



Production Management System

Operator Interface User Guide

Center for Information Services
Supporting Washington State's Community and Technical Colleges

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1 Introduction and Overview

The Operator Interface User Guide is a reference manual for HP 3000 computer operators at the Washington community and technical colleges. Depending on the policies at individual colleges or districts, other staff (such as systems analysts and application programmers) may be authorized to use the information described in this guide.

The job scheduling function of the Production Management System maintains and controls batch processing functions. The job scheduling function is used to establish parameter defaults for various jobs or job groups, define job groups, prioritize daily job schedules, and to schedule jobs and job groups. For more information about job scheduling, see the Job Scheduling User Guide.

The operator interface function provides operators with an easy method to interact with the job scheduling function in order to monitor and control daily job processing. It allows operators (and other authorized staff) to:

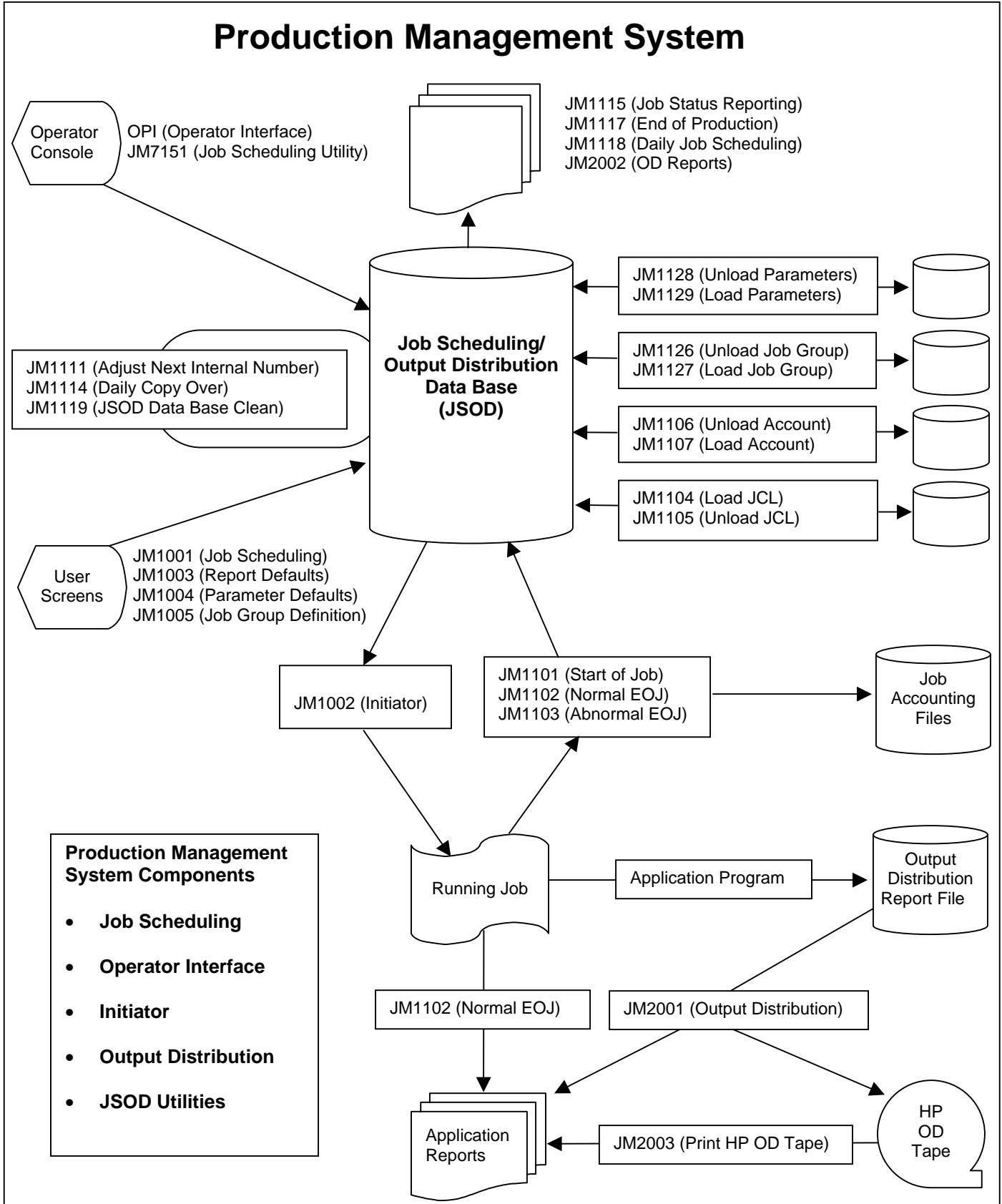
- Alter the schedule for rerunning jobs.
- Change job statuses.
- Modify job scheduling parameters.
- Use additional functions to make changes to the jobs currently in the job scheduling database (JSOD).

The job initiator function of the Production Management System is responsible for automatically launching and monitoring jobs located in the job scheduling database (JSOD). The job initiator runs multiple jobs concurrently while maintaining the integrity of job groups, job priorities, and job sequencing. The operator interface allows operators to have online control of the job initiator and to set the mode of operation in which it operates.

The output distribution function provides a range of flexible options for printing reports and special forms. The printing options are selected and maintained through job scheduling. The operator interface function allows operators to start and stop the output distribution process.

The Production Management System provides various job scheduling and output distribution (JSOD) utilities that interface with the job scheduling, job initiator, and output distribution processes. Some of these utilities enable an operator, applications programmer, or system manager to load and unload parameters, accounts, job groups, and job control language for each job. Production Management also includes utilities to process various reports and initiate special jobs that assist operations personnel in running the jobs effectively.

Figure 1: Production Management System



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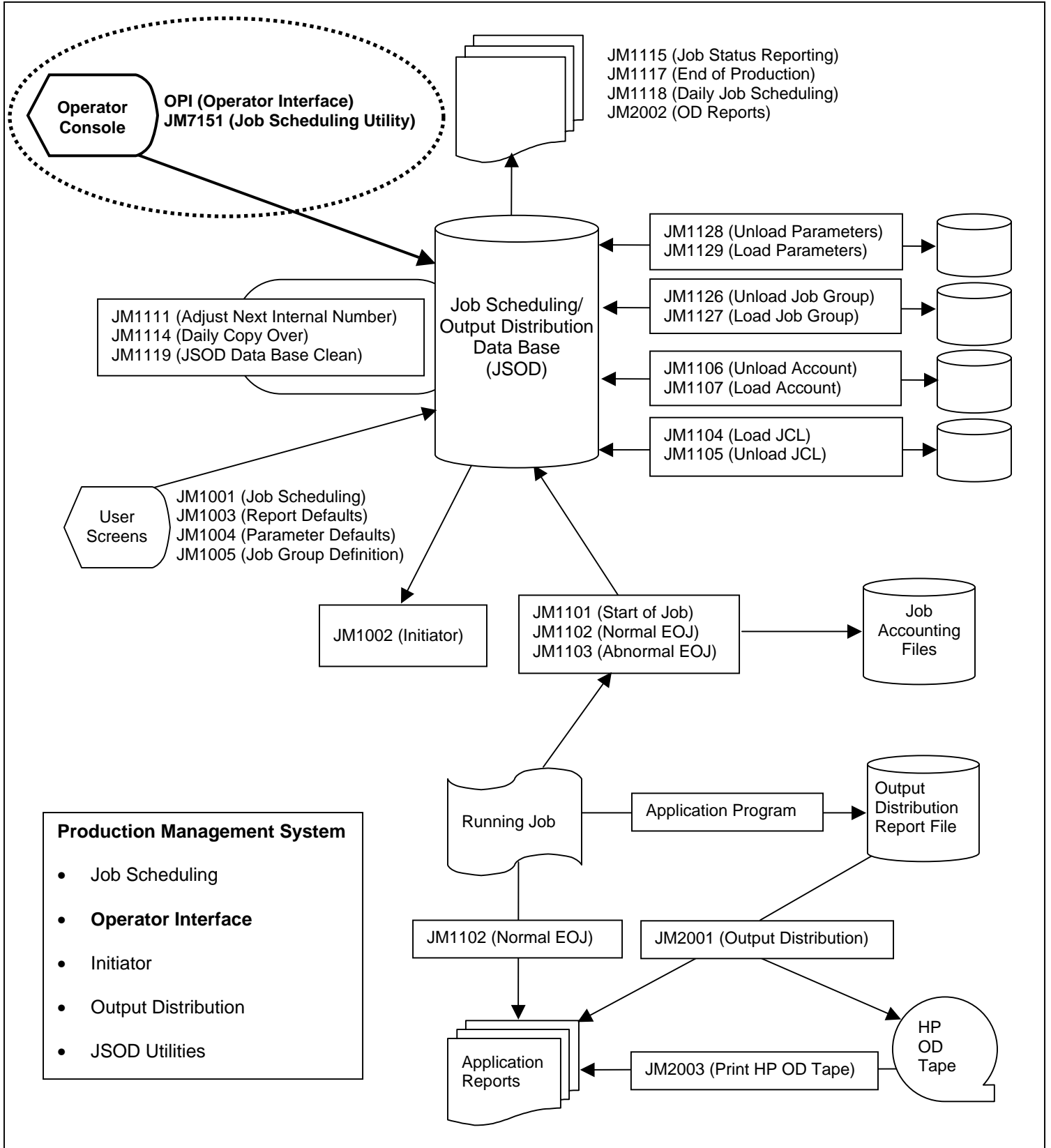
2 OPI Command and Parameters

The Operator Interface (OPI) command allows computer operators (and other authorized technical and programming staff) to start and control the automatic job initiator, transporter, and output distribution processes. You use OPI to perform either a single function or multiple functions, depending on whether you use OPI with or without a function parameter.

This chapter describes OPI process commands that control the mode of operation, usually based on time of day, of the HP 3000. It also covers some of the function parameters that can be used with the OPI command; for instance, the command OPI BACKUP runs the backup process

The relationship of Operator Interface (OPI) to other components of the Production Management System is illustrated in Figure 2 on the following page.

Figure 2: Relationship of Operator Interface to Production Management System



Accessing OPI

To log on and access OPI, on the operator's console at the MPE colon (:) prompt, type the following command:

```
:HELLO OPERATOR.SYS  
:OPI
```

This allows you to begin one of the four different modes of operation:

- Online access
- Batch/online access
- Production access
- Halt production

When one of the four modes of operation is selected, a series of prompts is displayed to which you must respond. In each operation mode, there are certain functions that are executed automatically, such as starting the job initiator program and setting job and session limits to predetermined values. You use the OPI access command primarily to control the different times of operation:

Online access	Morning or daytime access. This mode is usually used during normal business hours; it is dedicated to online access only.
Batch/online access	Afternoon or evening access. This mode usually begins after the close of business; it allows a combination of batch and online access.
Production access	Evening access. This mode does not allow online access; it is dedicated to batch processing only.
Halt production access	Stops production when all scheduled jobs have completed.

Starting and Stopping OPI

The Operator Interface (OPI) command initiates the process used to begin online, batch/online, or production modes of operation, or to halt production at the central site or one or more remote sites. The OPI process accomplishes these functions by displaying a series of prompts to which you must respond. These prompts and the resulting procedures that are performed are tailored for each processor. The four main choices for OPI are:

Do you want to begin online mode of operation?

Do you want to begin batch/online mode of operation?

Do you want to begin production mode of operation?

Do you want to stop production?

Other options available to an operator through OPI are:

- Copying daily jobs from the previous day's schedule.
- Starting the transporter.
- Producing the daily job schedule for the current date.
- Initiating the system backup process.

Begin online mode of operation

When you type the OPI command, the following prompt is displayed:

Do you want to begin online mode of operation?

If you type **Y** (yes), the following occurs:

- The job initiator program is started (if it is not already running).
- The output distribution program is started (if it is not already running).
- The job and session limits are set to predetermined values.

Next you are prompted:

Do you want to copy (reset) the daily jobs for job scheduling?

If you type **Y** (yes), the jobs from the previous day's schedule are copied to the current day's schedule by starting job JM1114J (Daily Copy Over). The run date for the job is also changed to reflect the current date.

At the prompt:

Do you want to bring up the transporter system?

If you type **Y** (yes), the transporter program is started.

The process then displays a list of jobs that are currently running.

Begin batch/online mode of operation

At the “Do you want to begin online mode of operation?” prompt, if you type **N** (no), the following prompt is displayed:

Do you want to begin batch/online mode of operation?

If you type **Y** (yes), the following occurs:

- The job initiator program is started (if it is not already running).
- The job and session limits are set to predetermined values.

Next you are prompted:

Do you want to run the daily job list, JM1118J?

If you type **Y** (yes), the job schedule for the current date will be printed.

The following actions occur regardless of the response to the previous prompt:

- The output distribution program is started (if it is not already running).
- The General Ledger posting jobs are stopped (if they are running) (FMS only).
- The transporter program is started (if it is not already running).

The number of job slots is set to ninety-nine (99). The job initiator program manages the utilization of job slots. The number of job slots is used by the job initiator to determine how many jobs **per account** can be running concurrently.

The following prompts are displayed:

Use the current date for run date:

Enter run date in format YYMMDD:

Enter the effective date for the batch/online production mode that you are starting; this is usually the current date. To default to the current date and display the following, simply press the Return key:

--Today's date assumed--

--Date used for process: YYMMDD (current date)

The process then displays a list of jobs that are currently running.

Begin production mode of operation

At the “Do you want to begin batch/online mode of production?” prompt, if you typed **N** (no), the following prompt is displayed:

Do you want to begin production mode of operation?

If you type **Y** (yes), the following occurs:

- The job initiator program is started (if it is not already running).
- The job and session limits are set to predetermined values.

The following prompt is displayed:

Do you want to run the daily job list, JM1118J?

If you type **Y** (yes), the job schedule for the current date will be printed.

Regardless of the answer to this prompt, the output distribution program is started (if it is not already running).

The following prompt is displayed:

Enter run date in format YYMMDD:

Enter the effective date for the production mode that you are starting; this is usually the current date. To default to the current date and display the following, simply press the Return key:

--Today's date assumed--

--Date used for process: YYMMDD (current date)

The process then displays a list of jobs that are currently running.

Stop production mode

At the “Do you want to begin production mode of operation?” prompt, if you typed **N** (no), the following prompt is displayed:

Do you want to stop production?

If you type **Y** (yes), the following occurs:

- The job initiator program is stopped (if it is running).
- The transporter program is stopped (if it is running).
- The output distribution program is stopped (if it is running).
- The General Ledger posting jobs are stopped (if they are running) (FMS only).
- The job and session limits are set to predetermined values.

The following prompt is displayed:

Do you want to run backups?

If you type **Y** (yes), then the backup job is streamed.

The process then displays a list of sessions and jobs that are currently running.

If you typed **N** (no) at the “Do you want to stop production?” prompt, the process will display the jobs that are currently running. Entering **N** for all the OPI options allows you to exit out of OPI without altering the process in any way.

Using OPI Function Parameters

To perform a specific task, you can use the OPI command with a function parameter. This allows you flexibility in controlling the daily operation of the HP 3000 computer. The following sections describe several common, useful command functions.

To run the backup process

At the colon prompt type:

:OPI BACKUP

This command starts the backup process. It does not check if any other processes are currently running and does not change session or job limits. Its only function is to start the backup process. If additional functions are necessary, the backup process should be initiated through the OPI process.

To copy daily jobs

To copy daily jobs from the previous day's schedule, at the colon prompt type:

:OPI DCOPY

This command starts job JM1114J (Daily Schedule Copier), which copies the daily jobs from the previous day's schedule and changes the run date to the current date. This command should only be executed once a day.

Managing the job initiator program

Using OPI commands, you can start and stop the job initiator program in various modes of operation.

To start job initiator in online mode of operation

At the colon prompt type:

:OPI ISTARTO

This command starts the job initiator in online mode. Only those jobs with execution times of **O** (online) or **I** (immediate) will begin in this mode.

To start job initiator in batch/online mode of operation

At the colon prompt type:

:OPI ISTARTB

This command starts the job initiator in batch/online mode. Only those jobs with execution times of **O** (online), **I** (immediate) or **B** (batch/online) will begin in this mode. You are prompted for the run date along with the number of job slots. The number of job slots is used by the job initiator to determine how many jobs **per account** can be running concurrently.

To start job initiator in production mode of operation

At the colon prompt type:

:OPI ISTARTP

This command starts the job initiator in production mode. Jobs with any execution time will run in this mode. The run date is requested along with the number of job slots.

To stop job initiator

At the colon prompt type:

:OPI ISTOP

This command stops the job initiator if it is running. The job initiator should be stopped before backups are processed.

Clean up the Job Scheduling database

To clean up the Job Scheduling (JSOD) database, at the colon prompt type:

:OPI JSCLEAN

This command starts job JM1119J (JSOD Database Clean-up/Purge), which deletes all jobs from the Job Scheduling database with a scheduled run date older than seven days, except those jobs that have a status of Active, Fatal, Scheduled, or have a Frequency of **D** (daily).

Produce a job list

To produce a list of jobs for the current day's production, at the colon prompt type:

:OPI JSLIST

This command starts job JM1118J (Daily Job Scheduling), which produces the job schedule for the current date. This is run without any parameters for the current date.

Run the job scheduling utility

To run the job scheduling utility, at the colon prompt type:

:OPI JSU

This command runs the job scheduling utility program, which allows you to control the Job Scheduling System. You can reschedule jobs, change job statuses, list job scheduling information, and other activities related to job scheduling and control.

Managing log files

Use the following two OPI command functions to manage log files.

To purge log files displayed on the HP 3000 system console

At the colon prompt type:

:OPI LOGPURGE

This command starts a job to purge the MPE system log files. Do not run this process until OPI LOGSTORE is completed and then start it immediately after LOGSTORE.

To store log files displayed on the HP 3000 system console

At the colon prompt type:

:OPI LOGSTORE

This command starts the process to place MPE log files onto a backup tape. This process should be run periodically to ensure that disk space can be retrieved through the OPI LOGPURGE function.

Managing output distribution

Use the following OPI commands to manage output distribution functions.

To start output distribution

At the colon prompt type:

:OPI ODSTART

This command starts output distribution if it is not already running.

To stop output distribution

At the colon prompt type:

:OPI ODSTOP

This command stops output distribution if it is running. Output distribution must be stopped using OPI ODSTOP before issuing the OPI ODLIST command.

To print an output distribution report

To print a list of files produced by output distribution, at the colon prompt type:

:OPI ODLIST

This command starts job JM2002J (OD Reports), which produces the output distribution report. Output distribution must be stopped using OPI ODSTOP before issuing the OPI ODLIST command.

Managing transporter

Use the following OPI commands to manage transporter functions. The transporter program allows files and messages to be sent from remote sites to the central site and from the central site to remote sites.

To start transporter

At the colon prompt type:

:OPI TSTART

This command starts transporter if it is not running.

To stop transporter

At the colon prompt type:

:OPI TSTOP

This command stops transporter if it is running. You must stop transporter before processing backups.

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3 Job Scheduling Utility Commands

The Operator Interface Job Scheduling Utility (OPI JSU) allows you to control batch processing functions. Use the job scheduling utility (JSU) to reschedule jobs, change job statuses, control output distribution, and to perform a host of other activities related to batch processing.

To access the JSU program, type the following command on the operator's console at the MPE (:) prompt:

```
:HELLO OPERATOR.SYS  
:OPI JSU
```

In response, the following prompt is displayed:

Enter JSU Command:

To operate the JSU program, type the commands described in this section after this prompt.

Data Limiter Commands

The job scheduling utility (JSU) includes commands to allow you to limit the data that is accessed for list, status change, or print functions. By limiting access to data, the system does not have to sort through all the scheduling data, thus saving response time. You can set JSU to access job scheduling data by run date, account, execution time, job status, process level, or frequency.

JSU limiter commands consist of a command followed by a parameter specifying the data you want to access. To reset a JSU limiter command, type the command without a parameter.

To limit data to a specific account

Type ACCOUNT followed by a space and the account number you want, for example:

```
:ACCOUNT P070
```

This command limits job scheduling data access to account P070 only.

To limit data to a specific run date

Type DATE followed by a space and the run date you want in YYMMDD format, for example:

```
:DATE 020615
```

This command sets the job scheduling data access to jobs with a run date of June 15, 2002 only.

To limit data to a specific date and any previous date

Type SETDATE followed by a space and the run date in YYMMDD format, for example

```
:SETDATE 020615
```

This command sets the job scheduling data access to jobs with a run date prior to and including June 15, 2002

To limit data to a specific execution time

Type SETEXC followed by a space and the code for the execution time you want, for example:

```
:SETEXC O
```

This command sets the job scheduling data access to jobs with execution times of O (online) only. Valid execution time values are:

O	Online
B	Batch/Online
P	Production
I	Immediate

To limit data to a specific process level

Type SETPL followed by a space and the code for the process level you want, for example:

:SETPL A

This command sets the job scheduling data access to jobs with a process level of A only. Valid process level values are:

A through Z

To limit data to a specific frequency indicator

Type SETFREQ followed by a space and the frequency indicator you want, for example:

:SETFREQ D

This command sets the job scheduling data access to jobs with a frequency indicator of D (daily) only. Valid frequency indicator values are:

D	Daily
W	Weekly
M	Monthly

To limit data to a specific job status

Type SETSTAT followed by a space and the job status you want, for example:

:SETSTAT COMPLETED

This command sets the job scheduling data access to jobs with a job status of COMPLETED only. Valid job statuses are:

SCHEDULED
DELETED
FATAL
GROUPFAIL
JOBFAIL
NODATA

FLUSHED
ADDING (at scheduling time only)
CHANGING (at scheduling time only)

To reset all data limiter commands

Type UNSET, for example:

:UNSET

This command removes all limitations that have been specified for data access.

List Commands

The job scheduling utility program provides a variety of commands for obtaining scheduling information for all jobs in the schedule file or for specific portions of the schedule file only. You can issue LIST commands using either of the following methods:

- Type the word **LIST** followed by the command parameter.
- or–
- Type the letter **L** followed by the command parameter.

To list all jobs in the JSOD database

Type the word LIST or the letter L, for example:

:LIST

This command lists scheduling information for all the jobs in the Job Scheduling database (JSOD).

To list specific job numbers

Type LIST followed by a space and the transaction number of the job you want, for example:

:LIST 123

This command lists scheduling information for the job with transaction number 123 only.

You can also specify a range of job numbers by typing the transaction number of the first job in the range, followed by a slash (/), and then the transaction number of the last job in the range, for example:

:LIST 123/135

This command lists all the jobs from transaction number 123 to transaction number 135.

To list job information for a specific account

Type LIST followed by a space and the account you want, for example:

:LIST P140

This command lists the scheduling information for account P140 only.

To list jobs with a specific job status

Type LIST followed by a space and the job status you want, for example:

:LIST SCHEDULED

This command lists only the jobs that have a job status of Scheduled.

Valid job statuses are:

- Scheduled
- Deleted
- Fatal
- Groupfail
- Jobfail
- Nodata
- Flushed
- Adding
- Changing

To list jobs with a specific execution time, process level, or copy frequency

First, using the SET command, set the job scheduling utility to either an execution time, process level, or copy frequency (for example, SETEXC O, SETPL A, SETFREQ D). Press the return key and then type LIST.

:SETEXC O (execution time Online)

:LIST

:SETPL A (process level A)

:LIST

:SETFREQ D (copy frequency Daily)

:LIST

To list job control, reports, and parameters for a job

Type LIST followed by a space, the transaction number of the job you want followed by a space, and then the word ALL; for example:

:LIST 123 ALL

This command lists the job control, report, and parameter information for the job with transaction number 123.

To list report information only for a job

Type LIST followed by a space, the transaction number of the job you want followed by a space, and then the word REPORT; for example:

:LIST 123 REPORT

This command lists the report information only for the job with transaction number 123.

To list parameter information only for a specified job

Type LIST followed by a space, the transaction number of the job you want followed by a space, and then the abbreviation PARM; for example:

:LIST 123 PARM

This command lists the parameter information only for the job with transaction number 123.

To list job control information only for a specified job

Type LIST followed by a space, the transaction number of the job you want followed by a space, and then the word JOB; for example:

:LIST 123 JOB

This command lists the job control information only for the job with transaction number 123.

To list and change parameter information for a job

Type LIST followed by a space, the transaction number of the job you want followed by a space, and then the word PARMREPLACE; for example:

:LIST 123 PARMREPLACE

This command lists the parameter information only for the job with transaction number 123 and allows you to make changes to those parameters. To change the parameters, type the new information over the current information and press the return key.

To list a specific job or job group

Type LIST followed by a space and then the job or job group number you want; for example:

:LIST GA1501J

This command lists all occurrences of GA1501J.

:LIST FG001D

This command lists all occurrences of FG001D.

To list jobs using wildcards

Type LIST followed by a space and then a job number range by using the @ (at symbol) as a wildcard; for example:

:LIST GA150@

This command lists all jobs in the GA1500 series of jobs.

:LIST FG@

This command lists all jobs in the FG series of job groups.

Job Status Commands

The job scheduling utility allows operators and recovery analysts to change the status of a job when necessary. Occasionally it is necessary to change a job with a Fatal status to a Scheduled status in order to rerun the job after a problem has been corrected. Other situations may arise that will require you to change a job status.

To change job status to Flushed

Type FLUSHED followed by a space and the transaction number of a job or a range of transaction numbers; for example:

:FLUSHED 123

–or–

:FLUSHED 123/135

This command changes the status of the job with transaction number 123 or the range of jobs with transaction numbers 123 through 135 to Flushed.

The Flushed status indicates that a job was **not** initiated. The job was bypassed because prior jobs did not complete normally or did not produce the necessary data for this job. All jobs that have a prior transaction number pointing to a Flushed job will be Flushed as long as the jobs are within the same subgroup (job group contained with a job group).

To change job status to Scheduled

Type SCHEDULED followed by a space and the transaction number of the a job or a range of transaction numbers; for example:

:SCHEDULED 123

–or–

:SCHEDULED 123/135

This command changes the status of the job with transaction number 123 or the range of jobs with transaction numbers 123 through 135 to Scheduled.

The Scheduled status indicates that a job will be initiated based on execution time code and mode of operation, and upon completion of prior jobs and/or process levels.

To change job status to Deleted

Type DELETED followed by a space and the transaction number of a job or a range of transaction numbers; for example:

:DELETED 123

–or–

:DELETED 123/135

This command changes the status of the job with transaction number 123 or the range of jobs with transaction numbers 123 through 135 to Deleted.

The Deleted status is used by the operator or recovery analyst to prevent a job from being initiated but allow dependent jobs and the next process level to be launched.

Jobs marked DELETED will not be copied over in the JM114J job even if the Frequency field is non-blank.

To change job status to Fatal

Type FATAL followed by a space and the transaction number of a job or a range of transactions numbers; for example:

:FATAL 123

–or–

:FATAL 123/135

This command changes the status of the job with transaction number 123 or the range of jobs with transaction numbers 123 through 135 to Fatal.

The Fatal status indicates that a job did **not** completed normally. The program was aborted or the job stream was Flushed by the MPE operating system. Dependent jobs will **not** be launched. The next process level will **not** be initiated.

To change job status to Jobfail

Type JOBFAIL followed by a space and the transaction number of a job or a range of transaction numbers; for example:

:JOBFAIL 123

–or–

:JOBFAIL 123/135

This command changes the status of the job with transaction number 123 or the range of jobs with transaction numbers 123 through 135 to Jobfail.

The Jobfail status indicates that a job did **not** complete normally. Dependent jobs will be launched and the next process level can be initiated.

To change job status to Nodata

Type NODATA followed by a space and the transaction number of a job or a range of transaction numbers; for example:

:NODATA 123

–or–

:NODATA 123/135

This command changes the status of the job with transaction number 123 or the range of jobs with transaction numbers 123 through 135 to Nodata.

The Nodata status indicates that a job completed normally but did not produce the data required for the jobs dependent on the data. All jobs that have a prior transaction number pointing to a job marked Nodata will be Flushed, as long as the jobs are within the same subgroup (job group contained with a job group) and have the same deleted flag (value). Dependent jobs within the job group or subgroup will be Flushed. Dependent jobs outside the job group or subgroup will be launched and the next process level can be initiated.

To change job status to Completed

Type COMPLETED followed by a space and the transaction number of a job or a range of transaction numbers; for example:

:COMPLETED 123

–or–

:COMPLETED 123/135

This command changes the status of the job with transaction number 123 or the range of jobs with transaction numbers 123 through 135 to Completed.

The Completed status indicates that a job completed normally. Dependent jobs will be launched. The next process level can be initiated.

To change job status to Groupfail

Type GROUPFAIL followed by a space and the transaction number of a job or a range of transaction numbers; for example:

:GROUPFAIL 123

–or–

:GROUPFAIL 123/135

This command changes the status of the job with transaction number 123 or the range of jobs with transaction numbers 123 through 135 to Groupfail.

The Groupfail status indicates that a job did **not** complete normally. Dependent jobs within the job group or subgroup (job group contained with a job group) will be Flushed. All jobs that have a prior transaction number pointing to a job marked Groupfail will be Flushed as long as the jobs are within the same subgroup. Dependent jobs outside the job group or subgroup will be launched and the next process level can be initiated.

Job Record Change Commands

The job scheduling utility program allows you to change priorities, execution times, job types, prior sequence numbers, and schedule dates.

To change a job's run date

Type CHANGEDATE followed by a space, the transaction number of the job you want followed by a space, and the run date in YYMMDD format; for example:

:CHANGEDATE 123 020615

This command changes the run date of the job with transaction number 123 to 06/15/02.

To change a job's priority

Type PRI followed by a space, the transaction number of the job you want followed by a space, and the priority number you want; for example:

:PRI 123 4

This command changes the priority to 4 of the job with transaction number 123.

To change a job's prior sequence number

Type PRIOR followed by a space, the transaction number of the job you want followed by a space, and the prior sequence number you want; for example:

:PRIOR 123 000000

This command changes the prior sequence number to zero (0) of the job with transaction number 123.

To change a job's execution time

Type ET followed by a space, the transaction number of the job you want followed by a space, and the execution time you want; for example:

:ET 123 I

This command changes the execution time to I (immediate) of the job with transaction number 123. The process level (PL) will be ignored. Valid execution time values are:

O	Online
B	Batch/Online
P	Production
I	Immediate

To change a job's process level

Type PL followed by a space, the transaction number of the job you want followed by a space, and the process level you want; for example:

:PL 123 A

This command changes the process level to A for the job with transaction number 123. Valid process level values are:

A through Z

To change a job's frequency

Type FREQ followed by a space, the transaction number of the job you want followed by a space, and the frequency number you want; for example:

:FREQ 123 D

This command changes the copy frequency to D (daily) for the job with transaction number 123. Valid copy frequency values are:

D	Daily
W	Weekly
M	Monthly

Initiator Control Commands

Using the job scheduling utility, an operator can control the job initiator program. Use the following commands to start, stop, and check the status of the job initiator.

To start the job initiator in online mode, type:

:ISTARTO

To start the job initiator in batch/online mode, type:

:ISTARTB

To start the job initiator in production mode, type:

:ISTARTP

To check the status of the job initiator, type:

:STATUS

To set the job initiator to maintenance mode, type:

:ISTARTM

To set the job initiator to remote mode, type:

:ZR PROnn

(where PROnn is the network central node name, for example, PRO12)

To shut down the job initiator, type:

:ISTOP

Output Distribution Control Commands

Using the job scheduling utility, an operator can display output distribution information, restart reports, or shut down the output distribution program.

To display the output distribution information for a report

Type OD followed by a space and the OD file number, for example:

:OD 10651

The OD file number is the OD number that appears in a LISTF command for the RUN group. For example, if the file name is OD010651.RUN.P000, it is necessary to enter only OD 10651.

To restart a report

You can restart the OD report if it still exists on the disk. To facilitate the restart, after all the information for the output distribution record is displayed, the following message is displayed:

Do you want to write this information to the output distribution file?

If you enter **Y** (yes), then the following message is displayed:

Enter the RUN group for output distribution (as in ODxxxxx.RUN.Pxxx):

Unless the file exists in a group other than RUN, type **RUN** or press the Return key (RUN is the default). The account and file name are automatically provided by the program. A special record is written so that output distribution will copy the report to the appropriate output files.

To shut down the output distribution program

Type the following command:

:ODSTOP

Miscellaneous Commands

The job scheduling utility program also includes a variety of other commands an operator can use. These commands allow the operator to list the JCL (job control language) for a job, run a specific program, or print data to the line printer.

To list the job control for a job

Type JCL followed by a space and the job or job group number; for example:

```
:JCL BA1290J
```

This command lists the JCL for job BA1290J.

To print data to the line printer

Type PRINT followed by a space and the range of transaction numbers for the jobs you want; for example:

```
:PRINT 123/135
```

This command prints the job information for jobs with transaction numbers 123 through 135.

A summary of each schedule record within the range or an individual record is printed first, followed by a page eject. The schedule records are reprinted, with the detail for each of the schedule records, in the same format as the LIST ALL command.

You cannot specify a single transaction number for the PRINT command; for example, PRINT 123 is not valid. You must enter a range of transaction numbers for the PRINT command.

To run a program with most options available

Type RUN followed by a space and the name of the program you want; for example:

```
:RUN SPOOK5.PUB.SYS
```

This command runs the SPOOK5.PUB.SYS program from the job scheduling utility.

To terminate any function that produces output to the terminal

Press the **Ctrl** (control) key and the **Y** key at the same time. The Ctrl/Y command terminates any function that produces output to the terminal. If the schedule record is updated, the Ctrl/Y termination takes place after the record is updated and displayed to the terminal, but before the next record is read.

4 PMS Processes and Reports

This chapter provides descriptions of the Production Management System (PMS) processes including:

- Daily Schedule Copier (JM1114)
- Daily Schedule Copier (JM1114)

It also includes report descriptions for two types of Production Management reports:

- Operations and data control reports
- Archival and backup reports

Production Management Processes

The Production Management System consists of two primary processes described below.

Daily Schedule Copier (JM1114)

This program copies the daily jobs from the previous day's schedule and reschedules them for the current date. Daily jobs are defined as any job with a frequency (JOB-FREQ) of **D** (daily). It will also copy jobs with a frequency of **W** (weekly) that have been completed to the following week; for example, a job that ran on a Friday will be copied to the next Friday. Jobs with a frequency of **M** (monthly) are copied to the same date of the following month; for example, if a job was scheduled for January 5, it will be copied to February 5. For monthly jobs and job groups with a YR-MO parameter, the parameter is updated with the next year/month.

To restart JM1114, use the OPI command function JSCOPY.

JSOD Database Cleanup (JM1119)

This program cleans up the JSOD database by deleting all jobs with a scheduled run date over seven days old except ones that are marked as SCHEDULED or FATAL or with a frequency of **D** (daily).

To start JM1119, use the OPI command function JSCLEAN.

Production Management Reports

Production Management System reports provide supporting documentation for the daily operation of HP 3000 processors. Daily job schedules are available for use by data control and computer operations personnel. Archival reports are available which show, in detail, job and job group processing information including when jobs are started and completed. Additional reports are available to support the output distribution process.

Operations and data control reports are:

- JM1118A (Daily Job Schedule)
- JM1118B (Daily Job schedule with Parameters)
- JM2002A (output distribution Report with Tape Contents)
- JM2002B (output distribution Report – All Jobs)

Archival and backup reports are:

- JM1115A (JSOD Database Clean-up Report Status – All Jobs)
- JM1115B (JSOD Database Clean-up Report – Purged Jobs)
- JM1115C (JSOD Database Clean-up Report – Schedule Jobs)
- JM1117 (End of Production Report)

Operations and Data Control Reports

JM1118A (Daily Job Schedule Report)

This report provides job scheduling information for the selected date (usually the current date). It is also used by the operator to monitor processing.

Run this report before production is started for the evening to ensure that job priorities, execution times, reports, and other job scheduling information is correct.

JM1118B (Daily Job Schedule with Parameters)

This report provides detailed job scheduling information for the selected date (usually the current date). Each job is listed individually followed by the report and parameter information for the job.

JM2002A (output distribution Report with Tape Contents)

This report provides output distribution information for each report sent to the output distribution tape. It includes tape information and the contents of the tape.

Run this report whenever an output distribution tape is created.

JM 2002B (output distribution Report – All Jobs)

This report provides output distribution information for all reports. All reports sent through output distribution are included on this report. The report includes job information, distribution information, and other report information.

Archival and Backup Reports

JM1115A (JSOD Database Clean-up Report Status – All Jobs)

This report provides the status of all the jobs in the job scheduling database (JSOD). It is sequenced in ascending order by run date, account, job group, and job name.

This report is usually run prior to JM1119 (JSOD Database Clean) for archival and backup purposes.

JM1115B (JSOD Database Clean-up Report – Purged Jobs)

This report provides a listing of each job and report that is to be purged from the job scheduling database (JSOD). It lists job scheduling information taken from the JSOD database, such as parameter names and values. Distribution information is also provided in the report.

This report is usually run prior to JM1119 (JSOD Database Clean) for archival and backup purposes.

JM1115C (JSOD Database Clean-up Report – Scheduled Jobs)

This report provides a listing of all remaining jobs in the job scheduling database (JSOD with a status of Scheduled). It is sequenced in ascending order by scheduled run date, account, job group, and job name.

This report is usually run prior to JM1119 (JSOD Database Clean) for archival and backup purposes.

JM1117 (End of Production Report)

This report provides the status of all jobs run for the selected date. Based on the input date (usually the current date), the report lists all jobs that were scheduled for that date. Most jobs will have a status of Completed. The report prints job scheduling information, report information, and the starting and ending times of the job.

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Appendix A: Job Status Conditions

Following are the job status conditions utilized by job scheduling and the job initiator.

Job Status Condition	Description
ADDING CHANGING	Used by the interactive job scheduling program while schedule records are being added or changed.
SCHEDULED	Indicates that a job will be initiated based on execution time code and mode of operation, and upon completion of prior jobs or jobs at previous process levels or both.
STREAMED ACTIVE	Used by the batch initiator while initiating and monitoring jobs.
COMPLETED	Indicates that a job completed normally. Dependent jobs will be launched. Jobs at next process level will be launched.
DELETED	Used by the operator or recovery analyst to prevent a job from being initiated but allow dependent jobs and jobs at next process level to be launched.
FATAL	Job did not complete normally. Program aborted or job stream was flushed by MPE. Dependent jobs will not be launched. Jobs at next process level will not be initiated.
FLUSHED	Job was not initiated. This job was by-passed because prior job did not complete normally or did not produce the necessary data for this job.
GROUPFAIL	Job did not complete normally. Dependent jobs within the job group or subgroup (job group contained within a job group) will be flushed. Dependent jobs outside the job group or subgroup will be launched and the next process level can be initiated.
JOBFAIL	Job did not complete normally. Dependent jobs will be launched and jobs at next process level can be initiated.
NODATA	Job completed normally but did not produce the data required for the jobs dependent on the data. Dependent jobs within the job group or subgroup will be flushed. Dependent jobs outside the job group or subgroup will be launched and jobs at next process level can be initiated.

Job status dependencies based on Job Control Word

The following job status dependencies are based on a Job Control Word (JCW) entitled TERMJCW.

- **NODATA and FLUSHED dependencies**
TERMJCW with a value of **1** in conjunction with a COMPLETED status will mark a job as NODATA and will flush following dependent jobs within the job groups. This dependency is determined by scheduling and noted as a level in the Delete Flag column of JSOD. Jobs dependent upon a job marked as NODATA will be marked as FLUSHED. Any job at the next dependency level will be run. TERMJCW in this situation is determined with a program.
- **JOBFAIL**
TERMJCW with a value of **2** in conjunction with a FATAL status will mark a job as JOBFAIL and allow all following jobs (dependent or non-dependent) to be run. TERMJCW in this case is set within the job stream.
- **GROUPFAIL and FLUSHED dependencies**
TERMJCW with a value of **3** in conjunction with a FATAL status will mark a job as GROUPFAIL and will flush following dependent jobs within the job group. This dependency is determined by scheduling and noted as a level in the Delete Flag column of JSOD. Jobs dependent upon a job marked as GROUPFAIL will be marked as FLUSHED. Any job as the next dependency level will be run. TERMJCW in this case is also set within the job stream.

NODATA and FLUSHED dependencies

The NODATA and FLUSHED statuses can be triggered in conjunction with each other. This can occur in situations where one or more program is dependent on output from another program. For example, in a job group containing three jobs for Customer Accounts invoicing, the first job extracts the data and the second and third jobs print reports. The print jobs will be run only if the extract job completes successfully and extracts records.

In this example, when the extract program completes, the application checks for output records. If the program determines that zero records were extracted, it sets TERMJCW to a value of **1** and ends the job. In this case the extract program is marked with a status of NODATA since it completed successfully but had a TERMJCW with a value of 1. The two report programs will be by-passed and marked with a status of FLUSHED since they are at the same level (see following SCHEDULER item). Any job with either of these status conditions will allow subsequent jobs to be initiated.

JOBFAIL

The **JOBFAIL** status can be triggered whenever operations or other authorized staff determine that a job is consistently not critical, will have no dependent jobs, and can be corrected the next day. If a job is critical at certain times and not critical at other times, there are at least two options available.

- Make separate jobs.
- Leave the job as always critical, but notify operations staff during the times when the job is not critical and have them set the status to **JOBFAIL** using the job scheduling utility if the job aborts.

To use this status condition, set the **TERMJCW** to a value of 2 in the job stream prior to the **!CONTINUE** statement. If the job aborts and the **TERMJCW** is 2, the job status will be marked as **JOBFAIL**. This status will allow subsequent jobs to be initialized.

GROUPFAIL and FLUSHED dependencies

The **GROUPFAIL** and **FLUSHED** statuses can be triggered whenever operations or other authorized staff determine that a job is not critical but has one or more jobs which are dependent on its output. The same options that apply for a job that is critical at some times and not critical at others in a **JOBFAIL** situation hold true in a **GROUPFAIL** situation.

To use this status condition, set the **TERMJCW** to a value of 3 in the job stream prior to the **!CONTINUE** statement. If the job aborts and the **TERMJCW** is 3, the job status will be noted as **GROUPFAIL** and the subsequent dependent jobs within the job group will be marked as **FLUSHED**. Any job with either of these status conditions will allow subsequent jobs to be initialized.

Scheduler

During the scheduling process the job scheduling program determines a level from 01 to 99 for jobs within a job group or subgroup and for stand-alone jobs. This level is maintained in the Delete Flag data element in the Job Scheduling database. The Delete Flag level number is increased by one:

- whenever a subgroup within a job group is encountered
- OR –
- whenever the next sequential job within a job group is encountered

In the following example, **G** is the suffix for job groups and **J** is the suffix for jobs:

Job or Job Group Scheduled	Job or Job Group Selected	Jobs within Subgroup	Delete Flag (level)
FGXX1G	FJ0XX1J		01
	FJ0XX2J		01
	FJ0XX3J		01
	FGXX2G	FJ0XX4J	02
		FJ0XX5J	02
		FJ0XX6J	02
	FGXX3G	FJ0XX7J	03
		FJ0XX8J	03
	FJ0XX9J		04
	FJ0X10J		04
	FGXX4G	FJ0X11J	05
		FJ0X12J	05
	FGXX5G	FJ0X13J	06
		FJ0X14J	06
	FJ0X015J (last job in FGXX1G)		07
FJ0X16J	FJ0X16J		01
FJ0X17J	FJ0X17J		01
FGXX6J	FJ0X18J		01
	FJ0X19J		01
	FJ0X20J		01
FJ0X21J	FJ0X21J		01

In the above example, if job group FJ0XX4J of subgroup FGXX2G completes successfully and sets TERMJCW to a value of 1, it is marked as NODATA, and jobs FJ0XX5J and FJ0XX6J are marked as FLUSHED. Job FJ0XX7J of subgroup FGXX3G is then initialized. Also, if job FJ0XX4J had TERMJCW set to a value of 3 and the program aborted, it is marked as GROUPFAIL with subsequent jobs (FJ0XX5J and FJ0XX6J) marked as FLUSHED.

Initiator

When jobs are streamed with the initiation process, additional JCL is inserted at the beginning and end of the job streams. The JCL inserted at the end is, in effect, JCW checking and processing. The normal JCW, which is set either by MPE or a program, is checked.

- If the JCW equals zero, JM1102 (Normal Termination) is called. JM1102 checks TERMJCW for a value of 1, which will mark the job as NODATA. If TERMJCW is not a 1, then the job is marked as completed.
- If the JCW is not equal to zero, JM1103 (Abnormal Termination) is called. JM1103 checks TERMJCW for a value of 2 or 3. If the value is 2, the job will be marked as JOBFAIL; if the value is 3, the job will be marked as GROUPFAIL. If TERMJCW is neither 2 or 3, the job will be marked as FATAL.

Job Status Conditions – Category and JCW Settings

Status	Category	Job Control Status Words	
		TERMJCW	JCW (MPE)
ADDING	Scheduling	NA	NA
CHANGING	Scheduling	NA	NA
SCHEDULED	Scheduling	NA	NA
STREAMED	Initiation	NA	NA
ACTIVE	Initiation	NA	NA
DELETED	Utility	NA	NA
COMPLETED	Completion	< > 1	= 0
FATAL	Completion	< >	< >
FLUSHED	Completion	NA	NA
GROUPFAIL	Completion	= 3	< > 0
JOBFAIL	Completion	= 2	< > 0
NODATA	Completion	= 1	= 0

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