



Control-M for z/OS for CA-MANAGER 9.0.00 Conversion Guide



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About this Guide

This conversion guide reviews basic concepts relevant to converting from CA-MANAGER to CONTROL-M, and provides step-by-step instructions on how to use the conversion tool.

The guide is divided into the following chapters:

Chapter 1 – Conceptual Overview

Overview of basic concepts relating to conversion from CA-MANAGER to CONTROL-M

Chapter 2 – Conversion Process Flow

Description of the conversion process including details of each of the batch jobs

Chapter 3 – Conversion Steps

Step-by-step procedure for installing and operating the conversion tool

Chapter 4 – Conversion Details

Details of the conversion of relevant CA-MANAGER database components into corresponding CONTROL-M job scheduling definition parameters and Auto-Edit statements

Appendix A – Downloading and installing the CONTROL-M Conversion tool

Description of the CONTROL-M Conversion tools, and the procedure for downloading and installing them.

Appendix B – Conversion Parameters

Various parameters for the conversion process

Appendix C – Messages

Messages and codes of the conversion process

Appendix D– Planning the Conversion

Advance planning before carrying out the conversion

Appendix E – Problem Reporting

Information required when reporting a problem

Conventions Used in This Guide

Notational conventions that may be used in this guide are explained below.

Standard Keyboard Keys

Keys that appear on the standard keyboard are identified in boldface, for example, **Enter**, **Shift**, **Ctrl+S** (a key combination), or **Ctrl S** (a key sequence).

— **WARNING** —

The commands, instructions, procedures, and syntax illustrated in this guide presume that the keyboards at your site are mapped in accordance with the EBCDIC character set. Certain special characters are referred to in this documentation, and you must ensure that your keyboard enables you to generate accurate EBCDIC hex codes. This is particularly true on keyboards that have been adapted to show local or national symbols. You should verify that

\$ is mapped to x'5B'

is mapped to x'7B'

@ is mapped to x'7C'

If you have any questions about whether your keyboard is properly mapped, contact your system administrator.

Preconfigured PFKeys

Many commands are preconfigured to specific keys or key combinations. This is particularly true with regard to numbered PF keys, or pairs of numbered PFKeys. For example, the END command is preconfigured to, and indicated as, **PF03/PF15**. To execute the END command, press either the **PF03** key or the **PF15** key.

Instructions to enter commands may include

- only the name of the command, such as, enter the END command
- only the PF keys, such as, press **PF03/PF15**
- or both, such as, press **PF03/PF15**, or enter the END command

Command Lines and Option Fields

Most screens contain a command line, which is primarily used to identify a single field where commands, or options, or both, are to be entered. These fields are usually designated **COMMAND**, but they are occasionally identified as **COMMAND/OPT** or **COMMAND/OPTION**.

Option field headings appear in many screens. These headings sometimes appear in the screen examples as **OPTION**, or **OPT**, or **O**.

Names of Commands, Fields, Files, Functions, Jobs, Libraries, Members, Missions, Options, Parameters, Reports, Subparameters, and Users

The names of commands, fields, functions, jobs, libraries, members, missions, options, parameters, reports, subparameters, users, and most files, are shown in standard **UPPERCASE** font.

User Entries

In situations where you are instructed to enter characters using the keyboard, the specific characters to be entered are shown in this **UPPERCASE BOLD** text, for example, type **EXITNAME**.

Syntax statements

In syntax, the following additional conventions apply:

- A vertical bar (|) separating items indicates that you must choose one item. In the following example, you would choose *a*, *b*, or *c*:

a | b | c

- An ellipsis (. . .) indicates that you can repeat the preceding item or items as many times as necessary.
- Square brackets ([]) around an item indicate that the item is optional. If square brackets ([]) are around a group of items, this indicates that the item is optional, and you may choose to implement any single item in the group. Square brackets can open ([) and close (]) on the same line of text, or may begin on one line of text and end, with the choices being stacked, one or more lines later.

- Braces ({ }) around a group of items indicates that the item is mandatory, and you must choose to implement a single item in the group. Braces can open ({) and close (}) on the same line of text, or may begin on one line of text and end, with the choices being stacked, one or more lines later.

Screen Characters

All syntax, operating system terms, and literal examples are presented in this typeface. This includes JCL calls, code examples, control statements, and system messages. Examples of this are:

- calls, such as

```
CALL 'CBLTDLI'
```

- code examples, such as

```
FOR TABLE owner.name USE option, . . . ;
```

- control statements, such as

```
//PRDSYSIN DD * USERLOAD PRD(2) PRINT
```

- system messages, both stand-alone, such as You are not logged on to database *database_name*, and those embedded in text, such as the message You are not logged on to database *database_name*, are displayed on the screen.

Variables

Variables are identified with *italic* text. Examples of this are:

- In syntax or message text, such as
Specify database *database_name*
- In regular text, such as
replace database *database_name1* with database *database_name2* for the current session
- In a version number, such as
EXTENDED BUFFER MANAGER for IMS 4.1.*xx*

Special elements

This book includes special elements called *notes* and *warnings*:

— **NOTE** —

Notes provide additional information about the current subject.

— **WARNING** —

Warnings alert you to situations that can cause problems, such as loss of data, if you do not follow instructions carefully.

Conceptual Overview

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Overview

This overview is intended for production control personnel who are familiar with CA-MANAGER terminology. Experience with CONTROL-M is recommended, but not required.

The CA-MANAGER to CONTROL-M conversion tool is provided by BMC Software to assist in the creation of the primary product elements for CONTROL-M. It is designed to expedite the conversion process by automatically translating the most commonly built CA-MANAGER scheduling elements into functionally equivalent processes in CONTROL-M. For more information on the CA-MANAGER conversion tool, see [“CONTROL-M CA-MANAGER conversion tool” on page 21](#).

Application Definition

Each of the components of CA-MANAGER application definition is discussed below in relation to the management of corresponding components under CONTROL-M.

Job Definition

In CONTROL-M, information relevant to a specific job, including scheduling criteria and other production parameters, is stored in a job scheduling definition. Job scheduling definitions are stored in members in partitioned datasets. The members are called scheduling tables and the partitioned datasets are called scheduling libraries. A scheduling table (member) can contain multiple job scheduling definitions.

Job scheduling definitions are normally defined online using the CONTROL-M Job Scheduling Definition screen. When converting from CA-MANAGER to CONTROL-M, the conversion tool automatically builds the job scheduling definitions from information derived from the following CA-MANAGER reports:

- All Run Records Report
- Collections Report, also called the CSTREAM or JSTREAM Report
- DSN Report, also called the Data Set Maintenance List
- Event/Rules Report
- Calendar Report

Job Grouping

In a typical production environment under CA-MANAGER, jobs are variously grouped into applications, sometimes referred to as Minor Applications, into Collections, and by work center.

In CONTROL-M, application jobs are grouped by defining all related job scheduling definitions in the same scheduling table. The conversion tool handles conversion from any CA-MANAGER job grouping method. For more information, see “&TBLGRP” on page 67.

Predecessors and Successors

In CA-MANAGER, job predecessors and successors are the terms used to define the execution sequence of the application jobs.

In CONTROL-M, the execution sequence is controlled using prerequisite conditions. A prerequisite condition is a descriptive name given to a certain situation, event, or condition. The prerequisite condition is the basic method used by CONTROL-M to control job execution flow. In CONTROL-M prerequisite condition terminology, an IN condition is specified for a job when the job must wait for the occurrence of an event. A condition may be added, to the IOA Conditions file, when an event occurs, such as job completion. You can use the OUT statement of the job scheduling definition to add or delete conditions after successful job completion. For more information, see the discussion of the prerequisite condition concept in the *CONTROL-M for z/OS User Guide*.

The conversion tool converts CA-MANAGER predecessors into IN and/or OUT conditions in order to create the same application flow. In addition, the conversion tool supports job name qualifiers, predecessor/link (dummy) records and the special \$nnn and \$nyy qualifiers for predecessor jobs that have specific date requirements. For more information, see “8. PREDECESSORS” on page 48.

Event and Rule Processing

Event and Rule processing is a CA-MANAGER feature that allows you to alter your schedule in response to specific job-related incidents. By defining events and rules to the CA-MANAGER Workload Control File (WCF), you control the actions that the system takes when a particular event occurs, such as what action is automatically performed if a specific job abends, or if a job returns a particular condition code. These events invoke predefined rules, such as cancelling a job.

The conversion tool can convert the most common CA-MANAGER Events and Rules to CONTROL-M job scheduling parameters. For more information, see [“13. EVENT/RULE STEP NAME, ST, COND, COMMAND, PARMxx” on page 51](#).

Resource Management

In CA-MANAGER, resource management is implemented by serializing the use of dataset resources using the dataset disposition. In CONTROL-M, this type of resource management is implemented by using attributes of E (exclusive), or S (shared) when defining Control resources in the job scheduling definition. For more information, see [“10. DATASET NAME and DISP” on page 50](#).

In addition, quantitative resources in CA-MANAGER are defined by device classes and the maximum number of devices within each class used by the job. These are converted into CONTROL-M Quantitative resources and their quantities. For more information, see [“6. DEVICES CL/DV” on page 46](#).

You can also use CONTROL-M Quantitative resources when you want to prevent job concurrency, that is, to ensure that two jobs are not scheduled concurrently. This feature of Quantitative resources corresponds to the CA-MANAGER Must-Level mechanism. For more information, see [“17. ML” on page 55](#).

CONTROL-M Calendars and Scheduling

In CA-MANAGER, you can define what are known as frequencies, which are saved and can be referred to by multiple jobs and/or collections. In CONTROL-M, these frequencies are used both to create CONTROL-M calendars and to supply Basic Scheduling Parameters for the CONTROL-M job scheduling definitions. For more information, see [“7. FREQUENCIES” on page 46](#).

Production Management

In CONTROL-M, production tracking and control is managed using a single file called the Active Jobs File. When a production job is scheduled or forced, CONTROL-M loads the definition of the job to the Active Jobs File. The Active Jobs File is then used to track and control the life cycle of the job. Access to the Active Jobs File is provided using the Status Screen (Screen 3), which enables you to monitor, track, and control the entire life cycle of the job.

You can

- see the status of the job
- hold the job to modify its definition
- release the job for execution
- view the SYSOUT of the job
- browse the Log information relating to the job
- perform a variety of other tasks

JCL Processing

CA-MANAGER provides special Automatic Job Submission features that are automatically invoked by including appropriate statements in the JCL of a job on the APABASE file, which is the Master JCL Database. These features allow

- specification of whether a job is placed in Hold status for control statement input
- invocation of control statements or input data from the CA-MANAGER Control File (APACTL)
- specification of a period of time during which temporary changes to the JCL of a job are in effect

The conversion tool converts each of these features into CONTROL-M job scheduling definition parameters or AutoEdit statements to provide equivalent functionality. For more information, see [Chapter 4, "Conversion Details."](#)

CONTROL-M CA-MANAGER conversion tool

The conversion consists of a sequence of batch jobs. Although these jobs run independently of CA-MANAGER and CONTROL-M, CONTROL-M must be installed in order to perform the conversion.

The conversion tool performs the following functions:

- Builds CONTROL-M scheduling tables based on CA-MANAGER Collections, DSN, All Run Records, Event/Rules Reports and CA-MANAGER JCL Statements
- Builds CONTROL-M calendars based on CA-MANAGER Calendar Reports
- Converts CA-MANAGER special Automatic Job Submission JCL features to CONTROL-M format

- Enables customers to automatically set unique CONTROL-M and CONTROL-M/Restart options in the scheduling tables
- Issues appropriate messages if problems and errors are encountered in the CA-MANAGER definitions

The conversion tool is delivered in source and object code, and it may be locally tailored to fit specific requirements.

Conversion Process Flow

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Overview

This chapter describes in detail the components and flow of the conversion process from the perspective of jobs, programs, and datasets.

A familiarity with the conversion process flow helps in understanding the conversion logic and the installation and operation steps discussed in [Chapter 3, “Conversion Steps.”](#)

The process is comprised of the following jobs:

Table 1 Jobs in the Conversion Process

Job	Description
JOB0	Creates CA-MANAGER Reports.
JOB1	Creates CONTROL-M calendars from the CA-MANAGER Calendar Report.
JOB2	Creates CONTROL-M scheduling tables from the CA-MANAGER reports created in JOB0. This job also adds additional calendars to the CONTROL-M Calendar Library.
JOB3	Converts the CA-MANAGER Master JCL Database (APABASE) to CONTROL-M format.

JOB0: Create CA-MANAGER Reports

Description

Five CA-MANAGER reports are required by the conversion tool. No JCL is supplied for this job. The control statements necessary to produce the reports (using program SIMAIN) are as follows.

- Calendar Report. This is produced by

```
CALENDAR yyyy/v/P/
```

where:

- *yyyy* is the year, in 4 digits, for example, 2001; you must use the correct year

- v is the version number of the calendar to be produced.

To produce multiple calendars for the year, specify multiple CALENDAR control statements with different v values.

- DSN Report. This is produced by

```
PRINT R//ALSCD///DSN
```

- Collections Report. This is produced by

```
ALL CSTREAM PRINT/DESC
```

- All Run Records Report. This is produced by

```
PRINT R//ALLMM/////ALLRUNS
```

- Event/Rules Report. This is produced by

```
REPORT , EVENT (using VCBATCH program)
```

— **NOTE** —

The output reports must be routed to a file and not to SYSOUT, as these reports are used as inputs to the conversion jobs. Only the report output itself is written to the file, not the accompanying JCL and job messages.

The output files must have the following characteristics: sequential; RECFM FBA; record length 133

JOB1: Convert CA-MANAGER Frequencies into CONTROL-M Calendars

Description

JOB1 uses the Calendar Report produced by JOB0 as input to the calendar building program CTMGRCAL, which creates the CONTROL-M Calendar Library.

Additional calendars are also copied from the IOA CALENDAR Library and the conversion source library.

Input

- Calendar Report created in JOB0
- IOA CALENDAR library
- conversion source library

Output

CONTROL-M Calendar library
Default file name: CTM.V600.CALENDAR
File characteristics: PDS; record length 80; block size 3120.

JOB2: Produce CONTROL-M Job Scheduling Definitions

Description

JOB2 produces CONTROL-M job scheduling definitions and any additional CONTROL-M calendars, in the following stages:

1. Extract Dataset Contentions
The DSN Report contains a list of jobs and the datasets being accessed and utilized. This report is read to create extracts that are processed in a later step, when the CONTROL-M scheduling libraries are built.
2. Determine Collection Frequencies
CA-MANAGER has the ability to assign run frequencies to a set of jobs called a collection. With this setup, execution frequencies are defined in the collection definition, not in the individual jobs. Within CONTROL-M, however, the run frequencies are defined within the individual jobs.

The Collections Report is read to extract the names of the jobs within the collections and the frequencies defined for the collection. This information is passed to a subsequent step.

3. **Extract Status and Codes Event Information**
The Event/Rules Report is read to extract information used to build codes-event statements (ON PGMST), job arrival actions (OUT condition statements), and job scheduling definitions, which are triggered by the above events. This information is passed to a succeeding merge step.
4. **Extract Job Information and Statistics File**
The All Run Records Report is read to extract relevant information, such as job name, devices, frequencies, and predecessors. That information is manipulated in the following step, when collection information is added. A statistical information file is also produced and is used in the last step of this phase to create the CONTROL-M Statistics File.
5. **Merge Collection and Event/Rule Information**
The Collection Report extract file is merged with the All Run Records Report extract file and the Event/Rule Report extract files. This updated job extract file is used as input to the next step.
6. **Create CONTROL-M Scheduling Tables**
The updated job extract file is merged with the DSN Report extract file to produce the CONTROL-M scheduling tables. Each application, collection, and work center is placed into a separate table within one library, depending on the value of conversion parameter &TBLGRP. For more information, see “&TBLGRP” on [page 67](#).
7. **Create additional CONTROL-M Calendars**
When multiple non-standard CA-MANAGER frequencies are defined for a job, a single CONTROL-M calendar is created, containing the merged frequencies.
8. **Create CONTROL-M Statistics File**
The STATS file, which was extracted from the All Run Records Report, is sorted and used to create the CONTROL-M VSAM Statistics File, which may be used for forecasting and simulation purposes during conversion testing.

BMC Software recommends that following final conversion testing, the Statistics File produced by the conversion tool be deleted, so as not to distort the statistics produced by jobs executed under CONTROL-M control. Use utility program CTMJSA, which is described in the *INCONTROL for z/OS Utilities Guide*, to accumulate statistics for jobs run under CONTROL-M.

Input

1. CA-MANAGER reports created in JOB0:

- DSN Report
- Collection Report
- All Run Records Report
- Event/Rules Report

2. CPU Translation Table

This manually-created table defines which CONTROL-M CPU IDs correspond to which CA-MANAGER CFs. For more information, see [“Step 6 - Convert CA-MANAGER Frequencies” on page 35](#).

3. Quantitative Resource Translation Table

This manually-created table defines which CONTROL-M quantitative resources (RESOURCES) correspond to which CA-MANAGER DEVICE TYPEs. For more information, see [“Step 6 - Convert CA-MANAGER Frequencies” on page 35](#).

4. CONTROL-M CALENDAR Library

5. Dynamically allocated CA-MANAGER Master JCL Database (APABASE)

This input facilitates the processing of CA-MANAGER Automatic Job Submission control statements.

Output

1. A library containing CONTROL-M job scheduling definitions

Default file name: CTM.V600.SCHEDULE

File characteristics: PDS; record length 80; block size 6160

2. CONTROL-M calendars corresponding to multiple nonstandard CA-MANAGER frequencies within a job

These calendars are added to the IOA CALENDAR Library created in JOB1.

3. VSAM file containing the CONTROL-M Statistics File

Default file name: CTM.MGRCONV.STATS

File characteristics: VSAM; record length 2302; control interval size 8096.

JOB3: JCL Conversion

Description

JOB3 converts JCL members in the CA-MANAGER Master JCL Database (APABASE) to CONTROL-M Auto-Edit format. The special CA-MANAGER Automatic Job Submission features handled by this job are

- specification of a period of time during which temporary changes to the JCL of a job are in effect
- generation of control statements or input data from the CA-MANAGER Control File (APACTL)

These features are converted to functionally equivalent CONTROL-M Auto-Edit statements. The conversion process is described in detail in [Chapter 4, "Conversion Details."](#)

Input

Copy of the CA-MANAGER JCL Database (APABASE)

Output

- JCL Library in CONTROL-M format
- JCL conversion report

Conversion Steps

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Overview

NOTE

If you have not yet downloaded and installed the CONTROL-M conversion tools, do so now according to the instructions in [Appendix A, “Downloading and installing the CONTROL-M conversion tools”](#).

Installation and operation of the conversion tool consists of a series of steps.

BMC Software recommends that you first review the contents of [Appendix D, “Planning The Conversion,”](#) then read through the remainder of this chapter before performing the steps. It is important to follow the outlined sequence of the steps to ensure a successful conversion.

The following is a summary checklist of the steps:

- 1 Create the conversion source and load libraries
- 2 Copy the CA-MANAGER Master JCL database (APABASE)
- 3 Create CA-MANAGER reports
- 4 Check and modify parameters in member DEFAULTS
- 5 Assemble and link conversion programs
- 6 Convert CA-MANAGER frequencies
- 7 Convert CA-MANAGER jobs
- 8 Convert the CA-MANAGER Master JCL database (APABASE)
- 9 Perform final adjustments
- 10 Test the conversion

Step 1 - Create the Conversion Source and Load Libraries

1. Run job \$\$INIT in the IOA CONV library to create the CA-Manager conversion source library and allocate the conversion load library.
2. Tailor the following parameters in the member in accordance with your local conventions:

Table 2 Parameters to Be Adjusted

Parameter	Description
Job statement	
INLIB	IOA CONV library name
OUTLIB	CA-Manager conversion source library name
LOADLIB	CA-Manager conversion load library name
UNIT	Unit name of DASD device
VOLSER	Volser of DASD device
PRODUCT	MANAGER

3. Submit the job for execution. The job must finish with a completion code of 0.

Step 2 - Copy the CA-MANAGER Master JCL Database (APABASE)

NOTE

This step may be omitted if Step 8 (described at page 38) is omitted.

To prevent changes to the current production environment, create a copy of the CA-MANAGER Master JCL Database (APABASE).

If APABASE is in CA-LIBRARIAN or CA-PANVALET format, use the utilities supplied by CA-LIBRARIAN or CA-PANVALET to create and copy the production APABASE into a partitioned dataset library for use by the conversion tool.

The new library must be sufficiently large to enable all the members to be updated.

Step 3 - Create CA-MANAGER Reports

Use the control statements outlined in [“JOB0: Create CA-MANAGER Reports”](#) on [page 24](#) to produce the CA-MANAGER reports necessary for Step 6 and Step 7.

Step 4 - Check and Modify Parameters in Member DEFAULTS

The conversion source library contains member DEFAULTS, which contains the default parameters to be used during the conversion process. For detailed explanations of each of the parameters, their meanings and possible values, see [Chapter A, “Downloading and installing the CONTROL-M conversion tools.”](#)

As these parameters dictate the outcome of the conversion, you must understand each of them before continuing. To get the best results from the conversion, you can test each of the parameters by adjusting them and then re-running the conversion.

Step 5 - Assemble and Link Conversion Programs

The ASMALL member assembles and link-edits the conversion programs. It must be re-executed whenever you modify the programs or the DEFAULTS member.

Edit the ASMALL member to adjust the following specifications according to your naming conventions, in both the ASMMCL and LKED procedures.

Table 3 Editing Specifications in Member ASMALL

JOB statement	Description
MAC1	Name of the conversion source library.
MAC2	Name of the IOA MAC Library.
MGRSRC	Name of the conversion source library.
MGRLOAD	Name of the conversion load library
IOALOAD	Name of the IOA LOAD Library.

Submit the job for execution and check the sysout for condition code and error messages. This step must end with a condition code less than 5.

Step 6 - Convert CA-MANAGER Frequencies

This step creates CONTROL-M Calendars from CA-MANAGER frequencies.

The JCL for the job is found in member JOB1 in the conversion source library. Adjust the following specifications according to your local conventions:

1. the JOB statement
2. the following DD statements in STEP0
 - CTMLOAD to point to the conversion load library
 - IOALOAD to point to the IOA LOAD library
 - IOACAL to point to the IOA CALENDAR library
 - CALRPT to point to the CA-MANAGER Calendar Report
 - DACAL to specify the name and placement of the CONTROL-M Calendar library
 - DASOURCE to point to the conversion source library

Submit the job for execution and check the sysout for condition code and error messages. The job must finish with a condition code of 0.

Step 7 - Convert CA-MANAGER Jobs

This step uses the CA-MANAGER reports and the CA-MANAGER Master JCL Database to create CONTROL-M scheduling tables, additional CONTROL-M calendars, and the CONTROL-M Statistics File. If the Statistics File is not needed, STEP13 and STEP14 may be deleted from the JCL run stream in JOB2.

The JCL for the job is found in member JOB2 in the conversion source library. Adjust the following specifications according to your local conventions:

1. the JOB statement
2. the following DD statements in step STEP0
 - CTMLOAD to point to the conversion load library
 - IOALOAD to point to the IOA LOAD library

- IOAPARM to point to the IOA PARM library
 - IOALOG to point to the IOA LOG library
 - DSNRPT to point to the DSN Report (created in JOB0)
 - COLRPT to point to the Collections Report (created in JOB0)
 - JOBRPT to point to the All Run Records Report (created in JOB0)
 - EVTRPT to point to the Event/Rules Report (created in JOB0)
 - SCHEDLIB to specify the name and volume of the CONTROL-M scheduling table library to be created
 - DACAL to specify the name of the CONTROL-M Calendar Library (created in JOB1)
 - DABCLIN to specify the name and volume of the CONTROL-M calendar utility control statements
3. In STEP4 of the JCL of JOB2, if the CONTROL-M Statistics File is being created, DD CPUIN may be used to supply a table to translate CA-MANAGER CF fields to CONTROL-M CPU IDs.

The table must consist of 80-byte records specified in the CPUIN DD statement. The records must be in the format

xy

where:

- *x* is the CF field from the CA-MANAGER All Run Records Report
- *y* is the CTMPARM CPU ID to which *x* is to be translated

— **NOTE** —
The record must begin in column 1. No more than ten records may be specified.

If the CF field does not correspond to a CPU ID, contact BMC Software Customer Support before attempting to use the CONTROL-M Statistics file. CPUIN is currently a DUMMY file.

4. In STEP11 of JOB2, DD statement RESRCIN may be used to supply a Quantitative Resource Translation Table that translates CA-MANAGER DEVICE TYPEs to CONTROL-M Resources.

The table must consist of 80-byte records specified in DD statement RESRCIN. The records must be in the format

nnyy...yy

where:

- *nn* is the DEVICE TYPE field from the CA-MANAGER All Run Records Report
- *yy...yy* is a meaningful 20-byte quantitative resource description to which *nn* is translated (CONTROL-M RESOURCE)

— **NOTE** —

nnyy...yy must begin in column 1, and a maximum of 25 records may be specified. RESRCIN is currently a DUMMY file.

5. If the CONTROL-M Statistics File is being utilized, certain values in STEP14 in the JCL of JOB2 must be modified, using appropriate local conventions. The required modifications are to the values of the following Access Methods Services (IDCAMS) parameters:

- DELETE entryname
- OWNER
- VOLUMES
- NAME
- CATALOG
- OUTDATASET

Submit the job for execution and check the sysout for condition code and error messages. The job must finish with a condition code of 0. A condition code of 8 is to be expected from the IDCAMS DELETE step if the Statistics file does not already exist.

— **NOTE** —

Ensure that the SPACE parameter values specified for the STATS and SORTOUT DD statements, and the CYLINDERS parameter value in STEP14 in the JCL of JOB2, are large enough to contain the Statistics File (approximately 225 statistics records may be placed on one cylinder of 3380 devices).

Step 8 - Convert the CA-MANAGER Master JCL Database (APABASE)

— NOTE —

This step may be skipped if the APABASE file does not contain any special Automatic Job Submission features. This is discussed in [“JOB3: JCL Conversion” on page 29](#).

JOB3 converts CA-MANAGER Master JCL Database (APABASE) members to CONTROL-M format.

The JCL for the job is found in member JOB3 in the conversion source library. Adjust the following specifications according to your local conventions:

1. The JOB statement
2. The following DD statements in step STEP0
 - CTMLOAD to point to the conversion load Library
 - IOALOAD to point to the IOA LOAD Library
 - MGRJCL to point to the copy of the CA-MANAGER Master JCL Database

— WARNING —

Use a copy of the production CA-MANAGER Master JCL Database, and not the actual APABASE, as input to this job. This prevents changes to the current production environment. For more information, see [“Step 2 - Copy the CA-MANAGER Master JCL Database \(APABASE\)” on page 33](#).

Submit the job and check the sysout for completion code and error messages. The job must complete with a condition code of 0.

Step 9 - Perform Final Adjustments

1. The CA-MANAGER implementation may utilize the special \$*nnn* or \$*nny* qualifier for predecessor jobs having specific date requirements. If so, you must install CONTROL-M User Exit 1. This user exit is supplied in member CTMX001X in the IOA SAMPEXIT library. For details regarding this user exit, see member CTMX001 in that library. If Exit 1 is currently being used, you must incorporate the supplied

exit into the current exit. If qualifiers in the format $\$nyy$ are utilized, where n is numeric and yy is non-numeric, you must contact BMC Software Customer Support. They will supply a special source customization that you can apply to member CTMX001X prior to installing it.

2. There may be rules utilizing the C (Cancel) command in the CA-MANAGER Event/Rules Report. If so, you must copy member \$CANCEL from the conversion source library to the JCL library specified by the &JCLLIB conversion parameter, and customize it as appropriate. For more information, see "[&JCLLIB](#)" on page 64. You must also copy member CTMGRDEL, which is a KSL invoked by job \$CANCEL, to the library specified in DD statement DACALL of job \$CANCEL.
3. The WORKDAYS calendar in the CONTROL-M Calendar library (DD statement DACAL) must be reviewed to ensure that all holidays are properly indicated within it.

Step 10 - Test the Conversion

To determine the overall effectiveness of the conversion, view the converted jobs and calendars under the CONTROL-M online environment. If necessary, return to Step 3 (at page 34), adjust the conversion parameters and run the conversion again. At this time, you can also use the CONTROL-M Statistics File to perform any forecasting or simulation testing.

Conversion Details

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Overview

This chapter details the conversion of relevant CA-MANAGER report and JCL components into corresponding CONTROL-M job scheduling definition parameters and Auto-Edit statements.

Component Conversion

The following conversion table lists CA-MANAGER components that are converted to corresponding CONTROL-M parameters.

— **NOTE** —

Item numbers (Item No.) in the following tables refer to the topic number in this chapter.

Table 4 Conversion of CA-MANAGER All Run Records Reports

CA-MANAGER Field	CONTROL-M Job Scheduling Definition Parameter	Item No.
JOB NAME/QUALIFIER	MEMNAME	1
JOB APPLICATION	TABLE name, GROUP	2
EARLY START	TIME FROM	3
LATE END	TIME UNTIL	4
PRY ID	PRIORITY ID	5
DEVICES (CL/DV)	RESOURCE	6
FREQUENCIES	Basic scheduling parameters	7
PREDECESSORS	IN conditions	8
DESC	DESC	9
CF	TABLE name, GROUP	14
RUN TIME	SHOUT WHEN LATESUB and SHOUT WHEN EXECTIME	15
DOF	MAXWAIT	16
ML	RESOURCE	17

Table 5 Conversion of CA-MANAGER Collections Reports

CA-MANAGER Field	CONTROL-M Job Scheduling Definition Parameter	Item No.
STR-NAME (collection name)	TABLE name, GROUP	2
EARLY	TIME FROM	3
LATE	TIME UNTIL	4
FREQ	Basic scheduling parameters	7
JOB	MEMNAME	1
MINOR	TABLE name, GROUP	2
(blank)	DESC	9

Table 6 Conversion of CA-MANAGER DSN Reports

CA-MANAGER Field	CONTROL-M Job Scheduling Definition Parameter	Item No.
JOB NAME	MEMNAME	1
MINOR APPL	TABLE name, GROUP	2
DATASET NAME	CONTROL	10
DISP	CONTROL	10

Table 7 Conversion of CA-MANAGER Calendar Reports

CA-MANAGER Field	CONTROL-M Job Scheduling Definition Parameter	Item No.
Special frequency codes and seven-character Special frequency codes	DCAL, WCAL	11
MONTH, DATE, W-DAY	Used in constructing CONTROL-M calendars	12

Table 8 Conversion of CA-MANAGER Event/Rules Reports

CA-MANAGER Field	CONTROL-M Job Scheduling Definition Parameter	Item No.
JOB NAME	MEMNAME	1
STEP NAME	ON PGMST or OUT condition	13
ST		
COND		
COMMAND		
PARM01		

Table 9 Conversion of CA-MANAGER JCL Statements

CA-MANAGER JCL Statement	CONTROL-M Job Scheduling Definition or Auto-Edit Parameter	Item No.
//* APOLLO DD=	%%INCLIB, %%INCMEM	18
//* APOLLO HC	IN condition (manual)	19
Column 73 Manual Hold Status Indicator	IN condition (manual)	20
Column 73 Dated JCL Override Indicator	%%IF %%YEAR.%%JULDAY	21

1. JOB NAME

The conversion tool specifies the CA-MANAGER job name as the CONTROL-M MEMNAME parameter. In CONTROL-M, the JCL member name is specified in the job scheduling definition parameter MEMNAME, and the job name is determined at the time of the submission. If the CA-MANAGER job name has a job name qualifier, the CONTROL-M IN and/or OUT condition name is changed. In addition, if the jobname is followed by an asterisk (*), this indicates that the job is a dummy predecessor-link record. For more information, see [“8. PREDECESSORS” on page 48](#).

In the CA-MANAGER Event/Rules Report, a generic job name (using * as wild cards) may be specified. Events and Rules can be specified globally, by specifying ****JOB****. This also applies to groups of jobs with names that match the generic job name. The conversion tool supports generic and global job name specifications in the Event/Rules Report by incorporating the converted Event and/or Rule into all applicable jobs. For details of how Events and Rules are converted, see [“13. EVENT/RULE STEP NAME, ST, COND, COMMAND, PARMxx” on page 51](#).

2. JOB APPLICATION, STR-NAME and MINOR (APPL)

In CA-MANAGER, jobs can be grouped into Minor Applications or Collections, or according to work center. Conversion parameter &GROUP identifies the type of CA-MANAGER grouping, and based on the &GROUP value, CONTROL-M sets the value of the GROUP parameter, as follows:

- If &GROUP specifies APP, job application (MINOR) name is used.
- If &GROUP specifies WC, the work center name is used. Values 1 – 20 are translated into characters A – T respectively.
- If &GROUP specifies COL, the STR-NAME, that is, the Collection name, is used. If the job is not in a collection, the job application name is used.

In CONTROL-M, application job grouping is performed by defining all jobs that are related to one application in one scheduling table. The CONTROL-M APPL parameter is used to supply a common descriptive name to a set of related groups of jobs, and is derived from the CA-MANAGER Job Application name.

Depending on the user specification, which is set by conversion parameter &TBLGRP, described in “&TBLGRP” on page 67, the conversion tool uses either the first 8 characters of the job application names, or the Collection or work center names, to group the converted CONTROL-M job scheduling definitions into scheduling tables.

Three special table names are used for Event and Rule processing: \$DOFORCE, \$CANCEL and \$OUTCOND. These tables are used to hold jobs that are the object of CA-MANAGER I (Insert job) and C (Cancel job) commands. For more information, see “13. EVENT/RULE STEP NAME, ST, COND, COMMAND, PARMxx” on page 51.

3. EARLY START

CA-MANAGER parameter EARLY START specifies the earliest permissible start time. This field is used for the CONTROL-M FROM TIME. This field is taken from the Collections Report, when it exists. Otherwise, it is taken from the All Run Records Report.

4. LATE END

CA-MANAGER parameter LATE END specifies the latest permissible due out time. The value in this field is used for the CONTROL-M UNTIL TIME field and the SHOUT WHEN LATE parameter. For more information, see “&SHOUTT” on page 66. The value is taken from the Collections Report, when it exists; otherwise, it is taken from the All Run Records Report.

5. PRY ID

CA-MANAGER parameter PRY ID (priority code) is copied to the CONTROL-M PRIORITY parameter. This field is taken from the Collections Report, when it exists; otherwise, it is taken from the All Run Records Report.

6. DEVICES CL/DV

CA-MANAGER parameter DEVICES CL/DV specifies device classes and the maximum number of devices within each class used by the job. These device classes are converted into CONTROL-M Quantitative resources and their quantities. These quantitative resource names may be translated into meaningful names. For more information, see “[Step 7 - Convert CA-MANAGER Jobs](#)” on page 35, and particularly the description of the RESRCIN file on page 36.

The translated names of the Quantitative resources, together with their maximum quantity, must be added to the CONTROL-M Resources File. For more information, see the CA-MANAGER DV command or the DV instruction of the APAOPTI Master Options Program.

7. FREQUENCIES

Frequencies specified on the CA-MANAGER Calendar Report are converted to CONTROL-M calendars. Both the 1-character and the 7-character special frequency codes are utilized in creating calendars. For more information, see “[11. SPECIAL FREQUENCIES](#)” on page 51, and “[12. MONTH, DATE, W-DAY](#)” on page 51. In addition, CA-MANAGER permits the utilization of predefined calendar and/or frequency codes.

These frequency codes from the All Run Records Report are converted into CONTROL-M basic scheduling parameters and calendars as follows:

Table 10 Correlation of CA-MANAGER Frequency Codes and CONTROL-M Basic Scheduling Definition Parameters (part 1 of 2)

CA-MANAGER Report Frequency Code	CONTROL-M Basic Scheduling Definition Parameter
D	DAYS=ALL ; DCAL=WORKDAYS
DEF3W	DAYS=04, 05,...,31 ; DCAL=WORKDAYS
DEF4W	DAYS=05, 06,...,31 ; DCAL=WORKDAYS
WDxx	DAYS=Dxx ; DCAL=WORKDAYS
mWDxx	DAYS=Dxx ; DCAL=WORKDAYS; MONTHS=m
LWD	DAYS=L01 ; DCAL=WORKDAYS
LWD-x	DAYS=L(x+1) ; DCAL=WORKDAYS
mLWD	DAYS=L01 ; DCAL=WORKDAYS; MONTHS=m
mLWD-x	DAYS=L(x+1) ; DCAL=WORKDAYS, MONTHS=m

Table 10 Correlation of CA-MANAGER Frequency Codes and CONTROL-M Basic Scheduling Definition Parameters (part 2 of 2)

CA-MANAGER Report Frequency Code	CONTROL-M Basic Scheduling Definition Parameter
C15±x	DCAL=C15yx where: <ul style="list-style-type: none"> ■ y=P for + and M for - ■ x=1 - 5 (see Step 12 in the JCL of JOB2).
Cxx*	CDAYS=xx If *=+, DAYS=>xx, DCAL=WORKDAYS If *=-, DAYS=<xx, DCAL=WORKDAYS
mCxx *	DATES=mmxx If *=+ CONFCAL=WORKDAYS, SHIFT=> If *=- CONFCAL=WORKDAYS, SHIFT=<
WK0x*	WDAYS=y ; If the IOA Installation Parameter SWEEK=MON, then $y=x$ (modulo 7). If SWEEK=SUN, then $y=x + 1$ (modulo 7). If *=+, WDAYS=>y, WCAL=WORKDAYS If *=-, WDAYS=<y, WCAL=WORKDAYS
LWK0x*	DAYS=L01, L02, L03, L04, L05, L06, L07 WDAYS and WCAL are the same as WK0x*
xxxxxx (non-standard frequency)	DCAL=xxxxxx When multiple non-standard frequencies are specified, see "11. SPECIAL FREQUENCIES" on page 51.

When frequency types cannot be consistently converted and combined into the same job scheduling definition, multiple jobs with the same job name but different basic scheduling parameters are created in the scheduling table.

Example

A CA-MANAGER job specifying frequencies WD06, 3LWD, 6LWD, 9LWD, DLWD is to run every sixth workday of the month, and the last workday of every quarter. This causes two CONTROL-M job scheduling definitions to be created for the same job:

The first job scheduling definition specifies:

```
DAYS=D6; DCAL=WORKDAYS; MONTHS=ALL
```

The second job scheduling definition specifies:

DAYS L01; DCAL=WORKDAYS; MONTHS 3-Y, 6-Y, 9-Y, 12-Y

Frequency codes from the Collections Report, when present, take precedence over frequency codes specified in the All Run Records Report.

When a job appears in multiple collections, the conversion tool can merge the frequencies from all these collections when creating the CONTROL-M Basic Scheduling Parameters and Calendars for the job. For more information, see “&MRGCFRQ” on page 65.

In CA-MANAGER, when a job requires more than six frequency codes, auxiliary scheduling records are created to hold the additional frequency codes. The conversion tool simply creates an additional job scheduling definition, with the same job name and in the same table, to accommodate the additional frequencies.

8. PREDECESSORS

In CA-MANAGER, the execution of sequences of jobs within an application is specified by job predecessor and successor relationships. Job completion triggers the next job or jobs until the entire application is completed.

In CONTROL-M, job sequence is specified using prerequisite conditions. Each job that finishes OK, according to its specification in the CONTROL-M job scheduling definition, can add a prerequisite condition to the IOA Conditions File. The condition is specified as an OUT condition in the job scheduling definition in the format:

jobname-&SUFFIX ODAT

where &SUFFIX can be up to a seven-character user-specified text. For more information, see “&SUFFIX” on page 66.

Every converted job contains an OUT condition, and all successor jobs contain this condition as an IN condition. This mechanism ensures that the CONTROL-M execution flow is the same as the CA-MANAGER job predecessor/successor definition.

CA-MANAGER predecessor prerequisite handling is conditional upon the loading of the predecessor jobs. If a job under CA-MANAGER has predecessor prerequisites, and those predecessor jobs have been loaded for scheduling, the CA-MANAGER SCHEDULE program does not schedule the successor job unless the predecessor jobs have successfully completed execution. However, predecessor jobs that are not loaded do not prevent a successor job from being scheduled. If the predecessor jobs have not been loaded, the successor job is scheduled.

CONTROL-M has a Maybe Jobs feature that can simulate this conditional handling of predecessor prerequisites by CA-MANAGER. For more information, see the discussion of the Manual Conditions file and Maybe Jobs in the *CONTROL-M for z/OS User Guide*. No special modifications to the prerequisite conditions, such as special prefixes, are necessary. However, when running KSL ADDMNCND, specify prefix **str* where *str* is any character string contained in every IN and/or OUT condition. If you choose *str* as the value of conversion parameter &SUFFIX in the DEFAULTS conversion library, all the conditions from the IOA Manual Conditions Map are added to the IOA Conditions File. As a result, jobs do not wait for IN Maybe conditions that are not scheduled for that day.

In CA-MANAGER, when jobs have more than six predecessors, dummy predecessor link records can be created to enable users to define an unlimited number of predecessor jobs. The conversion tool supports the use of CA-MANAGER predecessor link records by linking all dummy jobs to their corresponding 'real' job during prerequisite condition processing. The tool then creates an IN condition in the resultant CONTROL-M job scheduling definition for each predecessor from the 'real' CA-MANAGER job definition, as well as all the related dummy predecessor link records. CONTROL-M job scheduling definitions are not created for the dummy predecessor link records.

To support job name qualifiers, a job whose job name has a qualifier has an OUT condition created in the following format:

```
jobname_qualifier-&SUFFIX
```

If the job is a predecessor job, an IN condition for the successor job is also created in the same format.

To support special qualifiers *\$nnn* and *\$nyy* for predecessor jobs having specific prior date requirements, the CONTROL-M IN condition statement is modified to format:

```
jobname_$nnn-&SUFFIX
```

or

```
jobname_$nyy-&SUFFIX
```

The IN condition is then analyzed by Exit CTMX001, as described in [“Step 9 - Perform Final Adjustments” on page 38](#), to see if the *jobname* is followed by special character string *_\$*, which causes the ODAT of the IN condition to be modified to an explicit date based on *nnn*. If so, the IN condition name is modified to remove the special characters *\$nnn* so that the job can be triggered by the corresponding OUT condition.

When the special qualifier is formatted \$*n**yy*, where *n* is numeric and *yy* is non-numeric, Exit CTMX001 modifies the ODAT as described above, replaces \$*n* with a fixed character string XX, and appends to it the IN condition character string *yy*. In this way, XX*yy* is treated as a job name qualifier. For information on how to activate this feature, see the instructions in [“Step 9 - Perform Final Adjustments”](#) on page 38.

— **NOTE** —

Jobs utilizing the special \$*n* or \$*n**yy* qualifier feature are not processed as Maybe Jobs because their IN conditions, which are those with predecessors containing the special \$*n* qualifiers, are modified by Exit CTMX001. Therefore, the modified condition name is not added to the IOA Conditions File if the predecessor job is not scheduled for that day.

In addition, condition names of the form

jobname_\$EVT-&SUFFIX

are used to implement events that cause a job to be inserted into the job schedule or canceled at the initiation of another job. For more information, see [“13. EVENT/RULE STEP NAME, ST, COND, COMMAND, PARMxx”](#) on page 51.

9. DESC

The free text description of the job from the CA-MANAGER Collections Report is placed in the CONTROL-M DESC parameter. The 80-byte description, when present, is truncated to 50 bytes; otherwise the short 16-byte description is used. If the collection report has no description for the job, the 16-byte DESC field from the All Run Records Report is used.

Special description fields are used for jobs created by certain events and rules. For more information, see [“13. EVENT/RULE STEP NAME, ST, COND, COMMAND, PARMxx”](#) on page 51.

10. DATASET NAME and DISP

The CA-MANAGER dataset names (DSNs) and dispositions (DISPs) that are associated with a job are converted into CONTROL-M Control resources (parameter CONTROL) that are used to control parallel execution of jobs by assigning either exclusive (E) or shared (S) attributes to the resource. The DSN, or the last 20 characters of the DSN if the DSN exceeds 20 characters, is used as the Control resource name. A DISP of NEW, MOD, or OLD is converted to the E attribute; DISP SHR is converted to S.

11. SPECIAL FREQUENCIES

The CA-MANAGER special frequency codes and seven-character special frequency codes are used to create CONTROL-M calendar names. These calendar names are utilized in the CONTROL-M basic scheduling parameters when the name occurs in the Collections or All Run Records Reports as a frequency code for the associated job.

When multiple non-standard CA-MANAGER frequencies are defined for the same job, a special calendar utility merges the frequencies into a calendar with member name *CALnnnnn*, where *nnnnn* is a five-digit identifier, that is specified in the CONTROL-M Basic Scheduling parameter DCAL.

12. MONTH, DATE, W-DAY

These fields from the CA-MANAGER Calendar Report are used to construct the CONTROL-M calendars. They supply the actual days and working days for each month that is defined in the calendar. The CONTROL-M calendars contain a Y for each day identified as a working day (W-DAY) on the Calendar Report.

13. EVENT/RULE STEP NAME, ST, COND, COMMAND, PARMxx

The CA-MANAGER Event/Rules Report identifies a set of user-defined actions to be automatically initiated whenever a specified event or user-defined condition occurs. Defined events trigger the execution of rules. An event can be a

- job name, status and completion code
- step name, status, and completion code
- dataset and disposition
- system IPL

The first two types of events referred to above are supported by the conversion tool. A rule can consist of any CA-MANAGER submission or tracking command. The conversion tool supports the commands

- B (mark a job as completed)
- I (insert a job to the job schedule)
- C (cancel the job submission) commands

when used in conjunction with any of the following statuses:

- R or S (job start)
- C (job completion)
- A (job abend)
- T (job terminated by a C (Cancel) command)

The conversion tool converts events and rules to either the CONTROL-M ON PGMST or OUT post-processing parameters, depending on the events, rules, and commands that are specified. In addition, DUMMY jobs may also be created. For details, see [Table 12](#).

— **NOTE** —

In order for Event and Rule criteria to be successfully converted, the jobs specified in the triggering events must be defined in the CA-MANAGER Workload Control File (WCF) database.

A generic job name using * wildcards, or a global job name, such as ****JOB****, is permitted. This allows the event and/or rule processing to be applied to all job scheduling definitions that meet the generic criteria. Generic step names are not permitted, but global step names, such as ****STEP****, are converted to the special step name ANYSTEP. For status A, C (job or step termination), if the step name is blank, it is also converted to ANYSTEP.

CA-MANAGER Conditions Codes (COND) are converted as follows:

Table 11 CA-MANAGER Condition Code Translation Table

CA-MANAGER ST (status)	CA-MANAGER COND	CONTROL-M CODES
A	Sxxx	Sxxx
A	Xxxx	Uxxxx
A	-JCL	JFAIL
A		S*** and U****
C	Xxxx	Cxxxx
C	Lxxx	<Cxxxx
C	Gxxx	>Cxxxx
C		C****
T		JNSUB
A	Blank (<i>stepname</i> blank)	EXERR

Table 12 assumes the following values in the Event/Rules Report fields:

- job name has the value of JOB1
- step name has the value of xxx
- Parm01 has the value of JOB2

CA-MANAGER Event/Rule Parameters

Table 12 Conversion of CA-MANAGER Event/Rule Parameter (part 1 of 2)

ST	COND	Cmd	CONTROL-M CONVERSION
R,S	blank	I	<p>1. A DUMMY job scheduling definition (MEMLIB=DUMMY) is created with the same name and scheduling criteria as JOB1, in the same job table where JOB1 resides, with the OUT condition set to JOB1_\$EVT-&SUFFIX ODAT + and the DESC parameter set to 'CONTROL-M DUMMY JOB FOR JOBARRIVAL EVENT'</p> <p>2.^a A job scheduling definition, JOB2, is created in table \$OUTCOND with IN condition JOB1_\$EVT-&SUFFIX, DCAL=ALLDAYS and the DESC parameter set to 'JOB CREATED BY EVENT/RULE TABLE COMMAND'.</p>
A,C T	yyy See Table 4-8	I	<p>1. The following Post-Processing parameter is added to JOB1:</p> <pre>ON PGMST xxx CODES yyy DO FORCEJOB TABLE \$DOFORCE JOB JOB2 DATE ODAT LIBRARY job-sched-lib</pre> <p>2.^a A job scheduling definition, JOB2, is created in table \$DOFORCE with the DESC parameter set to 'JOB CREATED BY EVENT/RULE TABLE COMMAND'.</p>
R,S	blank	B	<p>A dummy job scheduling definition is created with the same name (JOB1) and scheduling criteria as JOB1 in the same job table in which JOB1 resides with the OUT condition JOB2_\$EVT-&SUFFIX ODAT + and the DESC parameter set to 'CONTROL-M DUMMY JOB FOR JOBARRIVAL EVENT'.</p>
A,C T	yyy See Table 4-8	B	<p>The following Post-Processing parameter is added to JOB1:</p> <pre>ON PGMST xxx CODES yyy DO COND JOB2-&SUFFIX ODAT +</pre>

Table 12 Conversion of CA-MANAGER Event/Rule Parameter (part 2 of 2)

ST	COND	Cmd	CONTROL-M CONVERSION
A,C T R,S	yyy See Table 4-8	C	<p>1.^a A job scheduling definition, \$CANCEL, is created in table \$CANCEL with an IN condition JOB1[_\$EVT]-&SUFFIX, DCAL=ALLDAYS, SET VAR=%%CANCLJOB=JOB2 and the DESC parameter set to 'JOB CREATED BY EVENT/RULE TABLE COMMAND'.</p> <p>2. (a) For ST=A, C, T the following Post Processing Parameter is added to JOB1: ON PGMST xxx CODES yyy DO COND JOB1-&SUFFIX ODAT + (b) For ST=R or S, see action 1 taken for I command (elsewhere in this table).</p>

^a When WC is specified for the &TBLGRP conversion parameter, the job scheduling definition is created in table \$.

14. CF

The CA-MANAGER configuration or work center identification may optionally be used as the grouping criteria for CONTROL-M scheduling tables and/or for the CONTROL-M GROUP parameter. The work center identifier, which can have a value from 1 through 20 in CA-MANAGER, is translated to the corresponding alphabetic character, A through T respectively, in CONTROL-M. For more information, see “[2. JOB APPLICATION, STR-NAME and MINOR \(APPL\)](#)” on page 44.

15. RUN TIME

The CA-MANAGER RUN TIME, which is the average elapsed run time of the job in minutes, is used in conjunction with the LATE END time of the job, as described in “[4. LATE END](#)” on page 45, to calculate a SHOUT WHEN LATESUB time. The RUN TIME of the job is subtracted from its LATE END, or due completion, time. If this final amount is positive, the amount is used as the SHOUT WHEN LATESUB time. Otherwise, 24 hours is first added to the result.

The RUN TIME is also used to calculate if a SHOUT WHEN EXECTIME value, in minutes, has been exceeded. The RUN TIME of the job is added to the quantity specified in conversion parameter &SHOUTX and used in the SHOUT WHEN EXECTIME > nnn CONTROL-M parameter setting, which sends the message:

```
MEMBER %MEMNAME HAS EXCEEDED RUN TIME LIMIT
```

16. DOF

The CA-MANAGER DOF (Due-Out Factor) is assigned to a job if the job is to be selected for scheduling a number of days prior to when it is required to be executed. DOF is usually used when a number of jobs exist in a predecessor-successor network with a total runtime greater than the schedule period.

The DOF value is placed in the CONTROL-M MAXWAIT parameter. If the DOF value exceeds 98, MAXWAIT is set to 99, which indicates that the job must remain in the Active Jobs File forever, even after it finishes executing. If the DOF field is blank, the MAXWAIT value is taken from the &MAXWAIT conversion parameter, described in [Appendix A, "Downloading and installing the CONTROL-M conversion tools,"](#)

17. ML

The CA-MANAGER ML (Must Level) is the partition or level in which a job must be scheduled. To prevent concurrency, that is, to ensure that two jobs are not scheduled concurrently in CA-MANAGER, assign the same Must Level to these two jobs.

To prevent concurrency in CONTROL-M, a Quantitative resource of the following format is placed in the job scheduling definition:

```
MUST_LEVEL_m1      0001
```

where *ml* is the CA-MANAGER Must Level.

By adding the above Quantitative resources with a quantity of one to the CONTROL-M Resources File, no two jobs with the same Must Level can be executed concurrently.

18. /* APOLLO DD=

The CA-MANAGER /* APOLLO DD= JCL statement is used, at job submission time, to generate a DD statement and insert control statements from the CA-MANAGER Control File (APACTL).

The conversion tool converts the above statement to the following format:

```
//[stepname.]ddname DD DATA,DLM='delimiter'
```

where *stepname* (optional), *ddname*, and *delimiter* (optional) are specified in the /* APOLLO statement. If no delimiter is specified, '/' is used.

In addition, the conversion tool generates the following Auto-Edit statement after the DD DATA statement:

```
%%INCLIB  inclib  %%INCMEM  incmem
```

where:

- *inclib* is the DSN of the CA-MANAGER Control File (APACTL); for more information, see parameter &INCLIB in [Appendix A, "Downloading and installing the CONTROL-M conversion tools"](#)
- *incmem* is the member name of the APACTL file member that is used as input

A delimiter statement follows the Auto-Edit statement.

NOTE

If any DD statements with the same DD name as specified above are found in the step after the /* APOLLO statement, they are commented out.

19. /* APOLLO HC

The CA-MANAGER /* APOLLO HC JCL statement is used, at job submission time, to indicate that the job must be automatically placed into Hold Status (H) and/or that additional input is required before the job can execute (C).

The conversion tool adds a manual IN condition to the CONTROL-M job scheduling definition to prevent automatic submission of the job. The format of the condition is:

- For H:
HOLDSTAT_*jobname*
- For C:
WAITINPT_*jobname*

20. Column 73 Manual Hold Status Indicator

When the Master JCL Database Option (APAOPTI DB instruction, column 15) specifies a non-blank character, that character is compared to column 73 of a JCL record from APABASE. If a match is found, the job is placed in Hold status.

The conversion tool adds a manual IN condition to the CONTROL-M job scheduling definition identical to option H as described in the preceding item, Item 19. For more information, see conversion parameter &MHSCHAR in [Appendix A, "Downloading and installing the CONTROL-M conversion tools,"](#)

21. Column 73 Dated JCL Override Statement

If the JCL of a CA-MANAGER job specifies temporary changes that are to be in effect for only a specified period of time, the dated override feature is coded in the appropriate statements in APABASE.

Table 13 Coding of Dated Override Feature

Columns	Item
73	Dated JCL Override character. For more information, see conversion parameter &DJOCHAR in Appendix A, "Downloading and installing the CONTROL-M conversion tools,"
74 - 78	Julian date that represents the first date that the override is to be effective.
79 - 80	Number of days for which the override is to be effective.

The conversion tool generates CONTROL-M Auto-Edit statements that it uses to "sandwich" around the statements containing the Dated JCL Override Statements as follows:

```
%%IF %%YEAR.%%JULDAY GE julday
%%IF %%YEAR.%%JULDAY LE julday+range
    Dated JCL Override Statement(s)
%%ENDIF
%%ENDIF
```


Downloading and installing the CONTROL-M conversion tools

NOTE

Ensure that CONTROL-M for z/OS is installed before proceeding with this installation.

1 Prepare your system.

Do one of the following actions:

- Download the CONTROL-M Conversion tools from the EPD site at <https://webapps.bmc.com/signon/content/logon.jsp>.
- Copy the file from the product CD.

Transfer the image file to the mainframe as a binary file. For more information about the space requirements, see the Release Notes that accompany the CONTROL-M Conversion tools. The DCB information for the image file is as follows:

```
RECFM = FB, LRECL=1024,BLKSIZE=6144
```

2 Uncompress the image file.

The image file is compressed using the IBM TRSMMAIN program. If you do not have TRSMMAIN on your mainframe, instructions for downloading and installing it can be found at the following URL:

<http://techsupport.services.ibm.com/390/trsmain.html>

Once the image file has been uploaded to your mainframe, make the necessary changes in the following UNTERSE job to uncompress the image file.

ppp,ss,dd represents the space requirements for the UNTERSE file. For more information, refer to the Release Notes that accompany the CONTROL-M Conversion tools.

```
***** Top of Data *****
//UNTERSE JOB          <=== tailor job card to local standards
//*
//UNTERSES EXEC PGM=TRSMAN,PARM=UNPACK
//SYSPRINT DD  SYSOUT=*
//INFILE  DD  DISP=SHR,DSN=uploaded.image.file.from.step1  <===UPDATE
//OUTFILE DD  DISP=(NEW,CATLG,DELETE),
//          UNIT=disk_unit,VOL=SER=disk_volser,              <===UPDATE
//          DSN=basepref.CONVLIB,                            <===UPDATE
//          SPACE=(CYL,(ppp,ss,dd))                          <===UPDATE
***** Bottom of Data *****
```

In the preceding UNTERSE job, *basepref* represents your choice of prefix for the base libraries, which are described in the Installation and Customization Engine (ICE) chapter in the *INCONTROL for z/OS Installation Guide*. This parameter must be specified again later in the installation process.

Submit the above job and review the output of the job. Ensure that the return code is 0.

3 Install the Conversion tools.

To install the Conversion tools, do the following:

- Select Customization from the ICE main menu.
- Specify product CTM.
- Select step 8 (Conversion installation).
- Select minor step 1 (Conversion installation).
- Submit the job.

This job consists of 5 steps:

A ADDDEF

This step adds SMP/E DDDEFs for the conversion target and distribution libraries.

B ALLOCT

This step allocates the conversion libraries.

- The target conversion library name is *ilprefa.CONV*.
- The distribution conversion library name is *spdpref.ACONV*.

C RCVAPLC

This step performs the RECEIVE and APPLY CHECK operations for the conversion FMID and PTFs. The FMID and PTFs are located in the CONVINST member in the *basepref.CONVLIB* library.

D APLACC

This step performs the APPLY and ACCEPT CHECK operations for the conversion FMID and PTFs.

E ACCEPT

This step performs the ACCEPT operation for the conversion FMID and PTFs.

4 Find any relevant updates.

Look for Solution SLN000000197255 (List of APARs required for conversion to CONTROL-M) in the Knowledge Base on the BMC Customer Support Site for the latest fixes and instructions.

Conversion Parameters

The DEFAULTS member in the conversion library allows you to select site specific parameters for the conversion. You must verify and/or customize the following parameters before assembling the programs:

Table 14 CA-MANAGER Conversion Parameters (part 1 of 5)

Parameter	Description
&CALYEAR	Default calendar year name in the CONTROL-M calendar library. Default: 1999.
&CTR	Whether CONTROL-M/Restart is installed at the site. Valid values are: <ul style="list-style-type: none"> ■ Y (Yes) - CONTROL-M/Restart is installed. Default. ■ N (No) - CONTROL-M/Restart is not installed.
&DIRMAX	Maximum number of members in the CA-MANAGER Master JCL Database (APABASE). Default: 10000
&DJOCHAR	Master JCL Database parameter (APAOPTI DB instruction, column 16), which specifies the character that is to be compared to column 73 of a JCL record from the Master JCL Database (APABASE). If a match is found, the JCL statement is treated by the rules applying to Dated JCL Override Statements. For more information, see “21. Column 73 Dated JCL Override Statement” on page 57 . Default: D
&DOCLIB	Name of the external documentation library. Default: IOA.MGR.DOC
&FRMCLS	The held sysout class from which CONTROL-M requeues the output. Specify ' ' (blank) if all held sysouts are to be requeued. Default: 2
&GROUP	Source for the CONTROL-M GROUP parameter. Valid values are: <ul style="list-style-type: none"> ■ APP - CA-MANAGER Application (Minor) name. ■ COL - CA-MANAGER Collection name. Default. ■ WC - CA-MANAGER work center name (1 - 20 translates to A - T).

Table 14 CA-MANAGER Conversion Parameters (part 2 of 5)

Parameter	Description
&INCLIB	Dataset name of the PDS copy of the CA-MANAGER Control File (APACTL) that contains input data for JCL members in APABASE containing <code>/* APOLLO DD= ...</code> statements. Default: CTM.APACTL
&INIT	Name of the initiator resource. The conversion adds a single unit of the quantitative resource to each generated job order with this name. Default: INITIATOR
&JCLLIB	Dataset name of the copy of the Master JCL Database (APABASE) created in Step 2; for more information, see “Step 2 - Copy the CA-MANAGER Master JCL Database (APABASE)” on page 33. Default: CTM.V600.JCL
&LINMAX	Maximum number of lines contained in any one JCL member. Default: 1000
&MAXCAL	Maximum number of calendars to be created in JOB1. Default: 1000
&MAXDSN	Maximum number of records extracted from the DSN Report. Default: 3500
&MAXSMEM	Maximum number of jobs that exist within a single application. Default: 3200
&MAXCFRQ	Maximum number of calendars created due to multiple nonstandard CA-MANAGER frequencies in the same job. Default: 100
&MAXEVT	Maximum number of records extracted from the Event/Rules Report. Default: 1000
&MAXWAIT	Number of days to wait for job completion: Specifies the number of “extra” days a job must wait in the Active Jobs File to be executed, after which the job is deleted. Valid values are: <ul style="list-style-type: none"> ■ 00 through 98 – specific number of “extra” days ■ 99 – forever Default: 05 The &MAXWAIT value is only used when the DOF field in the All Run Records Report is blank. For more information, see “16. DOF” on page 55 and the description of the MAXWAIT parameter in the <i>CONTROL-M for z/OS User Guide</i> .

Table 14 CA-MANAGER Conversion Parameters (part 3 of 5)

Parameter	Description
&MGRNDAY	<p>The CA-Manager schedule start time specified in the ROLLREV instruction of the CA-Manager SCHEDULE program, in format hhmm. Choose your CONTROL-M New Day time to correspond with the schedule start time specified in the CA-Manager ROLLREV instruction. For more information, see the discussion of the DAYTIMEM parameter in the <i>INCONTROL for z/OS Installation Guide</i>.</p> <p>Default: 0000</p>
&MHSCHAR	<p>Master JCL Database parameter (APAOPTI DB instruction, column 15) that specifies the character that is to be compared to column 73 of a JCL record from the Master JCL Database (APABASE). If a match is found, the job scheduling definition for that JCL member is created with a manual IN condition of the format <i>jobname_HOLDSTAT</i>. Specify ' ' (blank) to suppress this feature.</p> <p>Default: ' '</p>
&MRGCFRQ	<p>When the same job appears in multiple collections, whether to merge the frequencies from all collections in which the job appears into a single CONTROL-M job scheduling definition. Valid values are:</p> <ul style="list-style-type: none"> ■ Y (Yes) - Merge the frequencies into a single CONTROL-M job scheduling definition. The job appears in only one job scheduling table containing all of the converted frequencies. ■ N (No) - Do not merge the frequencies. The job appears in more than one of the appropriate job scheduling tables, and each contains only the corresponding converted frequencies. Default. <p>When COL is specified for the &TBLGRP conversion parameter, &MRGCFRQ=N is automatically assumed.</p>
&NMCOLJB	<p>Maximum number of jobs within a single collection.</p> <p>Default: 100</p>
&RETRO	<p>Retroactive scheduling. Specifies whether to schedule a job when its original schedule date has passed.</p> <ul style="list-style-type: none"> ■ Y (Yes) - The job is to be scheduled. Default. ■ N (No) - The job is not to be scheduled.

Table 14 CA-MANAGER Conversion Parameters (part 4 of 5)

Parameter	Description
&SHOUT	The conversion can optionally add a SHOUT message at job termination. Valid values are: <ul style="list-style-type: none"> ■ O – SHOUT when the job ends OK ■ N – SHOUT when the job ends NOTOK. Default. ■ B – SHOUT both when the job ends OK and NOTOK ■ ' ' (blank) – Suppress the message.
&SHOUTL	SHOUT WHEN LATESUB message text, which is sent if the job is not submitted before the late submission time. Late submission time is determined by subtracting the run time of the job from its due completion time (LATE END TIME). Default: MEMBER %\$memname IS LATE! where <i>memname</i> is the name of the member.
&SHOUTT	SHOUT WHEN LATE message text, which is sent if the job is still executing when its due completion time (LATE END TIME) has passed. Specify ' ' (blank) to suppress the message. Default: MEMBER %\$memname IS STILL EXECUTING! where <i>memname</i> is the name of the member.
&SHOUTX	Two-digit value added to the average elapsed run time of the job and used to determine the CONTROL-M SHOUT WHEN EXECTIME parameter. For more information, see “15. RUN TIME” on page 54 . Specify ' ' (blank) to suppress the message. Default: 05
&SHOUTO	To whom SHOUT messages issue. This applies to SHOUT (&SHOUT), SHOUT WHEN LATESUB (&SHOUTL), SHOUT WHEN LATE (&SHOUTT), and SHOUT WHEN EXECTIME (&SHOUTX) messages. The specified value must be a valid SHOUT destination. For more information, see the <i>CONTROL-M for z/OS User Guide</i> . Default: OPER
&SPECFRQ	Special frequency that indicates that the job must be scheduled every day (DAYS=ALL) but requires manual confirmation (CONTROL-M parameter CONFIRM is set to Y), before it is submitted. Specify ' ' (seven blanks) to suppress this feature. Default: ' ' (seven blanks)
&SUFFIX	Suffix to be added to the job name for the generated prerequisite conditions. A maximum of seven characters may be specified. Do not begin &SUFFIX with a numeric and do not embed the character string \$n in &SUFFIX. For more information, see “8. PREDECESSORS” on page 48 . Default: -ENDOK

Table 14 CA-MANAGER Conversion Parameters (part 5 of 5)

Parameter	Description
&SYSOUT	<p>Indication that CONTROL-M is to requeue the held output for the job at job termination. Valid values for this parameter are:</p> <ul style="list-style-type: none"> ■ O - Requeue when the job ends OK. Default. ■ N - Requeue when the job ends NOTOK ■ A - Always requeue the output ■ ' ' (blank) - Do not requeue the output
&TBLGRP	<p>Whether the job scheduling tables are to group jobs by:</p> <ul style="list-style-type: none"> ■ APP - application ■ COL - collection ■ WC - work center <p>When COL is specified as the grouping criteria, all jobs for which no collection name exists are placed into a CONTROL-M job scheduling table with the name \$NOCOL\$. When WC is specified, the work center numeric ID (1 through 20) is translated into the corresponding alphabetic character (A through T). Default: APP</p>
&TOCLS	<p>The new output class to which CONTROL-M must requeue the held sysout. Specify * if the job sysouts must be requeued to the original MSGCLASS of the job after they are analyzed by CONTROL-M. Specify ' ' (blank) if reroute is not required. Default: 1</p>
&UNTIL	<p>TIME UNTIL Indicator. Valid values are:</p> <p>' ' (blank) - TIME UNTIL value is taken from the CA-MANAGER LATE END field. For more information, see "4. LATE END" on page 45. Default.</p> <p>> - TIME UNTIL value is set to ' > ' in every job definition. For more information, see the description of the TIME parameter in the <i>CONTROL-M for z/OS User Guide</i>.</p>
&USER	<p>User ID to be placed on the generated job orders. This field can be one to eight characters. Default: CONTROLM</p>

Messages

This list contains messages produced by the components of the conversion tool.

A message code usually consists of the following parts:

CTMGRxxx

where CTMGR indicates that the message pertains to the CONTROL-M CA-MANAGER conversion tool, and where:

Item	Explanation
xxx	3-character identifier for the program or programs that produced the message
nn	2-character numeric identifier for the message
x	1-character alphabetic identifier for the severity of the message <ul style="list-style-type: none"> ■ A - Action ■ E - Error ■ I - Information ■ S - Severe ■ W - Warning

Message descriptions contain any or all of the following:

Explanation: Description of the cause of the message, and other related information.

System action: System action when this message is issued.

User response: Recommended actions to correct the problem.

CTMGRxxx

GETMAIN FAILED, INCREASE REGION SIZE

Explanation: The conversion utility was unable to get the necessary storage.

User response: Increase the REGION parameter for the failing step.

CTMGRxxx

CTMMEM FUNCTION yyyyyy FAILED, MEMBER=*member*, RC=*nn*

Explanation: xxx may be either JCL or SCH. An error occurred in CTMMEM function yyyyyy.

The CONTROL-M CTMMEM routine is used to perform operations on PDS libraries and members. Return codes, which indicate the cause of failure, are explained in the following table.

Table 15 CONTROL-M CTMMEM Routine Return Codes

RC	Explanation
4	End of file (in GETLINE operation)
8	Insufficient memory to continue
12	Member not found in library
16	Dataset not a library
20	Dataset not fixed format
24	LRECL not 80
28	Dataset in use
32	Internal error, such as insufficient directory blocks, file not allocated
36	Dataset not found in catalog
40	Dynamic allocation failed
44	Invalid request to CTMMEM
48	Maximum lines, or directory entries, exceeded
52	Error opening or processing directory, such as insufficient directory blocks
56	STAE has intercepted an abend, for example, insufficient region, out-of-space condition, security violation, invalid PDS structure, third party vendor product such as VAM, STOPX37, HIPER-CACHE, ULTIMIZER, and the like
60	Member does not exist during save
64	Member already exists
68	Format parameter does not match library type

User response: Take corrective action based on the return code.

CTMGRxxx

MAXIMUM *entity-type* EXCEEDED, JOB[COLLECTION]= *name*

Explanation: xxx may be either COL, JOB or SCH. The maximum number of entity-type entities has been exceeded in job [Collection] *name*.

A job or collection can have a maximum of eight frequencies and twelve predecessors. The maximum number of devices that a job can have is ten. The maximum number of records that the CPUIN or RESRCIN DD statement can contain (CPU or RESOURCE translation entries) is limited to 10 or 25, respectively. A job can have a maximum of five events.

User response: If these values have been exceeded, please contact BMC Software Customer Support.

CTMGRxxx

table TABLE EXCEEDED

Explanation: If *table*=EVENT, the number of Event/Rule extract records as specified in the MAXEVT parameter in the DEFAULTS member was exceeded.

If *table*=DSN, the number of DSN extract records as specified in the MAXDSN parameter in the DEFAULTS member was exceeded.

If *table*=CALENDAR, the number of calendars as specified in the MAXCAL parameter in the DEFAULTS member was exceeded.

User response: Increase the appropriate parameter, execute the ASMALL member, and rerun the conversion.

CTMGRCAL

DAY IS NOT NUMERIC - WILL ABEND

Explanation: An internal processing error has occurred.

User response: Obtain a formatted dump and contact BMC Software Customer Support.

CTMGRCAL

MONTH NOT FOUND IN TABLE - WILL ABEND

Explanation: An internal processing error has occurred.

User response: Obtain a formatted dump and contact BMC Software Customer Support.

CTMGRCOL

MAXIMUM JOBS IN COLLECTION EXCEEDED

Explanation: The number of jobs possible in one collection has been exceeded.

User response: Increase the value of parameter &NMCOLJB in member DEFAULTS, reassemble program CTMGRCOL, and rerun JOB2.

CTMGRDT

MAXIMUM NUMBER OF FREQUENCY CALENDARS EXCEEDED

Explanation: The maximum number of calendars created due to multiple non-standard CA-Manager frequencies in the same job has been exceeded.

User response: Increase the value of parameter &MAXCFRQ in member DEFAULTS, reassemble program CTMGRDT, and rerun JOB2.

CTMGREVT**EVENT-ID *event-id* UNSUPPORTED *field=feature***

Explanation: The Event/Rule Report entry could not be processed.

Event *event-id* could not be processed because the field indicated in the message (STEP NAME, COMMAND, JOB NAME) specified an unsupported feature.

Examples:

- Field STEP NAME contained (unsupported) *s
- Field COMMAND specified commands other than I, C or B
- Field JOB NAME specified ****IPL****

User response: The unsupported function must be manually incorporated into the CONTROL-M scheduling definitions.

CTMGRJCL**JCL LIBRARY IS EMPTY**

Explanation: During JOB3, JCL Conversion, the conversion tool encountered an empty copy of the CA-MANAGER Master JCL Database (APABASE).

User response: Recopy APABASE to a PDS library and re-execute JOB3.

System action: Processing terminates.

CTMGRJCL**CHANGES WILL BE MADE TO JCL MEMBER *member***

Explanation: Member *member* in the APABASE JCL file contains CA-Manager Special Automatic Job Submission features, and will be modified to CONTROL-M AutoEdit format by JOB3.

CTMGRJCL**END CONVERSION OF JCL LIBRARY**

Explanation: JOB3 has completed the conversion from CA-MANAGER format to CONTROL-M format of all members of the Master JCL Database (APABASE).

CTMGRJOB**INVALID RUN RECORD - NO JOBNAME**

Explanation: In the CA-Manager ALLRUNS report, the first RUN record does not contain a jobname. This record will not be processed.

User response: Supply a jobname for the first RUN record, re-produce the ALLRUNS report, and rerun the conversion.

CTMGRSCH**ERROR WRITING SCHEDULING RECORDS**

Explanation: An error occurred while processing the converted scheduling records.

User response: Most likely the value of parameter MAXSMEM in DEFAULTS is too low. Increase this number and rerun JOB2.

Planning The Conversion

To assist the smooth running of the conversion process, BMC Software recommends that you carry out a number of steps before starting the conversion itself. These steps are set out in this appendix.

This appendix outlines the key Business Integrated Scheduling (BIS) functions and environmental metrics required to determine the initial level of effort associated with the migration of business processing to CONTROL-M.

1: Organize the Conversion Team

1. Identify those who will be involved in the conversion process. They should participate in planning the conversion and implementing the steps in this appendix before beginning the conversion.

Include in this list those who support the current environment and who require training or retraining and/or mentoring, such as operators, production control administrators, product administrators, production analysts, application support and programming personnel, security administrators, and so on.

2. Ensure that the conversion team has sufficient knowledge of
 - the features and operation of
 - CA-MANAGER
 - CONTROL-M
 - the conversion utilities
 - your existing scheduling information and its operation procedures
 - your site rules on dataset organization, naming conventions, and so on
 - your expectations from the conversion project

3. Identify the exact release or version number of CA-MANAGER that you are currently using.
4. Identify the operating system and platforms to be supported by CONTROL-M in the target environment. In relation to each platform, identify the release level, number of systems, and physical location.

2: Analyze Your Hardware

Consider the configuration of the system currently in use at your site, and whether you are making the best use of your hardware resources.

Obtain sufficient information to respond to the issues raised in this section. Record the answers carefully, because they will be of importance during and after the conversion to CONTROL-M.

- What resources, such as tape drives, initiators, and so on, do you use at your site?
- What MVS images, that is, CPUs, LPARs, and/or Sysplexes, will be available to CONTROL-M when running production jobs?
- How are your MVS images connected? Is the connection by
 - coupling facility
 - shared spool
 - NJE
 - some other method

Are the systems managed separately or collectively? Is there job flow between systems?

- Do you currently have multi-system dependencies, either on the same platform type, or using different platforms? If so,
 - how many?
 - how are they managed?

3: Consider Current Practices

Consider the current practices at your site. The relevant issues include at least the questions set out in this section. Do not hesitate to ask others for information they may be able to provide. Take all software and hardware platforms into account when answering. Record the answers carefully, because they will be of importance during and after the conversion to CONTROL-M.

1. How is production scheduling currently handled on your computers?
2. Who currently uses your system?
 - Is there a single production department or are there several?
 - Who are the end users of the system?
3. Consider the typical application flows at your site. The following are useful questions to ask:
 - Which are the three key applications, in terms of size, complexity, or value to your business?
 - How are those applications scheduled?
 - How are their internal dependencies managed?
 - Are there currently any performance bottlenecks or constraints in scheduling implementation?
4. List any products you use to support production scheduling, such as console automation, job restart products, and so on.
 - What function does each such product perform?
 - Will CONTROL-M replace that function?

If you think that CONTROL-M will not make some product redundant, obtain as much information as possible about that product, to enable you to decide how the product will interface with CONTROL-M.

5. List all your applications, interfaces, user or system exits, reports, and similar material, that
 - operators, system programmers, and other third parties have customized, and
 - form part of the implementation of your current production scheduling

Include interfaces used to submit jobs from an internal front-end process, as well as any interface used to issue commands and/or perform tasks using batch utility programs.

Consider whether you can use CONTROL-M to implement these functions and/or features.

6. Do you manually schedule any jobs or their logical successors on demand, instead of allowing the system to schedule jobs? If you do,
 - list each job and record the way you deal with it
 - consider whether CONTROL-M can be used to schedule these jobs automatically
7. Do your jobs run automatically, on rigid scheduling, or do you frequently modify job schedules and/or dependencies to meet needs as they arise?
8. Consider your job concurrency requirements, and the way you meet those requirements. Examples of questions to ask are the following:
 - Do you use job triggering, so that the completion of one job causes another job to be submitted or ordered?
 - Do you use job dependencies, meaning that one job (the “waiting job”) does not start until another has finished, even though the waiting job is submitted or ordered in some other way?
 - Do you use negative job dependencies, meaning that if a job fails, another job starts?
9. How do you manage such resources as tape drives, initiators, and so on?
10. Consider the following questions about the jobs your systems currently perform:
 - How many jobs do you currently have defined?
 - How many jobs are run on a daily, weekly, or monthly basis?
 - How many jobs run on peak days, for example, end of year processing?
 - How many jobs run “on request”, that is, demand jobs (see Question 6)?
 - Are your existing job definitions satisfactory in every respect?
 - Do you use all your existing job definitions, or are many now obsolete?
 - How many jobs use JCL automation features? Identify the type of automation used.
 - How many jobs are scheduled using dataset triggering?
 - How many jobs require manual intervention prior to submission?

11. How many jobs use JCL automation features? Identify the type of automation used.
12. How many jobs are scheduled using dataset triggering?
13. How many jobs require manual intervention prior to submission?

4: Read the Conversion Guide

Read through this conversion guide. While doing so, consider the following points.

1. Identify any “special” situations. These can arise where
 - the conversion will not be performed automatically
 - your existing system is otherwise incompatible with CONTROL-M, for example, where calendar generation may serve as a substitute for some scheduling parameters

Are the proposed solutions acceptable in all cases? If not, identify alternative solutions, such as the use of the supplied user exits.
2. Is there any aspect of the way you use CA-MANAGER that may not be reflected in the reports and parameter files used by the conversion program?
3. Prepare the names to be used for libraries, table names, job names, conditions, resources, and so on, in the output of the conversion, in order to reflect the way you want the CONTROL-M environment to appear to users.
4. Consider whether at this stage you are converting the entire production environment, or just one application? If you are only converting one application, determine
 - how typical it is of the work done at your site
 - what are the principal differences between this application and other applications

Consider whether you can yet identify any other pitfalls ahead, and if so, how to avoid the problems they appear to present.

Problem Reporting

Please supply all the information requested below when reporting a problem related to the conversion tool.

- the version number of CONTROL-M, such as 6.1.00, and the MVS operating system, such as z/OS 1.1
- the release number of CA-MANAGER, such as 11.2, from which you are converting
- the latest PTF applied to the conversion tool
- a copy of the DEFAULTS member
- the full text of all Job Log messages, in addition to all error messages in the error files, DAPRINT, SYSPRINT, and so on
- any source fixes or zaps applied to the conversion tool
Also, check if REFRESH LLA was done after changes were applied.

If an abend has occurred, send the symptom dump to BMC Software Customer Support, and have a full dump (SYSUDUMP) available for use by Customer Support staff.

Whenever a change is made to the DEFAULTS member, or a source fix is applied, you should re-perform [Chapter 3, “Step 1 - Create the Conversion Source and Load Libraries,”](#) [“Step 4 - Check and Modify Parameters in Member DEFAULTS,”](#) and [“Step 5 - Assemble and Link Conversion Programs”](#).

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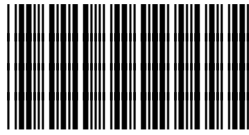
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