CONTROL-M
Job Parameter and Variable Reference Guide

Version 6.1.03

March 31, 2004

bmcsoftware

Restricted Rights Legend

Contacting BMC Software

You can access the BMC Software Web site at **http://www.bmc.com**. From this Web site, you can obtain information about the company, its products, corporate offices, special events, and career opportunities.

United States and Canada

Address BMC Software, Inc.
2101 CityWest Blvd.
Houston TX 77042-2827

Telephone 713 918 8800 or
800 841 2031

Fax 713 918 8000

Outside United States and Canada

Telephone (01) 713 918 8800

Fax (01) 713 918 8000

Customer Support

You can obtain technical support by using the Support page on the BMC Software Web site or by contacting Customer Support by telephone or e-mail. To expedite your inquiry, please see "Before Contacting BMC Software."

Support Web Site

You can obtain technical support from BMC Software 24 hours a day, 7 days a week at **http://www.bmc.com/support.html**. From this Web site, you can

- read overviews about support services and programs that BMC Software offers
- find the most current information about BMC Software products
- search a database for problems similar to yours and possible solutions
- order or download product documentation
- report a problem or ask a question
- subscribe to receive e-mail notices when new product versions are released
- find worldwide BMC Software support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

Support by Telephone or E-mail

In the United States and Canada, if you need technical support and do not have access to the Web, call 800 537 1813. Outside the United States and Canada, please contact your local support center for assistance. To find telephone and e-mail contact information for the BMC Software support center that services your location, refer to the Contact Customer Support section of the Support page on the BMC Software Web site at **www.bmc.com/support.html**.

Before Contacting BMC Software

Before you contact BMC Software, have the following information available so that Customer Support can begin working on your problem immediately:

- product information
  - — product name
  - — product version (release number)
  - — license number and password (trial or permanent)
- operating system and environment information
  - — machine type
  - — operating system type, version, and service pack or other maintenance level such as PUT or PTF
  - — system hardware configuration
  - — serial numbers
  - — related software (database, application, and communication) including type, version, and service pack or maintenance level

- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
  - product error messages
  - messages from the operating system, such as `file system full`
  - messages from related software

Contents

Chapter 10 SAP Parameters

Figures

Tables

About This Book

This book contains detailed information about parameters and variables that can be used in CONTROL-M job processing definitions.

Use this book to determine usage and syntax of job parameters and variables for the latest version of all CONTROL-M products.

How This Book Is Organized

This book is organized as follows. In addition, a glossary of terms and an index appear at the end of the book.

Chapter	Description
Chapter 1	**Introduction** Introduces the various types of job parameters and AutoEdit variables described in the rest of the book.
Chapter 2	**General Parameters** Parameters that identify the job and describe its function.
Chapter 3	**Scheduling Parameters** Parameters that enable you to specify when and how often a job should be scheduled for submission to CONTROL-M/Server.
Chapter 4	**Execution Parameters** Parameters that enable you to specify runtime characteristics of the job, pertaining to reruns of the job, in particular.

Chapter	Description
Chapter 5	**Condition Parameters** Parameters that enable you to specify interdependent relationships between jobs, using prerequisite conditions.
Chapter 6	**Resource Parameters** Parameters that enable you to make the availability of system resources a prerequisite for job submission to CONTROL-M/Server.
Chapter 7	**Post-Processing Parameters** Specify how the job's results should be analyzed and what subsequent actions should be taken.
Chapter 8	**Job Output Parameters** Describes actions that CONTROL-M and CONTROL-M/EM perform when the job has finished running.
Chapter 9	**Status Parameters** Describes runtime information about the job.
Chapter 10	**SAP Parameters** Describes the parameters used to run a SAP job.
Chapter 11	**Oracle Applications Parameters** Describes the parameters used to run an Oracle Applications job.
Chapter 12	**FTP Parameters** Describes the parameters used to run an FTP job.
Chapter 13	**PeopleSoft Parameters** Describes the parameters used to run a PeopleSoft job.
Chapter 14	**Microsoft Windows Parameters** Describes the parameters used to run a Microsoft Windows 2000 job.
Chapter 15	**AutoEdit Facility** Describes special variables and functions that can be used to make your job processing definitions more dynamic.

Related Documentation

The following list describes other BMC publications that are relevant to the parameters and variables described in this book.

- **CONTROL-M/Enterprise Manager User Guide** describes CONTROL-M/EM concepts, features, facilities, and operating instructions. It can be used as a learning guide, as well as a reference guide.

- **CONTROL-M/Desktop User Guide** describes an application used to define and manage CONTROL-M job processing definitions, Scheduling tables, and Calendars.

- **CONTROL-M/Enterprise Manager Administrator Guide** describes the tasks that the CONTROL-M/EM administrator must perform to define, monitor, and maintain the CONTROL-M/EM environment.

- **CONTROL-M/Enterprise Manager Utilities Guide** describes the utilities used for creating and managing objects in the job production environment and maintaining various aspects of CONTROL-M®/Enterprise Manager.

- **CONTROL-M Administrator Guides** are supplied for Servers, Agents, and Control Modules for various CONTROL-M platforms (for example, Unix, iSeries (AS/400) and Microsoft Windows). These guides describe setup, security, and utilities.

- **CONTROL-M Installation Guide** describes the installation processes for implementing CONTROL-M/EM and CONTROL-M/Server environments on Microsoft Windows and Unix platforms.

- **CONTROL-M/eTrigger User Guide** describes CONTROL-M/eTrigger, a product that enables you to insert job processing definitions into the CONTROL-M environment from third-party applications.

- **CONTROL-M User Manual (for OS/390)** is a complete guide to the CONTROL-M Production Control System in a mainframe environment.

- **CONTROL-M®/Enterprise Manager API Developers Guide** describes how to enable your applications to submit requests to CONTROL-M/EM.

Online and Printed Books

The books that accompany BMC Software products are available in online format and printed format. You can view online books with Acrobat Reader from Adobe Systems. The reader is provided at no cost, as explained in "To Access Online Books." You can also obtain additional printed books from BMC Software, as explained in "To Request Additional Printed Books."

To Access Online Books

Online books are provided as Portable Document Format (PDF) files. You can view them, print them, or copy them to your computer by using Acrobat Reader 3.0 or later. You can access online books from the documentation compact disc (CD) that accompanies your product or from the World Wide Web.

In some cases, installation of Acrobat Reader and downloading the online books is an optional part of the product-installation process. For information about downloading the free reader from the Web, go to the Adobe Systems site at **http://www.adobe.com**.

To view any online book that BMC Software offers, visit the support page of the BMC Software Web site at **http://www.bmc.com/support.html**. Log on and select a product to access the related documentation. (To log on, first-time users can request a user name and password by registering at the support page or by contacting a BMC Software sales representative.)

To Request Additional Printed Books

BMC Software provides a core set of printed books with your product order. To request additional books, go to **http://www.bmc.com/support.html**.

Conventions

The following abbreviations are used in this guide:

Abbreviation	Description
CONTROL-M/EM	CONTROL-M/Enterprise Manager

The following conventions are used in this guide:

<key>	When describing keystrokes, angle brackets are used to enclose the name of a key (for example, **<F1>**). When two keys are joined with "+" as in **<Shift>**+**<F1>**, hold down **<Shift>** while pressing **<F1>**.
Menu => Option	This represents an option selection sequence. For example, **Users and Groups => Groups => Add** means that you first select **Users and Groups** from the menu bar. Select the **Groups** option from the submenu. Finally, select the **Add** option from the **Groups** submenu.
{Option A|Option B}	The vertical bar is used to separate choices. For example: **{AND|OR}** means that you specify either AND or OR.
[Option]	Square brackets are used to enclose parameters that are optional.

Code Samples	`Format syntax, operating system terms, examples, and JCL scripts are presented in this typeface.`
Boldface	In instructions, **boldface** type highlights information that you enter. File names, directory names and paths, dialog box and window names, and Web addresses also appear in boldface type.
One-Step Procedures	The symbol » denotes one-step instructions.
Option Symbol	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

Introduction

In the CONTROL-M job scheduling environment, jobs are tasks that can be performed by a computer. These tasks are handled according to parameters. The parameters specified for a particular job are collectively referred to as a *job processing definition*.

Note

The term **job** as used in this manual refers to any task that can be performed by a script of command that is handled by CONTROL-M/Server.

Job processing parameters only need to be defined once for each job. CONTROL-M uses the job processing definition each time a job is ordered. Definitions can be modified at any time using various CONTROL-M/EM facilities.

These definitions are created using CONTROL-M/Desktop and are stored in Scheduling tables (job directories) according to various criteria that you determine. The Scheduling tables are uploaded to CONTROL-M/EM. When the scheduling criteria of the table are met, the jobs are passed to the CONTROL-M/Server database.

Job parameters are composed primarily of static information. However, a job processing definition may need to include information that is subject to change or was not available when the definition was created (such as the time at which a job was submitted, or the name of the batch queue to which the job was submitted.). CONTROL-M/EM enables you to indicate that data with AutoEdit variables. You can use both pre-defined AutoEdit variables and those that you create.

Defining Job Processing Parameters

Job processing definitions are created using various methods:

Note

The primary interface for creating and modifying job processing definitions is the Job Editing form, located in both CONTROL-M/Desktop and CONTROL-M/EM.

This Guide assumes that your primary point of access for creating job processing definitions will be the Job Editing form. Nonetheless, information is also provided for creating definitions using other CONTROL-M components.

- CONTROL-M/Desktop. Using the Job Editing form or the Mass Creation facility (the **Skeleton Editor** window), you create definitions offline. These jobs are then uploaded to the CONTROL-M/EM database.

- CONTROL-M/EM. Using the Job Editing form, you can modify parameters for jobs that have already been scheduled for submission on the current day. For more information about the Job Editing form, see the *CONTROL-M/Desktop User Guide*.

- CONTROL-M/EM. Using various CONTROL-M/EM utilities. For more information, see the CONTROL-M/Enterprise Manager *Utility Guide*.

- CONTROL-M/Server and CONTROL-M for OS/390. Using CONTROL-M batch utilities or the online facility [OS/390 or iSeries (AS/400)].

  Note that if you are using CONTROL-M batch utilities and want to use a special character, such as >, <, or |, when setting the value of a job parameter, you must enclose the entire expression in double quotation marks, for example ">9".

- eTrigger. Create jobs using a third-party product. These jobs are inserted directly in the CONTROL-M Active Jobs file.

Note

All job processing definitions are stored in the CONTROL-M/EM database and are uploaded to the CONTROL-M/Server database.

The parameters of job processing definitions can also be used as selection criteria:

- For determining the content of the ViewPoints that indicate which nodes are displayed in the CONTROL-M/Desktop window and the CONTROL-M/EM flow diagram.

- For determining which jobs are included in a report created using the Reporting facility.

Job Parameter and Variable Access

The Job Editing form is divided into panels. Each panel contains parameters that have similar functions.

The division of the chapters in this book reflects the division of the job processing parameters in the CONTROL-M/EM Job Editing form. For example, to learn about a parameter that is displayed on the General panel of the job Editing form, see Chapter 2, “General Parameters.”

AutoEdit variables are also described in this guide.

Table 1-1 Access to Job Parameters and Variables (Part 1 of 2)

Panel	Contents
General Panel	Contains General parameters. These parameters provide information about the job and explain what the job does. In addition, they include miscellaneous parameters that relate to how the job is executed and preparations that are performed before the job is executed. For more information, see Chapter 2, “General Parameters.”
Scheduling Panel	Contains Scheduling parameters. These parameters determine during what time period (days, months, hours) the job can be submitted for execution. If a job is a candidate for execution, it is placed in the Active Jobs file. For more information, see Chapter 3, “Scheduling Parameters.” **Note**: For more information about original scheduling dates, see “System Parameters” in your CONTROL-M Administrator Guide.
Application Panel	Contains parameters for the specified application on which the job will run (for example, SAP or Oracle Applications). The title and content of the Application panel change depending on which application is specified. For more information, see Chapter 10, “SAP Parameters,” Chapter 11, “Oracle Applications Parameters,” and Chapter 14, “Microsoft Windows Parameters.”
Execution Panel	Contains Execution parameters. These parameters determine where, how often, and with what priority the job is executed, after it has been submitted for processing. For more information, see Chapter 4, “Execution Parameters.”
Conditions Panel	Contains Condition parameters. These parameters specify information about prerequisite conditions that must be satisfied before determining during what time period (days, months, hours) the job can be submitted for execution. These parameters also determine whether conditions are to be added or deleted after the job run is successfully completed. For more information, see Chapter 5, “Condition Parameters.”
Resources Panel	Contains Resource parameters. These parameters specify information about physical and logical requirements that must be met before the job can be submitted for execution. For more information, see Chapter 6, “Resource Parameters.”

Table 1-1 Access to Job Parameters and Variables (Part 2 of 2)

Panel	Contents
Set Panel	Contains facilities for defining and specifying AutoEdit variables. AutoEdit variables are used to insert dynamic information into the values of job processing parameters. For more information, see Chapter 15, "AutoEdit Facility."
Steps Panel	Contains Post Processing parameters. These parameters specify actions that should be performed by CONTROL-M when the job is finished executing or has failed to run. For more information, see Chapter 7, "Post-Processing Parameters."
PostProc Panel	Contains Job Output parameters. These parameters specify actions that CONTROL-M and CONTROL-M/EM perform that are a direct result of the output of the job. For more information, see Chapter 7, "Post-Processing Parameters."
Active Panel	Contains Status parameters. These parameters describe scheduling, status, and statistical information that was collected during job runtime. The values for these parameters are supplied by CONTROL-M. The Active panel is displayed only in the CONTROL-M/EM Job Editing form, because the data displayed in it is based on previous runs of the job. For more information, see Chapter 9, "Status Parameters."

Language Support

Western European language special characters can be specified for most parameters in which free text can be entered. A list of all parameters that can contain these characters is provided in the Language Configuration appendix in the CONTROL-M Installation Guide.

In this guide, the term “non-English characters” in the Invalid Characters section of each parameter description indicates if the parameter does not support Western European language special characters.

The following characters are not supported for any parameter under any circumstances:

Conventions for Parameter Descriptions

The following terms are used to describe the format of job processing parameters in this Guide:

- **Usage**
  Indicates whether a parameter is mandatory or optional.

  Some parameters are mandatory only when CONTROL-M is installed on a certain platform. Some parameters are mandatory only when a related parameter is specified (for example, PDS and Minimum must be specified together)

- **Case sensitive**
  Indicates that CONTROL-M differentiates between values specified using various combinations of uppercase and lowercase letters.

  For example, the prerequisite condition **JOB_ENDED_OK** is different from the prerequisite condition **Job_Ended_OK**.

A job waiting for **JOB_ENDED_OK** is not submitted if only **Job_Ended_OK** is found.

- **Invalid Characters**
  Indicates, when specifying the parameter, whether
  — there are any special characters that cannot be used
  — embedded blanks (spaces) can be used
  Trailing blanks (after the specified value) are ignored.

- **AutoEdit Support**
  Indicates whether AutoEdit variables can be included in the value of the specified parameter.

General Parameters

The parameters described in this chapter contain basic information that identifies the job, describes what it does, and gives the location of the job script.

Table 2-1 General Parameters – Summary (Part 1 of 3)

Parameter	Description
Application	Name of the application to which the job's group belongs. Used as a descriptive name for related groups of jobs.
Application Node Group	Logical name of the node group that processes a job run by an application such as SAP.
Application Type	Indicates the type of external application (for example, SAP or Oracle Applications) on which the job will run.
Application Version	Indicates the version of the external application (for example, SAP or Oracle Applications) on which the job will run.
Author	CONTROL-M/EM user who defined the job. This parameter is used by the CONTROL-M security mechanism.
AutoEdit Assignment	Used to assign values to user variables to be referenced in the job script or in other parameters of the job.
Command	Operating system command line to be issued. This parameter can be specified only when **Command** is specified for the Task Type parameter.

Table 2-1 General Parameters – Summary (Part 2 of 3)

Parameter	Description
Control Module (CM) Version	Indicates the version of external application (for example, SAP or Oracle Applications) Control Module (CM) that is installed in the CONTROL-M installation (that is, that will run the job).
CONTROL-M	Name of the CONTROL-M/Server to which the job belongs.
Description	Free text description of the job.
Doc Lib	Name of a library or directory containing the job documentation file.
Doc Mem	Name of the file containing job documentation.
File Name/Mem Name	Name of the file that contains the job script, or (for OS/390 jobs only) name of a member that contains one of the following in relation to the job to be executed: • the JCL of the job • the started task procedure • warning messages
Form Name	Specifies a predefined set of external application parameters that will be displayed in the External Application panel of the CONTROL-M/EM Job Editing form.
Group	Name of the group to which the job belongs.
Job Name	Name of the job processing definition.
Over Lib	Name of an alternate library/directory. CONTROL-M searches for the file specified in the **File Name** parameter in the **Over Lib** library before searching for it in the **Path** library.
Owner	Owner (user ID) associated with the job. This parameter is used by the CONTROL-M security mechanism.
Path/Mem Lib	Name of the directory in which the job script resides, or (for OS/390 jobs only) name of the library in which the member described in the Mem Name parameter is located.
PIPE	Indicates a data set to be replaced by a pipe with the same name. Displayed only if CONTROL-M/WorkLoad is installed. [For OS/390 jobs only.]
Scheduling Table Lib	Name of the library that contains the scheduling table. [For OS/390 jobs only.]

Table 2-1 General Parameters – Summary (Part 3 of 3)

Parameter	Description
Table	Name of the Scheduling table to which the job belongs.
Task Type	Type of the job (task) to be performed by CONTROL-M.

Application

Provides a logical name for sorting groups of jobs. This parameter is used to supply a common descriptive name to a set of related groups of jobs.

Format

Usage	Mandatory OS/390: Optional
Default	None
Length	1-20 characters
Case Sensitive	Yes
Invalid Characters	• Blanks • Single quotation marks.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter. However, the value of Application can be specified using the %%APPL and %%APPLIC AutoEdit variables.

Related Parameters

Parameter	Description
Group	Group is also a logical name. Both the Application and Group parameters can be used to create logical groupings of jobs. Neither parameter has a direct effect on job execution.

General Information

The Application parameter facilitates more convenient and orderly management of groups of production jobs.

The value assigned to the Application parameter can be used to determine the placement of jobs in the CONTROL-M/Enterprise Manager flow diagram. It can also be used as a criterion for building a ViewPoint.

Aliases in Other CONTROL-M Components

Alternate names for the Application parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	APPLICATION
Reporting Facility	APPLICATION
CONTROL-M/Server Utilities	-application
eTrigger	Application
CONTROL-M for OS/390	APPL
CONTROL-M/EM API	application

Example: Identifying Jobs by Business Department

To identify all jobs created by the accounting department:

Application: **ACCT**

Application Node Group

Logical name of the node group that processes a job run by an application such as SAP.

Note

This parameter is not supported by CONTROL-M versions earlier than 6.1.00.

This parameter is not supported by CONTROL-M for OS/390.

Format

Usage	Mandatory for jobs that run on applications such as SAP or Oracle Applications.
Format	Clicking **Load** in the Skeleton Editor displays a list of available Application Node Groups. Select the required value from the list. It will be displayed in the **Application Node Group** text box.

Related Parameters

Parameter	Description
Application Type	Determined automatically by the value supplied for Application Node Group.
Application Version	Determined automatically by the value supplied for Application Node Group.
Control Module (CM) Version	Determined automatically by the value supplied for Application Node Group.
Form Name	Range of possible values determined automatically by the value supplied for Application Node Group.

General Information

Each Application Node Group has a logical name. This logical name describes a group of nodes (computers on which CONTROL-M/Agent is installed) that can run jobs for the specified application (such as SAP).

Specifying an Application Node Group enables CONTROL-M/Server to determine which node is most suitable to run the job.

When an Application Node Group is loaded into the Skeleton Editor, additional parameters are loaded that identify the application that will run the job. Those parameters are Application, Type, Application Version, and Control Module Version.

Availability

- This parameter is not supported by CONTROL-M versions earlier than 6.1.00.
- This parameter is not supported by CONTROL-M for OS/390.

Application Type

Indicates the application (for example, SAP or Oracle Applications) that will run the job.

Note

This parameter is not supported by CONTROL-M versions earlier than 6.1.00.

This parameter is not supported by CONTROL-M for OS/390.

Format

Usage	Optional
Default	**OS** (Indicates that the job will be run by the operating system.)
Length	1-10 characters
Case Sensitive	No
Invalid Characters	Blanks; single quotation marks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Application Version	Indicates the version of the application that is specified with the Application Type parameter.
Control Module (CM) Version	Indicates the version of the Control Module (CM) that will be used to run the job.
Form Name	The Application Type parameter is used (together with Application Version and Control Module Version) to determine which type of form can be specified using the Form Name parameter.

General Information

The application specified by the Application Type parameter must be defined in the specified CONTROL-M/Agent.

Note

Specify the CONTROL-M/Agent by clicking **Load** in the Skeleton Editor.

Availability

- This parameter is not supported by CONTROL-M versions earlier than 6.1.00.
- This parameter is not supported by CONTROL-M for OS/390.

Aliases in Other CONTROL-M Components

Alternate names for the Application Type parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	APPL_TYPE
e-Trigger	Application Type
CONTROL-M/Server Utilities	-appltype
CONTROL-M/EM API	application_type

Example: Submit a Job to Oracle Application

Specify the following information in the CONTROL-M/Server ctmcreate utility to schedule CONTROL-M/Agent **everest** to submit a job to Oracle Application (OAP).

```
ctmcreate -tasktype external
-application ORACLE
-nodegrp everest
-appltype OAP
```

Application Version

Indicates the version of the application (for example, SAP or Oracle Applications) on which the job will run.

Note

This parameter is not supported by CONTROL-M versions earlier than 6.1.00.

This parameter is not supported by CONTROL-M for OS/390.

Format

Usage	Optional
Length	1-10 characters
Default	None
Case Sensitive	Yes
Invalid Characters	Blanks; single quotation marks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Application Type	The type of application whose version is specified by the Application Version parameter.
Control Module (CM) Version	Control Module for the application that will run the job.
Form Name	Name of the form.

General Information

For a list of supported versions, see the Administrator Guide for the appropriate CONTROL-M/Control Module.

Aliases in Other CONTROL-M Components

Alternate names for the Application Version parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	APPL_VER
e-Trigger	Application Version
CONTROL-M/Server Utilities	-applver
CONTROL-M/EM API	application_version

Author

Indicates the CONTROL-M/EM user who defined the job.

Note

This parameter is not relevant in OS/390.

Format

Usage	Mandatory.
Default	Name of the CONTROL-M/EM user that created the job.
Length	1-30 characters
Case Sensitive	Yes
Invalid Characters	Blanks; single quotation marks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Note

Depending on the value of the AuthorSecurity system variable, this parameter may be disabled.

General Information

The CONTROL-M/EM user specified by this parameter must possess a valid user ID registered in the CONTROL-M installation. Authority to perform actions is verified by CONTROL-M/Server security exits.

This parameter is used by the CONTROL-M/Server for verifying if the owner of the job has authorization to submit the job processing definition during the submission of jobs by the New Day Procedure). If system parameter AuthorSecurity is set to author security mode 2 or 3 (restricted), you will not be able to edit the Author field, unless you are a CONTROL-M/EM administrator and are online (that is, connected to a GUI server). For more information, see the Security chapter and the description of the AuthorSecurity system parameter in the CONTROL-M/Enterprise Manager *Administrator Guide*.

Platform-Specific Information

For more information, see the Security chapter of the *CONTROL-M/Server Administrator Guide* for the appropriate platform.

Aliases in Other CONTROL-M Components

Alternate names for the Author parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	AUTHOR
Reporting Facility	AUTHOR
CONTROL-M/Server Utilities	-author
eTrigger	Author

AutoEdit Assignment

Assigns a value to an AutoEdit variable. AutoEdit variables can be used to pass values to job submission parameters or to control other aspects of job submission.

Format

Usage	Optional	
Format	The format for each AutoEdit Assignment is: **%%*variable-name*=*value***	
	variable-name has the following characteristics:	
	Length	Up to 40 characters (including the **%%** prefix).
	Case Sensitive	Yes
	Invalid Characters	Blanks and the following characters: < > [ ] { } ( ) = ; ‘ ~ | : ? . + - */ & ^#@ ! , " '
	AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.
	value has the following characteristics:	
	Length	Up to 214 characters.
	Case Sensitive	Yes
	Invalid Characters	Embedded blanks (leading blanks are valid)
	AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

	OS/390: AutoEdit Assignment (and both *variable-name*, and *value*) have the following characteristics:	
	Length	The total length of AutoEdit Assignment must not exceed 55 characters, including the %% prefix, *variable-name*, *value*, and the = sign.
	Case Sensitive	Yes
	Invalid Characters	Blanks
	AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

Related Parameters

Do AutoEdit	Indicates an AutoEdit expression that is dependent on how the job ended (**OK** or **NOTOK**) and can be used to influence other jobs, or subsequent runs of the current job.

General Information

AutoEdit variables are special variables that have a prefix of %%. They can be used to:

- Pass parameters to, or influence the environment of a job when it is submitted.
- Define variables to be used in Shout messages or in Do AutoEdit parameters when the job terminates.

Parameters that Accept AutoEdit Variables

AutoEdit variables can be specified as values for any of the following job processing parameters. These variables are resolved to actual values at time of job submission.

- Command
- Do Mail (the To and Message fields)
- Do Shout (the Destination and Message fields)

- Do Sysout (Prm field)
- File Name
- In Condition (system variables can be specified as the entire value)
- Mem Lib
- Mem Name
- Out Condition (system variables can be specified as the entire value)
- Over Lib
- Path
- Quantitative Resource (system variables can be specified as the entire value)
- Shout (the Destination and Message fields)
- Step Range
- Sysout (Prm parameter)

For more information about AutoEdit variables and how they can be used, see Chapter 15, "AutoEdit Facility."

Aliases in Other CONTROL-M Components

Alternate names for the AutoEdit Assignment parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	AUTOEDIT
Reporting Facility	Setvar
CONTROL-M/Server Utilities	-autoedit
eTrigger	-autoedit
CONTROL-M for OS/390	SET VAR
CONTROL-M/EM API	autoedit_assignment

Alternate formats for the AutoEdit Assignment parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	The value of the AUTOEDIT parameter is contained in the EXP subparameter. **Example** <AUTOEDIT EXP="%%PARM1=%%TIME"/>

Example 1: OpenVMS

For an OpenVMS job with the following job processing parameters:

Parameter	Value
File Name (Mem Name)	MTJOB.COM
Path (Mem Lib)	DUA0:[SALARY.JAN]
AutoEdit Assignment	%%PARM1=%%CALCDATE %%ODATE -2 %%PARM2="TRacct124"

If %%ODATE is **021203** (for December 3, 2002), the parameters described above would cause CONTROL-M to invoke the command file using the following OpenVMS command:

```
SUBMIT DUA0:[SALARY.JAN]MTJOB.COM/ PARAM = (021201, "TRacct124")
```

Note

To submit a DCL file that uses logical names that should be translated before submission, define a job (with **Task Type** parameter **Command**) that performs the required ASSIGN or DEFINE command (OpenVMS command).

Example 2: Unix

For a Unix job with the following job processing parameters:

Parameter	Value
File Name (Mem Name)	mtjob.sh
Path (Mem Lib)	$HOME/jobs
AutoEdit Assignment	%%PARM1=%%CALCDATE %%ODATE -2 %%PARM2="TRacct124"

If %%ODATE is **021203** (for December 3, 2002), the parameters described above would cause CONTROL-M to invoke the script using the following Unix command:

```
$HOME/jobs/mtjob.sh 021201 "TRacct124"
```

Example 3: iSeries (AS/400)

For an iSeries (AS/400) job with the following job processing parameters:

Parameter	Value
Job Name	EODJOB
File Name (Mem Name)	EODJOB
Path (Mem Lib)	ACCOUNTING
AutoEdit Assignment	%%PARM1=%%ODATE %%PARM2=%%TIME %%LDA_1_6=%%ODATE %%LDA_7_2=%%ODAY %%SWS=00000001 %%LIBL=QTEMP ACCLIB

If %%ODATE is **020127** (for Jan. 27, 2002), the parameters described above would cause CONTROL-M to submit the job using the following iSeries (AS/400) commands:

```
CHGDTAARA *LDA(1 6) VALUE(020127)

CHGDTAARA *LDA(7 2) VALUE (27)

SBMJOB JOB (EODJOB) RQSDATA (CALL PGM (ACCOUNTING/EODJOB)
PARM (020127 110312)) SWS (00000001) INLLIBL (QTEMP ACCLIB))
```

Command

Indicates an operating system command-line to be submitted as a job.

Note

This parameter is not relevant in OS/390.

Format

Usage	This parameter can be used only if the Task Type parameter is Command. In this case, the Command parameter is required.
Length	1 through 512 characters
Case Sensitive	• Microsoft Windows: No • Unix: Yes
Invalid Characters	None
AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

General Information

Use this parameter to specify an operating system command to be executed by CONTROL-M. The command should be specified exactly as it would be specified in a terminal for the specific platform.

CONTROL-M creates a temporary file containing the command. This file is submitted for execution, and is monitored and analyzed in the same manner as a regular job.

The command can include any combination of text and AutoEdit variables. However, the length of the command after resolution of AutoEdit variables must not exceed **999** characters. For more information about AutoEdit variables, see Chapter 15, “AutoEdit Facility.”

Platform-Specific Information

- Commands submitted to a Unix platform are executed using the Bourne shell.
- For CONTROL-M for iSeries (AS/400) version 2.1.3, commands must not include single quotes (**‘ ‘**). If quotes are necessary, use double quotes (**“ ”**) only.

Aliases in Other CONTROL-M Components

Alternate names for the Command parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	CMDLINE
Reporting Facility	CMD LINE
CONTROL-M/Server Utilities	-cmdline
eTrigger	Command Line
CONTROL-M/EM API	command

Example 1: OpenVMS

```
BACKUP DUA0:[000000...] MUA0:MONBKP/SAVE
```

Example 2: Unix

```
tar cvf /dev/rmt0 -c /home
```

Example 3: iSeries (AS/400)

```
SAVLIB LIB(LIB_1 LIB_2) DEV(TAP02)
```

Example 4: Using AutoEdit Variables in a Command

The command in this job uses the CONTROL-M ctmcontb utility to delete all prerequisite conditions that are more than five days old.

AutoEdit Assignment	%%A=%%CALCDATE %%DATE -365 %%B=%%CALCDATE %%DATE -5
Command	ctmcontb deletefrom %%A %%B

Note

For Windows agents: When specifying AutoEdit variables in the **CMDLINE** or **COMMAND** parameters on CONTROL-M/Agent for Windows, the AutoEdit prefix must be specified as **%%%%** instead of **%%**.

Control Module (CM) Version

Indicates the version number of the Control Module (CM) that will be used to run the job.

Note

This parameter is not supported by CONTROL-M versions earlier than 6.1.00.

This parameter is not supported by CONTROL-M for OS/390.

Format

Usage	Optional
Length	1-10 characters
Default	None
Case Sensitive	No
Invalid Characters	Blanks; single quotation marks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Availability

- This parameter is not supported by CONTROL-M versions earlier than 6.1.00.
- This parameter is not supported by CONTROL-M for OS/390.

Aliases in Other CONTROL-M Components

Alternate names for the CONTROL Module Version parameter are listed in the table below.

Component	Parameter Name
CONTROL-M/EM Utilities	CM_VER
CONTROL-M/Server Utilities	-cmver
Reporting Facility	CM VER
e-Trigger	CM Version
CONTROL-M/EM API	application_cm_version

CONTROL-M

Name of the CONTROL-M installation that will process the job.

Format

Usage	Mandatory
Length	1 through 20 characters
Default	None
Case Sensitive	Yes
Invalid Characters	Blanks; single quotation marks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

CONTROL-M names are specified for each data center when creating the CONTROL-M definition in CONTROL-M/EM and CONTROL-M/Desktop. The name should describe the specified CONTROL-M installation and be easily recognized by users.

In the Job Editing form, select the CONTROL-M installation instance from the drop down list.

Aliases in Other CONTROL-M Components

Alternate names for the CONTROL-M parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DATACENTER
Reporting Facility	DATA CENTER
CONTROL-M/Server Utilities	Not supported. Jobs created with a CONTROL-M/Server utility are submitted to the local CONTROL-M/Server installation.

Component	Parameter Name
CONTROL-M for OS/390	When a job is created, it is submitted to the local CONTROL-M for OS/390 installation.
CONTROL-M/EM API	control-m

Description

Provides a description of the job in free text.

Format

Usage	Optional
Length	1-50 characters
Case sensitive	Yes
Invalid Characters	None
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The Description parameter is used to describe the job. A well written description can help you determine why the job was defined and how it fits into your business environment.

Note

Special characters, such as single quotes, double quotes, left/right brackets (**[ ]**), left/right parentheses(**( )**), and asterisks(*****), should not be used in the description text string.

Platform-Specific Information

CONTROL-M for OS/390

For conversion customers prior to version 6.0.00, if the current job was converted from another job scheduling product, such as CA-7, the string SCHEDULE-PREV-DAY or SCHEDULE-PREV-ONLY may appear in the DESC field for the job group. This string causes all scheduled runs of the job to be shifted back one day. (For version 6.0.00 and later, the SAC parameter is used instead.)

Aliases in Other CONTROL-M Components

Alternate names for the Description parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DESCRIPTION
Reporting Facility	DESCRIPTION
CONTROL-M/Server Utilities	-description
eTrigger	Description
CONTROL-M for OS/390	DESC

Example: Description of a Job for Producing a Yearly Report

The description of a report detailing the year's revenues and expenditures.

```
Yearly Financial Report for 2000
```

Doc Lib

Name of the library/directory containing the job documentation file (specified in the Doc Mem parameter).

Format

Usage	Optional
Length	• Microsoft Windows and Unix: 1-255 characters • iSeries (AS/400): 1-21 characters • OpenVMS: 1-60 characters • OS/390: 1-44 characters
Case Sensitive	Yes
Invalid Characters	OS/390: Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Doc Mem	Name of the file containing job documentation. This file is located in the library specified in the Doc Lib parameter.

General Information

The library or directory specified by this parameter, and the file specified in the Doc Mem parameter, do not have to exist when the job processing parameters are defined.

If you specify this parameter, you must also specify a value for the Doc Mem parameter.

Platform-Specific Information

Platform	Format
Unix	Specify the name of the directory and subdirectories (if any). One of the following symbols can be used in place of or as part of the directory or subdirectory name (these symbols are resolved at the time the job is ordered or forced): • **$HOME** resolves to the home directory of the job owner. • ~<username> resolves to the home directory of the specified Unix user.
iSeries (AS/400)	You must specify one of the following: • Name of an iSeries (AS/400) library • Library / File • ***LIBL** (library list) • ***CURLIB** (current library)
OpenVMS	The directory can be specified as the physical path or as a VMS logical name.

Aliases in Other CONTROL-M Components

Alternate names for the Doc Lib parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOCLIB
Reporting Facility	DOC LIB
CONTROL-M/Server Utilities	-doclib
eTrigger	Doclib
CONTROL-M for OS/390	DOCLIB
CONTROL-M/EM API	doc_lib

Example 1: OpenVMS

```
DUA0:[ACCOUNT.DOC],  ACCDOC$DIR
```

Example 2: Unix

```
$HOME/ctm/account/doc
```

Doc Mem

Name of the file in which the job documentation is stored.

Format

Usage	Optional
Length	1-30 characters OS/390: 1-8 characters
Case Sensitive	Yes
Invalid Characters	• Blanks • OS/390: Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter

Relate Parameters

Parameter	Description
Doc Lib	Provide the name of the library/directory in which a member described in the Doc Mem parameter is located.

General Information

The Doc Mem parameter is normally specified together with the Doc Lib parameter.

Platform-Specific Information

- iSeries (AS/400)

  Doc Mem indicates the name of the member in the **Libl** file. On this platform, parameter Doc Mem is optional even if a value is supplied for Doc Lib. If a library and file name are specified in Doc Lib but no value is specified for Doc Mem, the default member name ∗**FILE** is used (for example, the member name is the same as the file name).

Aliases in Other CONTROL-M Components

Alternate names for the Doc Mem parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOCMEM
Reporting Facility	DOCMEM
CONTROL-M/Server Utilities	-docmem
eTrigger	-docmem
CONTROL-M for OS/390	DOCMEM
CONTROL-M/EM API	doc_member

File Name/Mem Name

Indicates the name of a file containing the control language statements for the job (or detached process) to be executed.

Format

Usage	Mandatory if Task Type is **Job** or **Detached** or **External**
Length	• Microsoft Windows, Unix, OpenVMS: 1-30 characters • iSeries (AS/400): 1-21 characters • OS/390: 1-8 characters
Case Sensitive	Yes
Invalid Characters	• Blanks • OS/390: Non-English characters
AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Path/Mem Lib	Indicates the name of the library or directory in which the file described in the File Name parameter is located.
Over Lib	Provides the name of an alternate library or directory. CONTROL-M searches for the file specified in the File Name parameter in the Over Lib directory before searching for it in the Path library.
Task Type	Specifies the type of task of the job performs. Determines the value of the Mem Name (MEMNAME) parameter for OS/390 jobs.

General Information

The File Name parameter should contain only the name of the file, not the full path. The Path parameter is used to specify the remainder of the path.

The File Name can be the same as or different from the job name. Each member contains only one job.

The File Name may appear in the job node displayed in the CONTROL-M/EM window (depending on options specified in the CONTROL-M/EM Options dialog box).

Note

Character masks are not supported (for example, a job with the File Name value **FR*.EXE** is not executed).

Platform-Specific Information

The command must conform to the following conventions:

Platform	Information
Microsoft Windows	Name and file type of a REXX command file (suffix .cmd) or DOS command file (suffix .bat).
Unix	Name of a Unix shell script file.
OpenVMS	Name of the command file. It can be specified using one of the following formats: • **Without file extension** (for example, JOBFILE): CONTROL-M adds the appropriate extension according to the Task Type parameter: **.COM** for **job** (batch job), **.EXE** for **Detached** (detached process). When the file name is specified without a version specification, the last version of the file is executed. • **With full file extension**, including the version specification (for example, **JOBFILE.COM;2** or **JOBFILE.EXE;5**). **Note**: Using the full file extension format, it is possible to select a specific file extension and version of the command file or detached process to be executed.
iSeries (AS/400)	An executable program object.
OS/390	Name of a member whose contents are determined by the Task Type parameter. • JCL of the job • Started task procedure • Warning messages

Aliases in Other CONTROL-M Components

Alternate names for the File Name parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	MEMNAME
Reporting Facility	MEMNAME
CONTROL-M/Server Utilities	-memname
eTrigger	MemName
CONTROL-M for OS/390	MEMNAME
CONTROL-M/EM API	mem_name

Example 1: Microsoft Windows

`myjob.bat`, `myjob.cmd`

Example 2: Unix

`myjob`

Example 3: OpenVMS

`MYJOB`, `MYJOB.COM`, `MYJOB.COM;2`, `MYJOB.EXE`, `MYJOB.EXE;4`.

Example 4: iSeries (AS/400)

`MYJOB`

Form Name

Specifies the type of form used for entering application data.This form is displayed as a panel in the CONTROL-M/EM Job Editing form.

Note

This parameter is not supported by CONTROL-M versions earlier than 6.1.00.

This parameter is not supported by CONTROL-M for OS/390.

Format

Usage	Mandatory for External Application jobs
Length	1-30 characters
Case Sensitive	Yes
Invalid Characters	Blanks; single quotation marks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Application Type	Indicates external application server types communicating with CONTROL-M/Agent.
Application Version	Indicates the version of the external application server communicating with CONTROL-M/Agent.
Control Module (CM) Version	Indicates the version of Control Module (CM) supported by CONTROL-M/Agent.

General Information

You must specify values for the Application Type, Application Version, and Control Module Version parameters before selecting a value for the Form Name parameter.

In CONTROL-M/EM, this parameter can be selected only from a list box in the Skeleton Editor. You cannot specify this parameter using the Job Editing form.

Availability

- This parameter is not supported by CONTROL-M versions earlier than 6.1.00.
- This parameter is not supported by CONTROL-M for OS/390.

Aliases in Other CONTROL-M Components

Alternate names for the Form Name parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	APPL_FORM
eTrigger	Application Form
CONTROL-M/Server Utilities	-applform
CONTROL-M/EM API	application_form

Example 1: Default Form for SAP Job

```
Default SAP 4.6
```

Example 2: Alternate Form for SAP Job

```
SAP 4.7
```

Group

Indicates the name of the group to which the job belongs.

Format

Usage	Mandatory
Length	1-20 characters
Case Sensitive	Yes
Invalid Characters	Blanks; single quotation marks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Application	Application is also a logical name. Both the Application and Group parameters can be used to create logical groupings of jobs. Neither parameter has a direct effect on job execution.

General Information

The Group parameter facilitates more convenient and orderly management of groups of production jobs.

The value assigned to the Group parameter determines the job's placement in the structure of the CONTROL-M/EM network ViewPoint displayed in the CONTROL-M/EM flow diagram. This window is described in the CONTROL-M/Enterprise Manager *User Guide*.

Aliases in Other CONTROL-M Components

Alternate names for the Group parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	GROUP
Reporting Facility	GROUP NAME
CONTROL-M/Server Utilities	-group
eTrigger	Group
CONTROL-M for OS/390	GROUP

Example 1: Accounting Department Groups

```
ACCOUNTING
```

Example 2: Group of Jobs Run at the End of the Day

```
END_OF_DAY
```

Example 3: Group name for associated jobs that create sales reports

```
SALES_REPORT
```

Job Name

Name of the job.

Format

Usage	Mandatory
Length	1-64 characters OS/390: 1-8 characters
Case Sensitive	Yes
Invalid Characters	• Blanks • Single quotation marks • If the job will run on any version of Microsoft Windows 2000, prohibited filename characters (such as \, /, or *)
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The Job Name parameter appears along with the File Name parameter in various job definition and job tracking windows.

The Job Name can also be displayed in the job node displayed in the CONTROL-M/EM window (depending upon options specified in the Display Net window).

This parameter is used when ordering or forcing a job, either using the Do Forcejob parameter or when using the Order/Force windows.

The Job Name parameter does not have to be unique in the Scheduling table.

Accessing/Modifying the Job Name in AutoEdit Expressions

The value of the Job Name parameter can be accessed using the %%JOBNAME AutoEdit variable. For example this name can be included in a messages that is sent using the Do Shout or Do Mail parameters.

The job name parameter can also be overridden when the job is ordered - for example, using the following statement in the command line of the ctmorder utility for CONTROL-M/Server.

```
-autoedit %%JOBNAME <newjobname>
```

Platform-Specific Information

Parameter	Information
OS/390	The Job Name parameter must be unique in the Scheduling table.
iSeries (AS/400)	The value specified for this parameter is the actual job name to be used by iSeries (AS/400). It is part of the job submission command. **Note**: For jobs on an iSeries (AS/400) platform, the value specified for parameter Job Name must conform to iSeries (AS/400) conventions for job names.

Aliases in Other CONTROL-M Components

Alternate names for the Job Name parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	JOBNAME
Reporting Facility	JOB NAME
CONTROL-M/Server Utilities	-jobname
eTrigger	Job Name
CONTROL-M for OS/390	JOB NAME
CONTROL-M/EM API	job_name

Over Lib

Name of an alternate library or directory for the file specified with the File Name parameter. CONTROL-M searches for the file specified in the File Name parameter in the Over Lib directory before searching for it in the Path library.

Format

Usage	Optional
Length	• Microsoft Windows, Unix, OpenVMS: 1 through 255 characters • iSeries (AS/400): 1 through 10 characters • OS/390: 1 through 44 characters For additional formatting information, see "Format" on page 2-46.
Case Sensitive	Yes
Invalid Characters	• Blanks. • If the job will run on any version of Microsoft Windows 2000, prohibited filename characters (such as \, /, or *) • OS/390: Non-English characters.The contents of this field must not begin with the following strings: — GENERAL — USER=
AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Path/Mem Lib	Indicates the name of the library or directory in which the file described in the Path parameter is located.
File Name/Mem Name	Indicates the name of a file containing the control language statements for the job (or detached process) to be executed.

General Information

The Over Lib parameter enables the user to submit a temporarily-modified job script file without changing the original script file in the Path library and without changing the scheduling order of a table.

When to Use

The library containing the job's regular script file is specified in the Path parameter. When temporary modifications are required, the modified script file is placed in the location indicated by the Over Lib parameter.

If the file specified by the File Name parameter is found in the Over Lib location, this file is submitted instead of the job script file with the same name that resides in the Path location.

Cancelling Override

The override can be canceled by one of the following methods:

- Delete the file specified in the File Name parameter from the Over Lib location. If the job script file is not found in Over Lib, it is automatically taken from the Path location.

  -or-

- Delete the Over Lib specification from the job definition.

Note

For a description of the values allowed with this parameter, see "Platform-Specific Information" on page 2-47.

AutoEdit Support

As of version 6.1.0x, the Over Lib value can be extracted and passed to another part of the job processing definition using the %%OVERLIB parameter.

Aliases in Other CONTROL-M Components

Alternate names for the Over Lib parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	OVERLIB
Reporting Facility	OVER LIB
CONTROL-M/Server Utilities	-overlib
eTrigger	OverLib
CONTROL-M for OS/390	OVERLIB
CONTROL-M/EM API	over_lib

Owner

Identifies the owner (user name) for whom the job is executed. This parameter is used by the CONTROL-M security mechanism.

Format

Usage	Mandatory
Default	User name of the current CONTROL-M/EM user
Length	1-30 characters OS/390: 1-8 characters
Case Sensitive	Yes
Invalid Characters	• Blanks • Platforms other than OS/390: Single quotation marks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The Owner parameter is used by the CONTROL-M internal security mechanism to determine operations that each user is authorized to perform. For more information, refer to the Security chapter in the CONTROL-M Administrator Guide for the appropriate platform.

Aliases in Other CONTROL-M Components

Alternate names for the Owner parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	OWNER
Reporting Facility	OWNER
CONTROL-M/Server Utilities	-owner
eTrigger	Owner
CONTROL-M for OS/390	OWNER

Path/Mem Lib

Indicates the name of the directory or library in which the file described in the Path parameter is located.

Format

Usage	This parameter is mandatory if the specified Task Type is **Job** or **Detached** or **External**. **Note**: The format for this parameter depends on the job platform. For more information, see "Platform-Specific Information" on page 2-47.
Length	• Microsoft Windows, Unix, OpenVMS: 1-255 characters • iSeries (AS/400): 1-10 characters • OS/390: 1-44 characters
Case Sensitive	Yes
Invalid Characters	• Blanks • OS/390: Non-English characters • If the job will run on any version of Microsoft Windows 2000, prohibited filename characters (such as \, /, or *)
AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
File Name/Mem Name	Name of the job script file kept in the directory or library specified in Path/Mem Lib.
Over Lib	Name of an alternate library for the file specified in the File Name parameter. The original copy of the file is kept in the directory specified in Path.

General Information

The library or directory specified in the Path parameter and the accompanying File Name file do not have to exist when the job processing parameters are defined. CONTROL-M searches for them only before actual submission of the job.

Platform-Specific Information

Platform	Information
Microsoft Windows	The Path parameter indicates the drive ID, and name of the directory and subdirectories (if any).
Unix	The Path parameter indicates the name of the directory and subdirectories (if any). One of the following symbols can be used in place of or as part of the directory/ sub-directory name (these symbols are resolved at the time the job is ordered or forced): • **$HOME** resolves to the home directory of the job owner. • **~<username>** resolves to the home directory of the specified Unix user.
OpenVMS	The Path parameter contains the `(device:[directory])` that can be specified as the physical path or as an OpenVMS logical name.
iSeries (AS/400)	Specify one of the following: • Name of an iSeries (AS/400) library • ∗**LIBL** (library list) • ∗**CURLIB** (current library)

Platform	Information	
OS/390	Format of the parameter depends on whether the job processing definition applies to a **job** (or warning messages) or a **started task**:	
	Job	Valid values: a valid dataset name of 1-44 characters or one of the following reserved values: • **DUMMY** - for dummy jobs • **USER= *name*** - for user-defined libraries • **GENERAL** - specifies the library referenced by DD statement DALIB in the CONTROL-M procedure.
	Started Task	Any of the following formats can be used for the value of Mem Lib: • ****. taskid***, where *taskid* is the ID of the task The started task is activated in the computer in which the CONTROL-M monitor is active. • ***cpuid*, *stcparms***, where: — *cpuid* is the ID of the computer in which the started task is to be activated — *stcparms* is started task parameters • ***cpuid***, where *cpuid* is the ID of the computer in which the started task is to be activated. Valid values for *cpuid* are: • * – The computer where the CONTROL-M monitor is active. **Under JES2** • **N*n*** – where *n* is the JES/NJE node ID. • **M*m*** – where *m* is the machine ID. • **N*n*M*m*** – where *n* is the JES/NJE node ID, and m is the machine ID. **Under JES3** **L*name*** – where *name* is the logical JES name of the machine, that is, the name as used in the JES3 command *T, not the SMF system ID.

AutoEdit Support

As of version 6.1.0x, the Path value can be extracted and passed to another part of the job processing definition using the %%MEMLIB parameter.

Aliases in Other CONTROL-M Components

Alternate names for the Path parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	MEMLIB
Reporting Facility	MEM LIB
CONTROL-M/Server Utilities	-memlib
eTrigger	MemLib
CONTROL-M for OS/390	MEMLIB
CONTROL-M/EM API	mem_lib

Alternate formats for the Path parameter are listed in "Platform-Specific Information" on page 2-47.

Example 1: Microsoft Windows

```
D:\ACCOUNT\SALARY
```

Example 2: Unix

```
$HOME/ctm/salary
```

Example 3: OpenVMS

```
DUA0:[SALARY.JAN.ARCH], SALARY$DIR
```

Example 4: iSeries (AS/400)

```
MYLIB
```

Example 5: OS/390

```
GENERAL
```

PIPE

Indicates a data set to be replaced by a pipe with the same name. Displayed only if CONTROL-M/WorkLoad is installed.

Note

The PIPE parameter is used only with jobs run in CONTROL-M for OS/390 installations in which MAINVIEW Batch Optomizer (MVBO) is installed.

Format

Usage	Optional
Format	Each time a data set or pipe name is specified and **Enter** is pressed, a new empty line is displayed to enable specification of an additional data set or pipe name.
Length	1 - 44 characters
Case Sensitive	No
Invalid Characters	• Blanks • Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

Note

PIPE can be modified only by using CONTROL-M for OS/390 directly. This parameter is not available from the CONTROL-M/EM GUI or utilities.

Pipes are storage buffers that are used to replace data sets. Pipes are defined in, and used by, CONTROL-M/WorkLoad to replace sequential processing with parallel processing.

For example, normally (without pipes) if JOB1 writes to data set DS1 and then JOB2 reads data set DS1, JOB2 waits until JOB1 is terminated before reading the data set. However, if a pipe is used to replace data set DS1, then as JOB1 writes data to pipe DS1, JOB2 can use the data without waiting for termination of JOB1.

Each pipe and its relevant parameters are defined in a CONTROL-M/WorkLoad rule. Each pipe must be defined with the same name as the data set it is replacing.

When a job is to use a pipe instead of a data set, the name of the data set or pipe must be specified in the Pipe parameter of the CONTROL-M job processing definition for the job.

For more information about Pipe processing, see the *CONTROL-M for OS/390 & z/OS User Guide*.

Example: Two Job Processing Definitions

This example consists of two job scheduling definitions.

In job CTLIVPWR and job CTLIVPRD, the CTL.IVP.FILE data set is replaced by a pipe of the same name. Jobs of this type are called a Collection because they are participants in the same pipe.

Figure 2-1 PIPE Parameter Example – Job CTLIVPWR

```
JOB: CTLIVPWR LIB CTMT.PROD.SCHEDULE     TABLE: CTLIVP
COMMAND ===>                                 SCROLL===> CRSR
------------------------------------------------------------------------------
MEMNAME CTLIVPWR    MEMLIB   CTM.IVP.JCL
OWNER   E02A        TASKTYPE JOB    PREVENT-NCT2   DFLT  N
APPL                         GROUP
DESC    CONTROL-M/WORKLOAD VERIFICATION - WRITER JOB
OVERLIB
SET VAR
CTB STEP AT         NAME            TYPE
DOCMEM  CTLIVPWR    DOCLIB   CTMT.PROD.DOC
==============================================================================
DAYS                                                          DCAL
AND/OR
WDAYS                                                         WCAL
MONTHS  1- Y 2- Y 3- Y 4- Y 5- Y 6- Y 7- Y 8- Y 9- Y 10- Y 11- Y 12- Y
DATES
CONFCAL          SHIFT       RETRO N MAXWAIT 00  D-CAT.
MINIMUM          PDS
==============================================================================
```

```
IN       CTLIVPWR-IN          ODAT
CONTROL
RESOURCE
PIPE     CTL.IVP.FILE ESOURCE
PIPE
TIME: FROM       UNTIL       PRIORITY     DUE OUT       SAC      CONFIRM
COMMANDS: EDIT, DOC, PLAN, JOBSTAT                                  13.18.25
```

Figure 2-2 PIPE Parameter Example – Job CTLIVPRD

```
JOB: CTLIVPRD LIB CTMT.PROD.SCHEDULE TABLE: CTLIVP
COMMAND ===> SCROLL===> CRSR
------------------------------------------------------------------------------
MEMNAME CTLIVPRD MEMLIB CTM.IVP.JCL
OWNER E02A TASKTYPE JOB PREVENT-NCT2 DFLT N
APPL GROUP
DESC CONTROL-M/WORKLOAD VERIFICATION - READER JOB
OVERLIB
SET VAR
CTB STEP AT NAME TYPE
DOCMEM CTLIVPRD DOCLIB CTMT.PROD.DOC
==============================================================================
DAYS DCAL
AND/OR
WDAYS WCAL
MONTHS 1- Y 2- Y 3- Y 4- Y 5- Y 6- Y 7- Y 8- Y 9- Y 10- Y 11- Y 12- Y
DATES
CONFCAL SHIFT RETRO N MAXWAIT 00 D-CAT
MINIMUM PDS
==============================================================================
IN CTLIVPWR-OUT ODAT
CONTROL
RESOURCE
PIPE CTL.IVP.FILE
PIPE
TIME: FROM UNTIL PRIORITY DUE OUT SAC CONFIRM
COMMANDS: EDIT, DOC, PLAN, JOBSTAT 13.22.07
```

Scheduling Table Lib

Name of the library that contains the job's Scheduling table.

Note

This field is displayed only for OS/390 jobs.

Format

Usage	Mandatory
Length	1-44 characters
Case Sensitive	No
Invalid Characters	Blanks OS/390: Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Aliases in Other CONTROL-M Components

Alternate names for the Scheduling Table Lib parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	TABLE_DSN
CONTROL-M for OS/390	Scheduling Library

Table

Name of the Scheduling table to which the job belongs.

Note

For CONTROL-M for OS/390 jobs, this parameter is displayed as Scheduling Table Name in the CONTROL-M/EM GUI.

Format

Usage	Mandatory, if values are specified for the Job Name and Date parameters.
Length	1-20 characters
Case Sensitive	Yes
Invalid Characters	• Blanks • Single quotation marks • OS/390: Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

Together with the CONTROL-M parameter, the Table parameter determines the position of the job in the CONTROL-M Scheduling Table hierarchy.

Aliases in Other CONTROL-M Components

Alternate names for the Table parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	TABLE_NAME
Reporting Facility	TABLE_ID
CONTROL-M/Server Utilities	-schedtab

Component	Parameter Name
eTrigger	SchedTab
CONTROL-M for OS/390	TABLE NAME

Example 1: Scheduling Table Name Including a User-Assigned Serial Number

SchTbl03

Example 2: Scheduling Table Name Including a Time Period

SeptOctTbl2

Task Type

Specifies the type of task of the job performs.

Format

Usage	Usage is platform-dependent. For more information, see "Platform-Specific Information" on page 2-57.
Format	Specific terms are valid for each CONTROL-M platform. For more information, see "Platform-Specific Information" on page 2-57.
Invalid Characters	Blanks; Single quotation marks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

Each Task Type can be defined as cyclic or non-cyclic (regular). For more information, see "Cyclic" on page 4-9.

For OS/390 jobs, the specified task type is combined with the values of the Cyclic and Emergency parameters.

Note

In CONTROL-M/EM versions earlier than version 6.1.00, the format for TASKTYPE contained critical and cyclic information also. CONTROL-M/EM version 6.1.03 can still run jobs whose TASKTYPE is specified in the old format. However, BMC Software recommends that you specify this type of information using the CYCLIC and CRITICAL parameters when creating new job processing definitions.

Platform-Specific Information

Platform	Task Types	
• **Microsoft Windows** • **Unix**	**Job**	A regular job submitted to CONTROL-M for execution as a background process. The results of the job (the output) are analyzed by the post-processing subsystem.
	Detached	This type is similar to Job but also includes **.EXE** type files.
	Command	Operating system command (defined in the **Command** parameter) sent to the operating system to be executed as a job. For more information, see "Command" on page 2-20.
	Dummy	CONTROL-M internal job. This is a dummy job that is not executed, but that can be used to execute the post-processing actions Out Conditions and Shout. Its completion status is always **OK**.
	External	Enables CONTROL-M to track jobs whose state changes are determined outside CONTROL-M (that is, jobs run on external applications, such as SAP).

Platform	Task Types	
OpenVMS	**Job**	A regular job submitted to the operating system batch queue. The job results in the job log are analyzed by the CONTROL-M/Server post-processing subsystem. **Note**: For the purposes of the following discussion, the term node refers to an individual computer in an OpenVMS cluster. In a OpenVMS cluster environment, a job with the **Job** Task Type parameter can be executed on a node other than the node on which CONTROL-M is running. To do this, assign the **%%QUEUE** variable of the job a queue name that is a regular queue on another node of the cluster. To let OpenVMS select the node on which to run the job, use the Generic queue mechanism: 1. Define a generic batch queue on the node running CONTROL-M. 2. On each of the other nodes, initialize (create) regular batch queues, and associate each queue with the generic batch queue referred to above. 3. Assign the generic queue name to the **%%QUEUE** variable for that job. Tracking is exactly the same as if the job were executing on a local queue. The job's log file can be found in the same location as if the job executed on the local node.

Platform	Task Types	
OpenVMS, *continued*	**Detached**	A detached process that is executed directly by the operating system (without passing through the operating system batch queue). The results of the **Detached** task are not analyzed by the post-processing subsystem. the detached task has the following properties: • Although the process is not executed by the operating system batch queue, the process is executed asynchronously as a OpenVMS detached process. • It can only be executed on the LOCAL node, where it is also tracked. • A detached process is always assumed to have terminated successfully. If a program to be executed as a detached process requires input (or parameters supplied through the CONTROL-M/Server **SYS$INPUT** default). You can supply these as regular parameters. If the program requires parameters as part of the execution command statement (such as the **RUN** interactive command), it cannot be run as a detached process. Instead, use **Task Type: Command**.
	Command	Operating system command (defined in the **Command** parameter) sent to the operating system to be executed as a job. For more information, see “Command” on page 2-20.
	Dummy	CONTROL-M internal job. This is a dummy job that is not executed, but that can be used to execute the post-processing actions Out Conditions and Shout. Its completion status is always **OK**.

Platform	Task Types	
iSeries (AS/400)	**Job**	A job submitted to an operating system job queue. After submission, the job may start executing immediately or wait in the queue. The log is analyzed by the post-processing subsystem.
	Detached	A detached job is submitted to a no-wait job queue and is executed immediately by the operating system. The results of a detached job are analyzed by the post-processing subsystem. Although the job is not executed by the operating system batch queue, the job is executed asynchronously.
	Command	Operating system command (defined in the **Command** parameter) sent to the operating system to be executed as a job. For more information, see "Command" on page 2-20.
	Dummy	CONTROL-M internal job. This is a dummy job that is not executed, but that can be used to execute the post-processing actions Out Conditions and Shout. Its completion status is always **OK**.

Platform	Task Types	
OS/390	**JOB**	Batch job. Default.
	STC	Started task.

Aliases in Other CONTROL-M Components

Alternate names for the Task Type parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	TASKTYPE
Reporting Facility	TASK_TYPE
CONTROL-M/Server Utilities	-tasktype
CONTROL-M for OS/390	TASKTYPE
CONTROL-M/EM API	task_type

Alternate formats for the Task Type parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	**Example** <TASKTYPE="Detached"/> Valid values are: **For non-OS/390 platforms:** • **Job** • **Detached** • **Command** • **Dummy** • **External** **For OS/390 (as of version 6.1.03):** • **Job** • **Started_Task** These values are used in conjunction with the values specified in the Cyclic and Critical parameters.
Reporting Facility	String.

Component	Format
CONTROL-M/ Server Utilities	Valid values: • **JOB** • **DETACHED** • **COMMAND** • **DUMMY** • **DETACHED** • **EXTERNAL** • **GROUP** (for Group Scheduling tables, only)
eTrigger	Valid values: • **JOB** • **DETACHED** • **COMMAND** • **DUMMY** • **DETACHED** • **GROUP** (for Group Scheduling tables, only)

Example 1: Creating a SAP Job with the CONTROL-M/Server ctmcreate Utility

```
ctmcreate -tasktype external -application SAP -nodegrp
chef1 -appltype SAP -memlib ddd -memname fff -autoedit
%%SAPR3-ACCOUNT DV1 -autoedit %%SAPR3-JOBNAME SAPCM
-autoedit %%SAPR3-JOBCOUNT 09495501  -autoedit
%%SAPR3-JOB_MODE EXTERNAL -applver 46C/46D -applform
"SAP R3" -cmver 610 -jobname xxxx.
```

Scheduling Parameters

The parameters in this chapter determine when and/or how often a job should be scheduled for submission.

Table 3-1 Scheduling Parameters – Summary (Part 1 of 2)

Parameter	Description
Active From Date	Indicates the start of a period of time during which the job or Group Scheduling table can be ordered or the Scheduling Tag can be used.
Active To Date	Indicates the end of a period of time during which the job or Group Scheduling table can be ordered or the Scheduling Tag can be used.
Adjust Condition	Indicates whether or not to ignore prerequisite conditions normally set by predecessor jobs if the relevant predecessor jobs are not scheduled. This parameter is relevant only for jobs in a Group Scheduling table.
And/Or	Indicates the relationship between specified Days values and Weekdays values.
Confcal	Use to specify a calendar that will be used to validate all specified days and dates on which to schedule the job.
Dates	Specific dates on which to order the job.
Days	Days of the month on which to order the job.
Days Calendar	Name of a user-defined calendar used to specify a set of days (for example, working days).
Minimum	Minimum number of free partitioned data set tracks required by the library specified for the PDS parameter.

Table 3-1 Scheduling Parameters – Summary (Part 2 of 2)

Parameter	Description
Months	Months in which to order the job.
PDS	Name of a partitioned data set (PDS) to be checked for free space.
Relationship	The relationship (And/Or) between the specified Scheduling Tag criteria and the job's own basic scheduling criteria. This parameter is relevant only for jobs in a Group Scheduling table.
Retro	Whether or not the job should be scheduled for possible execution after its original scheduling date (odate) has passed.
Scheduling Tag	Identifier for a set of scheduling criteria in a Group Scheduling table. One or more Scheduling Tags can be specified in each job processing definition in a Group Scheduling table. This parameter is relevant only for jobs in a Group Scheduling table.
Time Zone	Indicates the global time zone used to calculate the interval for time-related conditions.
Week Days	Days of the week on which to order the job.
Weeks Calendar	Indicates the name of a calendar to be used to validate specified weekdays on which to order the job.

Active From Date

Indicates the start of a period of time during which the job or Group Scheduling table can be ordered or the Scheduling Tag can be used.

Format

Usage	Optional
Format	Date is selected from the **Active From Date** list box in the CONTROL-M/EM Job Editing form. In the case of a Scheduling Tag, date is selected from the **Active To Date** list box in the CONTROL-M/EM Scheduling form. Default: blank (Job or Group Scheduling table creation date)
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Active To Date	Indicates the end of a period of time during which the job or Group Scheduling table can be ordered or the Scheduling Tag can be used. This parameter is paired with the Active From Date parameter.
Dates	Other scheduling criterion. Indicates specific dates (month and day) on which the job should be scheduled.
Days Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified days. This parameter may be mandatory for certain Days value formats. Also known as: **DCAL** and **dayscal**
And/Or	Indicates the relationship between specified Days values and Weekdays values.
Week Days	Indicates days of the week on which the job should be scheduled.
Weeks Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified weekdays.
Confcal	Indicates the name of a CONTROL-M calendar that is used to validate scheduling dates. A specified shift value can be used to indicate how to handle jobs that are scheduled for a non-working day in the calendar.

Parameter	Description
Months	Indicates the months in which the job should be scheduled. Only days in the specified months are considered valid for scheduling the job.
Dates	Indicates specific dates on which the job can be scheduled. **Note:** This parameter cannot be specified if a value has been specified for the **Days** parameter.
Scheduling Tag	Identifies a set of scheduling criteria defined for a group. This parameter is only relevant to jobs in a Group Scheduling Table.

General Information

The Active From Date parameter is used together with the Active To Date parameter to specify a period of time during which a job or Group Scheduling table can be ordered or a Scheduling Tag is active.

Use this pair of parameters with multiple copies of a job or Group Scheduling table definition to create periods of time when the job or Group Scheduling table definition is run with alternate values.

Note

Using this pair of parameters eliminates the necessity of making last-minute changes to a job processing definition for a fixed period of time.

In relation to jobs and Group Scheduling table definitions, these parameters work as follows:

- If the specified From date is earlier than the To date, the job can be scheduled on or between those dates.
- If the specified From date is later than the To date, the job can be scheduled on those dates, or on any date that is not between those dates.
- If only a From date is specified, the job can be scheduled on or after that date.

- If only a To date is specified, the job can be scheduled on or before that date.

In relation to Scheduling Tags, these parameters work as follows:

- If the specified From date is earlier than the To date, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on or between those dates.

- If the specified From date is later than the To date, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on those dates, or on any date that is not between those dates.

- If only a From date is specified, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on or after that date.

- If only a To date is specified, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on or before that date.

- If no dates are specified for the From date or the To date, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on any date.

- If a job specifies more than one Scheduling Tag, and the definition of one of the Scheduling Tags is such that the job can be scheduled on a particular day, the job will be scheduled even if it would not be scheduled under the terms of another Scheduling Tag definition.

Aliases in Other CONTROL-M Components

Alternate names for the Active From Date parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	ACTIVE_FROM_DATE

Component	Parameter Name
CONTROL-M/Server Utilities	-DATEFROM *yyyymmdd* **Example:** -DATEFROM 20030315
CONTROL-M for OS/390	DEFINITION ACTIVE FROM or SCHEDULE TAG ACTIVE FROM

Formats in Other CONTROL-M Components

Alternate formats for the Active From Date parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	String for date. According to site standard (**ddmmyyyy**, **mmddyyyy**, **yyyymmdd**). **Example** <ACTIVE_FROM=”15032003”/>
CONTROL-M for OS/390	6-integer string for date. According to site standard (**ddmmyy, mmddyy, yymmdd**).

Example: Seasonal Changes

JOB_A is a job processing definition for scheduling food shipments.

- In the summer, the company ships on Mondays and Wednesdays.
- In the fall, the company ships only on Mondays.
- In winter, the company ships on Monday, Wednesday, and Friday.
- In the spring, the company ships on Mondays and Wednesdays.

Four copies of the JOB_A job processing definition are created. The Days parameter must be changed seasonally, to allow for variations in shipping frequency. Different Active From Date and Active To Date parameters are used in each definition to specify the season in which the job is active. Other job processing criteria remain unchanged.

Job_A, Copy_1: Summer

```
Days: 1, 3
Active From Date: June 1, 2002
Active To Date: August 31, 2002
```

Job_A, Copy_2: Fall

```
Days: 1
Active From Date: September 1, 2002
Active To Date: November 30, 2002
```

Job_A, Copy_3: Winter

```
Days: 1, 3, 6
Active From Date: December 1, 2002
Active To Date: March 1, 2003
```

Job_A, Copy_4: Spring

```
Days: 1, 3
Active From Date: March 2, 2003
Active From Date: May 30, 2003
```

Active To Date

Indicates the end of a period of time during which the job or Group Scheduling table can be ordered or the Scheduling Tag can be used.

Format

Usage	Optional
Format	Date is selected from the **Active To Date** list box in the CONTROL-M/EM Job Editing form. In the case of a Scheduling Tag, date is selected from the **Active To Date** list box in the CONTROL-M/EM Scheduling form. Default: blank (Job or Group Scheduling table creation date)
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Active From Date	Indicates the start of a period of time during which the job or Group Scheduling table can be ordered or the Scheduling Tag can be used. This parameter is paired with the Active To Date parameter.
Dates	Indicates specific dates (month and day) on which the job should be scheduled.
Days Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified days. This parameter may be mandatory for certain Days value formats. Also known as: **DCAL** and **dayscal**
And/Or	Indicates the relationship between specified Days values and Weekdays values.
Week Days	Indicates days of the week on which the job should be scheduled.
Weeks Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified weekdays. Also known as: **WCAL** and **weekscal**

Parameter	Description
Confcal	Indicates the name of a CONTROL-M calendar that is used to validate scheduling dates. A specified shift value can be used to indicate how to handle jobs that are scheduled for a non-working day in the calendar.
Months	Indicates the months in which the job should be scheduled. Only days in the specified months are considered valid for scheduling the job.
Dates	Indicates specific dates on which the job can be scheduled. **Note:** This parameter cannot be specified if a value has been specified for the **Days** parameter.
Scheduling Tag	Identifies a set of scheduling criteria defined for a group. This parameter is only relevant to jobs in a Group Scheduling Table.

General Information

The Active To Date parameter is used together with the Active From Date parameter to specify a period of time during which a job or Group Scheduling table can be ordered or a Scheduling Tag is active.

Use this pair of parameters with multiple copies of a job or Group Scheduling table definition to create periods of time when the job or Group Scheduling table definition is run with alternate values.

Note

Using this pair of parameters eliminates the necessity of making last-minute changes to a job processing definition for a fixed period of time.

In relation to jobs and Group Scheduling table definitions, these parameters work as follows:

- If the specified From date is earlier than the To date, the job can be scheduled on or between those dates.

- If the specified From date is later than the To date, the job can be scheduled on those dates, or on any date that is not between those dates.

- If only a From date is specified, the job can be scheduled on or after that date.

- If only a To date is specified, the job can be scheduled on or before that date.

In relation to Scheduling Tags, these parameters work as follows:

- If the specified From date is earlier than the To date, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on or between those dates.

- If the specified From date is later than the To date, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on those dates, or on any date that is not between those dates.

- If only a From date is specified, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on or after that date.

- If only a To date is specified, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on or before that date.

- If no dates are specified for the From date or the To date, jobs in the Group Scheduling table that contain the Scheduling Tag can be scheduled on any date.

- If a job specifies more than one Scheduling Tag, and the definition of one of the Scheduling Tags is such that the job can be scheduled on a particular day, the job will be scheduled even if it would not be scheduled under the terms of another Scheduling Tag definition.

Aliases in Other CONTROL-M Components

Alternate names for the Active To Date parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	ACTIVE_To_DATE
CONTROL-M/Server Utilities	-DATEUNTIL *yyyymmdd* **Example:** -DATEUNTIL 20030315
CONTROL-M for OS/390	DEFINITION ACTIVE UNTIL or SCHEDULE TAG ACTIVE UNTIL

Formats in Other CONTROL-M Components

Alternate formats for the Active To Date parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	String for date. According to site standard (**ddmmyyyy, mmddyyyy, yyyymmdd**). **Example** <ACTIVE_TILL=”15032003”/>
CONTROL-M for OS/390	6-integer string for date. According to site standard (**ddmmyy, mmddyy, yymmdd**). Default: blank.

Examples

For examples, see “Active From Date” on page 3-3.

Adjust Condition

Indicates whether to ignore prerequisite conditions normally set by predecessor jobs if the relevant predecessor jobs are not scheduled.

Note

This parameter is relevant only for Group Scheduling tables.

Format

Usage	Optional
Format	Check box Select the **Adjust Condition** check box only if you want the relevant prerequisite conditions to be ignored.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The Adjust Condition parameter is applied to all jobs in a Group Scheduling table. It defines job dependencies in the group as being either conditional or absolute.

Conditional and Absolute Dependencies

- **Absolute job dependency**
  Each job in a Group Scheduling table runs only after all the predecessor jobs in the group have run. All prerequisite In conditions for a job must exist in the Conditions/Resources table before the job can run.

  The **Adjust Condition** check box in the CONTROL-M/EM Job Editing form is clear.

- **Conditional job dependency**
  Each job in the group waits for its predecessor jobs to run only if the predecessor jobs in the group are scheduled. Prerequisite condition requirements are ignored and the successor job runs if a predecessor job is not scheduled. The other runtime scheduling criteria for the job must be satisfied.

  The **Adjust Condition** check box in the CONTROL-M/EM Job Editing form is selected.

Maintaining Job Order

Ignoring prerequisite conditions normally set by predecessor jobs can cause dependent jobs to run out of order.

Job order can be maintained by inserting dummy jobs in place of the prerequisite jobs that are not run.

The CONTROL-M/Server CTM_GROUP_ADJUST_DUMMY configuration parameter controls the creation of dummy jobs that run in place of unscheduled prerequisite jobs.

- If CTM_GROUP_ADJUST_DUMMY is set to **Y**, a dummy job waits for the prerequisite conditions expected by the job it is replacing, and performs the post processing of the job.

- If CTM_GROUP_ADJUST_DUMMY is set to **N**, Out conditions of the jobs that were not ordered are ignored by the ordered jobs in the Group Scheduling table. (Default)

Enable Dummy Job Creation in CONTROL-M/Server

Add the following line to the CONTROL-M/Server **ctm/data/config.dat** file to enable dummy job creation:

```
CTM_GROUP_ADJUST_DUMMY Y
```

Note

In conditions that are ignored using this parameter are not removed from the job processing definition.

Aliases in Other CONTROL-M Components

Alternate names for the Adjust Condition parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	ADJUST_COND
Reporting Facility	ADJUST CONDITION
CONTROL-M/Server Utilities	-adjust_cond
eTrigger	Adjust Condition
CONTROL-M for OS/390 Utilities	Adjust Conditions
CONTROL-M/EM API	adjust_condition

Formats in Other CONTROL-M Components

Alternate formats in other CONTROL-M components are listed below.

Component	Format
CONTROL-M/EM Utilities	String. **Example** <ADJUST_COND="Y"/>
CONTROL-M/Server Utilities	• **Y** – ignore the relevant prerequisite conditions • **N** – utilize prerequisite conditions normally set by predecessor jobs. (default)
eTrigger	• Blank – do not consider the parameter (Default) • **N** – ignore the relevant prerequisite conditions • **Y** – utilize prerequisite conditions normally set by predecessor jobs.
CONTROL-M for OS/390	• **Y** – ignore the relevant prerequisite conditions • **N** – utilize prerequisite conditions normally set by predecessor jobs. (default)

And/Or

Indicates the relationship between specified Days parameter values and Weekdays parameter values.

Format

Usage	Optional
Format	Valid values are: • **and** • **or** (default)
Invalid Characters	Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Confcal	Indicates the name of a CONTROL-M calendar that is used to validate scheduling dates. A specified shift value can be used to indicate how to handle jobs that are scheduled for a non-working day in the calendar.
Dates	Indicates specific dates (month and day) on which the job should be scheduled.
Days Calendar	Indicates the name of a calendar containing a list of working days on which the job can be scheduled for execution.
Week Days	Indicates the days of the week on which the job should be scheduled for processing.
Weeks Calendar	Indicates the name of a calendar to be used to validate specified weekdays on which to order the job.

General Information

If **And** is specified, the Days/Days Calendar criteria and Week Days/Weeks Calendar criteria must be satisfied for a job to be scheduled.

If **Or** is specified, either the Days/Days Calendar criteria and Week Days/Weeks Calendar criteria must be satisfied for a job to be scheduled.

Aliases in Other CONTROL-M Components

Alternate names for the And/Or parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DAYS_AND_OR
Reporting Facility	DAYS_AND_OR
CONTROL-M/Server Utilities	-cal_andor
CONTROL-M for OS/390	And/Or

Confcal

Indicates the name of a CONTROL-M calendar that is used to validate scheduling dates. A shift value can be used to indicate how to handle jobs that are scheduled for a non-working day in the calendar.

Format

Usage	Optional
Length	Valid calendar name, up to 10 characters in length
Case Sensitive	Yes
Invalid Characters	• Blanks • OS/390: Non-English characters • Platforms other than OS/390: Single quotation marks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Active From Date	Indicates the start of a period of time during which the job or Group Scheduling table can be ordered or the Scheduling Tag can be used.
Active To Date	Indicates the end of a period of time during which the job or Group Scheduling table can be ordered or the Scheduling Tag can be used.
And/Or	The relationship between specified Days parameter values and Weekdays parameter values.
Days	Days of the month on which to order the job.
Days Calendar	The name of a calendar containing a list of working days on which the job can be scheduled for execution.
Minimum	Minimum number of free partitioned data set tracks required by the library specified for the PDS parameter.
Months	Name of a partitioned data set (PDS) to be checked for free space. If the PDS has fewer than the minimum number of required free tracks (as specified for the Minimum parameter), the job is executed.

Parameter	Description
Week Days	The days of the week on which the job should be scheduled for processing.
Weeks Calendar	The name of a calendar to be used to validate specified weekdays on which to order the job.

Subparameters

Subparameter	Description
Shift	Determines when to schedule the job if the current day is not a valid working in the specified calendar. Optional.
Shift Num	Determines how many days to shift the job if the current day is not a valid working day.

Note

For OS/390 Jobs: The **Confcal** parameter cannot be specified together with the **PDS** and **Minimum** parameters.

General Information

The Calendar specified for Confcal must be a regular Calendar (not a periodic calendar). This calendar is used for:

- Validating scheduling dates
- Determining the scheduled work day.

Jobs to be scheduled on a given day are checked against the Confcal calendar:

- If the day is a working day in the Confcal calendar, the job is scheduled on that day. (This day is referred to as the original scheduling date.)

- If the day is not a working day in the Confcal calendar, the Shift and Shiftnum parameters are checked. Depending on the Shift value, the job may be scheduled on an earlier day, a later day, on the original scheduling date, or it may be cancelled.

If the job's scheduling criteria also include the day to which it is shifted, it will run only once on that date (not once for regular scheduling, and once to make up for the shifted day).

Note

If no Confcal calendar is specified, no value can be specified for the Shift subparameter, and this field has no effect on job scheduling.

Aliases in Other CONTROL-M Components

Alternate names for the Confcal parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	CONFCAL
Reporting Facility	CONF_CAL
CONTROL-M/Server Utilities	-confcal
CONTROL-M for OS/390	CONFCAL

Formats in Other CONTROL-M Components

Alternate formats for the Confcal parameter are listed below.

Component	Format		
CONTROL-M/EM Utilities	String. SHIFT and SHIFTNUM are included as related parameters (not as subparameters of CONFCAL). **Example** <CONFCAL="Cal1"/>		
	SHIFT	Valid values: • **IGNOREJOB** • **NEXTDAY** • **PREVDAY** • **NOCONFCAL**	CONTROL-M/Server equivalent: • No value • **>** • **<** • @ For more information, see"SHIFT" on page 3-22.
	SHIFT NUM	Number from **-62** to **62**.	
Reporting Facility	String. SHIFT and SHIFTNUM are included as related parameters (not as subparameters of CONF_CAL).		
	SHIFT	Valid values: • **Ignore Job** • **Next Day** • **Prev Day** • **No Confcal**	
	SHIFT NUM	String. Number from **-62** to **62**.	

Component	Format	
CONTROL-M/Server Utilities	SHIFT is specified as a separate parameter (not a subparameter of CONFCAL). Do not specify this parameter unless you want to shift the scheduling of a job. SHIFT has up to four characters (*xyyy*). If you specify SHIFT, you must specify a value for *x*, or a value for *yyy*, or values for both *x* and *yyy*.	
	SHIFT	The first character (*x*) indicates how to shift scheduling of the job if the original scheduling day of the job is not a working day in the CONFCAL calendar. Valid values are: • No value (for *x*) – No shifting occurs, unless a value is inserted for *yyy*. Default. • > – Job scheduling is shifted to the next working day in the CONFCAL calendar. Additional shifting may be performed, depending on the *yyy* value, described below. • < – Job scheduling is shifted to the previous working day in the CONFCAL calendar. Additional shifting may or may not be performed, depending on the *yyy* value, described below. • @ – Tentatively schedule the job for the current day, even if the current day is not a working day in the CONFCAL calendar. Additional shifting may or may not be performed, depending on the *yyy* value, described below. The remaining three characters (*yyy*) shift scheduling of the job forward or backward the specified number of working days, as defined in the CONFCAL calendar. Valid values are: • No value (for *yyy*) – Only the shifting specified by the *x* value occurs. • **-nn** or **+nn** shifts the job forward or backward **nn** working days in the CONFCAL calendar. **nn** can be any value from 0 to 62. **Note the following points:** • If the result of shifting by yyy days is a day that is not allowed (-n was entered for that day in the DAYS parameter), the job is shifted to the next working day (for a forward shift), or to the previous working day (for a backward shift).

Component	Format	
		• If the original scheduling day of the job is a working day in the CONFCAL calendar, the x value is ignored and the yyy value determines when the job is scheduled. • If the original scheduling day of the job is not a working day in the CONFCAL calendar, job scheduling is shifted according to the x value and then shifted again according to the yyy value (if specified) to determine when the job is scheduled. • If the original scheduling day of the job is not a working day in the CONFCAL calendar, and no value (blank) is specified for the x value, the job is not scheduled, and the yyy value (if specified) is ignored. • Confcal and Shift parameters are applied to a scheduling date only if that date already satisfies the Basic Scheduling criteria as specified in the Days, Months, Dates, and Weekdays parameters.
CONTROL-M for OS/390	1-8 character string. SHIFT is specified as a separate parameter (not a subparameter of CONFCAL).	
	SHIFT	4-character value including the Shift Num value. For more information, see the *CONTROL-M for OS/390 User Manual*.

Dates

Indicates specific dates (month and day) on which the job should be scheduled.

Format

Usage	Optional **Note**: The Dates parameter cannot be used together with the Days parameter.
Format	• The Dates parameter is specified in either **mmdd** or **ddmm** format, depending on the site standard. • Multiple values can be expressed, separated by commas, in any order (for example, **1211**,**1212**).
Invalid Characters	Blanks; single quotation marks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The job is scheduled for execution only on the dates specified in the dates list.

In OS/390, only 12 days can be specified for the Dates parameter. To specify more than twelve dates for one job, the dates should be defined in a calendar, and the calendar specified in the Days Calendar parameter.

You can use the CTMRPLN utility to generate a report describing when the job will run based on its currently specified scheduling dates. For more information, see the description of this utility in the CONTROL-M Administrator Guide for your platform.

The Dates parameter cannot be specified together with the Weeks Calendar parameter.

Aliases in Other CONTROL-M Components

Alternate names for the Dates parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DATE
Reporting Facility	DATES_STR
CONTROL-M/Server Utilities	-date
CONTROL-M for OS/390	DATES

Example: Schedule a job to run on a specific date

The following examples presume that the site standard for specifying dates is **mmdd**:

- Schedule a job for the 4th of April:

  Dates 0404

- Schedule a job for the 21st of December and the 21st of June:

  Dates 1221,0621

Days

Days of the month on which to order the job.

Format

Usage	Optional **Note**: The Days parameter cannot be used together with the Dates parameter.
Length	1-160 characters
Invalid Characters	Blanks; single quotation marks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Valid formats for the Days parameter vary depending on whether or not a periodic calendar is specified as the Days Calendar. Formats for non-periodic and periodic calendars are specified separately below. (For more information about Calendar types, see the *CONTROL-M/Desktop User Guide*.)

Note

The term *working days* in the following format descriptions refers to days marked in the calendar specified for the Days Calendar parameter.

Non-Periodic (Regular) Calendar Format

Format	Description
Rules	• ***n*** is any integer from 1 to 31. • Multiple values can be expressed (separated by commas) in any order.
Values	• **ALL**, All days of the month. • ***n***, Specific days of the month. • **+*n***, Specific days of the month in addition to working days in the Days Calendar. • **-*n***, Days of the month on which the job should not run, even if they are working days in the Days Calendar. • **>*n***, Order the job on the indicated day if it is a working day; otherwise, order the job on the next working day. This format is frequently used for holiday handling. • **<*n***, Order the job on the indicated day if it is a working day; otherwise, order the job on the closest preceding working day. This format is frequently used for holiday handling. • **D*n*,** Order the job on the ***n***th working day from the beginning of the month. • **-D*n*,** Order the job on all working days except the ***n***th working day from the beginning of the month. • **L*n***, Order the job on the ***n***th calendar day (or ***n***th working day, if the Days Calendar parameter is specified) from the end of the month. **L1** represents the last day of the month (or last working day of the month if a Days Calendar is specified). • **-L*n*,** Order the job on all days except the ***n***th calendar day from the end of the month. If the Days Calendar parameter is specified, order the job on all working days except the ***n***th working day from the end of the month. **Note:** A calendar must be specified for the Days Calendar parameter if the **+*n***, **-*n***, **>*n***, **<*n***, **D*n*** or **-D*n*** format is used for the Days parameter.

Periodic Calendar Formats

Format	Description
Rules	In the following periodic scheduling formats: • ***n*** is any integer from **1** through **255**. • ***i*** is any valid period identifier. Valid values are: — any integer from **1** through **9** — any uppercase letter except **N** and **Y** — ***** (asterisk) – all periods • If the number of days between periods with the same identifier is more than 33 (this value can be changed by the administrator), it is considered a new period. • The name of a periodic calendar must be specified in the Days Calendar. A maximum of eight periodic values (separated by commas) can be designated in any order.
Values	• **D*n*P*i*,** Order the job on the ***n***th day of period ***i*** from the beginning of the period. An ***** can be specified as the value of — ***n*** to represent all days — ***I*** to represent all periods • **-D*n*P*i*,** Order the job on all days of period ***i*** except the ***n***th day of period ***i*** from the beginning of the period. An ***** can be specified as the ***i*** value to represent all periods. • **L*n*P*i*,** Order the job on the ***n***th day of period ***i*** counting backward from the last day of the period. An ***** can be specified as the ***i*** value to represent all periods. • **-L*n*P*i*,** Order the job on all days of period ***i*** except the ***n***th day of period ***i*** counting backward from the last day of the period. An ***** can be specified as the ***i*** value to represent all periods.

Related Parameters

CONTROL-M combines the value of the Days parameter with certain other parameters in order to determine the scheduling days for the job.

Days Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified days. This parameter may be mandatory for certain Days value formats.
And/Or	Indicates the relationship between specified Days values and Weekdays values.
Week Days	Indicates days of the week on which the job should be scheduled.

Weeks Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified weekdays.
Confcal	Indicates the name of a CONTROL-M calendar that is used to validate scheduling dates. A specified shift value can be used to indicate how to handle jobs that are scheduled for a non-working day in the calendar.
Months	Indicates the months in which the job should be scheduled. Only days in the specified months are considered valid for scheduling the job.

General Information

The job is ordered only on the days marked in the Days list and in the months specified in the Months parameter.

Rules

- When **ALL** is specified, no other values should be specified for the Days parameter.
- Negative values take precedence over positive values when determining whether or not a job should be scheduled on a certain date. If a negative value (**-*n*, -D*n*, -L*n*, D*n*P*i*,** or **-L*n*P*i***) in either the **Days** or **Week Days** parameter prevents a job from being scheduled on a date, the job will not be scheduled on that date.
- Identical negative and positive values (for example, **-D*n*, D*n***) cannot be specified together.
- If periodic and non-periodic values are mixed when specifying Days, processing will depend upon the calendar type specified in parameter Days Calendar.
- If a non-periodic calendar is specified in Days Calendar, only non-periodic values are processed; periodic values are ignored.
- If a periodic calendar is specified in Days Calendar, all periodic values and all negative non-periodic values (for example, **-*n***) are processed; non-negative non-periodic values are ignored.

- **For OS/390 platforms,** the Months parameter is ignored when periodic values are specified for the Days parameter.

Note

If the **And** option is selected (Month Days *and* Weekdays), and no criteria are specified for either the Month Days or the Week Days parameter, CONTROL-M/EM assumes that **ALL** has been specified for the empty parameter. For example, if Monday is selected, and no days of the month are selected, the job will be scheduled on all Mondays of the month.

Use with the CONTROL-M/Server CTMRPLN Utility

You can use the CTMRPLN utility to generate a report describing when the job will run based on its currently-specified scheduling dates. For more information, see the description of this utility in the CONTROL-M Administrator Guide for your platform.

Platform-Specific Information for OS/390

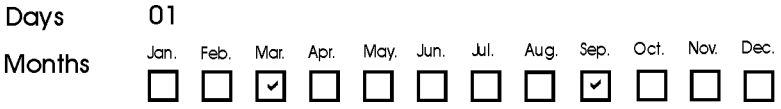
The Months parameter is ignored when periodic values are specified for the Days parameter.

Aliases in Other CONTROL-M Components

Alternate names for the Days parameter are listed below.

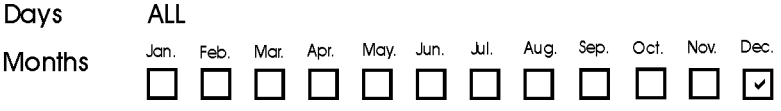
Component	Parameter Name
CONTROL-M/EM Utilities	DAYS
Reporting Facility	DAY_STR
CONTROL-M/Server Utilities	-days
CONTROL-M for OS/390	DAYS

Example 1: Schedule a job on the 1st of March and the 1st of September



Example 2: Schedule a job on both the 1st and 15th day of each month

Example 3: Schedule a job on every day in December



Example 4: Complex Scheduling Using a Periodic Calendar

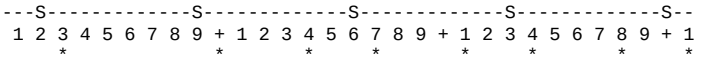
Schedule the job on the 1st day of period A, and on all days, except the 2nd day, of period B. Do not schedule the job on the 5th day of the month.

```
Days -5, D1PA, -D2PB
Days Calendar PERIDAYS
```

Periodic calendar PERIDAYS contains the following definitions:

```
---S------------S------------S------------S------------S--
 1 2 3 4 5 6 7 8 9 + 1 2 3 4 5 6 7 8 9 + 1 2 3 4 5 6 7 8 9 + 1
    B C A A B    B C A A B    B C A A B    B C A A B    B
```

The job is scheduled on the days indicated by an asterisk:



Note

The periodic calendar shown above is in OS/390 format.

Days Calendar

Indicates the name of a calendar containing a list of working days on which the job can be scheduled for execution.

Format

Usage	Optional **Note**: The Days Calendar parameter cannot be used together with the Dates parameter.
Length	1through 10 characters OS/390: 1through 8 characters, or the asterisk (*****) character
Case Sensitive	Yes
Invalid Characters	• **Platforms other than OS/390**: Blanks; single quotation marks • **OS/390**: Blanks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

And/Or	Indicates the relationship between specified Days values and Weekdays values.
Confcal	Indicates the name of a CONTROL-M calendar that is used to validate scheduling dates. A specified shift value can be used to indicate how to handle jobs that are scheduled for a non-working day in the calendar.
Days	Indicates whether to ignore prerequisite conditions normally set by predecessor jobs if the relevant predecessor jobs are not scheduled. This parameter is relevant only for Group Scheduling tables.
Months	Indicates the months in which the job should be scheduled. Months must be indicated when the Days Calendar parameter is used.

Week Days	Indicates days of the week on which the job should be scheduled.
Weeks Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified weekdays. Also known as: **WCAL** and **weekscal**

General Information

A calendar contains a list of user-defined days that can be used as a basis for scheduling jobs. For example, the days included in the calendar can be working days, accounting days, or holidays.

- Any number of calendars can be defined, where each one corresponds to a different set of dates.
- Calendars are usually defined for the entire installation, though each user can define calendars for his/her own use. One calendar can be shared by many job processing definitions.
- The calendar does not have to exist when the job processing parameters are defined. Its existence is checked during New Day Processing.

How this parameter works:

- If no values are specified for the Days parameter, all working days in the specified Days Calendar are considered valid for job scheduling.
- If no Days Calendar is specified, all specified Days values are considered valid working days.
- When the Days Calendar parameter is specified with the Days parameter, the job is scheduled for execution only if all the indicated Days are also marked in the calendar.
- If the Days Calendar parameter is specified with a Days parameter that includes the + symbol, the job is scheduled for execution on those dates marked with a + (in the Days parameter), in addition to the dates marked in the calendar.

- If the Days Calendar parameter is specified with a Days parameter that includes the – symbol, the job is not scheduled for execution on those dates even if the date is marked in the calendar.

- The appropriate Months parameters must be checked.

- The and/or relationship between Days and Weekdays is analyzed. For more information about And/Or see the description on page 3-16.

You can use the CTMRPLN utility to generate a report describing when the job will run based on its currently specified scheduling dates. For more information, see the description of this utility in the CONTROL-M Administrator Guide for your platform.

Note

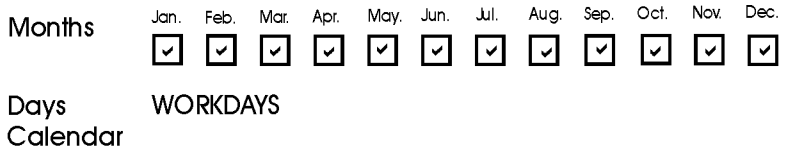
The following examples presume that the first day of the week at your site is defined as **Sunday**.

Aliases in Other CONTROL-M Components

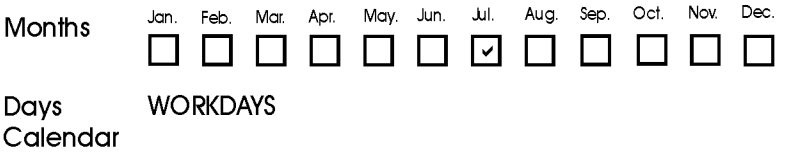
Alternate names for the Days Calendar parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DAYSCAL
Reporting Facility	DAYS_CAL
CONTROL-M/Server Utilities	-dayscal
CONTROL-M for OS/390	DCAL

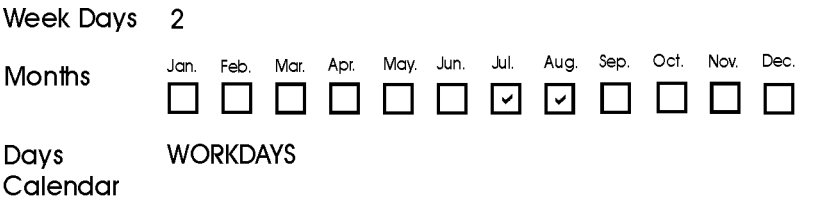
Example 1: Schedule the job on all workdays throughout the year



Example 2: Schedule the job on all workdays in July

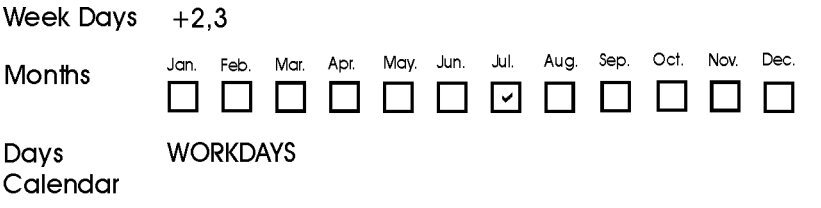


Example 3: Schedule the job on every Monday in July and August that is a workday



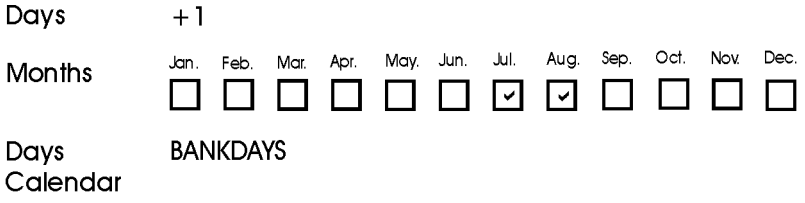
Example 4: Schedule a job on a regular basis

Schedule the job on every Monday in July, whether or not it is workday, and each Tuesday in July that is a workday

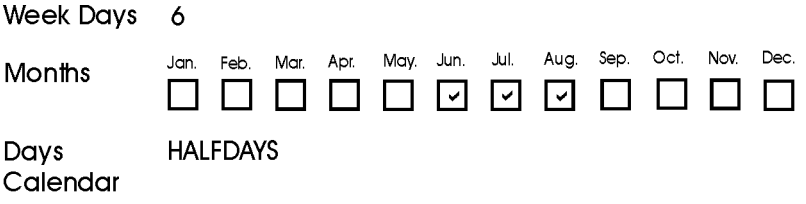


Example 5: Complex Scheduling

- Schedule the job on the 1st of June, July and August, whether or not it is a banking day, and on every banking day in June, July and August:



Example 6: Schedule the job on every Friday in June, July and August that is a "half day"



Minimum

Minimum number of free partitioned data set tracks required by the library specified for the PDS parameter.

Note

This parameter is available for OS/390 jobs only.

Format

Usage	Mandatory, if a value is specified for the PDS parameter.
Format	A positive 3-digit number (leading zeros are required)
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Confcal	Confcal and Minimum cannot be specified together.
Dates	Dates and Minimum cannot be specified together.
Days	Days and Minimum cannot be specified together.
Months	Months and Minimum cannot be specified together.
PDS	Name of a partitioned data set (PDS) to be checked for free space. If the PDS has fewer than the minimum number of required free tracks (as specified for the Minimum parameter), the job is executed. When PDS is specified, Minimum is mandatory.
Retro	Retro and Minimum cannot be specified together.
Week Days	Week Days and Minimum cannot be specified together.
Weeks Calendar	Weeks Calendar and Minimum cannot be specified together.

General Information

The PDS parameter specifies a library, and the Minimum parameter specifies the minimum number of free tracks required by that library.

Parameters Minimum and PDS are always used together and are never used with other Basic Scheduling parameters (For more information, see "Related Parameters" on page 3-38).

When to Use

The Minimum and PDS parameters are intended for use in jobs and started tasks that compress, clean, and/or enlarge libraries. They are also specified for tasks that issue a warning message to the IOA Log file if the minimum number of free tracks is not available.

If Minimum and PDS parameters are defined for a job, the scheduling of the job is not related to or dependent upon any date criteria. Instead, the job is scheduled if the actual number of free tracks available in the specified library is below the specified minimum at time of daily job ordering. The job or started task can then compress, clean, or enlarge the library (or issue the appropriate warning).

Note

Minimum does not work with PDSE-type libraries because they always appear to be 100 percent full. Minimum only checks current extents.

Aliases in Other CONTROL-M Components

Alternate names for the Minimum parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	MIN
Reporting Facility	MIN PDS TRAC
CONTROL-M for OS/390	MINIMUM

Months

Indicates the months during which the job can be scheduled for processing.

Format

Usage	Optional
Format	A check box is displayed corresponding to each month of the year. When selected, the job is scheduled for that month. Default: The job is scheduled for all months.
Invalid Characters	Blanks; single quotation marks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Dates	You cannot specify a value for Months when a value is specified for the Dates parameter.

General Information

The Months parameter cannot be used together with the Dates parameter.

On CONTROL-M/Server

To see a job's schedule plan, run report CTMRPLN. This report indicates when selected jobs in a selected Scheduling table are scheduled to run. For more information regarding CTMRPLN, see the utility section of the CONTROL-M Administrator Guide for your platform.

Aliases in Other CONTROL-M Components

Alternate names for the Months parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	Indicate the specific month: • **JAN** • **FEB** • **MAR** • **APR** • **MAY** • **JUN** • **JUL** • **AUG** • **SEP** • **OCT** • **NOV** • **DEC**
Reporting Facility	Specify the specific month: • **MONTH_1** (January) • **MONTH_2** (February) and so on... • **MONTH_12** (December)
CONTROL-M/Server Utilities	-month
CONTROL-M for OS/390	MONTHS

Formats in Other CONTROL-M Components

Alternate formats for the Months parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	Indicate for each month. • **0** (Do not schedule for this month. Default) • **1** (Schedule for this month.) **Example** <JAN="1"/>

Examples

For examples that use the Months parameter, see the Days Calendar (page 3-33) and Days parameters (page 3-26).

PDS

Name of a partitioned data set (PDS) to be checked for free space. If the PDS has fewer than the minimum number of required free tracks (as specified for the Minimum parameter), the job is executed.

Note

This parameter is available for OS/390 jobs only.

The PDS and Minimum parameters must be specified together.

Format

Usage	Mandatory, when a value is specified for the Minimum parameter
Length	1-44 characters
Case Sensitive	No
Invalid Characters	Blanks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Confcal	Confcal and PDS cannot be specified together.
Dates	Dates and PDS cannot be specified together.
Days	Days and PDS cannot be specified together.
Minimum	Number of available tracks. When PDS is specified, Minimum is mandatory.
Months	Months and PDS cannot be specified together.
Retro	Retro and PDS cannot be specified together.
Week Days	Week Days and PDS cannot be specified together.

General Information

The data set must be cataloged, and it must be a partitioned data set.

Parameters Minimum and PDS are always used together and are never used with other Scheduling parameters.

The PDS parameter identifies a library. The Minimum parameter specifies the minimum number of free tracks required by that library.

These parameters are intended for use (that is, definition) in jobs or started tasks that compress, clean and/or enlarge libraries, or which issue a warning message to the IOA Log file.

If the Minimum and PDS parameters are defined for a job, the scheduling of the job is not related to or dependent upon any date criteria. Instead, the job is scheduled if the actual number of free tracks available in the specified library is below the specified minimum when the New Day procedure is run.

The job or started task can then compress, clean, or enlarge the library (or issue the appropriate warning).

Note

This parameter is not supported for PDSE-type libraries because they always appear to be 100 percent full.

Aliases in Other CONTROL-M Components

Alternate names for the PDS parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	PDSNAME
Reporting Facility	PDS Name
CONTROL-M for OS/390	PDS

Relationship

Indicates the relationship (AND/OR) between Scheduling Tag criteria and basic scheduling criteria in the job processing definition (that is, whether either set of criteria, or both sets of criteria, must be satisfied).

Note

This parameter is relevant only to the job processing definitions of jobs that are in Group Scheduling tables.

Format

Usage	For jobs that are in Group Scheduling tables.
Format	Option buttons. • When **or** is selected, if either set of criteria (a specified Scheduling Tag or the job's basic scheduling criteria) is satisfied, the job is scheduled. Default. • When **and** is selected, both a specified Scheduling Tag and the job's basic scheduling criteria must be satisfied for the job to be scheduled.
Invalid Characters	Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Scheduling Tag	Identifies a set of scheduling criteria defined for a group. If the Relationship parameter value is AND and no Scheduling tag is defined, the job is not scheduled.

General Information

For jobs in Group Scheduling tables, two types of basic scheduling criteria can be specified:

- Scheduling Tags. Pointers to sets of scheduling criteria defined in the Group Scheduling table.

- Basic Scheduling Criteria. Defined in each job processing definition.

In some cases, both sets of criteria must be satisfied for the job to be scheduled. In other cases, it is sufficient if either set of criteria is satisfied. The AND-OR option enables you to specify the required combination:

- When either set of criteria is sufficient choose **OR**.
- When both sets of criteria are required, choose **AND**.

Note

If an AND relationship is specified and no Scheduling Tags are defined in the job, the job is not scheduled.

Aliases in Other CONTROL-M Components

Alternate names for the Relationship parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	TAG_RELATIONSHIP
Reporting Facility	TAG_RELATIONSHIP
CONTROL-M/Server Utilities	-relationship
CONTROL-M for OS/390	RELATIONSHIP
CONTROL-M for OS/390 Utilities	RELATION

Retro

Indicates if the job should be scheduled for possible execution after its original scheduling date has passed (retroactively).

Format

Usage	Optional
Format	Check box Select the **Retro** check box to indicate that the job should be scheduled retroactively. Clear the check box to indicate that the job should not be scheduled retroactively. Default: Not selected.
Invalid Characters	Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Minimum	Minimum cannot be specified together with Retro.
PDS	PDS cannot be specified together with Retro.

General Information

The Retro parameter is used to control situations where the computer has not been working for a day or more (for example, due to a weekend, a holiday or a hardware failure). The Retro parameter indicates to the New Day procedure or User Daily if the job should be retroactively scheduled for days the computer (or CONTROL-M) was inactive.

- If Retro is specified, CONTROL-M/Server places job orders in the Active Jobs file for all days that the job should have been scheduled. The scheduling dates for which job orders are issued range from the day following the last running date of the New Day procedure or User Daily to the current working date, provided that those dates satisfy criteria specified in one of the scheduling parameters (Days, Days Calendar, and so on). Each job order placed in the Active Jobs file uses a date in the range as its original scheduling date.

- If Retro is not specified, the job is scheduled only for the current working date (provided that this date satisfies the job's scheduling criteria).

For more information, see "Date Control Record (UDLAST)" in Chapter 1, of your CONTROL-M Administrator Guide.

If Retro is specified for a User Daily Job, only the last (most recent) order of the User Daily Job actually orders jobs. It also performs Retro ordering for all included jobs. As a general rule, there is no need to specify Retro in a User Daily's job processing definition.

You can use the ctmrplan CONTROL-M/Server utility to determine when selected jobs in a Scheduling table are scheduled to run. For more information, see the Utilities chapter in your *CONTROL-M Administrator Guide*.

Note

Retro cannot be used with the Minimum and PDS parameters.

No Group Scheduling Table Support

The Retro parameter is not supported for Group Scheduling tables. If this parameter is selected for a Group Scheduling table (in the Group Editing form), it is ignored.

The Retro parameter can be selected for individual jobs in a Group Scheduling table.

Aliases in Other CONTROL-M Components

Alternate names for the Retro parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	RETRO
Reporting Facility	RETRO
CONTROL-M/Server Utilities	-retro
CONTROL-M for OS/390	RETRO

Formats in Other CONTROL-M Components

Alternate formats for the Retro parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	RETRO has two possible values: • **0** (No) – Do not allow scheduling of the job after its original scheduling date has passed. Default. • **1** (Yes) – Allow scheduling of the job after its original scheduling date has passed. **Example** <RETRO=”1”/>
CONTROL-M/Server Utilities	RETRO has two possible values: • **N** (No) – Do not allow scheduling of the job after its original scheduling date has passed. Default. • **Y** (Yes) – Allow scheduling of the job after its original scheduling date has passed.

Example 1: Schedule a Job on a Specific Day of the Month

Schedule the job on specific days in the month. If the day has passed, do not schedule the job.

```
Days 15, 16, 18, 19, 20
Retro No
```

Assume the computer was down from the 16th to (and including) the 18th. The 15th is the last date on which the job was scheduled for execution. Today is the 19th. Therefore, the job is only scheduled for execution on the 19th.

Example 2: Schedule a Job for Every Workday

Schedule the job for every workday, whether or not the computer is active:

```
Days Calendar WORKDAYS
Retro Yes
```

Given the following circumstances:

- The Work Days calendar contains the dates 15, 16, 18, and 19.
- The computer was down from the 16th up to (and including) the 18th.
- The 15th was the last date that the job was scheduled for execution.
- Today is the 19th.

The job is scheduled three times with the original scheduling dates: 16, 18 and 19 (that is, three job orders are added to the Active Jobs file).

Scheduling Tag

Identifies a set of scheduling criteria defined for a group. This parameter only appears for jobs in Group Scheduling tables. The scheduling criteria referenced by each Scheduling Tag are defined in the Group Scheduling table.

Format

Usage	Optional **Note**: Only relevant to jobs in a Group Scheduling table.
Length	1 through 20 alphanumeric characters
Format	This parameter must contain either the name of a Scheduling Tag that is defined for the Group Scheduling table, or an asterisk (*****), indicating all Scheduling Tags.
Case Sensitive	Yes
Invalid Characters	• Blanks • **Platforms other than OS/390:** Single quotation marks. • **OS/390:** The following characters must not be used in Scheduling Tag definitions in Group Scheduling tables: — * (asterisk) — ? (question mark) — Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Subparameters

Active From Date	Date in the format mm/dd/yyyy. A job that refers to this Scheduling Tag will only be ordered if the ordering date is later than the date specified.
Active To Date	Date in the format mm/dd/yyyy. A job that refers to this Scheduling Tag will only be ordered if the ordering date is earlier than the date specified.

Related Parameters

Parameter	Description
Relationship	Indicates the relationship (AND/OR) between Scheduling Tag criteria and basic scheduling criteria in the job processing definition (that is, whether either set of criteria, or both sets of criteria, must be satisfied).

General Information

Each Group Scheduling table contains one or more sets of basic scheduling criteria that can be applied to job processing definitions of jobs in the table. Each set of basic scheduling criteria is assigned a unique name, specified in the Scheduling Tag field, which is used for referencing that set of criteria.

To apply a set of scheduling criteria in a Group Scheduling table to a job processing definition, specify the Scheduling Tag name of the desired criteria in the Scheduling Tag field of the Job Processing form.

If multiple Scheduling Tag names are specified in the job processing definition, the tags are checked sequentially (according to the order in which they are defined for the Group Scheduling table) during job scheduling to determine if the criteria are satisfied. The first set of Scheduling Tag criteria that is satisfied is applied to the job. Subsequent Scheduling Tags specified for the job are not checked.

If an asterisk (*****) is specified as a Scheduling Tag name, all Scheduling Tags in the Group Scheduling table are applied to the job.

Each job processing definition can have its own basic scheduling criteria defined, independent of the Scheduling Tag criteria in the Group Scheduling table.

Scheduling Jobs in a Group Scheduling Table

Jobs in a Group Scheduling table are eligible for scheduling on a particular day only if at least one Scheduling Tag in the Group Scheduling table is satisfied.

If a Group Scheduling table is eligible for scheduling on a particular day, a job in the table is scheduled in either of the following cases:

- The value of the Relationship parameter is **OR**. The basic scheduling criteria of the job or a specified Scheduling Tag (or both) are satisfied.

- The value of the Relationship parameter is **AND**. Both the basic scheduling criteria of the job and a specified Scheduling Tag are satisfied.

Aliases in Other CONTROL-M Components

Alternate names for the Scheduling Tag parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	TAG_NAME
CONTROL-M/Server Utilities	-tag
CONTROL-M for OS/390	SCHEDULE TAG

Formats in Other CONTROL-M Components

Alternate formats for the Scheduling Tag parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	TAG_NAME parameters are contained in the TAG_NAMES parameter. The TAG_NAME value is a string. TAG_NAMES cannot have a value. **Example** <TAG_NAMES TAG_NAME=”T1” TAG_NAME=”T2”/>

Example 1: Two Sets of Scheduling tags

Group Scheduling table **ACCOUNTS** for group **ACCOUNTS_GROUP** contains two sets of scheduling criteria Scheduling Tags).

One set is identified by Scheduling Tag **ALL_DAYS**, and the other set is identified by Scheduling Tag **SUNDAYS**.

The following information is specified for Scheduling Tag **ALL_DAYS**:

```
Week DaysALL
```

The following information is specified for Scheduling Tag **SUNDAYS**:

```
Week Days1
```

For jobs that should run on any day, specify:

```
Schedule TagALL-DAYS
```

For jobs that should only run on Sundays, specify:

```
Schedule TagSUNDAYS
```

Time Zone

Indicates the time zone according to which the job should be scheduled.

Format

Usage	Optional		
Format	Three character value The following values are supplied with CONTROL-M:		
	HNL	Honolulu	GMT-10.00
	HAW	Hawaii	GMT-10:00
		Note: HAW is maintained for backward compatibility purposes	
	ANC	Anchorage Standard Time	GMT-09:00
	PST	Pacific Standard Time	GMT-08:00
	MST	Mountain Standard Time	GMT-07:00
	CST	Central Standard Time	GMT-06:00
	EST	Eastern Standard Time	GMT-05:00
	ATL	Atlantic Standard Time	GMT-04.00
	RIO	Rio de Janeiro	GMT-03.00
	GMT	Greenwich Mean Time	GMT+00:00
	WET	Western European Time	GMT+01:00
	CET	Central European Time	GMT+02:00
	EET	Eastern European Time	GMT+03:00
	DXB	Abu Dhabi	GMT+04.00
	KHI	Karachi	GMT+05.00
	DAC	Dacca	GMT+06.00
	BKK	Bangkok	GMT+07.00
	HKG	Hong Kong	GMT+08:00

	TYO	Tokyo	GMT+09.00
	TOK	Tokyo	GMT+09:00
		Note: TOK is maintained for backward compatibility purposes	
	SYD	Sydney	GMT+10.00
	MEL	Melbourne	GMT+10:00
	NOU	Noumea	GMT+11.00
	AKL	Auckland	GMT+12.00
	If necessary, these default values can be modified, and new values can be defined. For more information, see "Time Zone Support" in the maintenance chapter of the *CONTROL-M/EM Administrator Guide* or the *CONTROL-M/Server Administrator Guide*.		
Default	If no value is specified for this parameter, the job will run with the time zone of the CONTROL-M/Server that ordered the job.		
Invalid Characters	Non-English characters		
AutoEdit Support	No. AutoEdit variables or expressions cannot be specified as values for this parameter.		

General Information

- Newly defined jobs with specified time zones must be saved at least 48 hours before their intended execution dates (in order to ensure that they are ordered automatically by the appropriate New Day Procedure or User Daily).

  If they must run "today" they should be ordered manually (for example, using the ctmorder utility).

- Specified Odates are calculated according to the working date (not the actual date). This means that if a job is defined as working on the 5th of the month at 3:00 A.M., and the working day begins at 5:00 A.M., then the job will actually be run at 3:00 A.M. on the morning of the 6th (which is still part of the working day of the 5th).

- In addition to time zones, you can also order a job that is intended for execution on a future date. For more information, see the odate and odate_option parameters in any of the following CONTROL-M/Server utilities:

  — ctmudly
  — ctmudchk
  — ctmorder
  — ctmcreate

  For more information about these utilities, see the appropriate CONTROL-M/Server Administrator Guide.

- It is recommended *not* to combine jobs that have time zone specifications with jobs that do not specify a time zone in the same Scheduling table or Group Scheduling table.

- When a job is considered for ordering by the New Day procedure, it is ordered if its scheduling date occurs within the next 48 hours. When a job is ordered by a User Daily job, it will be ordered only if it's scheduling criteria are satisfied for the current working date. For this reason, it is recommended that you arrange the jobs for each time zone in a separate table. For more information, see the recommended method described in "Time Zone Support" in Chapter 3 of the *CONTROL-M/EM Administrator Guide* or the *CONTROL-M/Server Administrator Guide*.

Aliases in Other CONTROL-M Components

Alternate names for the Time Zone parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	TIMEZONE
CONTROL-M/Server Utilities	-timezone

Component	Parameter Name
eTrigger	Time
CONTROL-M for OS/390	TIMEZONE

Example 1

Use the following parameters to schedule a job that will run at 5 P.M. Tokyo time:

```
Tasktype job
time from 17:00
Time Zone TOK
```

Week Days

Indicates the days of the week on which the job should be scheduled for processing.

Format

Usage	Optional
Format	In the Job Editing form, this parameter can be specified using either a series of check boxes or a text box immediately below these check boxes. The information below is relevant for entry of Week Days information in the text box. The number used to represent each weekday depends upon a CONTROL-M system parameter that specifies whether 1= Sunday, or 1= Monday. Consult your CONTROL-M administrator to determine which standard is used at your site. **Note:** All examples shown below assume that 1=Sunday, 2=Monday etc. at your site. **Note:** The term *working days* in the following format descriptions refers to days marked in the calendar specified for the Weeks Calendar parameter. Valid formats for the Week Days parameter vary depending on whether a periodic calendar is specified as the Weeks Calendar. Formats for each type of calendar are specified separately, as described in "Periodic Calendar Formats" on page 3-59 and "Non-Periodic (Regular) Calendar Formats" on page 3-60.
Length	1-50 characters
Case sensitive	Yes
Invalid Characters	Blanks; single quotation marks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Periodic Calendar Formats

Format	Description
Rules	In the following periodic scheduling formats: • *n* is any integer from **0** through **6**. • *i* is any valid period identifier. Valid values are: — any integer from **1** through **9** — any uppercase letter except **N** and **Y** — ***** (asterisk) – all periods • Week Days periodic identifiers are counted on a week-by-week basis. Calculations do not cross week boundaries (unlike Days periodic boundaries, which can cross month boundaries). • The name of a periodic calendar must be specified in the Weeks Calendar. • A maximum of eight periodic values can be designated, in any desired order:
Values	• D*n*P*i*,... – Order the job on the *n*th day of period *i* in each week from the beginning of the week. An * can be specified as: — the *n* value to represent all days — the *i* value to represent all periods • -D*n*P*i*,... – Order the job on all days of period *i* except the *n*th day of period *i* in each week from the beginning of the week. An * can be specified as the *i* value to represent all periods. • LnP*i*,... – Order the job on the *n*th day of period *i* in each week counting backward from the last periodic day of the week. An * can be specified as the *i* value to represent all periods. • -L*n*P*i*,... – Order the job on all days of period *i* except the *n*th day of period *i* in each week counting backward from the last periodic day of the week. An * can be specified as the *i* value to represent all periods.

Non-Periodic (Regular) Calendar Formats

Format	Description
Rules	• *n* – Any integer from 0 through 6, representing the days of the week. • Multiple values can be expressed in any order (separated by commas).
Values	• ALL – All days of the week. Do not specify any other value with ALL. • *n*,... – Specific days of the week. • +*n*,... – Specific day of the week in addition to working days. • -*n*,... – Days of the week on which a job cannot be ordered, even if they are working days. • >*n*, – Order the job on the indicated day if it is a working day; otherwise, order the job on the next working day. This format is frequently used for holiday handling. • <*n*, – Order the job on the indicated day if it is a working day; otherwise, order the job on the previous working day. This format is frequently used for holiday handling. In the following Week Days formats, *n* represents a number of working days. *n* can be any integer from 0 through 6. • D*n*, – Order the job on the nth working day from the beginning of the week. • -D*n*, – Order the job on all working days except the *n*th working day from the beginning of the week. • L*n*, – Order the job on the nth working day from the end of the week (L1 represents the last working day of the week). • -L*n*, – Order the job on all working days except the *n*th working day from the end of the week (L1 represents the last working day of the week). • D*n*W*m*, – (Where *m* is any integer from 1 through 6) If Weeks Calendar is defined, order the job on the *n*th working day of the *m*th week (partial or full) of the month. If Weeks Calendar is not defined, order the job on the *m*th occurrence of weekday *n* during the month. A maximum of 11D*n*W*m* specifications can be designated. **Note**: A calendar must be specified for the Weeks Calendar parameter if the +*n*, -*n*, >*n*, <*n*, D*n*, -D*n*, L*n*, or -L*n* format is used for the Week Days parameter.

Related Parameters

Parameter	Description
Active From Date	Indicates the beginning of a period of time during which the job or Group Scheduling table can be ordered. This parameter is paired with the Active To Date parameter.
Active To Date	Indicates the end of a period of time during which the job or Group Scheduling table can be ordered. This parameter is paired with the Active From Date parameter.
Days Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified days. This parameter may be mandatory for certain Days value formats.
And/Or	Indicates the relationship between specified Days values and Weekdays values.
Weeks Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified weekdays.
Confcal	Indicates the name of a CONTROL-M calendar that is used to validate scheduling dates. A specified shift value can be used to indicate how to handle jobs that are scheduled for a non-working day in the calendar.
Months	Indicates the months in which the job should be scheduled. Only days in the specified months are considered valid for scheduling the job.

General Information

The job is ordered only on the days of the week marked in the list, and in the months specified in the Months parameter.

Negative values take precedence over positive values when determining whether or not a job should be scheduled on a certain date. If a negative value (**-n**, **-Dn**, **-L**, **DnPi**, or **-LnPi**) in either the Days or Week Days parameter prevents a job from being scheduled on a date, the job will not be scheduled on that date even if a positive value (for example, Ln) would otherwise result in the job being scheduled on that date.

Identical negative and positive values (for example, **-Dn**, **Dn**) cannot be specified together.

Note

If the **And** option is selected (Month Days and Week Days), and no criteria are specified for either the Month Days or the Week Days parameter, CONTROL-M/EM assumes that **ALL** has been specified for the empty parameter. For example, if Monday is selected, and no days of the month are selected, the job will be scheduled on all Mondays of the month.

If periodic and non-periodic values are mixed when specifying Week Days, processing will depend upon the type of calendar specified in the Weeks Calendar parameter.

- If a non-periodic calendar is specified in the Weeks Calendar parameter, only non-periodic values are processed; periodic values are ignored.

- If a periodic calendar is specified in Weeks Calendar parameter, all periodic values and all negative non-periodic values (e.g., -n) are processed; non-negative non-periodic values are ignored.

Note

You can use the CTMRPLN utility to generate a report describing when the job will run based on its currently specified scheduling dates. For more information, see the description of this utility in the CONTROL-M Administrator Guide for your platform.

Platform-Specific Information for OS/390

The Months parameter is ignored when periodic values (values containing a P character) are specified in parameter Week Days.

Aliases in Other CONTROL-M Components

Alternate names for parameters specifying a date range are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	• Active From Date • Active To Date
CONTROL-M/Server Utilities	• DateFrom • DateUntil

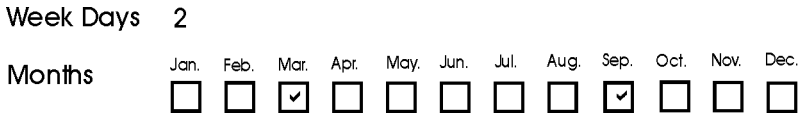
Alternate names for the Week Days parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	WEEKDAYS
Reporting Facility	W_DAY_STR
CONTROL-M/Server Utilities	-weekdays
CONTROL-M for OS/390	WDAYS

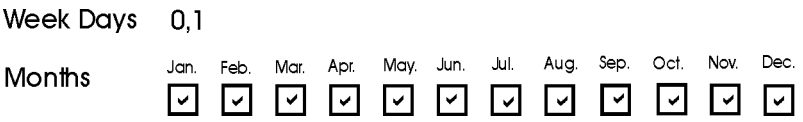
Note

The following examples assume that the first day of the week in the installation is Sunday.

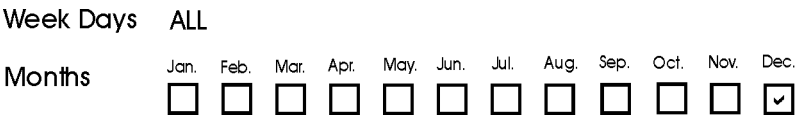
Example 1: Job scheduled on each Monday in March and September



Example 2: Job scheduled on every Saturday and Sunday of each month



Example 3: Schedule a Job on Each Day in December



Example 4: Alter scheduling for different user-defined periods (OS/390 format)

- Each week, schedule the job on the first day of period A, and on all days, except the 2nd day, of period B, in that week.

```
Week Days D1PA, -D2PB
Weeks Calendar PERIDAYS
```

Periodic calendar PERIDAYS contains the following definitions:

```
---S------------S------------S------------S------------S--
 1 2 3 4 5 6 7 8 9 + 1 2 3 4 5 6 7 8 9 + 1 2 3 4 5 6 7 8 9 + 1
    B C A A B    B C A A B    B C A A B    B C A A B    B
```

The job is scheduled on the days of the month indicated by an asterisk:

```
---S------------S------------S------------S------------S--
 1 2 3 4 5 6 7 8 9 + 1 2 3 4 5 6 7 8 9 + 1 2 3 4 5 6 7 8 9 + 1
    *   *        *   *        *   *        *   *        *
```

Weeks Calendar

Indicates the name of a calendar to be used to validate specified weekdays on which to order the job.

Format

Usage	Optional.
Length	1-10 characters OS/390: 1-8 characters
Case sensitive	Yes
Invalid Characters	• Platforms other than OS/390: Blanks; single quotation marks • OS/390: Blanks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Active From Date	Indicates the beginning of a period of time during which the job or Group Scheduling table can be ordered. This parameter is paired with the Active To Date parameter.
Active To Date	Indicates the end of a period of time during which the job or Group Scheduling table can be ordered. This parameter is paired with the Active From Date parameter.
Days Calendar	Indicates the name of a CONTROL-M calendar that is used to validate specified days. This parameter may be mandatory for certain Days value formats.
And/Or	Indicates the relationship between specified Days values and Weekdays values.
Months	Indicates the months in which the job should be scheduled. Only days in the specified months are considered valid for scheduling the job.

General Information

A calendar contains a list of days that can be used as a basis for scheduling jobs. For example, the days in the calendar can be working days, accounting days, or holidays.

- Any number of calendars can be defined, where each one corresponds to a different set of dates.
- Calendars are usually defined for the entire installation, though each user can define calendars for his/her own use. One calendar can be shared by many job processing definitions.
- The calendar does not have to exist when the job processing parameters are defined. Its actual existence is checked during New Day Processing.

Note

The Weeks Calendar parameter cannot be used together with the Dates parameter.

How this parameter works:

- If no values are specified for the Week Days parameter, all working days in the specified Weeks Calendar are considered valid for job scheduling.
- If no Weeks Calendar is specified, all specified Week Days values are considered valid working days.
- When the Weeks Calendar parameter is specified with the Week Days parameter, the job is scheduled for execution only if all the indicated Week Days are also marked in the calendar.
- If the Weeks Calendar parameter is specified with a Week Days parameter that includes the + symbol, the job is scheduled for execution on those dates marked with a + (in the Week Days parameter), in addition to the dates marked in the calendar.

- If the Weeks Calendar parameter is specified with a Week Days parameter that includes the – symbol, the job is not scheduled for execution on those dates even if the date is marked in the calendar.

- The appropriate Months parameters must be checked.

- The And/Or relationship between Days and Weekdays is analyzed.

You can use the CONTROL-M CTMRPLN utility to generate a report describing when the job will run based on its currently specified scheduling dates. For more information, see the description of this utility in the CONTROL-M Administrator Guide for your platform.

Aliases in Other CONTROL-M Components

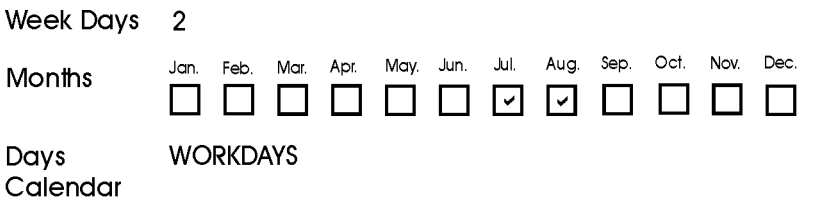
Alternate names for the Weeks Calendar parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	WEEKSCAL
Reporting Facility	WEEKS_CAL
CONTROL-M/Server	-weekcal
CONTROL-M for OS/390	WCAL

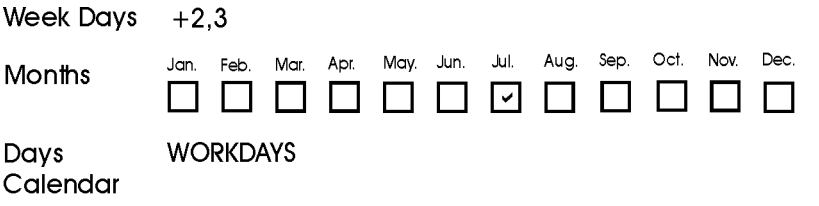
Example 1: Schedule the job on every Monday in July and August that is a workday

Note

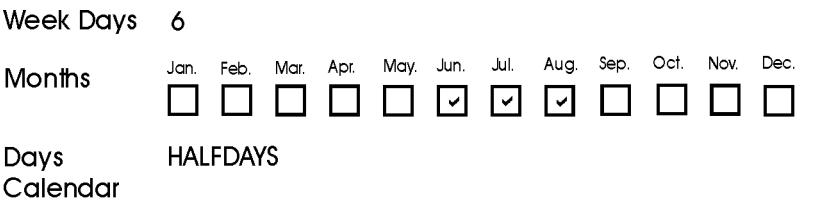
The following examples presume that the first day of the week is defined as Sunday at your site.



Example 2: Schedule the job on every Monday in July, whether or not it is workday, and each Tuesday in July that is a workday:



Example 3: Schedule the job on every Friday in June, July and August that is a "half day":



Execution Parameters

The parameters in this chapter are related to the execution of the job and the processes that accompany execution.

Table 4-1 Execution Parameters - Summary

Parameter	Description
Confirm	A job in which the Confirm parameter is checked is not considered for submission until manually confirmed by the CONTROL-M/EM user.
Critical	When selected, indicates that the job is a critical-path job in CONTROL-M.
Cyclic	Indicates if the job is cyclic (to be rerun at regular intervals).
Interval	Specifies the length of time (in minutes) to wait between reruns of a job or between cyclic runs of a job.
Max Wait	Specifies the number of extra days (beyond the original scheduling date) that the job is allowed to remain in the Active Jobs file awaiting execution.
Maximum	Specifies the maximum number of reruns that can be performed for the job.
Multi Agent	Specifies that job submission details be broadcast to all Agents within a defined Node Group.
Node Group	Host name of a node group to which the job should be submitted. See **Node ID/Group** below.
Node ID	Host name of an Agent platform to which a job was submitted. See **Node ID/Group** below.

Table 4-1 Execution Parameters - Summary

Parameter	Description
Node ID/Group	Host name of an Agent platform or name of a node group to which the job should be submitted. This parameter is used only for installations in which CONTROL-M/Agent technology is implemented. **Note:** Node groups can be specified only for certain CONTROL-M platforms with CONTROL-M Version 2.2.0 and later.
Prevent NCT2	Performs data set cleanup before the original job run.
Priority	Indicates CONTROL-M job priority.
Request NJE Node	Identifies the node in the JES network on which the job is to execute.
Rerun From	Indicates whether the interval between further runs of a cyclic job is counted from the start or the end of the previous job run.
Rerun Member	Name of the JCL member to use when the job is automatically rerun.
Scheduling Environment	Indicates the JES2 workload management scheduling environment that is to be associated with the job.
System Affinity	Indicates the identity of the system in which the job must be initiated and executed (in JES2). Indicates the identity of the processor on which the job must execute (in JES3).
Time From, Time Until	From sets the earliest time for submitting the job. To sets the latest time for submitting the job.
Units	Specifies a unit of time for the numerical value indicated by the Interval parameter.

Confirm

Specifies whether user confirmation is required before the job is submitted for execution.

Format

Usage	Optional
Format	Select the **Confirm** check box to indicate that confirmation is required. The job's submission criteria are not evaluated until CONTROL-M receives manual confirmation from the user (using the Confirm/Restart option in the **CONTROL-M/EM** window). Clear the check box to indicate that confirmation is not required. The job's submission criteria are evaluated when the job is placed in the Active Jobs file, without the need for user confirmation.
Invalid Characters	Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

If Confirm is selected, a status of WAIT USER is assigned to the job when it is placed in the Active Jobs file. When you confirm the job, it is submitted after the remaining submission criteria are satisfied.

Aliases in Other CONTROL-M Components

Alternate names for the Confirm parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	CONFIRM
CONTROL-M/Server Utilities	-confirm

Component	Parameter Name
CONTROL-M for OS/390	CONFIRM
CONTROL-M/EM API	confirm_flag

Formats in Other CONTROL-M Components

Alternate formats for the Confirm parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	Valid values: • **0** - No confirmation required. Default • **1** - Confirmation required. **Example** <CONFIRM=”1”/>
CONTROL-M/Server Utilities	Valid values: • **N** - No confirmation required. Default. • **Y** - Confirmation required.
CONTROL-M for OS/390	Valid values: • **N** - No confirmation required. Default. • **Y** - Confirmation required.

Critical

When selected, indicates that the job is a critical-path job in CONTROL-M.

Format

Usage	Optional
Format	Check box • Selected – job is critical • Cleared – job is not critical
Invalid Characters	Non-English characters

Related Parameters

Priority	The Critical parameter takes precedence over the Priority parameter, when both are specified.

General Information

Defining a job as critical ensures that a job that requires resources is submitted as soon as possible after all its In Conditions parameters are satisfied. As a result of a job being defined as critical, any Quantitative resources or Control resources that the job requires exclusively are reserved for the job as they become available. The preferential treatment given to a critical job is applied only after all the job's In Conditions parameters are satisfied.

The Critical parameter takes precedence over the Priority parameter (a low-priority job defined as critical is given preferential treatment over a non-critical high-priority job). However, if two critical jobs are awaiting execution at the same time, the higher-priority job receives resources before the lower-priority job.

Critical path priority applies to contention between Quantitative resources and between Control resources with Exclusive status. The critical path priority does not apply to contention with Control resources with Shared status.

For more information about the Priority parameter, see "Priority" on page 4-36.

Availability

- Critical cannot be specified for OS/390 jobs.
- Critical is available for jobs whose statuses are not Executing when editing details in the active environment.

Aliases in Other CONTROL-M Components

Alternate names for the Critical parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	CRITICAL
Reporting Facility	CRITICAL
CONTROL-M/Server Utilities	-critical
CONTROL-M/EM API	critical

Formats in Other CONTROL-M Components

Alternate formats for the Critical parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	Valid values: • **1** - Job is critical. • **0** - Job is not critical. Default. **Example** <CRITICAL=”1”/>
CONTROL-M/Server Utilities	Valid values: • **Y** - Job is critical. • **N** - Job is not critical. Default.

Example 1: Resource Availability Overrides Critical Status

If one tape drive is available, neither job is submitted. When two tape drives become available, job EBDUPDT is submitted.

Job EBDUPDT’s priority level is 50, Critical is selected, and it requires two tape drives.

Item	Value
Mem Name	EBDUPDT
Quantitative Resources	TAPE 0002
Priority	50
Critical	Y

Job EBDEXEC’s priority level is 04, and it requires one tape drive. It is not a Critical job.

Item	Value
Mem Name	EBDEXEC
Quantitative Resources	TAPE 0001
Priority	04
Critical	N

Example 2: Resource Availability Determines Job Submission

If one or two tape drives are available, neither job is submitted. When three tape drives become available, job EBDBKP is submitted.

Job EBDBKP's priority level is 8A, Critical is selected, and it requires three tape drives.

Item	Value
Mem Name	EBDBKP
Quantitative Resources	TAPE 0003
Priority	8A
Critical	Y

Job EBDMAINT's priority level is 70, Critical is selected, and it requires one tape drive.

Item	Contents
Mem Name	EBDMAINT
Quantitative Resources	TAPE 0001
Priority	70
Critical	Y

Cyclic

Indicates if the job is cyclic (to be rerun at regular intervals).

Format

Usage	Optional
Format	Check box • Selected – job is cyclic • Cleared – job is not cyclic
Invalid Characters	Non-English characters

Related Parameters

Do Stop Cyclic	Do Stop Cyclic overrides the Cyclic specification.
Maximum	Determines the number of runs that are performed. As of version 6.1.0x, this parameter can be specified for cyclic jobs.
Max Wait	Determines the maximum number of days a cyclic job can wait for submission.
Rerun From	Determines whether the interval between runs of the cyclic job is counted from the start or the end of the previous run.
Task Type	In OS/390, Cyclic is a value of the Task Type parameter, not a unique parameter.

General Information

A non-cyclic job is a job that, if its scheduling criteria are satisfied, is ordered once by CONTROL-M on a given day (discounting reruns caused by a Do Rerun parameter or manual reruns).

A cyclic job is rescheduled after execution for an additional possible execution. The job executes again only when both the following circumstances occur:

- The runtime scheduling parameters are still satisfied.
- A specified number of minutes has elapsed since the last completion of the job.

Making a Cyclic Job "Non-Cyclic"

The %%CYCLIC AutoEdit variable can be used to override the Cyclic parameter for a job, or for all jobs in a scheduling table.

This variable is normally used when ordering a cyclic job for a single run.

Example

To indicate that all jobs ordered by the ctmorder utility (in CONTROL-M/Server) should run as non-cyclic jobs, include the following statement in the command line of the ctmorder utility.

```
-autoedit %%CYCLIC N
```

Maximum Number of Days to Wait for Submission

The CYCLIC_MAXWAIT parameter for CONTROL-M/Server determines when cyclic jobs, that have executed at least once, should be removed from the Active Jobs file by the New Day procedure.

Valid values are:

- **KEEP** – Jobs are removed from the Active Jobs file when **MAXWAIT** days have passed regardless of whether or not the job ended **OK**. Default.

- **NOT_KEEP** – Jobs (non-cyclic and cyclic) are removed from the Active Jobs file at the next run of the New Day procedure. Cyclic jobs are not removed if they are executing when the New Day procedure begins. Instead, they are removed at the run of the following New Day procedure.

For more information about CONTROL-M/Server parameters, see the *CONTROL-M/Server Administrator Guide*.

Special care should be taken when specifying a cyclic job. If not defined appropriately it may cause an endless loop in which the job is continually resubmitted for execution.

If a cyclic job is executing when the New Day procedure is run, the job is changed to non-cyclic and an appropriate message is written to the CONTROL-M log. It is the user's responsibility to review these messages and handle them accordingly.

Terminating a Cyclic Job

You can prevent subsequent iterations of a cyclic job by using the Do Stop Cyclic parameter. For more information, see "Do Stop Cyclic" on page 7-39.

If a cyclic job is terminated by a **Do Stop Cyclic** parameter, the View Details screen displayed by option Z in the **ctmpsm** utility will contain **Cyclic:T** where **T** indicates "Terminated".

Availability

For OS/390 Jobs

- Cyclic jobs cannot contain Do Rerun parameters or Shout When Rerun parameters.

Aliases in Other CONTROL-M Components

Alternate names for the Cyclic parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	CYCLIC
Reporting Facility	CYCLIC

Component	Parameter Name
CONTROL-M/Server Utilities	-cyclic
CONTROL-M for OS/390	Cyclic is a Task Type parameter value, not a unique parameter. For more information, see “Task Type” on page 2-56.
CONTROL-M/EM API	cyclic

Interval

Specifies the length of time to wait between reruns of a job or between cyclic runs of a job.

Format

Usage	Optional **Note**: When defining a cyclic job with an Interval parameter with the default value of **0**, if the default is not changed, the job will run continuously when submitted for execution.
Format	Valid values: • **0** to **64800** (for minutes) • **0** to **1080** (for hours) • **0** to **45** (for days) Default: **0** **Note**: The unit of measurement is determined by the Units parameter, described on page 4-54. If no Units parameter value is specified, the default is **Minutes**.
Case sensitive	No
Invalid Characters	Blanks; single quotation marks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Cyclic	Indicates if the job is cyclic (to be rerun at regular intervals).
Units	Indicates units of measurement (minutes, hours, and days) the amount of which is determined by the Interval parameter.

General Information

A From field can be included in the Interval specification. This field indicates if the time for the next run of the job should be calculated from the beginning or from the end of the previous run of the job.

A job can be run more than once from a given job order when:

- The job's completion status was set to Rerun using a Do Rerun parameter.

  -or-

- The job is defined as Cyclic.

CONTROL-M waits at least the number of minutes specified by the Interval parameter before it attempts the next rerun of the job or before the next run of a cyclic job.

The Interval period can be calculated from either the start or the end of the previous job run, as determined by the Rerun From parameter. For more information, see "Rerun From" on page 4-41.

The job is re-submitted after:

- The specified number of minutes have elapsed from the last rerun, or from the start or end of the last run of a cyclic job.

  -and-

- All Submission criteria are satisfied.

Availability

For CONTROL-M/Server Version 2.2.4 and 2.2.5 Jobs

- Interval is relevant only when Cyclic is selected. However a value can be specified in CONTROL-M/EM and CONTROL-M/Desktop for the Interval parameter even for non-cyclic jobs. In this case, the interval is ignored.

- The From subparameter not displayed in CONTROL-M/EM or CONTROL-M/Desktop.

For OS/390 Version 6.0.0x, and 6.1.0x Jobs

- The From subparameter is relevant

  — for cyclic jobs
  — for non-cyclic jobs with a MAXRERUN parameter specified

For OS/390 Version 5.0.0x, 5.0.4x, and 5.1.4x Jobs

- The From subparameter is not displayed in CONTROL-M/EM or CONTROL-M/Desktop.

Aliases in Other CONTROL-M Components

Alternate names for the Interval parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	INTERVAL
Reporting Facility	INTERVAL
CONTROL-M/Server Utilities	-interval
CONTROL-M for OS/390	INTERVAL
CONTROL-M/EM API	rerun_interval

Formats in Other CONTROL-M Components

Alternate formats for the Interval parameter are listed below.

Component	Format	
CONTROL-M for OS/390	INTERVAL combines the functionality of the Interval, Rerun From, and Units parameters.	
	<interval-number>	**Valid values:** • **0** to **64800** (for minutes) • **0** to **1080** (for hours) • **0** to **45** (for days)
	<interval-type>	A single character describing the type of data specified in the INTERVAL field. Valid values are: • **D** - (Days) – Maximum INTERVAL value is **45**. • **H** - (Hours) – Maximum INTERVAL value is 1080. • **M** - (Minutes) – Maximum INTERVAL value is 64800. Default.
	FROM	Similar to the Rerun From parameter. Valid values. • **STRT** – Measures the interval from the start of the current job run. Default. • **END** – Measures the interval from the end of the current job run. • **TRGT** – Measures the interval before the next cycle of the job from when the current job run is scheduled.

Max Wait

Specifies the number of extra days (beyond the original scheduling date) that the job is allowed to remain in the Active Jobs file awaiting execution. If the job still has not run after the specified number of days, the job is removed from the Active Jobs file.

Format

Usage	Optional
Format	An integer from **0** through **98** (days), or **99** (no limit) For more information, see Table 4-2, “Max Wait Parameter Valid Values,” on page 4-18.
Default	**0**
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The Max Wait parameter is used to handle the following types of occurrences:

For Non-cyclic Jobs

- A job that is scheduled for execution on a specific day is not always submitted that same day. This may be due to any number of reasons, such as a heavy production workload, a problem in one of the job’s predecessors causing a process to stop, or a hardware failure. When Max Wait is assigned a value greater than zero, the job is retained in the Active Jobs file up to the specified number of days, allowing the job additional opportunities to be submitted.

- A job that ends **NOTOK** during the night can be deleted from the Active Jobs file during the execution of the New Day procedure the next morning. Using the Max Wait parameter, the user can retain an overnight job that ends **NOTOK** in the Active Jobs file for a number of days, allowing the operator an opportunity to correct the problem and rerun the job without the need to re-order the job.

For Cyclic Jobs

- If **CYCLIC_MAXWAIT** (CONTROL-M parameter) is set to **KEEP** (default), the Max Wait parameter is not dependent upon whether the job ended **OK** or **NOTOK**. Cyclic jobs are only deleted from the Active Jobs file after the expiration of the Max Wait parameter.

- If **CYCLIC_MAXWAIT** is **NOT_KEEP**, Cyclic jobs are removed from the Active Jobs file at the next run of the New Day procedure, unless they are executing when the New Day procedure begins. In this case, they are removed at the run of the following New Day procedure.

Max Wait Parameter Effects

The effect of the value specified for the Max Wait parameter is described in Table 4-2:

Table 4-2 Max Wait Parameter Valid Values

Max Wait 0	The job is deleted from the Active Jobs file if it did not execute on its scheduling date.
Max Wait n (n = 1-98)	The job is retained in the Active Jobs file for the stated number of additional days beyond its original scheduling date (Odate) or until submitted for execution (and execution ends **OK**).
Max Wait 99	The job remains in the Active Jobs file indefinitely (or until it is manually deleted), even if it finishes executing.

Platform-Specific Information for OS/390

If a non-cyclic job that was run on a CONTROL-M installation on an OS/390 platform was rerun by the operator and ended **NOTOK**, it is deleted from the Active Jobs file when the New Day procedure runs, regardless of the value specified in the Max Wait parameter.

If a non-cyclic job that was run on a CONTROL-M installation on a non-OS/390 platform was rerun by the operator and ended **NOTOK**, the job remains in the Active Jobs file for one day, only. The Max Wait parameter does not have an effect in this case.

Aliases in Other CONTROL-M Components

Alternate names for the Max Wait parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	MAXWAIT
Reporting Facility	MAX WAIT
CONTROL-M/Server Utilities	-maxwait
CONTROL-M for OS/390	MAXWAIT
CONTROL-M/EM API	max_wait

Example 1: Retain Job Until Resources Available

Retain a scheduled job indefinitely, until the runtime resources required for the job are available:

```
Max Wait 99
```

Example 2: Retain Job Beyond Original Scheduling Date

Retain a job for an extra three days beyond its original scheduling date:

```
Days 02,04,06
Max Wait 03
```

Assume that the job does not run due to the absence of the required runtime resources. The job that is scheduled for day 2 of the month waits from the second through the fifth to be executed.

On the sixth of the month, CONTROL-M “gives up,” and the job that was originally scheduled for day 2 is deleted. The jobs scheduled for days 4 and 6 wait until as late as days 7 and 9 respectively to be executed.

Example 3: Schedule a Job for Periods When the Computer is Inactive

Schedule the job for every working day, whether or not the computer is active. Allow each scheduled job three extra days to execute:

```
Days Calendar WORKDAYS
Retro Y
Max Wait 03
```

Given the following circumstances:

- The WORKDAYS calendar, specified in the Days Calendar parameter, contains the values 15, 16, 17, and 19.

- The computer was off-line from day 15 up to and including day 18.

When the computer is brought back online on day 19, the job is scheduled four times, with original scheduling dates (Odate) of the 15, 16, 17 and 19, respectively. Each scheduled job that does not execute successfully (i.e., either not submitted or did not end OK) is handled as follows by CONTROL-M:

- The job with Odate 15 is retained on day 19 and deleted from the Active Jobs file on day 20 even though the Max Wait period of three days has already passed since each job with Retro Y is given at least one day to run.

- The job with Odate 16 is deleted on day 20 since day 19 is the last day of the Max Wait period of three days.

- The job with Odate 17 is deleted on day 21 since day 20 is the last day of the Max Wait period of three days.

The job with Odate 19 is deleted on day 23 since day 22 is the last day of the Max Wait period of three days.

Maximum

Specifies the maximum number of reruns that can be performed for the job.

Format

Usage	Optional
Length	An integer from **0** through **99**. OS/390: There is a difference between cyclic jobs and regular jobs: • Cyclic jobs – an integer from **0** through **9999** • Regular jobs – an integer from **0** through **255**.
Default	**0**
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Do Rerun	Specifies when a job is to be rerun.
Cyclic	Indicates that the job is rerun on a regular basis.

General Information

When the job's completion status is set to Rerun using the Do Rerun parameter, CONTROL-M checks the number of reruns specified in the Maximum parameter. If the number in the Maximum parameter is greater than the number of reruns that have already been performed for the job, a rerun (automatic rerun) process is performed for the job.

Note

This parameter cannot be specified for a cyclic job running on a version of CONTROL-M earlier than 6.1.00. This parameter can be specified for a cyclic job running on CONTROL-M version 6.1.00 or later.

When a job is assigned **Rerun** status, the job is not rerun if either:

- Maximum = 0

  -or-

- The number of reruns specified in this parameter has already been performed.

CONTROL-M waits at least the number of minutes specified by the Interval parameter before it attempts the next rerun of the job.

The job is re-submitted after:

- The specified number of minutes has elapsed from the last rerun.

  -and-

- All Submission criteria are satisfied.

A rerun counter is displayed on the Active panel of the Job Editing form, indicating how many times the job has been rerun from the current job order.

Platform-Specific Information for OS/390

When a job is first run, the MAXRERUN field in the Active environment, that is, in the Zoom screen, contains the same value as the MAXRERUN parameter in the job scheduling definition. However, in the Active environment MAXRERUN works as a “reverse-counter” of automatic reruns. Each time the job is automatically rerun, the value is decreased by one until the field contains a value of zero.

The automatic rerun process works as follows:

1. The CONTROL-M determines that automatic rerun is possible only if the job ENDS **NOTOK** and a specified DO RERUN statement is activated during post-processing. If the monitor determines that automatic rerun is possible, it sets the status of the job to ENDED NOTOK – RERUN NEEDED.

2. The monitor then checks the value of MAXRERUN in the Active environment. If the value is zero, automatic rerun is not possible and the job is not submitted for rerun. If the value is greater than zero, rerun is possible and the monitor submits the job for rerun when all runtime criteria are satisfied.

3. The JCL for the rerun job is taken from the member specified in the RERUNMEM parameter. If no RERUNMEM value is specified, the JCL for the rerun is taken from the regular JCL member of the job that is specified in the MEMNAME parameter.

MAXRERUN applies only to automatic reruns. The MAXRERUN counter is not affected by reruns performed manually using the Rerun option in the CONTROL-M for OS/390 Active Environment screen.

If a job is defined as cyclic, the MAXRERUN parameter can be used to specify the number of iterations. This number excludes the initial run of the job.

Availability

For CONTROL-M/Server Version 2.2.4, 2.2.5, 6.0.05 and OS/390 Version 5.0.0x, 5.0.4x, 5.1.4x Jobs

- The Maximum (MAXRERUN) parameter is available for non-cyclic jobs only in both CONTROL-M/EM and CONTROL-M/Desktop.

Aliases in Other CONTROL-M Components

Alternate names for the Maximum parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	MAXRERUN
Reporting Facility	MAX RERUN
CONTROL-M/Server Utilities	-maxrerun
CONTROL-M for OS/390	MAXRERUN
CONTROL-M/EM API	rerun_max

Multi Agent

Specifies that job submission details be broadcast to all Agents within a defined Node Group. All available Agents in the Node Group run an identical job, and each such job has a unique Order ID.

Note

Multi Agent cannot be specified for OS/390 jobs.

Format

Usage	Optional
Default	No
Format	Check box • Selected – Multi Agent job • Cleared – Not a Multi Agent job
Invalid Characters	Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Node Group	Specifies the CONTROL-M/Agent node group to which the job is submitted. The job is submitted to only one Agent in the specified node group, instead of submitting it to all Agents in the node group (as when Multi Agent is selected).
Node ID/Group	Specifies the CONTROL-M/Agent node ID or node group to which the job is submitted. The job is submitted to only the specified node ID or one Agent in the specified node group, instead of submitting it to all Agents in the node group (as when Multi Agent is selected).

General Information

The job is processed by all the Agents specified for the Node ID/Group parameter or the Node group parameter (in the Active environment, only). A node group must be specified for the Node ID/Group parameter or the Node Group parameter. For more details, see “Node ID/Group” on page 2-42.

For example, you can run a job that detects the amount of disk space available on the computer on which the job was run. By specifying **Yes** Multi Agent, the job checks the available disk space on every Agent computer in the specified Node Group.

Platform-Specific Issues

This parameter does not work with OS/390 jobs.

Aliases in Other CONTROL-M Components

Alternate names for the Multi Agent parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	MULTY_AGENT
Reporting Facility	MULTY AGENT
CONTROL-M/Server Utilities	-multiagent
eTrigger	Multi Agent
CONTROL-M/EM API	multiagent

Example: Submit a Job to All Agents in a Node Group

Specify the following parameter in CONTROL-M/Server ctmcreate utility to submit a job for processing by all Agents in the Group **PRODUCTION**.

```
ctmcreate -tasktype job
-multiagent y
-nodegrp PRODUCTION
```

Node ID/Group

Host name of an Agent platform or name of a node group to which the job should be submitted.

This parameter is used only for installations in which CONTROL-M Agent technology is implemented, for certain platforms with CONTROL-M version 2.2.0 or later. It is not relevant in OS/390.

Format

Usage	Optional Note: If this parameter is left blank, the job is submitted for execution on the CONTROL-M/Server platform.
Length	1 through 50 characters
Case Sensitive	No
Invalid Characters	Blanks; single quotation marks.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

- To submit the job to CONTROL-M/Agent on a specific platform, specify the host name of the platform.
- To submit the job on the Server platform, leave this parameter blank.
- To submit the job via the load balancing mechanism, specify the group name representing the collection of platforms that are capable of executing the job. The group name must be defined in the installation.

Note

Node groups can be specified only for certain CONTROL-M platforms with CONTROL-M Version 2.2.0 and later.

Node ID/Group in the Active Environment

The Node/ID/Group parameter is divided into two separate parameters in the Job Editing form in the CONTROL-M/EM GUI. These parameters are Node ID and Node Group.

Table 4-3 Node ID and Node Group Parameter Descriptions

Parameter	Description
Node ID	Displays the name of the node on which the job was most recently run. This field is not user-configurable.
Node Group	Name of the node or node group on which following iterations of a job will be run. **Note**: This feature is available only in the active environment.

Note

The Node ID and Node Group parameters are not available for jobs on CONTROL-M for OS/390.

Aliases in Other CONTROL-M Components

Alternate names for the Node ID/Group parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	NODEID
Reporting Facility	• NODE_ID • NODEGROUP
CONTROL-M/Server Utilities	-nodegrp
eTrigger	Node Group
CONTROL-M/EM API	node_group

Example: Enable CONTROL-M/Server to Determine the Most Suitable Agent

Assuming that a node group called **Unix_group** contains Agent platforms **bill** and **diana**.

The following parameter causes CONTROL-M/Server to determine which of the two Agent platforms in the group is best suited to execute the job when it is submitted for execution:

Node ID/Group `UNIX_group`

Prevent NCT2

Performs data set cleanup before the original job run.

Note

For OS/390 jobs only.

Format

Usage	Optional
Format	Select one of the following from the **Prevent NCT2** list box: • **Blank** – Do not perform data set cleanup before the original job run. Default. • **N** (No) – Do not perform data set cleanup before the original job run. • **Y** (Yes) – Perform data set cleanup before the original job run. This value is not valid for started tasks. • **L** (List) – Do not perform data set cleanup before the original job run; but generate the messages that would be required for GDG adjustment during restart. • **F** (Flush) – Halt processing of the job if any data set cleanup error is detected (even if OS/390 would not have stopped processing the job).
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

If a job tries to create a data set that already exists, the job may fail with a DUPLICATE DATASET ON VOLUME error. If a job tries to create a data set whose name is already cataloged, the job may fail with an error message that indicates a reason of NOT CATLGD for reason code 2 (the CONTROL-M/Restart term PREVENT-NCT2 is derived from this error situation).

These problems can be avoided by performing data set cleanup. During data set cleanup, CONTROL-M/Restart does the following:

- Deletes and uncatalogs the old data sets. This prevents DUPLICATE DATSET ON VOLUME and NOT CATLGD 2 errors.

- Performs Generation Dataset (GDG) Adjustment, which is described in the *CONTROL-M/Restart for OS/390 User Manual*.

CONTROL-M/Restart automatically performs data set cleanup prior to restarts and reruns. However, it may be desirable to perform data set cleanup before the original job run, because data sets accessed by the job can have file-related errors that were generated by an entirely different job.

When data set cleanup is performed as part of the original job request, it is called PREVENT-NCT2 processing.

The site-defined default in parameter NCT2 in member CTRPARM determines whether data set cleanup is to be performed before the original job run.

The Prevent NCT2 parameter can be used to override this default to determine what data set cleanup instructions are provided to the original job run. Possible values, and their effects, are described below:

- When **N** is specified, No special action is taken by CONTROL-M/Restart. Data set cleanup is not performed.

- When **Y** is specified, CONTROL-M/Restart performs data set cleanup before the original job run. It deletes and uncatalogs all data sets that can cause NCT2 and duplicate data set errors during execution, and performs GDG adjustment if necessary.

- When **L** is specified, data set cleanup is not performed for the original run, but messages that would be required for GDG adjustment during restart are generated. Without these messages, GDG adjustment might not be properly performed during restart. In addition to the GDG adjustment messages, the same messages that are generated during simulation of data set cleanup are also generated.

- When **F** is specified, If a file catalog error is detected, processing is halted (even if normal OS/390 processing would not handle the problems as a fatal error) and an appropriate error message is generated.

Note

If you would normally specify N (that is, CONTROL-M/Restart processing is not desired for the original run), but the JCL requires GDG processing, it is recommended that you specify value L instead of value N.

If a value of Y, L, or F is specified (that is, if some kind of special NCT2 processing is desired), a CONTROLR step is automatically added as a first step of the submitted job.

Parameter PREVENT NCT2 has no impact on restarts, because CONTROL-M/Restart automatically performs data set cleanup prior to restarts.

Aliases in Other CONTROL-M Components

Alternate names for the Prevent NCT2 parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	PREVENTNCT2
Reporting Facility	PREVENT NCT2
CONTROL-M for OS/390	PREVENT -NCT2
CONTROL-M/EM API	prevent_nct2

Formats in Other CONTROL-M Components

Alternate formats for the Prevent NCT2 parameter are listed below.

Component	Format	
CONTROL-M/EM Utilities	Valid values: • **0** - No. Does not prevent data set cleanup. • **1** - Yes. Prevents data set cleanup. Example <PREVENTNCT2=”1”/>	
CONTROL-M for OS/390	PREVENT-NCT2 is composed of two parameters:	
	PREVENT-NCT2	Valid values: • **N** - No • **Y** - Yes • **L** - List • **F** - Flush These values are described in “Format” on page 4-31.
	DFLT	Protected field indicating the PREVENT-NCT2 default value for the CONTROL-M for OS/390 site. The default is set in parameter NCAT2 in the CTRPARM member in the IOA PARM library. A value specified in the PREVENT-NCT2 parameter overrides the site default.

Example: Prevent NOT CATLGD 2 errors for job PRDKPL01

```
JOB: PRDKPL01 LIB CTM.PROD.SCHEDULE TABLE: PRODKPL
COMMAND ===> SCROLL===> CRSR
+-------------------------------------------------------------------------------
-+
MEMNAME PRDKPL01 MEMLIB CTM.PROD.JCL
OWNER SYS1 TASKTYPE JOB PREVENT-NCT2 Y DFLT N
APPL KPL GROUP PROD-KPL
DESC DAILY PRODUCTION - START OF APPL-PROD-KPL
OVERLIB
SET VAR
CTB STEP AT NAME TYPE
DOCMEM PRDKPL01 DOCLIB CTM.PROD.DOC
================================================================================
DAYS 01 DCAL
AND/OR
WDAYS WCAL
MONTHS 1- Y 2- Y 3- Y 4- Y 5- Y 6- Y 7- Y 8- Y 9- Y 10- Y 11- Y 12- Y
DATES
CONFCAL SHIFT RETRO Y MAXWAIT 00 D-CAT
MINIMUM PDS
```

```
================================================================================
IN START-DAILY-PROD-KPL ODAT
CONTROL DB2-MAIN-FILE E
RESOURCE INIT 0001 CARTRIDGE 0001
COMMANDS: EDIT, DOC, PLAN, JOBSTAT 11.17.00
```

Priority

Indicates CONTROL-M job priority.

Usage	Optional
Format	(Platforms other than OS/390): 2 alphanumeric characters OS/390: ***** (Asterisk) can also be used, provided that the Critical parameter is set to Y.
Default	Blank, which is the lowest priority
Case Sensitive	No.
Invalid Characters	Single quotation marks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

Priority determines the order of job processing by CONTROL-M in the Active Jobs file.

- Priority order is such that **9** > **0** > **Z** > **A**. The characters are not case sensitive.

- The value for the priority parameter is a 2-character string. AA is the lowest priority. 99 is the highest. If a single character is specified, the uppercase letter **A** is automatically inserted as the first character. For example, **priority 1** is treated as **priority A1**.

  In OS/390, if the value of Priority is set to ***** (Asterisk), and the value of Critical is set to **Y**, the job has the highest priority (***** > **9** > **0** > **Z** >**A**).

- The next line shows priority values from the lowest (on the left) to the highest (on the right):

  ```
  AA-A9 ... ZA-Z9, 0A-0Z, 01-09, 1A-19 ... 9A-99
  ```

If a job that is waiting to be submitted because Quantitative resources are not available, has a higher priority than a job that has all the Quantitative resources available, the lower priority job is submitted. However, by defining a job as critical, the user can force CONTROL-M to reserve resources for the job, thus assuring that it is submitted as soon as possible (For additional details, see the Critical parameter, page 4-5.).

Consult authorities at your installation for information about your priority usage standards.

Aliases in Other CONTROL-M Components

Alternate names for the Priority parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	PRIORITY
Reporting Facility	PRIORITY
CONTROL-M/Server Utilities	-priority
CONTROL-M for OS/390 Utilities	PRIORITY

Example

Job RNDIN001's priority level is 08; job RNDIN002's priority level is 04. Each job requires 60% of the CPU.

```
Mem Name          RNDIN001
Quantitative
Resources         CPU    60
Priority          08
Mem Name          RNDIN002
Quantitative
Resources         CPU    60
Priority          04
```

The two jobs cannot run simultaneously. Therefore, job **RNDIN001** is submitted first because it has a higher priority.

Request NJE Node

Specifies the node in the JES network on which the job is to execute.

Note

This field is relevant only for OS/390 jobs.

Format

Usage	Optional
Length	1-8 characters
Case Sensitive	No
Invalid Characters	Blanks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The Request NJE Node parameter is used to specify the node in the JES network on which the job is to execute.

If a value is specified for the Request NJE Node parameter, a JCL statement is generated. The precise form of the statement depends on whether CONTROL-M is running under JES2 or JES3.

Note

If a value is specified for the Request NJE Node parameter, it will not override any node name specified in the job statement unless the OVERJCLM parameter in the CTMPARM library is set to **Y**.

Under JES2

If CONTROL-M is running under JES2, the Request NJE parameter generates the following JCL statement:

```
/*ROUTE XEQ node_name
```

Under JES3

If CONTROL-M is running under JES3, the JCL statement generated by the Request NJE parameter differs slightly, taking the following form:

```
//*ROUTE XEQ node_name
```

Aliases in Other CONTROL-M Components

Alternate names for the Request NJE Node parameter are listed below.

Component	Parameter Name
CONTROL-M for OS/390	NJE NODE
CONTROL-M/EM API	request_nje

Example1 : Under JES2

The following values are entered to the job processing definition:

```
DESC
OVERLIB
SCHENV SYSTEM ID NJE NODE OS35
```

The following statement is added to the JCL of the job:

```
/*ROUTE XEQ OS35
```

The job is executed at node **OS35**.

Example 2: Under JES3

The following values are entered to the job processing definition:

```
DESC
OVERLIB
SCHENV SYSTEM ID NJE NODE OS35
```

The following statement is added to the JCL of the job:

```
//*ROUTE XEQ OS35
```

The job is executed at node OS35.

Rerun From

Indicates whether the interval between runs of a cyclic job or until the start of a rerun job is measured from the start or the end of the previous job run.

Table 4-4 Format - Rerun From Parameter

Usage	Optional
Format	List box Valid values: • **START** (Default) • **END**
Invalid Characters	Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The interval between job runs is specified in the Interval parameter.

- When the value of Rerun From is **Start**, the time until the next job run is counted from the moment that the current job run begins.
- When the value of Rerun From is **End**, the time until the next job run is counted from the moment that the current job run is complete.

Aliases in Other CONTROL-M Components

Alternate names for the Rerun From parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	IND_CYCLIC
Reporting Facility	IND CYCLIC

Component	Parameter Name
CONTROL-M/Server Utilities	-intervalfrom (Default value: START)
CONTROL-M/EM API	count_cyclic_from

Formats in Other CONTROL-M Components

Alternate formats for the Rerun From parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	Valid values: • **START** • **END** **Example** <IND_CYCLIC="START"/>

Example 1: Calculate the Interval Between Cyclic Jobs when Rerun From is Start

Job_A is a cyclic job. The value specified for Interval is 60 seconds. The Rerun From value is **Start**.

If Job_A job run takes 15 seconds, the next run of Job_A will begin 45 seconds after the first run is complete.

Example 2: Calculate the Interval Between Cyclic Jobs when Rerun From is End

Job_B is a cyclic job. The value specified for Interval is 60 seconds. The Rerun From value is **End**.

When the Job_B job run is complete, the next run of Job_B will begin 60 seconds after the first run is complete. The length of time that it takes to run Job_B does not affect the period of time between job runs.

Rerun Member

Name of the JCL member to use when the job is automatically rerun.

Note

This field is relevant only for OS/390 jobs.

Format

Usage	Optional.
Length	1-8 characters
Case Sensitive	Yes
Invalid Characters	Blanks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Do Forcejob	The Do Forcejob parameter is a more flexible alternative to the Rerun Member parameter.
Do If Rerun	CONTROL-M/Restart users can restart a failed job using the Do If Rerun parameter instead of Rerun Member. Do If Rerun and Rerun Member cannot be specified together.
File Name/Mem Name	When specified, the Rerun Member value overrides the Mem Name value.

General Information

Although the Rerun Member parameter can be used to specify the name of a JCL member to use for automatic rerun, note the following points:

- The Do Forcejob parameter provides a more flexible alternative to the Rerun Member parameter.

- CONTROL-M/Restart users can use parameter Do If Rerun to restart the failed job instead of using the Rerun Member parameter to rerun the job.

The automatic rerun process works as follows:

- The CONTROL-M determines that automatic rerun is possible only if the job ends **NOTOK** and a specified Do Rerun statement is activated during post-processing. If the CONTROL-M determines that automatic rerun is possible, it sets the job's status to ended **NOTOK** – RERUN NEEDED.

- CONTROL-M then checks the value of MAXRERUN in the Active environment. If the value is zero (or no MAXRERUN value was specified), automatic rerun is not possible and the job is not submitted for rerun. If the value is greater than zero, rerun is possible and the monitor submits the job for rerun when all runtime criteria are satisfied. Runtime criteria include not only the Runtime Scheduling parameters, but also the Interval parameter, which specifies the minimum allowable interval between runs of the same job.

- The JCL for the rerun job is taken from the member specified in the Rerun Member parameter. If no Rerun Member value is specified, the JCL for the rerun is taken from the job's regular JCL member specified in the Mem Name parameter.

Rerun Member has additional characteristics:

- The member name can be the same as, or different from, the job name.

- The member specified in the Rerun Member parameter must be in the library specified in the Mem Lib parameter.

- The Rerun Member parameter overrides the Mem Name parameter value in the JCL, and the Mem Name parameter value becomes irrelevant for reruns.

Availability

- This parameter is relevant only for OS/390 jobs.
- The Do If Rerun and Rerun Member parameters cannot be specified together.
- The Rerun Member parameter cannot be specified for cyclic jobs and cyclic started tasks.

Aliases in Other CONTROL-M Components

Alternate names for the Rerun Member parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	RERUNMEM
Reporting Facility	RERUN MEM
CONTROL-M for OS/390 Utilities	RERUNMEM
CONTROL-M/EM API	rerun_member

Scheduling Environment

Indicates the JES2 workload management scheduling environment that is to be associated with the job.

Note

This field is relevant only for OS/390 jobs.

Format

Usage	Optional
Length	1 through16 characters
Case Sensitive	Yes
Invalid Characters	Blanks; non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The Scheduling Environment parameter can only be used when CONTROL-M is running under JES2. If CONTROL-M is running under JES3, any value specified for the Scheduling Environment parameter is ignored.

If a value is specified for the Scheduling Environment parameter, the JCL job statement is modified by the addition of a statement in the following form:

```
// SCHENV=<schedule_environment>
```

Note

If a value is specified for the Scheduling Environment parameter, it will not override any scheduling environment specified in the job statement unless the OVERJCLM parameter in the CTMPARM library is set to **Y**.

Aliases in Other CONTROL-M Components

Alternate names for the Scheduling Environment parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	SCHEDULING_ENVIRONMENT
Reporting Facility	SCHEDULE ENV
CONTROL-M for OS/390	SCHENV
CONTROL-M/EM API	schedule_environment

Example: Specifying a Scheduling Environment

If the scheduling environment of job ACCT01 is to be SCHD2, specify the following:

```
DESC
OVERLIB
SCHENV SCHD2 SYSTEM ID NJE NODE
```

The job statement is modified as follows:

```
//ACCT01 JOB ,PROD1,CLASS=A,MSGCLASS=X,
// MSGLEVEL=(1,1),
// SCHENV=SCHD2
```

System Affinity

Indicates the identity of the system in which the job must be initiated and executed (in JES2).

Indicates the identity of the processor on which the job must execute (in JES3).

Note

This field is relevant only for OS/390 jobs.

Format

Usage	Optional
Length	1-4 characters
Case Sensitive	No
Invalid Characters	Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The System Affinity parameter has different effects, depending on which release of JES is in use.

Note

If a value is specified for the System Affinity parameter, it will not override any system identity specified in the job statement unless the OVERJCLM parameter in the CTMPARM library is set to **Y**.

Under JES2

If CONTROL-M is running under JES2, the System Affinity parameter is used to specify the JES2 system on which the job is to be initiated and executed.

If a value is specified for the System Affinity parameter, the following JCL statement is generated:

```
/*JOBPARM SYSAFF=sys_id
```

Under JES3

If CONTROL-M is running under JES3, the System Affinity parameter is used to specify the JES3 processor which is to execute the job.

If a value is specified for the System Affinity parameter, the following JCL statement is generated:

```
//*MAIN SYSTEM=processor_id
```

Aliases in Other CONTROL-M Components

Alternate names for the System Affinity parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	SYSTEM_AFFINITY
Reporting Facility	SYS AFFINITY
CONTROL-M for OS/390	SYSTEM ID
CONTROL-M/EM API	system_affinity

Example1: Under JES2

The following values are entered to the job processing definition:

```
DESC
OVERLIB
SCHENV SYSTEM ID SYS3 NJE NODE
```

The following statement is added to the JCL of the job:

```
/*JOBPARM SYSAFF=SYS3
```

The job is executed on the JES2 system **SYS3**.

Example2: Under JES3

The following values are entered to the job processing definition:

```
DESC
OVERLIB
SCHENV SYSTEM ID PRC3 NJE NODE
```

The following statement is added to the JCL of the job:

```
//*MAIN SYSTEM=PRC3
```

The job is executed on processor **PRC3**.

Time From, Time Until

Sets time limits (from and until) for submitting the job.

Format

Usage	Optional
Format	From and Until must contain valid times expressed in 24-hour format (**hh:mm**). Valid times are from **00:00** through **23:59**. Alternatively, if From contains a valid time value, Until can contain the **>** character. For more information, see below. The From value can be specified without an Until value. The opposite is also true. **Note:** If identical values are specified for the From and Until parameters, the job will be scheduled immediately (regardless of the specified time value). For example, if From is **0900** and To is **0900**, and the job is ordered at **0700**, the job is submitted for execution at **0700**.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

CONTROL-M submits the job only during the time range defined in the Time parameter. The job is only submitted from (but not before) the time specified by the From parameter time and before the Until time.

CONTROL-M ignores seconds when determining the time range. For example, a job with a time range of 20:00 to 21:00 could be submitted at 21:00:58.

When either the From or Until parameter is not specified, the default is the New Day time as specified in CONTROL-M system parameters.

Note

Operation of CONTROL-M is suspended while the New Day procedure in running. If a job is limited by the From and Until parameters to the time that the New Day procedure is running, the job is never ordered.

A > character can be specified in the Until field if the From field contains a valid time value. This character is used to indicate that once the From time has passed, if CONTROL-M has not yet submitted the job by New Day time, it should try to submit the job as soon as possible after the New Day procedure is run (without waiting for the From time to arrive again). CONTROL-M continues to ignore the From time either until the job is submitted or until the Max Wait period expires.

Aliases in Other CONTROL-M Components

Alternate names for the Time From and Time Until parameters are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	TIMEFROM, TIMETO
Reporting Facility	FROM TIME, TO TIME
CONTROL-M/Server Utilities	-timefrom, -timeuntil
eTrigger	From Time, Until Time
CONTROL-M for OS/390 Utilities	TIME FROM, TIME UNTIL
CONTROL-M/EM API	time_from time_until

Example 1: Submit a Job During a Fixed Range of Hours

Submit the job between 9 p.m. and 6 a.m.:

```
Time From 21:00 Until 06:00
```

Example 2: Submit a Job Before the Specified Hour

Submit the job no later than 7:00 a.m.:

```
Mem Name OPGENBKN
Time From Until 07:00
```

Note

In this example, if the start time of the new workday is 6:00 a.m., this *job* can only be submitted between the hours of 6:00 a.m. And 7:00 a.m.:

Example 3: Submit a Job After the Specified Hour

Submit the job after midnight:

```
Time From 00:00 Until
```

Note

In this example, if the start time of the new workday is 6:00 a.m., this job can only be submitted between the hours of midnight and 6:00 a.m.

Units

Specifies a unit of time for the numerical value indicated by the Interval parameter.

Format

Usage	Mandatory when a value is specified for the Interval parameter
Format	List box Valid values: • **Minutes** (Default) • **Hours** • **Days**
Invalid Characters	Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Cyclic	Values must be specified for the Interval and Units parameters when a job is cyclic.
Interval	A value must be specified for Units when Interval is specified.

General Information

The Units parameter indicates the unit of measure in which the numerical value of the Interval parameter is expressed.

This parameter is used together with the Interval parameter.

Aliases in Other CONTROL-M Components

Alternate names for the Units parameter are listed below.

Component	Parameter Name
CONTROL-M/Server Utilities	The Units value is contained in the -interval parameter.
eTrigger	The Units value is contained in the Rerun Interval parameter.

Formats in Other CONTROL-M Components

Alternate formats for the Units parameter are listed below.

Component	Parameter Name
CONTROL-M/Server Utilities	Valid values: • **d** - Days • **h** - Hours • **m** - Minutes (Default) Format: <interval_amount><unit> Example for 24 hours: **24h**
eTrigger	Valid values: • **d** - Days • **h** - Hours • **m** - Minutes (Default) Format: <interval_amount><unit> Example for 24 hours: **24h**

Condition Parameters

The parameters in this chapter enable you to create dependencies between jobs in your network.

Table 5-1 Conditions Parameters

Parameter	Description
In Condition	Prerequisite conditions required for a job to execute.
Out Condition	Prerequisite conditions to be added or deleted after the job completes with a completion status of **OK**.

In Condition

Specifies prerequisite conditions that must be satisfied before the job is submitted for execution.

Format

Usage	Optional
Format	The In Condition parameter is composed of the **Name**, **Date**, and **And/Or** subparameters. These subparameters are described in “Subparameters” .
AutoEdit Support	Yes. AutoEdit system variables (but not other types of AutoEdit variables) can be specified as the entire value for this parameter.

Subparameters

Parameter	Description	
Name	Name of the In Condition. **Note:** Beginning with version 6.1.03, the square bracket characters **[** and **]** can be used in Condition names.	
	Length	• Condition names for CONTROL-M versions prior to 6.0.01 can be from 1 through 20 characters. • Condition names for CONTROL-M version 6.0.0x can be from 1 through 39 characters. • Condition names for CONTROL-M version 6.1.0.x can be from 1 through 255 characters. (OS/390: Not more than 39 characters) **Notes** • Conditions with long names are not passed to earlier versions of CONTROL-M.
	Case sensitive	Yes. However, if the Uppercase Only check box was checked in the Add CONTROL-M Definition window, you cannot use lowercase characters.
	Invalid Characters	**Platforms other than OS/390**: Blanks; single quotation marks; ")" and "(" (parentheses); "|" (pipe) **OS/390**: Blanks

Parameter	Description	
Date	A 4-character date reference associated with the condition.	
	date	**mmdd** or **ddmm**, dependent on the site standard.
	ODAT	Variable that is automatically replaced by the job's original scheduling date (that is, the date on which the job was ordered). **NOTE:** Beginning with version 6.1.03 of CONTROL-M/EM and CONTROL-M/Server, **ODAT** can also be specified when modifying details of a job in the Active Jobs file.
	PREV	Variable that is automatically replaced by the job's previous scheduling date. **Note**: **PREV** cannot be specified when modifying details of a job in the Active Jobs file.
	**** (or **$$$$**)	Any scheduling date. The Condition parameter is satisfied if any prerequisite condition with the same name exists, regardless of its associated date.
	STAT	Condition is not date-dependent. **Note**: This value is valid only for CONTROL-M/Server version 6.0.01 and later or for CONTROL-M for OS/390.
And/Or	List box, used to specify the logical relationship between In Conditions. If more than one Condition parameter is specified, an And/Or parameter must be specified for each Condition parameter.	

Parameter	Description	
Parentheses	Parentheses are used to isolate groups of In Conditions in a longer list of conditions to indicate logical relationships that are resolved before the entire condition statement is resolved. For more information, see "Logical Relationships between Conditions" on page 5-5. **Notes**: Pairs of parentheses cannot be nested.	
	blank	Indicates no special relationship between the current and following condition.
	(	Beginning of a comparison between successive conditions.
	)	End of a comparison between successive conditions.
	A(	Indicates a logical AND between two IN conditions.
	O(	Indicates a logical OR between two IN conditions.

General Information

The In Conditions parameter makes the submission of the job dependent on the existence of one or more prerequisite conditions.

Note

A maximum of 99 prerequisite conditions can be specified for the In Condition parameter.

Logical Relationships between Conditions

The logical relationship (And/Or) used when two or more prerequisite conditions are specified determines whether all or only some of the prerequisite conditions must exist in order for the job to be submitted.

- Expressions in parentheses are resolved first.
- Pairs of parentheses cannot be nested.

- AND operations are resolved prior to the resolution of OR operations.
- AND conditions do not need to be grouped together before OR conditions.

For a detailed explanation of prerequisite conditions, see “Out Condition” on page 5-12.

Time Stamp

Inserting the **@HHMMSS** code into an In condition name includes a time stamp (in hours, minutes, and seconds) that is resolved to the time that the job is entered inserted in the Active Jobs file.

Aliases in Other CONTROL-M Components

Alternate names for the In Condition parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	INCOND
Reporting Facility	CONDITION
CONTROL-M/Server Utilities	-incond
CONTROL-M/EM API	in_condition

Alternate formats for the In Condition parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	INCOND is composed of the NAME. ODATE, AND_OR, and OP subparameters. The OP value is a right or left parenthesis. Used to isolate portions of the In condition expression. **Example** <INCOND NAME=”Cond1” ODATE=”ODAT” AND_OR=”AND” OP=”)”>
Reporting Facility	Condition name.

Example 1: Schedule a Job Dependent on the Successful Completion of Another Job

Schedule JOB_B to execute after the successful completion of JOB_A (regardless on what day JOB_A was run):

```
Job Name        JOB_A
Out Conditions  JOB_A_OK   Date   ODAT
Job Name        JOB_B
In Conditions   JOB_A_OK   Date   ****
```

If JOB_A completes with a termination status of OK, prerequisite condition JOB_A_OK is created (with JOB_A's original scheduling date). JOB_B, that is waiting for prerequisite condition JOB_A_OK, is submitted for execution as soon as the prerequisite condition is created.

Example 2: Daily Jobs

JOB_A and JOB_B are daily *jobs*. JOB_B should be submitted only after the successful completion of JOB_A. JOB_B must not be mistakenly submitted based on the successful completion of JOB_A from a previous day.

```
Job Name        JOB_A
OJob Name       JOB_B
In Conditions   JOB_A_OK   Date   ODAT
```

Assuming that the scheduling date is May 5:

If JOB_A completes with a termination status of OK, prerequisite condition JOB_A_OK is created (with the date 0505). JOB_B, that is waiting for prerequisite condition JOB_A_OK with date 0505, is submitted for execution as soon as the prerequisite condition is created.

The **In Conditions** parameter of JOB_B is not satisfied by the JOB_A_OK condition with a date of 0504 (created the previous day).

Example 3: Schedule a Job Dependent on the Completion of Multiple Jobs

Schedule the job that produces the salary statistics report for top management after the set of jobs that calculates the salaries ends **OK**:

```
Mem Name EBDRPT1A
Days 01,15
In Conditions SALARY-OK
```

When the set of jobs that calculates the salaries ends OK, it creates prerequisite condition SALARY-OK.

The report is produced twice a month, for the 1st and for the 15th. The report for the 15th is produced only if its prerequisite condition SALARY-OK exists (signifying that the 15th's salary job ended OK). The existence of the prerequisite condition for the 1st – SALARY-OK does not enable the submission of the report for the 15th.

The report for the 1st does not necessarily run on the 1st of the month. Suppose the salary jobs only finish executing on the 3rd; only then is the prerequisite condition SALARY-OK for the 1st created. This is because the prerequisite condition is always associated with a scheduling date, and not with the actual running date. Therefore, a date reference should be added to the condition:

```
Mem Name EBDRPT1A
Days 01,15
In Conditions SALARY-OK   Date ODAT
```

Example 4: Job Scheduling Dependent on Previous Job Runs and a Generic Date Reference

Consider a similar example: a monthly total report must be produced based on data from the last two runs. Also, the job must run when communication channels to a remote site are active:

```
Days 01,15
Retro Y
Max Wait 06
```

```
In Conditions SALARY-OK Date: ODAT And/Or: A
SALARY-OK Date: PREV And/Or: A
COMM-ACTIVE Date: **** And/Or: A
```

The job is submitted only if the jobs for the 1st and the 15th have finished. Prerequisite condition COMM-ACTIVE is based on a “generic” date reference that exists only when communication is active.

The communication process itself can be monitored by CONTROL-M. When communication is not active, CONTROL-M deletes prerequisite condition COMM-ACTIVE, preventing abends of jobs that depend on active communication.

Example 5: Maintain Order of Job Runs

Assume a group of jobs runs every day of the week, except Saturday and Sunday. It is very important that some of the jobs scheduled for the various days of the week do not run in parallel. The order of these jobs must be maintained even in cases of delays:

```
Week Days 2,3,4,5,6
Retro Y
Max Wait 8
In Conditions DEPOSITS Date: PREV
```

The job is submitted only if the prerequisite condition DEPOSITS of the previous scheduling date exists. The prerequisite condition DEPOSITS is created only after the group of jobs called DEPOSITS finishes.

Example 6: Job Scheduling Dependent on Site Conditions

Suppose a Database master data set exists that is accessed by many programs. Unfortunately, the contents of the Database are often destroyed or damaged because of bugs in old programs. When, and if, it is discovered that the contents of the Database are corrupted, submission of all the jobs that will access the file must be prevented:

```
Dates 0201, 0403, 1101
Retro Y
Max Wait 06
```

```
In Conditions MASTER-FILE-OK Date: ****
```

It has been discovered that the Database contents are indeed “bad.” At this point, prerequisite condition MASTER-FILE-OK must be deleted, either manually from CONTROL-M/EM, or automatically by the job or process that made the discovery. When the Database is restored to its normal state, the prerequisite condition is added again and execution proceeds as planned.

Example 7: Job Scheduling when a Failure has Occurred

A detached process, LOGCLOSE, is to begin whenever a certain communication process crashes because of a boot operation, or as a result of an operator’s cancellation:

```
Retro Y
Max Wait 0
In Conditions COMM-CANCELED Date: ****
```

The detached process LOGCLOSE starts executing whenever prerequisite condition COMM-CANCELED is active. The prerequisite condition is added by CONTROL-M when the communication process is canceled by an operator or after a computer crash.

Example 8: Date Reference

The following example provides a further explanation of the concept of the scheduling date reference:

```
Mem Name EBDRPT6D
Days 01,15,20
Months 1-N 2-N 3-N 4-N 5-N 6-N 7-Y 8-N 9-Y 10-N 11-N
12-N
In Conditions  EBD-REPORTS-READY Date: ****
```

Today is the 15th of September. The date reference values resolved in this job are written in date format mmdd:

```
ODAT 0915
```

```
PREV 0901
**** Any date reference
```

Example 9: Condition including terms isolated with parentheses

```
ctmcreate -tasktype command -cmdline ls -jobname
cond_600 -incond cond_21 ODAT AND -incond '('cond_22
ODAT OR -incond cond_23')' ODAT AND -incond cond_24
ODAT OR
```

Example 10: Out condition name including a time stamp

```
ctmdefine -tasktype command -cmdline date -application
app -group grp -table time_cond -days ALL -month ALL Y
-outcond a@HHMMSS ODAT ADD -jobname counter -memname
counter
```

The resulting Out condition statement:

```
*CONDITION a101028     0113 ADDED
```

Out Condition

Specifies prerequisite conditions to be added or deleted after the job completes with a completion status of **OK**.

Format

Usage	Optional
Format	The Out Condition parameter is composed of the **Name**, **Date**, and **Sign** subparameters. These subparameters are described in "Subparameters" .
AutoEdit Support	Yes. AutoEdit system variables (but not other types of AutoEdit variables) can be specified as the entire value for this parameter.

Subparameters

Parameter	Description	
Name	Name of the Out Condition. **Note:** Beginning with version 6.1.03, the square bracket characters **[** and **]** can be used in Condition names.	
	Length	• Condition names for CONTROL-M versions prior to 6.0.01 can be from 1through 20 characters. • Condition names for CONTROL-M version 6.0.0x can be from 1through 39 characters. • Condition names for CONTROL-M version 6.1.0.x can be from 1through 255 characters. (OS/390: Not more than 39 characters) **Note:** Conditions with long names are not passed to earlier versions of CONTROL-M.
	Case sensitive	Yes. However, if the Uppercase Only check box was checked in the Add CONTROL-M Definition window, you cannot use lowercase characters.
	Invalid Characters	Platforms other than OS/390: Blanks; single quotation marks; ")" and "(" (parentheses); "|" (pipe) OS/390: Blanks

Parameter	Description	
Date	A four-character date reference associated with the condition.	
	date	**mmdd** or **ddmm**, dependent on the site standard.
	ODAT.	Variable that is automatically replaced by the job's original scheduling date (that is, the date on which the job was ordered). **NOTE:** Beginning with version 6.1.03 of CONTROL-M/EM and CONTROL-M/Server, **ODAT** can also be specified when modifying details of a job in the Active Jobs file.
	PREV	Variable that is automatically replaced by the job's previous scheduling date. **Note**: **PREV** cannot be specified when modifying details of a job in the Active Jobs file.
	NEXT	Variable that is automatically replaced by the job's next scheduling date. **Note**: **NEXT** cannot be specified when modifying details of a job in the Active Jobs file.
	**** (or **$$$$**)	Any scheduling date. The Condition parameter is satisfied if any prerequisite condition with the same name exists, regardless of its associated date.
	STAT	Condition is not date-dependent. **Note**: This value is valid only for CONTROL-M/Server version 6.0.01 and later or for CONTROL-M for OS/390.
Sign	Indicates whether the specified condition is to be added (created) or deleted. • **+** Adds (creates) the prerequisite condition. Default. • **–** Deletes the prerequisite condition. If the value of ODAT is $$$$ or ****, + cannot be selected.	

General Information

The In Conditions parameter makes the submission of the job dependent on the existence of one or more prerequisite conditions.

Note

A maximum of 99 prerequisite conditions can be specified for the Out Conditions parameter.

If the job completion status is **OK**, then, according to the option specified, the prerequisite conditions are added to or deleted from the Conditions/Resources table.The Out Conditions parameter is performed before the Do Cond parameter. Therefore, the Out Conditions parameter can be overridden by those of the Do Cond parameter. For examples, see the Do Cond parameter in "Do Cond" on page 7-10.

Prerequisite Conditions

A prerequisite condition is a user-defined entity whose existence can be tested to determine whether or not a job should be submitted for execution.

You can specify that a prerequisite condition be added (that is, created) or deleted as part of the post-processing treatment of a job (using the Out Condition parameter and the Do Cond parameter). A prerequisite condition can also be added or deleted manually by the operator via the Prerequisite Conditions window.

Prerequisite conditions are used to define and implement job execution dependencies. A job containing an In Condition definition is not submitted for execution unless the specified In conditions exist. This permits job-to-job dependencies or job dependencies based on successful completion of a manual task (such as a file creation or a restore operation).

When created, each prerequisite condition is associated with a specific date. A date is also specified when testing for the existence of a prerequisite condition. Thus, the submission of a job can be made contingent upon the existence of a prerequisite condition created on a specific date. This enables you to specify jobs, for example, that depend on conditions created on the same day and that ignore conditions created on previous days.

A prerequisite condition can represent any user-specified situation. The following represent the kind of self-explanatory conditions for which a job may need to test:

```
JOB-EJGH12-FINISHED
SALARY-INPUT-READY
CHECKS-PUNCHED
WEEKEND
COMM-ACTIVE
```

Time Stamp

Inserting the **@HHMMSS** code into an In condition name includes a time stamp (in hours, minutes, and seconds) that is resolved to the time that the job is entered inserted in the Active Jobs file.

Other CONTROL-M Components

Alternate names for the Out Condition parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	OUTCOND
Reporting Facility	CONDITION
CONTROL-M/Server Utilities	-outcond
CONTROL-M for OS/390 Utilities	OUT
CONTROL-M/EM API	out_condition

Examples

For examples of prerequisite conditions, see “In Condition” on page 5-2.

Resource Parameters

The parameters in this chapter specify the resources that must be available as a pre-condition for a job to run.

Table 6-1 Resource Parameters

Parameter	Description
Control Resources	List of resources and type of usage (exclusive or shared) required.
Quantitative Resources	List of Quantitative resources required by the job, and the quantity of each resource.

Control Resources

Indicates the resources required by the job during execution and the type of control (shared or exclusive) the job requires over each resource.

Format

Usage	Optional **Note**: A maximum of 99 Control Resources can be specified for a job.
Length	1-20 characters
Case Sensitive	Yes. However, if the Uppercase Only check box was checked in the Add CONTROL-M Definition window, you cannot use lowercase characters.
Invalid Characters	• Blanks • Platforms other than OS/390: Single quotation marks
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

The Control resource parameter is used to control parallel execution of jobs.

Control resources are defined using the CONTROL-M/EM Control Resources window.

If a job requires exclusive use of a Control resource, only that job can use the Control resource. If another job requests the same resource in exclusive or shared state, this second job is not submitted by CONTROL-M until the resource is released by the first job.

If a job requires a Control resource in shared state, that job can run in parallel with other jobs that request the same resource in shared state.

Aliases in Other CONTROL-M Components

Alternate names for the Control Resource parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	CONTROL
Reporting Facility	RESOURCE
CONTROL-M/Server	-control
eTrigger	Control Resource
CONTROL-M for OS/390	CONTROL
CONTROL-M/EM API	control_resource

Formats in Other CONTROL-M Components

Alternate formats for the Control Resource parameter are listed below.

Component	Format	
Reporting Facility	The Control Resource parameter is composed of the subparameters below.	
	RESOURCE	Name of the resource. String.
	TYPE	Type of Control resource: • **E** - Exclusively owned by a job • **S** - Shared by any number of jobs

Example 1: Scheduling a Job using an Exclusive Resource

Job R1 (which reorganizes a disk) cannot run in parallel with job B1 (which backs up the same disk) or job B2 (which reads data from the disk). Jobs B1 and B2 do not interfere with each other and can be executed in parallel.

Job R1 is defined as follows:

```
Mem Name = R1
Control Resources: VS01 = E
```

Job B1 is defined as follows:

```
Mem Name: B1
Control Resources: VS01 = S
```

Job B2 is defined as follows:

```
Mem Name: B2
Control Resources = VS01 = S
```

Jobs B1 and B2 can run simultaneously since they both use resource VS01 in shared mode. Job R1 requests VS01 for exclusive use and therefore cannot run in parallel with either job B1 or B2.

- If either job B1 or B2 is running, CONTROL-M does not submit job R1.
- If job R1 is running CONTROL-M does not submit job B1 or B2.

CONTROL-M submits job B1 if job B2 is running, and vice-versa.

Quantitative Resources

Indicates the name and quantity of Quantitative resources required by the job.

Format

Usage	Optional.
Format	Each Quantitative resource is specified using the mandatory subparameters described in "Subparameters" .
Case Sensitive	Yes. However, if the Uppercase Only check box was checked in the Add CONTROL-M Definition window, you cannot use lowercase characters.
Invalid Characters	• Blanks • Platforms other than OS/390: Single quotation marks
AutoEdit Support	Yes. AutoEdit system variables (but not other types of AutoEdit variables) can be specified as the entire value for this parameter.

Subparameters

resource	Name of the Quantitative resource. The following special suffixes can be appended to the specified resource name: • **$** Represents any single character. For example, TAPE$ can represent TAPE1 or TAPE2. However, if the job requires two TAPE$ units, it can only use two TAPE1 units or two TAPE2 units, not one of each. (The $ can only assume value 1 or 2 for the job; it cannot represent both.) • @ Identifies a Quantitative resource used for load balancing.	
	Length	1-20 characters
	Case Sensitive	Yes. However, if the Uppercase Only check box was checked in the Add CONTROL-M Definition window, you cannot use lowercase characters.
	Invalid Characters	Blanks; single quotation marks.
quantity	Amount of the resource that is required. Valid values for this field are from **1** through **9999**.	

General Information

When a Quantitative resource is specified for a job, CONTROL-M determines whether or not a sufficient quantity of the specified resource is available before submitting the job. When the job is submitted, the specified quantity of resource is assigned to that job and is not available to other jobs. When the job finishes executing, the resource is made available to other jobs.

Note

A maximum of 99 Quantitative resources can be specified for a job.

The Quantitative Resources parameter is used to control the use of Quantitative resources in the installation (for example, tape drives, CPU utilization).

For load balancing, Quantitative resources are used to specify the resources that must be available on the Agent platform selected by CONTROL-M to execute the job.

Note

Load balancing is available for certain platforms with CONTROL-M version 2.2x or later.

Aliases in Other CONTROL-M Components

Alternate names for the Quantitative Resource parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	QUANTITATIVE
Reporting Facility	RESOURCE
CONTROL-M/Server	-quantitative
eTrigger	Quantitative Resource
CONTROL-M for OS/390	RESOURCE
CONTROL-M/EM API	quantitative_resource

Example 1: Specifying 2 Tape Drives

A CONTROL-M installation has ten tape drives available for production. A job that requires the use of two tape drives is defined with a Quantitative Resources parameter specifying the number of tape drives required:

```
Quantitative Resources  TAPE   2
```

CONTROL-M determines whether or not two tape drives are available. If the drives are available, and all other Submission criteria for the job have been satisfied, the tape drives are allocated to the job, and the job is submitted for execution. The total number of free tape drives is now eight. When the job finishes executing, the two tape drives are returned to the pool of available resources.

Example 2: Quantitative Resource Requirement that Cannot be Fulfilled

Given the following situation:

- Several jobs that require tape drives are currently executing.
- Only one tape drive is currently available.
- Job A requires two tape drives and contains the following parameter (all other Submission criteria for the job have been satisfied):

```
Quantitative Resources TAPE  2
```

As long as two tape drives are not available, Job A is not submitted for execution.

If another tape drive is released by a different job, or if an authorized user increases the number of existing tape drives so that two are available, CONTROL-M submits the job for execution.

Example 3: Defining a Quantitative Resource with a Mask Character

A CONTROL-M installation is defined as having the following Quantitative resources: three units of `TAPE1` and three units of `TAPE2`. A job requiring three tape drives contains the following parameter:

```
Quantitative Resources TAPE$  3
```

The job is submitted for execution when three units of the same type are available (that is, either three units of `TAPE1` or three units of `TAPE2`) since the mask character `$` can only represent a single value for a given job.

Example 4: Defining Multiple Quantitative Resources with Mask Characters

A job requires two tape drives and a printer:

```
Quantitative Resources TAPE$  2 PRINT$  1
```

Two units of TAPE1 and one unit of PRINT2 are available. However, the job will not be submitted until a unit of PRINT1 becomes available since the mask character $ can only represent a single value for a given job. In this instance, $ represents the number 1.

Example 5: Load Balancing

A job to be submitted by the load-balancing mechanism requires 10 units of the Quantitative resource CPU:

```
Quantitative Resources CPU@  10
```

The job will be submitted to an Agent platform possessing at least 10 available units of the specified resource.

Post-Processing Parameters

Post-Processing parameters are used to describe:

- Actions to be performed if the job is not submitted.
- Actions to be performed after the job has finished executing.
- Handling of the job's log (sysout).
- Notification messages to various users.
- Rerun conditions.

Based on the job's execution status codes, CONTROL-M automatically assigns a completion status:

Table 7-1 Job Statuses

Status	Description
OK	Job ended **OK**. The job finished executing with a successful operating system completion status. This status can be overridden with the **Do NOTOK** parameter (as a result of an **On Statement/Code** evaluation).
NOTOK	Job did not end **OK**. The job finished executing with an unsuccessful operating system completion status or due to a submission failure (for example, queue does not exist). This status can be overridden with the **Do OK** parameter (as a result of an **On Statement/Code** evaluation).

For Group Scheduling tables:

Steps parameters can also be defined for Group Scheduling tables.

- Actions to be performed if a group finished **OK** are performed only if all the jobs in the group finished **OK**.

- Actions to be performed if a group finished **NOTOK** are performed only if one or more jobs in the group finished **NOTOK**.

Post-processing of a group occurs when the last job in the group ends. A group may become active again after the post-processing has been completed, if one or more jobs are rerun, or if a new job is added to the group and submitted. In this case, when the last job in the group ends again, the completion status of the group is rechecked and the appropriate post-processing actions are performed.

For more information about Group Scheduling tables, see the *CONTROL-M/Desktop User Guide*.

Table 7-2 Post Processing Parameters

Parameter	Description
CTB Step	Adds CONTROL-M/Analyzer steps as the first and/or last step of the job's execution.
Do AutoEdit	Assigns a value to an AutoEdit variable.
Do Cond	Specifies prerequisite conditions to be added or deleted.
Do CTBRule	Invokes a CONTROL-M/Analyzer rule to be executed during the processing of a specific program step.
Do Forcejob	Forces a job or all jobs in a Scheduling table to be ordered under CONTROL-M regardless of the scheduling criteria.
Do If Rerun	Job steps to be executed during restart of a job. Available only at sites utilizing CONTROL-M/Restart.
Do Mail	Specifies a message to be sent to one or more email addresses.
Do NOTOK	Sets the job's completion status to NOTOK regardless of how the job actually ended.
Do OK	Sets the job's completion status to OK regardless of how the job actually ended.
Do Rerun	Causes the job to be rerun according to the parameters specified in the **Rerun** parameter.

Table 7-2 Post Processing Parameters

Parameter	Description
Do Shout	Specifies messages to be sent (“shouted”) to specified destinations on various occasions.
Do Stop Cyclic	Prevents future iterations of a cyclic job.
Do Sysout	Specifies how the job’s log/output should be handled.
On	Job processing step and code event criteria that determine whether the accompanying DO statements are performed. [For OS/390 jobs, only]
On Statement/Code	Specifies a combination of statements and error codes that determine when and if **Do statements** should be applied.
Reten Days	Number of days to retain the job in the History Jobs file. [OS/390, only]
Reten Gen	Maximum number of generations of the job to keep in the History Jobs file.[OS/390, only]
Step Range	Specifies a range of steps in the steps of an On PGMST statement.

CTB Step

Adds CONTROL-M/Analyzer steps as the first and/or last step of the job's execution.

Note

For CONTROL-M for OS/390 installations in which CONTROL-M/Analyzer is installed.

Format

Usage	Optional
Format	This parameter is accessed from the CONTROL-M for OS/390 interface, only. CTB Step is composed of the AT, NAME, TYPE, and ARGUMENTS subparameters. For more information, see "Subparameters" below.
Invalid Characters	Non-English characters
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Subparameters

Parameter	Description
AT	Indicates where to place the CONTROL-M/Analyzer step in the job. Mandatory. Valid values: • **S** (Start) – The indicated CONTROL-M/Analyzer step must become the first step of the job. • **E** (End) – The indicated CONTROL-M/Analyzer step must become the last step of the job.

Parameter	Description	
NAME	Name of the CONTROL-M/Analyzer entity. Must be a valid name of a CONTROL-M/Analyzer rule or mission. Mandatory.	
	Length	1 through 8 characters
	Case Sensitive	Yes
	Invalid Characters	Blanks; non-English characters
TYPE	Type of CONTROL-M/Analyzer entity. Mandatory. Valid values: • **R** (Rule) – Entity is a CONTROL-M/Analyzer rule. • **M** (Mission) – Entity is a CONTROL-M/Analyzer mission.	
ARGUMENTS	Arguments to be passed to the CONTROL-M/Analyzer step. Optional.	
	Length	0 through 60 characters
	Case Sensitive	Yes
	Invalid Characters	Non-English characters

General Information

A maximum of two CTB STEP statements (that is, one START statement and one END statement) can be specified.

Multiple arguments must be separated by a comma without a space because they are automatically passed to the CONTROL-M/Analyzer step as a PARM=<*arguments*> parameter in the step's JCL.

CONTROL-M uses the status returned by CONTROL-M/Analyzer as it would use the return status of any job step.

- If CONTROL-M/Analyzer returns a status of **OK** or **TOLER** (within accepted tolerances), CONTROL-M considers the step as having ended **OK**.

- If CONTROL-M/Analyzer returns a status of **NOTOK** or **ABEND**, CONTROL-M considers the job step as having ended **NOTOK**.

Aliases for Other CONTROL-M Components

Alternate names for the CTB Step parameter are listed below.

Component	Parameter Name
CONTROL-M/EM API	ctb_step

Example: Check results and Set a Condition

After successfully performing salary calculations, job SACALC01 invokes rule CHKCALC to ensure that the results are reasonable, and then sets OUT condition SALARY-OK.

```
JOB: SACALC01 LIB CTM.PROD.SCHEDULE TABLE: SALARY
COMMAND ===> SCROLL===> CRSR
+-------------------------------------------------------------------------------+
MEMNAME SACALC01 MEMLIB GENERAL
OWNER SYS1 TASKTYPE JOB PREVENT-NCT2 DFLT N
APPL SAL GROUP SALARY
DESC SALARY CALCULATIONS
OVERLIB
SCHENV SYSTEM ID NJE NODE
SET VAR
CTB STEP AT END NAME CHKCALC TYPE RULE
ARGUMENTS %%ODATE
CTB STEP AT NAME TYPE
DOCMEM SACALC01 DOCLIB CTM.PROD.DOC
================================================================================
DAYS 01,15 DCAL
AND/OR
WDAYS WCAL
MONTHS 1- Y 2- Y 3- Y 4- Y 5- Y 6- Y 7- Y 8- Y 9- Y 10- Y 11- Y 12- Y
DATES
CONFCAL SHIFT RETRO Y MAXWAIT 00 D-CAT
MINIMUM PDS
DEFINITION ACTIVE FROM UNTIL
================================================================================
IN
CONTROL
RESOURCE
PIPE
TIME: FROM UNTIL PRIORITY DUE OUT SAC CONFIRM
TIME ZONE:
================================================================================
OUT SALARY-OK ODAT +
COMMANDS: EDIT, DOC, PLAN, JOBSTAT 11.17.00
```

Do AutoEdit

The Do AutoEdit variable assigns a value to an AutoEdit variable for use in a rerun of the job when the On Statement/Code criteria are satisfied.

Format

Usage	Optional
Format	**Name** and **Value** text boxes in the CONTROL-M/EM Job Editing form. Enter the AutoEdit variable name in the **Name** text box, and the expression in the **Value** text box. Application-specific job parameters may not be specified in AutoEdit variable values. The names of application-specific job parameters are prefixed by two percent signs, the application's abbreviation and a hyphen (%%SAPR3- for SAP, %%OAP- for Oracle, and so on).
Length	**Platforms other than OS/390**: • The AutoEdit variable name **Name** can be up to 40 characters long (including the **%%** prefix). • The AutoEdit expression **Value** can be up to 214 characters long. **OS/390**: The total length of Do AutoEdit, including the %% prefix, *variable-name*, *value*, and the = sign, must not exceed 55 characters.
Case Sensitive	Yes
Invalid Characters	**Platforms other than OS/390**: The following characters cannot be included as part of *variable-name* in a User-defined AutoEdit variable: < > [ ] { } ( ) = ; ‘ ~ | : ? . + - * / & ^ # @ ! , " '. In *value* the only invalid characters are embedded blanks. Leading blanks are valid. **OS/390**: Blanks
AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

Related Parameters

AutoEdit Assignment	AutoEdit Assignment assigns values to a variable for use in the current job run. Whereas, Do AutoEdit assigns a value to be used in the subsequent run of the job.

Subparameters

Parameter	Description
Name	Name of the AutoEdit variable. The **%%** prefix is entered automatically. **1**-**38** character string (following the **%%** prefix).
Value	AutoEdit expression. **1**-**214** character string. Application-specific job parameters may not be specified in AutoEdit variable values. The names of application-specific job parameters are prefixed by two percent signs, the application's abbreviation and a hyphen (%%SAPR3- for SAP, %%OAP- for Oracle, and so on).

General Information

AutoEdit variables are resolved (replaced) at the time a job is submitted.

The Do AutoEdit parameter can be used to assign a value to an AutoEdit variable for use in a rerun of the job. When a job is rerun, statements specified in Do AutoEdit are evaluated after statements specified in AutoEdit Assignment.

Unless it is assigned a value in the AutoEdit Assignment parameter, an AutoEdit variable that is assigned a value in a Do AutoEdit parameter does not have any value during the first submission of the job.

Aliases for Other CONTROL-M Components

Alternate names for the Do AutoEdit parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOAUTOEDIT
CONTROL-M/Desktop	Do Set var
CONTROL-M/Server Utilities	-doautoedit
eTrigger	AutoEdit
CONTROL-M/EM API	do_autoedit

Alternate Formats for Other CONTROL-M Components

Alternate formats for the Do AutoEdit parameter are listed below.

<table>
<tr><th>Component</th><th colspan="2">Format</th></tr>
<tr><td rowspan="2">CONTROL-M/EM Utilities</td><td colspan="2">The value for the DOAUTOEDIT parameter is contained in the EXP subparameter.
Example
<DOAUTOEDIT EXP=”%%PARM1=%%TIME”/></td></tr>
<tr><td>EXP</td><td>String containing both the variable and the expression, presented as an equation.</td></tr>
</table>

Do Cond

The Do Cond parameter specifies a prerequisite condition to be added or deleted when the On Statement/Code criteria are satisfied.

Format

Usage	Optional
Format	Each Do Cond parameter consists of three subparameters, described in "Subparameters" .
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Subparameters

Parameter	Description	
Condition	Descriptive name of a prerequisite condition.	
	Length	1 through 255 characters OS/390: 1 through 39 characters OS/390 versions prior to 6.0.00: 1 through 20 characters
	Case Sensitive	Yes. However, if the Uppercase Only check box was checked in the Add CONTROL-M Definition window, you cannot use lowercase characters.
	Invalid Characters	**Platforms other than OS/390**: Blanks; single quotation marks; ")" and "(" (parentheses); "|" (pipe) **OS/390**: Blanks

Parameter	Description
Date	Date (four characters long) for the prerequisite condition. • ***date***. Specific date (**mmdd** or **ddmm** format). • **ODAT**. Automatically replaced by the job's original scheduling date when the job is ordered. • **PREV** Automatically replaced by the job's previous scheduling date when the job is ordered (or for a forced job, ODAT-1). • **NEXT** Automatically replaced by the job's next scheduling date when the job is ordered (or for a forced job, ODAT+1). • **** (or **$$$$**) Any condition date. For deleting a prerequisite condition, only. When specified, all prerequisite conditions with the specified condition name are deleted, regardless of their dates. • **STAT** Condition is not date-dependent. Note that this value is valid only for CONTROL-M/Server version 6.0.01 and later. **Note**: **PREV** and **NEXT** cannot be specified when modifying details of a job in the Active Jobs file. A date reference is required for each condition. However, beginning with version 6.1.03 of CONTROL-M/Server, **ODAT** can be specified when modifying details of a job in the Active Jobs file.
Sign	A pair of option buttons that indicate if the condition should be added (created) or deleted. • **+** Adds (creates) the condition • **–** Deletes the condition If the value of ODAT is $$$$ or ****, + cannot be selected.

General Information

The Do Cond parameter is optional. However, each Condition parameter specified must have a Date reference and a Sign specification.

When the criteria specified in the On Statement/Condition parameter are satisfied, the designated prerequisite condition(s) are added or deleted from the CONTROL-M Conditions List.

If parameters Do Cond and Out Conditions perform opposing actions on the same prerequisite condition and date, the Do Cond parameter overrides the Out Conditions parameter.
For more information on the Out Conditions parameter, see "Out Condition" on page 5-12.

Note

A maximum of 99 prerequisite conditions can be specified for the Do Cond parameter.

Aliases for Other CONTROL-M Components

Alternate names for the Do Cond parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOCOND
CONTROL-M/Server Utilities	-docond
Reporting Facility	Parameter not included.
CONTROL-M for OS/390	DO COND
CONTROL-M/EM API	do_cond

Alternate Formats for Other CONTROL-M Components

Alternate formats for the Do Condition parameter are listed below.

Component	Format	
CONTROL-M/EM Utilities	DOCOND contains the following subparameters:	
	NAME	Name of the condition. String.
	ODATE	Date (four characters long) for the prerequisite condition. String. Default: **ODAT**.
	SIGN	Valid values: • **ADD** (Default) • **DEL**

Do CTBRule

Invokes a CONTROL-M/Analyzer rule to be executed during the processing of a specific program step.

Note

This parameter is available only for CONTROL-M for OS/390 jobs at sites using CONTROL-M/Analyzer.

Format

Usage	Optional
Format	• CONTROL-M/EM Job Editing form: Select **CTBRule** from the **Do** list box. Specify values in the **Name** and **Arg** fields. • CONTROL-M: Type CTBRULE in the DO field and press **Enter**.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Subparameters

Parameter	Description	
name	Text box. Name of the CONTROL-M/Analyzer rule that is to be executed. The CONTROL-M/Analyzer rule contains all balancing specifications to be performed. Mandatory.	
	Length	1 through 8 characters
	Case Sensitive	Yes
	Invalid Characters	Blanks; non-English characters

Parameter	Description	
ARG	Text box. Arguments that are passed to the CONTROL-M/Analyzer rule. Separate multiple arguments by commas. Optional.	
	Length	1 through 45 characters
	Case Sensitive	Yes
	Invalid Characters	Blanks; non-English characters

General Information

When Do CTBRule is specified, balancing is performed by the CONTROL-M/Analyzer Runtime environment according to the specified rule definition and using the specified arguments. The CONTROL-M/Analyzer Runtime environment is invoked once for each Do CTBRule statement in the job scheduling definition.

Note

If DO CTBRULE is specified under ON PGMST ANYSTEP, the CONTROL-M/Analyzer Runtime environment is invoked only once.

When CONTROL-M calls a CONTROL-M/Analyzer rule, CONTROL-M/Analyzer System variable SYSOPT contains the value **CTMWORK**. This variable can then be tested within the CONTROL-M/Analyzer rule definition to determine if CONTROL-M invoked the CONTROL-M/Analyzer Runtime environment.

When the CONTROL-M/Analyzer Runtime environment is invoked by CONTROL-M, that is, CONTROL-M/Analyzer System variable SYSOPT is set to **CTMWORK**, CONTROL-M/Analyzer can analyze and balance SYSDATA. For more information about invoking CONTROL-M/Analyzer rules from CONTROL-M job scheduling definitions, see the discussion of the interface to CONTROL-M in the *CONTROL-M/Analyzer FOR OS/390 and z/OS User Guide*.

Aliases for Other CONTROL-M Components

Alternate names for the Do CTBRule parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOCTBRULE
Reporting Facility	Parameter not included.
CONTROL-M for OS/390	DO CTBRULE
CONTROL-M/EM API	do_ctbrule

Alternate Formats for Other CONTROL-M Components

Alternate formats for the Do CTBRule parameter are listed below.

Component	Format	
CONTROL-M/EM Utilities	DOCTBRULE contains the following subparameters.	
	NAME	Name of the CONTROL-M/Analyzer rule that is to be executed.
	PAR	Arguments.

Example: Execute a CONTROL-M/Analyzer rule when a Job Ends OK

If the job ends **OK**, execute CONTROL-M/Analyzer balancing rule GOVTBAL.

```
JOB: GOVTREPT LIB CTM.PROD.SCHEDULE TABLE: BACKUP
COMMAND ===> SCROLL===> CRSR
+-------------------------------------------------------------------------------+
TIME: FROM UNTIL PRIORITY DUE OUT SAC CONFIRM
TIME ZONE:
================================================================================
OUT FINANCE-GOVTREPT-OK ODAT +
AUTO-ARCHIVE Y SYSDB Y MAXDAYS MAXRUNS
RETENTION: # OF DAYS TO KEEP 030 # OF GENERATIONS TO KEEP
SYSOUT OP (C,D,F,N,R) FROM
MAXRERUN RERUNMEM INTERVAL FROM
STEP RANGE FR (PGM.PROC) . TO .
ON PGMST ANYSTEP PROCST CODES OK A/O
DO CTBRULE = GOVTBAL ARG DOREPORT,10,%%ODATE
DO
ON PGMST PROCST CODES A/O
DO
```

```
SHOUT WHEN NOTOK TO TSO-M44 URGN R
MS JOB GOVTREPT ENDED "NOT OK"
SHOUT WHEN TO URGN
MS
======= >>>>>>>>>>>>>>>>>> END OF SCHEDULING PARAMETERS <<<<<<<<<<<<<<<
======
COMMANDS: EDIT, DOC, PLAN, JOBSTAT 11.17.00
```

Do Forcejob

The Do Forcejob parameter forces an individual job or all jobs in a scheduling table to be placed in the Active Jobs file (regardless of each job's Scheduling criteria) when the On Statement/Code criteria are satisfied.

Format

Usage	Optional
Format	In the CONTROL-M/EM Job Editing form: Select **Force-job** from the Do text box. The **SCD Table**, **Job Name**, and **Date** text boxes are displayed. Enter the subparameter values in these text boxes. These subparameters are described in "Subparameters" below.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Subparameters

Parameter	Description	
SCD Table	Name of the job Scheduling table	
	Length	1 through 20 characters
	Invalid Characters	Blanks; single quotation marks OS/900: Non-English characters
Job Name	Job name. If this field is blank, all jobs in the specified table are forced.	
	Length	**Platforms other than OS/390**: 1through 64 characters. **OS/390**: 1through 8 characters.
	Invalid Characters	Blanks (embedded); single quotation marks

Parameter	Description	
Date	Value to be used as the original scheduling date for the job. Valid values are:	
	ODAT	Resolves to the original scheduling date of the job resulting in the execution of this parameter (default). **Note:** Beginning with version 6.1.03 of CONTROL-M/Server, **ODAT** can also be specified when modifying details of a job in the Active Jobs file.
	date	A date reference, 4 or 6 characters long (either **mmdd**, **ddmm**, **yymmdd**, or **yyddmm** format, depending on the site standard). **OS/390**: Only the **yymmdd** or **yyddmm** format can be used

General Information

Do Forcejob causes the specified job to be placed immediately in the Active Jobs file. The job is submitted for execution as soon as all its Submission criteria are satisfied.

Note

When Do Forcejob forces a job that belongs to a group, it treats it as a regular job and forces it alone (that is, without a Group Entity).

Aliases for Other CONTROL-M Components

Alternate names for the Do Forcejob parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOFORCEJOB
CONTROL-M/Server	-doforcejob
CONTROL-M for OS/390	DO FORCEJOB
CONTROL-M/EM API	do_forcejob

Alternate Formats for Other CONTROL-M Components

Alternate formats for the Do Forcejob parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	DOFORCEJOB consists of the DSN, TABLE_NAME, NAME, and ODATE subparameters. The value of DSN is the Scheduling Table Library name, which must be specified for OS/390 jobs. **Example** <DOFORCEJOB DSN=”MVS.TBL” TABLE_NAME=”Tbl1” JOB=”Job3” ODATE=”DATE”/>
CONTROL-M for OS/390	DO FORCEJOB consists of the TABLE, NAME, and LIBRARY subparameters. The value of DSN is the Scheduling Table Library name, which must be specified for OS/390 jobs.

Do If Rerun

Job steps to be executed during restart of a job.

Note

This parameter is available only if CONTROL-M/Restart is installed on a CONTROL-M for OS/390 site.

Format

Usage	Optional
Format	Select **IFRerun** from the **Do** text box in the Job editing form. **From** and **To** text boxes and a **Confirm** check box are displayed. Enter the required information. Select the check box, if required. For more information, see "Subparameters" on page 7-21.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Maximum	Determines the maximum number of times the restart or rerun specified by the Do If Rerun parameter is performed.
Do Rerun	Used to perform the job rerun when **Confirm** is not selected and a job rerun is required.

Subparameters

Parameter	Description

From	Step at which the job must be restarted. Mandatory.
	Valid values:
	• ***pgmstep*** – Program step within the job stream.
	• ***pgmstep.procstep*** – Program step within the called procedure.
	• **$FIRST** – First step of the job.
	• **$ABEND** – Step of the job that ended **NOTOK** due to system abend, user abend, condition code C2000 (PL/1 abend) or JFAIL (job failed on JCL error). **$ABEND** is a subset of **$EXERR** (below).
	• **$FIRST.$ABEND** – First step of the abended procedure.
	• **$FIRST.$CLEANUP** – This reserved keyword instructs CONTROL-M to run a CONTROL-M/Restart data set cleanup for the job. Data set cleanup is performed from the first step of the job. The job itself is not restarted.
	• **$EXERR** – Job step that ended with any error, including an abend, or that ended with a condition code that is redefined using the On and DO statements as **ENDED NOTOK**.
	Note: For both From and To steps, **pgmstep** is the name of the step (EXEC statement) that executes the program from which to begin or end the restart:
	`// pgmstep EXEC PGM= program`
	procstep is the name of the step (EXEC statement) that invokes the procedure from which the above **pgmstep** program is executed:
	`// procstep EXEC procedure`
	pgmstep and ***procstep*** values can each be from **1** through **8** characters, and must not contain blanks.
	When specifying a **procstep** when the procedures are nested, the innermost **procstep** in which the program is included must be specified.

Parameter	Description

To	Step at which the restarted job must terminate. Optional.
	Valid values are:
	Note: Non-English characters are invalid for this subparameter.
	• ***pgmstep*** – Program step within the job stream
	• ***pgmstep. procstep*** – Program step within the called procedure.
	If not specified, the restarted job terminates at the last job step that would normally be executed.
	Note: For both From and To steps, ***pgmstep*** is the name of the step (EXEC statement) that executes the program from which to begin or end the restart:
	`// pgmstep EXEC PGM= program`
	procstep is the name of the step (EXEC statement) that invokes the procedure from which the above ***pgmstep*** program is executed:
	`// procstep EXEC procedure`
	pgmstep and ***procstep*** values can each be from **1** through **8** characters, and must not contain blanks.
	When specifying a **procstep** when the procedures are nested, the innermost **procstep** in which the program is included must be specified.

Confirm	Specifies whether a manual confirmation is required before the job is restarted. • When the check box in the Job Editing form is clear, no confirmation is required. The job restart can be automatically submitted (by the Do Rerun parameter) without a manual confirmation. Default. • When the check box in the Job Editing form is selected, confirmation is required. The job restart is not submitted unless the job is confirmed manually from the CONTROL-M/EM flow diagram. Non-English characters are invalid for this subparameter.

General Information

When a Do If Rerun statement is specified, the rerun is performed by the CONTROL-M/Restart facility using the specified restart subparameters.

- When Do If Rerun is specified with a Confirm parameter value of **No** (**Confirm** check box is clear):

  — If a Do If Rerun statement follows, the job is automatically submitted for rerun.

— If a Do If Rerun statement does not follow, the job is not automatically rerun. Instead, the job remains displayed with its error status in the CONTROL-M/EM GUI.

In this case, to submit the job for rerun or restart, rerun the job from the CONTROL-M/EM GUI. The Rerun (with Restart) Confirmation window is displayed. Request the restart or rerun from the window.

- When Do If Rerun is specified with a Confirm parameter value of Yes (the **Confirm** check box is selected), the job appears in the CONTROL-M/EM GUI with a WAIT CONFIRMATION (WITH RESTART) status and is not restarted unless confirmed. Confirm the job to restart it.

When a job is submitted for restart, if **$FIRST** is specified in the From subparameter, a **$FIRST** step specification is passed "as is" to the CONTROL-M/Restart step. If **$ABEND** or **$EXERR** is specified, the specified **$ABEND** or **$EXERR** value is first resolved to the appropriate step by the CONTROL-M monitor and then passed to the CONTROL-M/Restart step.

If **$FIRST.$ABEND** is specified, the CONTROL-M monitor determines which procedure abended and then passes the **$FIRST** step specification for that procedure to the CONTROLR step. For information regarding the CONTROL-M/Restart step, refer to the *CONTROL-M/Restart for OS/390 User Manual*.

The Max Rerun parameter determines the maximum number of times the restart or rerun can be performed. For more information, see "Maximum" on page 4-21.

Availability

- This parameter is available only if CONTROL-M/Restart is installed on a CONTROL-M for OS/390 site.

- The Do If Rerun and Rerun Member parameters cannot be specified together.

Aliases for Other CONTROL-M Components

Alternate names for the Do If Rerun parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOIFRERUN
CONTROL-M for OS/390	DO IFRERUN
CONTROL-M/EM API	do_ifrerun

Alternate Formats for Other CONTROL-M Components

Alternate formats for the Do If Rerun parameter are listed below.

Component	Format	
CONTROL-M/EM Utilities	DOIFRERUN is composed of the following subparameters:	
	CONFIRM	Valid values: • **0** (No confirmation. Default) • **1** (Confirm)
	FPGMS	First program step in the range. 1-8 character string.
	FPROCS	First process step in the range. 1-8 character string.
	TPGMS	Last program step in the range. 1-8 character string.
	TPROCS	Last process step in the range. 1-8 character string.
CONTROL-M for OS/390	Do IFRERUN is composed of the following subparameters:	
	FROM	First program or process step in the range. 1-8 character string.
	TO	Last program or process step in the range. 1-8 character string.
	CONFIRM	Valid values: • **N** (No confirmation. Default) • **Y** (Confirm)

Do Mail

The Do Mail parameter specifies a message to be sent (“mailed”) to an e-mail address when the specified **On Statement/Code** criteria are satisfied.

Format

Usage	Optional
Format	• Select **Mail** from the **Do** text box in the Job editing form. • **To** and **Subject** text boxes are displayed. • **Urgency** option buttons are displayed. To send a brief message, enter the required information. To send a more detailed message and/or a message that is sent to more than one recipient, Click **Advanced**. The **Mail** dialog box is displayed. This For more information, see “Subparameters” on page 7-26.
Invalid Characters	OS/390, except for Message subparameter: Non-English characters
AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

Subparameters

Parameter	Description	
To	E-mail addresses for recipients of the mail message. Multiple addresses can be specified, separated by semicolons ";". Mandatory. **Note:** Only physical addresses or AutoEdit variables can be specified. Logical addresses (as specified for the Do Shout parameter) are not supported for Do Mail.	
	Length	**Platforms other than OS/390**: 1 through 96 characters **OS/390**: 1 through 9999 characters
	Case Sensitive	Yes
	Invalid Characters	**Platforms other than OS/390**: Blanks; single quotation marks **OS/390**: Blanks; non-English characters
	AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.
CC	E-mail addresses that should be CCed for the mail message. Multiple addresses can be specified, separated by semicolons (";"). Optional. **Note*:*** On some Unix platforms, all recipients are shown in the **To** field because the **CC** field is not supported.	
	Length	**Platforms other than OS/390**: 1 through 96 characters **OS/390**: 1 through 9999 characters
	Case Sensitive	Yes
	Invalid Characters	**Platforms other than OS/390**: Blanks; single quotation marks **OS/390**: Blanks; non-English characters
	AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Parameter	Description	
Subject	Subject line for the message.	
	Length	**Platforms other than OS/390**: 1 through 99 characters **OS/390**: 1 through 70 characters
	Case Sensitive	Yes
	Invalid Characters	**Platforms other than OS/390**: Single quotation marks; do not use " - " as the first character. **OS/390**: Non-English characters
	AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.
message	Text of the mail message.	
	Length	**Platforms other than OS/390**: 1 through 4000 characters **OS/390**: 1 through 255 lines, each containing 1 through 70 characters However, do not exceed 4000 characters in the Job Editing Form.
	Case Sensitive	Yes
	Invalid Characters	**Platforms other than OS/390**: Single quotation marks **OS/390**: None
	AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.
Urgency	Select from the following buttons, which indicate a level of urgency for the message: **Regular** Indicates that the message should have a regular level of urgency. **Urgent** Indicates messages with a high priority. Urgent message are sent with a special indication so that the recipient of the message is aware of the urgency. **Very Urgent** Indicates that the message should have the highest level of urgency. For CONTROL-M/Server utilities, only.	

General Information

The mail message specified by this parameter is sent to the indicated e-mail addresses when the condition specified by the **On Statement/Code** parameter is satisfied.

Mail messages can also be sent using a **Do Shout** parameter. However:

- When using the **Do Shout** parameter, email addresses must be defined in the dynamic destination table.
- **Do Mail** can specify two fields of e-mail addresses: TO contains up to 96 characters (in OS/390, up to 9999); CC contains up to 99 characters (in OS/390, up to 9999. **Do Shout** allows only 16 characters.
- **Do Mail** can specify up to 4096 characters in the message (in OS/390, up to 255 lines each containing up to 70 characters). **Do Shout** allows only 255 characters.
- The specified message is sent to the addresses specified in the **CC** field in the same way that it is sent to the addresses in the **To** field.

Aliases for Other CONTROL-M Components

Alternate names for the Do Mail parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOMAIL
CONTROL-M/Server	-domail
CONTROL-M for OS/390	DO MAIL
CONTROL-M/EM API	do_mail

Example: Send a Message when a Job Completes OK

The following example illustrates how a message is sent to an e-mail address when a specified job completes successfully. When FIRST_JOB completes successfully, condition FIRST_OK is created, as specified in FIRST_JOB's Out Conditions parameter. Do Mail then sends the message to the specified e-mail address.

```
Job Name          FIRST_JOB
Mem Name          Job_1
Mem Lib           W$DISK:
Owner             Thomas
Application       Payroll
Out Conditions    FIRST_OK
Do Mail           To: Thomas_werner@workmail.com
                  "The FIRST_JOB finished OK."
```

Do NOTOK

The Do NOTOK parameter assigns a completion status of **NOTOK** to a job when the On Statement/Code criteria are satisfied, regardless of the job's actual completion status.

Table 7-3 Format - Do NOTOK Parameter

Usage	Optional
Format	Select **NOTOK** from the Do list box. No additional information is required.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

General Information

For most jobs:

If **DO OK** and **DO NOTOK** are both specified, and are implemented, the last statement to be implemented will determine the status assigned to the job.

For information about the Do OK parameter, see "Do OK" on page 7-32.

For OS/390 jobs:

Do NOTOK overrides the completion status of a job and changes it to NOTOK.

Do NOTOK cannot be specified together with Do Rerun or Do OK for the same codes-event.

When:

Do OK, Do NOTOK, and/or Do Rerun are specified for different codes-events in a job processing definition.

-and-

More than one of the codes-events is executed, including the codes-event specifying **Do OK**.

Then:

Do OK is overridden by Do NOTOK and/or Do Rerun, regardless of the order in which the codes-events are executed.

Aliases for Other CONTROL-M Components

Alternate names for the Do NOTOK parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	NOTOK
Reporting Facility	Parameter not included.
CONTROL-M/Server	-donotok
CONTROL-M for OS/390	DO NOTOK
CONTROL-M/EM API	do

Alternate Formats for Other CONTROL-M Components

Alternate formats for the Do NOTOK parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	**NOTOK** is a valid value for the DO parameter. It is not a parameter itself.
CONTROL-M for OS/390	**NOTOK** is a valid value of the DO parameter. It is not itself a parameter.

Do OK

The Do OK parameter assigns the completion status of **OK** to a job, regardless of its actual completion status.

Format

Usage	Optional
Format	Select **OK** from the Do list box. No additional information is required.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Do NOTOK	Do NOTOK overrides or can be overridden by the Do OK parameter. When both are specified, the one specified last takes effect.

General Information

For most jobs:

If DO OK and DO NOTOK are both specified, and are implemented, the last statement to be implemented will determine the status assigned to the job.

For OS/390 jobs:

Do NOTOK overrides the completion status of a job and changes it to NOTOK.

Do NOTOK cannot be specified together with Do Rerun or Do OK for the same codes-event.

When:

Do OK, Do NOTOK, and/or Do Rerun are specified for different codes-events in a job processing definition.

-and-

More than one of the codes-events is executed, including the codes-event specifying **Do OK**.

Then:

Do OK is overridden by Do NOTOK and/or Do Rerun, regardless of the order in which the codes-events are executed.

Aliases for Other CONTROL-M Components

Alternate names for the Do OK parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	OK
CONTROL-M/Server	-dook
CONTROL-M for OS/390	DO OK
CONTROL-M/EM API	do

Do Rerun

Indicates if an automatic rerun should be performed when the On Statement/Code criteria are satisfied.

No values or subparameters are specified for this parameter.

Related Parameters

Do OK	**OK** status can act as a trigger for job reruns specified with Do Rerun.
Do NOTOK	**NOTOK** status can act as a trigger for job reruns specified with Do Rerun.
Interval	Time between job runs specified with the Do Rerun parameter.
Maximum	Number of job runs that can be specified with the Do Rerun parameter.
Rerun From	Indicates whether the interval between job runs begins with the start or the end of the previous job run. Default: **start**
Shout RERUN	Sends a message if the job's completion status was set to Rerun. For more information, see RERUN in "When" on page 8-7.

General Information

Do Rerun specifies that the job should be rerun according to the criteria specified in the Max Rerun and Interval parameters. These parameters must be specified before a Do Rerun action can be defined.

Note

Do Rerun cannot be used to rerun Group Scheduling entities.

For most jobs:

If Do Rerun is specified, and DO OK or DO NOTOK is specified, and implemented, the last statement to be implemented will determine the status assigned to the job.

For OS/390 jobs:

When a Do Rerun action is specified for a job, the job's completion status is set to NOTOK, even if it was previously specified as OK.

Availability

For OS/390 jobs:

- Cyclic jobs cannot contain a Do Rerun parameter.
- Do Rerun cannot be specified together with Do OK or Do NOTOK for the same codes-event.

  When:

  Do OK, Do NOTOK, and/or Do Rerun are specified for different codes-events in a job processing definition.

  -and-

  More than one of the codes-events is executed, including the codes-event specifying Do OK.

  Then:

  Do OK is overridden by Do NOTOK and/or Do Rerun, regardless of the order in which the codes-events are executed.

Aliases for Other CONTROL-M Components

Alternate names for the Do Rerun parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	RERUN
CONTROL-M/Server Utilities	-dorerun

Component	Parameter Name
CONTROL-M for OS/390	DO RERUN
CONTROL-M/EM API	do

Do Shout

Specifies a message to be sent (“shouted”) to a destination when the On Statement/Code criteria are satisfied.

Format

Usage	Optional.
Format	Select **Shout** from the Do list box. The controls described in “Subparameters” are displayed.
AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

Subparameters

Parameter	Description
Destination	Destination of the Shout message (1-16 characters, case sensitive). This parameter is required. For a detailed explanation, see the Shout parameter, “Shout” on page 8-6.
MSG	Text of the Shout message, up to 255 characters (spaces allowed). This parameter is required. Use of AutoEdit variables is supported. For more information about this field, see “Shout” on page 8-6.
Urgency	Level or urgency for the Shout Message. Choose the option button for the appropriate urgency level: • **Regular** (Default) • **Urgent** • **Very urgent**

Aliases for Other CONTROL-M Components

Alternate names for the Do Shout parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOSHOUT
CONTROL-M/Server	-doshout
CONTROL-M for OS/390	DO SHOUT
CONTROL-M/EM API	do_shout

Alternate Formats for Other CONTROL-M Components

Alternate formats for the Do Shout parameter are listed below.

Component	Format
CONTROL-M/EM Utilities	DOSHOUT is composed of the DEST (destination) URGENCY, and MESSAGE subparameters. Example: <DOSHOUT DEST="Wkstn2" URGENCY="R" MESSAGE="Job5 completed OK"/>

Do Stop Cyclic

When specified, this parameter prevents subsequent iterations of the current cyclic job.

No values or subparameters are specified for this parameter.

Related Parameters

Cyclic	Cyclic is overridden by the Do Stop Cyclic parameter.

General Information

Cyclic jobs normally run a regular intervals for as long as specified scheduling criteria are satisfied.

If the related On Statement/Code criteria are satisfied, Do Stop Cyclic prevents future iterations of the current cyclic job.

If the current job is not a cyclic job, this parameter has no effect on job processing.

If a cyclic job is terminated by a **Do Stop Cyclic** parameter, the View Details screen displayed by option Z in the **ctmpsm** utility will contain **Cyclic:T** where **T** indicates “Terminated”.

Aliases for Other CONTROL-M Components

Alternate names for the Do Stop Cyclic parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	SPCYC
CONTROL-M/Server	-dostopcyclic
CONTROL-M for OS/390	DO STOPCYCL
CONTROL-M/EM API	do

Do Sysout

Indicates how the job's output should be handled when the On Statement and Code criteria are satisfied.

Format

Usage	Optional	
Format	Select **Sysout** from the Do list box and specify the relevant subparameters. The following subparameters are available for this parameter:	
	Option	Indicates what to do with the Sysout data. The options that can be selected in this list box are: Platforms other than OS/390: • **None** • **Copy** • **Delete** • **Move** • **Release** OS/390: • **None** • **Change jobs class** • **Delete output** • **Copy output** • **Move output** Each value is described in detail in Table 8-2, "Sysout Handling Formatting," on page 8-18.
	Prm	Contains additional information, depending on which value is specified for the Option parameter.
	The format for this parameter is the same as specified for Sysout Handling. For more information about this parameter, see "Sysout Handling" on page 8-16.	
AutoEdit Support	AutoEdit variables and expressions cannot be specified as all or part of the values for this parameter.	

Related Parameters

Sysout Handling	Sysout Handling specifies how to handle a sysout when the job ended **OK**.

General Information

If no Sysout Handling is specified (or the job does not end **OK**), and no Do Sysout statement is activated, the job's log is placed in the default location specified by CONTROL-M until the New Day procedure performs its cleanup.

Note

The default destination of the Job log is determined by a CONTROL-M system parameter on each platform. See your CONTROL-M administrator for more information.

The Automatic Log Copy CONTROL-M system parameter is not affected in any way by the function of Do Sysout.

Aliases for Other CONTROL-M Components

Alternate names for the Do Sysout parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	DOSYSOUT
CONTROL-M/Server	-dosysout
CONTROL-M for OS/390	DO SYSOUT
CONTROL-M/EM API	do_sysout

Alternate Formats for Other CONTROL-M Components

Alternate formats for the Do Sysout parameter are listed below.

Component	Format	
CONTROL-M/EM Utilities	DOSYSOUT is composed of the parameters below. **Example** <DOSYSOUT OPTION="ChangeClass" PAR="F" FROM="C"/>	
	OPTION	Indicates what to do with the sysout data. Mandatory. Valid values: • **Release** • **Delete** • **Copy** • **Move** Note: Copy and Move are not used with OS/390.
	PAR	Certain OPTION values require that you supply additional information (such as **Release, NewDest**). The PAR parameter holds that information as a string.
	FROM	Limits the sysout handling operation to only sysouts from the specified class.

Component	Format	
CONTROL-M for OS/390	DO SYSOUT is composed of the parameters below.	
	OPT	Sysout option code. Mandatory. Valid values: • **C** – Change the class of the job output. • **D** – Delete (purge) the job output. • **F** – Copy the job output to file. • **N** – Change the destination of the job output. • **R** – Release the job output.
	data	Relevant sysout data. Mandatory and valid only if the specified OPT value is **C**, **F**, or **N**. Valid values depend on the OPT value, as follows: • **F** – File name. String comprised of from 1 through 44 characters. All characters are valid except blanks. • **C** – New class (1 character). Any character is valid except blank, but an asterisk (*****) indicates the original MSGCLASS of the job. • **N** – New destination (1 through 8 characters). All characters are valid except blanks.
	FRM	FROM class. Optional. Limits the sysout handling operation to only sysouts from the specified class.

On

Job processing step and code event criteria that determine whether the accompanying DO statements are performed.

Note

For OS/390 jobs only.

Format

Usage	Optional
Length	See “Subparameters” on page 7-45.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Do CTBRule	Can be specified as a Do PGMST step.
On Statement/Code	Non-OS/390 version of the On parameter, that uses statements in place of program and procedure steps. For more information, see On Statement/Code.
Step Range	Specifies a range of steps in the larger step range specified by the On parameter. An action can be specified for the range that is selected.

Subparameters

<table>
<tr><td>PGMST</td><td colspan="2">Job step. The execution results the job step are checked against the specified codes criteria. Mandatory.
Valid values are:
• pgmstep
• *rangename
• ANYSTEP
• +EVERY
These values are described in Table 7-4, “PGMST Step Values,” on page 7-49.</td></tr>
<tr><td></td><td>Length</td><td>1 through 8 characters</td></tr>
<tr><td></td><td>Invalid Characters</td><td>Blanks.</td></tr>
<tr><td></td><td colspan="2">Note: If the first character of PGMST is * (asterisk), it must be followed by the range name of a defined Step Range consisting of up to 7 characters.</td></tr>
<tr><td>PROCST</td><td colspan="2">Procedure step (EXEC statement) that invokes a procedure from which the specified PGMST program is executed. Optional.
Valid values are:
• blank
• procstep
• +EVERY
These values are described in Table 7-5, “PROCST Step Values,” on page 7-50.</td></tr>
<tr><td></td><td>Length</td><td>1 through 8 characters</td></tr>
<tr><td></td><td>Invalid Characters</td><td>Blanks</td></tr>
</table>

CODES	Return codes or statuses that can satisfy the step or code event criteria if returned upon termination of the specified job steps. At least one code must be specified. Codes can be condition codes, user abend codes, system abend codes, various end codes and statuses, and certain keywords. Codes are described in "Code Values" on page 7-51.
And/Or	Optional. Specifying either **And** or **Or** opens a new On statement in the On block (described later) and links the new statement to the statement containing the And/Or specification, as follows: • **And** – Indicates AND logic between the two On statements. On block criteria are satisfied only if both On statements are satisfied. • **Or** – Indicates OR logic between the two On statements. On block criteria are satisfied if either (or both) On statements are satisfied.

General Information

On statements define event criteria that identify specific CONTROL-M job steps and possible codes that result from the execution of those job steps.

On statements are usually, but not necessarily, followed by user-specified Do actions. The implied relationship between On statements and associated Do statements is:

- **IF:** Codes-event criteria (specified in an On Statement/Code statement) are satisfied,

- **THEN:** Perform the actions (specified in the Do statements).

The combination of On statements and Do statements enables you to specify post-processing actions whose performance depends on the execution results of job steps executed under CONTROL-M.

Multiple On Statements and On Blocks

In a new job scheduling definition, an empty On statement is followed by an empty DO statement. Additional On statements can be opened in the job scheduling definition as follows:

- Each On and DO statement is independent. Multiple On and DO statements are not logically connected to the preceding On and DO statements.

  Multiple On blocks are normally interpreted sequentially. If the conditions of an On block are satisfied, the accompanying DO actions are performed. The conditions of more than one On block can be satisfied; therefore, more than one set of DO statements can be performed.

Example 1: Multiple On Do Blocks

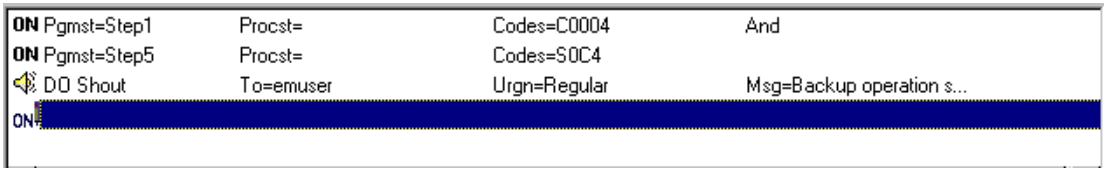
One On block specifies **STEP1** as the program step, and **>C0004** as the code. A second On block specifies ANYSTEP as the program step, and **>C0008** as the code.

If **STEP1** results in a condition code of **C0016**, the On step and code event criteria for both On statements are satisfied, and the DO actions accompanying both On blocks are performed.

- When you fill in the And/Or subparameter of an On statement, an empty On statement is opened immediately (that is, before the accompanying DO statement). The specified And/Or value logically connects the new On statement to the preceding On statement. These two On statements constitute a single On block.

Example 2: Related On Statements

For the DO SHOUT action to be performed, Step1 must end with a condition code of **C0004**, and Step5 must end with system abend **S0C4**.



Inserting Additional On statements from CONTROL-M for OS/390

When using the OS/390 interface, to add an empty On statement between two existing On statements, type the > character over the first letter in the On PGMST value of the previous On line, and press **Enter**.

Example 3: Insert an On Statement

If the program step name is STEP1:

```
On PGMST >STEP1
```

adds an “empty” On line after the current On statement. Step name STEP1 is restored to its original value when **Enter** is pressed (that is, the > character disappears).

To delete unwanted On statements, specify appropriate Line Editing commands in the Edit environment. For more information about Line Editing commands, see the *CONTROL-M for OS/390 User Guide*.

Using All Runs of a Job Including Restarts

When processing On blocks, CONTROL-M can incorporate the results of all previous runs and restarts, filtering them for jobs restarted with the RESTART, RECAPTURE CONDITION, and/or ABEND CODES parameters. CONTROL-M/Restart searches previous runs to determine which steps must be considered part of the restarted job.

For example, if one step finished successfully during its original run and another step finished successfully after a restart, the On block check for the successful finish for both steps produces a **TRUE** result and the On statement is satisfied.

Activation of this facility in CONTROL-M/Restart requires that the ALLRUNS parameter in the CTRPARM member be set to **YES**. When activated, this facility can apply to any specified step, step range, or to step value **+EVERY**.

Step Values

The **PGMST** Step Range values are described in Table 7-4.

Table 7-4 PGMST Step Values

Step Value	Description
PGMST	In an On statement, the specified step is generally a program step, specified in field PGMST. It may be a program executed directly within the job stream, in which case no PROCST value is specified, or it may be a program executed by a called procedure, in which case the called procedure is specified in PROCST. If the JCL contains nested procedures, the name of the EXEC procedure statement that invokes the most deeply nested procedure (that is, the procedure that immediately invokes the PGM step) must be specified in PROCST. The same step name can appear in different On statements in the same On block (or different On blocks).
***rangename**	To check codes in a range of steps, first define the step range and assign it a name in the Step Range statement. Then specify the name, preceded by an asterisk, in the PGMST field. The ***** indicates that the specified name is a range name, not a step name. The range of steps is displayed, and you can check the codes that are displayed within the defined range. If CONTROL-M adds a CONTROLR step to a job (for example, a job is restarted by CONTROL-M/Restart or PREVENT NCT2 is specified in the job scheduling definition), the CONTROLR step is processed like all other job steps. **Example**: In the Step Range statement, the name, **DF2**, is assigned to the range of program steps **STEP20** through **STEP29A**. If ***DF2** is specified in On PGMST, the On step and code criteria is satisfied if any of the codes result from any of the steps in the range **STEP20** through **STEP29A**.

Table 7-4 PGMST Step Values

Step Value	Description
ANYSTEP	The ANYSTEP value can be specified in the PGMST field. In general, it indicates that the DO statements must be performed if the specified codes are found in any steps. However, if ANYSTEP is specified with codes **OK**, **NOTOK**, **EXERR**, **JLOST**, **JNRUN**, **JSECU**, **JNSUB** or ***UKNW**, the On criteria are satisfied only if the entire job ends with the specified code criteria. If ANYSTEP is specified with the **FORCE** code, no other codes can be specified in the same On block, and the PROCST field must be left blank.
+EVERY	The **+EVERY** value is used without being accompanied by limiting step values when the code criteria must be satisfied for every step. The following examples all have the same impact – the code criteria must be satisfied for every step in the job without exception.

The **PROCST** Step Range values are described in Table 7-5.

Table 7-5 PROCST Step Values

Step Value	Description
blank	When left blank, matching program step names (PGMST) are checked regardless of whether they are directly from the job or from a called procedure. Default. The On statement is satisfied if the PGMST criteria are satisfied from any procedure directly from the job.
procstep	Name of a specific procedure step: `//procstep` EXEC *procedure* If a specific procedure step is specified, only program steps from the invoked procedure are checked to see if they satisfy the code criteria. (Program steps directly from the job are not checked.)
+EVERY	The **+EVERY** value is used without being accompanied by limiting step values when the code criteria must be satisfied for every step. The following examples all have the same impact – the code criteria must be satisfied for every step in the job without exception.

Code Values

Codes can be condition codes, user abend codes, system abend codes, various end codes and statuses, and certain keywords. They can also be prefaced by certain qualifiers. All of these are described below.

A maximum of 245 codes can be specified for any On step statement, as follows:

- Each line of an On statement contains fields for specification of up to four codes.
- Whenever a fourth code on a line is specified, and **Enter** is pressed, a new line within the same On statement is opened, allowing specification of up to another four codes.

Note

If a DO OK statement is specified in the job scheduling definition, it is ignored for steps for which any of the following codes apply: **JNRUN**, **JNSUB**, ***REC0**, ***UKNW**.

Code values are described in Table 7-6.

Table 7-6 Code Values

Value	Description
C*nnnn*	Step condition code, where ***nnnn*** is a 4-digit value.
S*xxx*	Step system abend code, where ***xxx*** is a 3-character hex value.
U*nnnn*	Step user abend code, where ***nnnn*** is a 4-digit value.
*****	Any step that executes (including steps with JCL errors and steps returned with an ABEND code). For reasons of backward compatibility, the ***** code does not include steps with the **FLUSH** code or **SNRUN** (described below). The ***** code does, however, include jobs not submitted and jobs whose sysout was lost if `On PGMST ANYSTEP` is specified.

Table 7-6 Code Values

Value	Description
FORCE	This code applies when a Job is **Forced OK** from the CONTROL-M Active Environment screen (screen 3). To specify a code of **FORCE**, all of the following must apply: • No other code can be specified in the same statement. • The PGMST value must be **ANYSTEP**. • No PROCST value can be specified. • No other On statements can appear in the On block. Valid DO statements for code FORCE are: DO SHOUT, DO COND, DO FORCEJOB, DO SETVAR, and DO MAIL.
JLOST	Job sysout was lost. This value can be specified only with the **ANYSTEP** step value.
JNRUN	Job was canceled during execution or re-execution. This value can be specified only with the **ANYSTEP** step value.
JFAIL	Job failed due to JCL error.
JSECU	Job failed due to security requirements (only under ACF2). This value can be specified only with the **ANYSTEP** step value.
JNSUB	Job not submitted. Submission of a job or initiation of a started task failed for any reason. This value can be specified only with the **ANYSTEP** step value.
OK	A PGM step finished executing **OK** (by default with a condition code of **C0004** or less). This value can be specified only with the **ANYSTEP** step value. **Note**: Through parameter MAXCCOK in member CTMPARM in the IOA PARM library, the default condition code can be set to **C0000**. If a job is **FORCED OK**, the DO statements following an `On PGMST ANYSTEP... CODES OK` statement is processed only if the FRCOKOPT parameter in member CTMPARM in the IOA PARM library is set to **Yes**.

Table 7-6 Code Values

Value	Description
NOTOK	A PGM step (or the job) finished executing **NOTOK**. This code covers all types of failures, including non-execution errors (for example, job not run, JCL error, job not submitted), and (by default) any condition code greater than **C0004**. This value can only be specified with the **ANYSTEP** step value. **Note**: Through the MAXCCOK parameter in member CTMPARM in the IOA PARM library, the default condition code can be set to **C0000**.
EXERR	Any type of execution error. It is the same as **NOTOK**, but is triggered only if the job has actually started executing. This value can only be specified the **ANYSTEP** step value.
***NCT2**	A NOT CATLGD 2 or NOT RECATLGD 2 event occurred in the job step. The default result of this event is a **NOTOK** status for the step. A message containing the data set name is written to the IOA Log file. **Note**: If you do not want to be alerted to NOT RECATLGD 2 events, see your INCONTROL administrator.
***TERM**	Job terminated by CMEM due to an NCT2 event.
REC0	Rerun (recovery) is needed, but no more reruns are available. **Note**: **REC** is followed by a zero (**0**), not a letter O.
***UNKW**	An unknown error occurred, usually as a result of a computer crash during job execution. This value can only be specified with the **ANYSTEP** step value.
$EJ	Job was queued for re-execution.
FLUSH	A JCL COND or JCL IF/THEN/ELSE statement caused a step to not run. This code is described in more detail in FLUSH, below.
SNRUN	A step did not run. This code is described in more detail in "SNRUN" on page 7-54.

FLUSH

The FLUSH code generally applies when a step does not run but no error is indicated. This code is assigned when:

- A JCL COND or JCL IF/THEN/ELSE statement caused the step not to run. CONTROL-M detects code FLUSH steps by message IEF272I (Step was not executed).

- If a job was restarted by CONTROL-M/Restart, and CONTROL-M is to consider all job runs during post-processing (ALLRUNS=YES is specified in member CTRPARM), a step is defined as FLUSH if:

  — Either the step did not previously run, or CONTROL-M/Restart did not recapture a completion or abend code from a previous run.

  — and either one of the following is true:

    - It was not executed during the RESTART run because of a JCL COND or JCL IF/THEN/ELSE statement.

    - It was not executed due to a RESTART decision (message CTR103I).

Because a code of FLUSH does not indicate that an error occurred during job execution, assignment of this status does not cause a job status of **NOTOK**.

If a JCL statement other than the COND or IF/THEN/ELSE statement caused the step not to run, it is not defined as a FLUSH step.

If the failure of a step causes subsequent steps not to be executed, these subsequent steps are not defined as FLUSH steps.

For reasons of backward compatibility (that is, to ensure that the application of the ********* code remains unchanged), the ********* code does not include FLUSH steps.

SNRUN

A step is defined as code SNRUN if it did not run. This code includes:

- Any step with a code of FLUSH.
- Any step that does not appear in the job.

- Instances where a step does not run because of a JCL error in a prior step (the step with the JCL error does not have a status of SNRUN)
- If a job was restarted by CONTROL-M/Restart, and CONTROL-M is to consider all job runs during post-processing (parameter ALLRUNS=YES is specified in member CTRPARM), a step is defined as SNRUN if:

  — Either the step did not previously run, or CONTROL-M/Restart did not recapture a completion or abend code from a previous run.

  and

  — It was not executed during the RESTART run.

SNRUN cannot be specified together with ANYSTEP. (Because SNRUN includes steps that do not exist in a job, and ANYSTEP includes all step names even if they do not exist in a job, specifying both in the same job would cause a condition that SNRUN could not process.).

A status of SNRUN does not indicate that an error occurred during a job execution, nor does it cause a job status of **NOTOK**. It only indicates that it did not run.

For backward compatibility (that is, to ensure that the application of the ********* code remains unchanged), the ********* code does not include SNRUN steps.

Code Qualifiers and Relationships

Any character in a condition code, system abend code or user abend code may be replaced by an asterisk (*****). An asterisk means “any value” for the character it replaces. For example, if **S*13** is specified, the code criteria for the step is satisfied by codes **S013**, **S613**, **S913**, and so on.

The additional qualifiers in Table 7-7 can be used in specific circumstances.

Table 7-7 Qualifiers

Qualifier	Description
>	Greater than. Valid as a qualifier for condition codes and user abend codes.
<	Less than. Valid as a qualifier for condition codes and user abend codes.
N	Specifies not to perform the accompanying DO statements if the specified code exists in the step. Valid as a qualifier for condition codes, user abend codes and system abend codes.

Note

The **N** qualifier indicates that the DO statements must not be performed if the specified condition exists. It does not indicate that the DO statements must be performed if the specified condition does not exist.

The relationship between multiple codes in an On statement is OR (that is, the appearance of any of the codes in the specified step satisfies the On criteria), except for range specifications (for example, >10 <40).

However, code criteria qualified by N take precedence over all other code criteria. If a code that is specified with an N qualifier is generated by the specified step, accompanying DO actions are not performed even if other On code criteria are satisfied.

Alternate Formats for Other CONTROL-M Components

Alternate formats for the On parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	ON is composed of the STMT, CODE, PGMS, PROCS, and AND_OR subparameters. STMT is a **1**-**132** character string, used only when you are specifying an On Statement/Code parameter value. **Note**: In these utilities, the ON parameter is used for both the On parameter and the On Statement/Code parameter.
CONTROL-M/EM API	on_statement is composed of the following subparameters: • and_or • code • procedure_step • program_step • statement

On Statement/Code

The On Statement/Code parameter specifies a codes-event (a combination of statements and error codes, or an operating system completion code) upon which specified Do action parameters should be performed.

Note

This parameter is not used with OS/390 jobs.

Format

Usage	Optional.
Format	The On Statement/Code parameter has two possible formats: • **Format 1** for a combination of statements and error codes • **Format 2** for system completion codes and CONTROL-M status Each of these formats is described in detail below. **Format 1** Format 1 is composed of the following: • **Statement**. A character string containing a statement from the job script file (1-132 characters). The specified string can be a portion of the statement. • **Code**. A character string to be compared to the operating system's response to the specified statement (1-132 characters). The On Statement/Code parameter is optional. However when it is specified, both the Statement and Code parameters are required. **Statement** and **Code** character strings can each contain mask characters. Valid mask characters are: • * Represents any number of characters (including no characters). • **$** Represents any single character.

Format, ***continued***	**Format 2** Format 2 is composed of the following: • **Statement**. An asterisk must be specified in this field. • **Code**. This field must contain either **OK**, **NOTOK**, **JLOST**, indicating a completion status for the job, or it must have a string with the following format: **COMPSTAT<operator><completion code>** Where **<operator>** is one of the following: **=** or **EQ** (equal) **<** or **LT** (less than) **>** or **GT** (greater than) **!** or **NE** (not equal) *If a two-letter abbreviation (EQ, LT, GT, or NE) is used as the operator value, the abbreviation must be preceded and followed by blanks.* **<completion code>** must be either a number of the code returned by the operating system, or either **EVEN** or **ODD** (indicating whether this field should be considered satisfied by an even return code or an odd one respectively).
AutoEdit Support	No. AutoEdit variables or expressions cannot be specified as all or part of the value for this parameter.

General Information

Each On Statement/Code parameter is combined with subsequent Do parameters. Their implied relationship is:

- **IF:** Codes-event criteria (specified in an On Statement/Code statement) are satisfied,

- **THEN:** Perform the actions (specified in the Do statements).

Any number of sets of On Statement/Code – Do parameters can be specified for a job. Each On Statement/Code parameter can be combined with an unlimited number Do parameters.

Format 1

The **On Statement/Code** parameter functions as follows:

- The job's Sysout is divided into sets, each consisting of a job script statement and operating system responses to the statement (if any). If no response exists for a specific script statement (that is, the statement executed successfully), a null message is paired with the script statement.

- The statement set is compared to the **On Statement/Code** parameters defined for the job. (If the **Code** parameter is specified as the * mask character, it can match even a null error message record successfully.)

- If there is a match between the On Statement/Code parameters and a statement set from the job's log, the corresponding **Do action** statements are executed. Otherwise, CONTROL-M proceeds to the next statement set.

Format 2

The **On Statement/Code** parameter is used to test for an operating system completion code or CONTROL-M completion status as follows:

- **Completion status**
  Specifying **OK** or **NOTOK** in the **Status** parameter indicates that dependent **Do action** parameters will be executed based on the **OK**/**NOTOK** termination status of the job.

- Specifying **JLOST** in the **Status** parameter indicates that dependent **Do action** parameters will be executed if the job's Sysout cannot be found.

- **Completion code**
  Upon termination of a job, the reserved word COMPSTAT contains the job's completion code. The user can compare the completion code to a fixed value or test for an even/odd completion code using one of the listed logical operators. For example, **COMPSTAT>4** indicates that dependent **Do action** parameters will be executed if the job terminates with a completion code of **5** or above.

Aliases for Other CONTROL-M Components

Alternate names for the On Statement/Code parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	ON
CONTROL-M/Server Utilities	-on
e-Trigger	on_do_statement
CONTROL-M/EM API	on_statement

Alternate Formats for Other CONTROL-M Components

Alternate formats for the On Statement/Code parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	ON is composed of the STMT, CODE, PGMS, PROCS, and AND_OR subparameters. **Note**: In these utilities, the ON parameter is used for both the On parameter and the On Statement/Code parameter. PGMS and PROCS are used only when you are specifying an ON parameter.

Example 1: End job NOTOK

In the following example, any completion code other than 2 causes the job to end with a status of **NOTOK**.

```
On Statement/Code
```

```
Statement *
Code  COMPSTAT!2
Do NOTOK
```

Example 2: End job OK

In the following example, any even completion code causes the job to end with a status of **OK**.

```
On Statement/Code
Statement *
Code COMPSTAT EQ EVEN
Do OK
```

Example 3: Create a condition on NOTOK

In the following example, a completion status of **NOTOK** causes CONTROL-M to create a condition.

```
On Statement/Code
Statement *
Code NOTOK
Do Cond PRKZ_NOTOK   ODAT    +
```

Example 4: Output from an OpenVMS job

If the following messages are issued from an OpenVMS job:

```
$ SET NOON
$ MOU/SYS/OVER=ID MUA0:
$ COPY JWINFO_2507.DAT mua0:ACCOUNT.DAT
%COPY-E-OPENIN, error opening
          J$DSK:[USR1]JWINFO2507.DAT; as input
-RMS-E-FNF, file not found
$SH
%DCL-W-INSFPRM, missing command parameters – supply
          all required parameters
USER1        Job terminated at 10-AUG.-1997 09:01:42.07
Accounting information:
Buffered I/O count:43Peak working set size:375
Direct I/O count:24Peak page file size:2485
Page faults:495Mounted volumes:0
Charged CPU time:0 00:00:00.61Elapsed time:0 00:00:02.63
```

The following On Statement/Code statement would be triggered by the preceding messages:

```
On Statement/Code
Statement COPY JWINFO_$$$$.*
Code %COPY-E-OPENIN, error opening J$DSK:[USR1]*
Do NOTOK
```

Example 5: Output from a Unix Job

If the following messages are output from a Unix job:

```
cp  /etc/passwd /tmp
cp  /etc/passwdx /tmp
cp: /etc/passwdx: No such file or directory
cp  /etc/passwd /usr/kvm/xyzzy
cp: /usr/kvm/xyzzy: Permission denied
exit 12
```

The following On Statement/Code statements would be triggered by the preceding messages:

```
on Statement/Code
Statement cp /etc/passwdx /tmp
Code cp*No such file or directory
Do NOTOK
On Statement/Code
Statement cp /etc/passwdx /tmp
Code cp*no*file
Do NOTOK
```

Example 6: Rerunning a job (for Microsoft Windows)

Given the following Sysout from a batch job:

```
copy job411.dat  tempt.dat
File not found - JOB411.DAT
          0 file(s) copied
```

The following On Statement/Code statement would be triggered by the preceding job output:

```
On Statement/Code
Statement copy job411.dat
Code File not found
Do Rerun
```

Example 7: Assign NOTOK status for an iSeries (AS/400) job

Given the following Sysout from an iSeries (AS/400) job:

```
*NOnE  Request 21/11/97 16:41:07  QWTSCSBJ  QSYS     02FF  TEST   CMTST
0009
Message . . . . :  -CALL PGM(CMTST)
CPD0170 Diagnostic 30  21/11/97  16:41:07  QCLCLCPR  QSYS    02FF  TEST
CMTST   009
Message . . . . : Program CMTST in library *LIBL not found.
Cause   . . . . . : The Program specified on the CALL command
cannot be found.
```

The following On Statement/Code statement would be triggered by the preceding job output:

```
On Statement/Code
Statement *CALL PGM (CMTST)*
Code *Program CMTST in library *LIBL not found.*
Do NOTOK
```

Reten Days

Number of days to retain the job in the History Jobs file. For OS/390 jobs, only.

Note

At sites that do not use the History Jobs file, this parameter is not relevant and is not displayed.

Format

Usage	Optional
Format	001 - 999 days. **Note**: When the Reten Days field is left blank, History Jobs file information is kept as specified by the Reten Gen parameter. For more information, see "Reten Gen" on page 7-67.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Reten Gen	Reten Days cannot be specified when Reten Gen is specified. **Note**: When specifying a value for RETENTION: # OF DAYS TO KEEP (Reten Days) from the CONTROL-M for OS/390 interface, leave RETENTION: # OF GENERATIONS TO KEEP blank.

General Information

Jobs in the History Jobs file are easier to restore to the Active Jobs file (for example, for restart) than jobs archived to CDAM. Therefore, it may be desirable to retain a job in the History Jobs file for a period of time.

Using Reten Days you can specify a fixed number of days to keep the job in the History Jobs file. Once the specified number of days is reached, the job is automatically deleted from the History Jobs file during the next New Day processing.

Reten Days and Reten Gen are mutually exclusive. A value can be specified for either, but not both.

Note

When changing job criteria from Reten Days to Reten Gen (or the reverse), previous job criteria are lost and are not acted upon.

For retention criteria to hold across job executions, the jobs must be identical in all respects. (For example, if a job is transferred to a different group, it is treated as a different job for purposes of retention. In this case, retention values are reset, and retention is calculated from the moment of transfer.)

Aliases for Other CONTROL-M Components

Alternate names for the Reten Days parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	RETEN_DAYS
Reporting Facility	RETEN DAYS
CONTROL-M for OS/390	RETENTION: # OF DAYS TO KEEP
CONTROL-M/EM API	reten_days

Reten Gen

Maximum number of generations of the job to keep in the History Jobs file. For OS/390 jobs, only.

Note

At sites that do not use the History Jobs file, this parameter is not relevant and is not displayed.

Format

Usage	Optional.
Format	00 - 99 generations. **Note**: When the Reten Days field is left blank, History Jobs file information is kept as specified by the Reten Days parameter. For more information, see "Reten Days" on page 7-65.
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Related Parameters

Reten Days	Reten Gen cannot be specified when Reten Gen is specified. **Note**: When specifying a value for RETENTION: # OF GENERATIONS TO KEEP (Reten Gen) from the CONTROL-M for OS/390 interface, leave RETENTION: # OF DAYS TO KEEP blank.

General Information

Jobs in the History Jobs file are easier to restore to the Active Jobs file (for example, for restart) than jobs archived to CDAM. Therefore, it may be desirable to retain several of the most current generations of the job in the History Jobs file.

Reten Gen enables specification of the number of generations of the job to keep in the History Jobs file. Once the specified number of generations has been reached, as a new generation is added to the History Jobs file, the earliest remaining generation is deleted.

Reten Days and Reten Gen are mutually exclusive. A value can be specified for either, but not both.

Note

When changing job criteria from Reten Days to Reten Gen (or the reverse), previous job criteria are lost and are not acted upon.

For retention criteria to hold across job executions, the jobs must be identical in all respects. (For example, if a job is transferred to a different group, it is treated as a different job for purposes of retention. In this case, retention values are reset, and retention is calculated from the moment of transfer.)

Aliases for Other CONTROL-M Components

Alternate names for the Reten Gen parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	RETEN_GEN
Reporting Facility	RETEN GEN
CONTROL-M for OS/390	RETENTION: # OF GENERATIONS TO KEEP
CONTROL-M/EM API	reten_gen

Step Range

Specifies a range of steps in the steps of an On PGMST statement.

Note

For OS/390 jobs only.

Format

Usage	Optional
Format	Consists of the Name, From, and To subparameters described in "Subparameters" on page 7-69.

Related Parameters

On	Specifies a range of steps within an On parameter statement. Specific actions can be associated with the specified range of steps, instead of the full range specified in the On parameter statement.

Subparameters

Name	Name for the range. 1through 7 characters. Only trailing blanks are allowed in this field.
From	First ***pgmstep*** or ***pgmstep,procstep*** in the range. **Note**: ***pgmstep*** is the step name in the EXEC statement that identifies the program to be executed: `//pgmstep EXEC PGM= pgmname` ***procstep*** is the step name in the EXEC statement that invokes the procedure: `// procstep EXEC procname` **pgmstep** values and **procstep** values can each be from **1** through **8** characters in length, and must not contain blanks. Non-English characters not allowed.
To	Last **pgmstep** or **pgmstep,procstep** in the range. **Note**: The To subparameter is optional. If blank, its value defaults to the last step in the job. Non-English characters not allowed. For more information, see the note for the From subparameter.

Whenever a Step Range statement is specified, it eliminates the need to define separate On PGMST, On PROCST, and On Codes statements and accompanying Do actions for each step in the range. The defined Step Range Name can be used (without redefining the range) in subsequent On PGMST, On PROCST, and On Codes statements, by specifying the Step Range Name, preceded by an asterisk (*****), in the On PGMST field.

Any number of step ranges can be specified. After entering a Step Range parameter, another Step Range parameter line is automatically displayed.

Using All Runs of a Job Including Restarts

When processing On blocks, CONTROL-M can incorporate the results of all previous runs and restarts, filtering them for jobs restarted with the CONTROL-M for OS/390 RESTART, RECAPTURE CONDITION and/or ABEND CODES parameters. CONTROL-M/Restart searches previous runs to determine which steps must be considered part of the restarted job.

For example, if one step finished successfully during its original run and another step finished successfully after a restart, the On block check for the successful finish for both steps produces a **TRUE** result and the On statement is satisfied.

Activation of this facility requires that the CONTROL-M for OS/390 ALLRUNS parameter in member CTRPARM be set to **YES**. When activated, this facility may apply to any specified step, step range, or to the **+EVERY** step value.

Aliases for Other CONTROL-M Components

Alternate names for the Step Range parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	STEP_RANGE
Reporting Facility	Composed of the FROM PGMST, FROM PROCS TO PGMSTEP, and TO PROCSTEP parameters.
CONTROL-M for OS/390	STEP RANGE
CONTROL-M/EM API	step_range

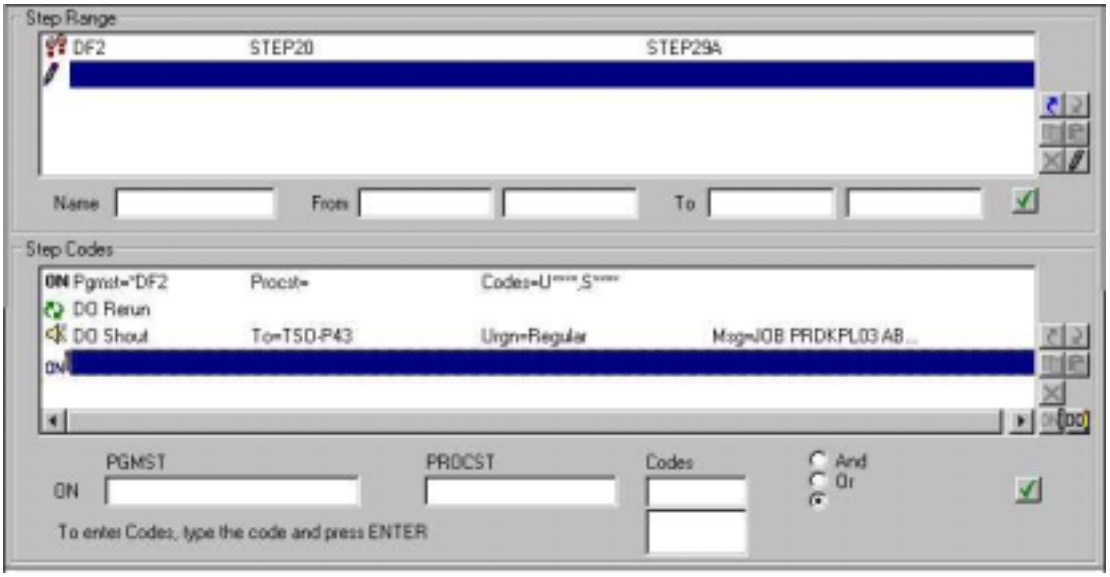
Alternate Formats for Other CONTROL-M Components

Alternate formats for the Step Range parameter are listed below.

Component	Parameter Name	
CONTROL-M/EM Utilities	STEP_RANGE is composed of the following parameters:	
	NAME	1-7 character string.
	FPGMS	First program step in the range. 1-8 character string.
	FPROCS	First process step in the range. 1-8 character string.
	TPGMS	Last program step in the range. 1-8 character string.
	TPROCS	Last process step in the range. 1-8 character string.
CONTROL-M for OS/390	STEP RANGE consists of the following subparameters	
	STEP RANGE	Equivalent to Name.
	FR (PGM,PROC)	First program or process step in the range. 1-8 character string.
	TO	Last program or process step in the range. 1-8 character string.

Example 1: CONTROL-M/EM Job Editing Form

Define program steps **STEP20** through **STEP29A** as step range **DF2**. If any of these steps produce any system or user abend (except user abend **U2030**), rerun the job and shout a message to **TSO-P43**.



Example 2: CONTROL-M for OS/390 Interface

Define program steps **STEP20** through **STEP29A** as step range **DF2**. If any of these steps produce any system or user abend (except user abend **U2030**), rerun the job and shout a message to **TSO-P43**.

```
JOB: PRDKPL01 LIB CTM.PROD.SCHEDULE TABLE: PRODKPL
COMMAND ===> SCROLL===> CRSR
+-------------------------------------------------------------------------+
===========================================================================
OUT
AUTO-ARCHIVE Y SYSDB Y MAXDAYS MAXRUNS
RETENTION: # OF DAYS TO KEEP 030 # OF GENERATIONS TO KEEP
SYSOUT OP (C,D,F,N,R) FROM
MAXRERUN RERUNMEM INTERVAL FROM
STEP RANGE DF2 FR (PGM.PROC) STEP20 . TO STEP29A .
STEP RANGE FR (PGM.PROC) . TO .
ON PGMST *DF2 PROCST CODES S**** U**** NU2030 A/O
DO RERUN
DO SHOUT TO TSO-P43 URGENCY R
= JOB PRDKPL03 ABENDED, THE JOB IS RERUN
DO
```

```
ON PGMST PROCST CODES A/O
DO
SHOUT WHEN TO URGN
MS
======= >>>>>>>>>>>>>>>>>>> END OF SCHEDULING PARAMETERS <<<<<<<<<<<<<<<
=====
COMMANDS: EDIT, DOC, PLAN, JOBSTAT 11.17.00
```

Job Output Parameters

The parameters in this chapter determine what to do with the data resulting from a job run.

Table 8-1 Job Output Parameters – Summary

Parameter	Description
Auto-Archive	Determines whether or not SYSDATA (job output) is to be archived.
Shout	Specifies messages to be sent (“shouted”) to various destinations on various occasions.
Sysout Handling	Specifies how the job’s log should be handled after the job completes with a completion status of **OK**.

Auto-Archive

The Auto-Archive parameter determines whether SYSDATA (job output) should be archived.

Note

The Auto-Archive parameter is relevant only for jobs to be run on OS/390 or OpenVMS platforms.
The parameter will be displayed only if CONTROL-R is selected in the CONTROL-M Definition window in CONTROL-M/Desktop.

Format

Usage	Optional
Format	Check box in the CONTROL-M/EM Job Editing form. • When this check box is selected, job output is archived. • When this check box is not selected, job output is not archived. In this case, CONTROL-R cannot restart the job, and SYSDATA viewing under CONTROL-M for OS/390 is not possible. When the Auto-Archive check box is selected, the subparameters described in "Subparameters" can also be specified:
AutoEdit Support	No. An AutoEdit variable or expression cannot be specified as all or part of the value for this parameter.

Subparameters

Parameter	Description
SYS DB	A check box in the CONTROL-M/EM Job editing form: • If this check box is selected, a single data set is used for archiving the SYSDATA of all jobs until it is full. When the first archive data set is full, another SYSDATA data set is allocated and used. This is the recommended method. • If this check box in not selected, a separate data set is created for the SYSDATA of each job run.
Max Days...	A number from 00 through 99. Indicates the maximum number of days to retain the SYSDATA archive data set for jobs that ended **NOTOK**.
Max Runs...	Indicates the maximum number of job runs to retains the SYSDATA archive data set for jobs that ended **NOTOK**. Valid values are: • a number from 00 through 99 • blank (there is no maximum number of job runs)

General Information

The Auto-Archive parameter enables you to decide whether to archive job output (SYSDATA). SYSDATA refers to all information in the job log, the expanded JCL (job script), and to the output messages of the job.

While archiving SYSDATA is normally desirable, it might not be desirable for cyclic jobs, started tasks, or frequently repeated jobs that do not require restart.

It is recommended that you select the SYSDB check box. Creating a separate data set for each run is not recommended because:

- Creating many data sets consumes a large amount of space in the disk VTOC.

- Each data set is allocated on a track basis. If the SYSDATA does not completely fill the track, large amounts of disk space may be wasted.

When archiving SYSDATA, it is highly recommended that value **99** not be specified for the Max Wait parameter for cyclic jobs or started tasks. Otherwise, these jobs, which are never automatically deleted from the Active Jobs file, can cause the disk to fill up with unnecessary archived SYSDATA. For more information on the Max Wait parameter, see "Max Wait" on page 4-17.

Note

Specified parameters take effect only during execution of the New Day procedure (CONTDAY) or the CONTROL-M CTMCAJF utility. Therefore, it is possible to find more generations of the same job than the current value of Max Runs.

Whenever a job is deleted from the Active Jobs file and does not reside in the History file, its SYSDATA is deleted regardless of Max Days or Max Runs.

The Max Days and Max Runs parameters define retention criteria for the archived SYSDATA of jobs that ended **NOTOK**. Defaults for these parameters are defined using CONTROL-M/Restart installation parameters. Max Days and Max Runs values in a job definition are used to override the CONTROL-M/Restart defaults. If both parameters are specified, retention is limited by the parameter that is satisfied first.

Platform-Specific Information

The Auto-Archive parameter is relevant only for jobs to be run on OS/390 or OpenVMS platforms.

Aliases in Other CONTROL-M Components

Alternate names for the Auto-Archive parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	AUTOARCH
Reporting Facility	AUTO ARCHIVE

Component	Parameter Name
CONTROL-M for OS/390	AUTO-ARCHIVE
CONTROL-M for OS/390 Utilities	AUTOARC
CONTROL-M/EM API	auto_archive sys_db arch_max_days arch_max_runs

Shout

The Shout parameter indicates a message to be sent (“shouted”) to one or more specified destinations when certain conditions are encountered.

Format

Usage	Optional
Format	The Shout parameter consists of the subparameters described in “Subparameters” on page 8-7.
AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

Related Parameters

Parameter	Description
Do Shout	The Do Shout parameter specifies a message to be sent (“shouted”) to a destination when the On Statement/Code criteria are satisfied. For more information, see “Do Shout” on page 7-37.

Subparameters

Parameter	Format
When	States what should cause the Shout message to be sent. Choose one of the following values: • **Exectime** Send the message if the job's elapsed runtime is outside a specified limit. The limit is specified in the Time field. A limit can be expressed as the actual elapsed minutes of the job run, or as a deviation from the job's (statistical) average runtime. The limit for EXECTIME can be expressed in any of the following formats: **— >*n*** – The message is sent if the elapsed runtime of the job is greater than ***n*** minutes. On OS/390, ***n*** is a number from 0 through 999. On other platforms, ***n*** is a number from 1 through 999. **— <*n*** – The message is sent if the elapsed runtime of the job is less than ***n*** minutes. ***n*** is a number from 1 through 999. — **+*n*** – The message is sent if the elapsed runtime of the job exceeds its average execution time by at least ***n*** minutes. ***n*** is a number from 1 through 999. **— +*n*%** – The message is sent if the elapsed runtime of the job exceeds its average execution time by at least ***n***%. ***n*** is a number from 1 through 900. **— -*n*** – The message is sent if the elapsed runtime of the job is at least ***n*** minutes less than its average execution time. ***n*** is a number from 1 through 999. **— -*n*%** – The message is sent if the elapsed runtime of the job is at least ***n***% less than its average execution time. ***n*** is a number from 1 through 99. **Note:** A job processing definition can contain more than one Shout parameter with a When of EXECTIME. For more information, see examples of the use of EXECTIME below. • **Late Sub** Send the message if the job is still not submitted and cannot be submitted at the specified time (specify the time in hhmm format in the Time field). The message is sent only if the job is actually not submittable. That is, if a runtime criterion (in condition, quantitative resource, etc.) is not met at the given time. However, if a job is ordered after the specified time but starts running immediately because it meets all runtime criteria, the Late Sub parameter doesn't apply. • **Late Time** Send the message if the job does not finish executing by the specified time (specify the time in **hhmm** format in the Time field). This parameter appears as LATE on mainframe terminals. **Note**: No message is sent if the job is being rerun.

Parameter	Format	
When, ***continued***	• **NOTOK** Send the message if the job terminates with a completion status of NOTOK. • **OK** Send the message if the job terminates with a completion status of OK. • **RERUN** Send the message if the job's completion status was set to Rerun.	
Time	Used to specify additional parameters required for the When options **EXECTIME**, **Late Sub**, and **Late Time**.	
Urgency	Urgency of the Shout message directed to the Alerts window. Urgency assigned to the Shout message affects the appearance of the message in the **Alerts** window. Urgency levels are: • **R** - Regular (Default) • **U** - Urgent • **V** - Very Urgent	
Destination	Logical destination of the Shout message. Mandatory. Destination is the name of an entry in the Shout Destination table.	
	Platforms other than OS/390: The following are valid values for Destination: • A user logged onto the CONTROL-M installation. • A user's mail in the CONTROL-M installation. • A specific terminal. • System console. • Alerts window in all CONTROL-M/EM workstations connected to the specified CONTROL-M installation. **Note:** The CONTROL-M/EM workstations to which an alert is issued may be limited by user authorizations. See the security chapter in the CONTROL-M/Enterprise Manager *Administrator Guide*. • CONTROL-M log. All Shout messages are recorded in the CONTROL-M log. Select the log as a destination only when you do not wish to send the message to an additional destination.	
	Length	1 through 16 characters
	Case Sensitive	Yes

Parameter	Format	
Destination *(continued)*	**Invalid Characters**	Blanks; single quotation marks
	AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.
	OS/390: The following are valid values for Destination:	
	U-*userid*	Writes the message to the IOA Log file *userid* is a user ID consisting of 1 through 8 characters but containing no blanks
	OPER [-*n*]	Sends a scrollable message to the operator console *n* is an optional 2-digit route code If a route code is not specified, the default routes are Master Console and Programmer Information (1 and 11). For more information regarding route codes, refer to the IBM publication *Routing and Descriptor Codes, GC38-1102*.
	OPER2[-*n*]	Sends an unscrollable message to the operator console *n* is an optional 2-digit route code If a route code is not specified, the default routes are Master Console and Programmer Information (1 and 11). For more information regarding route codes, refer to the IBM publication *Routing and Descriptor Codes, GC38-1102*.

Parameter	Format	
Destination *(continued)*	TSO - *logonid* or T - *logonid*	Where *logonid* is one of the following: • a valid logon identity consisting of 1 through 7 characters • a valid group identity found within the IOA Dynamic Destination Table An optional second value, indicating the computer or node of the TSO *logonid*, can be specified, as follows: **Under JES2:** • **;**N*n*, ;M*m* or ;N*n*M*m*, where — *m* is the ID of the computer in JES2 (not the 4-character SMF system ID) — *n* is the 1- to 2-character JES/NJE node ID **Under JES3**: • *Lname*, where *Lname* is the logical JES name of the computer (that is, the name as used in the JES3 command *T, not the SMF system ID)
		Note: A Shout to a TSO user preforms a TSO SEND command, which may require authorization at the receiving end.
	U-M: *mail_ name_ prefix*	Sends a message to the recipient identified by *mail_name_prefix*, a mail name prefix consisting of 1 through 12 characters (OS/390: 1 through 8 characters)
	U-ECS	Sends a message that is displayed in the CONTROL-M/EM Alerts window

Parameter	Format	
Message	Text of the Shout Message.	
	Length	1 through 255 characters OS/390: 1 through 70 characters
	Case Sensitive	Yes
	Invalid Characters	None
	AutoEdit Support	Yes. The message can include AutoEdit variables, including any combination of text, CONTROL-M system variables, job submission variables and User variables (created using the AutoEdit Assignment parameter). However, the length of the message after decoding cannot exceed the length specified above. For more information, see "AutoEdit Facility" on page 15-1.

General Information

A "Shout message" is a message sent to one or more destinations when the condition specified by the When parameter is satisfied.

The Do Shout parameter (described in "Do Shout" on page 7-37) can be used to issue Shout messages conditioned by an On Statement/Code parameter.

Shout messages can also be issued from the data center using the CTMSHOUT utility. For more information, see the Utilities chapter, in your *CONTROL-M Administrator Guide*.

When Exectime values are specified with a + or – sign (i.e., when elapsed runtime is compared to average runtime), the Shout applies only if there are current statistics data for the job (containing statistics for at least one of the last 20 runs of the job).

If current job statistics data exists, all available elapsed-time statistics for the last 20 job runs are averaged to generate the average runtime, and the current runtime is compared to this figure according to the specified criteria.

If no job statistics data exist, or if the data is not current (there are no elapsed-time statistics for any of the last 20 job runs), the Shout parameter is not applied.

More about Exectime

The following additional considerations apply to the use of Exectime:

- When Exectime values are negative (for example, -n; -n%), the check can be performed only after the job has finished running.

- When Exectime values are positive (for example, +n; +n%), the check can be performed (and if the elapsed runtime limits are exceeded, the message can be "shouted") before the job has finished running.

- Relative Exectime limits should not exceed 24 hours. When relative Exectime limits exceed 24 hours (that is, if +n(%) of the average runtime exceeds 24 hours), the message is "shouted" if and when processing reaches 24 hours.

If a relative Exectime is not specified prior to job submission, but is specified afterwards (for example, the job is Held, the parameters changed, and the job then Freed), the Exectime value is ignored.

More about Destinations

When the destination is a user, the message is also sent to the user's mail.

If not found in the Shout Destination table, the destination is assumed to be a user name. In this instance, the Shout message is sent to the user's terminal and the user's mail.

The Shout Destination table is maintained by the CONTROL-M administrator. Several such tables may exist. Each table contains the same logical destinations, but the physical (actual) destinations can vary from table to table.

Only one table is in use (“active”) at any time, as determined by the administrator. A Shout message sent to a logical destination is directed by CONTROL-M to the corresponding physical destination listed in the active Shout Destination table.

Availability

For OS/390 Jobs

Cyclic jobs cannot contain the Shout When Rerun parameter.

Aliases in Other CONTROL-M Components

Alternate names for the Shout parameter are listed below.

Component	Parameter Name
CONTROL-M/EM Utilities	SHOUT
CONTROL-M/Server Utilities	-shout
eTrigger	Shout
CONTROL-M for OS/390	SHOUT

Example 1: Sends Shout message to a specified user when job ends OK

Shout Statements:

```
When OK
Destination SHIFTMNGR
Urgency R
Message NIGHTSHIFT RUN COMPLETED
```

The message is sent to CONTROL-M logical destination SHIFTMNGR.

Example 2: Sends Shout message to CONTROL-M/EM when job terminates NOTOK

If the job terminates with a status of **NOTOK**, send a message to CONTROL-M/EM, indicating the completion code:

Shout Statements:

```
When NOTOK
Destination ECS
Urgency U
Message Job NOTOK – Completion code=%%COMPSTAT
```

The message is sent to the CONTROL-M/EM Alerts window.

Example 3: Sends Shout message when job runtime is less than expected

Given that a job whose average run time is 50 minutes completes in 40 minutes. The job processing definition contains a Shout statement with When EXECTIME. The following table indicates which Time parameter values would and which would not cause a Shout message to be issued:

Shout Message Issued	Shout Message Not Issue
>39	>40
<41	<40
-10	-11
-20%	-21%

Example 4: No Shout message although job runtime is more than expected

Given that a job whose average run time is 50 minutes completes in 90 minutes. The job processing definition contains a Shout statement with When EXECTIME. The following table indicates which Time parameter values would and which would not cause a Shout message to be issued:

Shout Message Issued	Shout Message Not Issue
>89	>90
<91	<90
+41	+40
+79%	+80%

Sysout Handling

The Sysout Handling parameter indicates how the job's log file (Sysout) should be handled after the job ends with a status of **OK**.

Format

Usage	Optional **Note:** This parameter is sometimes referred to as the **Option** and **Prm** parameters.	
Format	List box in the Job Editing form. Valid values: • **None** • **Change job class** (OS/390 only) • **Delete output** • **Copy output** • **Move output** • **Release for printer** Each value is described in detail in Table 8-2. For most of these options, a second field is displayed. This second field is sometimes referred to as the **Prm** parameter.	
	The format of the **Prm** parameter is as follows:	
	Length	**Platforms other than OS/390:** Up to 255 characters. **OS/390**: Up to 44 characters, as follows: File Name (Copy): up to 44 characters New Class Name (Change job class): 1 character New Destination (Move): up to 8 characters
	Case sensitive	Yes
	Invalid Characters	Blanks
	AutoEdit Support	Yes. An AutoEdit variable or expression can be specified as all or part of the value for this parameter.

Note

Some Sysout Handling options (that are selected from the Sysout Handling list box) require you to supply additional input. When such an option is selected from the PostProc panel, an additional text box is be displayed. The label for this text box is different for each Sysout Handling option that is selected. When an additional text box is displayed, enter the appropriate information in it.

Table 8-2 Sysout Handling Formatting (Part 1 of 4)

Value	Description
Delete	Deletes the log file.
Copy	Copies the log file. The **File Name** text box is displayed for the location to which the log file should be copied. • If a directory is not specified, the log file is copied to the job owner's home directory. • If a file name is not specified, the log file is copied to a default file name as follows: – For Microsoft Windows: **<Mem_Name>|<Job_Name>_<order_num>_<rerun_num>.DAT** – For OpenVMS: **<Mem Name>.LOG** **–** For Unix: **<Mem_Name>|<Job_Name>.LOG<order_num>.<rerun_num>** **–** For OS/2, the full path name must be specified. **Special notes for iSeries (AS/400) platforms:** This second field is mandatory. It indicates the database file to which the job log is copied. The file must be specified in one of the following formats: **`library/file`** **`*LIBL/file`** **`file`** • If the specified file does not exist, it is created. The job log is placed in the file as member **CM<AS/400_Job Number>** (the first line of the member contains details that identify the job). • If the specified file already exists, and its record length is 132 or more, the job log is placed in the file as a new member identified as above. • If the specified file already exists, and its record length is less than 132, the job log is truncated and placed in the file as a new member identified as above.

Table 8-2 Sysout Handling Formatting (Part 2 of 4)

Value	Description

Release	Releases the log file for printing on the specified printer/output queue.
	
	A second field is displayed for the printer queue to which the log file should be released.
	
	Note: The default printer/output queue and the Sysout directory are determined by CONTROL-M system parameters on each platform. See your CONTROL-M administrator for more information.
	
	Special notes for iSeries (AS/400) platforms:
	
	• If an output queue is not specified, the job's output is sent to the queue specified by CONTROL-M system parameter **Default Output Queue**.
	
	The name of the output queue must be specified in one of the following formats:
	
	`library/outq`
	`*LIBL/outq`
	`outq`
	
	• If **outq** (without library) or ***LIBL/outq** is specified, the specified outq is taken from the ***LIBL** (Library list) of CONTROL-M. If the specified outq is not found in the Library list, the Release option is not executed.
	• If **library/outq** is specified, the output queue is taken from the specified library. If the specified **outq** is not found in the specified library, the Release option is not executed.

Table 8-2 Sysout Handling Formatting (Part 3 of 4)

Value	Description
Move	Moves the log file and deletes it from the CONTROL-M Sysout directory. The **New Destination** text box is displayed for the location to which the log file should be moved. **For Windows, OpenVMS, and Unix platforms:** The second field indicates a directory And/Or file name to which the log file should be moved. • If a directory is not specified, the log file is moved to the job owner's home directory. • If a file name is not specified, the log file is moved to a default file name as follows: – For Microsoft Windows: **<Mem_Name>|<Job_Name>_<order_num>_<rerun_num>.DAT** – For OpenVMS: **<Mem Name>.LOG** – For Unix: **<Mem Name>|<Job_Name>.LOG<order_num>.<rerun_num>** – For OS/2, the full path name must be specified. **For iSeries (AS/400) and UNISYS:** The second field indicates the **outq** (output queue) to which the job log spool file should be moved. • If an output queue is not specified, the job log spool file is moved to the queue specified by the CONTROL-M system parameter Default Output Queue. • The name of the output queue must be specified in one of the following formats: **library/outq** ***LIBL/outq** **outq** • If **outq** (without library) or ∗**LIBL/outq** is specified, the specified outq is taken from the ∗**LIBL** (Library list) of CONTROL-M. If the specified **outq** is not found in the Library list, the **Move** option is not executed. • If **library/outq** is specified, the output queue is taken from the specified library. If the specified **outq** is not found in the specified library, the Move option is not executed.

Table 8-2 Sysout Handling Formatting (Part 4 of 4)

Value	Description
Change Jobs Class	Changes the class of job output. [OS/390, only] The **New Class Name** text box and **From Class** text box are displayed. Enter the new class name (1 character) in the text box (Mandatory). An asterisk (*) indicates the job's original MSGCLASS. Optionally, you can specify a class in the **From Class** text box. If a class is specified, Sysout Handling is l7yimited to only sysouts from the specified class.

Related Parameters

Parameter	Description
Do Sysout	The Do Sysout parameter specifies how the job's output should be handled when the On Statement/Code criteria are satisfied. For more information, see "Do Sysout" on page 7-40.

General Information

Sysout Handling is specified in the Postproc panel of the Job Editing form.

If no Sysout handling is specified (or the job does not end **OK**), and no **Do Sysout** statement (in the On Statement/Code parameters) is activated, the job's log file is placed in the location determined by CONTROL-M until it removed by the New Day procedure.

Note

Note: The CONTROL-M **Automatic Log Copy** system parameter is not affected in any way by specified Sysout Handling.

Aliases in Other CONTROL-M Components

Alternate names for the Sysout Handling parameter are listed below.

Component	Parameter Name	
Reporting Facility	Sysout Handling is composed of two sub parameters:	
	SYSOPT	Equivalent to the Sysout handling text box.
	PARM	Equivalent to the variously-named text boxes that are displayed when specific Sysout Handling options are chosen.
CONTROL-M/Server Utilities	-sysout	
eTrigger	Sysout	
CONTROL-M for OS/390	SYSOUT	
CONTROL-M/EM API	Sysout handling is composed of three subparameters:	
	sysout_from_ class	Equivalent to From Class
	sysout_option	Equivalent to Option.
	sysout_ parameter	Equivalent to Parameter.

Formats in Other CONTROL-M Components

Alternate formats for the Auto-Archive parameter are listed below.

Component	Format
Reporting Facility	The values for SYSOPT and PARM are strings.

Component	Format	
CONTROL-M/Server Utilities	Two values are supplied for -sysout:	
	<option>	• **RELEASE** • **DELETE** • **COPY** • **MOVE**
	<parameter>	The appropriate value, depending on the **<option>** value specified. String.
eTrigger	Sysout is composed of two subparameters:	
	Handling	Type of sysout handling to perform. Values: • ***blank*** - Do not consider this parameter. • **RELEASE** • **DELETE** • **COPY** • **MOVE**
	Destination	Value that must be specified depending on the OPT value that is chosen. For example, when F is specified for Handling, specify a file name for Destination. String.

Component	Format	
CONTROL-M for OS/390	SYSOUT is composed of the following subparameters:	
	OP	Type of sysout handling to perform. Mandatory. Values: • **C** – Change the class of the job output. [OS/390, only.] • **D** – Delete the job output. • **F** – Copy the job output to file. • **N** – Change the destination of the job output. • **R** – Release the job output.
	data	Relevant sysout data. Mandatory and valid only if the specified OP value is **F**, **C**, or **N**. Valid values depend on the OP value: • **F** – File name. String comprised of from 1 through 44 characters. All characters are valid except blanks. • **C** – New class (1 character). Any character is valid except blank, but an asterisk (*****) indicates the original MSGCLASS of the job. • **N** – New destination (1 through 8 characters). All characters are valid except blanks.
	FRM	1-character value that identifies the class of job output to process. Selected when **C** is the value of OPT. [OS/390, only.] Optional. **Note**: If a **FRM** class is not specified, all sysout classes are treated as a single, whole unit.

Examples

All of the following examples presume a job completion status of **OK**.

Example 1: Release the Log File to the Default Printer

```
Sysout Handling
Option: Release
```

Example 2: [iSeries (AS/400)] Release the Log File to the Specified Output Queue

```
Sysout Handling
Option: Release      Parm: MYLIB/MYOUTQ
```

Example 3: OpenVMS and Unix: Move the Log File

Move the log file to a file called **test.log** in the job owner's home directory.

```
Sysout Handling
Option: Move           Parm: test.log
```

Example 4: Unix: Copy the Log File to a Directory

Copy the log file to a directory called **prg2/test/**. Use the default file name.

```
Sysout Handling
Option: Copy           Parm: prg2/test/
```

Example 5: Unix: Copy the Log File to a File

Copy the log file to a file. The name of the log file is determined by the Job Name.

```
Sysout Handling
Option: Copy          Parm: prg2/%%JOBNAME
```

Status Parameters

The parameters in this chapter describe information that is collected as the result of a job run. They have some common characteristics:

- These parameters are accessible only from the active environment.
- Their values are supplied by CONTROL-M, and cannot be modified by the user.
- Most parameters are displayed in CONTROL-M/EM in the Active panel of the Job Editing form.
- These parameters can be used as filter criteria for selecting job definitions using the CONTROL-M/EM utilities and the Reporting facility.
- Their values can be displayed in reports generated by the Reporting facility.

Status Parameters Summary

The status parameters are summarized in Table 9-1.

Table 9-1 Status Parameters – Summary

Parameter	Description	
Avg Runtime	Average time that a job runs.	
Current Status	Indicates the completion status of the job (for example, **Ended Not OK**).	
Deleted	Indicates if the job was deleted.	
Due In	Time at which the next run of the job should start executing.	
Due Out	Time by which the next run of the job should stop executing.	
	Format	**HHMM**, where **HH** is a 2-digit number from 00 through 24.
Elapse	Length of time (in minutes) that the job is expected to run.	
End Time	Indicates the time that the last run of the job ended.	
Hold	Indicates if the job is currently being held.	
Job ID	Unique serial number assigned to the job by the CONTROL-M server.	
Next Time	Indicates the next time that the job will run. For reruns or cyclic jobs that use the Interval option.	
NJE	Indicates that the job was sent for execution to a computer that is connected to CONTROL-M through NJE (the node does not have a shared spool with CONTROL-M).	
NJE Node	Node ID of the NJE terminal.	
Rerun Counter	Indicates how many times the job was run.	
Restart	Indicates if the job was restarted.	
Search Count	Number of times CONTROL-M has looked for the job.	
Start Time	Indicates the time that the last run of the job started.	

SAP Parameters

The parameters described in this chapter are for the extra panels and sub-panels available in the Job Editing form when CONTROL-M/Control Module for SAP is installed on your data center. These are as follows:

- SAP panel, listed in Table 10-1.
- ABAP parameters panel, listed in Table 10-2.
- External Step panel, listed in Table 10-3.
- SAP Data Archiving panel, listed in Table 10-4.

Note

The SAP parameter format is as follows: **<SAPR3>-<PARAMETER>**
SAP parameters that describe an action that can occur more than once in a session are enumerated, as follows. The <nn> below represents a numerical value. **<SAPR3>-<PARAMETER><nn>**

The parameter descriptions are in alphabetical order.

Table 10-1 SAP Panel Parameters – Summary

Parameter	Description
Account	Account name.
Copy Spool To	Location to which the spool should be copied.
Detect Spawned Jobs	A spawned job is a job created by another (parent) job, and monitored by CONTROL-M. Here, you can monitor spawned jobs of an original SAP job.
Job Class	Job submission priority (in SAP).
Job Count	Job ID number.
Job Mode	Determines the task that the job performs.
Job Name	Job name to be monitored or reported.
Language	Status of the SAP CCMS job, in SAP.
QID	Batch input ID number.
Steps	Step (action) to be performed as part of the SAP job.
Step Type	Specify that a job should only run when there are resources available.
Target Server	Application Server on which the job will run.

Note

Certain parameters are displayed in the SAP panel, once a job has been submitted. These parameters are for notification purposes only, and have a read-only status.

Table 10-2 Add ABAP Window Parameters (Part 1 of 2)

Parameter	Description
ABAP Program	Program name.
Archive ID	SAP ArchiveLink Storage system ID.
Archive Mode	Print archive mode.
Archive Text	Free text description of the archive location.
Authorization	User with print authorization.
Columns	Maximum number of characters on an output line.
Department	Spool department.

Table 10-2 Add ABAP Window Parameters (Part 2 of 2)

Parameter	Description
Document Type	Archive object document type.
Delete After Print	Indicates if report is deleted after printing.
Information Field	Archive information.
Language	Language.
Layout	Print Layout format.
Name	Spool list name.
New Spool Request	New spool request.
Number of Copies	Number of copies to print.
Object Type	Archive object type.
Output Device	Designated printer logical name.
Owner	Step owner.
Parameter	Parameter for an external program.
Print Expiration	The number of days after which print job expires.
Print Immediately	Indicates whether to print job output immediately.
Recipient	Name of recipient of job output.
Rows	Maximum number of rows per page.
SAP Cover Page	Type of cover page for output.
Titles	Spool list titles
Selection Cover Page	Indicates whether a cover page should be used.
Variant Name	Variant name.

Table 10-3 External Step Panel Parameters

Parameter	Description
External Program	External program name.
Parameter	Parameter for an external program.
Owner	Step owner.
Target Host	Host computer where the external program runs.
Wait For Termination	Indicates whether SAP waits for the external program to end.

Table 10-4 SAP Panel for Data Archiving Parameters

Parameter	Description
Account	Account name.
Archiving Object	Archiving object in SAP.
Check Sessions	Enables the user to check if an incomplete archiving session exists for a specific archiving object.
Check Variant	Enables the user to check if a **Write** job already exists with the specific variant for the archiving object defined for this job.
Copy Spool To	Name and path of the file to which the spool should be copied.
Job Class	Job submission priority (in SAP).
Job Name	Job name to be monitored or reported.
Step Type	Specifies that a job should run only when there are SAP resources available.
Target Server	Application Server on which the job will run.
Variant Name	Variant name.

ABAP Program

ABAP program name.

Format

Usage	Mandatory when the Job Mode parameter value is **Create**. Not available when other job Mode values are specified
Length	1-40 characters.
Case Sensitive	Upper case only.
Invalid Characters	Blanks
Variable Name	%%SAPR3-STEP-S<nn>-PROGRAM

General Information

It is highly recommended that you narrow the search parameters, by entering at least one character in the field, before clicking **Load**.

Account

Account name.

Format

Usage	Mandatory.
Length	1-30 characters.
Case Sensitive	Upper case only.
Invalid Characters	Blanks
Variable Name	%%SAPR3-ACCOUNT

General Information

This parameter is mapped to the CONTROL-M/EM Owner parameter.

The Account is a profile. The remaining parameters are predefined according to the Account, when the Account is created. A limitless number of Accounts can be created.

Clicking the Account **Load** button displays a list of accounts that satisfy the criteria defined by the other parameters in this section of the SAP Panel.

The Account parameter must be specified for both regular SAP jobs and SAP data archiving jobs.

Archive ID

SAP ArchiveLink Storage system ID.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Default	**ZZ**
Length	2 characters.
Case-Sensitive	Yes
Invalid Characters	Blanks
Variable Name	%%SAPR3-STEP-S<nn>-ARCH_ID

General Information

Only enabled if CONTROL-M Function Modules are installed.

Archive Mode

Print archive mode.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Format	Valid values are: • **Print** (Default) • **Archive** • **Print & Archive**
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_ARCHMODE

Archiving Object

Archiving object in SAP.

Format

Usage	Mandatory.
Format	Click **Load** to generate and display a complete list of SAP archiving objects. Free text string.
Length	1-10 characters.
Case Sensitive	Yes. (Upper case only.)
Invalid Characters	Blanks
Variable Name	%%SAPR3-DA_ARC_OBJ

General Information

The Archiving Object parameter is only relevant for SAP data archiving jobs.

Archive Text

Free text description of the archive location.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-40 characters.
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-ARCH_TEXT

General Information

Only enabled if CONTROL-M Function Modules are installed.

Authorization

User with print authorization.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-12 characters.
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_AUTH

Check Sessions

Enables the user to check if an incomplete archiving session exists for a specific archiving object.

Note

An incomplete archiving session is one for which not all **Delete** jobs ended successfully.

Format

Usage	Optional when the Data Archiving Job Mode parameter is **Write**.
Format	Check box. Valid values are: • **Selected** = Perform a check • **Cleared** = Do not perform a check (Default)
Variable Name	%%SAPR3-DA_CHECK_SESSIONS

General Information

If an incomplete archiving session is found, a message is displayed, and a data archiving write job is not created.

The Checking Sessions parameter is only relevant for SAP data archiving jobs.

Check Variant

Enables the user to check if a **Write** job already exists with the specific variant for the archiving object defined for this job.

Format

Usage	Optional when the Data Archiving Job Mode parameter is **Write**.
Format	Check box. Valid values are: • **Selected** = Perform a check • **Cleared** = Do not perform a check (Default)
Variable Name	%%SAPR3-DA_CHECK_VARIANT

General Information

If such a **Write** job is found, a message is displayed, and a new **Write** job is not created.

The Check Variant parameter is only relevant for SAP data archiving jobs.

Columns

Maximum number of characters on an output line.

Format

Usage	Mandatory. Not available when other job Mode values are specified.
Default	80
Format	Number between 1-255 or -1, where -1 is a special value indicating that the number of columns will be obtained from the ABAP program code.
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_NUMCOLUMNS

Copy Spool To

Name and path of the file to which the spool should be copied.

Format

Usage	Optional.
Length	1-214 characters.
Case-Sensitive	Yes
Invalid Characters	Blanks
Variable Name	%%SAPR3-SPOOL

General Information

The Copy Spool To parameter can be specified for both regular SAP jobs and SAP data archiving jobs.

Note

If ***SYSOUT** is specified, the spool is copied to the same location as the job output. (For more information, see “Sysout Handling” on page 8-16).

Delete After Print

Indicates if report is deleted after printing.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Format	Valid values are: • **Y**= Yes • **N** = No (Default)
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_RELEASE

Department

Spool department.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-12 characters
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-DEPT

General Information

Only enabled if CONTROL-M Function Modules are installed.

Detect Spawned Jobs

Indicates that spawned jobs should be detected.

Format

Usage	Used to monitor spawned jobs.
Variable Names	%%SAPR3-DETECT_OPTION %%SAPR3-DETECT_CHILD_JOBNAME %%SAPR3-DETECT_CHILD_TABLE **Valid Values:** **For %%SAPR3-DETECT_OPTION** **1**: No detection needed **2**: According to parent job **3**: According to a specific job **For %%SAPR3-DETECT_CHILD_JOBNAME** • Name of the parent job (for option 2) • Name of the specific job (for option 3) **For %%SAPR3-DETECT_CHILD_TABLE** • Name of the scheduling table in which the parent exists.

General Information

The following options are available:

- **No Detection needed**: Do not detect spawned jobs of the current job.

The next option specifies certain criteria:

- **Detect and Create According to**:
  - **Parent (current) job definition**: Detect spawned jobs of the current job and extract these jobs to CONTROL-M, with identical properties to the “parent job”.
  - **A specific job definition**:
    A field is displayed, in which you can enter a specific SAP-type job name. Detected spawned jobs of the current job are extracted to CONTROL-M with identical properties to the specified (not the current) job.

Important: The specified job must exist in the same Scheduling Table as the current job.

Document Type

Archive object document type.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other Job Mode values are specified.
Length	1-10 characters.
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-ARCHIVE_OBJECT

Related Parameters

Archive Mode	Only enabled if the Archive Mode parameter is set to **Archive** or **Print & Archive**.

General Information

Only enabled if Archive Mode is set to **Archive** or **Print & Archive**.

External Program

External program name.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-128 characters.
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-PROGRAM

Information Field

Archive information.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-3 characters.
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-ARCHIVE_INFO

Job Class

Job submission priority (in SAP).

Format

Usage	**For regular SAP jobs:** Mandatory when the value of the Job Mode parameter is **Create**. This parameter is disabled for every other Job Mode value. **For SAP data archiving jobs:** Mandatory when the Data Archiving Job Mode parameter is **Write**.
Format	Valid values are: • **A** (most urgent) • **B** (urgent) • **C** (least urgent) (Default)
Variable Name	%%SAPR3-JOBCLASS

Related Parameters

Job Mode	For regular SAP jobs, Job Class cannot be specified when the value for Job Mode is **Batch_Input**, and is pre-defined for **Original**, **Copy** and **External** job modes.

General Information

For regular SAP jobs:

- If CONTROL-M Function Modules are installed, all three priorities are available.
- If CONTROL-M Function Modules are not installed, only **C** is available.

The **A** and **B** values will only work if you are using XBP v2.0 functionality or the previous Extended functionality in XBP v1.0 system.

For SAP data archiving jobs, this parameter is disabled for both **Detect Delete** and **Detect Store** job mode values.

The Job Class parameter can be specified for both regular SAP jobs and SAP data archiving jobs.

Job Count

Unique SAP job ID number.

Format

Usage	Mandatory when Job Mode value is **Copy**,**Original** or **External**.
Variable Names	• **%%SAPR3-JOBCOUNT** Valid values: 8-digit number (specific job) or special values (string) Special Values: - FIRST - FIRST_SCHEDULED - LAST - LAST_SCHEDULED

Related Variable - %%SAPR3-JOB_COUNT

Valid values are:

- **Specific_Job**
  (if %%SAPR3-JOBCOUNT has an 8-digit number value),

  or,

- The same **special** value as %%SAPR3-JOBCOUNT (as detailed in the table above).

Related Parameters

Job Mode	• Job Count cannot be specified when the job mode value is **Create** or **Batch_Input**. • When the job mode value is **Copy**, the parameter can contain digits or any of the special values. • When the job mode value is **Original**, the parameter can contain digits, **FIRST_SCHEDULED**, or **LAST_SCHEDULED**. • When the job mode value is **External**, the Special Values described above are not applicable.

Job Mode

Determines the task that the job performs.

Format

Usage	Mandatory.
Format	**Valid values for regular SAP jobs:** • **Create**: Create a brand-new job. • **Copy**: Copy an existing job. • **Original**: Run a previously defined job. • **External**: Monitors the status of a job that runs in the SAP Server. • **Batch Input**: Run a Batch Input job. **Valid values for SAP data archiving jobs:** • **Write**: Creates and runs a data archiving write job. • **Detect Delete**: Detects a data archiving delete job created in SAP. • **Detect Store**: Detects a data archiving store job created in SAP.
Variable Name	%%SAPR3-JOB_MODE

The Job Mode parameter must be specified for both regular SAP jobs and SAP data archiving jobs.

For Regular Jobs Only

When specifying the Job Mode parameter on a command line, the value names are different:

- **Create**: CREATE
- **Copy**: RUN_COPY
- **Original**: RUN_ORG
- **External**: EXTERNAL
- **Batch Input**: BATCHINPUT

Job Name

Job name to be monitored or reported.

Format

Usage	Mandatory.
Length	1-32 characters.
Case Sensitive	No.
Invalid Characters	None
Variable Name	%%SAPR3-JOBNAME

General Information

This parameter is mapped to the CONTROL-M/EM Job Name parameter.

For regular SAP jobs only:

The **Filter** button specifies criteria for the list that can be generated by clicking **Load**.

- In **Original** job mode, all statuses are disabled. **Scheduled** is selected and cannot be modified.
- In **Copy** and **External** job modes, all fields are enabled.
- The Filter option is not available in **Create** and **Batch Input** job modes.

The asterisk ***** can be used as a wildcard to specify a job name prefix.

The Job Name parameter must be specified for both regular SAP jobs and SAP data archiving jobs.

Language

Language.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1 letter, A-Z. Example: E for English; D for German and so on.
Case-Sensitive	Yes, only capitals.
Invalid Characters	Blanks
Variable Name	%%SAPR3-STEP-S<nn>-LANGU

Layout

Print Layout format.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-16 characters.
Case-Sensitive	No
Invalid Characters	Blanks
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_LAYOUT

General Information

This parameter is only enabled if CONTROL-M Function Modules are installed, or if you are using XBP v2.0 functionality.

Click **Load** to generate and display a list of all layouts. The asterisk * can be used as a wildcard to filter the search.

Note

The **Load** button will only work if you are using XBP v2.0 functionality.

Name

Spool list name.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-12 characters.
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-LIST_NAME

General Information

Only enabled if CONTROL-M Function Modules are installed.

New Spool Request

New spool request.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Format	Check box. • Selected – Request new spool. (Default) • Cleared – Do not request.
Variable Name	%%SAPR3-STEP-S<nn>-NEW_LIST_ID

General Information

Only enabled if CONTROL-M Function Modules are installed.

Number of Copies

Number of copies to be printed. Mandatory.

.Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Format	3-digit number, Valid range: **001** - **255**
Default	1
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_COPIES

Object Type

Archive object type.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-10 characters.
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-ARCHIVE_SAPOBJECT

Related Parameters

s

Archive Mode	Only enabled if Archive Mode is set to **Archive** or **Print & Archive**.

Output Device

Designated printer logical name.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-4 characters.
Case-Sensitive	Uppercase only
Invalid Characters	Blanks
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_DEST

General Information

If the device does not exist, SAP adds a **$** sign before the device name.

Click **Load** to generate and display a list of all output devices.

The asterisk * can be used as a wildcard to filter the search.

Note

The **Load** button will only work if you are using XBP v2.0 functionality.

Owner

Step owner.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-12 characters.
Case-Sensitive	Uppercase only.
Invalid Characters	Blanks
Variable Name	%%SAPR3-STEP-S<nn>-OWNER

General Information

If left unspecified, the value is taken from the Account owner field.

Parameter

Parameter for an external program.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-255 characters.
Case Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-VAR-NAME

Print Expiration

The number of days after which print job expires.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Format	Single-digit number, 1-9.
Default	8
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_EXPIRATION

Print Immediately

Indicates whether to print job output immediately.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Format	• X – Yes • N – No (Default)
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_IMMED

QID

Batch input ID number.

Format

Usage	Optional.
Default	**(Empty)**
Length	1-20 characters.
Variable Name	%%SAPR3-QID

General Information

Batch Input jobs that are deleted after they run are not monitored. The status of jobs marked for deletion is not displayed. If left unspecified, the oldest defined session is scheduled.

Recipient

Name of recipient of job output.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-12 characters.
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_RECIPIENT

Rows

Maximum number of rows per page.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Default	65
Format	Number between 1-90 or -1, where -1 is a special value indicating that the number of rows will be obtained from the ABAP program code.
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_NUMLINES

SAP Cover Page

Type of cover page for output.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Format	Drop down list format. Valid values are: • **Default Setting (D)** • **Print (X)** • **Do Not Print ( )**
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_BANNER

Note

In SAP 4.6D, this parameter can return different values, depending on specific SAP user-definitions. This is a known SAP problem.

SAP Job Status

Status of the SAP CCMS job, in SAP. Relevant only after job submission in Active job mode.

Format

Format	Valid values: • **Scheduled** • **Released** • **Ready** • **Active** • **Canceled** • **Finished**
Variable Name	None.

General Information

This parameter is updated when the Job Editing form is opened. However, the status is not refreshed automatically.

Note

This field is active only if you are using XBP v2.0 functionality.

Selection Cover Page

Indicates whether a cover page should be used.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Format	Check box. • **X: Selected** – Use cover page • **N: Cleared** – Do not use cover page (Default)
Variable Name	%%SAPR3-STEP-S<nn>-PRINT_BANNER_PAGE

Steps

Step (action) to be performed as part of the SAP job.

Format

Usage	Optional.
Length	Between 1-99 steps can be specified. • **Add ABAP**: Add an ABAP program. • **Add Ext Pgm**: Add an external SAP Program.
Case-Sensitive	No
Invalid Characters	Blanks
Variable Name	None.

General Information

When the specified job mode is **Create**, at least one step must be specified in a SAP job definition, which can be one or more ABAP program steps or External program steps, or both.

In the AutoEdit variables given for each of the **Add ABAP Window** parameter descriptions in this chapter, **S<nn>** represents a logical number between **S01** and **S99**.

Step Type

Type of step to be performed.

Format

Usage	Optional.
Length	1 character. Valid values: • A: ABAP program step • E: External Program step
Case-Sensitive	Uppercase only.
Variable Name	%%SAPR3_STEP-S<nn>-STEP_TYPE

General Information

The variable described above must be specified for every single step in a job.

Submit Job with ASAP Option

Specifies that a job should run only when there are SAP resources available.

Format

Usage	Optional.
Format	Check box. Valid values: • **X: Selected** (Yes) • **N: Cleared** (No) (Default)
Variable Name	%%SAPR3-SUBMIT_ASAP

General Information

If selected, job should run as soon as the SAP resources are available. If cleared, the job runs immediately.

The Submit Job with ASAP parameter can be specified for both regular SAP jobs and SAP data archiving jobs.

Target Host

Host computer where the external program runs.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-32 characters
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-s<nn>-TARGET_HOST

Target Server

Application server on which the job will run.

Format

Usage	Optional.
Length	1-20 characters.
Case Sensitive	Yes.
Invalid Characters	Blanks
Variable Name	%%SAPR3-TARGET_SERVER

General Information

If left unspecified, SAP will determine a value for this parameter during runtime.

The Target Server parameter can be specified for both regular SAP jobs and SAP data archiving jobs.

Titles

Spool list titles.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Length	1-68 characters.
Case-Sensitive	Yes
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-LIST_TEXT

General Information

Only enabled if CONTROL-M Function Modules are installed.

Variant Name

Variant name.

Format

Usage	Variant name. Mandatory. Only enabled once the Archiving Object parameter has been specified. Only available for **Write** jobs.
Format	**For SAP data archiving jobs only:** Specify a variant for the specified Archiving Object.
Length	1-14 characters.
Case-Sensitive	Uppercase only
Invalid Characters	None
Variable Name	%%SAPR3-STEP-S<nn>-VAR-NAME

When a variant has been specified for an Archiving Object, the following buttons are enabled:

- **Copy**. Enables the creation of a new variant based on the properties of an existing variant. The new variant is created as soon as you confirm its name.
- **Show**. Displays the variant values in a separate window.
- **Change**. Enables you to modify the values of the various variant parameters.

Click **Load** to generate and display a complete list of variants available for the specified Archiving Object.

Note

The changes in the values of the variant parameters are only performed during job run time.
Copy, **Show** and **Change** will only work if you are using XBP v2.0 functionality or the previous Extended functionality in XBP v1.0 system.

Wait For Termination

Indicates whether SAP waits for the external program to end.

Format

Usage	Optional when the Job Mode parameter is **Create**. Not available when other job Mode values are specified.
Format	Check box. • **X: Selected** – Waits. • **N: Cleared** – Does not wait. Default.
Variable Name	%%SAPR3-STEP-s<nn>-WAIT_FOR_TERM

Oracle Applications Parameters

The parameters described in this chapter are for the OAP panel of the Job Editing form.

These parameters are only relevant if CONTROL-M/Control Module for Oracle Applications is installed and Oracle Applications forms are loaded in CONTROL-M/EM.

Table 11-1 OAP Parameters – Summary (Part 1 of 2)

Parameter	Description
Advanced Options	Enables various advanced options to be modified.
Application	The application short name associated with the responsibility name.
Application Instance	Oracle Application instance connection information.
Application Name	The application long name associated with the concurrent program.
Application Short Name	The application short name associated with the concurrent program.
Description	Description of a request.
Include Child Status	When specified, child jobs are monitored.
Include Output	If specified, the output of the Oracle job is appended to SYSOUT.

Table 11-1 OAP Parameters – Summary (Part 2 of 2)

Parameter	Description
Notifications	Generates a selection list containing all Oracle workflow roles.
Parameter Validation	All specified parameter values are validated. If no value is specified, the default value will be retrieved.
Parent	Parent of the job or process.
Phase	Phase of the job or process.
Print	Determines print settings.
Priority	Priority of the job or process.
Profiles	Specify or modify the print profile name and value.
Request ID	Oracle Applications request ID number.
Request Type	Indicates whether the request is a Request Set or Single Request.
Responsibility	The Oracle Applications responsibility.
Security Group	The security group assigned to the username.
Status	Status of the job or process.
User Name	Valid Oracle Application user name/CONTROL-M job owner name.
Wait Child	If an Oracle job spawned multiple child jobs, the CONTROL-M job tracks status of all child jobs. If not, CONTROL-M only checks original job status, stopping as soon as it finishes.

Advanced Options

Enables various advanced options to be modified.

Format

Usage	Optional.
Format	Button. Located on the Advanced Options panel accessed from the OAP panel.

Related Parameters

Include Child Status	These parameter settings can be modified only when the **Advanced Options** check box is selected.
Include Output	
Parameter Validation	
Wait Child	
Notifications	See “Notifications” on page 11-11.
Print	See “Print” on page 11-15.
Profiles	See “Profiles” on page 11-17.

Application

The application short name associated with the responsibility name.

Format

Usage	Mandatory
Length	1-50 characters
Case Sensitive	Upper case only
Invalid Characters	Blanks
Variable Name	%%OAP-RESPAPP

Application Instance

Oracle Application instance connection information.

Format

Usage	Mandatory
Length	1-214 characters
Case Sensitive	Yes
Invalid Characters	Blanks
Variable Name	%%OAP-INSTANCE

Application Name

The application long name associated with the concurrent program.

Format

Usage	Optional.
Default	None
Length	1-214 characters
Case Sensitive	Yes
Invalid Characters	Blanks
Variable Name	%%OAP-APPDESP

Application Short Name

The application short name associated with the concurrent program.

Format

Usage	Mandatory.
Length	1-30 characters
Case Sensitive	Yes (Upper case only)
Invalid Characters	Blanks
Variable Name	%%OAP-APPNAME

Description

Text description of a request.

Format

Usage	Optional.
Length	1-214 characters
Case Sensitive	Yes
Invalid Characters	None
Variable Name	%%OAP-DESCRIPTION

General Information

Displayed only when the Request Type is **Single Request**.

Include Child Status

If selected, child jobs are monitored. If one ends in error, the CONTROL-M job status is also error. If unspecified, CONTROL-M job status is determined only by parent job ending status.

Format

Usage	Optional.
Format	Check box. Default: Selected (Child jobs monitored) Located on the Advanced Options panel accessed from the OAP panel.
Variable Name	%%OAP-SUBSTATUS

Include Output

When specified, the output of the Oracle job is appended to SYSOUT.

Format

Usage	Optional.
Format	Check box. Default: Not selected (Output not appended) Located on the Advanced Options panel accessed from the OAP panel.
Variable Name	%%OAP-DISPLAY_OUTPUT

Notifications

Generates a selection list containing all Oracle workflow roles.

Note

For Oracle Applications 11 and 11i only.

Format

Usage	Optional.
Format	List generated by CONTROL-M/EM. Located on the Advanced Options panel accessed from the OAP panel.
Length	1-100 characters
Case Sensitive	Yes
Invalid Characters	Blanks
Variable Name	%%OAP-NOTIFICATIONS-N<n>-NAME

Parameter Validation

All specified parameter values are validated. If no value is specified, the default value will be retrieved.

Format

Usage	Optional.
Format	Check box. Default: Selected (parameter values are validated). Located on the Advanced Options panel accessed from the OAP panel.
Variable Name	%%OAP-PARAM_VALIDATION

Parent

Parent of the job or process.

Format

Usage	Optional
Format	Number, 1-15 digits in length. Displayed only in the Job Editing form active environment (in the CONTROL-M/EM GUI).
Variable Name	%%OAP-ACTIVE_ATTR<n>-PARENT

General Information

The value of this parameter is supplied by the Oracle Application and cannot be modified.

Phase

Phase of the job or process.

Format

Usage	Optional
Length	1-50 characters
Case Sensitive	Upper case only
Invalid Characters	Blanks
Variable Name	%%OAP-ACTIVE_ATTR<n>-PHASE

General Information

The value of this parameter is supplied by the Oracle Application and cannot be modified.

This parameter is displayed only in the Job Editing form active environment (in the CONTROL-M/EM GUI).

Print

Determines print settings.

Format

Usage	Optional
Format	Composed of the Printer (Load), No. of Copies, and Style subparameters. For more information, see "Subparameters" . Located on the Advanced Options panel accessed from the OAP panel.

Subparameters

Printer (Load)	Causes the Oracle Applications server to generate a list in real time of all available printers. Select required printer for job output.	
	Usage	Optional
	Length	1-100 characters
	Case sensitive	Yes
	Invalid Characters	None
	Variable Name	%%OAP-PRINTERNAME
No. of copies	Required number of copies.	
	Usage	Optional
	Format	Integer. 1-4 digits.
	Variable Name	%%OAP-PRINTCOPIES
Style	Format in which job output is printed.	
	Usage	Optional. Mandatory if a value is supplied for the Printer (Load) parameter.
	Length	1-20 characters
	Case sensitive	Yes
	Invalid Characters	None
	Variable Name	%%OAP-PRINTSTYLE

Priority

Priority of the job or process.

Format

Usage	Optional.
Format	Number, 0-100. Displayed only in the Job Editing form active environment (in the CONTROL-M/EM GUI).
Variable Name	%%OAP-ACTIVE_ATTR<n>-PRIORITY

Related Parameters

Priority	CONTROL-M priority (described on page 4-36) determines submission the priority of the job in CONTROL-M, whereas Priority under Oracle Applications determines the priority of the job in Oracle Applications.

General Information

There are two Priority settings for an Oracle Applications job that is scheduled in the CONTROL-M data center.

First, the Priority of a job in CONTROL-M determines when CONTROL-M/EM schedules the job.

After the job is submitted for execution in the Oracle Application, it's Oracle Application Priority determines when the job is run in the Oracle Application.

Profiles

Specify or modify the print profile name and value.

Format

Usage	Optional.
Format	**Profile Name** and **Value** text boxes. For more information, see “Subparameters” . Located on the Advanced Options panel accessed from the OAP panel.

Subparameters

Profile Name	Profile internal name.	
	Usage	Optional
	Length	1-214 characters
	Case sensitive	Yes
	Invalid Characters	None
	Variable Name	%%OAP-PROFILES-P<n>-NAME
Value		
	Usage	Optional
	Length	1-214 characters
	Case sensitive	Yes
	Invalid Characters	None
	Variable Name	%%OAP-PROFILES-P<n>-VALUE

Request ID

Oracle Applications request ID number.

Format

Usage	Optional
Format	Number, 1-15 digits in length. Displayed only in the Job Editing form active environment (in the CONTROL-M/EM GUI).
Variable Name	%%OAP-ACTIVE_ATTR<n>-REQUEST_ID

General Information

The value of this parameter is supplied by the Oracle Application and cannot be modified.

Request Type

Indicates whether the request is a Request Set or Single Request.

Format

Usage	Mandatory
Format	Option buttons. Valid values: • **Request Set** • **Single Request** **Note**: Each option has subparameters.
Default	**Request Set**
Variable Name	%%OAP-TASKTYPE

General Information

Each Request Type option is composed of subparameters.

Request Set

Specifies a number of requests.

Table 11-2 Request Set Subparameters

Application Name	For more information, see “Application Name” on page 11-6.	
Application Short Name	For more information, see “Application Short Name” on page 11-7.	
Request Set	Request Set long name.	
	Usage	Optional
	Length	1-214 characters
	Case sensitive	Yes
	Invalid Characters	None
	Variable Name	%%OAP-SETDESP

Table 11-2 Request Set Subparameters

Request Set Parameters	Click the **Request Set** button to cause the Oracle Applications server to generate a list, in real time, of all concurrent programs in the request set. Each program is listed in a table displaying **Program** and **Stage**. Select an item from the generated list to enter in the form.	
	Usage	Optional
	Variable Name	OAP-SETPROG-P<n>-PARMS-PARM <m>-NAME OAP-SETPROG-P<n>-PARMS-PARM <m>-VALUE
Request Set Code (Load)	Request Set short name. Causes the Oracle Applications server to generate a list in real time that satisfies relevant criteria. Select an item from the generated list to enter in the form. Mandatory.	
	Usage	Mandatory
	Length	1-30 characters
	Case sensitive	Yes (Upper case)
	Invalid Characters	Blanks
	Variable Name	%%OAP-SETNAME

Single Request

Specifies a single request.

Table 11-3 Single Request Subparameters

Application Name	For more information, see “Application Name” on page 11-6.
Application Short Name	For more information, see “Application Short Name” on page 11-7.
Description	For more information, see “Description” on page 11-8.

Table 11-3 Single Request Subparameters

Program Short Name (Load)	The concurrent program short name. Causes the Oracle Applications server to generate a list in real time that satisfies relevant criteria. Select an item from the generated list to enter in the form.	
	Usage	Mandatory
	Length	1-30 characters
	Case sensitive	Yes (Upper case)
	Invalid Characters	Blanks
	Variable Name	%%OAP-PROGNAME
Program long Name	Descriptive program name.	
	Usage	Optional
	Length	1-214 characters
	Case sensitive	Yes
	Invalid Characters	None
	Variable Name	%%OAP-PROGDESP

Table 11-3 Single Request Subparameters

Request Parameters	Opens Single Request Parameter form. You can specify parameter values for the specified concurrent program. **Note**: All fields must be specified, or the default value is used. If no default value is specified in CONTROL-M, default is automatically **NULL**.	
	Usage	Optional
	Format	Parameters: • Organization ID • BOM or ENG • Item Selection • Specific Item • Revision • Date • Items From • Items To • Category Set • Category Structure • Categories From • Categories To For more information on these parameters, see the *CONTROL-M/Control Module for Oracle Applications Administrator Guide*.
	Variable Name	OAP-PARMS-P<n>-NAME OAP-PARMS-P<n>-VALUE

Responsibility

The Oracle Applications responsibility.

Format

Usage	Mandatory
Length	1-100 characters
Case Sensitive	Yes
Invalid Characters	Blanks
Variable Name	%%OAP-RESPNAME

Security Group

The security group assigned to the username.

Note

For Oracle Application 11i only.

Format

Usage	Optional
Length	1-80 characters
Case Sensitive	Yes
Invalid Characters	None
Variable Name	%%OAP-SECURITY_GROUPNAME

Status

Oracle Application status of the job or process.

Format

Usage	Optional
Format	Displayed only in the Job Editing form active environment (in the CONTROL-M/EM GUI).
Variable Name	%%OAP-ACTIVE_ATTR<n>-STATUS

General Information

There are two statuses (whether it is Held or Free, and so on) for an Oracle Applications job that is scheduled in the CONTROL-M data center.

First, the status of a job in CONTROL-M (whether it is Held or Free, and so on) can be modified from the CONTROL-M/EM GUI.

After the job is submitted for execution in the Oracle Application, it's Oracle Application Status determines how the job is handled (whether it is Held or Free, and so on) in the Oracle Application.

Note

The value of this parameter is supplied by the Oracle Application and cannot be modified.

User Name

Valid Oracle Application user name/CONTROL-M job owner name.

Format

Usage	Mandatory
Length	1-100 characters
Case Sensitive	No
Invalid Characters	Blanks
Variable Name	%%OAP-USERNAME

Wait Child

If an Oracle job spawned multiple child jobs, the CONTROL-M job tracks status of all child jobs. If not, CONTROL-M only checks original job status, stopping as soon as it finishes.

Format

Usage	Optional.
Format	Check box. Default: Selected (Tracks child job status) Located on the Advanced Options panel accessed from the OAP panel.
Variable Name	%%OAP_WAITCHILD

FTP Parameters

This chapter describes the parameters in the FTP panel for FTP jobs. This panel is displayed in the Job Editing form when CONTROL-M/ Control Module for FTP is installed on your data center. All CONTROL-M parameters for FTP jobs are summarized in the following tables. Each of these parameters is described in detail in the remainder of this chapter.

The parameter descriptions are in alphabetical order.

Note

Many other CONTROL-M job parameters and variables can be used to apply more sophisticated processing to your FTP jobs. For more information about these parameters, see the other chapters in this book.

Table 12-1 FTP Panel Parameters – Summary (Part 1 of 2)

Parameter	Description
Account	A set of parameters that define both sides of a file transfer connection.
Binary/Ascii	Select to transfer files in either Binary or Ascii mode.
Local User Name	Number of times CONTROL-M/CM for FTP will try to re-establish a failed connection.
Transfer Location (Local Fields)	Source or destination location on local computer.

Table 12-1 FTP Panel Parameters – Summary (Part 2 of 2)

Parameter	Description
Transfer Location (Remote Fields)	Source or destination location on remote computer.
Use Configuration Default	Select to automatically use the specified number of retries, as defined in the configuration file.

Note

Certain parameters are displayed in the FTP panel, once a job has been submitted. These parameters are for notification purposes only, and have a read-only status.

Table 12-2 FTP Panel Parameters – Notification Purposes only

Parameter	Description
File Transfer Direction	Indicator of whether the local or remote machine is the source or destination for the file transfer.
Local Home Directory	The default directory to and from which files will be transferred on the local computer.
Local Hostname	The name of the local computer.
Local OS Type	The OS type on which CONTROL-M/CM for FTP is installed.
Local User Name	The user name for the local computer.
Number of File Transfers	Represents the number of file transfers in a CONTROL-M/CM for FTP job.
Remote Home Directory	The default directory to and from which files will be transferred on the remote computer.
Remote Hostname	The name of the remote computer.
Remote OS Type	The OS type of the remote computer on which the FTP server is installed.
Remote User Name	The user name for the remote computer

Note

The following parameters are displayed in the Advanced Window.

Table 12-3 FTP Panel - Advanced Window Parameters – Summary

Parameter	Description
Additional Options	Specifies additional MVS FTP server parameters to be defined prior to performing the file transfer.
Allocation Units	Specifies the value of the allocation units for the MVS data set.
Block Size	The block size of the MVS data set to be allocated.
Logical Record Length	The logical record length of the MVS data set to be allocated.
Primary Allocation	The primary allocation amount for the MVS data set to be allocated.
Record Format	The record format of the MVS data set to be allocated.
Secondary Allocation	The secondary allocation amount for the MVS data set to be allocated.
Template Name	The name of the template with which you intend to work.
Translation Table	Specifies a file containing translate tables for the data connection.
Unit	Specifies the value of the allocation units for the MVS data set.
Volume	The Volume on which the MVS data set will be allocated.

Account

Name for a set of parameters that define both sides of a file transfer connection.

Format

Usage	Mandatory
Length	Up to 64 characters
Case Sensitive	Yes
Invalid Characters	Blanks
Default	None
Variable Name	%%FTP-ACCOUNT

General Information

Following are limitations as to how an account name can be defined:

- Account names must start with an alpha character.
- No special characters should be included within the name definition.

Additional Options

Optional. Specifies additional MVS FTP server parameters to be defined prior to performing the file transfer.

Format

Format	Free text according to FTP server SITE commands.
Variable Name	%%FTP-ADDOPTx where x indicates an integer representing the file transfer number to which it relates.

General Information

Any additional options that you specify will be used in a SITE command.

Allocation Units

Optional. Specifies the value of the allocation units for the MVS data set.

Format

Format	Valid values: • Blocks • Cylinders • Tracks
Variable Name	%%FTP-ALLOCUNITSx where x indicates an integer representing the file transfer number to which it relates.

Binary/Ascii

Select one of these in order to determine in which mode files should be transferred.

Format

Usage	At least one is mandatory
Default	Binary
Variable Name	%%FTP-TYPEx **Note:** x indicates any value between 1-5, according to the sequential transfer number.

General Information

Radio button format.

Block Size

Optional. The block size of the MVS data set to be allocated.

Format

Format	Integer between 0-32760
Variable Name	%%FTP-BLKSIZEx where x indicates an integer representing the file transfer number to which it relates.

File Transfer Direction

Indicator of whether the local or remote machine is the source or destination for the file transfer.

Format

Format	Arrow button
Variable Name	%%FTP-UPLOADx where x indicates an integer representing the file transfer number to which it relates. Valid values: • 0 = Download • 1 = Upload

Local Home Directory

The default directory to and from which files will be transferred on the local computer.

Format

Format	Read-only.
Variable Name	%%FTP-LHOMEDIR

Local Hostname

The name of the local computer.

Format

Format	Read-only
Variable Name	%%FTP-LHOST

Local OS Type

The OS type on which CONTROL-M/CM for FTP is installed.

Format

Format	Read only.
Variable Name	%%FTP-LOSTYPE Valid values: • Windows • Unix

Local User Name

The user name for the local computer.

Format

Format	Read-only
Variable Name	%%FTP-LUSER

General Information

When using Microsoft Windows, the Local User Name parameter must also reflect the domain name.

Logical Record Length

Optional. The logical record length of the MVS data set to be allocated.

Format

Format	Integer between 0-32760
Variable Name	%%FTP-LRECLx where x indicates an integer representing the file transfer number to which it relates.

Number of File Transfers

Represents the number of file transfers in a CONTROL-M/CM for FTP job.

Format

Format	Integer between 1-5
Variable Name	%%FTP-TRANSFER_NUM

Number of Retries

The number of times CONTROL-M/CM for FTP will try to re-establish a failed connection.

Format

Format	Integer between 0-99
Variable Name	%%FTP-NUM_RETRIES

General Information

When the remote FTP server is running on an MVS system, this field is disabled.

This is only relevant to the actual transfer of the data.

Primary Allocation

Optional. The primary allocation amount for the MVS data set to be allocated.

Format

Format	Integer
Variable Name	%%FTP-PRIMARYx where x indicates an integer representing the file transfer number to which it relates.

Record Format

Optional. The record format of the MVS data set to be allocated.

Format

Format	Valid values: • F • FB • V • VB • U
Variable Name	%%FTP-RECFMx where x indicates an integer representing the file transfer number to which it relates.

Recursive

Optional. Specifies whether a directory transfer will include all its sub-directories.

Format

Format	Checkbox
Variable Name	%%FTP-RECURSIVEx where x indicates an integer representing the file transfer number to which it relates.

Remote Home Directory

The default directory to and from which files will be transferred on the remote computer.

Format

Format	Read-only.
Variable Name	%%FTP-RHOMEDIR

Remote Hostname

The name of the remote computer.

Format

Format	Read-only
Variable Name	%%FTP-RHOST

Remote OS Type

The OS type of the remote computer on which the FTP server is installed.

Format

Format	Read only.
Variable Name	%%FTP-ROSTYPE Valid values: • Windows • Unix • MVS

Remote User Name

The user name for the remote computer.

Format

Format	Read-only
Variable Name	%%FTP-RUSER

Secondary Allocation

Optional. The secondary allocation amount for the MVS data set to be allocated.

Format

Format	Integer
Variable Name	%%FTP-SECONDARYx where x indicates an integer representing the file transfer number to which it relates.

Template Name

Optional. The name of the template with which you intend to work.

Format

Length	Up to 64 characters
Case Sensitive	Yes
Invalid Characters	Blanks
Default	None
Variable Name	%%FTP-TEMPLATEx where x indicates an integer representing the file transfer number to which it relates.

Transfer Location (Local Fields)

The source or destination location for files either transferring or being transferred on the local computer.

Format

Usage	Mandatory
Case Sensitive	Yes
Invalid Characters	None
Default	None
Variable Name	%%FTP-LPATHx **Note:** x indicates any value between 1-5, according to the sequential transfer number.

Transfer Location (Remote Fields)

The source or destination location for files either transferring or being transferred on the remote computer.

Format

Usage	Mandatory
Case Sensitive	Yes
Invalid Characters	None
Default	None
Variable Name	%%FTP-RPATHx **Note:** x indicates any value between 1-5, according to the sequential transfer number.

Translation Table

Optional. Specifies a file containing translate tables for the data connection.

Format

Format	1-8 characters
Variable Name	%%FTP-TRANSTABx where x indicates an integer representing the file transfer number to which it relates.

Unit

Optional. The Unit on which the MVS data set will be allocated.

Format

Format	1-8 characters
Variable Name	%%FTP-UNITx where x indicates an integer representing the file transfer number to which it relates.

Use Configuration Default

This parameter can be selected if you want to use the specified number of retries, as defined in the configuration file.

Format

Usage	Optional
Default	Deselected
Variable Name	%%FTP-USE_DEF_NUMRETRIES

General Information

Checkbox format.

Volume

Optional. The Volume on which the MVS data set will be allocated.

Format

Format	1-6 characters.
Variable Name	%%FTP-VOLUMEx where x indicates an integer representing the file transfer number to which it relates.

PeopleSoft Parameters

This chapter describes the parameters in the PS8 panel for PeopleSoft jobs. This panel is displayed in the Job Editing form when CONTROL-M/Control Module for PeopleSoft (CONTROL-M/CM for PeopleSoft) is installed on your data center. All CONTROL-M parameters for PeopleSoft jobs are summarized in Table 13-1. Each of these parameters is described in detail in the remainder of this chapter.

Note

Many other CONTROL-M job parameters and variables can be used to apply more sophisticated processing to your PeopleSoft jobs. For more information about these parameters, see the other chapters in this book.

Table 13-1 PeopleSoft Panel Parameters – Summary (Part 1 of 2)

Parameter	Description
Connection Profile	Name for a set of attributes that define a connection between CONTROL-M/CM for PeopleSoft and a PeopleSoft application server.
Email Subject	Indicates the subject line for an email message that is sent by the job.
Email Text	Specifies the message text to be displayed in the body of an email message.
Email With Log	Indicates that Structured Query Report (SQR) program log files are attached to an email message.
Format	Output type for the process or job.
Process Name (I)	Name of a PeopleSoft process.

Table 13-1 PeopleSoft Panel Parameters – Summary (Part 2 of 2)

Parameter	Description
Process Name (II)	Name of a job (collection of PeopleSoft processes).
Process Type	Type of process for the process or job definition.
Rerun From Step	Process number from which a job that failed previously should be rerun (generally the process where the job previously failed).
Run Control ID	Identifies a set of run control attributes to be associated with a job or process.
Server Name	Name of the PeopleSoft Server.
Type	Specifies the output destination type of a process or job.
User ID	Specifies the PeopleSoft user ID name to be used for the job.
Userdef1/2/3	User-defined parameters that are made available to the PeopleSoft process or job by CONTROL-M/CM for PeopleSoft.

For more information about PeopleSoft parameters, see your PeopleSoft Process Scheduler manual.

Connection Profile

Name for a set of attributes that define a connection between CONTROL-M/CM for PeopleSoft and a PeopleSoft application server.

Format

Usage	Mandatory
Length	1 - 30 characters
Case Sensitive	Yes
Invalid Characters	Blanks
Default	None
Variable Name	%%PS8-CON_PROFILE

General Information

A connection profile defines the connection attributes between CONTROL-M/CM for PeopleSoft and a PeopleSoft environment. The connection profile must exist before it is specified in a job. Click **Select** next to the **Connection Profile** text box to display a list of profiles that have been defined.

The connection profile contains the following parameters:

- Connection profile name
- PeopleSoft user name
- PeopleSoft password
- PeopleSoft server name
- PeopleSoft server port
- PeopleTools version

The PeopleSoft user name specified in the profile must have authorization to handle all PeopleSoft jobs and processes in the PeopleSoft environment.

To manage connection profiles, specify the **psftcm profcfg** CONTROL-M/CM for PeopleSoft command. For more information about this command, see the *CONTROL-M/Control Module for PeopleSoft Administrator Guide*.

Tip

During the CONTROL-M/CM for PeopleSoft installation, an existing CONTROL-M Option for PeopleSoft environment file can be converted to a connection profile.

Email Subject

Indicates the subject line for an email message that is sent by the job.

Format

Usage	Optional. Available if the **Type** parameter is set to **Email**.
Length	1- 50 characters
Case Sensitive	No
Variable Name	%%PS8-EMAIL_SUBJECT

Related Parameters

Parameter	Description
Email Text	Specifies the message text for the body of the email.
Email With Log	Indicates that SQR program log files should be included as an attachment to the email message.
Type	Specifies the output destination type of a process or job.

General Information

When the **Type** parameter in the Distribution window is set to **Email**, use the **Email Subject** parameter to enter the subject line for the email message produced by the job. The text must not exceed 50 characters. For more information, see the **Type** parameter on page 13-15.

Email Text

Use this parameter to enter the body of an email message that is sent by the job.

Format

Usage	Optional. Available if the **Type** parameter is set to **Email**.
Case Sensitive	No
Variable Name	%%PS8-EMAIL_TEXT

Related Parameters

Parameter	Description
Email Subject	Contains the subject line of the email message.
Email With Log	Indicates that SQR program log files should be included as an attachment to the email message.
Type	Specifies the output destination type of a process or job.

General Information

When the **Type** parameter in the Distribution window is set to **Email**, use the **Email Text** parameter to enter the message text for the email message produced by the job. The text must not exceed 250 characters. For more information, see the **Type** parameter on page 13-15.

Email With Log

Use this parameter to attach log files generated by the SQR program to an email message that is sent by the job.

Format

Usage	Optional. Available if the **Type** parameter is set to **Email**. • When this option is selected, the email message is sent with an SQR log file attachment. • When this option is not selected, the email message is sent without an SQR log file attachment. Default.
Variable Name	%%PS8-EMAIL_ATTACH_LOG

Related Parameters

Parameter	Description
Email Subject	Contains the subject line of the email message.
Email Text	Specifies the message text for the body of the email.
Process Type	The process type selected determines what output destination types are available for the **Type** parameter.
Type	Specifies the output destination type of a process or job.

General Information

When the **Type** parameter in the Distribution window is set to **Email**, use the **Email With Log** parameter to include log files as an attachment to the email message produced by the job. These log files result from the Structured Query Report (SQR) program when **SQR** is selected as the **Process Type** for the job.

Format

Indicates the output format for all processes in a job.

Format

Usage	Optional
Variable Name	%%PS8-OUTDESTFORMAT

Related Parameters

Parameter	Description
Process Type	The process type selected determines what output destination types are available for the **Type** parameter.
Type	Specifies the output destination type of a process or job.

General Information

Lists the format types that are available for the specified **Process Type** and **Type** parameters.

Note

Valid values for this parameter correspond to values for a PeopleSoft job. For more information about the **Format** parameter, see your PeopleSoft Process Scheduler manual.

Example

If **SQR** is specified for the **Process Type** parameter and **PRINTER** is specified for the **Type** parameter, valid values for the **Format** parameter are:

- HP
- LP
- PS
- WP

Process Name (I)

Name of the process to be scheduled.

Format

Usage	Mandatory
Length	1 - 8 characters
Case Sensitive	Uppercase only
Invalid Characters	Blanks
Variable Name	%%PS8-PRCSNAME

Related Parameters

Parameter	Description
Process Name (II)	Identifies the name of the job to be scheduled.

General Information

Enter a name in the text box field or click **Select and Edit** to display a list of process names that have been defined.

Example

If **SQR** is specified for the **Process Type** parameter and the process produces a report named **RESULTSQR.SQR**, the value of **Process Name (I)** is **RESULTSQR**.

Process Name (II)

Name of the job to be scheduled.

Format

Usage	Mandatory
Length	1 - 12 characters
Case Sensitive	Uppercase only
Invalid Characters	Blanks
Variable Name	%%PS8-JOBNAME

Related Parameters

Parameter	Description
Process Name (I)	Identifies the name of the process to be scheduled.

General Information

Enter a name in the text box field or click **Select and Edit** to display a list of job names that have been defined.

Example

If **SQR** is specified for the **Process Type** parameter and the job produces a report named **REPORTSQR.SQR**, the value of **Process Name (II)** is **REPORTSQR**.

Process Type

Indicates the type of process for the process or job definition.

Format

Usage	Mandatory
Length	1 - 30 characters
Case Sensitive	Yes
Invalid Characters	None
Variable Name	%%PS8-PRCSTYPE

Related Parameter

Parameter	Description
Type	The selected **Process Type** determines what output destination types are available. Use the **Type** parameter to specify the output destination type of a process or job.

General Information

A global definition under which related process or jobs definitions are grouped. Enter a name in the text box field or click **Search** to display a list of process types.

Examples of process types are COBOL, Crystal, SQR, and Application Engine.

Rerun From Step

Rerun a job from a specific process number.

Format

Usage	Optional
Value	Integer
Variable Name	%%PS8-FAILEDSTEP

General Information

The process or job must have run and ended. Jobs that ended successfully can be started to run again.

Jobs that contain more than one process, and did not end successfully, can be rerun from a specified process number. To rerun a job from a failed process, see “Rerunning a Job” in the *CONTROL-M/Control Module for PeopleSoft Administrator Guide*.

Run Control ID

Run control attributes that are associated with a process or job.

Format

Usage	Mandatory
Length	1 - 30 characters
Case Sensitive	Yes
Variable Name	%%PS8-RUNCONTROLID

Related Parameters

Parameter	Description
Server Name	Identifies the name of the server that the application is scheduled to run on.
User ID	Identifies the PeopleSoft user ID of the user authorized to submit the process or job.

General Information

The **Run Control ID** parameter, together with the **User ID** parameter, uniquely identifies the process that is running. It enables required parameters to be available for a process when it runs. Enter an ID in the text box field or click **Search** to display a list of IDs.

Server Name

Identifies the name of the server to be used for running the process or job.

Format

Usage	Optional
Length	1 - 8 characters
Case Sensitive	Yes
Invalid Characters	Blanks
Default	None
Variable Name	%%PS8-SERVERNAME

Related Parameters

Parameter	Description
Run Control ID	Set of run control attributes associated with a process or job.
Connection Profile	Set of attributes that define a connection between CONTROL-M/CM for PeopleSoft and a PeopleSoft application server.
User ID	Identifies the PeopleSoft user ID of the user authorized to submit the process or job.

General Information

The name of the server is dependent upon the **Connection Profile** parameter. The **Server Name** parameter identifies the name of the application server on which the process or job is scheduled to run.

To specify the **Server Name** parameter, enter a name in the text box field or click **Select** to display a list of existing server names.

Type

Output destination type, specifying the file path, printer destination, URL, or email address.

Format

Usage	Optional
Default	File
Variable Name	%%PS8-OUTDESTTYPE

Related Parameters

Parameter	Description
Email Subject	Contains the subject line of the email message.
Email Text	Specifies the message text for the body of the email.
Email With Log	Indicates that SQR program log files should be included as an attachment to the email message.
Format	Selects the output format for all processes in a job.
Process Type	The process type selected determines what output destination types are available for the **Type** parameter.

General Information

The output destination types available for the **Type** parameter depend on the process specified with the **Process Type** parameter. For example, if **SQR** is specified for the **Process Type** parameter, you can select one of the following output destination types:

- Email
- File
- Printer
- Web

Additional distribution information must be specified when the output type is either **Email** or **Web**. When the output type is **Web**, select a folder name to which the output should be distributed.

Use the **Format** parameter to select the output format for the specified **Type** parameter. For more information, see "Format" on page 13-8.

User ID

PeopleSoft user ID of the user authorized to submit the process or job.

Format

Usage	Mandatory
Length	1 - 30 characters
Case Sensitive	Yes
Invalid Characters	Blanks
Variable Name	%%PS8-USERID

Related Parameters

Parameter	Description
Run Control ID	Identifies a set of run control attributes to be associated with a process or job.
Server Name	Identifies the name of the server where the application is scheduled to run.

General Information

The PeopleSoft user with the specified **User ID** must be authorized to run the specified process or job.

CONTROL-M has a security mechanism that insures that requestors cannot submit a job that they are not authorized to submit. In addition, when building a job processing definition, the selection list of possible jobs and processes is limited by the user's privileges in PeopleSoft.

This parameter is mapped to the CONTROL-M/EM Owner parameter. For more information, see "Owner" on page 2-45.

Userdef1/2/3

Specify CONTROL-M data to be shared with PeopleSoft processes or jobs.

Format

Usage	Optional
Length	1 - 30 characters
Case Sensitive	No
Invalid Characters	None
Variable Name	%%PS8-USERDEF1/2/3

General Information

This parameter enables you to specify and share data from CONTROL-M with PeopleSoft processes or jobs. You can enter AutoEdit variables or constants, according to your requirements (for example, filename).

User-defined values are made available to your application by accessing userdef(x) in the **CONTROLM** record.

Example

You can create a number of CONTROL-M/CM for PeopleSoft jobs that correspond to the same process, but with different parameters.

Microsoft Windows Parameters

The parameters described in this chapter are for the WIN panel of the Job Editing form. These parameters are only relevant if CONTROL-M/Agent Microsoft Windows version 6.0.0x or later is installed in your data center.

Table 14-1 Microsoft Windows Parameters

Parameter	Description
Job Execution Time	Maximum amount of elapsed execution time, in seconds, for the job.
Job Memory	Maximum amount of memory, in megabytes, allowed for the job.
Max Work Set Size	Maximum RAM, in megabytes, for all processes of the job.
Min Work Set Size	Minimum RAM, in megabytes, for all processes of the job.
Priority Class	Highest priority class the job and its “children” can receive.
Process Execution Time	Maximum amount of elapsed execution time, in seconds, for each process in a job.
Process Memory	Maximum amount of memory, in megabytes, allowed for each process in a job.
Scheduling Class	Scheduling class for all processes of a job.

Job Execution Time

Maximum amount of elapsed execution time, in seconds, for the job.

Format

Usage	Optional
Format	Integer. No upper limit
Variable Name	%%WIN2K-PER_JOB_USER_TIME_LIMIT

Note

BMC recommends entering application data using the required panel in the CONTROL-M/EM Job Editing form.

Job Memory

Maximum amount of memory, in megabytes, allowed for the job.

Format

Usage	Optional
Format	Integer. Minimum value: **0.005**. If less than the minimum is specified, this parameter is ignored.
Variable Name	%%WIN2K-JOB_MEMORY_LIMIT

Max Work Set Size

Maximum RAM, in megabytes, for all processes of the job.

Format

Usage	Optional.
Format	Integer. Limited only by the RAM available on the processing computer.
Variable Name	%%WIN2K-MAXIMUM_WORKING_SET_SIZE

Min Work Set Size

Minimum RAM, in megabytes, for all processes of the job.

Format

Usage	Optional
Format	Integer. No minimum or maximum.
Variable Name	%%WIN2K-MINIMUM_WORKING_SET_SIZE

Priority Class

Highest priority class the job and its “children” can receive.

Format

Usage	Optional
Format	List box. Valid values: • **IDLE_PRIORITY_CLASS** • **BELOW_NORMAL_PRIORITY_CLASS** • **NORMAL_PRIORITY_CLASS** • **ABOVE_NORMAL_PRIORITY_CLASS** • **HIGH_PRIORITY_CLASS** • **REALTIME_PRIORITY_CLASS**
Variable Name	%%WIN2K-PRIORITY_CLASS

General Information

The calling process must enable the SE_INC_BASE_PRIORITY_NAME privilege so that the calling process is allowed to boost the scheduling priority of a process.

Process Execution Time

Maximum amount of elapsed execution time, in seconds, for each process in a job.

Format

Usage	Optional
Format	Integer. No upper limit
Variable Name	%%WIN2K-PER_PROCESS_USER_TIME_LIMIT

General Information

If the user-mode time for any process exceeds the specified amount, that process is terminated.

Process Memory

Maximum amount of memory, in megabytes, allowed for each process in a job.

Format

Usage	Optional
Format	Integer. Minimum value: **0.005** (megabytes). If less than the minimum is specified, this parameter is ignored.
Variable Name	%%WIN2K-PROCESS_MEMORY_LIMIT

Scheduling Class

Scheduling class for all processes of a job.

Format

Usage	
Format	1-digit number, **0** – **9**. Where **0** provides the minimum resources. **9** provides the maximum resources.
Default	5
Variable Name	%%WIN2K-SCHEDULING_CLASS

General Information

To use a scheduling class greater than **5**, the calling process must enable the SE_INC_BASE_PRIORITY_NAME privilege.

AutoEdit Facility

The AutoEdit facility consists of a group of special variables and functions that can be used to make your job processing definitions more dynamic. This facility also allows you to define your own variables.

Note

Certain AutoEdit functions and variables work differently for OS/390 jobs. While some of these differences are described in this chapter, it is recommended that you consult the *CONTROL-M for OS/390 User Manual* for a more complete description of AutoEdit functionality for OS/390 jobs.

Using AutoEdit variables and functions, you can

- access information about the system under which a job is running
- pass information to a job or modify working parameters of the job
- pass information in a Shout message or a Do Mail message to a user when the job ends

You cannot include application-specific job parameters in the values of AutoEdit variables. The names of application-specific job parameters are prefixed by two percent signs, the application's abbreviation and a hyphen (%%SAPR3- for SAP, %%OAP- for Oracle, and so on).

AutoEdit variables in a job processing definition are resolved immediately before the job is submitted, in the order in which they appear in the job processing definition.

Note

If a job is rerun, the AutoEdit statements specified in the **Auto Edit Assignment** parameter are resolved before those specified using the **Do AutoEdit** parameter.

Table 15-1 describes job parameters that can accept AutoEdit variables or expressions as values.

For more information about variable types, see "AutoEdit Variables" on page 15-4. For more information about AutoEdit functions, see "AutoEdit Expressions" on page 15-22.

Table 15-1 Parameters that Accept AutoEdit Variables and Expressions

AutoEdit Assignment	• Modifies working parameters for a job and/or passes parameters to a job when the job is submitted. • Defines variables that can be displayed in a Shout message or Do Mail message when a job completes. **Note:** This parameter is called **Setvar** in certain CONTROL-M/Server utilities and in CONTROL-M/Desktop.
Command	AutoEdit variables can be used as part of the command string.
Do AutoEdit	Allows the user to specify AutoEdit statements to be resolved (in addition to those specified for AutoEdit Assignment) depending on how a job ended. These can be local variables to be used if the job is rerun, or they can be global variables to be used by other jobs.
Path (Mem Lib)	AutoEdit variables can be used in this parameter to indicate the name of the library or directory in which the file described in the Path parameter is located.
File Name (Mem Name)	AutoEdit variables can be used in this parameter to indicate the name of the file containing the job commands or job script.
Over Lib	AutoEdit variables can be used in this parameter to provide the name of an alternate library or directory in which to search for the file that was specified using the MEMNAME parameter.

Table 15-1 Parameters that Accept AutoEdit Variables and Expressions

Shout or Do Shout	AutoEdit variables can be used in a Shout or Do Shout message to pass job parameters or other data to a user.
Sysout Handling or Do Sysout	AutoEdit variables can be used in the field which provides supplementary information about the handling of the job's Sysout (for example, a filename) when the job ends **OK**.

The **AutoEdit Assignment** and **Do AutoEdit** parameters can also use the **%%LIBMEMSYM** variable to reference a list of AutoEdit expressions in a separate text file. For more information, see "Variable Lists" on page 15-20.

AutoEdit Variables

All AutoEdit variables are identified by a prefix of **%%**. If **%%** is included in the value for a job processing parameter, CONTROL-M assumes that it is referring to an AutoEdit variable or function.

Note

A special prefix **%%#** can be used to indicate that an AutoEdit variable or function should not be resolved. In these cases, the actual name of the AutoEdit variable or function (minus the # sign) is output. For example,

Do Shout Variable %%#PARM1 is greater than 100

outputs the following message:

Variable %%PARM1 is greater than 100.

For more information about AutoEdit variable prefixes, see Table 15-9, "Variable Prefixes," on page 15-17.

AutoEdit variables are divided into the following types:

- **Job Submission Variables** pass parameters to a job or to set the job's working parameters. For more information, see "Job Submission Variables" on page 15-5.

- **System Variables** are automatically assigned values using system information available at the time of job submission (for example, **%%DATE** contains the current system date). For more information, see "CONTROL-M System Variables" on page 15-10.

- **User-defined Variables** can be defined in a number of different ways for inclusion in various job processing parameters. For more information, see "User-Defined Variables" on page 15-15.

- **Variable lists**. Special variable **%%LIBMEMSYM** can be used to point to a file containing a list of AutoEdit assignments statements to be applied to a job. This variable allows you to create one or more lists of AutoEdit assignment statements that can be applied to many job processing definitions. For more information, see "Variable Lists" on page 15-20.

Job Submission Variables

Job submission variables pass parameters to a job or set the job's working parameters.

Certain job submission variables are available only for certain platforms. Table 15-3 through Table 15-6 describe variables that are platform specific.

Note

All job submission variable names must be specified using uppercase letters.

Table 15-2 General Job Submission Variables

Name	Description	
%%PARM*n*	Job submission parameter, where *n* represents the parameter number. This variable can be used to pass parameters to all types of jobs. • On OpenVMS platforms **%%PARM*n*** is used to represent the P1 through P8 parameters. • For other platforms, *n* can be a number between 1 and 32. Note that for CONTROL-M version 2.1x on an iSeries (AS/400) platform, the value for variable **%%PARMn** must not include 'single quotes'. If quotes are necessary, use "double quotes" only.	
%%OVERLIB	string	Over Lib (name of an alternate library/directory in which job script is stored) of the job.

Table 15-3 OpenVMS Job Submission Parameters

Name	Description
%%QUEUE	Name of the batch queue to which the job is submitted. For VMS cluster configurations: Specify only those queues that are defined in the system's queue manager where CONTROL-M runs.

The variables described in Table 15-4 correspond to parameters of the iSeries (AS/400) Submit Job command. For more information about the valid values for these parameters, see your iSeries (AS/400) SBMJOB command documentation.

Table 15-4 iSeries (AS/400) Job Submission Parameters

Name	Description
%%ACGCDE	Accounting code for the job. Valid values are in the following format: **<accounting_code>** Or one of the following special values: ***USRPRF**, ***USER**, ***JOBD**, ***NOCHG**, or ***NONE** **Note:** This variable is relevant only for CONTROL-M/ Agent for iSeries (AS/400) version 2.25 or later.
%%CURLIB	Name of the current library associated with the job being run.
%%DATE	Date that is assigned to the job when it is started.
%%HOLD	Whether or not the job is held at the time that it is put on the job queue.
%%INQMSGRPY	Manner in which pre-defined messages issued as a result of running this job are answered.
%%JOBD	Job description. Valid formats for this variable value are: **<library>/<job_description>** -or- ***USRPRF**
%%JOBPTY	Job queue scheduling priority.
%%QUEUE	Name of the batch queue to which the job is submitted. Valid formats for this variable value are: **<library>/<job_queue>** -or- ***JOBD**
%%JOBQ	Same as %%QUEUE.
%%LDA	Local data areas (see "Expressions for %%LDA [iSeries (AS/400) only]" on page 15-29).
%%LIBL **or** **%%INLLIBL**	Library list. **Note:** The %%INLLIBL variable is relevant only for CONTROL-M/ Agent for iSeries (AS/400) version 2.25 or later.

Table 15-4 iSeries (AS/400) Job Submission Parameters

Name	Description
%%LOG	Message logging values used to determine the amount and type of information sent to the job log by the job.
%%LOGCLPGM	Whether or not the commands that are run in a control language program are logged to the job log via the CL program's message queue.
%%MSGQ	Name of the message queue to which a completion message is sent when the submitted job has completed execution. Valid values are in the following format: **<library>/<message_queue>** or one of the following special values: ***USRPRF**, ***WRKSTN**, or ***NONE** **Note:** CONTROL-M/Agent for iSeries (AS/400) version 2.25 or later uses a specific message queue as an event mechanism for job completion. If the message queue for a job is changed using the %%MSGQ variable, the event driven mechanism for this job will be disabled.
%%OUTPTY	Output priority for spooled output files produced by the job.
%%OUTQ	Qualified name of the output queue used for spooled files that specify OUTQ(*JOB). Valid values are in the following format: **<library>/<output_queue>** or one of the following special values: ***CURRENT**, ***USRPRF**, ***DEV**, or ***JOBD**
%%PRTDEV	Qualified name of the default printer device for this job.
%%PRTTXT	Up to 30 characters of text that is printed at the bottom of each page of printed output and on separator pages.
%%RTGDTA	Routing data used to start the first routing step in the job.
%%SWS	Job switches.
%%SYSLIBL	System portion of the initial library list that is used by the submitted job.

Table 15-4 iSeries (AS/400) Job Submission Parameters

Name	Description
%%HEX	Indicates that the value that immediately follows is a hexadecimal value. For example: **%%PARMn=%%HEX2AF4** This function ensures that the value will be transferred to iSeries (AS/400) in the appropriate format.
%%DEC	Indicates that the value that immediately follows is a packed decimal value. For example: **%%PARMn=%%DEC1289** This function ensures that the value will be transferred to iSeries (AS/400) in the appropriate format.

Table 15-5 UNISYS Job Submission Parameters

Name	Description
%%ACCOUNT	Account ID for the job run.
%%**ADDRUN**	Execution statement to be inserted before the execution of the user's job. Examples: **%%ADDRUN="@prt,i"** or **%%ADDRUN="@add myqual*myfile.myelt"** CONTROL-M/Agent inserts the specified command before the user job's runstream prior to job submission.
%%DEADLINE	Deadline assignment for the job.
%%INJOBPR	Flag that indicates if a job contains programs that print or direct standard output to the PR print queue.
%%NODEID	Node ID of the UNISYS computer to which the job is submitted. If specified, the value for **%%NODEID** overrides the contents of the job processing parameter Node ID. If this variable is assigned the value CTMLOCAL, the job is submitted on the CONTROL-M/Server platform. **Note**: Do not use this variable in a Group Scheduling table definition.
%%OPTION	Options to be appended to the **@START** command.
%%PROJECT	Project ID for the job run.
%%RUNTIME	Estimated run time for the job.

Table 15-6 Tandem Job Submission Parameters

Name	Description
%%TANDEM_ASSIGN_xxx	Enables the user to specify a TANDEM ASSIGN as an AutoEdit variable to be used in a CONTROL-M job environment. Where **xxx** is the name of the Tandem ASSIGN variable.
%%TANDEM_BYPASS_JOB	Enables the user to simulate running a dummy job.
%%TANDEM_CPU	Specifies a CPU on which a job should run.
%%TANDEM_DEFINE_xxx	Enables the user to specify a TANDEM DEFINE variable as an AutoEdit variable to be used in a CONTROL-M job environment. Where **xxx** is the name of the Tandem DEFINE variable.
%%TANDEM_INPUT_FILE	Name of a file containing a script to run in a detached job.
%%TANDEM_PARAM_xxx	Enables the user to specify a TANDEM PARAM variable as an AutoEdit variable to be used in a CONTROL-M job environment. Where **xxx** is the name of the Tandem PARAM variable.

CONTROL-M System Variables

Table 15-7 describes the available AutoEdit system variables. These reserved variables can be used to include system information in job processing parameter values.

Please note the following:

- Start of the week depends upon user preferences specifying whether 1 = Sunday or 1 = Monday. Descriptions in Table 15-7 that refer to day of the week presume that 1= Sun. Consult your CONTROL-M Administrator to determine which standard is used at your site.

- All System variable names must be specified using uppercase letters.

- Certain system variables can be referenced only after job completion (in postprocessing parameters). These variables are listed separately in Table 15-8, “Post-processing System Variables,” on page 15-14.

Table 15-7 CONTROL-M System Variables (Part 1 of 5)

Name	Format	Description
%%$DATE	yyyymmdd	Current system date (4-digit year).
%%$NEXT	yyyymmdd	Next scheduling date for the job (4-digit year).
%%$ODATE	yyyymmdd	Original scheduling date of the job (4-digit year).
%%$OYEAR	yyyy	Original scheduling year of the job (4-digit year).
%%$PREV	yyyymmdd	Previous scheduling date for the job (4-digit year).
%%$RDATE	yyyymmdd	Installation current working date (4-digit year).
%%$RYEAR	yyyy	Installation current working year (4-digit year).
%%$YEAR	yyyy	Current system year (4-digit year).

Table 15-7 CONTROL-M System Variables (Part 2 of 5)

Name	Format	Description
%%APPLGROUP	string	Name of the group to which the job belongs.
%%APPLIC	string	Name of the Application to which the job's group belongs. **Note:** For OS/390 jobs the **%%APPL** variable is used to reference the Application name.
%%BLANKn	n spaces	Resolves to n blanks, where n is a number between 1 - 214.
%%CENT	yy	First two digits in the current year (e.g., 20 in year 2001).
%%CYCLIC	Y|N	This variable is used in the command-line of the ctmorder utility to override the Cyclic parameter in cases where the user wishes to order a single run of a job that is defined as cyclic. • **Y** – job is cyclic • **N** – job should be run only once.
%%DATACENTER	string	Name of the data center for the current CONTROL-M installation. **Note:** This variable is available on certain CONTROL-M platforms as of CONTROL-M Version 2.20. However, prior to CONTROL-M/EM version 6.1.01, **%%DATACENTER** returned the host name for the current CONTROL-M/Server.
%%DATE	yymmdd	Current system date.
%%DAY	dd	Current system day.
%%GROUP_ORDID	nnnnnn	Order ID of the group to which the job belongs. **Note:** This variable is valid only for jobs in a Group Scheduling table and it is evaluated in base 10.

Table 15-7 CONTROL-M System Variables (Part 3 of 5)

Name	Format	Description
%%JOBNAME	string	Name of the submitted job. This variable can be used to override the value specified for the JOBNAME parameter (for example, in the ctmorder utility). ***Note:*** On a Microsoft Windows platform, JOBNAME must comply with Microsoft naming conventions (for example, it cannot contain **/** and **** characters).
%%JULDAY	nnn	Current system day of the year (Julian format).
%%MEMLIB	string	Mem Lib (name of the library or directory in which job script is stored) of the job.
%%MONTH	mm	Current system month.
%%NEXT	yymmdd	Next scheduling date for the job.
%%ODATE	yymmdd	Original scheduling date of the job
%%ODAY	dd	Original scheduling day of the job.
%%OJULDAY	nnn	Original scheduling day of the year (Julian format). For example, **36** for February 5th.
%%OMONTH	mm	Original scheduling month of the job.
%%ORDERID	nnnnnn	Unique job order ID under CONTROL-M.
%%OWDAY	d	Original scheduling day of the week of the job (1= Sun., 2= Mon., and 0=Sat.).
%%OWNER	string	Owner (user ID) associated with the job.
%%OYEAR	yy	Original scheduling year of the job.

Table 15-7 CONTROL-M System Variables (Part 4 of 5)

Name	Format	Description
%%POSTCMD	command	Specifies a command to run immediately after running the job defined by MEMNAME. The return code is ignored. **Note:** Not relevant for OS/390 jobs. Relevant only for CONTROL-M/Server version 6.0.01 or later, or (without sysout) for any job submitted by CONTROL-M/Agent for Microsoft Windows 2000 version 6.0.01 or later. This variable is not used with Group Scheduling tables.
%%PRECMD	command	Specifies a command to run immediately before running the job defined by MEMNAME. The return code is ignored. **Note:** Not relevant for OS/390 jobs. Relevant only for CONTROL-M/Server version 6.0.01 or later, or (without sysout) for any job submitted by CONTROL-M/Agent for Microsoft Windows 2000 version 6.0.01 or later. This variable is not used with Group Scheduling tables.
%%PREV	yymmdd	Previous scheduling date for the job.
%%RDATE	yymmdd	Installation current working date.
%%RDAY	dd	Installation current working day.
%%RJULDAY	nnn	Installation current working day of the year (Julian format). For example, **36** for February 5th.
%%RMONTH	mm	Installation current working month.
%%RUNCOUNT	nnnn	Number of times the job order has been submitted for execution (i.e., the first time the job is being submitted, this variable returns a value of 1).
%%RWDAY	n	Installation current working day of the week (1=Sun., 2=Mon., and 0=Sat.).

Table 15-7 CONTROL-M System Variables (Part 5 of 5)

Name	Format	Description
%%RYEAR	yy	Installation current working year.
%%SCHEDTAB	string	Name of the job's Scheduling table. **Note:** This variable is available on certain CONTROL-M platforms as of CONTROL-M Version 2.2x.
%%TIME	hhmmss	Time of day.
%%WDAY	n	Current system day of the week (1=Sun., 2=Mon., and 0=Sat.).
%%YEAR	yy	Current system year.

The following variables are not assigned values until after the job is submitted or completes execution. These variables can be used only for the **Shout**, **Do Shout**, **Do Mail**, and **Do AutoEdit** parameters.

Note

AutoEdit variables that return runtime statistics for a job must be resolved before the variables can return any values. AutoEdit variables for job statistics: %%AVG_CPU, %%AVG_TIME, %%SD_CPU, and %%SD_TIME.

Run the ctmjsa utility to compile data in the Statistical Details table before specifying the required AutoEdit statistics variable. See "Runtime Statistics" and **ctmjsa** in the *CONTROL-M/Server Administrator Guide*.

Table 15-8 Post-processing System Variables (Part 1 of 2)

Name	Format	Description
%%AVG_CPU	numeric	Average CPU time (in seconds) for previous runs of the current job. **Note**: Do not use this variable in a Group Scheduling table definition.
%%AVG_TIME	numeric	Average run time (in seconds) for previous runs of the current job or Group Scheduling table.
%%COMPSTAT	numeric	Completion code assigned to the job by the operating system of the platform that executes the job. Initial value: **0**.

Table 15-8 Post-processing System Variables (Part 2 of 2)

Name	Format	Description
%%JOBID	string	Identification assigned to the job by the operating system of the platform that executes the job. **Note**: Do not use this variable in a Group Scheduling table definition.
%%NODEID	string	Node ID of Agent platform that submitted the job. **Note:** This variable is available for certain platforms as of CONTROL-M version 2.2x.
%%SD_CPU	numeric	Standard deviation of the CPU time (in seconds) from the average CPU time for previous runs of the current job. **Note**: Do not use this variable in a Group Scheduling table definition.
%%SD_TIME	numeric	Standard deviation of the elapsed run time (in seconds) from the average elapsed run time for previous runs of the current job or Group Scheduling table.

User-Defined Variables

A user-defined variable is created when it is assigned a value using the **AutoEdit Assignment** parameter or the **Do AutoEdit** parameter. User variables can also be defined for all jobs in a Group Scheduling table using the Set panel of the Group Editing form. For more information about assigning a value to a variable, see "AutoEdit Expressions" on page 15-22.

User-defined variables can be used to:

- Store intermediate values in a series of AutoEdit parameters.
- Store values to be included in a command string in the **Command** parameter.
- Store information to be included in a **Shout** message.
- Store information to be included in an e-mail message created with a **Do Mail** parameter.

Note

Global variables can be used to pass information between jobs in a data center. For example, jobA can set global variable %%A to **Yes**, and jobB on another Agent in the same data center can reset %%A to **No** in response. Global variables can also be created and modified using the CTMVAR utility. For more information about this utility, see your CONTROL-M/Server Administrator Guide. For more information about global variables, see "Scope" on page 15-18.

Resolution of each user variable depends on the specified prefix, and the scope of the specified variable. Each of these concepts is described below.

Syntax

Valid names for User variables are any alphanumeric string (up to 38 characters in length) preceded by a prefix of **%%**. Blanks are not allowed in a user variable name.

The following characters cannot be included as part of the name of a User-defined AutoEdit variable: < > [ ] { } ( ) = ; ` ~ | : ? . + - * / & ^ # @ ! , " '.

Note

Application-specific job parameters may not be specified in AutoEdit variable values. The names of application-specific job parameters are prefixed by two percent signs, the application's abbreviation and a hyphen (%%SAPR3- for SAP, %%OAP- for Oracle, and so on).

Names and values for User variables are case Case Sensitive. For example, **%%TEST** and **%%Test** are regarded as two separate variables.

Note

Names of AutoEdit variables in CONTROL-M for OS/390 must always be in uppercase.

All AutoEdit variables are prefixed by **%%**. In addition to the **%%** prefix, certain characters can be added to determine special characteristics. These special prefixes are described in Table 15-9.

Table 15-9 Variable Prefixes

%%	Indicates that a variable is global for the data center (CONTROL-M/Server and all its connected agents). This prefix is used only when creating or modifying the variable. When the variable is referenced (for example, in a Do Shout message) it is referenced without the ****. For more information about global variables, see "Scope" on page 15-18.
%%#	Indicates that the variable should not be resolved. This prefix enables inclusion of a variable name as text in job output. The # symbol is stripped from the output, and the remaining AutoEdit variable name is included as text in the appropriate location. For example, a Do Shout message of **Job Daily returned a value for variable %%#PARM1** is output as: **Job Daily returned a value for variable %%PARM1**
%%@	Indicates that the variable should contain a value to be resolved by each job that uses it. For example: **%%\PARM1 = %%@TIME** Indicates that whenever a job uses Global variable %%PARM1, it should be resolved to the execution time of the job (i.e. the time at which the variable is referenced). If the above parameter is specified without the @ sign (**%%\PARM1 = %%TIME**), it always resolves to the execution time of the job *that set the variable* (i.e., the time at which the variable was created). **Note:** This prefix is relevant only for Global variables whose values contain AutoEdit variables.
%%%%	For Windows agents: When specifying AutoEdit variables in the **CMDLINE** or **COMMAND** parameters on CONTROL-M/Agent for Windows, the AutoEdit prefix must be specified as **%%%%** instead of **%%**.

More Examples:

%%A=%%ODATE	The **%%A** variable is resolved to the original scheduling date of the job. **%%A** is local to the job.
%%\A=%%ODATE	Global variable **%%\A** is assigned to the original scheduling date of the job. **%%A** can be referenced by CONTROL-M/Server or any agent in the data center. All references to variable **%%A** resolve to the %%ODATE value for the job in which **%%A** was set.
%%\A=%%@ODATE	Global variable **%%\A** is resolved to the original scheduling date of the job. If **%%A** is referenced by CONTROL-M/Server or a job in any agent in the data center, it resolves to the current value of variable **%%ODATE**. **Note**: @ indicates that **%%\A** should contain a value to be resolved by each job that uses it (in this case, **ODATE**).
%%#A	**%%#A** is not resolved. The text string **%%A** is returned.

Scope

The scope of a variable is the extent to which it is available to other jobs. As mentioned above, each variable can be:

- Local for a specific job
- Common to all jobs in a Group Scheduling table
- Global for an entire data center (a CONTROL-M/Server and all its agents)
- System AutoEdits which are predefined and available for any job in the data center

Multiple variables (each with a different scope) can have the same name. If more than one variable with the same name has been defined, the variable with the narrowest scope is used.

Note

The exception to this rule occurs when the AutoEdit variable is distributed from the CONTROL-M/Server to the CONTROL-M/Agent. The variable from the narrowest scope may not be the one that is used by the CONTROL-M/Agent.

Depending on the value of the AUTOEDIT_INC_SEC variable of the CONTROL-M/Server, duplicate variables from different scopes can be distributed to the Agents. For more information, see your CONTROL-M/Server Administrator Guide.

Determining which Variable to AutoEdit Use

CONTROL-M uses the following logic to determine which value to use when a variable is specified in a job processing definition.

1. CONTROL-M checks if a local variable (for the job) has been defined with the specified name. If a local variable exists, the value specified for that variable is used.

2. If no local variable exists with the specified name, and the job is in a Group Scheduling table, CONTROL-M checks for a variable with the specified name in the Group definition. If the variable is defined in the Group definition, that value is used.

3. If the job is not in a Group Scheduling table, or the variable is not defined in the Group definition, CONTROL-M searches for a Global variable with the specified name.

4. If no definition is found for a specified variable, the variable is resolved to the reserved word **CTMERR**.

Variable Lists

AutoEdit variable **%%LIBMEMSYM** can be used in the **AutoEdit Assignment** or **Do AutoEdit** parameters to indicate a text file containing a list of AutoEdit assignments. This variable enables you to create a central file containing AutoEdit assignment statements that can be read by many job processing definitions.

Note

Multiple LIBMEMSYM statements can be included in a single job processing definition. In this way you can maintain groups of local or global variables that are relevant to certain jobs, and allow more than one such group to be applied to a job. However, if a variable is defined in more than one list, the last list defined will override previous lists.

The format for the **%%LIBMEMSYM** variable is:

```
%%LIBMEMSYM=<path_name>
```

<path_name> is the full (case sensitive) path name of a text file containing AutoEdit assignment statements. This file must be accessible to CONTROL-M. The file must contain a single assignment on each line.

- For parameter **AutoEdit Assignment**, the specified file is accessed at the time the job is submitted for execution by CONTROL-M.
- If a **%%LIBMEMSYM** statement is specified using the **Do AutoEdit** parameter, local variables defined in the specified file will be relevant only during a rerun of the job if and when the **On Statement/Code** conditions are satisfied.

Note

For OS/390 jobs, a variable list can be specified using the %%LIBSYM and %%MEMSYM variables. If a %%LIBMEMSYM variable is specified for an OS/390 job, it will be treated as a user-defined variable, and will not reference a variable list.

Example

If a job processing definition contains the following specifications for the AutoEdit Assignment parameter:

```
%%a=5
%%LIBMEMSYM=/controlm/ctm/autoedit.common1
%%PARM1=%%c
```

And The file **/controlm/ctm/autoedit.common1** contains the following entries:

```
%%b=%%CALCDATE  %%DATE  -%%a
%%yy=%%SUBSTR  %%b  1  2
%%mm=%%SUBSTR  %%b  3  2
%%dd=%%SUBSTR  %%b  5  2
%%c=%%dd/%%mm/%%yy
```

When the job is submitted for execution by CONTROL-M, AutoEdit variables will be resolved as if the **AutoEdit Assignment** parameter contained the following entries:

```
%%a=5
%%b=%%CALCDATE  %%DATE  -%%a
%%yy=%%SUBSTR  %%b  1  2
%%mm=%%SUBSTR  %%b  3  2
%%dd=%%SUBSTR  %%b  5  2
%%c=%%dd/%%mm/%%yy
%%PARM1=%%c
```

AutoEdit Expressions

An AutoEdit expression consists of any of the following:

- An elementary expression. See “Elementary Expressions” on page 15-23.
- A numeric expression consisting of AutoEdit variables and/or numeric constants using AutoEdit operators.
- A string expression formed by concatenating AutoEdit variables and/or alphanumeric strings.
- An AutoEdit function. See “AutoEdit Functions” on page 15-27.

Note

AutoEdit variables can also be used to represent part of the name of an existing AutoEdit variable in an expression. When this method is used the name of the variable is resolved and then the contents of that variable are used for further resolution of the expression. (For more information, see the examples later in this chapter.)

A **Shout** message can include an AutoEdit expression as part of its text; however, it cannot assign a value to an AutoEdit variable.

The following syntax rules apply to AutoEdit expressions:

- Only one expression can be placed on a line.
- No spaces are allowed before the “=”.
- Spaces that immediately follow the “=” are ignored.
- The total length of a line cannot exceed 214 characters.
- Maximum length of a value in an AutoEdit variable is 214 characters.
- Variable names and values are case sensitive.
- Strings of alphanumeric characters do not require quotation marks. If quotation marks are used, they are considered part of the string.

Elementary Expressions

- An elementary expression has the following format:

  ```
  <variable>=<value>
  ```

  Where:

  <variable> is any user variable or job submission variable.

  <value> is any numeric or alphanumeric string up to 214 characters in length.

- The following expression assigns a value of **100** to the **%%Result** variable:

  ```
  %%Result=100
  ```

- The following expression assigns the string **Job "PRDKCZ" finished OK** to the **%%Completion** variable:

  ```
  %%Completion=Job "PRDKCZ" finished OK
  ```

Numeric Expressions

A numeric expression has the following format:

```
<result>=<operand> <operator>  <operand>
```

The components of this expression are described in the following table:

<result>	Any user variable or job submission variable.
<operand>	Any AutoEdit variable, *or* a numeric constant.
<operator>	One of the following AutoEdit operators: **%%PLUS** represents the "+" operator **%%MINUS** represents the "-" operator

Syntax Rules

The following syntax rules apply to a numeric expression:

- Only one operator can be used in each expression.
- There should be no spaces immediately before or after the "=".
- There must be spaces before and after the operator.

Note

When specifying AutoEdit functions that return dates, such as %%$CALCDATE or %%$DATE, there should be no spaces between the + (plus) or - (minus) sign and the number of days to add or subtract. In this case, the + and - signs are not considered numeric expression operators and are not related to the rules specified here. For more information, see "%%CALCDATE and %%$CALCDATE" on page 15-27.

Examples

In the following example, %%YESTERDAY resolves to 0 on July 1:

```
%%YESTERDAY=%%DAY  %%MINUS  1
```

In the following example, %%PARM1 resolves to 46 on February 5th:

```
%%X=%%RJULDAY  %%MINUS  %%DAY
%%PARM1=%%X  %%PLUS  15
```

String Expressions

A string expression has the following basic format:

```
<variable>=<value>[.]<value>...
```

The components of this expression are described in the following table:

<variable>	Any user variable or job submission variable.
<value>	Any AutoEdit variable, or alphanumeric string.
. (period)	If specified, indicates that the values before and after the period should be concatenated.

Syntax Rules

The following syntax rules apply to a string expression:

- Any spaces in the expression (including immediately following the "=") are regarded as part of the string and are included in the result.
- A period is used to concatenate two variables. No concatenation character is required to link two strings.
- To include a period as part of the string between two concatenated variables, use two consecutive periods (see example below).
- Any number of variables or strings can be concatenated in an expression.
- If one variable follows another with no period in between, the two variables are combined to form the name of a third variable (see example below). Concatenation progresses from right to left until the entire expression is resolved.

Examples

%%X resolves to **0312**:

```
%%X=%%DAY.%%MONTH
```

%%Y resolves to **03.12**:

```
%%Y=%%DAY..%%MONTH
```

%%Z resolves to "**Today is 03/12/99**":

```
%%Z=  Today  is  %%DAY/%%MONTH/%%YEAR
```

The following sequence passes a value to **%%PARM1** based on the day of the month. This example illustrates building the name of a variable in the expression:

```
%%BackupTape_01=301
%%BackupTape_02=302
%%BackupTape_03=303
%%PARM1=%%BackupTape_%%DAY
```

The expression **%%BackupTape_%%DAY** is resolved in two steps (from right to left):

1. Given that the system date is Dec. 3, %%DAY resolves to **03.** The resulting expression is:

   ```
   %%PARM1=%%BackupTape_03
   ```

2. Next, CONTROL-M resolves the variable **%%BackupTape_03**. Since the value of this variable is **303**, the resulting expression is:

   ```
   %%PARM1=303
   ```

AutoEdit Functions

An AutoEdit function performs an action or process on the specified user variable or job submission variable. AutoEdit functions are used instead of another expression. The following functions are available:

Table 15-10 AutoEdit Functions

Function	Description
%%CALCDATE	Adds or subtracts a specified number of days from a specified date.
%%$CALCDATE	Same as %%CALCDATE but handles 4-digit years.
%%SUBSTR	Extracts a substring from a specified string.

%%CALCDATE and %%$CALCDATE

%%CALCDATE is a numeric function that adds or subtracts a quantity of days from a given date. This function has the following format:

```
<result>=%%CALCDATE  <date>  +/-<quantity>
```

The components of this expression are described in the following table:

<result>	Any user variable or job submission variable.
<date>	Date or variable in **yymmdd** (**yyyymmdd** for **%%$CALCDATE**) format. This value must be preceded and followed by a space.
<quantity>	Number (or variable that resolves to a number) of days to add or subtract from the date.

Example 1

On July 2, 1999, %%A resolves to 990630 in any of the following expressions:

```
%%A=%%CALCDATE  %%DATE  -2
%%A=%%CALCDATE  990702  -%%DAY
%%A=%%CALCDATE  990628  +2
```

Example 2

On July 2, 1999, %%A resolves to 19990630 in any of the following expressions:

```
%%A=%%$CALCDATE  %%$DATE  -2
%%A=%%$CALCDATE  19990702  -%%DAY
%%A=%%$CALCDATE  19990628  +2
```

%%SUBSTR

%%SUBSTR is a string function that is used to extract a sub-string from within a larger string. This function has the following format:

```
<result>=%%SUBSTR <variable> <startpos> <length>
```

The components of this expression are described in the following table:

<result>	Any user variable or job submission variable.
<variable>	Any AutoEdit variable.
<startpos>	Numeric literal or variable that indicates the first position in the original string from which to extract the substring. The first character is position 1.
<length>	A number or variable, indicating the length of the substring to extract.

Note

The values specified for both <startpos> and <length> must be (or resolve to) a number greater than zero.

Example

In the following series of expressions, **%%Number** resolves to **TWO**:

```
%%Nstring=ONETWOTHREE
%%Start=4
%%Number=%%SUBSTR  %%Nstring  %%Start  3
```

Expressions for %%LDA [iSeries (AS/400) only]

%%LDA is a special variable that can be used to specify Local Data Areas for iSeries (AS/400) jobs.

The following format can be used when specifying an expression to assign a value to job submission variable %%LDA for a job:

```
%%LDA[_<startpos>[_<length>][_<dec>]]=<AutoEdit_exp>
```

The components of this expression are described in the following table:

<startpos>	A number indicating the starting position in the LDA at which to place the results of the specified expression.
<length>	A number, indicating how many positions in LDA to reserve for the results of the expression.
<dec>	A number indicating how many decimal places to include in the packed decimal value passed to the LDA.
AutoEdit_exp	The AutoEdit expression whose resolved value should be placed in the indicated location in the LDA.

Examples

Assuming that the system date is December 15, the following expression:

```
%%LDA_2_3=%%DAY
```

is submitted to iSeries (AS/400) as:

```
CHGDTAARA  *LDA(2 3)  VALUE(15)
```

The following expression will insert the packed value of 00123.40 into the LDA starting in position 11 for a decimal length of 7 (Actual Packed length of 4):

```
%%LDA_11_7_2=123.4
```

Index

Symbols

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

Y

END USER LICENSE AGREEMENT
NOTICE

BY OPENING THE PACKAGE, INSTALLING, PRESSING "AGREE" OR "YES" OR USING THE PRODUCT, THE ENTITY OR INDIVIDUAL ENTERING INTO THIS AGREEMENT AGREES TO BE BOUND BY THE FOLLOWING TERMS. IF YOU DO NOT AGREE WITH ANY OF THESE TERMS, DO NOT INSTALL OR USE THE PRODUCT, PROMPTLY RETURN THE PRODUCT TO BMC OR YOUR BMC RESELLER, AND IF YOU ACQUIRED THE LICENSE WITHIN 30 DAYS OF THE DATE OF YOUR ORDER CONTACT BMC OR YOUR BMC RESELLER FOR A REFUND OF LICENSE FEES PAID. IF YOU REJECT THIS AGREEMENT, YOU WILL NOT ACQUIRE ANY LICENSE TO USE THE PRODUCT.

This Agreement ("**Agreement**") is between the entity or individual entering into this Agreement ("You") and BMC Software Distribution, Inc., a Delaware corporation located at 2101 CityWest Blvd., Houston, Texas, 77042, USA or its affiliated local licensing entity ("BMC"). "You" includes you and your Affiliates. "Affiliate" is defined as an entity which controls, is controlled by or shares common control with a party. THIS AGREEMENT WILL APPLY TO THE PRODUCT, UNLESS (1) YOU AGREED TO A WEB BASED LICENSE AGREEMENT WITH BMC WHEN ORDERING THE PRODUCT, IN WHICH CASE THAT WEB BASED LICENSE AGREEMENT GOVERNS THE USE OF THE PRODUCT, OR (2) IF YOU DID NOT AGREE TO A WEB BASED LICENSE AGREEMENT WITH BMC WHEN ORDERING THE PRODUCT AND YOU HAVE A WRITTEN LICENSE AGREEMENT WITH BMC, THEN THAT WRITTEN AGREEMENT GOVERNS THE USE OF THE PRODUCT. THE ELECTRONIC AGREEMENT PROVIDED WITH THE PRODUCT AS PART OF THE INSTALLATION OF THE PRODUCT WILL NOT APPLY. In addition to the restrictions imposed under this Agreement, any other usage restrictions contained in the Product installation instructions or release notes shall apply to Your use of the Product.

PRODUCT AND CAPACITY. "**Software**" means the object code version of the computer programs provided, via delivery or electronic transmission, to You. Software includes computer files, enhancements, maintenance modifications, upgrades, updates, bug fixes, and error corrections.

"**Documentation**" means all written or graphical material provided by BMC in any medium, including any technical specifications, relating to the functionality or operation of the Software.

"**Product**" means the Software and Documentation.

"**License Capacity**" means the licensed capacity for the Software with the pricing and other license defining terms, including capacity restrictions, such as tier limit, total allowed users, gigabyte limit, quantity of Software, and/or other capacity limitations regarding the Software. For licenses based on the power of a computer, You agree to use BMC's current computer classification scheme, which is available at http://www.bmc.com or can be provided to You upon request.

ACCEPTANCE. The Product is deemed accepted by You, on the date that You received the Product from BMC.

LICENSE. Subject to the terms of this Agreement, as well as Your payment of applicable fees, BMC grants You a non-exclusive, non-transferable, perpetual (unless a term license is provided on an order) license for each copy of the Software, up to the License Capacity, to do the following:

(a) install the Software on Your owned or leased hardware located at a facility owned or controlled by You in the country where You acquired the license;

(b) operate the Software solely for processing Your own data in Your business operations; and

(c) make one copy of the Software for backup and archival purposes only (collectively a "**License**").

If the Software is designed by BMC to permit you to modify such Software, then you agree to only use such modifications or new software programs for Your internal purposes or otherwise consistent with the License. BMC grants You a license to use the Documentation solely for Your internal use in Your operations.

LICENSE UPGRADES. You may expand the scope of the License Capacity only pursuant to a separate agreement with BMC for such expanded usage and Your payment of applicable fees. There is no additional warranty period or free support period for license upgrades.

RESTRICTIONS: You agree to **NOT**:
(a) disassemble, reverse engineer, decompile or otherwise attempt to derive any Software from executable code;

(b) distribute or provide the Software to any third party (including without limitation, use in a service bureau, outsourcing environment, or processing the data of third parties, or for rental, lease, or sublicense); or

(c) provide a third party with the results of any functional evaluation or benchmarking or performance tests, without BMC's prior written approval, unless prohibited by local law.

TRIAL LICENSE. If, as part of the ordering process, the Product is provided on a trial basis, then these terms apply: (i) this license consists solely of a non-exclusive, non-transferable evaluation license to operate the Software for the period of time specified from BMC or, if not specified, a 30 day time period ("**Trial Period**") only for evaluating whether You desire to acquire a capacity-based license to the Product for a fee; and (ii) Your use of the Product is on an AS IS basis without any warranty, and **BMC, ITS AFFILIATES AND RESELLERS, AND LICENSORS DISCLAIM ANY AND ALL WARRANTIES (INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT) AND HAVE NO LIABILITY WHATSOEVER RESULTING FROM THE USE OF THIS PRODUCT UNDER THIS TRIAL LICENSE ("Trial License")**. BMC may terminate for its convenience a Trial License upon notice to You. When the Trial Period ends, Your right to use this Product automatically expires. If You want to continue Your use of the Product beyond the Trial Period, contact BMC to acquire a capacity-based license to the Product for a fee.

TERMINATION. This Agreement shall immediately terminate if You breach any of its terms. Upon termination, for any reason, You must uninstall the Software, and either certify the destruction of the Product or return it to BMC.

OWNERSHIP OF THE PRODUCT. BMC or its Affiliates or licensors retain all right, title and interest to and in the BMC Product and all intellectual property, informational, industrial property and proprietary rights therein. BMC neither grants nor otherwise transfers any rights of ownership in the BMC Product to You. BMC Products are protected by applicable copyright, trade secret, and industrial and intellectual property laws. BMC reserves any rights not expressly granted to You herein.

CONFIDENTIAL AND PROPRIETARY INFORMATION. The BMC Products are and contain valuable confidential information of BMC ("**Confidential Information**"). Confidential Information means non-public technical and non-technical information relating to the BMC Products and Support, including, without limitation, trade secret and proprietary information, and the structure and organization of the Software. You may not disclose the Confidential Information to third parties. You agree to use all reasonable efforts to prevent the unauthorized use, copying, publication or dissemination of the Product.

WARRANTY. Except for a Trial License, BMC warrants that the Software will perform in substantial accordance with the Documentation for a period of one year from the date of the order. This warranty shall not apply to any problems caused by software or hardware not supplied by BMC or to any misuse of the Software.

EXCLUSIVE REMEDY. BMC's entire liability, and Your exclusive remedy, for any defect in the Software during the warranty period or breach of the warranty above shall be limited to the following: BMC shall use reasonable efforts to remedy defects covered by the warranty or replace the defective Software within a reasonable period of time, or if BMC cannot remedy or replace such defective copy of the Software, then BMC shall refund the amount paid by You for the License for that Software. BMC's obligations in this section are conditioned upon Your providing BMC prompt access to the affected Software and full cooperation in resolving the claim.

DISCLAIMER. EXCEPT FOR THE EXPRESS WARRANTIES ABOVE, THE PRODUCT IS PROVIDED "AS IS." BMC, ITS AFFILIATES AND LICENSORS SPECIFICALLY DISCLAIM ALL OTHER WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. BMC DOES NOT WARRANT THAT THE OPERATION OF THE SOFTWARE WILL BE UNINTERRUPTED OR ERROR FREE, OR THAT ALL DEFECTS CAN BE CORRECTED.

DISCLAIMER OF DAMAGES. IN NO EVENT IS BMC, ITS AFFILIATES OR LICENSORS LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES RELATING TO OR ARISING OUT OF THIS AGREEMENT, SUPPORT, AND/OR THE PRODUCT (INCLUDING, WITHOUT LIMITATION, LOST PROFITS, LOST COMPUTER USAGE TIME, AND DAMAGE OR LOSS OF USE OF DATA), EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND IRRESPECTIVE OF ANY NEGLIGENCE OF BMC OR WHETHER SUCH DAMAGES RESULT FROM A CLAIM ARISING UNDER TORT OR CONTRACT LAW.

LIMITS ON LIABILITY. BMC'S AGGREGATE LIABILITY FOR DAMAGES IS LIMITED TO THE AMOUNT PAID BY YOU FOR THE LICENSE TO THE PRODUCT.

SUPPORT. If Your order includes support for the Software, then BMC agrees to provide support (24 hours a day/7 days a week) ("**Support**"). You will be automatically re-enrolled in Support on an annual basis unless BMC receives notice of termination from You as provided below. There is a free support period during the one year warranty period.

(a) **Support Terms**. BMC agrees to make commercially reasonable efforts to provide the following Support: (i) For malfunctions of supported versions of the Software, BMC provides bug fixes, patches or workarounds in order to cause that copy of the Software to operate in substantial conformity with its then-current operating specifications; and (ii) BMC provides new releases or versions, so long as such new releases or versions are furnished by BMC to all other enrolled Support customers without additional charge. BMC may refuse to provide Support for any versions or releases of the Software other than the most recent version or release of such Software made available by BMC. Either party may terminate Your enrollment in Support upon providing notice to the other at least 30 days prior to the next applicable Support anniversary date. If You re-enroll in Support, BMC may charge You a reinstatement fee of 1.5 times what You would have paid if You were enrolled in Support during that time period.

(b) **Fees**. The annual fee for Support is 20% of the Software's list price less the applicable discount or a flat capacity based annual fee. BMC may change its prices for the Software and/or Support upon at least 30 days notice prior to Your support anniversary date.

VERIFICATION. If requested by BMC, You agree to deliver to BMC periodic written reports, whether generated manually or electronically, detailing Your use of the Software in accordance with this Agreement, including, without limitation, the License Capacity. BMC may, at its expense, audit Your use of the Software to confirm Your compliance with the Agreement. If an audit reveals that You have underpaid fees, You agree to pay such underpaid fees. If the underpaid fees exceed 5% of the fees paid, then You agree to also pay BMC's reasonable costs of conducting the audit.

EXPORT CONTROLS. You agree not to import, export, re-export, or transfer, directly or indirectly, any part of the Product or any underlying information or technology except in full compliance with all United States, foreign and other applicable laws and regulations.

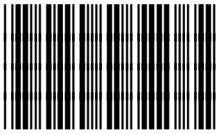
GOVERNING LAW. This Agreement is governed by the substantive laws in force, without regard to conflict of laws principles: (a) in the State of New York, if you acquired the License in the United States, Puerto Rico, or any country in Central or South America; (b) in the Province of Ontario, if you acquired the License in Canada (subsections (a) and (b) collectively referred to as the "**Americas Region**"); (c) in Singapore, if you acquired the License in Japan, South Korea, Peoples Republic of China, Special Administrative Region of Hong Kong, Republic of China, Philippines, Indonesia, Malaysia, Singapore, India, Australia, New Zealand, or Thailand (collectively, "**Asia Pacific Region**"); or (d) in the Netherlands, if you acquired the License in any other country not described above. The United Nations Convention on Contracts for the International Sale of Goods is specifically disclaimed in its entirety.

ARBITRATION. ANY DISPUTE BETWEEN YOU AND BMC ARISING OUT OF THIS AGREEMENT OR THE BREACH OR ALLEGED BREACH, SHALL BE DETERMINED BY BINDING ARBITRATION CONDUCTED IN ENGLISH. IF THE DISPUTE IS INITIATED IN THE AMERICAS REGION, THE ARBITRATION SHALL BE HELD IN NEW YORK, U.S.A., UNDER THE CURRENT COMMERCIAL OR INTERNATIONAL, AS APPLICABLE, RULES OF THE AMERICAN ARBITRATION ASSOCIATION. IF THE DISPUTE IS INITIATED IN A COUNTRY IN THE ASIA PACIFIC REGION, THE ARBITRATION SHALL BE HELD IN SINGAPORE, SINGAPORE UNDER THE CURRENT UNCITRAL ARBITRATION RULES. IF THE DISPUTE IS INITIATED IN A COUNTRY OUTSIDE OF THE AMERICAS REGION OR ASIA PACIFIC REGION, THE ARBITRATION SHALL BE HELD IN AMSTERDAM, NETHERLANDS UNDER THE CURRENT UNCITRAL ARBITRATION RULES. THE COSTS OF THE ARBITRATION SHALL BE BORNE EQUALLY PENDING THE ARBITRATOR'S AWARD. THE AWARD RENDERED SHALL BE FINAL AND BINDING UPON THE PARTIES AND SHALL NOT BE SUBJECT TO APPEAL TO ANY COURT, AND MAY BE ENFORCED IN ANY COURT OF COMPETENT JURISDICTION. NOTHING IN THIS AGREEMENT SHALL BE DEEMED AS PREVENTING EITHER PARTY FROM SEEKING INJUNCTIVE RELIEF FROM ANY COURT HAVING JURISDICTION OVER THE PARTIES AND THE SUBJECT MATTER OF THE DISPUTE AS NECESSARY TO PROTECT EITHER PARTY'S CONFIDENTIAL INFORMATION, OWNERSHIP, OR ANY OTHER PROPRIETARY RIGHTS. ALL ARBITRATION PROCEEDINGS SHALL BE CONDUCTED IN CONFIDENCE, AND THE PARTY PREVAILING IN ARBITRATION SHALL BE ENTITLED TO RECOVER ITS REASONABLE ATTORNEYS' FEES AND NECESSARY COSTS INCURRED RELATED THERETO FROM THE OTHER PARTY.

U.S. GOVERNMENT RESTRICTED RIGHTS. The Software under this Agreement is "commercial computer software" as that term is described in 48 C.F.R. 252.227-7014(a)(1). If acquired by or on behalf of a civilian agency, the U.S. Government acquires this commercial computer software and/or commercial computer software documentation subject to the terms of this Agreement as specified in 48 C.F.R. 12.212 (Computer Software) and 12.211 (Technical Data) of the Federal Acquisition Regulations ("**FAR**") and its successors. If acquired by or on behalf of any agency within the Department of Defense ("**DOD**"), the U.S. Government acquires this commercial computer software and/or commercial computer software documentation subject to the terms of this Agreement as specified in 48 C.F.R. 227.7202 of the DOD FAR Supplement and its successors.

MISCELLANEOUS TERMS. You agree to pay BMC all amounts owed no later than 30 days from the date of the applicable invoice, unless otherwise provided on the order for the License to the Products. You will pay, or reimburse BMC, for taxes of any kind, including sales, use, duty, tariffs, customs, withholding, property, value-added (VAT), and other similar federal, state or local taxes (other than taxes based on BMC's net income) imposed in connection with the Product and/or the Support. This Agreement constitutes the entire agreement between You and BMC and supersedes any prior or contemporaneous negotiations or agreements, whether oral, written or displayed electronically, concerning the Product and related subject matter. No modification or waiver of any provision hereof will be effective unless made in a writing signed by both BMC and You. You may not assign or transfer this Agreement or a License to a third party without BMC's prior written consent. Should any provision of this Agreement be invalid or unenforceable, the remainder of the provisions will remain in effect. The parties have agreed that this Agreement and the documents related thereto be drawn up in the English language. Les parties exigent que la présente convention ainsi que les documents qui s'y rattachent soient rédigés en anglais.

Notes



45073