	12	Used to insert the number of pages in a report, an entire bundle of reports, or all reports for a distribution identifier 0 is inserted for this variable on start banner pages; the correct number of pages is inserted on end banner pages.
PREVRUN	None	6	Used to insert the words RUN *nn*, where *nn* represents the number of times you have run the job during the current cycle PREVRUN is inserted only on banner pages of most recently run reports. Blank is substituted for this variable if a report is a non-bundled, spooled copy. Blank is substituted for this variable in bundle and distribution banner pages. **Note:** Use this symbolic variable on report banner pages only.
PROCNAME	PN	8	Used to insert the procedure step name for a report Blank is substituted for this variable in bundle and distribution banner pages.
RERUN	None	9	Used to insert the word CORRECTED only on banner pages of most recently rerun reports Blank is substituted for this variable if a report is a non-bundled, spooled copy. Blank is substituted for this variable in bundle and distribution banner pages.

Symbolic Variable	Abbrev.	Char. Length	Purpose
RHDN*n*	None	10	Used to insert the report history detail number of a report based on its distribution identifier, identified by *n* (an RHDN is created for each report in a bundle of reports) This variable does not work in banner pages for reports that contain control breaks. **Note:** Use this variable on report banner pages only.
RID*n*	None	8	Used to insert the 1–3 digit number of a report identifier in a group of report identifiers (*n*) You do not need to explicitly specify the first report identifier; RID and RID1 are identical. For non-bundled report banner pages, the group comprises the single report identifier being printed. For bundled reports and bundle banner pages, the group comprises all identifiers of the reports in the bundle that are actually being printed. For distribution banner pages, the group comprises all identifiers for reports that are actually being printed for the distribution identifier. For report banner pages, the group comprises the single identifier of the printed report.
STEPNAME	SN	8	Used to insert the step name for a report Blank is substituted for this variable in bundle and distribution banner pages.
TIME	None	8	Used to insert the time when a report is printed in an *hh:mm:ss* format, for example, 10:44:59

Symbolic Variable	Abbrev.	Char. Length	Purpose
TIMEP	None	8	Used to insert the time when a report is printed in an *hh.mm.ss* format, for example, 10.44.59
USER	None	20	Used to insert the user accounting data for a report Blank is substituted for this variable in bundle and distribution banner pages.
USERFLD*n*	None	Varies	Used to insert the user field identification text extracted from a report that contains control breaks where *n* is a number from 1–9 This value identifies the user field to be inserted on the Control Break Identification sub-panel on the Report Definition Attributes panel.

Chapter 9

Setting Up Print Attributes for CA-Deliver

This chapter discusses how to define the printer setup member and tailor banner pages for printing on a Xerox 9700 printer including the following:

- Type 6 SMF (System Management Facilities) records
- Printer setup member
- Tailoring banner pages for printing on a Xerox 9700 printer

Format of Type 6 SMF Records

The user exit RMOSMFUX is invoked whenever a special type 6 SMF record is written by CA-Deliver. CA-Deliver also produces special type 6 SMF records when you set the SMF initialization parameter to YES. A type 6 record is produced for each copy of a report.

This section describes the format of type 6 SMF records, which you need to understand in order to use the RMOSMFUX user exit, which is described later in this chapter.

Note: The initialization parameter SMF is described in the chapter "Initialization Parameters."

Example 1

```
DISTRIBUTION                COPIES
X                                   2
                                    >produces 3 records
Y                                   1
```

Example 2

```
DISTRIBUTION                COPIES
X                                   1
                                    >produces 2 records
Y                                   1
```

The format of type 6 SMF records is as follows:

Offset (dec.)	Name	Length	Description
0	SMF6LEN	2	Record length in binary
2	SMF6SEG	2	Segment descriptor
4	SMF6FLG	1	System indicator for VS2 (X'02')
5	SMF6RTY	1	Record type (X'06')
6	SMF6TME	4	Time in binary, in hundredths of a second, record was moved to SMF buffer
10	SMF6DTE	4	Date when record was moved to SMF buffer, in the format 00YYDDDF where F is the sign
14	SMF6SID	4	System identification
18	SMF6JBN	8	Job name
26	SMF6RST	4	Time in binary, in hundredths of a second, when reader recognized the job card for this job
30	SMF6RSD	4	Date when reader recognized the job card for this job, in the format 00YYDDDF where F is the sign
34	SMF6UIF	8	User identification
42	SMF6OWC	1	SYSOUT class
43	SMF6WST	4	Start time in binary, in hundredths of a second, when output queued to JES
47	SMF6WSD	4	Date output queued to JES, in the format 00YYDDDF where F is the sign
51	SMF6NLR	4	Number of lines, in binary, queued for printing
55	SMF6IOE	1	X'00'
56	SMF6NDS	1	Number of data sets (X'01')
57	SMF6FMN	4	Form name
61	SMF6PAD1	1	Section indicator: X'80' IBM 3800 printing subsystem section present X'40' Common section present

Offset (dec.)	Name	Length	Description
62	SMF6SBS	2	Subsystem identification (C'ED')
64	SMF6LN1	2	Length of rest of record, including this field, but not including any additional sections indicated by the SMF6PAD1 field
66	SMF6DCI	2	X'4000'
68	SMF6JNM	4	Job number
72	SMF6OUT	8	SYSOUT destination
80	SMF6FCB	4	FCB image identification
84	SMF6UCS	4	UCS image identification
88	SMF6PGE	4	Number of pages, in binary, queued for printing
92	SMF6RTE	2	X'0000'
94	SMF6RID	12	Report identifier
106	SMF6DID	8	Distribution identifier
114	SMF6BDLN	10	Bundle name
124	SMF6ACCT	20	Job accounting data

The format of type 6 SMF records (IBM 3800 printing subsystem section) is as follows:

Offset (dec.)	Name	Length	Description
+0	SMF6LN2	2	Length of IBM 3800 printing subsystem section, including this field
+2	SMF6CPS	8	Number of copies printed in each group Each byte represents, in binary, one copy group, and the sum of the eight bytes is the total number of copies printed.
+10	SMF6CHR	16	Names of the character arrangement tables that define the characters used in printing Each name is four bytes long, with a maximum of four names.

Offset (dec.)	Name	Length	Description
+26	SMF6MID	4	Name of copy modification module used to modify the data
+30	SMF6FLI	4	Name of the forms overlay printed on the copies
+34	SMF6FLC	1	Number of copies in binary on which the forms overlay is printed
+35	SMF6ID	1	Options indicator: X'80' Output is to be burst into sheets by the burster, trimmer, and stacker X'40' DCB sub-parameter OPTCD=J was specified

The format of type 6 SMF records (common section) is as follows:

Offset (dec.)	Name	Length	Description
+0	SMF6LN3	2	Length of common section, including this field
+2	SMF6ROUT	4	Output route code (not used)
+4	SMF6EFMN	8	Output forms name
+12		16	Not used
+28	SMF6JBID	8	Job number
+36	SMF6STNM	8	Step name
+44	SMF6PRNM	8	Procedure step name
+52	SMF6DDNM	8	DDname
+60	SMF6USID	8	User ID
+68	SMF6SECS	8	Security label (not used)
+72	SMF6PRMD	8	Processing mode (not used)
+80	SMF6DSNM	53	Data set resource name (not used)
+133		3	Not used
+136	SMF6OTOK	20	Output group token (not used)

Printer Setup Member

You can use printer setup members to set printer attributes. This section describes printer setup members.

The *printer setup library* is a partitioned data set that comprises members that contain fixed, 133-byte records. Once you create the data set, you can add members to, or modify members in, the data set.

A *printer setup member* is a member in which you set printer attributes. This member comprises records of SYSOUT data.

Format of the Records in a Printer Setup Member

The first position in each record in a printer setup member contains a valid American Standards Association (ASA) carriage control character.

The format of the records in a printer setup member depends on the requirements of your printer. To print on a Xerox 9700 (or compatible) printer, for example, the records in the printer setup member can be DJDE statements. To print on an IBM 3800 (or compatible) printer on which the Print Services Facility (PSF) is used, the records can be X'5A' control records.

Note: You can insert only 50 records in a printer setup member.

Loading Printer Setup Library Members to the CA-Deliver Database

You must load the members of the printer setup library into the CA-Deliver database before they can be used.

To add printer setup members to the CA-Deliver database, use the PLOAD function of the RMODBASE utility, which is described in the chapter "Utilities."

Appending Printer Setup Records to a Report

To append printer setup records to a report, specify the name of a printer setup member in the PRSET field on the Report Definition Attributes panel. PRSET is described in the *CA-Deliver Administrator Guide*.

Printer setup records are appended to a report immediately after the report banner page but before the first record in a report.

If you do not specify the name of a printer setup member on the Report Definition Attributes panel, printer setup records are not appended to the report. A default printer setup member name is not used.

Tailoring Banner Pages to Print on a Xerox 9700 Printer

Reports printed with CA-Deliver (including reprints from CA-View) can be tailored for the Xerox 9700 printer by generating DJDE in the banner pages for reports.

Tailoring Model Banner Pages

Since page-oriented DJDE commands are only effective at the next page boundary, you may need to insert a skip-to-channel-1 carriage control on the next model banner page line after the DJDE statements. You do not need to insert a skip-to-channel-1 carriage control when the DJDE statements are specified as the last lines in a model banner page, since the report that follows always begins on a new page boundary.

- When you define a model banner page to be used for reports, you code the DJDE statements as either constant lines of data to be used for all reports or as variable lines of data that can be changed in each report definition.
- To specify constant DJDE data in a model banner page, code the DJDE statements as one or more lines in the model banner page.
- To specify variable DJDE data in a model banner page, code one or more lines in the model banner page as instruction lines using an &INSTn symbolic variable.
- When you define a report that is to use the model banner page, you specify the DJDE statements for the report as special instructions on the Report Definition Attributes panel.

Example

Assume the following:

- Banner pages are always printed with one logical page per physical page.
- Reports can be printed with multiple logical pages on one physical page; the actual format is specified as a special instruction in the report definition.
- The following Page Descriptor Entries (PDEs) have been created:
  - PDE1 One logical page per physical page
  - PDE4 Four logical pages per physical page
- The DJDE offset is 0 and the identifying prefix is $$DJDE.

The beginning model banner page is setup as follows:

```
/BEGSEP
    $$DJDE FORMAT=PDE1,END;
1
...body of beginning model banner page...

&INST1                                                          &
```

The ending model banner page is setup as follows:

```
/ENDSEP
     $$DJDE FORMAT=PDE1,END;
1
...body of ending model banner page...
```

For four pages per physical page, you can specify the following statement on the first line of the Special Instructions sub-panel of the Report Definition Attributes panel:

```
$$DJDE FORMAT=PDE4,END;
```

DJDE Identification

DJDE records start at column position printer offset +2 in banner pages.

Optional Use of PRSET

You can optionally implement the previous DJDE statements using the PRSET field on the Report Definition Attributes panel. In PRSET, the column position is printer offset +1.

Tailoring Bundle Model Banner Pages

You can specify DJDE statements in bundle model banner pages similar to report model banner pages. In this case, however, you can specify variable DJDE statements as special instructions on the Bundle Definition Attributes panel rather than on the Report Definition Attributes panel.

Note: Check your installation standards for DJDE offset and prefix, as they differ from printer to printer.

Chapter

10 Accessing CA-Deliver Programs From CA-GSS

This chapter discusses the following topics:

- How to establish a host command environment in CA-GSS (Global Subsystem)
- Commands processed by the host command environment
- GREXX variables
- A REXX EXEC that illustrates the use of the "DELIVER" host command environment

Establishing a Host Command Environment in CA-GSS

You can use CA-Deliver and CA-GSS together to establish a host command environment in CA-GSS for the CA-Deliver programs RMODBASE, RMODBB, and RMOGRW. The host command environment is named DELIVER, and is provided by the module RMOINTF. It is accessed by the "ADDRESS DELIVER" GREXX instruction.

Additional information about the host command environment is presented in the *CA-GSS for MVS Installation Guide*. Instructions for installing the DELIVER host command environment into CA-GSS are presented in *CA-Deliver Getting Started.*

Commands Processed by the Host Command

The commands processed by the DELIVER host command environment are the same as those that can be specified on the SYSIN control cards that are processed by RMODBASE, RMODBB, and /REPORT.

Note: /REPORT causes RMOGRW to be invoked.

GREXX Variables

The following GREXX variables are used in the host command environment:

- XPDELIVER.DBASE

  This variable contains the CA-Deliver database prefix that would normally be specified in the NAME *high-level-name* control card for the RMODBASE utility.

  XPDELIVER.DBASE must be specified before any CA-Deliver commands are issued. The length of the prefix must be less than or equal to 17.

- RC

  This variable is set by the DELIVER host command environment upon completion of the requested command.

  RC contains the return code from the requested command as follows:

Return Code	Description
-3	Command not found
-2	Not enough memory to perform command
-1	Unable to access shared variable pool
0	OK
4	Warning message issued—message text on stack
8	Error message issued—message text on stack
9	XPDELIVER.DBASE not set
10	XPDELIVER.DBASE string too long
12	Severe error message issued—message text on stack
16	Fatal error message issued—message text on stack
28	Language processor environment could not be found (could be a CA-GSS installation problem)
32	Internal error
Other	Internal error

Example of a REXX EXEC

The following is an example of a REXX EXEC that illustrates the use of the DELIVER host command environment:

```
#DESC TEST OF THE DELIVER HOST COMMAND ENVIRONMENT
#SOURCE
/*:RMOGRW.TEST1
/CONTROL DATABASE=DELIVER.SYSTEM1
/OUTPUT DISTID COL(1)
/OUTPUT DDEST  COL(10)
/DEFINE (I) BIN
/DO I=1 TO NA BY 1
/   OUTPUT A COL(30)
/   NEXT A
/END
*/
   TRACE OFF
   XPDELIVER.DBASE=DELIVER.SYSTEM1'
   CALL QUEUEPGM('RMOGRW.TEST1')
   ADDRESS DELIVER '/REPORT'
   NUM = QUEUED()
   RECORD.0 = NUM
   DO I = 1 TO NUM
      PULL RECORD.I
   END
   TRACE ALL
   DDNAME = ALLOC(,'NEW DELETE','PERM','DATA',,,'TRK 10',,
                  'PS','FB','256','2560')
   SAY DDNAME
   DCB = SAM('OBTAIN','LOCAL','DATA','OUTPUT')
   SAY DCB
   X = SAM('OPEN',DCB)
   SAY X
   DODBB = 'NO'
   DO I = 1 TO RECORD.0
      A1 = SUBSTR(RECORD.I,30,10)
      IF A1 = 'JIM SMITH' THEN DO
         OUTRECORD = 'D'||SUBSTR(RECORD.I,1,8)
         X = SAM('PUT',DCB,OUTRECORD,' ')
         SAY OUTRECORD
         DODBB='YES'
      ELSE DO
         SAY 'SKIPPING' RECORD.I
      END
(BLOCK TEXT C)   END
   X = SAM('CLOSE', DCB)
   IF DODBB = 'YES' THEN DO
      ADDRESS DELIVER '/DISTDEF FUNCTION=(1) DISTID=(3)'
      SAY RC
      CALL PRINTRESULT
   END
   X = DEALLOC ('DATA')
   ADDRESS DELIVER 'ADDS CYLINDER=3'
   CALL PRINTRESULT
EXIT
```

```
QUEUEPGM:
   PARSE ARG NAME
   KEY = '/*:'||NAME
   KEYL = LENGTH(KEY)
   LINENUM = 1
   DONE = 0
   DO WHILE DONE=0
      LINE = SOURCELINE(LINENUM)
      LINENUM = LINENUM + 1
      IF SUBSTR(LINE,1,KEYL) = KEY THEN DO
         DO WHILE DONE=0
            LINE = SOURCELINE(LINENUM)
            LINENUM = LINENUM + 1
            IF SUBSTR(LINE,1,2) = '*/' THEN DO
               DONE = 1
            END
            ELSE DO
               QUEUE LINE
            END
         END
      END
      ELSE IF SUBSTR(LINE,1,8) = 'QUEUEPGM' THEN DO
         DONE = 1
      END
RETURN
PRINTRESULT:
   HOWMANY = QUEUED()
   SAY HOWMANY
   DO I = 1 TO HOWMANY
      PULL RECORD
      SAY RECORD
   END
RETURN
```

Chapter 11

NJE Unattended Download

This chapter discusses CA-Deliver's unattended download feature and covers special software requirements, and how to send reports or bundles to CA-DocView.

Overview of Unattended Downloading

The NJE unattended download feature of CA-Deliver allows you to request the unattended download of reports and bundles from CA-Deliver to an NJE node on the LAN that is serving PCs running CA-DocView. This feature uses CA-Connect to manage the NJE print routing on the LAN.

This feature provides support for unattended download capability to CA-DocView from the open front end, batch bundle print function, and started task bundle print function.

Unattended downloading provides the following benefits:

- You do not have to wait for a terminal-based transfer to complete when transferring SYSOUT to CA-DocView.
- Report bundles can be delivered directly from CA-Deliver to CA-DocView.

Software Requirements

CA-Deliver's unattended download feature requires the following software:

- MVS operating system Release 5 or higher
- JES2 Release 5 or higher or JES3 Release 5 or higher
- CA-Connect Release 1.01 or higher
- CA-DocView

Note: The unattended download feature does not download the ACIF-generated index for AFP reports.

Sending a Report or Bundle to CA-DocView

To send a report or bundle to CA-DocView via CA-Connect, a DISTID must be set up for the CA-Connect destination.

On the Distribution Data for ID panel, the DEST field must contain the NJE NODEID.USERID that CA-Connect has designated for CA-DocView, and the CA-Connect Node field must be set to YES. For more information about CA-View or CA-Connect, see your CA-DocView or CA-Connect documentation.

Online panels are described in the *CA-Deliver Administrator Guide*.

Chapter 12

Security

This chapter explains the internal and external security features for CA-Deliver, including the following topics:

- Internal security
  - Types and levels of security access
  - Macros you use to define authorization criteria in the security table
  - Syntax of the RMOAGRP macro
  - Syntax of the RMOATH macro
  - Syntax of the RMOAEND macro
  - Coding macros
- External security
  - Types of resources protected
  - Levels of security access
  - How to implement external security for CA-Top Secret, CA-ACF2, and IBM's RACF

Internal Security

This section discusses the CA-Deliver database and the access levels which are managed by security table RMOATHTB or, optionally, the authorization security user exit RMOATHUX.

The AUTHTID initialization parameter can be used to identify a unique security table other than default security table, RMOATHTB. However, the default security table (RMOATHTB) will always be used by the RMODBASE utility.

Initial authorization checking verifies your user ID against the CA-Deliver security table. If there is no security table, all users are granted full access. Then, your user ID is checked by the security user exit. This user exit (which you write) may override the access authority assigned by the CA-Deliver security table.

If there is no security user exit, the CA-Deliver security table authorization remains in effect. If neither the security table nor the security user exit is present, all users have full access.

Starting with CA-Deliver Release 1.7, you can define multiple authorization tables.

WARNING! *You must define only one table per database. If you bring up two CA-Deliver tasks with the same database and specify different tables for each, once the second task is started, both tasks will use the table specified in the second task.*

RMOATHTB Security in CA-Deliver

The types and levels of security access that are available are as follows:

Security Level	Type of Access
ACT	Updates report activation data You can activate or inactivate and issue U, UF, and F tabular commands on the Active Report List panel. You can issue the A tabular command on the Job or Report Selection List panel.
BACT	Updates bundle activation data You can issue F and P tabular commands on the Active Bundle List panel.
BUNDLE	Bundle definitions
DBASE	Database using the RMODBASE utility, which runs authorized
DIST	Distribution definitions
JOB	Job definitions
REPORT	Report definitions
BANNER	Banner pages
PANEL	Panel members

The available levels of access are as follows:

Access Level	Type of Access
BROWSE	Browses the database
UPDATE	Browses and updates the database
DELETE	Deletes members from the database
RENAME	Renames members on the database
OPERATOR	Operator functions such as activation, immediate bundle printing, and so on
ADMIN	All of the above

Required Access Levels

The following list identifies the required access level for the function to be performed:

Required Access Level	Function
BROWSE	Browses definitions, displays active reports, displays history, displays job data, displays cross reference
UPDATE	All BROWSE functions and the ability to update the information presented
DELETE	Deletes definitions
RENAME	Renames definitions
OPERATOR	Activates, deactivates, forced deactivates, frees all, prints bundle now
ADMIN	All of the above

Using Macros to Define Authorization Criteria

A set of macros enables you to easily define your authorization criteria for use by the security table. The macro instructions are as follows:

Macro	Instructions
RMOAGRP	Defines a group of users to be given authorization
RMOATH	Defines authority for one or more groups of users
RMOAEND	Completes the security table

The macros are coded in standard assembler language syntax.

Macro Coding Order

The order in which the macros are coded is fixed. You must code the security table as follows:

1. Specify one or more RMOAGRP macros to define the groups of users.

   Note that the order of the RMOAGRP macros is significant in that the first group found that matches the user's attributes/environment is the group that is used.

2. Specify one or more RMOATH macros to define all the authorization criteria.
3. Specify the RMOAEND macro to complete the security table.
4. Specify the END assembler language statement.

RMOAGRP Macro

Syntax

```
name RMOAGRP            USER=(userid-list),          X
           ACCOUNT=x,                                X
           OPER=x,                                   X
           BATCH=x,                                  X
           STC=x,                                    X
           LIMIT=x,                                  X
           EXCL=x
```

where:

name	Specifies the name of the group Each group that is defined must have a unique name specified.
USER= *(userid-list)*	Specifies a list of generic user identifiers defining the list of users contained in the group If omitted, USER=* (all user identifiers) is assumed.
ACCOUNT=*x* [*NO, YES*]	Specifies whether the users specified must also be TSO users with account authority If omitted, ACCOUNT=NO is assumed. **Note:** Some security systems are restricted to 7-character userIDs. Be sure that your userIDs (including the mask) conform to the restrictions of your security package.
OPER=*x* [*NO, YES*]	Specifies whether the users specified must also be TSO users with operator authority If omitted, OPER=NO is assumed.
BATCH=x [*NO, YES*]	Specifies whether a batch job for which no user identifier is supplied on the JOB JCL statement is a member of the group If omitted, BATCH=NO is assumed. This operand is used as an alternative to the USER, ACCOUNT, and OPER operands. For an online user or batch job/started task with a user identifier specified on its JOB JCL statement, the USER, ACCOUNT, and OPER operands are used exclusively to determine the group. For a batch job with no user identifier specified on its JOB JCL statement, the BATCH operand is used exclusively to determine the group.

STC=*x* [*NO, YES*]	Specifies whether a started task for which no user identifier is supplied on the JOB JCL statement is a member of the group If omitted, STC=NO is assumed. This operand is used as an alternative to the USER, ACCOUNT, and OPER operands. For an online user or batch job/started task with a user identifier specified on its JOB JCL statement, the USER, ACCOUNT, and OPER operands are used exclusively to determine the group. For a started task with no user identifier specified on its JOB JCL statement, the STC operand is used exclusively to determine the group.
LIMIT=*x* [*NO, YES*]	Specifies whether lists displayed contain only information the user is authorized to see (YES) or contain information the user is not authorized to see (NO) This applies to selection lists as well as lists of items associated with current subject. For example, LIMIT=YES suppresses display of certain reports from the Reports For Job XYZ panel. There is additional overhead involved if LIMIT=YES is specified since each and every item in the list must be passed through the security process. LIMIT=NO does not entail this individual item checking. If omitted, LIMIT=NO is assumed. **Note:** All continuation lines (USER, ACCOUNT, OPER, BATCH, STC, LIMIT) must begin in column 16; non-blanks must begin in column 72.
EXCL=*x* [*NO, YES*]	Indicates that this entry should be excluded from "online" candidacy

Authorization Group Criteria

The following table provides the criteria necessary for a particular type of program (online, batch, started task) to be considered as a member of an authorization group:

Program Type	Could Be Part of Group if	Not Part of Group if
Online	User IDs match and, if table has OPER=*YES*, TSO must have operator authority, or User IDs match and, if table has ACCOUNT=*YES*, TSO must have account authority	User IDs match and EXCL=*YES*
Batch job without user ID	Table has BATCH=*YES*	
Batch job with user ID	User IDs match, and table has BATCH=*YES*	Table has either ACCOUNT=*YES* or OPER=*YES*
Started task without user ID	Table has STC=*YES*	
Started task with user ID	User IDs match, and table has STC=*YES*	Table has either ACCOUNT=*YES* or OPER=*YES*

RMOATH Macro

Syntax

```
label RMOATH type,                          X
          ID=(identifier-list), X
          ACCESS=(access-list), X
          GROUP=(group-list),   X
          PROMPT=x
```

where:

label Not used

type Specifies the type of access this macro applies

Valid types are:

ACT	Updates report activation data (activate or inactivate and Free tabular command F on the Active Report List panel)
BACT	Updates bundle activation data (Free tabular command F and Print Bundle Now tabular command P on the Active Bundle List panel)
BUNDLE	Bundle definitions
DBASE	Database using the RMODBASE utility, which runs authorized
DIST	Distribution definitions
JOB	Job definitions
REPORT	Report definitions
BALANCE	Balancing option
BANNER	Panel

ID= (*identifier-list*)	Specifies a list of generic identifiers defining the list of identifiers for which the groups are authorized	
	Types of identifiers correspond to the types of access as follows:	
	ACT	Report identifiers
	BACT	Bundle identifiers
	BUNDLE	Bundle identifiers
	DBASE	Not applicable
	DIST	Distribution identifiers
	JOB	Job names
	REPORT	Report identifiers
	If omitted, ID=* (all identifiers) is assumed	
ACCESS= (*access-list*)	Specifies a list of access levels for which the groups are authorized as follows:	
	BROWSE	Browses the database
	UPDATE	Browses and update the database
	DELETE	Deletes members from the database
	RENAME	Renames members on the database
	OPERATOR	Operator functions such as activation, immediate bundle printing, and so on
	ADMIN	All of the above
GROUP= (*group-list*)	Specifies the list of groups of users that are authorized for the type of access	
	The names of the groups must be identical to those specified on the RMOAGRP macros; generic group names cannot be used.	
PROMPT=*x* [*NO, YES*]	Specifies whether the operator is prompted to authorize access	
	If omitted, PROMPT=*NO* is assumed.	

Note: All continuation lines (type, ID, ACCESS, GROUP, PROMPT) must begin in column 16; non-blanks must begin in column 72 of the preceding record.

RMOAEND Macro

Syntax `RMOAEND`

Coding Macros

When coding the macros, you can specify *generic identifiers*. For the purposes of these macros only, you can code a generic identifier as a combination of the actual characters of the identifier and asterisks (*). For any position of the identifier, except for the last that an asterisk is coded, an exact match of that one position is not required. When the last position of the generic identifier contains an asterisk, any number of characters can follow the identifier.

For example, the following table lists generic and actual identifiers and specifies whether the generic and actual identifiers match:

Generic Identifier	Actual Identifier	Match
TECHVS	TECHVS	Yes
TECHVS	TECHVSE	No
TECH*	TECHVS	Yes
T*CHVS	TECHVS	Yes
T*CHVS	TACHVS	Yes
T*CHVS	TEACHVS	No
A*B*C*	AABBCCDD	Yes
A*B*C	AABBCCDD	No
A*B*C	AYBYC	Yes

After you code the macros, you must assemble and link edit the security table as RMOATHTB with authorization code 1 and then place the security table in the library that contains the CA-Deliver load modules.

WARNING! *When coding RMOAGRP USER=, the value you specify for USER= is the identifier assigned to the executing job or task by your external security system.*

Example

The following code enables the started task and RMORAP to activate bundles:

```
actgroup RMOAGRP USER=(RMOSTC,RMORAP),                  X
               STC=YES,                                 X
               BATCH=YES
         ...
         RMOATH BACT,                                   X
               ID=*,                                    X
               ACCESS=(ADMIN),                          X
               GROUP=(actgroup)
         ...
         RMOATH ACT,                                    X
               ID=*,                                    X
               ACCESS=(ADMIN),                          X
               GROUP=(actgroup)
         ...
         RMOAEND
         END
```

Note: All continuation lines must begin in column 16; non-blanks must begin in column 72.

Example

The following code is an example of a complete RMOATHTB. This code is located in CAI.PPOPTION as RMOATHT1. An additional sample, RMOATHT2, which authorizes all users to all functions, can also be found in CAI.PPOPTION. You can tailor SMP USERMOD HB17ATHT and use it to install the tables.

```
*********************************************************************
*            THIS IS A SAMPLE RMOATHTB TABLE FOR USE                *
*                                                                   *
*            WITH CA-DELIVER                                        *
*                                                                   *
*                                                                   *
*  AFTER THE MACROS HAVE BEEN CODED THE SECURITY TABLE MUST BE      *
*  ASSEMBLED WITH ASSEMBLER H USING THE ALIGN OPTION. IT IS THEN    *
*  LINKED AS RMOATHTB WITH OPTIONS AC=1 AND RENT. PLACE THE LOAD    *
*  MODULE IN THE AUTHORIZED LIBRARY CONTAINING THE CA-DELIVER       *
*  LOAD MODULES.                                                    *
*                                                                   *
*  THIS IS AN ASSEMBLER LANGUAGE PROGRAM. TO CONTINUE A             *
*  STATEMENT ON THE NEXT LINE YOU MUST END THE CURRENT LINE         *
*  WITH A COMMA, PLACE A NON-BLANK CHARACTER IN 72, AND CONTINUE    *
*  IN COLUMN 16 ON THE NEXT LINE. AN ASTERISK IN COLUMN 1           *
*  DENOTES A COMMENT.                                               *
*                                                                   *
*********************************************************************
*
* FIRST WE DEFINE FOUR GROUPS
*
*  NOTES
*       - IF AUTOACT=YES, THE USERID ASSOCIATED WITH THE
*         CA-DELIVER STARTED TASK MUST BELONG TO A SECURITY GROUP
*         THAT HAS ACTIVATE AUTHORITY FOR REPORTS AND BUNDLES.
*
*       - IF START=RMORAP, THE USERID ASSOCIATED WITH THE RMORAP
*         STARTED TASK MUST BELONG TO A SECURITY GROUP THAT HAS
*         ACTIVATE AUTHORITY FOR REPORTS AND BUNDLES.
*
```

```
*       - IF RMORAP IS RUN IN BATCH, THE USERID ASSOCIATED WITH
*         THE BATCH JOB MUST BELONG TO A SECURITY GROUP THAT HAS
*         ACTIVATE AUTHORITY FOR REPORTS AND BUNDLES AND HAS
*         "BATCH=YES".
*
*       - PRIOR TO PTF RP040128 OR RP041031
*         BATCH=YES INDICATES THAT THIS SECURITY GROUP SHOULD
*         INCLUDE ALL BATCH JOBS THAT ARE *NOT* ASSOCIATED WITH A
*         USERID. THIS PARAMETER SHOULD ONLY BE USED IF YOU DO NOT
*         HAVE A SECURITY SYSTEM INSTALLED.
*
*       - AFTER PTF RP040128 OR RP041031
*         BATCH=YES INDICATES THAT THE USERIDS IN THIS GROUP HAVE
*         AUTHORITY TO UPDATE THE DATABASE FROM A BATCH JOB (I.E.
*         RMODBB, RMORAP ...)
*
*       - PRIOR TO PTF RP040128 OR RP041031
*         STC=YES INDICATES THAT THIS SECURITY GROUP SHOULD
*         INCLUDE ALL STARTED TASKS THAT ARE *NOT* ASSOCIATED WITH
*         A USERID. THIS PARAMETER SHOULD ONLY BE USED IF YOU DO
*         NOT HAVE A SECURITY SYSTEM INSTALLED OR IF STARTED TASKS
*         ARE NOT ASSOCIATED WITH A USERID.
*
*       - AFTER PTF RP040128 OR RP041031
*         STC=YES INDICATES THAT ONE OR MORE USERIDS IN THIS GROUP
*         ARE STARTED TASKS.
*
*       - USER=(-),BATCH=YES,STC=YES WILL ONLY ASSIGN STARTED
*         TASKS AND BATCH JOBS WITH A BLANK (UNASSIGNED) USERID
*         TO THIS SECURITY GROUP
*
*       - USER=(*),BATCH=YES,STC=YES WILL ASSIGN EVERY USER
*         TO THIS SECURITY GROUP IN ADDITION TO ALL BATCH JOBS
*         AND STARTED TASKS WITH A BLANK (UNASSIGNED) USERID.
*
*       - IF THE USER PARAMETER IS OMITTED, USER=(*) IS ASSUMED.
*
SYSADMIN RMOAGRP USER=(BMCLAUG,GHASUL,JMOONEY,TBURNET,TFLEMIN,   X
               JBUTLER,EHART,TCROSSL),BATCH=YES
APPLPROG RMOAGRP USER=(GDS,BBB),LIMIT=YES
CLSONLY  RMOAGRP USER=(GDT)
ACTGROUP RMOAGRP USER=(RMOSTC,RMORAP),STC=YES,BATCH=YES
* HERE'S WHAT SYSADMIN CAN DO (ANYTHING)
*  NOTE - ACCESS=(ADMIN) IS THE SAME AS
*         ACCESS=(UPDATE,RENAME,DELETE,OPERATOR)
*
*         BACT AUTHORITY OF OPERATOR ALLOWS USERS TO
*              ISSUE THE P COMMAND AND UPDATE
*              DETAIL HISTORY FROM THE ACTIVE BUNDLE SCREEN.
*
*         ACT  AUTHORITY OF OPERATOR ALLOWS USERS TO
*              ISSUE THE U, F, AND UF COMMANDS AND UPDATE
*              DETAIL HISTORY FROM THE ACTIVE REPORT SCREEN.
*
*         BUNDLE AUTHORITY OF OPERATOR ALLOWS USERS TO UPDATE
*                DETAIL HISTORY FROM THE BUNDLE SELECTION LIST.

*         REPORT AUTHORITY OF OPERATOR ALLOWS USERS TO UPDATE
*                DETAIL HISTORY FROM THE REPORT SELCTION LIST.
*
```

```
*  DEFAULT VALUES:
*          ID=(*),ACCESS=(ADMIN)
*
 RMOATH  ACT,ID=*,ACCESS=(ADMIN),GROUP=(SYSADMIN)
 RMOATH  BACT,ID=*,ACCESS=(ADMIN),GROUP=(SYSADMIN)
 RMOATH  BUNDLE,ID=*,ACCESS=(ADMIN),GROUP=(SYSADMIN)
 RMOATH  DBASE,ACCESS=(ADMIN),GROUP=(SYSADMIN)
 RMOATH  DIST,ID=*,ACCESS=(ADMIN),GROUP=(SYSADMIN)
 RMOATH  JOB,ID=*,ACCESS=(ADMIN),GROUP=(SYSADMIN)
 RMOATH  REPORT,ID=*,ACCESS=(ADMIN),GROUP=(SYSADMIN)
 RMOATH  BANNER,ID=*,ACCESS=(ADMIN),GROUP=(SYSADMIN)
 RMOATH  PANEL,ID=*,ACCESS=(ADMIN),GROUP=(SYSADMIN)
*
* HERE'S WHAT APPLICATION PROGRAMMING CAN DO
*
*  NOTE - IF GROUP-1 USERS CAN UPDATE A REPORT AND
*             GROUP-2 USERS CAN DELETE A REPORT
*       THEN A USER BELONGING TO BOTH GROUPS CAN UPDATE AND DELETE.
*
 RMOATH  ACT,ID=(TST*),                                          X
       ACCESS=(OPERATOR),GROUP=(APPLPROG)
 RMOATH  BACT,ID=(TST*),                                         X
       ACCESS=(OPERATOR),GROUP=(APPLPROG)
 RMOATH  BUNDLE,ID=(TST*),                                       X
       ACCESS=(UPDATE,DELETE,RENAME),GROUP=(APPLPROG)
 RMOATH  DIST,ID=(TST*),                                         X
       ACCESS=(UPDATE,DELETE,RENAME),GROUP=(APPLPROG)
 RMOATH  JOB,ID=(TST*),                                          X
       ACCESS=(ADMIN),GROUP=(APPLPROG)
 RMOATH  REPORT,ID=(TST*),                                       X
       ACCESS=(ADMIN),GROUP=(APPLPROG)
*
* HERE'S WHAT CLSONLY CAN DO
*
 RMOATH  ACT,ID=CLS*,ACCESS=(BROWSE),GROUP=(CLSONLY)
 RMOATH  BACT,ID=CLS*,ACCESS=(BROWSE),GROUP=(CLSONLY)
 RMOATH  BUNDLE,ID=CLS*,ACCESS=(BROWSE),GROUP=(CLSONLY)
 RMOATH  DIST,ID=CLS*,ACCESS=(BROWSE),GROUP=(CLSONLY)
 RMOATH  JOB,ID=CLS*,ACCESS=(BROWSE),GROUP=(CLSONLY)
 RMOATH  REPORT,ID=CLS*,ACCESS=(BROWSE),GROUP=(CLSONLY)
*
* HERE'S WHAT ACTGROUP (STARTED TASKS AND BATCH JOBS) CAN DO
*
 RMOATH  ACT,ID=*,ACCESS=(OPERATOR),GROUP=(ACTGROUP)
 RMOATH  BACT,ID=*,ACCESS=(OPERATOR),GROUP=(ACTGROUP)
* THE NEXT 6 STATEMENTS ARE FOR USERS THAT DO NOT HAVE A SECURITY
* SYSTEM INSTALLED BUT WANT TO UPDATE THE DATABASE IN BATCH
* RMOATH  BUNDLE,ID=*,ACCESS=(ADMIN),GROUP=(ACTGROUP)
* RMOATH  DBASE,ACCESS=(ADMIN),GROUP=(ACTGROUP)
* RMOATH  DIST,ID=*,ACCESS=(ADMIN),GROUP=(ACTGROUP)
* RMOATH  JOB,ID=*,ACCESS=(ADMIN),GROUP=(ACTGROUP)
* RMOATH  REPORT,ID=*,ACCESS=(ADMIN),GROUP=(ACTGROUP)
*
* COMPLETE THE SECURITY TABLE
 RMOAEND
 END
```

External Security

The sections that follow demonstrate how to implement external security for the following security managers:

- CA-Top Secret
- CA-ACF2
- IBM's RACF

Because of the way that CA-Deliver handles security, you can not see any violations logged by the external security manager. CA-Deliver pre-approves users for access to resources. That is, before displaying a panel, CA-Deliver checks for everything a user might be allowed to do or see on that panel.

It is impossible for a violation to occur in this environment and, therefore, none are logged. For example, if a user who is authorized to the Report function requests a list of reports, the only reports displayed are those permitted for that user. If no reports are permitted, an empty list is displayed.

Tip: Since CA-Deliver external security processing will verify the user's authorization for every object requested, you can minimize the impact on performance by using a wild card character to request only specific data. For example, if you enter J to display all jobs, performance will be impacted. You can improve performance by entering J ABC* to view only those jobs that begin with ABC.

Note: The implementation procedures presented in this section are examples only. You must determine what the appropriate settings are for your environment.

Important! *These examples authorize all users to do everything. We recommend that the CA-Deliver administrator work together with a security administrator to do the implementation as a cooperative effort.*

Initialization Parameters

Two of CA-Deliver's initialization parameters affect the operation of external security.

- EXTSEC=

  Set EXTSEC=NO so external security calls will not be made.

  You can also code EXTSEC=YES and EXTSEC=UNIQUE to cause CA-Deliver to make external security calls. The difference is in the resource names that will be used. Note that, for EXTSEC=YES or EXTSEC=UNIQUE to be in effect, the CA-Deliver started task must have been started at least once since the last IPL.

  All CA-Deliver resource names are prefixed with either "RMO." or "RMO#." If you specify EXTSEC=YES, the "RMO." prefix is used. Use this option when all (or most) of your CA-Deliver regions use the same security rules. For more information about resource names, see the section Resources and Authorizations that follows.

- SYSID=

  If you need separate rules for one or more regions, code EXTSEC=UNIQUE in the initialization parameters. External security calls will then use the "RMO#." prefix. The #-sign will be replaced with the region's SYSID= value.

Note: For more information, see the chapter "Initialization Parameters."

Resources and Authorizations

CA-Deliver manages security with nine resource types. Each type is given a name containing a national character to satisfy the requirements of the various security packages. Each resource type corresponds to a TYPE from the RMOATHTB internal security table as shown in the following table.

Resource Type	RMOATHTB Type	ACF2 Type	Resources Protected
DLV@ACT	ACT	DAC	Activation, inactivation, and updates on the Active Reports panel
DLV@BACT	BACT	DBA	Updates on the Active Bundles panel
DLV@BANR	BANNER	DBR	Displaying and deleting banners (DIS B)
DLV@BNDL	BUNDLE	DBN	Bundles
DLV@DBAS	DBASE	DBS	RMODBASE actions
DLV@DIST	DIST	DDI	Distribution IDs
DLV@JOB	JOB	DJB	Jobs
DLV@PANL	PANEL	DPN	Displaying and deleting panels (DIS O)
DLV@REPT	REPORT	DRP	Reports

CA-Deliver's internal security allows six different access levels. In order to be compatible with the external security managers, these must be compressed into four levels of access. They are inclusive in that a higher access level implies all lower levels.

Note: Because of the nature of CA-Deliver's SAF calls, this is true even when using CA-ACF2.

RMOATHTB Access	RACF	TSS	ACF2	Description
BROWSE	READ	READ	READ	Browses the database
UPDATE	UPDATE	UPDATE	UPDATE	Browses and updates the database
OPERATOR and UPDATE	CONTROL	CONTROL	DELETE	Provides operator functions such as activation, immediate bundle printing, and so on
DELETE	ALTER	ALL	ADD	Deletes members from the database
RENAME	ALTER	ALL	ADD	Renames members on the database
ADMIN	ALTER	ALL	ADD	Provides all of the above

As mentioned previously, resource names are prefixed with either "RMO." or "RMO#." What follows the prefix depends on the type of resource.

Resource Type	Data Type	Resource Name	Function
DLV@ACT	Report	RMO(#).reportid	A – Active Display
DLV@BACT	Bundle	RMO(#).bundle	A – Active Display
DLV@BANR	Banner	RMO(#).banner	N/A
DLV@BNDL	Bundle	RMO(#).bundle	B – Bundle Data
DLV@DBAS	Database	RMO(#).dbhlq	N/A
DLV@DIST	Distribution ID	RMO(#).distid	D – Distribution Data
DLV@JOB	Job	RMO(#).job	J – Job Data
DLV@PANL	Panel	RMO(#).panel	N/A
DLV@REPT	Report	RMO(#).reportid	R – Report Data

You can use generics. For example, "RMO.*" will cover every entity of a given type.

There is a special case for each resource type except DLV@BANR, DLV@DBAS and DLV@PANL. In order to perform a given function at all, the user must have at least READ access to a resource named "RMO." or "RMO#." for each function. The most visible effect of this is on the CA-Deliver Primary Selection panel. A user who, for example, does not have READ access to "RMO." in type DLV@REPT, will not even have the R (Report Data) option available. Defining this as a generic resource will work but, of course, will give read access to every resource of that type. To prevent this, grant READ access to a non-generic resource: "RMO." instead of "RMO.*" or "RMO.(G)".

The following sections detail the steps necessary to implement support of external security with CA-Deliver. There are descriptions and sample jobs for CA-Top Secret, CA-ACF2, and IBM's RACF.

Implementing External Security for CA-Top Secret

To implement external security for CA-Top Secret, do the following:

Note: For more information about the commands listed in this section, see the *CA-Top Secret Command Functions Guide*. The sample jobs can be found in CAIOPTN member RMOTSS.

1. Add CA-Deliver's resource types (classes) to the Resource Descriptor Table, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//RDT     EXEC PGM=IKJEFT01
//SYSTSPRT DD  SYSOUT=*
//SYSTSIN  DD  *
TSS ADDTO(RDT) RESCLASS(DLV@ACT)  RESCODE(37)                +
    ATTR(LONG,NONGENERIC)                                    +
    ACLST(ALL,CONTROL,UPDATE,READ,NONE) +
    DEFACC(NONE)
TSS ADDTO(RDT) RESCLASS(DLV@BACT) RESCODE(38)                +
    ATTR(LONG,NONGENERIC)                                    +
    ACLST(ALL,CONTROL,UPDATE,READ,NONE) +
    DEFACC(NONE)
TSS ADDTO(RDT) RESCLASS(DLV@BANR) RESCODE(39)                +
    ATTR(LONG,NONGENERIC)                                    +
    ACLST(ALL,CONTROL,UPDATE,READ,NONE) +
    DEFACC(NONE)
TSS ADDTO(RDT) RESCLASS(DLV@BNDL) RESCODE(3A)                +
    ATTR(LONG,NONGENERIC)                                    +
    ACLST(ALL,CONTROL,UPDATE,READ,NONE) +
    DEFACC(NONE)
TSS ADDTO(RDT) RESCLASS(DLV@DBAS) RESCODE(3B)                +
    ATTR(LONG,NONGENERIC)                                    +
    ACLST(ALL,CONTROL,UPDATE,READ,NONE) +
    DEFACC(NONE)
TSS ADDTO(RDT) RESCLASS(DLV@DIST) RESCODE(3C)                +
    ATTR(LONG,NONGENERIC)                                    +
    ACLST(ALL,CONTROL,UPDATE,READ,NONE) +
    DEFACC(NONE)
TSS ADDTO(RDT) RESCLASS(DLV@JOB)  RESCODE(3D)                +
    ATTR(LONG,NONGENERIC)                                    +
    ACLST(ALL,CONTROL,UPDATE,READ,NONE) +
    DEFACC(NONE)
TSS ADDTO(RDT) RESCLASS(DLV@PANL) RESCODE(3E)                +
    ATTR(LONG,NONGENERIC)                                    +
    ACLST(ALL,CONTROL,UPDATE,READ,NONE) +
    DEFACC(NONE)
TSS ADDTO(RDT) RESCLASS(DLV@REPT) RESCODE(3F)                +
    ATTR(LONG,NONGENERIC)                                    +
    ACLST(ALL,CONTROL,UPDATE,READ,NONE) +
    DEFACC(NONE)
/*
```

2. Create a department to own the resources, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//DEPT    EXEC PGM=IKJEFT01
//SYSTSPRT DD  SYSOUT=*
//SYSTSIN  DD  *
TSS CREATE(DLVRDEPT) TYPE(DEPT) NAME('DELIVER DEPARTMENT')
/*

//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//OWNER   EXEC PGM=IKJEFT01
//SYSTSPRT DD  SYSOUT=*
//SYSTSIN  DD  *
TSS ADDTO(DLVRDEPT) DLV@ACT(RMO.)
TSS ADDTO(DLVRDEPT) DLV@BACT(RMO.)
TSS ADDTO(DLVRDEPT) DLV@BANR(RMO.)
TSS ADDTO(DLVRDEPT) DLV@BNDL(RMO.)
TSS ADDTO(DLVRDEPT) DLV@DBAS(RMO.)
TSS ADDTO(DLVRDEPT) DLV@DIST(RMO.)
TSS ADDTO(DLVRDEPT) DLV@JOB(RMO.)
TSS ADDTO(DLVRDEPT) DLV@PANL(RMO.)
TSS ADDTO(DLVRDEPT) DLV@REPT(RMO.)
/*
```

3. Make a profile and permit resource access to it, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//PROFILE EXEC PGM=IKJEFT01
//SYSTSPRT DD  SYSOUT=*
//SYSTSIN  DD  *
TSS CREATE(DLVRPROF) TYPE(PROFILE) NAME('DELIVER') DEPT(DLVRDEPT)
/*

//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//PERMIT  EXEC PGM=IKJEFT01
//SYSTSPRT DD  SYSOUT=*
//SYSTSIN  DD  *
TSS PERMIT(DLVRPROF) DLV@ACT(RMO.(G))  ACCESS(ALL) ACTION(FAIL)
TSS PERMIT(DLVRPROF) DLV@BACT(RMO.(G)) ACCESS(ALL) ACTION(FAIL)
TSS PERMIT(DLVRPROF) DLV@BANR(RMO.(G)) ACCESS(ALL) ACTION(FAIL)
TSS PERMIT(DLVRPROF) DLV@BNDL(RMO.(G)) ACCESS(ALL) ACTION(FAIL)
TSS PERMIT(DLVRPROF) DLV@DBAS(RMO.(G)) ACCESS(ALL) ACTION(FAIL)
TSS PERMIT(DLVRPROF) DLV@DIST(RMO.(G)) ACCESS(ALL) ACTION(FAIL)
TSS PERMIT(DLVRPROF) DLV@JOB(RMO.(G))  ACCESS(ALL) ACTION(FAIL)
TSS PERMIT(DLVRPROF) DLV@PANL(RMO.(G)) ACCESS(ALL) ACTION(FAIL)
TSS PERMIT(DLVRPROF) DLV@REPT(RMO.(G)) ACCESS(ALL) ACTION(FAIL)
/*
```

4. Add the profile to a user, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//ADDTO   EXEC PGM=IKJEFT01
//SYSTSPRT DD  SYSOUT=*
//SYSTSIN  DD  *
TSS ADDTO(userid) PROFILE(DLVRPROF)
/*
```

Implementing External Security for CA-ACF2

To implement external security for CA-ACF2, do the following:

Note: For more information about the commands listed here, see the *CA-ACF2 Administrator Guide*. The sample jobs can be found in CAIOPTN member RMOACF2.

1. Map CA-Deliver's resource types to CA-ACF2 resource types, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//CLAS EXEC PGM=IKJEFT01
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
ACF
SET CONTROL(GSO)
INS CLASMAP.DLV@ACT  RESOURCE(DLV@ACT)  RSRCTYPE(DAC) ENTITYLN(17)
INS CLASMAP.DLV@BACT RESOURCE(DLV@BACT) RSRCTYPE(DBA) ENTITYLN(15)
INS CLASMAP.DLV@BANR RESOURCE(DLV@BANR) RSRCTYPE(DBR) ENTITYLN(13)
INS CLASMAP.DLV@BNDL RESOURCE(DLV@BNDL) RSRCTYPE(DBN) ENTITYLN(15)
INS CLASMAP.DLV@DBAS RESOURCE(DLV@DBAS) RSRCTYPE(DBS) ENTITYLN(22)
INS CLASMAP.DLV@DIST RESOURCE(DLV@DIST) RSRCTYPE(DDI) ENTITYLN(13)
INS CLASMAP.DLV@JOB  RESOURCE(DLV@JOB)  RSRCTYPE(DJB) ENTITYLN(13)
INS CLASMAP.DLV@PANL RESOURCE(DLV@PANL) RSRCTYPE(DPN) ENTITYLN(13)
INS CLASMAP.DLV@REPT RESOURCE(DLV@REPT) RSRCTYPE(DRP) ENTITYLN(17)
/*
```

2. Tell CA-ACF2 about the SAF calls that CA-Deliver will be making, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//SAFD EXEC PGM=IKJEFT01
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
ACF
SET CONTROL(GSO)
INS SAFDEF.DLV@ACT  ID(DLV@ACT)  PROGRAM(RMO-) RB(RMO-) -
    NOAPFCHK RACROUTE(REQUEST=AUTH,CLASS=DLV@ACT,STATUS=ACCESS)
INS SAFDEF.DLV@BACT ID(DLV@BACT) PROGRAM(RMO-) RB(RMO-) -
    NOAPFCHK RACROUTE(REQUEST=AUTH,CLASS=DLV@BACT,STATUS=ACCESS)
INS SAFDEF.DLV@BANR ID(DLV@BANR) PROGRAM(RMO-) RB(RMO-) -
    NOAPFCHK RACROUTE(REQUEST=AUTH,CLASS=DLV@BANR,STATUS=ACCESS)
INS SAFDEF.DLV@BNDL ID(DLV@BNDL) PROGRAM(RMO-) RB(RMO-) -
    NOAPFCHK RACROUTE(REQUEST=AUTH,CLASS=DLV@BNDL,STATUS=ACCESS)
INS SAFDEF.DLV@DBAS ID(DLV@DBAS) PROGRAM(RMO-) RB(RMO-) -
    NOAPFCHK RACROUTE(REQUEST=AUTH,CLASS=DLV@DBAS,STATUS=ACCESS)
INS SAFDEF.DLV@DIST ID(DLV@DIST) PROGRAM(RMO-) RB(RMO-) -
    NOAPFCHK RACROUTE(REQUEST=AUTH,CLASS=DLV@DIST,STATUS=ACCESS)
INS SAFDEF.DLV@JOB  ID(DLV@JOB)  PROGRAM(RMO-) RB(RMO-) -
    NOAPFCHK RACROUTE(REQUEST=AUTH,CLASS=DLV@JOB,STATUS=ACCESS)
INS SAFDEF.DLV@PANL ID(DLV@PANL) PROGRAM(RMO-) RB(RMO-) -
    NOAPFCHK RACROUTE(REQUEST=AUTH,CLASS=DLV@PANL,STATUS=ACCESS)
INS SAFDEF.DLV@REPT ID(DLV@REPT) PROGRAM(RMO-) RB(RMO-) -
    NOAPFCHK RACROUTE(REQUEST=AUTH,CLASS=DLV@REPT,STATUS=ACCESS)
/*
```

3. Make the resource types resident, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//ACF2 EXEC PGM=IKJEFT01
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
ACF
SET CONTROL(GSO)
CHANGE INFODIR TYPES(R-RDAC,R-RDBA,R-RDBR,R-RDBN,R-RDBS)
CHANGE INFODIR TYPES(R-RDDI,R-RDJB,R-RDPN,R-RDRP)
/*
```

4. Enter the modify console commands to refresh all of this, for example:

```
F ACF2,REFRESH(CLASMAP)
F ACF2,REFRESH(SAFDEF)
F ACF2,REFRESH(INFODIR)
```

5. Define CA-ACF2 rules, for example:

   Note: The rule definitions used in the following example are contained in nine separate members of a PDS, called *RULES.PDS*. For more information, see the topic PDS Members later in this chapter.

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//RULE EXEC PGM=IKJEFT01
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
ACF
SET RESOURCE(DAC)
COMPILE 'RULES.PDS(DAC)'
STORE
SET RESOURCE(DBA)
COMPILE 'RULES.PDS(DBA)'
STORE
SET RESOURCE(DBN)
COMPILE 'RULES.PDS(DBN)'
STORE
SET RESOURCE(DBR)
COMPILE 'RULES.PDS(DBR)'
STORE
SET RESOURCE(DBS)
COMPILE 'RULES.PDS(DBS)'
STORE
SET RESOURCE(DDI)
COMPILE 'RULES.PDS(DDI)'
STORE
SET RESOURCE(DJB)
COMPILE 'RULES.PDS(DJB)'
STORE
SET RESOURCE(DPN)
COMPILE 'RULES.PDS(DPN)'
STORE
SET RESOURCE(DRP)
COMPILE 'RULES.PDS(DRP)'
STORE
/*
```

6. Tell CA-ACF2 to rebuild the resident rules, for example:

```
F ACF2,REBUILD(DAC)
F ACF2,REBUILD(DBA)
F ACF2,REBUILD(DBR)
F ACF2,REBUILD(DBN)
F ACF2,REBUILD(DBS)
F ACF2,REBUILD(DDI)
F ACF2,REBUILD(DJB)
F ACF2,REBUILD(DPN)
F ACF2,REBUILD(DRP)
```

PDS Members

Following are the PDS members.

Member	Contents

DAC	`* DLV@ACT REPORT ACTIVATION`
	`$KEY(RMO) TYPE(DAC)`
	`UID(*) SERVICE(READ) ALLOW`
	`- UID(*) SERVICE(ADD) ALLOW`

DBA	`* DLV@BACT BUNDLE ACTIVATION`
	`$KEY(RMO) TYPE(DBA)`
	`UID(*) SERVICE(READ) ALLOW`
	`- UID(*) SERVICE(ADD) ALLOW`

DBN	`* DLV@BNDL BUNDLES`
	`$KEY(RMO) TYPE(DBN)`
	`UID(*) SERVICE(READ) ALLOW`
	`- UID(*) SERVICE(ADD) ALLOW`

DBR	`* DLV@BANR BANNERS`
	`$KEY(RMO) TYPE(DBR)`
	`- UID(*) SERVICE(ADD) ALLOW`

DBS	`* DLV@DBAS DATABASE`
	`$KEY(RMO) TYPE(DBS)`
	`- UID(*) SERVICE(ADD) ALLOW`

DDI	`* DLV@DIST DISTIDS`
	`$KEY(RMO) TYPE(DDI)`
	`UID(*) SERVICE(READ) ALLOW`
	`- UID(*) SERVICE(ADD) ALLOW`

DJB	`* DLV@JOB JOBS`
	`$KEY(RMO) TYPE(DJB)`
	`UID(*) SERVICE(READ) ALLOW`
	`- UID(*) SERVICE(ADD) ALLOW`

DPN	`* DLV@PANL PANELS`
	`$KEY(RMO) TYPE(DPN)`
	`- UID(*) SERVICE(ADD) ALLOW`

DRP	`* DLV@REPT REPORTS`
	`$KEY(RMO) TYPE(DRP)`
	`UID(*) SERVICE(READ) ALLOW`
	`- UID(*) SERVICE(ADD) ALLOW`

Implementing External Security for RACF

Note: For more information about the RACF Class Descriptor Table and the Routing Table, see SC28-1913 in IBM's *OS/390 Security Server (RACF) System Programmer's Guide*. For more information about the commands used in this section, see SC28-1919 in the *OS/390 Security Server (RACF) Command Language Reference*. (At OS/390 V2R10.0, OS/390 Security Server (RACF) has been renamed to OS/390 SecureWay Security Server RACF.) The sample jobs can be found in CAIOPTN member RMORACF.

To use RACF to manage CA-Deliver external security, do the following:

1. Create or add code to the RACF Class Descriptor Table.

   For example, the following job will create a Class Descriptor Table that contains CA-Deliver's nine class names. The table must be assembled and linked as ICHRRCDE. If you have already created one of these tables, you must include it in the link step. Otherwise, remove the INCLUDE SYSLMOD(ICHRRCDE) statement from the link step.

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//CDT  EXEC HLASMCL
//C.SYSLIB DD DSN=SYS1.MODGEN,DISP=SHR
//C.SYSIN DD *
DLV@ACT  ICHERCDE CLASS=DLV@ACT,ID=128,MAXLNTH=17,FIRST=ALPHA,         +
               OTHER=ANY,POSIT=25,OPER=NO
DLV@BACT ICHERCDE CLASS=DLV@BACT,ID=128,MAXLNTH=15,FIRST=ALPHA,        +
               OTHER=ANY,POSIT=25,OPER=NO
DLV@BANR ICHERCDE CLASS=DLV@BANR,ID=128,MAXLNTH=13,FIRST=ALPHA,        +
               OTHER=ANY,POSIT=25,OPER=NO
DLV@BNDL ICHERCDE CLASS=DLV@BNDL,ID=128,MAXLNTH=15,FIRST=ALPHA,        +
               OTHER=ANY,POSIT=25,OPER=NO
DLV@DBAS ICHERCDE CLASS=DLV@DBAS,ID=128,MAXLNTH=22,FIRST=ALPHA,        +
               OTHER=ANY,POSIT=25,OPER=NO
DLV@DIST ICHERCDE CLASS=DLV@DIST,ID=128,MAXLNTH=13,FIRST=ALPHA,        +
               OTHER=ANY,POSIT=25,OPER=NO
DLV@JOB  ICHERCDE CLASS=DLV@JOB,ID=128,MAXLNTH=13,FIRST=ALPHA,         +
               OTHER=ANY,POSIT=25,OPER=NO
DLV@PANL ICHERCDE CLASS=DLV@PANL,ID=128,MAXLNTH=13,FIRST=ALPHA,        +
               OTHER=ANY,POSIT=25,OPER=NO
DLV@REPT ICHERCDE CLASS=DLV@REPT,ID=128,MAXLNTH=17,FIRST=ALPHA,        +
               OTHER=ANY,POSIT=25,OPER=NO
         ICHERCDE
/*

//L.SYSLMOD DD DSN=SYS1.LINKLIB,
//             DISP=SHR
//L.SYSIN   DD *
      INCLUDE SYSLMOD(ICHRRCDE) NEEDED IF ADDING TO AN EXISTING TABLE
      ORDER  DLV@ACT
      ORDER  DLV@BACT
      ORDER  DLV@BANR
      ORDER  DLV@BNDL
      ORDER  DLV@DBAS
      ORDER  DLV@DIST
      ORDER  DLV@JOB
      ORDER  DLV@PANL
      ORDER  DLV@REPT
      ORDER  ICHRRCDE
      NAME   ICHRRCDE(R)
/*
```

2. Add the CA-Deliver class names to the RACF Router Table, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//RT   EXEC HLASMCL
//C.SYSLIB DD DSN=SYS1.MODGEN,DISP=SHR
//C.SYSIN DD *
ICHRFR01 CSECT
DLV@ACT  ICHRFRTB CLASS=DLV@ACT,ACTION=RACF
DLV@BACT ICHRFRTB CLASS=DLV@BACT,ACTION=RACF
DLV@BANR ICHRFRTB CLASS=DLV@BANR,ACTION=RACF
DLV@BNDL ICHRFRTB CLASS=DLV@BNDL,ACTION=RACF
DLV@DBAS ICHRFRTB CLASS=DLV@DBAS,ACTION=RACF
DLV@DIST ICHRFRTB CLASS=DLV@DIST,ACTION=RACF
DLV@JOB  ICHRFRTB CLASS=DLV@JOB,ACTION=RACF
DLV@PANL ICHRFRTB CLASS=DLV@PANL,ACTION=RACF
DLV@REPT ICHRFRTB CLASS=DLV@REPT,ACTION=RACF
ENDTAB   ICHRFRTB TYPE=END
         END   ICHRFR01
/*

//L.SYSLMOD DD DSN=SYS1.LINKLIB,
//             DISP=SHR
//L.SYSIN   DD *
      NAME    ICHRFR01(R)
/*
```

3. Activate the new classes, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//CLSA EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
SETR CLASSACT(DLV@ACT)
SETR CLASSACT(DLV@BACT)
SETR CLASSACT(DLV@BANR)
SETR CLASSACT(DLV@BNDL)
SETR CLASSACT(DLV@DBAS)
SETR CLASSACT(DLV@DIST)
SETR CLASSACT(DLV@JOB)
SETR CLASSACT(DLV@PANL)
SETR CLASSACT(DLV@REPT)
/*
```

4. Define a group to own the resources, for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//AG   EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
AG (DLVRADMN) OWNER(SYS1) SUPGROUP(SYS1)
/*
```

5. To give READ access to all of the functions and ALTER access to all of the resources, run the following job steps:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//RDEF EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
RDEF DLV@ACT  (RMO.) OWNER(DLVRADMN) UACC(READ)
RDEF DLV@BACT (RMO.) OWNER(DLVRADMN) UACC(READ)
RDEF DLV@BNDL (RMO.) OWNER(DLVRADMN) UACC(READ)
RDEF DLV@DIST (RMO.) OWNER(DLVRADMN) UACC(READ)
RDEF DLV@JOB  (RMO.) OWNER(DLVRADMN) UACC(READ)
RDEF DLV@REPT (RMO.) OWNER(DLVRADMN) UACC(READ)
/*

//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//RDEF EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
RDEF DLV@ACT  (RMO.*) OWNER(DLVRADMN) UACC(ALTER)
RDEF DLV@BACT (RMO.*) OWNER(DLVRADMN) UACC(ALTER)
RDEF DLV@BANR (RMO.*) OWNER(DLVRADMN) UACC(ALTER)
RDEF DLV@BNDL (RMO.*) OWNER(DLVRADMN) UACC(ALTER)
RDEF DLV@DBAS (RMO.*) OWNER(DLVRADMN) UACC(ALTER)
RDEF DLV@DIST (RMO.*) OWNER(DLVRADMN) UACC(ALTER)
RDEF DLV@JOB  (RMO.*) OWNER(DLVRADMN) UACC(ALTER)
RDEF DLV@PANL (RMO.*) OWNER(DLVRADMN) UACC(ALTER)
RDEF DLV@REPT (RMO.*) OWNER(DLVRADMN) UACC(ALTER)
/*
```

6. Connect a user to the group and alter the user definition (so its default group is the one you just created), for example:

```
//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//CONN EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
CO (userid) GROUP(DLVRADMN)
/*

//EXAMPLE   JOB ACCOUNT,PROGRAMMER
//ALU  EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
ALU (userid) DFLTGRP(DLVRADMN)
/*
```

Chapter

13 Messages and Codes

This chapter contains the messages issued by CA-Deliver, provides the reasons the messages occurred, and suggests appropriate actions.

Dynamic Allocation Errors

CA-Deliver identifies dynamic allocation errors with the actual error and information codes returned from dynamic allocation. Alternatively, definitions can be found in the IBM manual *MVS/ESA System Programming Library: Application Development Guide*, GC28-1852.

User Abend Codes

This section describes common routine, cross-memory, CA-Deliver, and CA-View user abend codes, which are listed sequentially. Each user abend code, shown in the left column, is followed by:

- The word "dump," if listed, to indicate that a dump of virtual storage areas assigned to (and control blocks pertaining to) the task is produced (whether a dump is actually produced depends on the DD statement you specify)
- The word "step," if listed, to indicate that the entire job step of the active task is abnormally terminated
- The module from which each user abend code originates

The abend identifier and message associated with the code (if any) appear at the top of each row in the second column; they may be followed by the cause of, and a suggestion for repairing or resolving, each user abend.

1, Dump EBCSDIR (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid block was passed when getmain storage was requested.

Action:

Contact Computer Associates Technical Support.

1, Dump EBCSDIV (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid block was passed when getmain storage was requested.

Action:

Contact Computer Associates Technical Support.

1 EBCTMRA (No CA-Deliver error message is associated with this abend.)

Reason:

Data could not be written to the screen due to an internal error.

Action:

Contact Computer Associates Technical Support.

1, Dump EBCTMR12 (No CA-Deliver error message is associated with this abend.)

Reason:

Screen service could not be successfully performed under ISPF V2.

Action:

Contact Computer Associates Technical Support.

1, Dump EBCTMRR (No CA-Deliver error message is associated with this abend.)

Reason:

Screen service could not be successfully performed under CA-Roscoe.

Action:

Contact Computer Associates Technical Support.

1, Dump EBCTMRS (No CA-Deliver error message is associated with this abend.)

Reason:

Screen service could not be successfully performed under ISPF V1.

Action:

Contact Computer Associates Technical Support.

1, Dump EBCTMRT (No CA-Deliver error message is associated with this abend.)

Reason:

Screen service could not be successfully performed under TSO.

Action:

Contact Computer Associates Technical Support.

1, Dump EBCTMRX (No CA-Deliver error message is associated with this abend.)

Reason:

Screen service could not be successfully performed under cross-memory.

Action:

Contact Computer Associates Technical Support.

1, Dump, Step RMOCPT RMOCPP*nn, message text*

Reason:

The reason this message occurs is listed in *message text*. The actual content of *message text* depends on the message identifier generated. *nn* represents a number suffix that identifies a unique abend identifier.

Action:

The action you take depends on the content of *message text*, which varies depending on the nature of the problem.

1 RMOMHL RMOMHL01, INVALID ONLINE CODE IN MCA

Reason:

CA-Deliver encountered an invalid online code when it checked the product expiration date.

Action:

Contact Computer Associates Technical Support.

1, Dump, Step RMOPBH RMOPBH01 UNABLE TO OBTAIN HISTORY DETAIL BLOCK

Reason:

No blocks are available in the CA-Deliver database for the detail history data.

Action:

Increase space in the database.

1, Dump, Step RMOPS1 RMOPS101 SUBSYSTEM REQUEST FAILED - RETURN CODE xxxxxxxx

Reason:

A subsystem request failed. The hexadecimal return code is provided.

Action:

Contact your systems programmer.

1, Dump, Step RMOPS2 RMOPS201 SUBSYSTEM REQUEST FAILED - RETURN CODE xxxxxxxx

Reason:

A subsystem request failed. The hexadecimal return code is provided.

Action:

Contact your systems programmer.

1, Dump, Step RMOPS2B RMOPS201 SUBSYSTEM REQUEST FAILED - RETURN CODE xxxxxxxx

Reason:

A subsystem request failed. The hexadecimal return code is provided.

Action:

Contact your systems programmer.

1, Dump RMOSET RMODBI*nn, message text*

Reason:

The specific reason this message occurs is listed in *message text*. Generally, this error message is generated when a database input/output error occurs. *nn* represents a number suffix that identifies a unique abend identifier.

Action:

Contact Computer Associates Technical Support.

2, Dump EBCSDIR (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid block was passed when freemain storage was requested.

Action:

Contact Computer Associates Technical Support.

2, Dump RMOBBT RMOBBT02 TABLE ENTRY SIZE EXCEEDED FOR BUNDLE *bundle*

Reason:

The internal table that holds bundle definitions cannot handle the bundle definition for *bundle*; the number of bundle definitions allowed by CA-Deliver is exceeded.

Action:

Contact Computer Associates Technical Support.

2, Dump, Step RMOCPT RMOCPT02 TIME OF DAY CLOCK IS NOT SET OR IS NOT OPERATIONAL

Reason:

The time-of-day clock is not functioning (the operating system is probably not running). CA-Deliver requires a functioning time-of-day clock.

Action:

Repair and reset the time-of-day clock, then restart CA-Deliver.

2, Dump RMODBD RMOCPP*nn, message text*

Reason:

The specific reason this message occurs is listed in *message text*. Generally, this error message is generated when the checkpoint data set cannot be successfully unlocked and rewritten. *nn* represents a number suffix that identifies a unique abend identifier.

Action:

Contact Computer Associates Technical Support.

2, Dump, Step RMOHFT RMOHFT02 TIME OF DAY CLOCK IS NOT SET OR IS NOT OPERATIONAL

Reason:

The time-of-day clock is not functioning (the operating system is probably not running). CA-Deliver requires a functioning time-of-day clock.

Action:

Repair and reset the time-of-day clock, then restart CA-Deliver.

2, Dump, Step RMOHQT RMOHQT02 TIME OF DAY CLOCK IS NOT SET OR IS NOT OPERATIONAL

Reason:

CA-Deliver was unable to read the time-of-day clock due to a hardware problem.

Action:

Contact your hardware service representative.

2, Dump RMOMHL RMOMHL02 INVALID DELIVER PRODUCT CODE – ABEND 02

Reason:

CA-Deliver encountered an invalid product code.

Action:

Contact Computer Associates Technical Support.

2, Dump, Step RMOPS1 RMOPS102 PROCESS SYSOUT REQUEST FAILED - RETURN CODE xxxxxxxx

Reason:

A process SYSOUT request failed for the subsystem. A hexadecimal return code is provided. Note that return code X'1C' indicates an invalid destination; verify the destinations specified with the NETDEST and BNDLDEST initialization parameters are known to JES.

Action:

Contact your systems programmer.

2, Dump, Step RMOPS2 RMOPS202 SAPI REQUEST FAILED - RETURN CODE xxxxxxxx REASON CODE xx

Reason:

A SAPI request failed for the subsystem. The hexadecimal return code and reason code from the SAPI request is provided. Explanation for the return code and reason codes are provided in the IBM IAZSSS2 macro.

Action:

Contact your systems programmer.

2, Dump, Step RMOPS2B RMOPS202 SAPI REQUEST FAILED - RETURN CODE xxxxxxxx REASON CODE xx

Reason:

A SAPI request failed for the subsystem. The hexadecimal return code and reason code from the SAPI request is provided. Explanation for the return code and reason codes are provided in the IBM IAZSSS2 macro.

Action:

Contact your systems programmer.

2, Dump RMOSTC RMOSTC02 LOAD FAILED FOR MODULE

Reason:

The indicated module attempted to load.

Action:

Make sure the correct library contains the indicated module.

Note: A user abend will also occur when this message displays.

2, Dump XMSDRV XMSXD*nnn, message text*

Reason:

The reason this message occurs is listed in *message text*. The actual content of *message text* depends on the message identifier generated. The *nnn* in this message represents a number suffix that identifies a unique abend identifier.

Action:

The action you take depends on the content of *message text*, which varies depending on the nature of the problem.

3, Dump, Step EBCSET (No CA-Deliver error message is associated with this abend.)

Reason:

CA-Deliver was unable to initialize ESTAE (Extended Specified Task Abnormal Exit) processing.

Action:

Contact Computer Associates Technical Support.

3, EBCXMSGN (No CA-Deliver error message is associated with this abend.)

Reason:

A cross-memory online session shut down abnormally.

Action:

Check the VTAM or CICS post code (return code) and determine what action to take based on the information you find there. Contact Computer Associates Technical Support if you cannot resolve the problem yourself.

3 RMOJIM RMOJIM03 Missing DD statement for JobJCL

Reason:

You failed to include a DD statement when you submitted your JCL job.

Action:

Check the JCL, insert the correct DD statement, then reexecute the job.

3, Dump, Step RMOCPT RMOCPT03 INVALID CHECKPOINT REQUEST

Reason:

An internal checkpoint request is invalid.

Action:

Contact Computer Associates Technical Support.

3, Dump, Step RMOPS1 RMOPS103 SUBSYSTEM ALLOCATION FAILED ERROR CODE - xxxx, INFO CODE - xxxx

Reason:

Dynamic allocation failed for the process SYSOUT data set. The hexadecimal error and information codes are provided.

Action:

Contact your systems programmer.

3, Dump, Step RMOPS2 RMOPS203 SUBSYSTEM ALLOCATION FAILED ERROR CODE - xxxx, INFO CODE - xxxx

Reason:

Dynamic allocation failed for the process SYSOUT data set. The hexadecimal error and information codes are provided.

Action:

Contact your systems programmer.

3, Dump, Step RMOPS2B RMOPS203 SUBSYSTEM ALLOCATION FAILED ERROR CODE - xxxx, INFO CODE - xxxx

Reason:

Dynamic allocation failed for the process SYSOUT data set. The hexadecimal error and information codes are provided.

Action:

Contact your systems programmer.

3, RMORMS RMORMS99 RMORMS IS ABENDING

Reason:

A serious problem occurred. Processing cannot continue. This error message is displayed after another more detailed error message and indicates that processing is aborting.

Action:

Check the previous message that is displayed with this message and correct the cause of the problem.

3, Dump XMSSGN (No CA-Deliver error message is associated with this abend.)

Reason:

A cross-memory online session shut down abnormally.

Action:

Check the VTAM or CICS post code (return code) to determine the action to take. Contact Computer Associates Technical Support if you cannot resolve the problem yourself.

4, Dump, Step EBCASR (No CA-Deliver error message is associated with this abend.)

Reason:

CA-Deliver encountered an invalid PQE (process request queue entry) when it tried to complete processing of a PQE.

Action:

Contact Computer Associates Technical Support.

4, Dump, Step RMOCPT RMOCPT04 NO MORE ROOM IN CHECKPOINT

Reason:

There is no more room in the fixed length checkpoint data set because there are too many active entries. Processing is abnormally terminated.

Action:

Run the RMODBASE utility MAKECKPT control statement to expand the size of the checkpoint or copy the checkpoint to a new data set.

4, Dump, Step RMOHFT RMOHFT04 FREE BLOCK CHAIN CORRUPTION ERROR. BLOCK=xxxx, DCCB=*yyyy*

Reason:

CA-Deliver encountered an internal logical error as it was reading a free block.

Action:

Contact Computer Associates Technical Support.

4, Dump, Step RMOPS1 RMOPS104 SUBSYSTEM OPEN REQUEST FAILED - ERROR CODE xx

Reason:

A subsystem open request failed; the hexadecimal error code is provided.

Action:

Contact your systems programmer.

4, Dump, Step RMOPS2 RMOPS204 SUBSYSTEM OPEN REQUEST FAILED - ERROR CODE xx

Reason:

A subsystem open request failed; the hexadecimal error code is provided.

Action:

Contact your systems programmer.

4, RMORCH RMORCH99 RMORCH IS ABENDING WITH USER CODE 4

Reason:

A serious problem occurred; processing cannot continue. This error message is displayed after another more detailed error message and indicates that processing is aborting.

Action:

Check the previous message that is displayed with this message, then correct the cause of the problem.

5, Dump, Step RMOPS1 RMOPS105 NETWORK SYSOUT ALLOCATION FAILED ERROR CODE - xxxx, INFO CODE - xxxx

Reason:

Dynamic allocation failed for a network SYSOUT data set. This message is also generated when you specify the wrong CA-Deliver JES2LVL initialization parameter.

Action:

Verify the report description and the JCL creating the report data set at the other node is correct.

5, Dump, Step RMOPS2 RMOPS204 SUBSYSTEM OPEN REQUEST FAILED - ERROR CODE xx

Reason:

Dynamic allocation failed for a network SYSOUT data set. This message is also generated when you specify the wrong CA-Deliver JES2LVL initialization parameter.

Action:

Verify the report description and the JCL creating the report data set at the other node is correct.

6, Dump, Step RMOCPT RMOCPT06 LOGICAL ERROR PROCESSING CHECKPOINT

Reason:

A logical error occurred in the processing of the checkpoint.

Action:

Correct the problem with the checkpoint. This may require re-creating the checkpoint with the RMODBASE utility MAKECKPT control statement.

6, Dump, Step RMOPS1 RMOPS106 NETWORK SYSOUT OPEN REQUEST FAILED - ERROR CODE xx

Reason:

The network SYSOUT data set could not be opened.

Action:

Contact your systems programmer.

6, Dump, Step RMOPS2 RMOPS206 NETWORK SYSOUT OPEN REQUEST FAILED - ERROR CODE xx

Reason:

The network SYSOUT data set could not be opened.

Action:

Contact your systems programmer.

8, Dump, Step SARPAM (No CA-Deliver error message is associated with this abend.)

Reason:

CA-View encountered a database input/output error as it transmitted data to CA-View.

Action:

Contact Computer Associates Technical Support.

10, Dump, Step RMOCPT RMOCPT10 CHECKPOINT WAS NEVER SUCCESSFULLY CREATED

Reason:

The checkpoint to which the started task points was never successfully created or is invalid.

Action:

Use the RMODBASE utility MAKECKPT control statement to create the checkpoint.

14, Dump, RMOBBP RMOBBP14 CA-DELIVER IS NOT ACTIVE

Reason:

The CA-Deliver started task is not active to perform batch bundling.

Action:

Restart CA-Deliver.

14, Dump, Step RMOCPT RMOCPT14 EXTERNAL WRITER NUMBERS EXHAUSTED

Reason:

You have used all your system external writer numbers.

Action:

Contact Computer Associates Technical Support.

15, Dump RMOBBP RMOBBP15 INVALID OR MISSING CONTROL CARD

Reason:

An invalid or missing control card was found. The batch bundle job must be created and submitted only by CA-Deliver itself.

Action:

Free the active bundle entry so that CA-Deliver will submit the batch bundle job itself.

16 EBCVDI EBCVDI16 EBCVDI IS NOT A STARTED TASK

Reason:

The dynamic interface job you are trying to invoke is neither a batch job, nor a started task. You can only execute the invoked dynamic interface as a batch job or a started task.

Action:

Rerun the job as a batch job or a started task.

16, Dump RMOBBP RMOBBP16 CANNOT CREATE HDN TABLE

Reason:

CA-Deliver was unable to create a history detail number table for a bundle banner page.

Action:

Contact Computer Associates Technical Support.

18 EBCVDI EBCVDI18 EBCVDI REQUIRES APF AUTHORIZATION

Reason:

The dynamic interface job you are trying to invoke is not authorized by APF (Authorized Program Facility).

Action:

Make sure that the program is loaded from a library authorized by APF, then try again to invoke the job.

21, ABEND, SARPAM INCORRECT LEVEL OF SARPAM

Reason:

The wrong level of SARPAM is being used for the direct-to-View process.

Action:

Check the STEPLIB in the RMOSTC task JCL. It should point to the current CA-View loadlib. Check the value for the SAR= parameter in RMOPARMS. The specified value should be the high-level name of the default CA-View database for direct-to-SAR archival.

33, Dump RMOSTC RMOSTC33 ONE PRB TASK HAS ABENDED – *n* PRB TASKS ARE STILL RUNNING

Reason:

A CA-Deliver subtask that processes database request has abended. The PRBTASK initialization parameter identifies the maximum number of process request subtasks. The CA-Deliver started task will continue to run unless no more process request subtasks remain.

Action:

Contact Computer Associates Technical Support.

34, Dump RMOSTC RMOSTC34 CHECKPOINT PROCESSING HAS ABENDED – CA-DELIVER CANNOT CONTINUE

Reason:

The CA-Deliver subtask that processes checkpoint data requests has abended. This subtask is required for normal system operations; therefore, the CA-Deliver started task is terminated.

Action:

Contact Computer Associates Technical Support.

35, Dump RMOSTC RMOSTC35 HISTORY PROCESSING HAS ABENDED – CA-DELIVER CANNOT CONTINUE

Reason:

The CA-Deliver subtask that processes history detail requests has abended. This subtask is required for normal system operations; therefore, the CA-Deliver started task is terminated.

Action:

Contact Computer Associates Technical Support.

41, Dump, RMOBBP (No CA-Deliver error message is associated with this abend.)

Reason:

CA-Deliver was unable to delete a bundle holding copy in CA-View's database due to a database input/output error.

Action:

Check the CA-View database name you specified, correct it if necessary, then ensure that the CA-View database is accessible

41, Dump RMOBBP RMODBI*nn, message text*

Reason:

The specific reason this message occurs is listed in *message text*. Generally, this error message is generated when CA-Deliver cannot find a bundle descriptor record. *nn* represents a number suffix that identifies a unique abend identifier.

Action:

Contact Computer Associates Technical Support.

41, Dump RMOBBT RMODBI*nn, message text*

Reason:

The specific reason this message occurs is listed in *message text*. Generally, this error message is generated when CA-Deliver cannot find a bundle descriptor record. *nn* represents a number suffix that identifies a unique abend identifier.

Action:

Contact Computer Associates Technical Support.

41, Dump RMOBOT (No CA-Deliver error message is associated with this abend.)

Reason:

CA-Deliver was unable to delete a bundle holding copy in CA-View's database due to a database input/output error.

Action:

Check the CA-View database name you specified, correct it if necessary, then ensure that the CA-View database is accessible.

41, Dump RMOBOT RMODBI*nn, message text*

Reason:

The specific reason this message occurs is listed in *message text*. *nn* represents a number suffix that identifies a unique abend identifier. Generally, this error message is generated when a database input/output error occurs.

Action:

Contact Computer Associates Technical Support.

41, Dump, Step RMOCPT RMODBI*nn, message text*

Reason:

The reason this message occurs is listed in *message text*. The actual content of *message text* depends on the message identifier generated. *nn* represents a number suffix that identifies a unique abend identifier.

Action:

The action you take depends on the content of *message text*, which varies depending on the nature of the problem.

41, Dump, Step RMOHFT (No CA-Deliver error message is associated with this abend.)

Reason:

CA-Deliver was unable to rewrite a history detail record for a report.

Action:

Contact Computer Associates Technical Support.

41, Dump RMOHFT RMODBII*nn, message text*

Reason:

The specific reason this message occurs is listed in *message text*. Generally, this error message is generated when a database input/output error occurs. *nn* represents a number suffix that identifies a unique abend identifier.

Action:

Contact Computer Associates Technical Support.

41, Dump RMOPRTM RMODBI*nn, message text*

Reason:

The specific reason this message occurs is listed in *message text*. Generally, this error message is generated when a database input/output error occurs. *nn* represents a number suffix that identifies a unique abend identifier.

Action:

Contact Computer Associates Technical Support.

41, Dump RMOSET RMODBI*nn, message text*

Reason:

The specific reason this message occurs is listed in *message text*. Generally, this error message is generated when a database input/output error occurs. *nn* represents a number suffix that identifies a unique abend identifier.

Action:

Contact Computer Associates Technical Support.

41, Dump RMOSTC RMODBI*nn, message text*

Reason:

The specific reason this message occurs is listed in *message text*. *nn* represents a number suffix that identifies a unique abend identifier. Generally, this error message is generated when a database input/output error occurs.

Action:

Contact Computer Associates Technical Support.

41, Dump, Step SARPAM (No CA-Deliver error message is associated with this abend.)

Reason:

CA-View encountered a database input/output error as it was building an AIB (alternate index file control block).

Action:

Contact Computer Associates Technical Support.

42, Dump RMOBBP RMOBBP42 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database or change the batch bundle JCL, RMOJCLB, to reference the correct STEPLIB libraries.

92 EBCVTTMR No message identifier, SCREEN TOO LARGE FOR TERMINAL BUFFER

Reason:

The amount of data to be displayed on a screen exceeds the size of the VTAM terminal buffer.

Action:

Contact Computer Associates Technical Support.

92 EBCVTAPI (No CA-Deliver error message is associated with this abend.)

Reason:

A query could not be received from a VTAM device.

Action:

Contact Computer Associates Technical Support.

93 EBCVTAPI (No CA-Deliver error message is associated with this abend.)

Reason:

A query could not be sent to a VTAM device.

Action:

Contact Computer Associates Technical Support.

99, Step EBCVCL *XXX*CL99, INCORRECT LEVEL OF BASE COMMON CODE

Reason:

The level of common routine code does not match the product level. *XXX* represents a three-letter prefix that identifies the module from which the abend identifier originated.

Action:

Check to ensure that you are using the correct level of the common routine load module (you should be using Release 2.3 with CA-Deliver 1.7), then resume operation.

100, Dump EBCOPCNL (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid cross-memory control block was encountered in the cross-memory control table (in XMEMCNTL).

Action:

Contact Computer Associates Technical Support.

100 EBCXMDRV (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid cross-memory control table (in XMEMCNTL) was encountered when CA-Deliver attempted to establish a cross-memory online session.

Action:

Contact Computer Associates Technical Support.

100 EBCXMSGN (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid cross-memory control table (in XMEMCNTL) was encountered when CA-Deliver cross-memory was signing on or shutting down.

Action:

Contact Computer Associates Technical Support.

100 XMSOPR (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid cross-memory control table (in XMEMCNTL) was encountered while the cross-memory online interface was executing.

Action:

Contact Computer Associates Technical Support.

100, Dump XMSOPR (No CA-Deliver error message is associated with this abend.)

Reason:

A invalid cross-memory control table (in XMEMCNTL) was encountered while the cross-memory online interface was executing.

Action:

Contact Computer Associates Technical Support.

100 SMSSGN (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid cross-memory control table (in XMEMCNTL) was encountered while the cross-memory online interface was executing.

Action:

Contact Computer Associates Technical Support.

100, Dump XMSXMDRV (No CA-Deliver error message is associated with this abend.)

Reason:

A invalid cross-memory control table (in XMEMCNTL) was encountered while the cross-memory online interface was executing.

Action:

Contact Computer Associates Technical Support.

100, Dump XMSOPR (No CA-Deliver error message is associated with this abend.)

Reason:

A invalid cross-memory control table (in XMEMCNTL) was encountered while the cross-memory online interface was executing.

Action:

Contact Computer Associates Technical Support.

110, Dump XMSOPR XMSCL099, INTERNAL ERROR HAS OCCURRED IN CANCEL COMMAND, REQUEST IGNORED

Reason:

An internal error occurred in the CANCEL command you issued. Processing continues.

Action:

Contact Computer Associates Technical Support.

110, Dump XMSCL099, INTERNAL ERROR HAS OCCURRED IN CANCEL XMSOPR COMMAND, REQUEST IGNORED

Reason:

An internal error occurred in the CANCEL command you issued. Processing continues.

Action:

Contact Computer Associates Technical Support.

110, Dump XMSLS099, INTERNAL ERROR HAS OCCURRED IN LIST XMSOPR COMMAND, REQUEST IGNORED

Reason:

An internal error occurred in the LIST command. Processing continues.

Action:

Contact Computer Associates Technical Support.

120, Dump XMSOPR (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid subsystem control table was encountered when the subsystem communications vector table was set up.

Action:

Contact Computer Associates Technical Support.

122, EBCVTERR (No CA-Deliver error message is associated with this abend.)

Reason:

A VTAM input/output error occurred.

Action:

Contact Computer Associates Technical Support.

200 EBCDRV (No CA-Deliver error message is associated with this abend.)

Reason:

Unable to issue a request to free main memory.

Action:

Contact Computer Associates Technical Support.

222, EBCTAPI (No CA-Deliver error message is associated with this abend.)

Reason:

The cross-memory control table (in XMEMCNTL) command area was corrupted due to a VTAM input/output error.

Action:

Contact Computer Associates Technical Support.

222, EBCVTAPI (No CA-Deliver error message is associated with this abend.)

Reason:

A VTAM session was disrupted.

Action:

Contact Computer Associates Technical Support.

222, EBCVTERR (No CA-Deliver error message is associated with this abend.)

Reason:

The cross-memory control table (in XMEMCNTL) command area was corrupted due to a VTAM input/output error.

Action:

Contact Computer Associates Technical Support.

222, EBCXMAPI (No CA-Deliver error message is associated with this abend.)

Reason:

The cross-memory control table (in XMEMCNTL) command area was corrupted due to a cross-memory input/output error.

Action:

Contact Computer Associates Technical Support.

306, Step EBCSDIM (No CA-Deliver error message is associated with this abend.)

Reason:

The program to be loaded is not authorized by APF.

Action:

Authorize the program with APF, then try again.

322, EBCXMAPI (No CA-Deliver error message is associated with this abend.)

Reason:

A time out occurred during a CICS session.

Action:

Try again to log on.

322, XMSINTF (No CA-Deliver error message is associated with this abend.)

Reason:

A time out occurred during a CICS session.

Action:

Try again to log on.

400, Dump EBCXMETX XMSXE004, UNABLE TO LOCATE CROSS MEMORY CONTROL BLOCK - RUN ABORTED

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

400, Dump EBCXMETX XMSXE005, CROSS MEMORY CONTROL BLOCK IS INVALID - RUN ABORTED

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

400, Dump EBCXMETX XMSXE006, UNABLE TO LOCATE USER INFORMATION CONSOLE TABLE - RUN ABORTED

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

400, Dump EBCXMETX XMSXE007 UNABLE TO LOCATE USER CONNECTION TCB - RUN ABORTED

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

400, Dump XMSSGN XMSXE004 UNABLE TO LOCATE CROSS MEMORY CONTROL BLOCK - RUN ABORTED

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

400, Dump XMSSGN XMSXE005 CROSS MEMORY CONTROL BLOCK IS INVALID - RUN ABORTED

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

400, Dump XMSSGN XMSXE006 UNABLE TO LOCATE USER INFORMATION CONTROL TABLE - RUN ABORTED

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

400, Dump XMSSGN XMSXE007 UNABLE TO LOCATE USER CONNECTION TCB - RUN ABORTED

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

522, XMSINTF (No CA-Deliver error message is associated with this abend.)

Reason:

The wait for starting an online session exceeded the value set for the LONGWAIT cross-memory parameter.

Action:

555 EBCDRV (No CA-Deliver error message is associated with this abend.)

Reason:

The operator task finished abnormally.

Action:

What you do to resolve this user abend depends on the contents of register 2. Refer to that register and contact Computer Associates Technical Support if you cannot resolve the user abend yourself.

555, Dump XMSDRV (No CA-Deliver error message is associated with this abend.)

Reason:

CA-Deliver encountered an abnormal return code when cross-memory returned control to CA-Deliver.

Action:

Contact Computer Associates Technical Support.

901 EBCSMSGN (No CA-Deliver error message is associated with this abend.)

Reason:

A cross-memory session region crashed.

Action:

Check related attributes, such as region size, then try again.

901, Dump XMSSGN XMSXS901, INTERNAL ERROR - INVALID RTUS FOUND

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

921 XMSPCPST (No CA-Deliver error message is associated with this abend.)

Reason:

An internal error occurred.

Action:

Contact Computer Associates Technical Support.

999, Dump, Step EBCSDIR (No CA-Deliver error message is associated with this abend.)

Reason:

Tracing is turned on and an error occurred.

Action:

None. This message is provided for debugging purposes only.

1001, Dump EBCSDIM (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid block was passed when getmain storage was requested.

Action:

Contact Computer Associates Technical Support.

1002, Dump EBCSDIM (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid block was passed when freemain storage was requested.

Action:

Contact Computer Associates Technical Support.

1003, Dump EBCSDIM (No CA-Deliver error message is associated with this abend.)

Reason:

Tracing is turned on and an error occurred.

Action:

None. This message is provided for debugging purposes only.

1003, Dump, Step EBCSDIM (No CA-Deliver error message is associated with this abend.)

Reason:

Tracing is turned on and an error occurred.

Action:

None. This message is provided for debugging purposes only.

1111 SARPRT (No CA-Deliver error message is associated with this abend.)

Reason:

CA-View expired when it tried to access CA-Spool to print SYSOUT.

Action:

Contact Computer Associates Technical Support.

1111 SARPRT (No CA-Deliver error message is associated with this abend.)

Reason:

CA-View was not installed when you tried to transmit data to CA-View.

Action:

Contact Computer Associates Technical Support.

1111 SARPRT (No CA-Deliver error message is associated with this abend.)

Reason:

The external print feature was not installed when you tried to output SYSOUT to an external writer.

Action:

Contact Computer Associates Technical Support.

1111 SARPRT (No CA-Deliver error message is associated with this abend.)

Reason:

The VTAM print feature was not installed when you tried to output SYSOUT to a VTAM device.

Action:

Contact Computer Associates Technical Support.

1111 SARPRT (No CA-Deliver error message is associated with this abend.)

Reason:

An invalid device synonym was referenced.

Action:

Make sure that the correct device synonym was specified in the user exit you attempted to execute, then try again.

1111 SARRP1V (No CA-Deliver error message is associated with this abend.)

Reason:

The interface feature you attempted to use has expired or is not installed.

Action:

Contact Computer Associates Technical Support.

X'CCC', Dump EBCCENV (No CA-Deliver error message is associated with this abend.)

Reason:

An internal logic error occurred.

Action:

Contact Computer Associates Technical Support.

X‘0F01’, Dump EBCAWTO (No CA-Deliver error message is associated with this abend.)

Reason:

There is not enough space for a write-to-operator message text buffer.

Action:

None, as the buffer is not allocated and the message is not generated.

Common Component Error Messages

This section describes error messages associated with programs providing database access, cross-memory services, and communications.

EBCCIE01 NON-MVS/XA EXECUTION NOT ALLOWED

Reason:

You are not using MVS/XA or MVS/ESA. E23CEND requires MVS/XA or MVS/ESA to work.

Action:

Use MVS/XA or MVS/ESA, then try again.

EBCCIE02 NON-CICS/XA EXECUTION NOT ALLOWED

Reason:

You are not using Version 2.1.1 or a later version of CICS. E23CIEND requires Version 2.1.1 or a later version of CICS to work.

Action:

Use Version 2.1.1 or a later version of CICS, then try again.

EBCCIE99 XMS SUPPORT TASK STOPPED

Reason:

E23CIEND terminated the MVS subtask program E23XSTSK.

Action:

None. This is an informational message.

EBCCIN01 NON-MVS/XA EXECUTION NOT ALLOWED

Reason:

You are not using MVS/XA or MVS/ESA. E23CINIT requires MVS/XA or MVS/ESA to work.

Action:

Use MVS/XA or MVS/ESA, then try again.

EBCCIN02 NON-CICS/XA EXECUTION NOT ALLOWED

Reason:

You are not using Version 2.1.1 or a later version of CICS. E23CINIT requires Version 2.1.1 or a later version of CICS to work.

Action:

Use Version 2.1.1 or a later version of CICS, then try again.

EBCCIN03 USER SUB-POOL GETMAIN FAILURE

Reason:

E23CINIT could not get enough storage to initialize. The MAXUSER parameter in E23XMCTR is used to determine the initial storage requirements.

Action:

Reduce the value assigned to MAXUSER or increase the storage available above the 31-bit line in the region.

EBCCIN04 SERVICE TRANSACTION TRANID ERROR

Reason:

E23CINIT could not start the service transaction defined in the E23XMCTR table. This transaction is required; therefore, the subtask is terminated.

Action:

Try again to execute E23CINIT.

EBCCIN05 EBCXSTSK ATTACH FAILURE

Reason:

E23CINIT could not start the E23XSTSK subtask. The system cannot be initialized.

Action:

Try again to execute E23CINIT.

EBCCIN06 EBCXSTSK ALREADY ACTIVE, CONTROL TABLE (E23XMCTR) RELOADED

Reason:

The subtask is active when E23CINIT was executed. The control table was reloaded and no other changes were made. Some initialization options (MAXUSER, MSGLVL) are ignored.

Action:

None. This is an informational message.

EBCCIN07 WAITLIST GETMAIN FAILURE

Reason:

E23CINIT requires more storage above the 24-bit line to be initialized.

Action:

Increase the MVS above-the-line storage required by increasing the region size of CICS or TSO.

EBCCIN08 CICS RELEASE DEPENDENT MISSING

Reason:

E23CINIT could not find either the E23C0330 (for Version 3.3.0) or E23C0211 (for Version 2.1.1) CICS release-dependent program.

Action:

Define the E23C0330 or E23C0211 program to the resource definition online (RDO), then try again.

EBCCIN99 XMS SUPPORT TASK READY (XM20)

Reason:

E23CINIT finished initializing without error.

Action:

None. This is an informational message.

EBCCIS01 NON-MVS/XA EXECUTION NOT ALLOWED

Reason:

You are not using MVS/XA or MVS/ESA. E23CISRV requires MVS/XA or MVS/ESA to work.

Action:

Use MVS/XA or MVS/ESA, then try again.

EBCCIS02 NON-CICS/XA EXECUTION NOT ALLOWED

Reason:

You are not using Version 2.1.1 or a later version of CICS. E23CISRV requires Version 2.1.1 or a later version of CICS to work.

Action:

Use Version 2.1.1 or a later version of CICS, then try again.

EBCCIS03 E23XSTSK NOT ACTIVE

Reason:

The E23XSTSK program is not executing. E23CISRV requires the E23XSTSK to work. E23CISRV ends. E23CINIT (which starts the subtask) was not executing, or the subtask was stopped.

Action:

See your operations administrator for more information.

EBCCIS04 INVALID EBCXSCTL BLOCK FOUND

Reason:

An internal error occurred in E23CISRV.

Action:

Contact Computer Associates Technical Support.

EBCCIS05 E23CISRV PROGRAM IS NOT A TERMINAL PROGRAM

Reason:

E23CISRV is not designed to be attached to a terminal. E23CISRV ends.

Action:

Do not execute E23CISRV from a terminal.

EBCCMS02 PARAMETER FILE NOT FOUND

Reason:

Unable to find the parameter file RMOIDX FILE.

Action:

Make sure that the file is accessible, then try again.

EBCCMS03 UNDEFINED PARAMETER CONTROL STATEMENT

Reason:

The parameter file contains an invalid control statement.

Action:

Correct the statement, then try again.

EBCCMS04 I/O ERROR PROCESSING PARAMETER FILE CODE xx

Reason:

An input/output error *xx* occurred trying to read the parameter file.

Action:

Correct the file, then try again.

EBCCMS05 INVALID OR MISSING USER NAME

Reason:

The user name value in the USER control statement is either missing or invalid.

Action:

Correct the user name value, then try again.

EBCCMS06 INVALID USER PASSWORD

Reason:

The password value on the USER control statement is either missing or invalid.

Action:

Include or correct the password value, then try again.

EBCCMS07 INVALID OR MISSING HIGH-LEVEL NAME

Reason:

The CA-Deliver database high-level name password value on the NAME control statement is either missing or invalid.

Action:

Correct the high-level name password, then try again.

EBCCMS08 MODULE xxxxxxxx NOT FOUND

Reason:

Unable to load the indicated program because the program is either not accessible or is not authorized.

Action:

Specify the accessible/authorized program, then try again.

EBCCMS09 INVALID OR MISSING VIRTUAL DISK ADDRESS

Reason:

The value on the VOL control statement is either missing or invalid.

Action:

Include or correct the value, then try again.

EBCCMS10 PRECEDING FILEDEF FAILED

Reason:

The specified keyword or keywords are incorrect.

Action:

Check and correct the keyword, then try again.

EBCCMS11 LINK FAILED FOR VIRTUAL VOLUME xxx

Reason:

The attempt to link to the indicated volume as mode MW failed.

Action:

Correct the error, then try again.

EBCCMS12 VOLUME PREVIOUSLY DEFINED

Reason:

You have more than one VOL control statement for the same volume.

Action:

Remove one VOL control statement, then try again.

EBCCMS13 TOO MANY DISK VOLUMES

Reason:

All 26 disk modes are in use.

Action:

Release unnecessary disks, then try again.

EBCCMS14 ACCESS FAILED FOR VIRTUAL VOLUME xxx

Reason:

An attempt to access a volume with ACCESS failed.

Action:

Correct the error, then try again.

EBCCMS19 INVALID SPOOL PUNCH USER FOR SUBMIT

Reason:

The value on the SUBMIT control statement is either missing or invalid.

Action:

Include or correct the value, then try again.

EBCDBI09 LOGICAL I/O ERROR, xxxKEY=x"*hex-key*"

Reason:

An input/output error occurred while accessing the CA-Deliver database (as described by the text of the message). *xxx sp*ecifies the control block being processed (SFB, IFB, or XFB) when the error was detected.

hex-key specifies the key of the record in hexadecimal format. If the hex key is longer than 16 bytes, only the first 16 bytes are shown. CA-Deliver may also include the following information at the end of this message:

```
, program-name LOCATION n
```

where *program-name* is the name of a CA-Deliver program, and *n* is a number that identifies the location in the program where the error was detected

Action:

Correct the error in the CA-Deliver database. Use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

EBCDBI10 UNEXPECTED END OF DATA, xxxKEY=x"hex-key"

Reason:

An input/output error occurred while accessing the CA-Deliver database (as described by the text of the message). *xxx sp*ecifies the control block being processed (SFB, IFB, or XFB) when the error was detected.

hex-key specifies the key of the record in hexadecimal format. If the hex key is longer than 16 bytes, only the first 16 bytes are shown. CA-Deliver may also include the following information at the end of this message:

```
, program-name LOCATION n
```

where *program-name* is the name of a CA-Deliver program, and *n* is a number that identifies the location in the program where the error was detected

Action:

Correct the error in the CA-Deliver database. Use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

EBCDBI11 RECORD NOT FOUND, xxxKEY=x"hex-key"

Reason:

An input/output error occurred while accessing the CA-Deliver database (as described by the text of the message).

*xxx sp*ecifies the control block being processed (SFB, IFB, or XFB) when the error was detected.

hex-key specifies the key of the record in hexadecimal format. If the hex key is longer than 16 bytes, only the first 16 bytes are shown. CA-Deliver may also include the following information at the end of this message:

```
, program-name LOCATION n
```

where *program-name* is the name of a CA-Deliver program, and *n* is a number that identifies the location in the program where the error was detected.

Action:

Correct the error in the CA-Deliver database. Use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

EBCDBP01 CRITICAL ERROR. PROGRAM TERMINATED WITH DUMP. INVALID *blk*

Reason:

A CA-Deliver program terminated and a dump was generated.

blk specifies the control block CA-Deliver expected but did not receive (usually IFB, SFB, XFB, or DBB). This control block may contain a number at the end that indicates the test point in the program that detected the problem.

Action:

Restart the program that terminated. If the problem recurs, contact Computer Associates Technical Support, and be prepared to send the dump.

EBCDRV01 *pgm-name* SUBTASK ATTACHED

Reason:

The operator communication subtask has attached and is ready to accept operator commands. The MSGLVL for this message is NORM.

Action:

None. This is an informational message.

EBCDRV02 *pgm-name* SUBTASK ATTACHED

Reason:

The cross-memory signon subtask has attached and is ready to except cross-memory log on requests. The MSGLVL for this message is NORM.

Action:

None. This is an informational message.

EBCDRV03 *pgm-name* SUBTASK ATTACHED APPLID=*applid*

Reason:

The VTAM signon subtask has attached to open the VTAM ACB and attach VTAM exits. The MSGLVL for this message is NORM.

Action:

None. This is an informational message.

EBCDRV10 PC PROGRAM *pgm-name* ACTIVE ADDR=xxxxxx x.x xx/xx/xx

Reason:

The displayed PC call routine has loaded into the CSA at the address shown. The release, assembly date and time are also shown. The MSGLVL for this message is INFO.

Action:

None. This is an informational message.

EBCDRV11 PC#xxxx ASID=xxxx XMEMCNTL ADDR=xxxxxx ID=xxxxxxxx

Reason:

The PC call function is now available to enable cross-memory communication to take place. The E23XMSGN routine must start before cross-memory signons can process. The MSGLVL for this message is NORM.

Action:

None. This is an informational message.

EBCDRV30 *pgm-name* DETACHED

Reason:

The operator communication subtask has detached and is no longer available. If any signon subtasks are still attached, they are forced off and the region will finish terminating. The MSGLVL for this message is CRIT.

Action:

None. This is an informational message.

EBCDRV31 *pgm-name* DETACHED

Reason:

The cross-memory signon subtask has detached and is no longer available. The MSGLVL for this message is CRIT.

Action:

None. This is an informational message.

EBCDRV32 *pgm-name* DETACHED APPLID=*applid*

Reason:

The VTAM signon subtask has detached and is no longer available. The MSGLVL for this message is CRIT.

Action:

None. This is an informational message.

EBCDRV40 SUBTASK FORCED TO DETACH PGM=*pgm-name*

Reason:

The operator subtask terminated and this subtask was still active. CA-Deliver has forced the subtask to shut down. The MSGLVL for this message is CRIT.

Action:

Contact Computer Associates Technical Support.

EBCDRV90 RTUS POOL ALLOCATED xxxxx 1ST xxxxx END xxxxx SIZE xxxx NEXT xxxxx

Reason:

This message was issued when the cross-memory region started. The size and location of the pool of user control blocks received at system startup are displayed. The MSGLVL for this message is NORM.

Action:

The USERMAX initialization parameter sets the maximum number of user control blocks to allocate in the region. To increase the USERMAX initialization parameter, you must shut down, then restart the region.

EBCDRV99 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The input parameter shown is unknown or invalid. The region will abnormally end. The MSGLVL for this message is CRIT.

Action:

None. This is an informational message.

EBCIFP02 CRITICAL ERROR. PROGRAM TERMINATED WITH DUMP. INVALID *blk*

Reason:

A CA-Deliver program terminated and a dump was generated. *blk* specifies the control block CA-Deliver expected but did not receive (usually IFB, SFB, XFB, or DBB). This control block may contain a number at the end that indicates the test point in the program that detected the problem.

Action:

Restart the program that terminated. If the problem recurs, contact Computer Associates Technical Support and be prepared to send the dump.

EBCOCLS2 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The CLOSE operator command is attempting to close the RMOVTAM interface ACB. The MSGLVL for this message is OPER.

Action:

The text indicates whether an error occurred. If an error occurred, contact Computer Associates Technical Support.

EBCOCM10 OPERAND (xxxxxxxx - VALUE *n*) MUST BE YES/NO

Reason:

You can specify only YES or NO for the operator command you entered. The MSGLVL for this message is OPER.

Action:

Enter the correct command.

EBCOCM11 OPERAND (xxxxxxxx - VALUE *n*) CAN ONLY HAVE A SINGLE VALUE

Reason:

You can specify only one value in the operator command you entered. The MSGLVL for this message is OPER.

Action:

Enter the correct command.

EBCOCM12 OPERAND (xxxxxxxx - VALUE *n*) CAN ONLY HAVE 10 VALUES

Reason:

You can specify only 10 values in the operator command you entered. The MSGLVL for this message is OPER.

Action:

Enter the command with a valid number of values.

EBCOCM13 OPERAND (xxxxxxxx - VALUE *n*) INVALID NUMERIC OPERAND

Reason:

You can specify only a valid number in the operator command you entered. The MSGLVL for this message is OPER.

Action:

Enter the command with a valid number.

EBCOCM14 OPERAND (xxxxxxxx) CANNOT HAVE A VALUE

Reason:

You cannot assign a value to the operator command operand you entered. The MSGLVL for this message is OPER.

Action:

Enter the command with a valid operand.

EBCOCM15 USER=xxxxxxxxxxxxxxxxxxxx WAS NOT FOUND

Reason:

The user you specified in the operator command you entered could not be found on the system. The MSGLVL for this message is OPER.

Action:

Enter the command with a valid user connect identifier.

EBCOCMD1 --> *commandname*

Reason:

You entered the displayed operator command, which will now be processed. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOCMD2 COMMAND (*commandname*) NOT KNOWN

Reason:

CA-Deliver cross-memory services does not recognize the displayed operator command. The MSGLVL for this message is OPER.

Action:

Enter a valid operator command.

EBCOCMD3 OPERAND (*operandname*) NOT KNOWN

Reason:

The operator command operand you specified is unknown. The MSGLVL for this message is OPER.

Action:

Enter the operator command with a valid operand.

EBCOCMD4 OPERAND (*operandname*) IS NOT VALID FOR *commandname*

Reason:

The operator command operand you specified is invalid. The MSGLVL for this message is OPER.

Action:

Enter the command with a valid operand.

EBCOCMD5 OPERAND (*operandname*) DID NOT HAVE A VALUE

Reason:

You did not provide a value for the operator command you specified. The MSGLVL for this message is OPER.

Action:

Enter a value for the operator command.

EBCOCMD6 OPERAND (*xxxxxxxx - VALUE n*) UNBALANCED QUOTES

Reason:

You entered an open quotation mark (') at the beginning of an operator command operand, but neglected to enter a close quotation mark (') at the end of the operator command operand. The MSGLVL for this message is OPER.

Action:

Enter the command with balanced quotation marks.

EBCOCMD7 OPERAND (xxxxxxxx - VALUE *n*) STRING NOT VALID

Reason:

You cannot enter a character string for the operator command operand. The MSGLVL for this message is OPER.

Action:

Enter the command with a valid operand.

EBCOCMD8 OPERAND (xxxxxxxx - VALUE *n*) EXCEEDS *n* CHARACTERS

Reason:

You entered more than the maximum number of characters for an operator command operand. The MSGLVL for this message is OPER.

Action:

Enter an operand that contains *n* or fewer characters.

EBCOCMD9 INTERNAL ERROR TYPE UNKNOWN

Reason:

An internal error occurred in an operator command routine. The MSGLVL for this message is OPER.

Action:

Contact Computer Associates Technical Support.

EBCOCNL1 *userid* USER CANCELED BY OPERATOR REQUEST

Reason:

You entered the CANCEL command, which causes the requested user subtask to end abnormally. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOCNL2 MUST SPECIFY ALL/USER/UID#

Reason:

You neglected to specify the user to cancel when you entered the CANCEL command. The MSGLVL for this message is OPER.

Action:

Specify a user connect identifier when you enter the CANCEL command.

EBCOCNL4 NO USERS WERE CONNECTED

Reason:

You entered the CANCEL command and the users you specified were not found in the current region. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOCNL9 INTERNAL ERROR HAS OCCURRED

Reason:

An internal error occurred when you issued the CANCEL command. The MSGLVL for this message is OPER.

Action:

Contact Computer Associates Technical Support.

EBCOLST1

NO.	CONNECT ID	USERID	APPL	STATUS	DATABASE*nn*
vtam	*acb.termid*	*userid*	*appl*	*status*	*dbname*

Reason:

You entered the LIST command for a cross-memory region, USER display. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOLST2
USERNAME MAX CUR HI XMS VTM STATUS FLAG ASID LONGWT VERSION
username max cur hi xms vtm status flag asid longwt version

Reason:

You entered the LIST command for a cross-memory region, STATUS display. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOLST3 DOES NOT SPECIFY STATUS USERS OR USER/UID#

Reason:

You neglected to specify the users to be listed when you entered the LIST command. The MSGLVL for this message is OPER.

Action:

Specify the user connect identifiers for the users about which you want to list information when you enter the command.

EBCOLST4 LIST REQUEST SPECIFIES STATUS AND USER=, UID#=, USERS ACTIVE, or INACTIVE

Reason:

You specified invalid operands when you entered the STATUS LIST command. The MSGLVL for this message is OPER.

Action:

Specify valid operands when you enter this command.

EBCOLST5 NO USERS WERE CONNECTED

Reason:

The users you specified in the LIST command were not found in the current region. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOLST6 SUBSYS NOT ON SSCT CHAIN

Reason:

An internal error occurred when you entered the LIST command. The MSGLVL for this message is OPER.

Action:

Contact Computer Associates Technical Support.

EBCOLST7 XMEMCNTL INVALID ID BLOCK

Reason:

An internal error occurred when you entered the LIST command. The MSGLVL for this message is OPER.

Action:

Contact Computer Associates Technical Support.

EBCOLST8 RTUS INVALID ID BLOCK

Reason:

An internal error occurred when you entered the LIST command. The MSGLVL for this message is OPER.

Action:

Contact Computer Associates Technical Support.

EBCOMDF1 USERMAX CHANGED

Reason:

The CHANGE command has altered the USERMAX parameter. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOMDF2 LONGWAIT CHANGED

Reason:

The CHANGE command has altered the LONGWAIT parameter. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOMDF3 CANCEL CHANGED

Reason:

The CHANGE command has altered the CANCEL parameter. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOMDF4 VTAMPASS CHANGED

Reason:

The CHANGE command has altered the VTAMPASS parameter. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOMDF5 USERMAX CHANGED

Reason:

The CHANGE command has altered the USERMAX parameter. The MSGLVL for this message is OPER.

Action:

None. This is an informational message.

EBCOMDF6 BAD XMEMCNTL FOUND

Reason:

An internal error occurred when you entered the CHANGE command. The MSGLVL for this message is OPER.

Action:

Contact Computer Associates Technical Support.

EBCOMDF9 INVALID VALUE

Reason:

You specified an out-of-range value when you entered the CHANGE command. The MSGLVL for this message is OPER.

Action:

Enter the command with a valid operand.

EBCOOPN2 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The OPEN command code attempted to open the RMOVTAM ACB. The text indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, contact Computer Associates Technical Support.

EBCOOPN3 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The OPEN command code attempted to open the RMOVTAM ACB. The message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, contact Computer Associates Technical Support.

EBCOPR01 OPER FUNCT xxxxxxxx ADDR=xxxxxxxx x.x xx/xx/xx

Reason:

The operator routine was loaded at the address shown (ADDR=*xxxxxxxx*). The MSGLVL for this message is INFO.

Action:

None. This is an informational message.

EBCOPR08 OPERATOR FUNCTION NOT SUPPORTED

Reason:

The operator routine could not find a MODIFY or STOP command to process. The MSGLVL for this message is CRIT.

Action:

Contact Computer Associates Technical Support.

EBCOPR09 ATTACH OF COMMAND

Reason:

The OPEN command attempted to open the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is CRIT.

Action:

If the request was unsuccessful, contact Computer Associates Technical Support.

EBCOQSH1 XMS xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The QUIESCE command attempted to quiesce the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCOQSH2 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The QUIESCE command attempted to quiesce the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCOQSH3 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The QUIESCE command has attempted to quiesce the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCORSM1 XMS xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The RESUME command attempted to resume processing of the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCORSM2 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The RESUME command attempted to resume processing of the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCORSM3 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The RESUME command attempted to resume processing of the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCOSPN1 XMS xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The SUSPEND command attempted to suspend the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCOSPN2 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The SUSPEND command has attempted to suspend the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCOSPN3 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The SUSPEND command has attempted to suspend the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCOSTP1 XMS xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The SHUTDOWN command has attempted to shut down the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCOSTP2 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The SHUTDOWN command has attempted to shut down the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this message is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCOSTP3 RMOVTAM xxxxxxxxxxxxxxxxxxxxxxxxxx

Reason:

The SHUTDOWN command has attempted to shut down the RMOVTAM ACB. This message indicates whether the request was successful. The MSGLVL for this command is OPER.

Action:

If the request was unsuccessful, correct the command, then reissue it.

EBCPRE01 INVALID OR MISSING SYSIN DD

Reason:

The SYSIN DD you specified is incorrect or omitted.

Action:

Check the SYSIN DD. Specify the missing SYSIN DD, then rerun your job.

EBCPRE02 INVALID OR MISSING COMMAND

Reason:

An operand you specified is incorrect or omitted. The control statement that caused the error is listed in error messages EBCPRE06 and EBCPRE07, which are output after this error message.

Action:

Check the second value (the command) on the control statement that caused the error, correct the value or specify it if it is missing, then rerun your job.

EBCPRE03 INVALID OR MISSING OPERAND

Reason:

An operand you specified is incorrect or omitted. The control statement that caused the error is listed in error messages EBCPRE06 and EBCPRE07, which are output after this error message.

Action:

Check the second value (the operand) on the control statement that caused the error. Check to ensure that it is the correct length and format. Correct the value or specify it if it is missing, then rerun your job.

EBCPRE04 COMMAND MUST NOT OCCUR MORE THAN ONCE

Reason:

You specified the same command in more than one control statement. The control statement that caused the error is listed in error messages EBCPRE06 and EBCPRE07, which are output after this error message.

Action:

Correct the control statement.

EBCPRE05 COMMAND MUST NOT FOLLOW EXCLUDE COMMANDS

Reason:

A command (FROM-STEP or TO-STEP) followed one or more EXCLUDE commands. The control statement that caused the error is listed in error messages EBCPRE06 and EBCPRE07, which are output after this error message.

Action:

Specify the command that caused the error before you specify the EXCLUDE command.

EBCPRE06 CONTROL STATEMENT IN ERROR

Reason:

This message is output with error message EBCPRE02 through EBCPRE05. It is intended to provide additional information about the error message that precedes it.

Action:

Correct the error described in the preceding error message.

EBCPRE07 *control statement*

Reason:

This message is output with error message EBCPRE02 through EBCPRE05 and EBCPRE06. It is intended to provide additional information about the error message that precedes it. *control-statement* represents the name of the control statement that caused the error.

Action:

Correct the error described in the preceding error message.

EBCPRE08 NUMBER OF NAME STATEMENTS EXCEEDS MAXIMUM ALLOWED

Reason:

CA-Deliver encountered more than 30 NAME control statements. The control statement that caused the error is listed in error messages EBCPRE06 and EBCPRE07, which are output after this error message.

Action:

Reduce the number of database names to fewer than 30. If you require more than 30 database names, contact Computer Associates Technical Support.

EBCPRE09 MISSING JOBNAME CONTROL STATEMENT

Reason:

You neglected to specify a JOBNAME control statement.

Action:

Specify a JOBNAME control statement in your SYSIN DD statement.

EBCSFP01 CRITICAL ERROR. PROGRAM TERMINATED WITH DUMP. INVALID *blk*

Reason:

A CA-Deliver program terminated and a dump was generated. *blk* specifies the control block CA-Deliver expected but did not receive (usually IFB, SFB, XFB, or DBB). This control block may contain a number at the end that indicates the test point in the program that detected the problem.

Action:

Restart whatever program terminated. If the problem recurs, contact Computer Associates Technical Support and be prepared to send the dump.

EBCSVR03 DYNAMIC INTERFACE RE-EFFECTUATED FOR xxxxxxxxx

Reason:

A new CA-Deliver system interface routine was installed. The system interface routines are reestablished when the CA-Deliver is started with the REFRESH parameter. These messages may also appear when CA-Deliver is started for the first time.

Action:

None. This is an informational message.

EBCTIS00 SRVC TRAN E23TISRV ACTIVE ADDR=# 2.0 *M/D/Y H.M*

Reason:

This error message is displayed for debugging purposes. # represents an actual address. *M*, *D*, and *Y* represent the month, day, and year, respectively. *H* and *M* represent the hour and minutes.

Action:

None. This is an informational message.

EBCVDI16 EBCVDI IS NOT A STARTED TASK

Reason:

The dynamic interface job you are trying to invoke is neither a batch job nor a started task. You can only execute the invoked dynamic interface as a batch job or a started task.

Action:

Rerun the job as a batch job or a started task.

Note: A user abend may also occur when this message displays.

EBCVDI18 EBCVDI REQUIRES APF AUTHORIZATION

Reason:

The dynamic interface job you are trying to invoke is not authorized by APF.

Action:

Make sure that the program is loaded from a library authorized by APF, then try to invoke the job again.

Note: A user abend may also occur when this message displays.

EBCXFP01 CRITICAL ERROR. PROGRAM TERMINATED WITH DUMP. INVALID blk

Reason:

A CA-Deliver program terminated and a dump was generated. *blk* specifies the control block CA-Deliver expected but did not receive (usually IFB, SFB, XFB, or DBB). This control block may contain a number at the end that indicates the test point in the program that detected the problem.

Action:

Restart the program that terminated. If the problem recurs, contact Computer Associates Technical Support and be prepared to send the dump.

EBCXMC01 NON-MVS/XA EXECUTION NOT ALLOWED

Reason:

You are not using MVS/XA or MVS/ESA. E23XMCIC requires MVS/XA or MVS/ESA to work.

Action:

Use MVS/XA or MVS/ESA, then try again.

EBCXMC02 NON-CICS/XA EXECUTION NOT ALLOWED

Reason:

You are not using Version 2.1.1 or a later version of CICS. E23XMCIC requires Version 2.1.1 or a later version of CICS to work.

Action:

Use Version 2.1.1 or a later version of CICS, then try again.

EBCXMC03 E23XSTSK NOT ACTIVE

Reason:

The E23XSTSK program is not executing. E23XMCIC requires the E23XSTSK to work. E23XMCIC ends. E23CINIT (which starts the subtask) was not executing, or the subtask was stopped.

Action:

See your operations administrator for more information.

EBCXMC04 INVALID EBCXSCTL BLOCK FOUND

Reason:

An internal error occurred in E23XMCIC.

Action:

Contact Computer Associates Technical Support.

EBCXMC05 E23XMCIC PROGRAM MUST BE RUN FROM A TERMINAL

Reason:

E23XMCIC is designed to execute attached to a terminal. E23XMCIC ends.

Action:

Execute E23XMCIC from a terminal.

EBCXMC06 TRANSACTION COMAREA WRONG SIZE

Reason:

An internal error occurred in E23XMCIC.

Action:

Contact Computer Associates Technical Support.

EBCXMC07 COMAREA ID WRONG

Reason:

An internal error occurred in E23XMCIC.

Action:

Contact Computer Associates Technical Support.

EBCXMC08 EBCXSCTL ADDRESS CHANGED

Reason:

An internal error occurred in E23XMCIC.

Action:

Contact Computer Associates Technical Support.

EBCXMC09 E23CICUX PROGRAM NOT FOUND

Reason:

E23XMCIC cannot find the E23CICUX program. E23XMCIC requires the E23CICUX to work. E23XMCIC ends.

Action:

Define E23CICUX for CICS RDO (Resource Definition Online) and try again.

EBCXMC10 USER CONTROL BLOCK NOT ACTIVE

Reason:

An internal error occurred in E23XMCIC.

Action:

Contact Computer Associates Technical Support.

EBCXMC11 USER CONNECTION LOST

Reason:

E23XMCIC cannot find the user connection to continue the session. E23XMCIC ends.

Action:

Restart the transaction.

EBCXMC12 EBCXSUSR ADDRESS INVALID

Reason:

An internal error occurred in E23XMCIC.

Action:

Contact Computer Associates Technical Support.

EBCXMC13 EBCXSTSK abendED, SESSION ABORTED

Reason:

An internal error occurred in E23XMCIC.

Action:

Contact Computer Associates Technical Support.

EBCXMC14 DATA PASSED EXCEEDS 102 BYTES

Reason:

Parameter data larger than 102 bytes was passed to E23XMCIC.

Action:

Contact Computer Associates Technical Support.

EBCXMC15 CICS SESSION TIMEOUT= EXCEEDED

Reason:

E23XMCIC timed out waiting for the RMOXMS region to respond.

Action:

If this condition occurs frequently, extend the parameter TIMEOUT in the E23XMCTR table, if possible.

EBCXMC16 EBCXSTSK STOPPED, SESSION ABORTED

Reason:

E23XMCIC found that E23XSTSK is shut down. E23XMCIC ends. E23CINIT (which starts the subtask) was not executing, or the subtask was stopped or failed.

Action:

See your operations administrator for more information.

EBCXMC17 XMS SESSION EXCEEDED LONGWAIT

Reason:

RMOXMS terminated the session because the XMS session exceeded the value of LONGWAIT in the RMOXMS region.

Action:

If this condition occurs frequently, increase the value of LONGWAIT in the RMOXMS start-up file.

EBCXMC18 XMS REGION STOPPED

Reason:

E23XMCIC found that the RMOXMS region was terminated. E23XMCIC ends.

Action:

Start the RMOXMS region, then try again.

EBCXMM00 ACTION COMPLETED WITH NO ERRORS

Reason:

The previous operation completed successfully.

Action:

None. This is an informational message.

EBCXMM01 ACTION COMPLETED, ONE LINE MESSAGE IN BUFFER

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM02 REQUESTED CONNECTION ID CANNOT BE FOUND

Reason:

Your session has been lost. This condition occurs when the time you specified for LONGWAIT is exceeded in the RMOXMS region, the RMOXMS region is shut down or ends abnormally, or an operator cancels your session.

Action:

Restart your session.

EBCXMM03 CONNECTED PROGRAM ENDED NORMALLY

Reason:

You have ended your session, and the RMOXMS session completed without errors.

Action:

None. This is an informational message.

EBCXMM04 CONNECTED PROGRAM abendED

Reason:

Your session was terminated. The RMOXMS session failed.

Action:

Check the job log of the RMOXMS region. Restart your session.

EBCXMM05 UNABLE TO SIGNON - ALREADY AT MAX USERS

Reason:

All RMOXMS regions are at the maximum user limit.

Action:

Start more RMOXMS regions to enable more users to sign on.

EBCXMM06 UNABLE TO SIGNON - SIGNONS ARE SUSPENDED

Reason:

Someone suspended the RMOXMS region.

Action:

Review the RMOXMS log to identify the person who suspended the region, then have that person release the RMOXMS region.

EBCXMM07 RECONNECTION REQUEST FAILED

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM08 REQUESTED SERVICE IS UNKNOWN

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM09 UNABLE TO SIGNON - SYSTEM IS QUIESCING

Reason:

The RMOXMS region is being terminated and logons are no longer accepted.

Action:

Review the RMOXMS log to identify the person who terminated the RMOXMS region. Start the RMOXMS region.

EBCXMM10 REQUESTED ITEM IS NOT HANDLED BY SERVICE

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM11 UNABLE TO SIGNON - SYSTEM IN STARTUP

Reason:

The RMOXMS region has not finished initializing.

Action:

Wait for RMOXMS to finish initializing, then retry your request.

EBCXMM12 CONNECTION ID IS ALREADY DISCONNECTED

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM13 GETMAIN FAILURE FOR USER TABLE ENTRY

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM14 TIMEOUT WAITING FOR PROGRAM RESPONSE

Reason:

The last request exceeded the time-out value in the E23XMCTR table entry for this transaction.

Action:

If too many of these failures occur, review and extend the TIMEOUT parameter.

EBCXMM15 CROSS MEMORY ASCB CANNOT BE FOUND

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM16 DISCONNECTION REQUEST FAILED

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM17 GETMAIN FAILURE FOR COMMUNICATION BLOCK

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM18 CROSS MEMORY CONTROL BLOCK IS INVALID

Reason:

An internal error occurred in XMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM19 CONNECTION ALREADY ESTABLISHED

Reason:

The connect identifier you specified is already in use.

Action:

Make sure that E*xx*CICUX is generating a unique connect identifier for each user.

EBCXMM20 NO ACTIVE CROSS MEMORY SYSTEM AVAILABLE

Reason:

In order to log on, there must be an active XMS region.

Action:

Start an RMOXMS region, then try to log on again.

EBCXMM21 PARAMETER LIST PASSED IS INVALID

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM22 GETMAIN FAILURE FOR SIGNON REQUEST BLOCK

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM23 USER TABLE ENTRY IS INVALID

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM24 SIGNON QUEUE ELEMENT HAS INVALID FORMAT

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM25 ATTACH OF REQUESTED PROGRAM FAILED

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM26 USER TABLE CANNOT BE FOUND

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM27 GETMAIN FAILURE FOR SUBTASK PARAM LIST

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM28 XMSRETMG - REQUESTED CODE IS UNKNOWN

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM29 ONLY PARTIAL TEXT MOVED

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMM30 XMS INTERFACE CONTROL BLOCK INVALID

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXMT03 E23XSTSK NOT ACTIVE

Reason:

When initializing the local cross-memory interface, a crucial subtask was not found.

Action:

Make sure that the cross-memory address space is started and did not abend. Recycle the cross-memory started task if necessary.

EBCXMT04 INVALID EBCXSCTL BLOCK FOUND

Reason:

When initializing the local cross-memory interface, a crucial control block was missing.

Action:

Make sure that the cross-memory address space is started and did not abend. Recycle the cross-memory started task if necessary.

EBCXMT05 TERMINAL NOT SUPPORTED

Reason:

Terminal type used to access CA-Deliver is unknown.

Action:

Verify that a supported terminal type is being used. If your terminal is supported, contact Computer Associates Technical Support.

EBCXMT06 TRANSACTION COM AREA WRONG SIZE

Reason:

The cross-memory interface detected an invalid control block size.

Action:

Check that the proper release of the online interface is being used. Contact your systems programmer.

EBCXMT07 COMAREA ID WRONG

Reason:

The release level of the XMS region does not match the release of the online user's program (E23XMTSO).

Action:

Make sure that you are using the correct interface program. Contact your systems programmer.

EBCXMT08 EBCXSCTL ADDRESS CHANGED

Reason:

When initializing the local cross-memory interface, a crucial control block was missing.

Action:

Make sure that the cross-memory address space is started and did not abend. Recycle the cross-memory started task if necessary.

EBCXMT10 USER CONTROL BLOCK NOT ACTIVE

Reason:

The online interface determined the associated user was no longer active.

Action:

The online transaction ends. If this problem persists, contact your systems programmer.

EBCXMT11 USER CONNECTION LOST

Reason:

Due to terminal I/O or other error, the XMS connection was dropped.

Action:

Inspect the XMS log for errors.

EBCXMT13 EBCXSTSK ABENDED, SESSION ABORTED

Reason:

The XMS subtask abended.

Action:

Retain the dump and restart the XMS started task.

EBCXMT14 DATA PASSED EXCEEDS 102 BYTES

Reason:

Invalid parameters were passed to the online interface.

Action:

Make sure that the database name is 17 characters or less.

EBCXMT15 TSO SESSION TIMEOUT= EXCEEDED

Reason:

The online session timed out due to inactivity.

Action:

None.

EBCXMT16 EBCXSTSK STOPPED, SESSION ABORTED

Reason:

The cross-memory subtask was stopped; the online interface cannot continue.

Action:

Make sure that the XMS interface is started or recycle as needed.

EBCXMT17 XMS SESSION EXCEEDED LONGWAIT=

Reason:

The LONGWAIT parameter value was triggered; your online interface session will end.

Action:

None.

EBCXMT18 XMS REGION STOPPED

Reason:

The XMS region has been quiesced or shut down.

Action:

Start the XMS region to gain access.

EBCXMT19 NO ACTIVE XMS REGION FOUND

Reason:

The XMS region has been quiesced or shut down.

Action:

Start the XMS region to gain access.

EBCXMT20 INVALID XMEMCNTL FOUND

Reason:

Cross-memory control blocks could not be found.

Action:

Make sure that the XMS started task is up and responding. If necessary, recycle the SMX task.

EBCXMT21 NO ACTIVE XMS REGION FOUND

Reason:

The XMS region has been quiesced or shut down.

Action:

Start the XMS region to gain access.

EBCXMT22 INVALID XMEMCNTL FOUND

Reason:

Cross-memory control blocks could not be found.

Action:

Make sure that the XMS started task is up and responding. If necessary, recycle the XMS task.

EBCXMT23 E23XSTSK START FAILED

Reason:

When initializing the local cross-memory interface, a crucial subtask was not found.

Action:

Make sure that the cross-memory address space is started and did not abend. Recycle the cross-memory started task if necessary.

EBCXMT24 E23XSTSK USERMAX EXCEEDED

Reason:

The maximum number of users logged on has been reached.

Action:

Update the USERMAX= initialization parameter for the XMS region, or try logging on later. You can also increase the maximum users allowed by issuing the F_XMS,USERMAX=*nnn* command.

EBCXMT25 CANNOT FIND CROSS MEMORY REGION

Reason:

The XMS region has been quiesced or shut down.

Action:

Start the XMS region to gain access.

EBCXMT26 XMSSUB=YES SUPPORT NOT ACTIVE

Reason:

The XMSSUB option for the XMS specified XMSSUB=NO.

Action:

Use XMSSUB=YES for the XMS support only under ISPF/750 and CA-Roscoe environments.

EBCXMT27 SUPPORT SUBTASK NOT ACTIVE

Reason:

During cross-memory initialization, the associated online interface task was not initialized.

Action:

Make sure that the cross-memory started task is active and, if necessary, recycle the cross-memory started task.

EBCXMT28 NON-MVS/XA EXECUTION NOT ALLOWED

Reason:

The online interface does not support SP/370 mode operation.

Action:

You must run IBM operations system at ESA 4.10 or higher for complete support.

EBCXMT29 NON-TSO/XA EXECUTION NOT ALLOWED

Reason:

The online interface does not support SP/370 mode operation.

Action:

You must run IBM operations system at ESA 4.10 or higher for complete support.

EBCXMT30 LOGON BLOCKS FULL

Reason:

The maximum number of users logged on has been reached.

Action:

Update the USERMAX= initialization parameter for the XMS region, or try logging on later. You can also increase the maximum users allowed by issuing the F_XMS,USERMAX=*nnn* command.

EBCXMT31 NO ACTIVE REGION FOUND

Reason:

The XMS region has been quiesced or shut down.

Action:

Start the XMS region to gain access.

EBCXMT32 INVALID XMEMCNTL FOUND

Reason:

Cross-memory control blocks could not be found.

Action:

Make sure that the XMS started task is up and responding. If necessary, recycle the XMS task.

EBCXMT33 BAD IMS TERMINAL TYPE

Reason:

An unsupported terminal type was encountered.

Action:

Try accessing from another terminal or VTAM mode table.

EBCXMT34 BAD IMS TERMINAL OPTIONS

Reason:

Conflicting or invalid terminal options were detected.

Action:

Contact your systems programmer.

EBCXMT35 E23SMCTR IMSSPA=xxx, DOES NOT MATCH IMS/DC SPA INPUT LENGTH=xxx

Reason:

Control blocks used for the IMS interface are in error.

Action:

Contact Computer Associates Technical Support.

EBCXMT39 REQUIRE PROGRAMS MISSING FROM STEPLIB

Reason:

The basic interface programs were not found in either the steplib or linklist search order.

Action:

Make sure that the EBC programs are in the steplib or linklist.

EBCXMT40 USER EXIT DENIED ACCESS

Reason:

The local user exit indicated that access was denied.

Action:

None.

EBCXMT41 IMS/DC CALL (_____) FAILED RD=____, SESSION TERMINATED

Reason:

An error occurred during the IMS interface.

Action:

Use the call and RD information fields to diagnose the problem. Contact your systems programmer.

EBCXMT42 IMS/DC INSERT BUFFER TOO LARGE, INCREASE PSB LIMIT

Reason:

An IMS interface error occurred.

Action:

Contact your systems programmer.

EBCXMT43 IMS/DC SPA IS NOT THE CORRECT SIZE

Reason:

An IMS interface error occurred.

Action:

Contact your systems programmer.

EBCXSC00 QUEUE ALLOCATED # 1ST=*1st* SIZE=*size* FREE=*free* EBCXSCTL=*xsctl* EBCXSUSR-1ST=*xsuser* XMPCSGPR-1=*pcsgpr*

Reason:

This error message is displayed for debugging purposes. #, *1st*, *size*, *free*, *xsctl*, *xsuser*, and *pcsgpr* represent additional parameter values provided for further reference.

Action:

None. This is an informational message.

EBCXSST1 NO USER TABLE --- RECOVERY- S*n* ----SUBTASK WAIT----

Reason:

E23XSTSK abnormally ended. *n* represents an additional parameter value provided for further reference.

Action:

None, as E23XSTSK attempts to automatically restart itself.

EBCXSST2 PSW=#A #B #C #D E23XSTSK EPA=#E

Reason:

E23XSTSK abnormally ended. #*A*, #*B*, #*C*, #*D*, and #*E* represent additional parameter values provided for further reference.

Action:

None, as E23XSTSK attempts to automatically restart itself.

EBCXSST3 GPR 0-3 #A #B #C #D
GPR 4-7 #A #B #C #D
GPR 8-11 #A #B #C #D
GPR 12-15 #A #B #C #D

Reason:

E23XSTSK abnormally ended. #*A*, #*B*, #*C*, and #*D* represent additional parameter values provided for further reference.

Action:

None, as E23XSTSK attempts to automatically restart itself.

EBCXST01 SUBTASK E23XSTSK ACTIVE ADDR=# 2.0 *M/D/Y H.M*
AWTO FUNCT E23AWTO ACTIVE ADDR=# 2.0 *M/D/Y H.M*
QMSG FUNCT E23QMSG ACTIVE ADDR=# 2.0 *M/D/Y H.M*
SUBT ETXR E23XSETX ACTIVE ADDR=# 2.0 *M/D/Y H.M*
SUBT ESTAE E23XSSTA ACTIVE ADDR=# 2.0 *M/D/Y H.M*
3270 DEV E23D3270 ACTIVE ADDR=# 2.0 *M/D/Y H.M*
XMS MSGS E23XMMSG ACTIVE ADDR=# 2.0 *M/D/Y H.M*
XMS CNTRL E23XMCTR ACTIVE ADDR=# 2.0 *M/D/Y H.M*
SRVTRAN=XM14 DEST=XM14

Reason:

This error message is displayed for debugging purposes. # represents an actual address. *M*, *D*, and *Y* represent the month, day, and year, respectively. *H* and *M* represent the hour and minutes.

Action:

None. This is an informational message.

EBCXST20 CROSS MEMORY CA-View RETRIEVAL HAS abendED

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXST21 NO CROSS MEMORY SYSTEM REGION ACTIVE, SUBSYS=*name*

Reason:

You tried to log onto a subsystem on which an RMOXMS region is not initialized and active. *name* represents the name assigned to the subsystem.

Action:

Initialize an RMOXMS region on the subsystem, then try to log on again.

EBCXST22 INSUFFICIENT MEMORY FOR CROSS MEMORY OPERATION

Reason:

Not enough memory is allocated to RMOXMS, or the USERMAX parameter is set too high.

Action:

Allocate more memory to RMOXMS and reduce the number of users assigned to the USERMAX parameter.

EBCXST24 FREE OF LOCAL MEMORY FAILED - SESSION ENDED

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXST25 USER CONNECTION ID IS INVALID

Reason:

The connection identifier modified by the E23CICUX user exit is incorrect or invalid.

Action:

Verify the connection identifier modified by the E23CICUX user exit.

EBCXST27 CROSS MEMORY CA-View HAS TERMINATED NORMALLY - THIS SESSION IS ENDED

Reason:

Your session ended with no errors.

Action:

None. This is an informational message.

EBCXST28 OUTPUT SCREEN EXCEEDS TERMINAL BUFFER SIZE - SESSION ENDED

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXST29 TRANSACTION TO DATABASE INDEX NAME TABLE IS EMPTY - SESSION ENDED

Reason:

Your E23XMCTR table contains zero entries.

Action:

Rebuild the E23XMCTR table with at least one transaction definition.

EBCXST30 INVALID CROSS MEMORY CONTROL BLOCK FOUND (XMCT) - CONTACT COMPUTER ASSOCIATES

Reason:

An internal error occurred in RMOXMS.

Action:

Contact Computer Associates Technical Support.

EBCXST31 CROSS MEMORY ADDRESS SPACE NO LONGER ACTIVE

Reason:

The RMOXMS region is terminated.

Action:

None. This is an informational message.

EBCXST32 DATABASE INDEX NAME NOT FOUND FOR TRANSACTION - SESSION ENDED

Reason:

The entry for this transaction does not have a valid database name.

Action:

Check the entry for the transaction to ensure the database name is correct. If it is not, correct the database name, then try again. If the problem persists, contact Computer Associates Technical Support.

EBCXST33 MAXIMUM SESSIONS IN USE - SESSION ENDED

Reason:

The RMOXMS session you are trying to initiate exceeds the maximum number allowed in the E23XMCTR table. You cannot initiate new sessions.

Action:

Terminate RMOXMS sessions, then try again.

EBCXST34 DATABASE INDEX NAME NOT FOUND IN TABLE - SESSION ENDED

Reason:

The E23XMCTR table does not contain the database index name you specified; therefore, you are denied access to the table.

Action:

Add an entry to the E23XMCTR table for the database you want to specify.

EBCXST35 PROGRAM NAME NOT FOUND IN TABLE ENTRY, VERIFY VERSION OF MACRO USED IN TABLE ASSEMBLY

Reason:

E23XMCTR was assembled with the SARXMTRN macro from a previous release of a Computer Associates product.

Action:

Assemble the table again with the current macro library.

EBCXST40 ERROR DURING SIGNON -

Reason:

An error occurred in RMOXMS.

Action:

Review the error message that displays after this error message for more information about the cause. Take action based on the contents of the second error message.

EBCXST41 CROSS MEMORY FIND ERROR -

Reason:

An error occurred in RMOXMS.

Action:

Review the error message that displays after this error message for more information about the cause. Take action based on the contents of the second error message.

EBCXST42 CROSS MEMORY GET BUFFER ERROR -

Reason:

An error occurred in RMOXMS.

Action:

Review the error message that displays after this error message for more information about the cause. Take action based on the contents of the second error message.

EBCXST43 CROSS MEMORY PUT BUFFER ERROR -

Reason:

An error occurred in RMOXMS.

Action:

Review the error message that displays after this error message for more information about the cause. Take action based on the contents of the second error message.

EBCXST44 CROSS MEMORY GET COMAREA INFO ERROR -

Reason:

An error occurred in RMOXMS.

Action:

Review the error message that displays after this error message for more information about the cause. Take action based on the contents of the second error message.

EBCXST45 CROSS MEMORY POST ERROR -

Reason:

An error occurred in RMOXMS.

Action:

Review the error message that displays after this error message for more information about the cause. Take action based on the contents of the second error message.

EBCXST50 XMS SUBTASK POSTED XSC_SUBF=#A XSC_ECB1=#B

Reason:

This error message is a trace message to the indicated logic flow. #*A* and #*B* represent additional parameter values which are provided for further reference.

Note: This message appears only if trace messages are requested.

Action:

None. This is an informational message.

CA-Deliver Error Messages

This section describes error messages associated with CA-Deliver.

RMOASR01 DYNAMIC INTERFACE RE-EFFECTUATED FOR ASPEP

Reason:

A new CA-Deliver system interface routine was installed. The system interface routines are reestablished when the CA-Deliver is started with the REFRESH parameter. These messages may also appear when CA-Deliver is started for the first time.

Action:

None. This is an informational message.

RMOASR02 ASB CONTROL BLOCK HAS BEEN REBUILT

Reason:

CA-Deliver has detected that the process request blocks used to request services from a CA-Deliver task is corrupted. The request blocks were automatically rebuilt.

Action:

None. This is an informational message.

RMOATX01 AUTH FAILURE – CALL: *tttt/a name*

Reason:

A user has attempted to gain access to a resource for which authority has not been granted. The parameters used for the authorization call are in the text of the message:

Where:

tttt	Represents a resource type: ACT, BACT, BANR, BNDL, DIST, JOB, PANL, or REPT
a	Displays up to six characters that represent the access type(s): V (view), R (rename), U (update), D (delete), O (operations), or A (administration)
name	Displays the name of the specific resource when applicable

Action:

None. This is an informational message that will assist you in defining the authorizations for your CA-Deliver users.

RMOBBP01 SUBSYSTEM DATA SET NOT FOUND - WTR=Rxxxxx

Reason:

The bundle holding a copy of one or more reports was not found in the spool and was not included in the bundle (WTR=R*xxxxx* indicates the external writer name). Possible causes include the system operator purging the report from spool, printing the bundle holding copy, or changing report definitions while the report(s) was active.

Action:

Verify that the BNDLCLS and BNDLDEST initialization parameters are unique and do not allow any bundle holding copies to be printed by any printer in the complex.

RMOBBP03 SUBSYSTEM OPEN REQUEST FAILED - ERROR CODE xx, WTR=Rxxxxx

Reason:

The open request failed when attempting to retrieve the bundle holding copy of the report stored on spool with writer name R*xxxxx*. Execution continues; however, the report is not included in the bundle. The hexadecimal error code is provided in the message.

Action:

None. This is an informational message.

RMOBBP04 REPORT HEADER INVALID OR MISSING - WTR=Rxxxxx

Reason:

The report header record was not found in the bundle holding copy of the report stored on spool with writer name R*xxxxx*. Execution continues; however, the report is not included in the bundle.

Action:

None. This is an informational message.

RMOBBP05 SYSOUT ALLOCATION FAILED FOR BUNDLE xxxxxxxxxx - ERROR CODE xxxx, INFO CODE xxxx

Reason:

A dynamic allocation request for allocating the bundle to SYSOUT failed. The hexadecimal error and information codes are provided. Execution continues; however, the bundle is not created.

Action:

Correct the bundle and/or report definition.

RMOBBP06 BUNDLE OPEN REQUEST FAILED - ERROR CODE xx

Reason:

The open request for the bundle failed. The hexadecimal error code is provided. Execution continues; however, the bundle is not created.

Action:

Consult your systems programmer to determine the cause of the error.

RMOBBP07 SUBSYSTEM GET REQUEST FAILED - RPL FEEDBACK xxxxxx

Reason:

A subsystem get request failed. The hexadecimal feedback code is provided. This is normally due to a system crash while the job that created the bundle holding copy of a report was executing.

Action:

None. This is an informational message.

RMOBBP08 // OUTPUT FAILED FOR BUNDLE xxxxxxxxxx – CODE xxxx REASON xxxx

Reason:

An error occurred attempting to create an OUTPUT JCL statement for the bundle. The return code and hexadecimal reason code from OUTADD are provided. The bundle will be allocated without output statement parameters. The return code and reason code for OUTADD are contained in the IBM IEFDORC macro.

Action:

Consult your systems programmer.

RMOBBP11 BUNDLE NOT DEFINED IN DATABASE

Reason:

The bundle identifier specified in the parameter field for the bundling job could not be found in the CA-Deliver database.

Action:

Correct the bundle identifier, then rerun the job.

RMOBBP14 CA-DELIVER IS NOT ACTIVE

Reason:

The CA-Deliver started task is not active.

Action:

Restart CA-Deliver.

RMOBBP15 INVALID OR MISSING CONTROL CARD

Reason:

An invalid or missing control card was found. The batch bundle job must be created and submitted only by CA-Deliver itself.

Action:

Free the active bundle entry so that CA-Deliver will submit the batch bundle job itself.

RMOBBP16 CANNOT CREATE HDN TABLE

Reason:

CA-Deliver was unable to create a history detail number table for a bundle banner page.

Action:

Contact Computer Associates Technical Support.

Note: A user abend may also occur when this message displays.

RMOBBP42 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database or change the batch bundle JCL, RMOJCLB, to reference the correct STEPLIB libraries.

RMOBBT02 TABLE ENTRY SIZE EXCEEDED FOR BUNDLE *bundle*

Reason:

The internal table that holds bundle definitions cannot handle the bundle definition for *bundle*; the number of bundle definitions allowed by CA-Deliver is exceeded.

Action:

Contact Computer Associates Technical Support.

RMOBOT01 SUBSYSTEM DATA SET NOT FOUND - WTR=R*xxxxx*

Reason:

The bundle holding copy of one or more reports was not found in the spool and was not included in the bundle (WTR=R*xxxxx* indicates the external writer name). The cause could be that the system operator purged the report from spool, printed the bundle holding copy, or changed report definitions while the report(s) was active.

Action:

Verify that the BNDLCLS and BNDLDEST initialization parameters are unique and do not allow any bundle holding copies to be printed by any printer at your location.

RMOBOT03 SUBSYSTEM OPEN REQUEST FAILED - ERROR CODE xx, WTR=Rxxxxx

Reason:

The open request failed when attempting to retrieve the bundle holding copy of the report stored on spool with writer name R*xxxxx*. Execution continues; however, the report is not included in the bundle. The hexadecimal error code is provided in the message.

Action:

None. This is an informational message.

RMOBOT04 REPORT HEADER INVALID OR MISSING - WTR=Rxxxxx

Reason:

The report header record was not found in the bundle holding copy of the report stored on spool with writer name R*xxxxx*. Execution continues; however, the report is not included in the bundle.

Action:

None. This is an informational message.

RMOBOT05 SYSOUT ALLOCATION FAILED FOR BUNDLE xxxxxxxxxx - ERROR CODE xxxx, INFO CODE xxxx

Reason:

A dynamic allocation request for allocating the bundle to SYSOUT failed. The hexadecimal error and information codes are provided. Execution continues; however, the bundle is not created.

Action:

Correct the bundle and/or report definition.

RMOBOT06 BUNDLE OPEN REQUEST FAILED - ERROR CODE xx

Reason:

The open request for the bundle failed. The hexadecimal error code is provided. Execution continues; however, the bundle is not created.

Action:

Consult your systems programmer to determine the cause of the error.

RMOBOT07 SUBSYSTEM GET REQUEST FAILED - RPL FEEDBACK xxxxxx

Reason:

A subsystem get request failed. The hexadecimal feedback code is provided. This normally occurs when a system crashes while the job that creates the bundle holding copy of a report is executing.

Action:

None. This is an informational message.

RMOBOT08 // OUTPUT FAILED FOR BUNDLE xxxxxxxxxx – CODE xxxx REASON xxxx

Reason:

An error occurred attempting to create an OUTPUT JCL statement for the bundle. The return code and hexadecimal reason code from OUTADD are provided. The bundle will be allocated without output statement parameters. The return code and reason code for OUTADD are contained in the IBM IEFDORC macro.

Action:

Consult your systems programmer.

RMOBOT09 CANNOT CREATE HDN TABLE

Reason:

CA-Deliver was unable to create a history detail number table for a bundle banner page.

Action:

Contact Computer Associates Technical Support.

Note: A user abend may also occur when this message displays.

RMOBPC01 MODEL BANNER PAGE xxxxxxxx NOT FOUND

Reason:

The model banner page could not be found in the CA-Deliver database.

Action:

Correct the model banner page name if in error or add the model banner page to the model banner page data set. Reload the members to the CA-Deliver database.

RMOBPC02 CARD *nnn* INVALID CNTL CARD /xxxxxx

Reason:

Record number *nnn* of the model banner page definition contains an invalid control statement.

Action:

Correct the statement.

RMOBPC03 CARD *nnn* NO TERMINATOR FOR SYMBOLIC VARIABLE xxxxxxxx

Reason:

The symbolic variable in record number *nnn* of the model banner page definition is missing its terminator.

Action:

Correct the symbolic variable.

RMOBPC04 CARD *nnn* EXTRANEOUS DATA IN SYMBOLIC FIELD xxxxxxxx

Reason:

The symbolic field following the variable name in record number *nnn* of the model banner page definition is not blank.

Action:

Correct the symbolic field.

RMOBPC05 CARD *nnn* INVALID SYMBOLIC VARIABLE xxxxxxxx

Reason:

The symbolic variable in record number *nnn* of the model banner page definition is not in the correct syntax.

Action:

Correct the symbolic variable.

RMOBPC06 CARD *nnn* MISSING SYMBOLIC VARIABLE NAME

Reason:

Record number *nnn* contains a symbolic field without any variable name.

Action:

Correct the symbolic field.

RMOBPC08 BANNER PAGE TRUNCATED

Reason:

A banner page for a report contained more than maximum 200 lines.

Action:

Reduce the amount of lines in the banner page and reload the banner page into the database with the RMODBASE utility BLOAD control statement.

RMOBPC12 MODEL BANNER PAGE "xxxxxxxx" NOT FOUND; DEFAULT BANNER PAGE IS USED

Reason:

A report referenced a banner page that is not in the CA-Deliver database. The banner page name referenced on the DEFAULT initialization parameter will be used.

Action:

Load the indicated model banner page into the CA-Deliver database with the RMODBASE utility BLOAD control statement or change the model banner page name referenced by the report.

RMOBPR00 PRINT REQUESTED FOR BUNDLE xxxxxxxx

Reason:

A request to print bundle *xxxxxxxx* was issued.

Action:

None. This is an informational message.

RMOBPR01 BUNDLE IS NOT ACTIVE - BUNDLE ID = xxxxxxxxxx

Reason:

An attempt to print a bundle was requested and no corresponding checkpoint entry was found.

Action:

Determine if a print was requested in error; also, verify that the bundle is active.

RMOBPR02 AUTHORIZATION FAILED FOR BUNDLE xxxxxxxx

Reason:

The bundle identifier is not authorized by security for update to the database.

Action:

Verify the RMOATHTB/RMOATHUX security exits for authorization to update the CA-Deliver database.

RMOBPR03 CA-DELIVER IS NOT ACTIVE

Reason:

The CA-Deliver started task is not active.

Action:

Restart CA-Deliver.

RMOBSB01 BUNDLE SUBMIT FAILED ALLOCATION ERROR=xxxx, INFO=xxxx

Reason:

Allocation failed for the internal reader; the bundle job could not be submitted. The hexadecimal error and information codes are provided.

Action:

Consult your systems programmer to determine the cause of the error and rerun the bundle job.

RMOBSB02 SKELETON JCL MEMBER RMOJCLB NOT FOUND IN DATABASE

Reason:

The skeleton JCL used for submitting the bundling job was not found in the CA-Deliver database.

Action:

Use the RMODBASE utility OLOAD control statement to reload the online library members to the CA-Deliver database.

RMOBSB03 JOB SUBMITTED FOR BUNDLE

Reason:

The bundling job was submitted.

Action:

None. This is an informational message.

RMOBXB00 BUNDLE CROSS REFERENCE SUCCESSFULLY BUILT

Reason:

A bundle cross-reference was successfully created.

Action:

None. This is an informational message.

RMOBXB01 TOO MANY BUNDLE IDS FOR REPORT ID xxxxxxxxxxxx, IGNORED

Reason:

The RDR has exceeded the number of bundles valid for the record type.

Action:

Increase the 32K limit for the RDR.

RMOBXB02 SORT FAILED

Reason:

The sort has failed for this execution.

Action:

Refer to additional messages to identify and correct the problem.

RMOCPP01 CHECKPOINT ALLOCATION ERR=xxxx, INFO=xxxx, DSN=*data set name*

Reason:

An error occurred when the checkpoint data set was allocated.

Note: A user abend may also occur when this message displays.

Action:

Specify new allocation parameters, then try again.

RMOCPP02 PHYSICAL I/O ERROR - ECB=xxxxxxxx, DSN=*data set name*

Reason:

An input/output error occurred when the checkpoint data set was allocated.

Note: A user abend may also occur when this message displays.

Action:

Use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database. Contact Computer Associates Technical Support.

RMOCPP03 CHECKPOINT OPEN FAILED OR FILE IN USE - DSN=*data set-name*

Reason:

The checkpoint data set is allocated, but it cannot be opened.

Note: A user abend may also occur when this message displays.

Action:

Contact Computer Associates Technical Support.

RMOCPP04 CHECKPOINT RENAME FAILED FOR *x* - DSN=*data set name*

Reason:

The checkpoint data set is allocated, but it cannot be renamed, catalogued, or not catalogued.

Note: A user abend may also occur when this message displays.

Action:

Contact Computer Associates Technical Support.

RMOCPP05 WAITING FOR CHECKPOINT

Reason:

On the current operating system, the checkpoint data set is unavailable to be read (this message is issued every 10 seconds).

Note: A user abend may also occur when this message displays.

Action:

Verify that the operating system on which the checkpoint data set is located is available.

RMOCPP06 UNABLE TO OBTAIN CHECKPOINT LOCK–LOCK OWNED BY SID xxx

Reason:

The checkpoint lock cannot be obtained because another system currently owns it. The name of the owning system is provided. If the system name is *UT*, the checkpoint is currently owned by an executing RMODBASE utility job. If the system name is ********, then the name of the owning system is not available.

Note: A system identifier (SID) of *UT* indicates that the checkpoint is locked by the RMODBASE utility. A user abend may also occur when this message displays.

Action:

If the owning system is slow or temporarily "hung," no action is necessary; ownership of the checkpoint will eventually be released and the checkpoint will become available. If the owning system has abnormally terminated or crashed, issue the UNLOCK operator command to forcibly release the checkpoint.

WARNING! *Exercise extreme care when using the UNLOCK command. Under no circumstances should you unlock the checkpoint when the system that locks it is still functional. If, for example, a system hangs while the checkpoint on it is locked, the system could subsequently break free and resume processing. In this case, the checkpoint would be severely damaged if an operator had freed it.*

RMOCPP07 SYSTEM IDS = xxxx xxxx xxxx xxxx ENTER ONE OF SYSTEM IDS IN LIST THAT MAY BE REUSED

Reason:

CA-Deliver keeps up to 32 identifiers in its database for processing and tracking. When all 32 identifiers have been used, it prompts the operator for an identifier that may be reused.

Action:

Reply to the message with the identifier of the system that may be reused.

Note: Do not reply with a currently valid system identifier. A user abend may also occur when this message displays.

RMOCPP08 *** WARNING *** REPLY "U" ONLY IF xxxx IS NOT A VALID SYSTEM

Reason:

A reply was made to message RMOCPP08, and a final warning is being given.

Action:

Reply U only if the specified system is not currently valid. A user abend may also occur when this message displays.

RMOCPP09 REPLY "Y"/"N" TO FORCIBLY ACQUIRE THE CHECKPOINT OR "C" TO CANCEL

Reason:

The UNLOCK operator command has been issued and the operator is being prompted for an action.

Action:

Do **one** of the following:

- Reply Y to force the unlock of the checkpoint so that the started task or job waiting for the checkpoint can acquire it.
- Reply N to nullify the UNLOCK request; the started task or job waiting for the checkpoint will continue to wait.
- Reply C to nullify the UNLOCK request and cancel the started task or job waiting for the checkpoint.

WARNING! *Exercise extreme care when using the UNLOCK command. Under no circumstances should you unlock the checkpoint when the system that locks it is still functional. If, for example, a system hangs while the checkpoint on it is locked, the system could subsequently break free and resume processing. In this case, the checkpoint would be severely damaged if an operator had freed it.*

Note: A user abend may also occur when this message displays.

RMOCPP10 *** WARNING *** REPLY "U" ONLY IF CA-DELIVER IS NOT IN USE

Reason:

A reply of Y has been given to message RMOCPP09 to forcibly unlock and acquire the checkpoint, and a final warning is being given.

Action:

Reply U only if the owning CA-Deliver system is not executing.

WARNING! *Exercise extreme care when using the UNLOCK command. Under no circumstances should you unlock the checkpoint when the system that locks it is still functional. If, for example, a system hangs while the checkpoint on it is locked, the system could subsequently break free and resume processing. In this case, the checkpoint would be severely damaged if an operator had freed it.*

Note: A user abend may also occur when this message displays.

RMOCPP11 DATACLAS/MGMTCLAS/STORCLAS ALLOWED ONLY FOR SMS DATA SET

Reason:

You attempted to specify a data, management, or storage class for a data set that is not controlled by IBM's System Managed Storage (SMS).

Action:

Specify new parameters, then try again.

Note: A user abend may also occur when this message displays.

RMOCPP12 UNIT/VOLSER ALLOWED ONLY FOR NON-SMS DATA SETS

Reason:

You attempted to specify a unit or volume serial number for a data set that is controlled by IBM's System Managed Storage (SMS).

Action:

Specify new parameters, then try again.

Note: A user abend may also occur when this message displays.

RMOCPP13 CHECKPOINT LOGICAL I/O ERROR

Reason:

An internal input/output error occurred in the checkpoint operating system.

Action:

Contact Computer Associates Technical Support.

Note: A user abend may also occur when this message displays.

RMOCPT02 TIME OF DAY CLOCK IS NOT SET OR IS NOT OPERATIONAL

Reason:

The time-of-day clock is not functioning (the operating system is probably not running). CA-Deliver requires a functioning time-of-day clock.

Action:

Repair and reset the time-of-day clock, then restart CA-Deliver.

Note: A user abend will also occur when this message displays.

RMOCPT03 INVALID CHECKPOINT REQUEST

Reason:

An internal checkpoint request is invalid.

Action:

Contact Computer Associates Technical Support.

Note: A user abend will also occur when this message displays.

RMOCPT04 NO MORE ROOM IN CHECKPOINT

Reason:

There is no more room in the fixed length checkpoint data set because there are too many active entries. Processing is abnormally terminated.

Action:

Run the RMODBASE utility MAKECKPT control statement to expand the size of the checkpoint or copy the checkpoint to a new data set.

Note: A user abend will also occur when this message displays.

RMOCPT05 *nnn* PERCENT UTILIZATION OF CHECKPOINT DSN=*data set-name*

Reason:

The fixed length checkpoint is more than 80 percent full (*nnn* represents the actual percentage).

Action:

Monitor the checkpoint to ensure that the number of active entries does not exceed the capacity of the checkpoint. Run the RMOCPMAP utility to determine how the checkpoint space is being used and if it is sufficient for your needs. In the event that the number of entries approaches the capacity of the checkpoint, use the RMODBASE utility MAKECKPT control statement to expand the size of the checkpoint or copy the checkpoint to a new data set.

RMOCPT06 LOGICAL ERROR PROCESSING CHECKPOINT

Reason:

A logical error occurred in the processing of the checkpoint.

Action:

Correct the problem with the checkpoint. This may require re-creating the checkpoint with the RMODBASE utility MAKECKPT control statement.

Note: A user abend will also occur when this message displays.

RMOCPT08 SYSTEM ID xxxx NOT FOUND

Reason:

The system identifier you specified in the FREE operator command does not identify a valid CA-Deliver system.

Action:

Check the system identifier you used. Issue the FREE operator command again with the correct system identifier.

RMOCPT09 REPORT REPORTID (JOBNAME/JOBID) FREED

Reason:

The specified report was marked as being processed by the system. The report has been freed from the system either as a result of an IPL and restart of CA-Deliver, or as a result of the FREE operator command.

Action:

None. This is an informational message.

RMOCPT10 CHECKPOINT WAS NEVER SUCCESSFULLY CREATED

Reason:

The checkpoint to which the started task points was never successfully created or is invalid.

Action:

Use the RMODBASE utility MAKECKPT control statement to create the checkpoint.

Note: A user abend will also occur when this message displays.

RMOCPT11 CRITICAL SHORTAGE OF CHECKPOINT SPACE RELIEVED DSN=*data set name*

Reason:

The fixed length checkpoint that was more than 95 percent full is now less than 80 percent full.

Action:

None. This is an informational message.

RMOCPT12 BUNDLE BUNDLEID FREED

Reason:

The specified bundle was marked as being processed by the system. The bundle has been freed from the system either as a result of an IPL and restart of CA-Deliver, or as a result of the FREE operator command.

Action:

None. This is an informational message.

RMOCPT13 CA-DELIVER DAILY CYCLE BEGINNING CA-DELIVER DAILY CYCLE COMPLETED

Reason:

These messages are information messages that notify you when the CA-Deliver cycle processing begins and ends.

Action:

None. This is an informational message.

RMOCPT14 EXTERNAL WRITER NUMBERS EXHAUSTED

Reason:

You have used all of the external writer numbers available on your system.

Action:

Contact Computer Associates Technical Support.

Note: A user abend may also occur when this message displays.

RMOCQH01 I/O ERROR ON CHECKPOINT

Reason:

An input/output error occurred processing the checkpoint subfile.

Action:

You may need to copy the CA-Deliver database with the RMODBASE utility to eliminate the input/output error.

RMOCRR01 TABLE SIZE EXCEEDED FOR REPORT xxxxxxxxxxxx

Reason:

The report attribute definition for the specified report was exceedingly large and could not fit in the storage allocated.

Action:

Reduce the size of the report definition attributes by eliminating some of the distribution identifiers or special instructions.

RMOCRR03 NO REPORT DESCRIPTOR FOR REPORT xxxxxxxxxxxx

Reason:

The report descriptor record for the specified report could not be found in the CA-Deliver database.

Action:

Add the report definition attribute for the report again.

RMODBA01 DATA SET SUCCESSFULLY ADDED TO DATABASE

DSNAME: ***data set name***
UNIT: ***unit***
VOLSER: ***volser***
CYLINDERS: ***nnnnn***
BLOCKS: ***nnnnn***
MANAGEMENT CLASS: ***class***
STORAGE CLASS: ***class***
DATA CLASS: ***class***

Reason:

The requested space has been added to the database. Physical attributes of the newly added data set are provided.

Action:

None. This is an informational message.

RMODBA02 DATABASE SUCCESSFULLY RENAMED

Reason:

The database was successfully renamed.

Action:

None. This is an informational message.

RMODBA03 DATABASE SUCCESSFULLY DELETED

Reason:

The database was successfully deleted.

Action:

None. This is an informational message.

RMODBA04 INVALID CONTROL STATEMENT OPERATION

Reason:

The control statement has an invalid operator.

Action:

Correct the control statement, then rerun the job.

RMODBA05 INVALID OR MISSING HIGH-LEVEL INDEX NAME

Reason:

The high-level index name is missing or invalid.

Action:

Correct the control statement, then rerun the job.

RMODBA06 INVALID OR MISSING VOLUME SERIAL NUMBER

Reason:

The volume serial number is missing or invalid.

Action:

Correct the control statement, then rerun the job.

RMODBA07 INVALID OR MISSING CYLINDER SPECIFICATION

Reason:

The number of cylinders specification is missing or invalid.

Action:

Correct the control statement, then rerun the job.

RMODBA08 INVALID OR MISSING UNIT NAME

Reason:

The unit name is missing or invalid.

Action:

Correct the control statement, then rerun the job.

RMODBA09 STATUS OF DATABASE *high-level-name*

```
BLOCK SIZE:                nnnnnnnn
TOTAL CYLINDERS:           nnnnnnnn
TOTAL BLOCKS:              nnnnnnnn
TOTAL USED BLOCKS:         nnnnnnnn
TOTAL HIST BLOCKS:         nnnnnnnn
PERCENT USED:              nnnnnnnn
DATA SET                   data set name
  CYLINDERS:               nnnnnnnn
  BLOCKS:                  nnnnnnnn
  USED BLOCKS:             nnnnnnnn
  ERROR BLOCKS:            nnnnnnnn
CHECKPOINT                 data set name
  PERCENT USED:            nnnnnnnn
  PERCENT HIST CAP USED:   nnn
  CYLINDERS:               nnnnnnnn
```

Reason:

A status request was made of the database. Statistics on the database are presented.

Action:

None. This is an informational message.

Note: The statistic PERCENT HIST CAP USED is not always presented in this error message.

RMODBA10 DATABASE SUCCESSFULLY COPIED

Reason:

The database was successfully copied.

Action:

None. This is an informational message.

RMODBA11 DATABASE SUCCESSFULLY UNLOADED

Reason:

The database was successfully unloaded.

Action:

None. This is an informational message.

RMODBA12 ONLINE LIBRARY MEMBERS SUCCESSFULLY LOADED

Reason:

The online library members were successfully loaded to the database.

Action:

None. This is an informational message.

RMODBA13 INVALID RESERVE/BUFFER/HISTORY OPERAND

Reason:

The reserve or NORESERVE, buffer or NOBUFFER, or HISTDEL or HISTDELALL operand on the statement is invalid.

Action:

Correct the control statement, then rerun the job.

RMODBA14 INVALID EMPTY OPERAND

Reason:

The EMPTY operand on the MAKECKPT statement is invalid.

Action:

Correct the control statement, then rerun the job.

RMODBA15 AUTHORIZATION FAILED

Reason:

You are not authorized to perform the requested function.

Action:

Contact the appropriate person to obtain authorization to perform the function.

RMODBA17 DATABASE SUCCESSFULLY LOADED

Reason:

The database was successfully loaded.

Action:

None. This is an informational message.

RMODBA18 NUMBER OF CYLINDERS ROUNDED UP FOR CHECKPOINT

Reason:

The number of cylinders has been increased to the next even number.

Action:

None. This is an informational message.

RMODBA20 MODEL BANNER PAGE MEMBERS SUCCESSFULLY LOADED

Reason:

The model banner page members were successfully loaded to the database.

Action:

None. This is an informational message.

RMODBA21 PRINT SETUP MEMBERS SUCCESSFULLY LOADED

Reason:

PRSET values you specified in the RMODBASE utility PLOAD control statement were successfully loaded into the CA-Deliver database.

Action:

None. This is an informational message.

RMODBA22 INVALID CONTROL STATEMENT OPERAND

Reason:

An invalid operand was detected in a control statement.

Action:

Correct the control statement, then rerun the job.

RMODBA23 xxxxxxx HISTORY RECORDS xxxxxxxx: xxxxxxxx

Reason:

History records were processed for report/bundle, update/delete, and the number of records processed.

Action:

None. This is an informational message.

RMODBA31 INVALID BLOCK SIZE

Reason:

The block size you specified for a data set for the CA-Deliver database is invalid, incorrect, or out of the allowed range.

Action:

Specify a block size between 3476 and 16383 bytes inclusive.

RMODBA24 INVALID VERSION KEYWORD

Reason:

The version number keyword on the RMODBASE utility VERSION control statement was incorrectly specified.

Action:

Correct the control statement.

RMODBA40 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMODBA41 DATA BASE SUCCESSFUL CONVERTED

Reason:

The database has been succesfully converted or successfully versioned to the requested release.

Action:

None. This is an informational message.

RMODBA42 xxxxxxxx MEMBER xxxxxxxx SUCCESSFULLY DELETED

Reason:

A model banner page member, printer setup member, or online panel referenced on the RMODBASE utility, DELBAN, DELPRSET, or DELPAN control statement was successfully deleted from the database.

Action:

None. This is an informational message.

RMODBA43 xxxxxxxx MEMBER xxxxxxxx NOT FOUND

Reason:

The model banner page member, printer setup member, or online panel specified on the RMODBASE utility DELBAN, DELPRSET, or DELPAN control statement was not found in the database.

Action:

Correct the control statement.

RMODBB01 INVALID SYNTAX, COLUMN=xx

Reason:

The control statement contains invalid syntax. The column number where the error was discovered is provided.

Action:

Correct the control statement.

RMODBB02 INCOMPLETE CONTROL STATEMENT

Reason:

The last parameter was being scanned when the end of the control statement occurred.

Action:

Correct the control statement.

RMODBB03 INVALID KEYWORD xxxxxxxx

Reason:

The keyword presented is invalid.

Action:

Correct the control statement.

RMODBB04 REQUIRED FIELD xxxxxxxx NOT DEFINED

Reason:

The required parameter field was not specified on the control statement.

Action:

Correct the control statement.

RMODBB05 NO CONTROL STATEMENTS FOUND IN INPUT

Reason:

The control statement data set contained no control statements.

Action:

Correct the problem, then rerun the job.

RMODBB06 INVALID CONTROL STATEMENT NAME

Reason:

The control statement you specified is incorrect.

Action:

Correct the control statement.

RMODBB07 ILLEGAL VALUE FOR *xxxxxxxx* - DATA RECORD *nnnnnnn* SKIPPED

Reason:

The value for the specified parameter is invalid. The number of the data record is presented.

Action:

Correct the data record.

RMODBB08 REPORT *xxxxxxxxxxxx* ALREADY EXISTS - DATA RECORD *nnnnnnn* SKIPPED

Reason:

The report identifier to be added already exists for another job. The number of the data record is presented.

Action:

Correct the data record.

RMODBB09 JOB *xxxxxxxx* ADDED/MODIFIED - DATA RECORD *xxxxxxxx*

Reason:

An addition or change to a specific record was made.

Action:

None. This is an informational message.

RMODBB10 AUTHORIZATION FAILED - DATA RECORD *nnnnnnn* SKIPPED

Reason:

You are not authorized to perform an operation on the CA-Deliver database. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB11 RECORD TOO LARGE - DATA RECORD *nnnnnnn* SKIPPED

Reason:

A CA-Deliver record exceeds the maximum allowable size (32,000 bytes). The probable cause is that too many reports and DISTIDs were added to a bundle. The limit is approximately 2700 elements in a bundle, split among DISTIDs, reports, and special instructions.

Action:

Reduce the size of the bundle definition by defining two or more bundles.

RMODBB12 REPORT xxxxxxxxxxxx ADDED/MODIFIED - DATA RECORD *nnnnnnn*

Reason:

The entry in the job description was added or modified for the report. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB13 REPORT xxxxxxxxxxxx MODIFIED - DATA RECORD *nnnnnnn*

Reason:

The report description was modified. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB14 DISTRIBUTION IDENTIFIER xxxxxxxx ADDED/MODIFIED - DATA RECORD *nnnnnnn*

Reason:

The distribution description was added or modified for the distribution identifier. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB15 BUNDLE IDENTIFIER *xxxxxxxx* ADDED/MODIFIED - DATA RECORD *nnnnnnn*

Reason:

The bundle description was added or modified for the bundle identifier. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB16 JOB DESCRIPTOR FOR RECORD *nnnnnnn* OWNED BY USER *xxxxxxxx* - VERIFY UPDATE OK

Reason:

The job descriptor record specified ownership by another user. Ownership of the record was taken from that user in order to do the update.

Action:

Verify that the database was updated correctly.

RMODBB17 REPORT DESCRIPTOR FOR RECORD *nnnnnnn* OWNED BY USER *xxxxxxxx* - VERIFY UPDATE OK

Reason:

The report descriptor record specified ownership by another user. Ownership of the record was taken from the user in order to do the update.

Action:

Verify that the database was updated correctly.

RMODBB18 DISTRIBUTION DESCRIPTOR FOR RECORD *nnnnnnn* OWNED BY USER *xxxxxxxx* - VERIFY UPDATE OK

Reason:

The distribution descriptor record specified ownership by another user. Ownership of the record was taken from the user in order to do the update.

Action:

Verify that the database was updated correctly.

RMODBB19 BUNDLE DESCRIPTOR FOR RECORD *nnnnnnn* OWNED BY USER xxxxxxxx - VERIFY UPDATE OK

Reason:

The bundle descriptor record specified ownership by another user. Ownership of the record was taken from the user in order to do the update.

Action:

Verify that the database was updated correctly.

RMODBB20 JOB xxxxxxxx DELETED

Reason:

The job description was deleted for the job name. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB21 JOB xxxxxxxx NOT FOUND

Reason:

The job description was not found for the job name. The number of the data record is presented.

Action:

Verify that the job name was specified correctly.

RMODBB22 JOB xxxxxxxx RENAMED

Reason:

The job description was renamed for the job name. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB23 REPORT xxxxxxxxxxxx DELETED

Reason:

The report description was deleted for the report identifier. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB24 REPORT xxxxxxxxxxxx NOT FOUND

Reason:

The report description was not found for the report identifier. The number of the data record is presented.

Action:

Verify that the report identifier was specified correctly.

RMODBB25 REPORT xxxxxxxxxxxx RENAMED

Reason:

The report description was renamed for the report identifier. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB26 JOB NOT RENAMED xxxxxxxx ALREADY EXISTS - DATA RECORD *nnnnnnn*

Reason:

The job description could not be renamed because a job description with the new name already exists in the database. The number of the data record is presented.

Action:

Verify that the job name was specified correctly.

RMODBB27 REPORT NOT RENAMED xxxxxxxxxxxx ALREADY EXISTS - DATA RECORD *nnnnnnn*

Reason:

The report description could not be renamed because a report description with the new identifier already exists in the database. The number of the data record is presented.

Action:

Verify that the report identifier was specified correctly.

RMODBB28 DISTID xxxxxxxx DELETED

Reason:

The distribution description was deleted for the distribution identifier. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB29 DISTID xxxxxxxx NOT FOUND

Reason:

The distribution description was not found for the distribution identifier. The number of the data record is presented.

Action:

Verify that the distribution identifier was specified correctly.

RMODBB30 DISTID xxxxxxxx RENAMED

Reason:

The distribution description was renamed for the distribution identifier. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB31 DISTID NOT RENAMED xxxxxxxx ALREADY EXISTS - DATA RECORD *nnnnnnn*

Reason:

The distribution description could not be renamed because a distribution description with the new identifier already exists in the database. The number of the data record is presented.

Action:

Verify that the distribution identifier was specified correctly.

RMODBB32 BUNDLE xxxxxxxxxx DELETED

Reason:

The bundle description was deleted for the bundle identifier. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB33 BUNDLE xxxxxxxxxx NOT FOUND

Reason:

The bundle description was not found for the bundle identifier. The number of the data record is presented.

Action:

Verify that the bundle identifier was specified correctly.

RMODBB34 BUNDLE xxxxxxxxxx RENAMED

Reason:

The bundle description was renamed for the bundle identifier. The number of the data record is presented.

Action:

None. This is an informational message.

RMODBB35 BUNDLE NOT RENAMED xxxxxxxxxx ALREADY EXISTS – DATA RECORD *nnnnnnn*

Reason:

The bundle description could not be renamed because a bundle description with the new identifier already exists in the database. The number of the data record is presented.

Action:

Verify that the bundle identifier was specified correctly.

RMODBB36 INCOMPLETE CONTROL BREAK DATA FOR REPORT xxxxxxxxxxxx - DATA RECORD *nnnnnnn*

Reason:

Data values for control break fields (CCOL, CLEN, and CLINE) must be supplied to set new specifications.

Action:

Correct data specification for CCOL, CLEN, and CLINE fields, then rerun the job.

RMODBB37 INCOMPLETE CONTROL BREAK USER FIELD DATA #*n* FOR REPORT xxxxxxxxxxxx - DATA RECORD *nnnnnnn*

Reason:

Data values for control break user fields (USCOL*n*, USLEN*n*, and USLINE*n*) must be supplied to set new specifications or set all to zero to remove specifications.

Action:

Correct data specification for USCOL*n*, USLEN*n*, and USLINE*n* fields, then rerun the job.

RMODBB38 DISTRIBUTION ENTRY NOT FOUND FOR REPORT xxxxxxxxxxxx - DATA RECORD *nnnnnnn*

Reason:

The relative distribution entry identified by the DENTNO, DRELNO, or DISTID fields was not found.

Action:

Correct data specification for the DENTNO, DRELNO, or DISTID fields, then rerun the job.

RMODBB39 SPECIAL INSTRUCTION ENTRY NOT FOUND FOR REPORT xxxxxxxxxxxx-DATA RECORD *nnnnnnn*

Reason:

The relative special instruction entry identified by the IENTNO field was not found.

Action:

Correct data specification for the IENTNO field, then rerun the job.

RMODBB40 TEXT ENTRY NOT FOUND FOR REPORT xxxxxxxxxxxx - DATA RECORD *nnnnnnn*

Reason:

The relative text entry identified by the TENTNO field was not found.

Action:

Correct data specification for the TENTNO field, then rerun the job.

RMODBB41 DISTRIBUTION ENTRY NOT FOUND FOR BUNDLE xxxxxxxxxxxx - DATA RECORD *nnnnnnn*

Reason:

The relative distribution entry identified by the DENTNO, DRELNO, or DISTID fields was not found.

Action:

Correct data specification for the DENTNO, DRELNO, or DISTID fields, then rerun the job.

RMODBB42 REPORT ENTRY NOT FOUND FOR BUNDLE xxxxxxxxxxxx - DATA RECORD *nnnnnnn*

Reason:

The relative report entry identified by the RENTNO, RRELNO, or RID fields was not found.

Action:

Correct data specification for the RENTNO, RRELNO, or RID fields, then rerun the job.

RMODBB43 SPECIAL INSTRUCTION ENTRY NOT FOUND FOR BUNDLE xxxxxxxxxxxx-DATA RECORD *nnnnnnn*

Reason:

The relative special instruction entry identified by the IENTNO field was not found.

Action:

Correct data specification for the IENTNO field, then rerun the job.

RMODBB44 HISTORY DETAIL UPDATES REQUIRE STARTED TASK TO BE ACTIVE

Reason:

If history detail data is being retained for reports or bundles that are being deleted, the CA-Deliver started task must be active.

Action:

Start the CA-Deliver started task, and rerun the job.

RMODBB45 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMODBB46 DISTRIBUTION LIST ENTRY NOT FOUND FOR DISTID xxxxxxxxxxxx-DATA RECORD *nnnnnnn*

Reason:

The relative distribution entry identified by the LENTNO, LRELNO, or LDISTID fields was not found.

Action:

Correct data specification for the LENTNO, LRELNO, or LDISTID fields, then rerun the job.

RMODBB47 REPORT xxxxxxxxxx TOO LARGE – REPORT REMOVED FROM BUNDLE xxxxxxxxxx

Reason:

A report is be added to the bundle definition but the report definition is too large to contain the reference to the bundle. The report will not be added to the bundle definitions.

Action:

Reduce the size of the report definition by removing attribute information, then rerun the job.

RMODBB48 DL FUNCTION NOT ALLOWED FOR DISTID xxxxxxxx WHICH IS NOT A DISTRIBUTION LIST – DATA RECORD *nnnnnnn*

Reason:

The distribution list for indicated distribution identifier could not be deleted because the distribution identifier is not a distribution list.

Action:

Change the distribution identifier to a valid distribution list name, if incorrect, then rerun the job.

RMODBB49 DISTRIBUTION LIST xxxxxxxx NOT ALLOWED IN BUNDLE xxxxxxxxxx– DATA RECORD *nnnnnnn*

Reason:

A distribution list cannot be defined to a bundle.

Action:

Change the data record to reference a valid distribution identifier, then rerun the job.

RMODBB50 INSUFFICIENT STORAGE TO SORT DISTRIBUTION IDENTIFIERS – DATA RECORD *nnnnnnn*

Reason:

There was not storage to sort the distribution specification for a report or distribution list.

Action:

Increase the region size of the job, then rerun the job.

RMODBB51 DISTRIBUTION LIST xxxxxxxx NOT ALLOWED IN DISTRIBUTION LIST xxxxxxxx – DATA RECORD *nnnnnnn*

Reason:

A distribution list cannot be defined within another distribution list. Only individual distribution identifiers may be defined to a distribution list. Nesting is not allowed. The indicated data record was skipped.

Action:

If the distribution reference was input incorrectly, change the distribution reference and rerun the job.

RMODBC01 ERROR ON "FROM" DATABASE

Reason:

An input/output error occurred reading the "from" database.

Action:

See the associated message for the input/output error.

RMODBC02 ERROR ON "TO" DATABASE

Reason:

An input/output error occurred writing to the "to" database.

Action:

See the associated message for the input/output error.

RMODBC05 NO MORE ROOM IN CHECKPOINT

Reason:

There is not enough room in the fixed length checkpoint for all the active entries.

Action:

Re-create the CA-Deliver database with more checkpoint entries.

RMODBC06 FROM BLOCKSIZE > TO BLOCKSIZE WITHOUT HISTDEL ALL

Reason:

When copying one database from an unloaded copy with RMODBASE, you specified a block size smaller than the block size originally specified for the unloaded database **and** neglected to specify the history delete keyword in the LOAD control statement.

Action:

Rerun the job with the HISTDEL ALL keyword.

RMODBC40 "FROM" DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The from database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMODBA41 "TO" DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The "to" database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMODBD01 CHECKPOINT SUCCESSFULLY CONSTRUCTED

DSNAME: *data set name*
UNIT: *unit*
VOLSER *volser*
CYLINDERS *nnnnn*
BLOCKS: *nnnnn*
MANAGEMENT CLASS: *class*
STORAGE CLASS: *class*
DATA CLASS: *class*

Reason:

The checkpoint has been successfully created or re-created. The physical attributes of the checkpoint data set are provided.

Action:

None. This is an informational message.

RMODBD02 INSUFFICIENT SPACE IN NEW CHECKPOINT

Reason:

The number of cylinders specified in the MAKECKPT control statement was insufficient to hold the existing checkpoint entries.

Action:

Rerun the job with a larger number of cylinders.

RMODBI00 DATABASE DOES NOT EXIST

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database (or under extremely rare circumstances, to recover the database).

Note: A user abend may also occur when this message displays.

RMODBI01 ALLOCATION FAILED - ERROR=xxxx, INFO=xxxx

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI02 PHYSICAL I/O ERROR - ECB=xxxxxxxx

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI03 DATA SET NUMBER OUT OF RANGE - DCCB=xxxxxxxx

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI04 DATA SET RENAME FAILED FOR *function*

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI05 UNSUPPORTED DEVICE TYPE - BLKS/CYL=*nnnn*

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI06 MORE THAN 127 DATA SETS - NUMBER=*nnnnn*

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI07 NO MORE SPACE IN DATA SET

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI08 MISSING HIGH-LEVEL INDEX NAME OF DATABASE

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI09 LOGICAL I/O ERROR

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI10 UNEXPECTED END OF DATA

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI11 RECORD NOT FOUND

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI12 LOCK DATA SET ALREADY EXISTS

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI13 LOCK DATA SET DOES NOT EXIST

Reason:

An input/output error occurred with the CA-Deliver database as described by the text of the message.

Action:

Correct the problem with the database. You may need to use the RMODBASE utility to copy the database, or, under extremely rare circumstances, recover the database.

Note: A user abend may also occur when this message displays.

RMODBI14 DATACLAS/MGMTCLAS/STORCLAS ALLOWED ONLY FOR SMS DATA SETS

Reason:

You specified an IBM SMS (System Managed Storage) parameter (DATACLAS, MGMTCLAS, or STORCLAS) in the ADDDS control statement of the RMODBASE utility for a data set, but the data set CA-Deliver attempted to allocate for the database was a non-SMS data set.

Action:

If the data set is not an SMS data set, remove the SMS parameters listed in the ADDDS control statement of the RMODBASE utility, check to ensure that an ACS routine you wrote for your installation does not override the storage class, then submit the job in which the RMODBASE utility is used again.

If the data set is an SMS data set, specify an appropriate STORCLAS or ensure that the storage class is selected by the ACS routine written for your installation, then submit the job in which the RMODBASE utility is used again.

Note: A user abend may also occur when this message displays.

RMODBI15 UNIT/VOLSER ALLOWED ONLY FOR NON-SMS DATA SETS

Reason:

You specified the UNIT or VOLSER parameter in the ADDDS control statement of the RMODBASE utility for a data set, but the data set CA-Deliver attempted to allocate for the database was an IBM SMS (System Managed Storage) data set.

Action:

If the data set is not an SMS data set, remove the SMS parameters listed in the ADDDS control statement of the RMODBASE utility, check to ensure that an ACS routine you wrote for your installation does not override the storage class, then submit the job in which the RMODBASE utility is used again. If the data set is an SMS data set, remove the UNIT and VOLSER parameters from the ADDDS control statement, then submit the job in which the RMODBASE utility is used again.

Note: A user abend may also occur when this message displays.

RMODBI21 SUBFILE ALLOCATION I/O ERROR ON DATA SET *dsname* - NEXT DATA SET USED

Reason:

An input/output error occurred allocating space on the specified data set. The allocation will be attempted on the next data set in the database.

Action:

Verify that there is no major problem with the database.

Note: A user abend may also occur when this message displays.

RMODBI22 I/O ERROR FOR BLOCK *nnnnn* - BLOCK REMOVED FROM DATABASE

Reason:

An input/output error occurred writing a block to the database. The block is marked in error and the data in the block is rewritten to a different location in the database.

Action:

Verify that there is no major problem with the database.

Note: A user abend may also occur when this message displays.

RMODBI23 RMO DATABASE IS AT *nn*% UTILIZATION

Reason:

The CA-Deliver database is more than 80 percent full. The actual percentage used is shown.

Action:

None, but monitor the database to see that it does not run out of space; it may be necessary to add more space to the database.

Note: A user abend may also occur when this message displays.

RMODBI24 UNALLOCATION FAILED FOR DATASET=xxxxxxxx ERROR=xxxx INFO=xxxx

Reason:

Dynamic unallocation failed for a data set of the database. The dynamic allocation error message and information code are presented in the message.

Action:

None, the data set will be unallocated at task termination.

RMODBL01 MEMBER xxxxxxxx IS BEING LOADED TO DATABASE

Reason:

The specified online library member is being loaded to the database.

Action:

None. This is an informational message.

RMODBL02 INPUT DATA SET IS EMPTY, NOTHING TO LOAD

Reason:

The specified input data set is empty; therefore, either there is nothing to load, or the input data set name you specified is incorrect.

Action:

Check the JCL to make sure that you specified the correct input data set name on the RMOOLIB DD statement.

RMODBL03 DDNAME "RMOOLIB" NOT FOUND

Reason:

The RMOOLIB DD statement is required for the RMODBASE utility OLOAD control statement to load online members into the database.

Action:

Add the RMOOLIB DD statement to the JCL, then rerun the job.

RMODBL04 OPEN FAILED FOR DDNAME "RMOOLIB"

Reason:

The RMODBASE utility OLOAD function was unable to open the RMOOLIB DD statement. The job log should contain messages identifying the error.

Action:

Correct the error, then rerun the job.

RMODBL40 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMODBM02 ERROR ON "TO" DATABASE

Reason:

An input/output error occurred writing to the "to" database.

Action:

See the associated message for the input/output error.

RMODBM03 UNEXPECTED END OF DATA ON INPUT FILE

Reason:

An unexpected end of data occurred on the input file.

Action:

Correct input file definition, then rerun job.

RMODBM05 NO MORE ROOM IN CHECKPOINT

Reason:

There is not enough room in the fixed length checkpoint for all the active entries.

Action:

Re-create the CA-Deliver database with more checkpoint entries.

RMODBM06 INCONSISTENT HISTORY BLOCKS

Reason:

The history blocks cannot be located.

Action:

Use RMODBASE to copy the database to correct the input/output error indicated above.

RMODBM07 INCORRECT LEVEL OF UNLOADED DATABASE

Reason:

The database you tried to reload is incompatible with the current version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update the old database and try again.

RMODBM08 FROM BLOCKSIZE > TO BLOCKSIZE WITHOUT HISTDEL KEYWORD

Reason:

When loading one database from an unloaded copy with RMODBASE, you specified a block size smaller than the block size originally specified for the unloaded database **and** neglected to specify the history delete keyword in the LOAD control statement.

Action:

Rerun the job with the correct keyword.

RMODBM09 DDNAME "RMOLOAD" NOT FOUND

Reason:

The RMOLOAD DD statement is required for the RMODBASE utility LOAD control statement to load data into the database.

Action:

Add the RMOLOAD DD statement to the JCL, then rerun the job.

RMODBM10 OPEN FAILED FOR DDNAME "RMOLOAD"

Reason:

The RMODBASE utility LOAD function was unable to open the RMOLOAD DD statement. The job log should contain messages identifying the error.

Action:

Correct the error, then rerun the job.

RMODBM40 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMODBP01 MEMBER xxxxxxxx IS BEING LOADED TO DATABASE

Reason:

The specified model banner page library member is being loaded to the database.

Action:

None. This is an informational message.

RMODBP02 INPUT DATA SET IS EMPTY, NOTHING TO LOAD

Reason:

The specified input data set is empty; therefore, either there is nothing to load, or the input data set name you specified is incorrect.

Action:

Check the JCL to make sure that you specified the correct input data set name on the RMOBLIB DD statement.

RMODBP03 DDNAME "RMOBLIB" NOT FOUND

Reason:

The RMOBLIB DD statement is required for the RMODBASE utility BLOAD control statement to load model banner pages into the database.

Action:

Add the RMOBLIB DD statement to the JCL, then rerun the job.

RMODBP04 OPEN FAILED FOR DDNAME "RMOBLIB"

Reason:

The RMODBASE utility BLOAD function was unable to open the RMOBLIB DD statement. The job log should contain messages identifying the error.

Action:

Correct the error, then rerun the job.

RMODBP05 DDNAME "RMOPLIB" NOT FOUND

Reason:

The RMOPLIB DD statement is required for the RMODBASE utility PLOAD control statement to load printer setup members into the database.

Action:

Add the RMOPLIB DD statement to the JCL, then rerun the job.

RMODBP06 OPEN FAILED FOR DDNAME "RMOPLIB"

Reason:

The RMODBASE utility PLOAD function was unable to open the RMOPLIB DD statement. The job log should contain messages identifying the error.

Action:

Correct the error, then rerun the job.

RMODBP40 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMODBT02 ERROR ON "TO" DATABASE

Reason:

An input/output error occurred writing to the "to" database.

Action:

See the associated message for the input/output error.

RMODBT03 UNEXPECTED END OF DATA ON INPUT FILE

Reason:

An unexpected end of data occurred on the RMOCONV input file.

Action:

Correct input file definition, then rerun the job.

RMODBT05 NO MORE ROOM IN CHECKPOINT

Reason:

There is not enough room in the fixed length checkpoint for all the active entries.

Action:

Re-create the CA-Deliver database with more checkpoint entries.

RMODBT06 INCONSISTENT HISTORY BLOCKS

Reason:

The history blocks cannot be located.

Action:

Use RMODBASE to copy the database to correct the input/output error indicated above.

RMODBT07 DATABASE IS AT 5.1 OR NEWER RELEASE

Reason:

The RMODBASE utility CONVERT control statement was specified for a database that is at release 5.1 or higher. The CONVERT function converts databases from release 4.0 or 4.2 to release 5.1.

Action:

Use RMODBASE utility VERSION control statement to version the database to the desired release.

RMODBT08 DDNAME "RMOCONV" NOT FOUND

Reason:

The RMOCONV DD statement is required for the RMODBASE utility CONVERT control statement to convert a database unload input file.

Action:

Add the RMOCONV DD statement to the JCL, then rerun the job.

RMODBT09 OPEN FAILED FOR DDNAME "RMOCONV"

Reason:

The RMODBASE utility CONVERT function was unable to open the RMOCONV DD statement. The job log should contain messages identifying the error.

Action:

Correct the error, then rerun the job.

RMODBU01 ERROR ON "FROM" DATABASE

Reason:

An input/output error occurred reading the "from" database.

Action:

See the associated message for the input/output error.

RMODBU02 DDNAME "RMOUNLD" NOT FOUND

Reason:

The RMOUNLD DD statement is required for the RMODBASE utility UNLOAD control statement to offload database data.

Action:

Add the RMOUNLD DD statement to the JCL, then rerun the job.

RMODBU03 OPEN FAILED FOR DDNAME "RMOUNLD"

Reason:

The RMODBASE utility UNLOAD function was unable to open the RMOUNLD DD statement. The job log should contain messages identifying the error.

Action:

Correct the error, then rerun the job.

RMODBU40 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMODBV01 INVALID TO RELEASE SPECIFIED

Reason:

A release other than 5.1, 1.6, 1.7, or blank was specified on the VERSION control statement.

Action:

Correct the VERSION control statement and rerun the job.

RMODBV02 ERROR ON "TO" DATABASE

Reason:

The database that you are attempting to VERSION cannot be opened.

Action:

Make sure that you are specifying the name of a valid CA-Deliver database, then rerun the job.

RMODBV03 DATABASE LEVEL IS PRIOR TO DELIVER 5.1

Reason:

The database that you are attempting to VERSION is not at release 5.1, 1.6, or 1.7.

Action:

Specify the correct database and rerun the job. If you are actually trying to VERSION an older database, you must unload it with the RMODBASE from its release, and reload it into a new database at release 1.7.

RMODBV04 DATABASE ALREADY AT THE DESIRED LEVEL

Reason:

The database is already at the level specified on the VERSION control statement.

Action:

None. This is an informational message.

RMODBV05 ERROR ON CHECKPOINT DATASET

Reason:

An error occurred while trying to convert the checkpoint data set to a release 1.7 checkpoint.

Action:

Run the MAKECKPT option of RMODBASE to create a new checkpoint. You will lose whatever information was in the old checkpoint.

RMODIS01 OPTIONS CURRENTLY IN EFFECT:

Reason:

You entered a display command. This message is an informational message displayed when you issue an F RMOSTC,DISPLAY operator command. It precedes the RMODIS02 message, which reports the currently active parameters.

Action:

None. This is an informational message.

RMODIS02 *parameter = value*

Reason:

You entered a display command. This message is an informational message displayed when you issue an F RMOSTC,DISPLAY operator command. It comes after the RMODIS01 message. *parameter* represents an active parameter (for example, BOT). *value* represents the value currently assigned to the parameter (for example, YES).

Note: Parameters are listed alphabetically. Optional parameters are displayed only if they are set.

Action:

None. This is an informational message.

RMOGRW01 *nnnn* CARD(S) READ

Reason:

This message displays the number of cards read for processing.

Action:

None. This is an informational message.

RMOGRW02 *nnnn* LINE(S) PRINTED

Reason:

This message displays the number of lines printed for the report.

Action:

None. This is an informational message.

RMOGRW03 *nnnn* PAGE(S) PRINTED

Reason:

This message displays the number of pages printed for the report.

Action:

None. This is an informational message.

RMOGRW04 *nnnn* RECORD(S) OUTPUT

Reason:

This message displays the number of records sent to the "output" file.

Action:

None. This is an informational message.

RMOGRW05 STATEMENT(S) NOT PROCESSED DUE TO PREVIOUS ERROR(S)

Reason:

This message indicates the previous errors.

Action:

Note the previous errors and correct the statements.

RMOGRW06 PROCESSING COMPLETED

Reason:

Processing was completed for RMOGRW reporting.

Action:

None. This is an informational message.

RMOGRW10 SYSIN DD STATEMENT MISSING

Reason:

The SYSIN DD statement is missing.

Action:

Add the statement, then rerun the job.

RMOGRW11 INVALID CONTROL STATEMENT. CONTROL CARDS MUST BEGIN WITH A "/" IN COLUMN 1

Reason:

The control statement you specified does not begin with a slash in column 1.

Action:

Correct the statement, then rerun the job.

RMOGRW12 UNBALANCED QUOTATION MARKS, 1 QUOTATION MARK ASSUMED AT END OF STATEMENT

Reason:

There is a quotation mark missing that is needed to balance the statement. For example, if you specify type='S, type= 'S' is assumed.

Action:

Correct the control statement, then rerun the job.

RMOGRW14 DATA BASE SELECTION OF DISTRIBUTION LIST FIELDS CAN ONLY BE REFERENCED WITH DISTRIBUTION RECORD FIELDS AND HAVE A DATABASE SELECT SEQUENCE OF DISTID

Reason:

The distribution list fields cannot be referenced with fields from other database records.

Action:

Remove field name from other database records or remove distribution list field name, then rerun the job.

RMOGRW15 PHYSICAL I/O ERROR PROCESSING CHECKPOINT

Reason:

A physical error occurred while attempting to read the checkpoint subfile in order to extract data.

Action:

Notify your software engineer to perform maintenance, or copy the database to a new database.

RMOGRW16 NO DATABASE FIELDS WERE REFERENCED. DATABASE FIELDS MUST BE REFERENCED TO ACCESS DATABASE

Reason:

There were no fields related to the CA-Deliver database to be extracted with RMOGRW.

Action:

Correct the statement, then rerun the job.

RMOGRW17 DATA BASE SELECTION BY DISTID CANNOT BE PERFORMED DUE TO THE REFERENCED DATABASE FIELDS AND THE INTER-CONNECTION OF THE DATABASE RECORDS

Reason:

An attempt was made to reference fields that are not accessible due to the database field and record relationship.

Action:

Correct the necessary statements, then rerun the job.

RMOGRW18 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMOGRW19 CA-DELIVER STARTED TASK IS NOT ACTIVE, TASK REQUIRED FOR ACCESS OF CHECKPOINT DATA AND HISTORY DETAIL DATA

Reason:

The report you are running needs checkpoint or history detail data and the CA-Deliver started task is not active.

Action:

Start the CA-Deliver started task.

RMOGRW20 INVALID NUMERIC CONVERSION OF CHARACTER FIELD xxxxxxxx IN STATEMENT *nn* VALUE OF ZERO ASSUMED

Reason:

An attempt to convert the named field to a numeric format failed.

Action:

Correct the statement, then rerun the job.

RMOGRW21 INVALID DATE REFERENCE xxxxxxxx IN STATEMENT *nnnn*, CURRENT DATE WILL BE SUBSTITUTED

Reason:

The date specification contains invalid characters or is an invalid date; the current data is assumed.

Action:

Correct the statement, then rerun the job.

RMOGRW25 INVALID CONVERSION OF GREGORIAN DATE *xxxxxxxx* IN STATEMENT *nnnn*, CURRENT DATE WILL BE SUBSTITUTED

Reason:

An attempt to convert the specified date failed; the current data is assumed.

Action:

Correct the statement, then rerun the job.

RMOGRW26 INVALID NUMERIC CONVERSION OF CHARACTER FIELD *xxxxxxxx* IN STATEMENT *nnnn*, VALUE OF ZERO SUBSTITUTED

Reason:

You attempted to convert the named field to numeric format; zero is assumed.

Action:

Correct the statement, then rerun the job.

RMOGRW27 DIVIDE BY ZERO, *xxxxxxxx* DIVIDED BY *xxxxxxxx*, IN STATEMENT *nnnn*, RESULT OF ZERO SUBSTITUTED

Reason:

You attempted to "divide" by a field containing zero; a zero is assumed as the result.

Action:

Correct the statement, then rerun the job.

RMOGRW28 INTEGER OVERFLOW SETTING RECEIVING FIELD TO *xxxxxxxx* IN STATEMENT *nnnn*, VALUE OF *xxxxxxxx* SUBSTITUTED

Reason:

You attempted to "pack" a field in the named statement. The value assumed is displayed.

Action:

Correct the statement, then rerun the job.

RMOGRW29 INTEGER UNDERFLOW SETTING RECEIVING FIELD TO xxxxxxxx IN STATEMENT *nnnn*, VALUE OF xxxxxxxx SUBSTITUTED

Reason:

You attempted to "pack" a field in the named statement; the value assumed is displayed.

Action:

Correct the statement, then rerun the job.

RMOGRW33 RELEASE STATEMENT INCORRECTLY SPECIFIED, STATEMENT MAY NOT BE SPECIFIED AS A POST-SORT CONTROL STATEMENT

Reason:

The RELEASE control statement must precede the SORT control statement.

Action:

Remove or relocate the RELEASE control statement, then rerun the job.

RMOGRW34 RELEASE STATEMENT INCORRECTLY SPECIFIED, STATEMENT MUST BE SPECIFIED IN CORRELATION TO SORT STATEMENT

Reason:

The RELEASE control statement requires the specification for the SORT control statement.

Action:

Remove the RELEASE control statement or insert a SORT control statement, then rerun the job.

RMOGRW35 INVALID STATEMENT NAME xxxxxxxx

Reason:

An invalid statement was detected and named.

Action:

Correct the statement, then rerun the job.

RMOGRW36 UNEXPECTED END OF STATEMENT ENCOUNTERED AFTER xxxxxxxx

Reason:

An invalid control statement prematurely ended with the named character(s).

Action:

Correct the statement, then rerun the job.

RMOGRW37 UNEXPECTED CHARACTER(S) xxxxxxxx ENCOUNTERED AFTER xxxxxxxx

Reason:

A control statement prematurely ended with the named character(s).

Action:

Correct the statement, then rerun the job.

RMOGRW38 EXCESSIVE PARENTHESES xxxxxxxx ENCOUNTERED AFTER xxxxxxxx, ONE PARENTHESIS ASSUMED

Reason:

You specified too many parentheses (either "(" or ")").

Action:

Correct the statement, then rerun the job.

RMOGRW39 EXCESSIVE EQUALS xxxxxxxx ENCOUNTERED AFTER xxxxxxxx ONE ASSUMED

Reason:

You specified too many equal signs (=).

Action:

Correct the statement, then rerun the job.

RMOGRW40 ENDING PARENTHESIS ASSUMED AFTER xxxxxxxx

Reason:

You used an ending parenthesis "(" or ")" incorrectly.

Action:

Correct the statement, then rerun the job.

RMOGRW41 UNBALANCED PARENTHESIS AFTER xxxxxxxx PARENTHESIS ASSUMED

Reason:

You specified too many or not enough parentheses.

Action:

Correct the statement, then rerun the job.

RMOGRW42 INVALID KEYWORD xxxxxxxx

Reason:

A control statement you specified contained an incorrect keyword.

Action:

Correct the statement, then rerun the job.

RMOGRW43 VALUE FOR xxxxxxxx KEYWORD INCORRECTLY SPECIFIED OR MISSING

Reason:

The value you specified for the named keyword is incorrect.

Action:

Correct the statement, then rerun the job.

RMOGRW44 INVALID VALUE xxxxxxxx SPECIFIED FOR xxxxxxxx KEYWORD

Reason:

The named value of the named keyword you specified is incorrect.

Action:

Correct the statement, then rerun the job.

RMOGRW45 INVALID PARAMETER OR EXCESSIVE PARAMETER SPECIFICATION xxxxxxxx FOR xxxxxxxx KEYWORD

Reason:

The parameter data you specified is invalid for the indicated keyword.

Action:

Review the syntax for the related control statement, correct the keyword specification, then rerun the job.

RMOGRW46 xxxxxxxx KEYWORD WAS PREVIOUSLY SPECIFIED, KEYWORD DROPPED

Reason:

A keyword has been used excessively or incorrectly.

Action:

Correct the statement, then rerun the job.

RMOGRW47 *nnnn* STATEMENT WAS PREVIOUSLY SPECIFIED, STATEMENT DROPPED

Reason:

A statement has been used excessively or incorrectly.

Action:

Correct the statement, then rerun the job.

RMOGRW48 *nnnn* STATEMENT CANNOT BE IMBEDDED WITHIN *nnnn* STATEMENT

Reason:

The SORT, ON, and SELECT control statements cannot be placed within a DO, IF, or ON control statement, and the NEXT control statement cannot be placed within an ON control statement.

Action:

Remove or relocate the control statement, then rerun the job.

RMOGRW49 EXCESSIVE PARAMETERS OR DATA xxxxxxxx, DATA IGNORED

Reason:

Excessive use of parameters with a statement—they are ignored.

Action:

This is a warning. Correct the statement, then rerun the job.

RMOGRW50 INVALID FIELD NAME xxxxxxxx

Reason:

An invalid field name has been detected.

Action:

Correct the statement, then rerun the job.

RMOGRW51 INVALID SORT SEQUENCE xxxxxxxx

Reason:

The sort sequence is invalid for this statement.

Action:

Correct the statement, then rerun the job.

RMOGRW52 INVALID FIELD TYPE xxxxxxxx

Reason:

An invalid field type has been detected.

Action:

Correct the statement, then rerun the job.

RMOGRW53 INVALID FIELD LENGTH xxxxxxxx

Reason:

An incorrect length of the named field has been detected.

Action:

Correct the statement, then rerun the job.

RMOGRW54 EXCESSIVE OR ILLEGAL PARAMETERS SPECIFIED AS FIELD LENGTH, AFTER xxxxxxxx

Reason:

An incorrect length or invalid parameter was found.

Action:

Correct the statement, then rerun the job.

RMOGRW55 FIELD NAME xxxxxxxx HAS ALREADY BEEN DEFINED

Reason:

Duplicate fields have been defined.

Action:

Correct the statement, then rerun the job.

RMOGRW56 xxxxxxxx STATEMENT IS MISPLACED, xxxxxxxx STATEMENT HAS NO CORRESPONDING xxxxxxxx STATEMENT, STATEMENT DROPPED

Reason:

The THEN or ELSE control statement does not have a matching IF control statement, or the CONTINUE or BREAK control statement does not have a matching DO control statement.

Action:

The control statement is dropped. If the control statement was incorrectly specified, correct it, then rerun the job.

RMOGRW57 xxxxxxxx STATEMENT IS MISPLACED, xxxxxxxx STATEMENT DOES NOT FOLLOW AN IF STATEMENT, STATEMENT DROPPED

Reason:

A misplaced statement has been detected in "if" statement logic.

Action:

Correct the statement, then rerun the job.

RMOGRW58 xxxxxxxx STATEMENT WAS PREVIOUSLY SPECIFIED, STATEMENT DROPPED

Reason:

A duplicate statement has been detected in "if" statement logic.

Action:

Correct the statement, then rerun the job.

RMOGRW59 RECEIVING FIELD xxxxxxxx IN *nnnn* STATEMENT MUST BE A DEFINED VARIABLE

Reason:

The receiving field in the logic has not been defined.

Action:

Correct the statement, then rerun the job.

RMOGRW60 INVALID SYNTAX xxxxxxxx, THE SPECIFIED DATA IS INCONSISTENT WITH THE STRUCTURE OF THE *nnnn* STATEMENT

Reason:

The logic used is inconsistent with the statement that is defined.

Action:

Correct the statement, then rerun the job.

RMOGRW61 TO AND/OR BY FIELD SPECIFIED WITHOUT FIELD NAME AND INITIAL VALUE

Reason:

The TO and BY field require the specification of *field* = *expression-1* on the DO control statement.

Action:

Review the syntax for the DO control statement, correct the control statement, then rerun the job.

RMOGRW62 INVALID EXPRESSION, OPERATOR, OR SYNTAX xxxxxxxx AFTER xxxxxxxx

Reason:

The specified parameter data is inconsistent with the syntax of the control statement.

Action:

Review the syntax for the control statement, correct the control statement, then rerun the job.

RMOGRW63 UNRESOLVED END STATEMENT(S), *nn* END STATEMENT(S) ASSUMED

Reason:

You specified either too many or not enough "end" statements.

Action:

Correct the statement, then rerun the job.

RMOGRW64 END STATEMENT ASSUMED FOR *nnnn* STATEMENT (STATEMENT *nnnn*)

Reason:

You specified an unbalanced entry; an "end" statement is assumed.

Action:

Correct the statement, then rerun the job.

RMOGRW65 INVALID FIELD SPECIFICATION, EXPRESSION, OR SYNTAX xxxxxxxx AFTER xxxxxxxx

Reason:

An invalid field or syntax was found after the named statement.

Action:

Correct the statement, then rerun the job.

RMOGRW66 INVALID SYNTAX xxxxxxxx AFTER xxxxxxxx, EXPECTING TO, BY, UNTIL OR WHILE

Reason:

An invalid syntax was found; to, by, until, or while was expected.

Action:

Correct the statement, then rerun the job.

RMOGRW67 INVALID SPECIFICATION xxxxxxxx, xxxxxxxx FIELD WAS PREVIOUSLY SPECIFIED

Reason:

A duplicate field was specified; it had already been defined.

Action:

Correct the statement, then rerun the job.

RMOGRW68 INVALID DATE SPECIFICATION *xxxxxxxx* IN STATEMENT *nnnn*

Reason:

The date specification contains invalid characters or is an invalid date.

Action:

Correct the statement, then rerun the job.

RMOGRW70 EXPECTING FIELD NAME, VALUE, OR EXPRESSION AFTER *xxxxxxxx* IN *nnnn* STATEMENT

Reason:

An unbalanced statement was found; a field or a value for the statement is missing.

Action:

Correct the statement, then rerun the job.

RMOGRW71 INVALID OPERATOR *xxxxxxxx* IN *nnnn* STATEMENT

Reason:

An invalid operator in the named statement was found; the valid operators are: +, -, *, ?,].

Action:

Correct the statement, then rerun the job.

RMOGRW72 INCOMPLETE EXPRESSION *xxxxxxxx nnnn* STATEMENT *nnnn* PARENTHESIS MISSING

Reason:

An unbalanced statement was found; you specified too many or not enough parentheses.

Action:

Correct the statement, then rerun the job.

RMOGRW73 EXCESSIVE PARENTHESIS *xxxxxxxx* IN *nnnn* STATEMENT, *nn* PARENTHESIS DROPPED

Reason:

You specified too many parentheses for the named statement.

Action:

Correct the statement, then rerun the job.

RMOGRW74 UNBALANCED PARENTHESIS IN *nnnn* STATEMENT, *nn* PARENTHESIS ASSUMED

Reason:

An unbalanced statement was found; you specified too many or not enough parentheses.

Action:

Correct the statement, then rerun the job.

RMOGRW75 INVALID DATE SPECIFICATION *xxxxxxxx* IN STATEMENT *nnnn*

Reason:

The date specification contains invalid characters or is an invalid date.

Action:

Correct the statement, then rerun the job.

RMOGRW80 INVALID FIELD NAME *xxxxxxxx* IN *nnnn* STATEMENT

Reason:

An invalid field name was found in the named statement.

Action:

Correct the statement, then rerun the job.

RMOGRW81 INVALID SPECIFICATION OF SIGNED VARIABLE xxxxxxxx IN *nnnn* STATEMENT

Reason:

An invalid field syntax was found in the named statement; the field should be either "+" or "-" as a variable.

Action:

Correct the statement, then rerun the job.

RMOGRW82 INCOMPLETE EXPRESSION xxxxxxxx IN *nnnn* STATEMENT

Reason:

The statement was not completed as defined by the logic.

Action:

Correct the statement, then rerun the job.

RMOGRW83 INCOMPLETE EXPRESSION xxxxxxxx IN xxxxxxxx FUNCTION

Reason:

The function was not completed as defined by the logic.

Action:

Correct the statement, then rerun the job.

RMOGRW84 INVALID DELIMITER OR EXCESSIVE PARAMETERS xxxxxxxx IN xxxxxxxx FUNCTION

Reason:

The statement contained a delimiter that was not recognized or had excessive parameters.

Action:

Correct the statement, then rerun the job.

RMOGRW85 INCOMPLETE OR MISSING EXPRESSION AFTER xxxxxxxx IN xxxxxxxx FUNCTION

Reason:

An incomplete or missing expression was recognized in the statement or function.

Action:

Correct the statement, then rerun the job.

RMOGRW86 INVALID FIELD SPECIFICATION xxxxxxxx IN xxxxxxxx FUNCTION

Reason:

You specified an invalid field in the named function.

Action:

Correct the statement, then rerun the job.

RMOGRW87 INVALID FIELD NAME xxxxxxxx IN xxxxxxxx FUNCTION

Reason:

You specified an invalid field in the named function.

Action:

Correct the statement, then rerun the job.

RMOGRW90 PRINT DD STATEMENT xxxxxxxx MISSING

Reason:

An attempt to use the print file was aborted because the JCL file is missing.

Action:

Add the statement, then rerun the job.

RMOGRW91 OUTPUT DD STATEMENT xxxxxxxx MISSING

Reason:

An attempt to use the output file was aborted because the JCL file is missing.

Action:

Add the statement, then rerun the job.

RMOGRW92 INVALID NUMERIC CONVERSION OF CHARACTER FIELD xxxxxxxx IN STATEMENT *nnnn*, VALUE OF ZERO SUBSTITUTED

Reason:

An attempt was made to convert a character field to numeric failed, and the value of zero was used.

Action:

This is a warning; correct the statement, then rerun the job.

RMOGRW95 SORT TERMINATED RETURN CODE = *nn*

Reason:

An attempt was made to sort the output for print or data failed, and the return code is displayed.

Action:

This is a warning; correct the statement, then rerun the job.

RMOGSS01 GSS REQUEST FAILED FOR xxxxxx, RET CODE=yyyyyy, REASON CODE=zzzzzz

Reason:

CA-GSS for MVS and CA-Sysview/E-Command products are not installed, are not the correct versions, or are unable to communicate with CA-Deliver. This message is also generated when you specify the wrong CA-Deliver JES2LVL initialization parameter. The type of CA-GSS request that generated the message, and the return and reason code are included in the error message.

Action:

Make sure that Release 2.5 of CA-GSS for MVS and Release 4.4 of CA-Sysview/E-Command are installed correctly on your system. Make sure that the two products are working correctly by checking the request that generated the message as well as the return and reason codes. Make sure that you specified the correct value for the JES2LVL initialization parameter. Repeat the operation that caused the error.

RMOGSS02 UNABLE TO OBTAIN OUTPUT STATEMENT

Reason:

CA-GSS for MVS is executing, but could not obtain a valid output statement from CA-Sysview/E-Command. This message is also generated when you specify the wrong CA-Deliver JES2LVL initialization parameter.

Action:

Repeat the operation that caused the error. Contact Computer Associates Technical Support if the problem persists.

RMOHFT02 TIME OF DAY CLOCK IS NOT SET OR IS NOT OPERATIONAL

Reason:

The time-of-day clock is not functioning (the operating system is probably not running). CA-Deliver requires a functioning time-of-day clock.

Action:

Repair and reset the time-of-day clock, then restart CA-Deliver.

Note: A user abend will also occur when this message displays.

RMOHFT03 INVALID HISTORY FILE REQUEST IGNORED

Reason:

An internal checkpoint request is invalid.

Action:

Contact Computer Associates Technical Support.

Note: Processing continues.

RMOHFT04 FREE BLOCK CHAIN CORRUPTION ERROR. BLOCK=*xxxx*, DCCB=*yyyy*

Reason:

CA-Deliver encountered an internal logical error as it was reading a free block.

Action:

Contact Computer Associates Technical Support.

Note: A user abend will also occur when this message displays.

RMOHQT02 TIME OF DAY CLOCK IS NOT SET OR IS NOT OPERATIONAL

Reason:

CA-Deliver was unable to read the time-of-day clock due to a hardware problem.

Action:

Contact your hardware service representative.

Note: A user abend may also occur when this message displays.

RMOHTP01 LOGICAL I/O ERROR PROCESSING HISTORY SUBFILE

Reason:

An input/output error occurred during the posting of the history subfile.

Action:

Correct the problem in the CA-Deliver database; you may need to use the RMODBASE utility to copy the database.

RMOHTP02 INVALID COMMAND

Reason:

The specified control card contains a syntax error or invalid command for this function.

Action:

Correct the syntax error; use a valid command.

RMOHTP03 INVALID OR MISSING OPERAND

Reason:

The specified control card either contains an invalid operand or is missing the operand for the function.

Action:

Use a valid operand.

RMOIFP03 *bt* INDEX BLOCK CORRUPTION (*et*) AT BLOCK *dccb* ON *dbname* – ERROR BYPASSED

Reason:

A master index block split was interrupted while inserting index records into the database. This is usually due to a system failure, power outage cancellation, or timeout. Identical occurrences of index keys or records may be linked to two different trees of the index hierarchy.

where:

bt Indicates the block type as follows:
- DL Data level index block
- HL High level index block

et Indicates an error type as follows:
- HK High key encountered in block
- IS Index record too small
- IL Invalid index record length
- LK Low key encountered in block
- LN Invalid index block length
- NI No index keys in block
- SQ Index records out of sequence
- UN Unknown type of index block

dccb Indicates the block DASD location

dbname Indicates the database high level prefix

An error type (et) of HK, LK, or SQ indicates the results of an incomplete block split. The applicable index records will be bypassed.

The other error types indicate more severe corruption of the master index.

Action:

Do a standard reorg or an unload/load; or try a database verify.

RMOINT01 RMOPARMS DD STATEMENT MISSING

Reason:

The RMOPARMS DD statement, which defines the data set containing the initialization parameter statements for CA-Deliver, is missing. The task is terminated.

Action:

Add the DD statement to the start procedure JCL for the CA-Deliver started task.

RMOINT02 CARD *nnn* INVALID KEYWORD xxxxxxxx

Reason:

The specified keyword in record number *nnn* of the initialization parameter statements is invalid. The parameter containing the keyword is ignored.

Action:

Correct the invalid keyword.

RMOINT03 CARD *nnn* NO VALUE FOR KEYWORD xxxxxxxx

Reason:

The parameter identified by the specified keyword in record number *nnn* of the initialization parameter statements contains no value. The parameter is ignored.

Action:

Correct the erroneous parameter.

RMOINT04 CARD *nnn* INVALID VALUE FOR KEYWORD xxxxxxxx

Reason:

The parameter identified by the specified keyword in record number *nnn* of the initialization parameter statements contains an invalid value. The parameter is ignored.

Action:

Correct the erroneous parameter.

RMOINT05 CARD *nnn* TOO MANY VALUES KEYWORD *xxxxxxxx*

Reason:

The parameter identified by the specified keyword in record number *nnn* of the initialization parameter statements contains too many values. The parameter is ignored.

Action:

Correct the erroneous parameter.

RMOINT06 CARD *nnn* DUPLICATE KEYWORD *xxxxxxxx*

Reason:

The parameter identified by the specified keyword in record number *nnn* of the initialization parameter statements was previously defined. The duplicate definition is ignored.

Action:

Correct the duplicate definition.

RMOINT07 ARCH*n* KEYWORD CONFLICTS WITH SAR KEYWORD, DATABASE NOT SPECIFIED

Reason:

Although you specified the value DIRECT (direct-to-SAR archival) for the CA-Deliver initialization parameter ARCH*n*—where *n* is the archival criteria number—you failed to specify a valid high-level database name for CA-Deliver initialization parameter SAR.

Action:

Check the values you specified for the ARCH*n* and SAR initialization parameters. Stop CA-Deliver. Specify a valid high-level database name for the CA-Deliver initialization parameter SAR; if the name you specified is invalid, then restart CA-Deliver.

RMOINT08 REQUIRED KEYWORD xxxxxxxx WAS NOT SPECIFIED

Reason:

The initialization parameter keyword specified in the message is a required keyword and was not specified in the initialization deck (RMOPARMS DD statement of the CA-Deliver started task).

Action:

See the chapter "Initialization Parameters" for a description of the initialization parameter keywords. Then add an initialization parameter statement for the keyword to the RMOPARMS data set.

RMOINT09 CARD *nn* NOT ENOUGH VALUES KEYWORD xxxxxxxx

Reason:

You failed to specify the correct number of initialization parameter values for the initialization parameter keyword *xxxxxxxx*.

Action:

See the chapter "Initialization Parameters" for the number of initialization parameter values needed to ensure that the correct number is specified.

RMOJCI01 INVALID COMMAND

Reason:

The control statement contains an invalid command.

Action:

Correct the control statement.

RMOJCI02 INVALID OR MISSING OPERAND

Reason:

The control statement contains an invalid or missing operand.

Action:

Correct the control statement.

RMOJCI03 MISSING DD STATEMENT FOR JOB JCL

Reason:

The job JCL input data set could not be opened because there was no DD statement for it. The DDname for the data set must be JOBJCL.

Action:

Correct the JCL.

Note: A user abend may also occur when this message displays.

RMOJCI04 NO MEMBERS IN JOBJCL DATA SET

Reason:

The job JCL input data is a partitioned data set, but it contains no members.

Action:

Correct the JCL.

RMOJCI05 MEMBER xxxxxxxx NOT FOUND

Reason:

The specified member could not be found in the job JCL input data set. The member is ignored.

Action:

Correct the control statement that references the specified member.

RMOJCL01 EXPLANATION OF REASON CODE DETERMINED DURING PARM=CHECK PROCESSING
RC FIRST CHARACTER:
1) JOB NOT FOUND
2) STEP NOT FOUND
3) PROC STEP FOUND
4) DD NAME NOT FOUND
5) OMITTED PER 'OMIT' CONTROL STATEMENT
RC SECOND CHARACTER:
D) IN DATA BASE
J) IN JCL

Reason:

During PARM=CHECK processing, a discrepancy was found between the JCL and the database for the flagged report. The number and the letter in the Reason Code (RC) column indicates the reason for the discrepancy.

Action:

Correct the JCL or database if necessary.

RMOJCL02 JOB xxxxxxxx HAS EXCEEDED 9,999 REPORTS. PROCESSING TERMINATED FOR THIS JOB

Reason:

The job has exceeded the maximum number of 9999 reports. Only the job and reports preceding the message are added to the database.

Action:

None. This is an informational message.

RMOJCL03 JOB xxxxxxxx ALREADY EXISTS IN THE DATABASE

Reason:

An attempt has been made to add a duplicate job to the database. The job and reports are not added.

Action:

Correct the duplicate definition.

RMOJCL04 RMOAUTH USER EXIT REJECTED UPDATE OF: REPORT xxxxxxxxxxxx JOB xxxxxxxx

Reason:

The RMOATHUX user exit did not allow you to access the job or report.

Action:

Verify whether you should have access to the report or job.

RMOJCL05 END OF REPORT

Reason:

RMOJCL has completed processing.

Action:

None. This is an informational message.

RMOJCL06 DISCREPANCIES WERE FOUND

Reason:

This message indicates that discrepancies were found in the job JCL or database.

Action:

None. This message is issued in response to RMOJCL01 messages; it is an informational message.

RMOJCL07 UNABLE TO ADD REPORT *xxx* FOR DD *yyy*.REPORT ALREADY DEFINED IN DATABASE TO JOB zzz

Reason:

The generated report name, *xxx* for DD *yyy*, was not added to the database because a duplicate report was encountered that was defined to job *zzz*. The report is skipped.

Action:

None. This is an informational message.

RMOJCL08 JOB xxxxxxxx PROC xxxxxxxx NOT FOUND

Reason:

The procedure specified in the job was not found in the procedure library.

Action:

Add the member to a valid data set in the procedure library.

RMOJCL09 JOB xxxxxxxx INCLUDE MEMBER xxxxxxxx NOT FOUND

Reason:

The member specified in the include statement of the job was not found in the JCL library data set specified in the job.

Action:

Correct the JCL library data set name or add the include member to the JCL library.

RMOJCL10 JOB xxxxxxxx INVALID NESTING LEVEL OF PROCEDURES

Reason:

You specified more than the maximum 15 nested procedures in a job.

Action:

Use fewer than 16 nested procedures in the job.

RMOJCL11 JOB xxxxxxxx INVALID NESTING LEVEL OF INCLUDE STATEMENTS

Reason:

You specified more than the maximum 15 nested include statements in a job.

Action:

Use fewer than 16 include statements in the job.

RMOJCL12 JOB xxxxxxxx JCLLIB SPECIFICATION ERROR

Reason:

The JCLLIB statement for the specified job contains a syntax or specification error.

Action:

Check the syntax of the JCL statement, then rerun the RMOJCL utility.

RMOJCL13 JOB xxxxxxxx JCLLIB ALLOCATION ERROR

Reason:

The syntax of the library name specified in the JCL library statement is either invalid or the library name was not found.

Action:

Check the syntax of the library specified in the JCLLIB statement. Also check the name to ensure that it is the name of the library you want.

RMOJCL14 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMOJCS01 EXPLANATION OF REASON CODE DETERMINED DURING PARM=CHECK PROCESSING
RC FIRST CHARACTER:
1) JOB NOT FOUND
2) STEP NOT FOUND
3) PROC STEP FOUND
4) DD NAME NOT FOUND
5) OMITTED PER 'OMIT' CONTROL STATEMENT
RC SECOND CHARACTER:
D) IN DATA BASE
J) IN JCL

Reason:

During PARM=CHECK processing, a discrepancy was found between the JCL and the database for the flagged report. The number and the letter in the Reason Code (RC) column indicates the reason for the discrepancy.

Action:

Correct the JCL or database if necessary.

RMOJCS02 JOB xxxxxxxx HAS EXCEEDED 9,999 REPORTS. PROCESSING TERMINATED FOR THIS JOB

Reason:

The job has exceeded the maximum number of 9999 reports. Only the job and reports preceding the message are added to the database.

Action:

None. This is an informational message.

RMOJCS03 JOB xxxxxxxx ALREADY EXISTS IN THE DATABASE

Reason:

An attempt has been made to add a duplicate job to the database. The job and reports are not added.

Action:

Correct the duplicate definition.

RMOJCS04 RMOAUTH USER EXIT REJECTED UPDATE OF: REPORT xxxxxxxxxxxx JOB xxxxxxxx

Reason:

The RMOATHUX user exit did not allow you to access the job or report.

Action:

Verify whether you should have access to the report or job.

RMOJCS05 END OF REPORT

Reason:

RMOJCS has completed processing.

Action:

None. This is an informational message.

RMOJCS06 DISCREPANCIES WERE FOUND

Reason:

This message indicates that discrepancies were found in the job JCL or database.

Action:

None. This message is issued in response to RMOJCS01 messages; it is an informational message.

RMOJCS07 UNABLE TO ADD REPORT *xxx* FOR DD *yyy*.REPORT ALREADY DEFINED IN DATABASE TO JOB *zzz*

Reason:

The generated report name, *xxx* for DD *yyy*, was not added to the database because a duplicate report was encountered that was defined to job *zzz*. The report is skipped.

Action:

None. This is an informational message.

RMOJCS14 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMOJIM01 INVALID COMMAND

Reason:

The control statement contains an invalid command.

Action:

Correct the control statement.

RMOJIM02 INVALID OR MISSING OPERAND

Reason:

The control statement contains an invalid or missing operand.

Action:

Correct the control statement.

RMOJIM03 MISSING DD STATEMENT FOR JOB JCL

Reason:

The job JCL input data set could not be opened because there was no DD statement for it. The DDname for the data set must be JOBJCL.

Action:

Correct the JCL.

Note: A user abend may also occur when this message displays.

RMOJIM04 NO MEMBERS IN JOBJCL DATA SET

Reason:

The job JCL input data is a partitioned data set, but it contains no members.

Action:

Correct the JCL.

RMOJIM05 MEMBER xxxxxxxx NOT FOUND

Reason:

The specified member could not be found in the job JCL input data set. The member is ignored.

Action:

Correct the control statement that references the specified member.

RMOJS201 WARNING, RMOJS205 PDDB LOCATE FAILED – CONTACT CA TECHNICAL SUPPORT

Reason:

During Network Input processing, CA-Deliver was unable to positively identify the version of JES2 being used in order to locate the JES2 PDDB, which is needed to obtain SYSOUT information. CA-Deliver continues processing assuming OS/390 V2R10 or higher is being used. This is a WARNING error only. It can occur only during Network Input processing and would, most likely, occur after an MVS and/or JES2 upgrade.

Action:

Determine if Network Input processing is functioning correctly, then contact Computer Associates Technical Support with recent upgrade version and release information.

RMOJTR01 SKIPPING INVALID JOBNAME TRANSLATION STATEMENT

Reason:

The job name translation statement is in error; the statement is ignored.

Action:

Correct the job name translation statement.

RMOMHL01 INVALID ONLINE CODE IN MCA – ABEND 01

Reason:

CA-Deliver encountered an invalid online code when it checked the product expiration date.

Action:

Contact Computer Associates Technical Support.

Note: A user abend will occur when this message displays.

RMOMHL02 INVALID DELIVER PRODUCT CODE – ABEND 02

Reason:

CA-Deliver encountered an invalid product code.

Action:

Contact Computer Associates Technical Support.

Note: A user abend will occur when this message displays.

RMOMHL99 *** ERROR *** CA'S LMP SUPPORT IS NOT INSTALLED OR AT CORRECT LEVEL

Reason:

Unicenter TNG Framework for OS/390 LMP must be installed at a current level to properly authenticate the product options, and the CAIRIM component must be started before bringing up CA-Deliver.

Action:

Do **one** of the following:

- If CAIRIM has not been started, start it.
- If CIARIM is not installed, install the current release of Unicenter TNG Framework for OS/390 LMP.

RMOOCT01 CA-DELIVER TASK IS BUSY, COMMAND IGNORED

Reason:

CA-Deliver has not completed processing of the previous operator command.

Action:

Reenter the command when the previous one has finished processing.

RMOPBH01 UNABLE TO OBTAIN HISTORY DETAIL BLOCK

Reason:

No blocks are available in the CA-Deliver database for the detail history data.

Action:

Increase space in the database.

Note: A user abend will occur when this message displays.

RMOPBH02 ERROR WRITING BUNDLE HISTORY RECORD

Reason:

An input/output error occurred.

Action:

Contact your systems programmer.

RMOPBH03 ERROR WRITING REPORT HISTORY RECORD

Reason:

An input/output error occurred.

Action:

Contact your systems programmer.

RMOPBH04 ERROR WRITING BUNDLE HISTORY RECORD

Reason:

An input/output error occurred.

Action:

Contact your systems programmer.

RMOPBH05 BUNDLE *bundle* REPORTID *report* JOB *jobname* ERROR UPDATING BUNDLE HISTORY

Reason:

A logic error occurred when creating history records. A U0001 abend will accompany this error message.

Action:

Retain the system dump for use by Computer Associates Technical Support.

RMOPBH07 BUNDLE *bundle* REPORTID *report* JOB *jobname* RDATA NOT RETURNED

Reason:

A logic error occurred when retrieving history detail records. A U0001 abend will accompany this error message.

Action:

Retain the system dump for use by Computer Associates Technical Support.

RMOPIM01 INVALID COMMAND

Reason:

The control statement contains an invalid command.

Action:

Correct the control statement.

RMOPIM02 INVALID OR MISSING OPERAND

Reason:

The control statement contains an invalid or missing operand.

Action:

Correct the control statement.

RMOPIM03 DIRECTORY ENTRIES EXCEEDED

Reason:

The PDEFOLD or FDEFOLD DD statement reference a data set with more than 500 members.

Action:

Split the data set into smaller data sets that contain 500 members or less.

RMOPIM04 EXCLUDE ENTRIES EXCEEDED

Reason:

A maximum of 500 EXCLUDE control statement may be specified in the RMOPDF utility.

Action:

Remove control statements, then rerun the job.

RMOPIM05 MODEL STATEMENT AND DD NAMES CONFLICT

Reason:

An MDLPDEF or MDLFDEF control statement was specified but there is no corresponding PDEFOLD or FDEFOLD DD statements.

Action:

Include the appropriate DD statement, then rerun the job.

RMOPIM06 SELECT AND EXCLUDE ARE MUTUALLY EXCLUSIVE

Reason:

Either SELECT or EXCLUDE control statement can be specified in the RMOPSF utility but not both in the same run.

Action:

Remove the conflict control statements.

RMOPSC01 PRINTER SETUP xxxxxxxx NOT FOUND

Reason:

The PRSET member was not found in the CA-Deliver database.

Action:

Use the RMODBASE utility PLOAD control statement to load the members into the CA-Deliver database.

RMOPSC02 PRINTER SETUP xxxxxxxx TRUNCATED

Reason:

The PRSET member contained more than 200 lines.

Action:

Reduce the size of the PRSET member and load the members into the CA-Deliver database with the RMODBASE utility PLOAD control statement.

RMOPSF01 DIRECTORY ENTRIES EXCEEDED

Reason:

You have exceeded the number of directory entries that the PDS directory can contain.

Action:

Check the PDS used for update; if necessary, either add more or compress the PDS.

RMOPSF02 JCL CONTAINED ONLY ONE PDEF DD STATEMENT

Reason:

RMOPSF requires two DD statements for execution: PDEFOLD and PDEFNEW.

Action:

Add the necessary DD statement to the JCL.

RMOPSF03 JCL CONTAINED ONLY ONE FDEF DD STATEMENT

Reason:

RMOPSF requires two DD statements for the execution: FDEFOLD and FDEFNEW.

Action:

Add the necessary DD statement to the JCL.

RMOPSF04 JCL DID NOT CONTAIN SYSUTX DD STATEMENTS

Reason:

RMOPSF requires two DD statements for SYSUTX.

Action:

Add the necessary SYSUT1 or SYSUT2 DD statement.

RMOPSF05 STOW MACRO FAILED WITH HEX RETURN CODE: xx

Reason:

RMOPSF06 indicates the member that could not be found.

Action:

Correct the missing member.

RMOPSF06 MEMBER xxxxxxxx COULD NOT BE FOUND IN PDS

Reason:

The member could not be found in the searched PDS.

Action:

Verify that the correct library is accessed.

RMOPSF07 MEMBER xxxxxxxx START CONVERSION

Reason:

Indicates which member was converted.

Action:

None. This is an informational message.

RMOPSF08 MEMBER xxxxxxxx END CONVERSION

Reason:

Indicates which member was converted.

Action:

None. This is an informational message.

RMOPS101 SUBSYSTEM REQUEST FAILED - RETURN CODE xxxxxxxx

Reason:

A subsystem request failed. The hexadecimal return code is provided.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS102 PROCESS SYSOUT REQUEST FAILED - RETURN CODE xxxxxxxx

Reason:

A process SYSOUT request failed for the subsystem. A hexadecimal return code is provided. Note that return code X'1C' indicates an invalid destination; verify the destinations specified with the NETDEST and BNDLDEST initialization parameters are known to JES.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS103 SUBSYSTEM ALLOCATION FAILED ERROR CODE - xxxx, INFO CODE - xxxx

Reason:

Dynamic allocation failed for the process SYSOUT data set. The hexadecimal error and information codes are provided.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS104 SUBSYSTEM OPEN REQUEST FAILED - ERROR CODE xx

Reason:

A subsystem open request failed; the hexadecimal error code is provided.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS105 NETWORK SYSOUT ALLOCATION FAILED ERROR CODE - xxxx, INFO CODE - xxxx

Reason:

Dynamic allocation failed for a network SYSOUT data set. This message is also generated when you specify the wrong CA-Deliver JES2LVL initialization parameter.

Action:

Verify the report description and the JCL creating the report data set at the other node is correct.

Note: A user abend will occur when this message displays.

RMOPS106 NETWORK SYSOUT OPEN REQUEST FAILED - ERROR CODE xx

Reason:

The network SYSOUT data set could not be opened.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS107 SUBSYSTEM GET REQUEST FAILED - RPL FEEDBACK xxxxxx

Reason:

A subsystem get request failed; the hexadecimal feedback code is provided. This is normally due to a system crash while the job that created the data set was executing.

Action:

None. This is an informational message.

RMOPS201 SUBSYSTEM REQUEST FAILED - RETURN CODE xxxxxxxx

Reason:

A subsystem request failed. The hexadecimal return code is provided.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS202 SAPI REQUEST FAILED - RETURN CODE xxxx REASON CODE xxxx

Reason:

A SAPI request failed for the subsystem. The return code and reason code from the SAPI request is provided. Explanation for the return code and reason codes are provided in the IBM IAZSSS2 macro.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS203 SUBSYSTEM ALLOCATION FAILED ERROR CODE - xxxx, INFO CODE - xxxx

Reason:

Dynamic allocation failed for the process SYSOUT data set. The hexadecimal error and information codes are provided.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS204 SUBSYSTEM OPEN REQUEST FAILED - ERROR CODE xx

Reason:

A subsystem open request failed; the hexadecimal error code is provided.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS205 NETWORK SYSOUT ALLOCATION FAILED ERROR CODE - xxxx, INFO CODE - xxxx

Reason:

Dynamic allocation failed for a network SYSOUT data set. This message is also generated when you specify the wrong CA-Deliver JES2LVL initialization parameter.

Action:

Verify the report description and the JCL creating the report data set at the other node is correct.

Note: A user abend will occur when this message displays.

RMOPS206 NETWORK SYSOUT OPEN REQUEST FAILED - ERROR CODE xx

Reason:

The network SYSOUT data set could not be opened.

Action:

Contact your systems programmer.

Note: A user abend will occur when this message displays.

RMOPS207 SUBSYSTEM GET REQUEST FAILED - RPL FEEDBACK xxxxxx

Reason:

A subsystem get request failed; the hexadecimal feedback code is provided. This is normally due to a system crash while the job that created the data set was executing.

Action:

None. This is an informational message.

RMOPS208 SAPI REQUEUE FAILED FOR JOB xxxxxxxx/xxxxxxxx DDNAME xxxxxxxx – RETURN CODE xxxx REASON CODE xxxx

Reason:

A SAPI request failed for the subsystem. The return code and reason code from the SAPI request is provided. An explanation of the return code and reason code is provided in the IBM IAZSSS2 macro.

Action:

The SYSOUT data set will be placed in a hold status and must be manually requeued.

Normally, the new class, destination, or forms on the NETCLSL, NETDEST, or NETFORM initialization parameter is invalid or not defined correctly to JES. If incorrect, change the initialization parameter and restart the CA-Deliver task.

RMOPS216 SJF RETRIEVE ERROR RC=xxxxxx

Reason:

An SJF request failed while trying to obtain output statement information for a network input SYSOUT data set. The hexadecimal return code from the request is provided. Output statement information for the SYSOUT data set will not be obtained.

Action:

None. This is an informational message.

RMORAP01 CA-DELIVER IS NOT ACTIVE

Reason:

This CA-Deliver started task is not active.

Action:

Start the CA-Deliver started task, then rerun the job.

RMORAP02 INVALID COMMAND

Reason:

The control statement contains an invalid command.

Action:

Correct the control statement.

RMORAP03 INVALID OR MISSING OPERAND

Reason:

The control statement contains an invalid or missing operand.

Action:

Correct the control statement.

RMORAP04 ONLY FIRST 40 RECORD POSITIONS USED

Reason:

The maximum number of job names or report identifiers allowed in an input data record has been exceeded. You can specify only 40 unique positions for report or job names on a single record of input to RMORAP.

Action:

Correct the input so that the maximum is not exceeded.

RMORAP08 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMORCH31)RMORERUN(RECORD IS WRITTEN TO xxxxxxx SYSOUT

Reason:

An RMORERUN record has been sent to the network input destination. *xxxxxxx* represents the DDname of the destination.

Action:

None. This is an informational message.

RMORCH33 FROM-NODE FOUND IN RMSPARMS DD, BUT NO RMONET DD FOUND--CANNOT PROCESS)RMORERUN(RECORD

Reason:

You specified a "from" node name in the RMSPARMS DD statement, but you did not provide an RMONET*n* DD statement.

Action:

If you are using network input processing, insert an RMONET*n* DD statement; otherwise, remove the FROM-NODE statement from RMSPARMS.

RMORCH62 STEP TABLE LENGTH EXCEEDS MAXIMUM ALLOWED FOR A SYSOUT RECORD (32760)

Reason:

The number of steps in a job is greater than can fit in a SYSOUT record.

Action:

Contact Computer Associates Technical Support.

RMORCH63 FROM-NODE NOT FOUND FOR NETWORK INPUT PROCESSING

Reason:

The network destination is found, but the originating node name is not provided through the RMSPARMS DD statement.

Action:

Specify the "from" node name in the RMSPARMS DD statement or remove the RMONET DD statement from the JCL.

RMORCH80 DATABASE NAME IS PROVIDED, BUT RMORCR PROGRAM DOES NOT EXIST

Reason:

You provided a database name in either an initialization parameter statement or the RMSPARMS DD statement, but the RMORCR program does not exist.

Action:

If local processing is required, make sure RMORCR exists and is available on the system.

RMORCH99 RMORCH IS ABENDING WITH USER CODE 4

Reason:

A serious problem occurred; processing cannot continue. This error message is displayed after another more detailed error message and indicates that processing is aborting.

Action:

Check the previous message that is displayed with this message, then correct the cause of the problem.

RMORMS32 THERE IS NO STEP TO BE EXECUTED--BYPASSING RERUN PROCESSING

Reason:

A step is not ordered correctly, or the start step or the procedure step does not match any step in the JCL.

Action:

Check the start step and end step in your rerun JCL to ensure that they are defined correctly, correct the step, if necessary, then rerun the job.

RMORMS61 OUR SCREENING TABLE HAD BEEN ALTERED: RERUN PROCESSING CANNOT PROCEED

Reason:

When the program used to set up the interface between CA-Deliver and CA-11 returned, the setting of the screening table was not the same as the original setting. Processing cannot continue and ends abnormally.

Action:

Contact Computer Associates Technical Support.

RMORMS62 SVC SCREENING TABLE AREA CANNOT BE GETMAINED SUCCESSFULLY

Reason:

Storage for the supervisor call screening table area could not be allocated. Processing cannot continue and ends abnormally.

Action:

Check your system for operating problems. If this problem persists, contact Computer Associates Technical Support.

RMORMS63 LOAD OF CA-11 RMS PROGRAM WAS UNSUCCESSFUL

Reason:

The program used to set up the interface between CA-Deliver and CA-11 could not be loaded. Processing cannot continue and ends abnormally.

Action:

Check to ensure that the program U11RMS or UC11RMS (supplied by the CA-11) is available. If the program is available, contact Computer Associates Technical Support.

RMORMS64 SVC SCREENING PROGRAM IS NOT LOADED SUCCESSFULLY

Reason:

The supervisor call screening program could not be loaded. Processing cannot continue and ends abnormally.

Action:

Check to ensure that the program is located in the link library. If the program is located in the link library, contact Computer Associates Technical Support.

RMORMS65 UNEXPECTED U11-055 WTO MESSAGE FORMAT

Reason:

CA-11, if available at your installation, issued message U11-055 (via WTO), but the contents of the message are not in the format expected by CA-Deliver.

Action:

Contact Computer Associates Technical Support.

RMORMS71 DATABASE INDEX NAME DEFINED IN THE PARM IS LONGER THAN 17 BYTES

Reason:

The CA-Deliver database name you specified as a parameter when setting up the interface between CA-Deliver and CA-11 is longer than 17 characters long. Processing cannot continue and ends abnormally.

Action:

Shorten the CA-Deliver database name, then rerun the job.

RMORMS73 MORE THAN 30 NAME CONTROL CARDS READ IN FROM RMSPARMS DD

Reason:

You specified more than 30 CA-Deliver database names (DSN control statements) in the RMSPARMS DD statement. Processing cannot continue and ends abnormally.

Action:

Reduce the number of database names to fewer than 30. If you require more than 30 database names, contact Computer Associates Technical Support.

RMORMS74 FROM-NODE IS SPECIFIED MORE THAN ONCE IN THE RMSPARMS DD

Reason:

You specified more than one FROM-NODE statement in the RMSPARMS DD statement. Processing cannot continue and ends abnormally.

Action:

Remove the extra FROM-NODE statements, then rerun the job.

RMORMS75 A ZERO SVA/TTR CANNOT BE CONVERTED BY SWAREQ

Reason:

The track-track record (24-bit format) address that was passed to SWAREQ (Scheduler Work Area Request) was zero. Processing cannot continue and ends abnormally.

Action:

Contact Computer Associates Technical Support.

RMORMS76 INBSSN IS SPECIFIED MORE THAN ONCE IN THE RMSPARMS DD

Reason:

You specified more than one L-SERV INBSSN statement in the RMSPARMS DD statement. Processing cannot continue and ends abnormally.

Action:

Remove the extra L-SERV INBSSN statements, then rerun the job.

CA-Balancing and CA-L-Serv are described in the *CA-Balancing System Guide*, *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

RMORMS77 UNEXPECTED RETURN CODE FROM SWAREQ: xxxxxxxx (HEX)

Reason:

An error was encountered while the track-track record (24-bit format) address was being converted. The hexadecimal return code value *xxxxxxxx* identifies the error that occurred in the scheduler work area request. Processing cannot continue and ends abnormally.

Action:

Contact Computer Associates Technical Support.

RMORMS78 SWAREQ RETURNED A ZERO ADDRESS

Reason:

The track-track record (24-bit format) address was passed to SWAREQ (Scheduler Work Area Request), which then converted the address to zero. Processing cannot continue and ends abnormally.

Action:

Contact Computer Associates Technical Support.

RMORMS79 RMSPARMS CONTROL STATEMENT ERROR: *71-byte-cntrl-sta*

Reason:

The format or syntax of the RMSPARMS control statement *71-byte-cntrl-sta* is incorrect. Processing cannot continue and ends abnormally.

Action:

Check and correct the syntax and format of the RMSPARMS control statement. Rerun the job.

RMORMS99 RMORMS IS ABENDING

Reason:

A serious problem occurred. Processing cannot continue. This error message is displayed after another more detailed error message and indicates that processing is aborting.

Action:

Check the previous message that is displayed with this message and correct the cause of the problem.

RMORPT01 INVALID COMMAND

Reason:

The control statement contains an invalid command. The only allowable command is REPORT.

Action:

Correct the control statement.

RMORPT02 INVALID OR MISSING OPERAND

Reason:

The control statement contains an invalid or missing operand. The only allowable operand is a digit from 1–7.

Action:

Correct the control statement.

RMORPT03 CHECKPOINT ERROR

Reason:

The CA-Deliver started task is not active.

Action:

Start the CA-Deliver started task, then rerun the job.

RMORPT04 DATA BASE AT INCORRECT RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMORRS01 JOBNAME/ JOB STEP/ DD NAME/ STATUS

Reason:

These messages show the *status* of each report that was requested for rerun processing.

Action:

None. This is an informational message.

RMORRS02 JOBID PROC STEP REPORT ID *status*

Reason:

These messages show the *status* of each report that was requested for rerun processing.

Action:

None. This is an informational message.

RMORRS11 RERUN PRESET ENDED

Reason:

The code that deletes and flags report data to be rerun by CA-11 or CA-Runtrac MVS completed successfully.

Action:

None. This is an informational message.

RMORRS12 JOB DEFINITION RECORD WAS NOT FOUND

Reason:

The job is not defined in the CA-Deliver database.

Action:

Check your job definition to ensure that it is correct. If necessary, correct the job definition, then rerun the job.

RMORRS13 NO AUTHORIZATION TO DELETE OR FLAG A REPORT

Reason:

You are not authorized by CA-Deliver to delete or flag a report.

Action:

Have your systems programmer change your CA-Deliver security authorization so that you can delete or flag reports.

RMORRS14 ERROR OCCURRED WHEN DELETING OR FLAGGING A REPORT

Reason:

An error occurred in the CA-Deliver code that deletes and flags a report to be rerun by CA-Runtrac MVS or CA-11.

Action:

Manually delete or flag the report.

RMORRS15 REPORT HISTORY RECORD WAS NOT FOUND

Reason:

A report history record was not previously created or has been purged.

Action:

Make sure that you specified Y (Yes) or T (Tracked view-only output) in the OUT field on the Distribution Specifications sub-panel of the Report Definition Attributes panel. Make sure that the MAXHIST initialization parameter is set high enough. If necessary, manually delete or flag the report.

RMORRS16 REPORT HISTORY RECORD I/O ERROR

Reason:

CA-Deliver tried to access report history but an input/output error occurred.

Action:

Manually delete or flag the report and contact Computer Associates Technical Support.

RMORRS17 SPECIFIED STEP OR JOB NUMBER NOT FOUND

Reason:

You omitted or specified an incorrect step or job number.

Action:

Check your step or job number statement to ensure that it is correct. Correct it, if necessary, then rerun the job.

RMORRS18 CA-DELIVER STARTED TASK IS NOT ACTIVE

Reason:

During restart (RMORMS/CA-11) processing, an active CA-Deliver started task cannot be found for one or more of the databases named in the RMORMS job step.

Action:

Make sure that a CA-Deliver started task is active for each of the databases named in the RMORMS step. Optionally, see the RMSWARN initialization parameter in the chapter "Initialization Parameters."

RMORRS19 JOB HISTORY RECORD WAS NOT FOUND

Reason:

You specified a job that was not previously run through the interface (that is, RMORMS) to CA-11.

Action:

Make sure that the interface between CA-11 and CA-Deliver is set up correctly (see *CA-Deliver Getting Started*). Rerun the job through CA-11. Manually back out the previously run reports, if necessary.

RMORRS20 JOB DEFINITION RECORD I/O ERROR

Reason:

An error occurred in the CA-Deliver code that processes job definitions.

Action:

Manually delete or flag the report and contact Computer Associates Technical Support.

RMORRS21 JOB HISTORY RECORD I/O ERROR

Reason:

An error occurred in the CA-Deliver code that processes job history definitions.

Action:

Manually delete or flag the report and contact Computer Associates Technical Support.

RMORRS22 CHECKPOINT ERROR OCCURRED

Reason:

An error occurred in the CA-Deliver checkpoint.

Action:

Contact Computer Associates Technical Support.

RMORRS23 CA-DELIVER DATABASE CANNOT BE OPENED

Reason:

CA-Deliver attempted to access the CA-Deliver database and failed.

Action:

Contact Computer Associates Technical Support.

RMORRS24 CA-VIEW DATABASE CANNOT BE OPENED OR CA-VIEW RELEASE IS PRIOR TO 1.7

Reason:

The installed version of CA-View is not Version 1.7 or a subsequent CA-View version. You must use CA-Deliver Version 1.7 with CA-View Version 1.7 or subsequent CA-View versions.

Action:

Check the version of CA-View you are using. If it is not Version 1.7 or a later version, install the current version, then activate CA-View.

RMORRS25 JOB NAME TRANSLATION ERROR

Reason:

An error occurred when CA-Deliver attempted to translate the job name.

Action:

Check your job name translation table and contact Computer Associates Technical Support.

RMORRS26 NO PREPROCESSING ALLOWED

Reason:

The RMOPRE utility or the Preset tabular command PS is not supported for reports sent from another node.

Action:

Manually delete or flag the reports on the receiving node, execute RMOPRE, or enter the Preset tabular command PS on the receiving node.

RMORRS83 UNEXPECTED RRA STATUS CODE FROM RMORCR: xx (HEX)

Reason:

An unexpected error condition occurred while the rerun return area (RRA) was being processed. Rerun return area status value *xx* cannot be translated.

Action:

Contact Computer Associates Technical Support.

RMORRS84 PREVIOUS JOBID=*jobid*

Reason:

Indicates the job identifier of the previous run of the job for which rerun processing is requested.

Action:

None. This is an informational message.

RMORRS85 CURRENT JOBID=*jobid*

Reason:

Indicates the job identifier of the current run (the rerun) of the job.

Action:

None. This is an informational message.

RMORRS89 UNEXPECTED RETURN CODE FROM RMORCR: xxxxxxxx (HEX)

Reason:

The hexadecimal value *xxxxxxxx* was returned. *xxxxxxxx* is not a valid return value for the current operation.

Action:

Contact Computer Associates Technical Support.

RMORXB00 CROSS REFERENCE RECORDS SUCCESSFULLY BUILT

Reason:

Indicates that the program successfully built the cross-reference record.

Action:

None. This is an informational message.

RMORXB01 TOO MANY REPORT IDS FOR DISTID xxxxxxxx, IGNORED

Reason:

The 32K limit for the distribution record was exceeded.

Action:

Define fewer reports for the distribution identifier. To determine the maximum number of reports you can define, divide 32K by 12 (approximately 2,666).

RMORXB02 SORT FAILED

Reason:

The process of sorting database index records has failed.

Action:

Contact Computer Associates Technical Support.

RMOSET01 VALUE OF KEYWORD xxxx HAS BEEN MODIFIED

Reason:

The value of keyword *xxxx* was modified.

Action:

None. This is an informational message.

RMOSET02 INVALID KEYWORD xxxxxxxx

Reason:

You entered an invalid or incorrect set command; the set command you entered is ignored.

Action:

Correct and reenter the set command.

RMOSET04 INVALID VALUE FOR KEYWORD xxxxxxxx

Reason:

You entered an invalid or incorrect set command; the set command you entered is ignored.

Action:

Correct and reenter the set command.

RMOSET05 TOO MANY VALUES KEYWORD xxxxxxxx

Reason:

You entered an invalid or incorrect set command. The set command you entered is ignored.

Action:

Correct and reenter the set command.

RMOSET06 KEYWORD NAME TOO LONG

Reason:

You entered an invalid or incorrect set command. The set command you entered is ignored.

Action:

Correct and reenter the set command.

RMOSOR02 ALLOCATION FAILED FOR REPORT xxxxxxxxxxxx - ERROR xxxx, INFO xxxx

Reason:

A dynamic allocation request for allocating a copy of the specified report to SYSOUT failed. The hexadecimal error and information codes are provided. Execution continues; however, the copy of the report is not produced.

Action:

Correct the report definition attribute for the report.

RMOSOR03 ALLOCATION FAILED BUNDLE HOLD REPORT xxxxxxxxxxxx - ERROR xxxx, INFO xxxx

Reason:

A dynamic allocation request for allocating a bundle holding copy of the specified report to SYSOUT failed. The hexadecimal error and information codes are provided. Execution continues; however, the bundle holding copy of the report is not produced.

Action:

Correct the BNDLCLS and BNDLDEST initialization parameters.

RMOSOR04 ALLOCATION FAILED ARCHIVAL OF REPORT xxxxxxxxxxxx - ERROR xxxx, INFO xxxx

Reason:

A dynamic allocation request for the archival copy of a report to SYSOUT failed. The hexadecimal error code is provided. Execution of the report continues but the archival copy is not produced.

Action:

Dynamic allocation error references are posted in the beginning of the message section.

RMOSOR05 // OUTPUT FAILED FOR REPORT xxxxxxxxxx – CODE xxxx REASON xxxx

Reason:

An error occurred attempting to create an OUTPUT JCL statement for the report. The return code and hexadecimal reason code from OUTADD are provided. The report will be allocated without output statement parameters. The return code and reason code for OUTADD are contained in the IBM IEFDORC macro.

Action:

Consult your systems programmer.

RMOSSB01 NO ROOM FOR EXTRACTED DATA

Reason:

The text string extracted from a data set page for printing on a separator banner page of a report that contains control breaks is wider than the length defined for the field on the model separator banner page member. (You specify this text string on the Control Break Identification Criteria sub-panel in the USER FIELD IDENTIFICATION field.)

Action:

Increase the length of the field (widen the space between the delimiter characters) on the model separator banner page member (for reports that contain control breaks) and reload the member with the BLOAD control statement.

RMOSSC10 BALANCING EXECUTION CANNOT BE DONE - TRIGGER REPORT IS NULL

Reason:

Report balancing cannot perform the execution phase.

Action:

Make sure that the correct options have been set to use CA-Deliver report balancing.

RMOSSO06 UNABLE TO ARCHIVE DIRECTLY TO CA-VIEW - FEATURE IS NOT INSTALLED

Reason:

CA-Deliver was unable to load the SARPAM or SARGAM module. This module is not contained in the STEPLIB, JOBLIB, or LINKLIST library.

Action:

The SARPAM and SARGAM modules are provided in the CA-View installation tape and loaded to the CA-View load library. You can copy these modules from the CA-View load library to the CA-Deliver load library. It is preferable, however, to concatenate the CA-View load library to the CA-Deliver load library in the started task and bundle batch JCL (RMOJCLB is the online library).

RMOSSP10 SYSOUT PAGE HAS MORE THAN 256 LINES. DATA EXTRACTION IS INCOMPLETE

Reason:

While building the CA-ARB (CA-Balancing) holding buffer, a logical page was greater than 256 lines (the maximum supported page size).

Action:

Processing is terminated.

RMOSTC01 CA-DELIVER 1.7 (*level*) IS INITIALIZED

Reason:

The CA-Deliver started task has successfully completed initialization and is active.

Action:

None. This is an informational message.

Note: Until this message is issued, the CA-Deliver started task has **not** completed initialization.

RMOSTC02 LOAD FAILED FOR MODULE

Reason:

The indicated module attempted to load.

Action:

Make sure the correct library contains the indicated module.

Note: A user abend will also occur when this message displays.

RMOSTC03 CA-DELIVER IS ALREADY ACTIVE ON SYSTEM

Reason:

The task was not started because the CA-Deliver started task is already active.

Action:

None. This is an informational message.

RMOSTC04 CA-DELIVER 1.7 IS TERMINATED DUE TO INCORRECT DATA BASE RELEASE LEVEL

Reason:

The database you specified is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database.

RMOSTC05 CA-VIEW DIRECT INTERFACE DISABLED – LOAD FAILED FOR MODULE SARPAM

Reason:

Direct to CA-View archival has be disable because the CA-View SARPAM could not be loaded.

Action:

Make sure that the CA-View load library is contained in the CA-Deliver started task procedure JCL or contained in a LINKLIST load library, then restart the CA-Deliver started task.

RMOSTC06 INVALID OPERATOR COMMAND

Reason:

The modify command for the CA-Deliver started task was invalid and has been ignored.

Action:

Correct the modify command, then reissue it.

RMOSTC07 CA-DELIVER 1.7 IS NOW INACTIVE

Reason:

CA-Deliver has been completely withdrawn from the system.

Note: Report distribution and tracking is not done for executing jobs.

Action:

None. This is an informational message.

RMOSTC08 SSRT LOCATED AT xxxxxxxx - SSXT LOCATED AT xxxxxxxx

Reason:

Specifies the location where indicated modules are located.

Action:

None. This is an informational message.

RMOSTC09 CA-DELIVER 1.7 IS TERMINATED DUE TO INITIALIZATION ERRORS

Reason:

One or more errors occurred during initialization.

Action:

Correct the errors, then restart the CA-Deliver started task.

RMOSTC10 RMOxxx LOADED AT xxxxxxxx - RMOxxxx LOADED AT xxxxxxxx

Reason:

Specifies the location where indicated modules are loaded.

Action:

None. This is an informational message.

RMOSTC11 CA-DELIVER 1.7 NEW START IN PROGRESS

Reason:

A new start of CA-Deliver is being started. A new start is performed after an IPL of the system or after a withdrawal of CA-Deliver.

Action:

None. This is an informational message.

RMOSTC12 CA-DELIVER 1.7 PROCESSING IS BEING RESUMED

Reason:

CA-Deliver is being restarted after having been stopped.

Action:

None. This is an informational message.

RMOSTC13 REPLY Y/N TO FREE SYSTEM xxxx

Reason:

A FREE operator command was issued for the specified system.

Action:

Reply Y to confirm that the command is to be performed.

RMOSTC14 INVALID REPLY

Reason:

The reply to message RMOSTC13 is invalid; the message is reissued.

Action:

Reply correctly to the new message.

RMOSTC15 MISSING SYSTEM ID

Reason:

The system identifier was omitted from the FREE operator command.

Action:

Reissue the FREE command.

RMOSTC16 RMOSTC IS NOT A STARTED TASK

Reason:

An attempt was made to execute RMOSTC as other than a started task.

Action:

Execute CA-Deliver using the START command.

RMOSTC17 BUNDLE OUTPUT TASK STARTED

Reason:

The bundle output task has been started.

Action:

None. This is an informational message.

RMOSTC18 BUNDLE OUTPUT TASK STOPPED

Reason:

The bundle output task has been stopped.

Action:

None. This is an informational message.

RMOSTC19 BUNDLE OUTPUT TASK POSTED

Reason:

The bundle output task has been posted.

Action:

None. This is an informational message.

RMOSTC21 ENTER PASSWORD TO STOP CA-DELIVER

Reason:

A password is required to stop the CA-Deliver started task.

Action:

Reply to the message with the appropriate password.

RMOSTC22 ENTER PASSWORD TO WITHDRAW CA-DELIVER

Reason:

A password is required to withdraw the CA-Deliver started task.

Action:

Reply to the message with the appropriate password.

RMOSTC23 PASSWORD INVALID - REQUEST CANCELED

Reason:

The password you entered was invalid.

Action:

Issue the request to stop or withdraw the CA-Deliver started task again.

RMOSTC24 NO RESPONSE WITHIN TIME LIMIT - REQUEST CANCELED

Reason:

You did not enter the password within the allowed time limit.

Action:

Reissue the request to stop or withdraw the CA-Deliver started task.

RMOSTC25 FREE ISSUED FOR SYSTEM ID *cpu-id*

Reason:

The FREE command you issued completed successfully.

Action:

None. This is an informational message.

RMOSTC27 INITIALIZATION PARAMETERS CONFLICT WITH CURRENTLY ACTIVE CA-DELIVER SYSTEM (SYSID=x)

Reason:

The NAME, NETCLSL, NETDEST, and NETFORM, or BNDLCLS and BNDLDEST initialization parameters conflict with an active CA-Deliver system. The started task for the active CA-Deliver system may or may not be executing but is still marked as active. Multiple CA-Deliver started tasks cannot be started with the same specifications for the above initialization parameters. In addition, a CA-Deliver started task cannot be restarted with a different database name (NAME:initialization parameter).

Action:

Change the specification for NAME, NETCLSL, NETDEST, and NETFORM, or BNDLCLS and BNDLDEST initialization parameters, or withdraw the CA-Deliver started task indicated in the message (F task name, OFF or S task name, PARM=OFF operator commands).

RMOSTC28 RESET COMMAND ISSUED

Reason:

Either the 'f rmostc,reset' operator command has been entered to reset the in-storage buffers, or the 'f rmostc,set parameter=value' command has been entered and CA-Deliver has initiated a reset. See the chapter "Operator Commands" for a description of the reset command.

Action:

None. This is an informational message.

RMOSTC29 CA-DELIVER 1.7 IS TERMINATED DUE TO INVALID START PARAMETER 'parameter'

Reason:

The parameter on the execute statement is invalid. The only valid parameters are OFF and FORCE.

Action:

Remove or correct the parameter.

RMOSTC30 *abnormally-ended-message*

Reason:

The CA-Deliver started task ended abnormally. Jobs that require CA-Deliver services wait for CA-Deliver to be restarted.

Action:

Contact your systems programmer immediately.

RMOSTC31 *stop-message warning*

Reason:

The CA-Deliver started task has been stopped. Jobs that require CA-Deliver services wait for CA-Deliver to be restarted.

Action:

None. This is an informational message.

RMOSTC32 *start-message warning*

Reason:

CA-Deliver is designed so that any job that may require its services waits if CA-Deliver is stopped or terminated without explicitly being withdrawn. To avoid any problems, we strongly suggest that you restrict the JOB and/or SYSOUT classes with the JOBCLSL and SYSCLSL initialization parameters.

Note: Starting CA-Deliver with PARM=OFF ("S RMOSTC, PARM= OFF") completely withdraws CA-Deliver and frees any jobs that may be waiting for it.

Action:

None. This is an informational message.

RMOSTC33 ONE PRB TASK HAS ABENDED – *n* PRB TASKS ARE STILL RUNNING

Reason:

A CA-Deliver subtask that processes database request has abended. The PRBTASK initialization parameter identifies the maximum number of process request subtasks. The CA-Deliver started task will continue to run unless no more process request subtasks remain.

Action:

Contact Computer Associates Technical Support.

Note: A user abend 33 may occur when this message displays.

RMOSTC34 CHECKPOINT PROCESSING HAS ABENDED – CA-DELIVER CANNOT CONTINUE

Reason:

The CA-Deliver subtask that processes checkpoint data requests has abended. This subtask is required for normal system operations; therefore, the CA-Deliver started task is terminated.

Action:

Contact Computer Associates Technical Support.

Note: A user abend 34 will occur when this message displays.

RMOSTC35 HISTORY PROCESSING HAS ABENDED – CA-DELIVER CANNOT CONTINUE

Reason:

The CA-Deliver subtask that processes history detail requests has abended. This subtask is required for normal system operations; therefore, the CA-Deliver started task is terminated.

Action:

Contact Computer Associates Technical Support.

Note: A user abend 35 will occur when this message displays.

RMOSTC36 REPORTS CANNOT BE FREED FROM A SYSTEM THAT HAS AN ACTIVE CA-DELIVER TASK
RMOSTC36 FREE COMMAND FOR *sysid* IGNORED

Reason:

Reports that are being processed on another system by a different CA-Deliver task cannot freed. The command is ignored.

Action:

Inactivate and restart the CA-Deliver started task on the system indicated in the message to automatically free the desired reports.

RMOSTC37 FORCE COMMAND HAS FORCIBLY REMOVED SSXT FOR xxxxxxxxxxx (SYSID=x)

Reason:

A FORCE command was issued when starting CA-Deliver and subsystem extension table (SSXT) has been successfully removed from the system. The CA-Deliver started task will end.

Action:

None. This is an informational message.

RMOSTC38 FORCE COMMAND FAILED TO LOCATE SSXT FOR xxxxxxxxxxxx (SYSID=x)

Reason:

A FORCE command was issued when starting CA-Deliver but the subsystem extension table (SSXT) could not be found. The CA-Deliver started task will end.

Action:

None. This is an informational message.

RMOSTC49 BUNDLE OUTPUT TASK IS NOT ACTIVE

Reason:

You issued a modify command requesting that the started task post a bundle output task, and that bundle output task was not started. The modify command is ignored.

Action:

Start the bundle output task (if appropriate) on that CPU.

RMOSTC52 INBSSN= ssss WAS SPECIFIED, BUT CA-BALANCING INTERFACE WAS NOT ATTEMPTED BECAUSE OF BAL=NO PARM

Reason:

INBSSN initialization parameter was specified (*ssss* represents the CA-L-Serv for MVS identifier of the CA-Balancing database), but because the BAL initialization parameter is set to NO, the interface to CA-Balancing is not started.

Action:

If you want to start the interface, enter the operator command F INBSTC,ED=ON.

CA-Balancing and CA-L-Serv for MVS are described in the *CA-Balancing System Guide*, *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

RMOSTC61 CA-BALANCING INTERFACE CANNOT BE MODIFIED OFF OR ON FROM CA-DELIVER STARTED TASK

Reason:

You cannot stop or start the interface to CA-Balancing which is currently running from the CA-Deliver started task.

Action:

In the CA-Balancing started task, enter the operator command F INBSTC,ED=ON or F INBSTC,ED=OFF.

Note: CA-Balancing and CA-L-Serv for MVS are described in the *CA-Balancing System Guide*, *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

RMOSTC62 CA-BALANCING INTERFACE HAS BEEN INITIATED - (LSERVID = *ssss*)

Reason:

The interface to CA-Balancing is initiated. The CA-L-Serv for MVS identifier for the interface is *ssss*.

Action:

None. This is an informational message.

Note: CA-Balancing and CA-L-Serv for MVS are described in the *CA-Balancing System Guide*, *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

RMOSTC65 CA-BALANCING STARTED TASK DOES NOT HAVE CA-DELIVER INTERFACE

Reason:

The CA-Balancing started task with which you tried to establish an interface with CA-Deliver was started as a stand-alone started task.

Action:

In the CA-Balancing started task, start an interface to CA-Deliver by entering the operator command F INBSTC,ED=ON.

Note: CA-Balancing and CA-L-Serv for MVS are described in the *CA-Balancing System Guide*, *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

RMOSTC66 CA-BALANCING STARTED TASK IS NOT UP WITH THE LSERVID OF *ssss*

Reason:

CA-Deliver tried to establish an interface to CA-Balancing, but CA-Balancing, with CA-L-Serv for MVS identifier *ssss*, is not running.

Action:

None. This is an informational message.

Note: CA-Balancing and CA-L-Serv for MVS are described in the *CA-Balancing System Guide*, *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

RMOSTC67 CA-BALANCING STARTED TASK DOES NOT ALLOW CA-DELIVER INTERFACE- LSERVID = *ssss*

Reason:

You are not authorized to use CA-Deliver with the CA-Balancing started task to which the CA-L-Serv for MVS identifier *ssss* is assigned.

Action:

If you do not have an authorization code to use your CA-Balancing with CA-Deliver, get one from Computer Associates.

Use the CA-Balancing system options panel to authorize your CA-Balancing started task for use with CA-Deliver, then start CA-Balancing again.

Note: CA-Balancing and CA-L-Serv for MVS are described in the *CA-Balancing System Guide*, *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

RMOSTC68 CA-BALANCING INTERFACE DOES NOT USE BALOFFPW KEYWORD - IGNORED

Reason:

You used the BALOFFPW keyword, which CA-Balancing does not support.

Action:

Remove the BALOFFPW keyword from your list of initialization parameters.

RMOSTC69 CA-BALANCING INTERFACE DOES NOT USE DTRCYC KEYWORD - IGNORED

Reason:

You used the DTRCYC keyword, which CA-Balancing does not support.

Action:

Remove the DTRCYC keyword from your list of initialization parameters.

RMOSTC73 CA-BALANCING INTERFACE IS NOW ACTIVE WITH LSERVID OF ssss

Reason:

The CA-Balancing started task has initiated the interface with CA-Deliver.

Action:

None. This is an informational message.

Note: CA-Balancing and CA-L-Serv for MVS are described in the *CA-Balancing System Guide*, *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

RMOSTC74 CA-BALANCING INTERFACE IS NOW INACTIVE WITH LSERVID OF ssss

Reason:

The CA-Balancing started task has terminated the interface with CA-Deliver.

Action:

None. This is an informational message.

Note: CA-Balancing and CA-L-Serv for MVS are described in the *CA-Balancing System Guide*, *CA-L-Serv for MVS: Installation and Configuration Guide,* and *CA-L-Serv for MVS: SQL Server Guide*.

RMOSTC75 INBSTC INFORMED THE INTERFACE IS INACTIVE, BUT RMOSTC HAS INTERFACE FLAG ON. CALL TECH SUPPORT

Reason:

The CA-Balancing started task terminated the interface with CA-Deliver, but the CA-Deliver SSXT is not set up properly. A system error may have occurred.

Action:

Contact Computer Associates Technical Support.

RMOSTC76 INBSTC INFORMED THE INTERFACE IS ACTIVE, BUT RMOSTC HAS INTERFACE FLAG OFF. CALL TECH SUPPORT

Reason:

The CA-Balancing started task initiated the interface with CA-Deliver, but the CA-Deliver SSXT is not set up properly. A system error may have occurred.

Action:

Contact Computer Associates Technical Support.

RMOUBR01 ERROR ON "FROM" DATABASE

Reason:

An error occurred accessing the sending database. This message is accompanied by a more specific RMODBI error message.

Action:

Review the RMODBI error message for more information.

RMOUBR02 ERROR ON "TO" DATABASE

Reason:

An error occurred accessing the receiving database. This message is accompanied by a more specific RMODBI error message.

Action:

Review the RMODBI error message for more information.

RMOUBR03 AUTHORIZATION FAILED

Reason:

The RMOATHTB authorization table or RMOATHUX authorization user exit did not provide update, delete, or rename access to the bundle record.

Action:

See your security administrator or system programming group to determine the reason why authorization was denied by RMOATHTB or RMOATHUX.

RMOUBR04 BUNDLE xxxxxxxxxx NOT FOUND

Reason:

The specified bundle identifier could not be found in the sending database.

Action:

Verify that the bundle identifier and formally supplied sending database are specified correctly. Correct the appropriate control statement, then rerun the job.

RMOUBR05 BUNDLE xxxxxxxxxx ALREADY EXISTS

Reason:

The NEWNAME keyword specifies a bundle identifier that already exists on the sending database.

Action:

Change the NEWNAME keyword to reference a bundle identifier that does not exist, then rerun the job.

RMOUBR06 OWNERSHIP OF BUNDLE xxxxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified bundle record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOUBR07 BUNDLE xxxxxxxxxx ADDED

Reason:

The specified bundle record has been successfully added.

Action:

None. This is an informational message.

RMOUBR08 BUNDLE xxxxxxxxxx REPLACED

Reason:

The specified bundle record has been successfully replaced.

Action:

None. This is an informational message.

RMOUBR09 BUNDLE xxxxxxxxxx DELETED

Reason:

The specified bundle record has been successfully deleted.

Action:

None. This is an informational message.

RMOUBR10 BUNDLE xxxxxxxxxx RENAMED

Reason:

The specified bundle record has been successfully renamed.

Action:

None. This is an informational message.

RMOUBR11 DISTID xxxxxxxx ADDED

Reason:

The specified distribution record has been successfully added.

Action:

None. This is an informational message.

RMOUBR12 OWNERSHIP OF REPORT xxxxxxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified report record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOUBR13 REPORT xxxxxx NOT FOUND, REPORT REFERENCE REMOVED FROM BUNDLE xxxxxxxxxx

Reason:

The specified report identifier defined to the specified bundle does not exist on the receiving database.

Action:

Copy all applicable job and report records to the receiving database before initiating a copy request for the bundle.

RMOUBR14 REPORT xxxxxxxxxxxx RECORD TOO LARGE

Reason:

After including appropriate bundle references, the specified report record exceeds the maximum allowable record size (32756 bytes).

Action:

The size of the report record must be reduced by deleting text, special instructions, or distribution specifications. When the size of the report record has been reduced, the request copy request can be submitted again.

RMOUBR15 DISTID xxxxxxxx REMOVED FROM BUNDLE xxxxxxxxxx

Reason:

A bundle definition contained a reference to a distribution list which is not allowed in a bundle. The distribution list reference was removed from the bundle.

Action:

None. This is an informational message.

RMOUDR01 ERROR ON "FROM" DATABASE

Reason:

An error occurred accessing the sending database. This message is accompanied by a more specific RMODBI*xx* error message.

Action:

Review the RMODBI*xx* error message for further explanation.

RMOUDR02 ERROR ON "TO" DATABASE

Reason:

An error occurred accessing the receiving database. This message is accompanied by a more specific RMODBI*xx* error message.

Action:

Review the RMODBI*xx* error message for further explanation.

RMOUDR03 AUTHORIZATION FAILED

Reason:

The RMOATHTB authorization table or RMOATHUX authorization user exit did not provide update, delete, or rename access to the distribution record.

Action:

See your security administrator or system programming group to determine the reason why authorization was denied by RMOATHTB or RMOATHUX.

RMOUDR04 DISTID xxxxxxxx NOT FOUND

Reason:

The specified distribution identifier could not be found in the sending database.

Action:

Verify that the distribution identifier and formally supplied sending database are specified correctly. Correct the appropriate control statement, then rerun the job.

RMOUDR05 DISTID xxxxxxxx ALREADY EXISTS

Reason:

The NEWNAME keyword specifies a distribution identifier that already exists on the sending database.

Action:

Change the NEWNAME keyword to reference a distribution identifier that does not exist, then rerun the job.

RMOUDR06 OWNERSHIP OF DISTID xxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified distribution record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOUDR07 DISTID xxxxxxxx ADDED

Reason:

The specified distribution record has been successfully added.

Action:

None. This is an informational message.

RMOUDR08 DISTID xxxxxxxx REPLACED

Reason:

The specified distribution record has been successfully replaced.

Action:

None. This is an informational message.

RMOUDR09 DISTID xxxxxxxx DELETED

Reason:

The specified distribution record has been successfully deleted.

Action:

None. This is an informational message.

RMOUDR10 DISTID xxxxxxxx RENAMED

Reason:

The specified distribution record has been successfully renamed.

Action:

None. This is an informational message.

RMOUDR11 OWNERSHIP OF REPORT xxxxxxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified report record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOUDR12 OWNERSHIP OF BUNDLE xxxxxxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified distribution record was taken from the specified user in order to perform the requested function.

Action:

None. This message is provided for reference only.

RMOUDR13 DISTID xxxxxxxx REMOVED FROM BUNDLE xxxxxxxxxx

Reason:

A bundle definition contained a reference to a distribution list which is not allowed in a bundle. The distribution list reference was removed from the bundle.

Action:

None. This is an informational message.

RMOUJR01 ERROR ON "FROM" DATABASE

Reason:

An error occurred accessing the sending database. This message is accompanied by a more specific RMODBI*xx* error message.

Action:

Review the RMODBI error message for further explanation.

RMOUJR02 ERROR ON "TO" DATABASE

Reason:

An error occurred accessing the receiving database. This message is accompanied by a more specific RMODBI error message.

Action:

Review the RMODBI error message for further explanation.

RMOUJR03 AUTHORIZATION FAILED

Reason:

The RMOATHTB authorization table or RMOATHUX authorization user exit did not provide update, delete, or rename access to the job record.

Action:

See your security administrator or system programming group to determine the reason why authorization was denied by RMOATHTB or RMOATHUX.

RMOUJR04 JOB xxxxxxxx NOT FOUND

Reason:

The specified job name could not be found in the sending database.

Action:

Verify that the job name and formally supplied sending database are specified correctly. Correct the appropriate control statement, then rerun the job.

RMOUJR05 JOB xxxxxxxx ALREADY EXISTS

Reason:

The NEWNAME keyword specifies a job name that already exists on the sending database.

Action:

Change the NEWNAME keyword to reference a job name that does not exist, then rerun the job.

RMOUJR06 OWNERSHIP OF JOB xxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified job record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOUJR07 JOB xxxxxxxx ADDED

Reason:

The specified job record has been successfully added.

Action:

None. This is an informational message.

RMOUJR08 JOB xxxxxxxx REPLACED

Reason:

The specified job record has been successfully replaced.

Action:

None. This is an informational message.

RMOUJR09 JOB xxxxxxxx DELETED

Reason:

The specified job record has been successfully deleted.

Action:

None. This is an informational message.

RMOUJR10 JOB xxxxxxxx RENAMED

Reason:

The specified job record has been successfully renamed.

Action:

None. This message is provided for reference only.

RMOUJR11 DISTID xxxxxxxx ADDED

Reason:

The specified distribution record has been successfully added.

Action:

None. This is an informational message.

RMOUJR13 OWNERSHIP OF REPORT xxxxxxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified report record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOUJR14 REPORT xxxxxxxxxxxx ADDED

Reason:

The specified report record has been successfully added.

Action:

None. This is an informational message.

RMOUJR15 REPORT xxxxxxxxxxxx REPLACED

Reason:

The specified report record has been successfully replaced.

Action:

None. This is an informational message.

RMOUJR16 REPORT xxxxxxxxxxxx DELETED

Reason:

The specified report record has been successfully deleted. This message is issued when the receiving database contains a report within a job that is not defined on the sending database. The copy process is not a merge process; therefore, the report record was deleted.

Action:

None. This is an informational message.

RMOUJR17 REPORT xxxxxxxxxxxx NOT FOUND, REPORT REFERENCE REMOVED FROM JOB xxxxxxxx

Reason:

The specified report defined to the specified job was not found in the sending database. The report is not copied nor does the job retain a reference to it.

Action:

None. This is an informational message.

RMOUJR18 REPORT xxxxxxxxxxxx DEFINED TO ANOTHER JOB, REPORT REFERENCE REMOVED FROM JOB xxxxxxxx

Reason:

The specified report was defined to another job in the receiving database. The report is not copied nor does the job retain a reference to it.

Action:

Processing of the requested operation continues. If the report was incorrectly defined to another job, delete the report or redefine the report to the correct job, then resubmit the request.

RMOUJR19 REPORT xxxxxxxxxxxx RECORD TOO LARGE

Reason:

The specified report record, including appropriate bundle references, exceeds the maximum allowable record size (32756 bytes).

Action:

Reduce the size of the report record by deleting text, special instruction, or distribution specifications, then resubmit the copy request.

RMOUJR20 OWNERSHIP OF BUNDLE xxxxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified bundle record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOUJR21 THE FOLLOWING BUNDLE RECORD(S) REFERENCED BY COPIED/MOVED REPORT(S) MAY REQUIRE SUBSEQUENT COPY

Reason:

This message identifies the bundle identifiers that existed for the copied reports in the sending database. Since bundle references are not copied, the specified bundles may require copying.

Action:

After all applicable job and reports have been copied, initiate a copy request for the specified bundles.

RMOURR01 ERROR ON "FROM" DATABASE

Reason:

An error occurred accessing the sending database. This message is accompanied by a more specific RMODBI error message.

Action:

Review the RMODBI error message for further explanation.

RMOURR02 ERROR ON "TO" DATABASE

Reason:

An error occurred accessing the receiving database. This message is accompanied by a more specific RMODBI error message.

Action:

Review the RMODBI error message for further explanation.

RMOURR03 AUTHORIZATION FAILED

Reason:

The RMOATHTB authorization table or RMOATHUX authorization user exit did not provide update, delete, or rename access to the report record.

Action:

See your security administrator or system programming group to determine the reason why authorization was denied by RMOATHTB or RMOATHUX.

RMOURR04 REPORT xxxxxxxxxxxx NOT FOUND

Reason:

The specified report identifier could not be found in the sending database.

Action:

Verify that the report identifier and formally supplied sending database are specified correctly. Correct the appropriate control statement, then rerun the job.

RMOURR05 REPORT xxxxxxxxxxxx ALREADY EXISTS

Reason:

The NEWNAME keyword specifies a report identifier that already exists on the sending database.

Action:

Change the NEWNAME keyword to reference a report identifier that does not exist, then rerun the job.

RMOURR06 OWNERSHIP OF REPORT xxxxxxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified report record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOURR07 REPORT xxxxxxxxxxxx ADDED

Reason:

The specified report record has been successfully added.

Action:

None. This is an informational message.

RMOURR08 REPORT xxxxxxxxxxxx REPLACED

Reason:

The specified report record has been successfully replaced.

Action:

None. This is an informational message.

RMOURR09 REPORT xxxxxxxxxxxx DELETED

Reason:

The specified report record has been successfully deleted.

Action:

None. This is an informational message.

RMOURR10 REPORT xxxxxxxxxxxx RENAMED

Reason:

The specified report record has been successfully renamed.

Action:

None. This is an informational message.

RMOURR11 REPORT xxxxxxxxxxxx DOES NOT EXIST

Reason:

The specified report record does not exist in the receiving database.

Action:

The copy request can only be initiated for existing reports. If necessary, copy the job record to which the report is defined.

RMOURR12 REPORT xxxxxxxxxxxx RECORD TOO LARGE

Reason:

The specified report record, including appropriate bundle references, exceeds the maximum allowable record size (32756 bytes).

Action:

Reduce the size of the report record by deleting text, special instruction, or distribution specifications, then resubmit the copy request.

RMOURR13 OWNERSHIP OF JOB xxxxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified job record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOURR14 DISTID xxxxxxxx ADDED

Reason:

The specified distribution record has been successfully added.

Action:

None. This is an informational message.

RMOURR15 DISTID xxxxxxxx CROSS-REFERENCE RECORD TOO LARGE

Reason:

The specified distribution record, including the appropriate report references, exceeds the maximum allowable record size (32756 bytes).

Action:

A limit of approximately 2700 reports can be defined to a distribution identifier. If the limit has been exceeded, change the report definitions to reference different distribution identifiers.

Alternately, run the RMORXB utility to reconstruct distribution cross-reference records.

RMOURR16 OWNERSHIP OF BUNDLE xxxxxxxxxx REMOVED FROM USER xxxxxxxx

Reason:

Ownership of the specified bundle record was taken from the specified user in order to perform the requested function.

Action:

None. This is an informational message.

RMOURR17 THE FOLLOWING BUNDLE RECORD(S) REFERENCED BY COPIED/MOVED REPORT(S) MAY REQUIRE SUBSEQUENT COPY:

Reason:

This message identifies the bundle identifiers that existed for the copied reports in the sending database. Since bundle references are not copied, the specified bundles may require copying.

Action:

After all applicable jobs and reports have been copied, initiate a copy request for the specified bundles.

RMOUTC01 BID, DISTID, JOB, OR RID KEYWORD NOT SPECIFIED, ONE OF THESE KEYWORDS IS REQUIRED

Reason:

The BID, DISTID, JOB, or RID keyword is required to identify the type and name of the record to be copied.

Action:

Add the appropriate keyword, then rerun the job.

RMOUTC02 BID, DISTID, JOB, AND RID KEYWORDS ARE MUTUALLY EXCLUSIVE, ONLY SPECIFY ONE OF THESE KEYWORDS

Reason:

Combinations of the BID, DISTID, JOB, and RID keyword cannot be specified on the same control statement.

Action:

Split the control statement into separate requests or correct the offending control statement, then rerun the job.

RMOUTD01 BID, DISTID, JOB, OR RID KEYWORD NOT SPECIFIED, ONE OF THESE KEYWORDS IS REQUIRED

Reason:

The BID, DISTID, JOB, or RID keyword is required to identify the type and name of the record to be deleted.

Action:

Add the appropriate keyword, then rerun the job.

RMOUTD02 BID, DISTID, JOB, AND RID KEYWORDS ARE MUTUALLY EXCLUSIVE, ONLY SPECIFY ONE OF THESE KEYWORDS

Reason:

Combinations of the BID, DISTID, JOB, and RID keyword cannot be specified on the same control statement.

Action:

Split the control statement into separate requests or correct the offending control statement, then rerun the job.

RMOUTL01 ERROR ON "FROM" DATABASE

Reason:

An error occurred accessing the sending database. This message is accompanied by a more specific RMODBI error message.

Action:

Review the RMODBI error message for further explanation.

RMOUTL02 ERROR ON "TO" DATABASE

Reason:

An error occurred accessing the receiving database. This message is accompanied by a more specific RMODBI error message.

Action:

Review the RMODBI error message for further explanation.

RMOUTL03 INVALID OR MISPLACED CONTROL CARD, CONTROL STATEMENT MUST BEGIN WITH A "/"

Reason:

A slash, denoting a new control statement, was expected in column 1 of the control card but was not found.

Action:

Review the syntax of the control statement, insert a slash before the function name in column 1 of the control card, then rerun the job.

RMOUTL04 INVALID FUNCTION NAME

Reason:

The function name you specified (the name that follows the slash) contains invalid characters, contains too many characters, or is not a valid function name.

Note: The function name must immediately follow a slash, which is coded in column 1 of the control card.

Action:

Review the spelling of the function name and the syntax of the control statement, correct the control statement specification, then rerun the job.

RMOUTL10 INVALID KEYWORD NAME xxxxxxxx

Reason:

The specified keyword name contains invalid characters, too many characters, or is not a valid keyword name.

Action:

Review the syntax of the control statement and spelling of the keyword name, correct the parameter specification, then rerun the job.

RMOUTL11 INVALID PARAMETER DATA FOR KEYWORD xxxxxxxx

Reason:

The parameter data for the specified keyword contains invalid characters or is not an acceptable value.

Action:

Review the syntax of the control statement, correct the parameter specification, then rerun the job.

RMOUTL12 UNBALANCED QUOTED STRING ENCOUNTERED IN PARAMETER DATA FOR KEYWORD xxxxxxxx

Reason:

The parameter data for the specified keyword contains a quoted string that was not terminated by an ending quote.

Action:

Review the syntax of the control statement, correct the parameter specification, then rerun the job.

RMOUTL13 UNBALANCED PARENTHESES ENCOUNTERED IN PARAMETER DATA FOR KEYWORD xxxxxxxx

Reason:

The parameter data for the specified keyword contains an incorrect number of parentheses. For every left parenthesis there must be a matching right parenthesis.

Action:

Review the syntax of the control statement, correct the parameter specification, then rerun the job.

RMOUTL14 PARAMETER DATA TOO LONG FOR KEYWORD xxxxxxxx

Reason:

The parameter data for the specified keyword contains too many characters.

Action:

Review the syntax of the control statement, correct the parameter specification, then rerun the job.

RMOUTL15 TOO MANY PARAMETERS SPECIFIED FOR KEYWORD xxxxxxxx

Reason:

The parameter data for the specified keyword contains too many values.

Action:

Review the syntax of the control statement, correct the parameter specification, then rerun the job.

RMOUTL16 "FROM" DATA BASE AT INCORRECT LEVEL FOR THIS RELEASE

Reason:

The database that contains the data you tried to copy, delete, or rename is incompatible with the version of CA-Deliver that you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update the old database, then try again.

RMOUTL17 "TO" DATA BASE AT INCORRECT LEVEL FOR THIS RELEASE

Reason:

The database to which you tried to copy data is incompatible with the version of CA-Deliver you are using.

Action:

Use the RMODBASE utility VERSION control statement to convert and update your old database, then try again.

RMOUTR01 BID, DISTID, JOB, OR RID KEYWORD NOT SPECIFIED, ONE OF THESE KEYWORDS IS REQUIRED

Reason:

The BID, DISTID, JOB, or RID keyword is required to identify the type and name of the record to be renamed.

Action:

Add the appropriate keyword, then rerun the job.

RMOUTR02 BID, DISTID, JOB, AND RID KEYWORDS ARE MUTUALLY EXCLUSIVE, ONLY SPECIFY ONE OF THESE KEYWORDS

Reason:

Combinations of the BID, DISTID, JOB, and RID keyword cannot be specified on the same control statement.

Action:

Split the control statement into separate requests or correct the erroneous control statement, then rerun the job.

RMOUTR03 NEWNAME KEYWORD REQUIRED FOR RENAME FUNCTION

Reason:

The NEWNAME keyword is required but was not supplied on the RENAME control statement.

Action:

Add the NEWNAME keyword, then rerun the job.

RMOUTR04 INVALID PARAMETER DATA FOR NEWNAME KEYWORD

Reason:

The name specified on the NEWNAME keyword is invalid or is the same as the original bundle, distribution, job, or report name.

Action:

Correct the NEWNAME keyword specification, then rerun the job.

RMOVTA01 OPEN ERROR APPLID=xxxxxxxx ACBERFLG=xx

Reason:

The open has failed for application program ACB.

Action:

Verify that the RMOVTAM APPLID is activated. Normally, you can fix the problem by inactivating and reactivating the RMOVTAM APPLID.

RMOVTA02 APPLID NOW ACCEPTING LOGONS

Reason:

The VTAM online retrieval task in now ready for users to log on to it.

Action:

None. This is an informational message.

RMOVTA03 APPLID=xxxxxxxx DISABLED FOR LOGONS

Reason:

This message is in response to the successful quiesce request.

Action:

None. This is an informational message.

RMOVTA04 APPLID=xxxxxxxx NOW CLOSED

Reason:

The application is terminating.

Action:

None. This is an informational message.

RMOVTA05 INVALID COMMAND IGNORED

Reason:

An invalid operator command has been issued.

Action:

Reenter the operator command in its correct form.

RMOVTA06 TASK abend xxx xxxx

Reason:

The user subtask has abnormally ended. Review message RMOVTA14 for further information.

Action:

None. This is an informational message.

RMOVTA07 LOSTERM REASON=xxxx FOR LU xxxxxxxx

Reason:

The losterm exit has been invoked for the session with the specified LU name. The session is terminated.

Action:

None. This is an informational message.

RMOVTA08 TPEND REASON xx

Reason:

VTAM has been terminated with a "Z NET" or "V NET,INACT" command. VTAM online retrieval is terminated.

Action:

After VTAM has been started again, start the VTAM online retrieval task.

RMOVTA09 LU xxxxxxxx STARTED

Reason:

A session with the specified logical unit started.

Action:

None. This is an informational message.

RMOVTA10 LU xxxxxxxx ENDED

Reason:

The session with the specified logical unit has terminated normally.

Action:

None. This is an informational message.

RMOVTA11 LU REQ=xxxxxxxx RTNCD=xxxx FDBK2=xxxxxxxx

Reason:

The specified VTAM request has failed.

Action:

Review the return and feedback codes to determine the cause of the error.

RMOVTA12 RECURSIVE ERRORS AT xxxxxxxx xxxx xxxxxxxx

Reason:

An attempt to recover from a previous error has failed.

Action:

Review the message for the previous error.

RMOVTA13 LU xxxxxxxx DFASY REQ - RPLCNTRL=xxxxxx

Reason:

The DFASY exit has been entered for the specified logical unit.

Action:

None. This is an informational message.

RMOVTA14 LU xxxxxxxx abend CMPC=xxxxxx

Reason:

The user subtask has abnormally ended. A completion code of 306000 occurs when the CA-Deliver load library is not authorized; the session with the user is terminated.

Action:

None. This is an informational message.

Glossary

abend
The abnormal end or termination of a task before it is completed due to an error that recovery facilities could not resolve while the task was executing.

ACIF
Advanced Function Printing Conversion and Indexing Facility. An IBM Print Services Facility (PSF) utility program that converts a print file to a special format AFP document, creates a separate index object file for input data, embeds index information in output documents, retrieves resources used by an AFP document, and places these resources in a separate file. *See also* AFP and PSF.

active bundle
A bundle that is scheduled to be produced during the current daily cycle; bundles in active status are called *active bundles*.

active report
A report that is scheduled to be produced during the current daily cycle. Reports in active status are called *active reports*.

AFP
Advanced Function Printing. AFP allows programs to address, reference, position, and print text, overlays, and graphic images at any defined point within a printable area on a surface.

APF
Authorized Program Facility. A facility that identifies authorized programs that use restricted functions.

APL
Authorization Parameter List.

attribute character
A special character you insert in the body of a model banner page member to define the beginning and end of symbolic variables and the location and size of text displayed on a banner page. *See also* symbolic variable.

banner page (bundle)
See bundle banner page.

banner page (distribution)
See distribution banner page.

banner page library
A partitioned data set that contains members with fixed, 133-byte records used as models to define the format, structure, and content of banner pages; also referred to as a model banner page library. *See also* model banner page library.

banner page member
A member stored in the model banner page library data set RMO.MBPLIB, which is unloaded from the distribution tape when you install CA-Deliver. You use model banner page members to define the format, structure, and content of banner pages.

basic report
A report that contains an entire SYSOUT data set, which is distributed as a unit. A single banner page that contains report and distribution information is attached to both the start and end of a basic CA-Deliver report.

BDT
Begin Document. An X'5A' record.

BPA
Banner Page Attribute Area.

BPG
Begin Page. An X'5A' record.

bundle (bundle of reports)
A "package" of pre-defined CA-Deliver reports generated by one or more jobs at the same or at different times in a cycle and grouped together by CA-Deliver; you can specify that a bundle of reports will be delivered to one or more distribution points at one location.

bundle (active)
See active bundle.

bundle banner page
A type of banner page that identifies the beginning and end of a bundle of reports.

bundle confirmation
A CA-Deliver feature that controls the times when bundles are actually queued for printing.

bundle distribution identifier
A unique string of 1–8 characters that indicates the location where a bundle of reports will be distributed at your site; also referred to as BDIST.

bundle identifier
A unique string of 1–10 characters that identifies a bundle in CA-Deliver, for example, SABUNDL2.

CA-Deliver database
A set of one or more direct-access data sets that contain all of the data used by CA-Deliver. The CA-Deliver database is designed for high-performance and quick access.

CA-Deliver started task
A started task that controls the production of reports and tracks the distribution of reports. It is automatically marked as "non-swappable."

CAW
Channel Address Word. An area in storage that identifies the location where the Channel Control Words that control a sequence of data channel operations begin. *See also* CCW.

CCW
Channel Command Word. A contiguous sequence of bits or characters made up of two computer words that can be addressed as a unit at the location in main storage identified by a Channel Address Word; Channel Control Words make up a channel program. *See also* CAW.

CICS
Customer Information Control System. A system that allows transactions entered at remote terminals to be processed concurrently by application programs; a system that allows users to build, use, and maintain databases.

complete cycle
The repeated execution of a set of JCL statements for a job. A complete cycle begins when you first attempt to execute JCL statements for a job and ends when you completely and successfully execute those JCL statements. All events that occur between the first attempt to execute the JCL statements and the complete and successful execution of the JCL statements belong to that complete cycle. A complete cycle can include an initial run and one or more reruns. *See also* initial run, JCL, and rerun.

contiguous report pages
Pages in a report that are adjacent. *See also* non-contiguous report pages.

continuation bundle
A bundle assembled from reports available when a specified interval of time elapses. Reports produced after the initial continuation bundle is assembled are included in subsequently produced continuation bundles when the reports are ready to be printed. You specify if and when continuation bundles are produced. CA-Deliver prints continuation bundles until all reports that you specify for inclusion in the bundle are printed or placed in a "not produced" status. Subsequently produced continuation bundles retain the same bundle identifier as the original continuation bundle with which they are associated.

control break
A point at which CA-Deliver divides a SYSOUT data set into unique pages by inserting a special separator page when data changes.

control break identification criteria
Defines the location on the report page where CA-Deliver "looks" at data. When the data changes at this location, a control break occurs and CA-Deliver inserts a separator page. An example of control break identification criteria is a unique title or heading, such as VENDOR or SUMMARY, that appears on the first line of the first page of each segment in a data set.

control statement (banner page member)
A parameter that defines the contents, structure, and layout of model banner page members. For example /BEGSEP might define the start of a banner page.

control statement (job)
See job control statement.

daily cycle
CA-Deliver maintains historical, status, and exception type data for reports based on a daily cycle. For most sites, the daily cycle corresponds to the daily production cycle.

DASD
Direct Access Storage Device. A device in which the time to access data is independent of the location of that data.

data set
A unit of data storage and retrieval that consists of a collection of data in a specified arrangement defined by control information that a system can access.

database (CA-Deliver)
A set of one or more (up to 127) direct-access data sets that contain all of the data used by CA-Deliver.

DCB
Data Control Block. A control block used by software routines to store and retrieve data.

DD statement
Data definition statement. A job control statement that describes a data set with which a job step is associated.

Direct-to-SAR
A facility of CA-Deliver that allows you to write report data as it is being processed by CA-Deliver directly to the CA-View (formerly SAR) database and consequently bypass the JES spool. *See also* JES.

distribution identifier
See DISTID.

DISTID
Distribution identifier. A unique string of 1–8 characters that identifies an individual or location to which a report is to be distributed at your site, for example, D27PROD, for a production supervisor in department 27.

distribution banner page
A type of banner page in a bundle that identifies the beginning and end of a group of reports to be delivered to a single distribution identifier.

DJDE
Dynamic Job Descriptor Entry. A Xerox printer command that dynamically defines or modifies the printing formats of SYSOUT (system output).

eligible program list
A list of programs that are potentially executable but are not placed on the list of programs to be executed due to a current high load on a CPU.

Enterprise Systems Connection
IBM's flexible channel interconnection environment with a range that covers an extended distance. It includes the transmission and reception of data over fiber optical cabling, dynamic connectivity of systems via a switched point-to-point topology and data flow, interconnectivity to other networks, an architecture for input/output that takes advantage of fiber optical technology and dynamic connectivity, and an associated group of interrelated hardware and software products and services.

EPL
Eligible Program List.

ESCON
Enterprise Systems Connection.

ETSO
Extended Time Sharing Option. ETSO, which emulates TSO (Time Sharing Option) terminal input/output processing, allows you to execute TSO-like commands under CA-Roscoe. *See also* TSO.

exclusive segment
One or more adjacent pages of unique data that is extracted from a single SYSOUT data set and placed in a report that is not duplicated in any other report produced from that SYSOUT data set.

external writer
An MVS routine that directs SYSOUT to devices like magnetic tape devices and data sets as well as other devices that are not supported by the job entry subsystem (JES).
See also JES.

external writer name
The name assigned to the process associated with the allocation of job entry subsystem data sets. This process makes the job entry subsystem data sets available for processing by the external writer. *See also* JES and external writer.

form definition
A collection of printing instructions, and sometimes data to be printed, consisting of structured fields that defines the overlays to be used on, text to be suppressed, the position of page data, and the number and modifications on a page.

FSS
Functional Subsystem. A uniquely identified address space that carries out a specific function related to the job entry subsystem. For example, an FSS is the Printer Services Facility program, which operates an IBM 3800 Model 3 and 3820 printer. *See also* JES.

hdn
History detail number. A unique, CA-Deliver-generated, ten-digit number that is used to distinguish individual copies of bundled or non-bundled reports when using the TRACK input command; the hdn identifies detail historical data about a report or bundle by recipient (that is, by distribution identifier). You can print history detail numbers on banner pages to identify reports and bundles.

ICB
Interface Control Block.

IDM
Invoke Data Map. An X'5A' record. An IDM-structured field that allows you to change the page format via a print data stream.

IMOD
Intelligent module. A REXX-based program that can perform activities in conjunction with products. You can write IMODs to provide stand-alone functions that work without the aid of products. IMODs are used by products, such as CA-GSS, to enable communication between products and to provide additional product functions. You can use IMODs to automate system monitoring, regulate resources, report on system activities, and develop batch reports.

IMM
Invoke Medium Map. An X'5A' record. An IMM-structured field allows you to change the copy group via a print data stream.

initial run
The first execution of a job. An initial run is **not** a rerun. *See also* Complete Cycle and Rerun.

input command
A command you enter on the command line of selected panels.

interleave identifier
A single character—usually a letter from A–Z, a digit from 0–9, or a national character ($, #, @)—that specifies where and how records in a SYSOUT data sets are to be put together to create a report from interleaved records.

Interleave identifiers are inserted by report generators like Report Program Generator (RPG) in the first or second column of a record depending on whether a carriage control character is specified in the first column in the record format. You specify interleave identifiers in CA-Deliver the same way you specify report identification text.

interleaved report
See report (created from interleaved records).

JCA
JCL Common Storage Area.

JCL
Job Control Language. A control language that identifies a job and the requirements of a job to an operating system.

JES
Job Entry Subsystem. A facility on a system that spools, queues jobs, and manages input and output. JES2 and JES3 are subsystems in MVS that accept jobs into a system, convert the jobs to internal format, identify the jobs to be executed, process job output, and purge the jobs after they are executed.

If your site uses more than one CPU, each JES2 processor on each CPU controls the input of jobs and schedules and processes output all independently. If your site uses connected CPUs, the JES3 program manages local processors that are centrally controlled by a global processor and distributes jobs to the local processors via a common queue of jobs.

JES2
Job Entry Subsystem.

JES3
Job Entry Subsystem.

JFCB
Job File Control Block.

job control statement
A parameter that defines, augments, or modifies how a job control statement operates. You specify control statements in a card image data set. For example, the BLOAD control statement, which you use with the RMODBASE utility program, loads the model banner page members in the model banner page library to a CA-Deliver database.

Job File Control Block (JFCB)
An internal representation of a DD statement during execution of a job, a started task, or a TSU (Time Sharing User).

job identifier
A unique number assigned to a job by JES as it enters a system that distinguishes the job from other jobs. A job identifier is also called a job number. *See also* JES.

job name
A unique string of characters from one to eight characters long that identifies the job that produces the SYSOUT from which CA-Deliver reports are produced.

Job name translation table
A term used when referring to control statements collectively.

label
A moveable tab that marks a specific record in a banner page, printer set up, or online panel member in the CA-Deliver database that you have displayed and are browsing through. You use a label to mark a point you expect to look at or reference often. You use the LOCATE command to go to and display a label.

MBP
Banner Page Control Block.

model banner page library
A partitioned data set that contains members that contain fixed, 133-byte long records. You use these members as models to define the format, structure, and content of banner pages.

model banner page member
A member stored in the model banner page library data set CAI.CAIMPB, which is unloaded from the distribution tape when you install CA-Deliver. You use model banner page members to define the format, structure, and content of banner pages.

monitored data output
A type of report processing in which only one report is defined for a SYSOUT data set.

network input
A post-spool operation of CA-Deliver, whereby reports may be written to JES spool first by an application and then retrieved by CA-Deliver later for processing. *See also* JES.

non-bundled report
A CA-Deliver report that contains no report identifier included in any definition of a bundle of reports.

non-contiguous report pages
In a report, a single page, segment, or series of contiguous segments that are separated by other segments or pages. *See also* contiguous report pages.

online
A method of accessing of data in the CA-Deliver database by means of a computer terminal.

online facility
The CA-Deliver online facility is composed of a series of screens—or panels—that allow you to display, change, distribute, and track information in the CA-Deliver database.

overlapping segment
One or more pages of data that is extracted from a single SYSOUT data set and placed in a report that may be wholly or partially duplicated in other reports.

OXB
Online Exit Block. A control block passed to an online exit routine.

page definition
A collection of printing instructions, and sometimes data to be printed, consisting of structured fields, which you specify in the JCL in the print data set. The page definition defines the rules that define how to transform input to pages and text controls.

PCT
Partition Control Table. A table in which pointers to all control blocks that describe a partition and their current states are stored.

PDDB
Peripheral Data Definition Block. A JES (Job Entry Subsystem) PDDB is used to store SYSOUT (system output) data set information. *See also* JES.

PPT
Program Properties Table. A table that contains entries for programs with special requirements for MVS.

PRB
Process Request Control Block; used to communicate requests to the CA-Deliver started task.

printer set up library
A partitioned data set that comprises members that contain fixed, 133-byte records. Once you create the data set, you can add members to, or modify members in, the data set.

printer set up member
A member in which you set printer attributes. This member comprises records of SYSOUT data.

PSF
Print Services Facility. A final print device driver which can interact directly with a user program or indirectly through the Job Entry Subsystems of MVS; an access method that supports models 3 and 8 of the 3800 printing subsystem. *See also* JES.

report
For the purposes of CA-Deliver, a report is a continuous stream of SYSOUT data that is distributed as a unit.

report (active)
See active report.

report (basic)
See basic report.

report (created from interleaved records)
A report that contains individual records is extracted from a single SYSOUT data set that contain the same interleave identifier. In most cases, you will define reports created from interleaved records from data output by a report generator, such as the Report Program Generator (RPG).

report (stacked, containing overlapping segments)
See stacked report that contains overlapping segments.

report (stacked, containing exclusive segments)
See stacked report that contains exclusive segments.

report that contains control breaks
A report that consists of an entire SYSOUT data set that is distributed as a unit with a single banner page attached to the beginning and end of a report that contains control breaks; special separator pages are inserted between report pages identified by control break identification criteria. *See also* Control Break Identification Criteria.

report definition attribute
One of a set of parameters you specify on the Report Definition Attributes panel that defines one of the elements of which a report is composed. For example, the parameter LATE, which indicates the time a report is to be marked late if it is not queued for printing.

report identification text
Report identification text is a unique string of text, composed of the letters A–Z, the digits 0–9, national characters ($, #, @), or other keyboard characters, which is used to determine whether a page in SYSOUT is the beginning, end, or part of a segment. Report identification text is used to identify the exclusive or overlapping segments that CA-Deliver is to select from SYSOUT and output to a stacked report. For example, a unique, partial or whole, title or heading, such as VENDOR or SUMMARY, that appears on the first line of the first page of each segment in a data set, or descriptive information, such as 01 or 02, located at the same location on each page of each segment in a data set.

report identifier
A unique 1 to 12-character string that identifies a report for use by CA-Deliver, for example, EDITREPT01.

report recipient
An individual or location where a report is to be distributed.

rerun
The execution of an entire or partial job after the job abnormally ends, a report is lost, bad input is encountered, or after another unacceptable condition occurs during the processing of a job. *See also* Complete Cycle and Initial Run.

RPG
Report Program Generator.

scroll field options
Options that you enter on the scroll line on any CA-Deliver panel that make it easy to navigate through displayed text, such as HALF, PAGE, DATA, any positive number, CSR, and MAX. *See also* system-wide commands and input commands.

segment
One or more adjoining pages of SYSOUT data grouped together to form a report. A report can also be formed by the combination of two or more segments from a single SYSOUT.

segment (exclusive)
One or more contiguous pages of unique data, extracted from a single SYSOUT data set and placed in a report, that is not duplicated in any other report produced by a job, for example, a vendor report, which records transactions with suppliers, or a check register, which records the checks written to suppliers.

segment (overlapping)
One or more pages of data, extracted from a single SYSOUT data set and placed in a report, that may be wholly or partially duplicated in other reports, for example, regional sales summary data or quarterly sales data for a company.

separator page
A special banner-like page inserted between report pages when a control break occurs.

SJF
Scheduler JCL Facility. An internal service of MVS used by CA-Deliver and CA-View products in JCL processing. *See also* JCL.

SIOT
Step Input/Output Table.

SMF
System Management Facilities is an optional OS/VS control program feature that allows a system to acquire and record information you can use to evaluate usage on a system.

SMS
System Managed Storage.

SPF/ISPF
System Productivity Facility/Interactive System Productivity Facility. An interactive programming environment marketed and maintained by IBM.

SPF/ISPF command stacking
A shorthand command syntax that, if you are using CA-Deliver with the SPF/ISPF terminal management system, allows you to issue system-wide, input, and other CA-Deliver commands faster and more easily.

You use the semicolon to delimit the commands that compose a command stack. The semicolon functions as a type of Enter key or END command.

You can also use SPF/ISPF command stacks in combination with other time-savers and CA-Deliver commands. For example, to copy distribution identifier information from distribution identifier D27PROD to new, nonexisting distribution identifier D28PROD, you display the Distribution Selection List panel and, on the command line, enter: **`S D28PROD; COPY D27PROD`**.

stacked report that contains exclusive segments
A report that contains a unique and exclusive segment of a single SYSOUT data set.

stacked report that contains overlapping segments
A report that contains one or more segments of a single SYSOUT data set that may be wholly or partially duplicated in other reports.

started task
In CA-Deliver, controls the production of reports and tracks the distribution of reports. It is automatically marked as "non-swappable." The CA-Deliver started task sets the dynamic interface between CA-Deliver and your operating system.

station
The physical location where you post reports and bundles; you can define from one to five stations, and one printer station. A station allows you to track the history of reports and bundles from creation to the point at which the recipient receives the report or bundle copy, through distribution and other post-printing processes.

SIOT
Step Input/Output Table. An internal MVS control block maintained during the execution of a job step related to JCL (Job Control Language). *See also* Job Control Language.

SWA
Scheduler Work Area. A virtual storage area where most of the job management control blocks (the SIOT and JFCB, for example) are located. *See also* SWB.

SWB
Scheduler Work Block. A job management control block (the SIOT and JFCB, for example) located in an SWA. *See also* SWA.

symbolic variable
A software element capable of assuming a set of values; you use symbolic variables in model banner page members to identify the location where you want to insert a value or text. For example, &DEST, for which the SYSOUT destination of a report is inserted.

SYSOUT
A system output stream used as an indicator in data definition statements to specify that a data set is to be written to a system output unit.

system managed storage
An environment that allows data center applications that use DASD (Direct Access Storage Device) devices to work independently of the physical characteristics of the devices. *See also* Direct Access Storage Device.

system-wide commands
Commands you enter on the command line on any CA-Deliver panel that make it easy to navigate through displayed text, such as HELP, END, RETURN, UP, DOWN, LEFT, RIGHT, =, and KEYS; these commands can also by activated by pressing a PF key. *See also* scroll field commands, input commands, and PF keys.

tabular commands
Commands used to manipulate entries displayed when you issue selected input commands. You can use tabular commands when the column titled SEL is displayed along the left side of a panel.

task
One or more sets of instructions that a control program deems an element of work that a computer is to complete.

TSO
Time Sharing Option. An operating system option that allows users to interactively time share that operating system from remote terminals.

TSU
Time Sharing User.

unattended download
A feature that allows you to request the unattended download of reports and bundles from CA-Deliver to an NJE node on the LAN that is serving PCs running CA-DocView.

This feature uses CA-Connect to manage the NJE print routing on the LAN.

This feature provides support for unattended download capability to CA-DocView from the open front end, batch bundle print function, and started task bundle print function.

user
An end user who is the recipient of documents distributed automatically by CA-Deliver. The user has access to the documents through CA-DocView.

VM/CMS
Virtual Machine/Conversational Monitor System. A system that provides facilities that enable users to time share, develop programs, and problem solve on a system.

VTAM
Virtual Telecommunications Access Method. A set of programs that manage communication between terminals and application programs on an operating system.

wildcard character
A special character you can use to represent one or more characters at the beginning, in the middle, or at the end of a data set name; an identifier, or any text string that identifies data you want to extract from the CA-Deliver database. The wildcard character you use in CA-Deliver is the asterisk (*).

WTO
Write To Operator. An optional service that allows you to write a message to a system console operator to advise of errors or other system conditions in need of operator intervention.

Index

$

/

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

R

S

T

U

V

W

X

Z