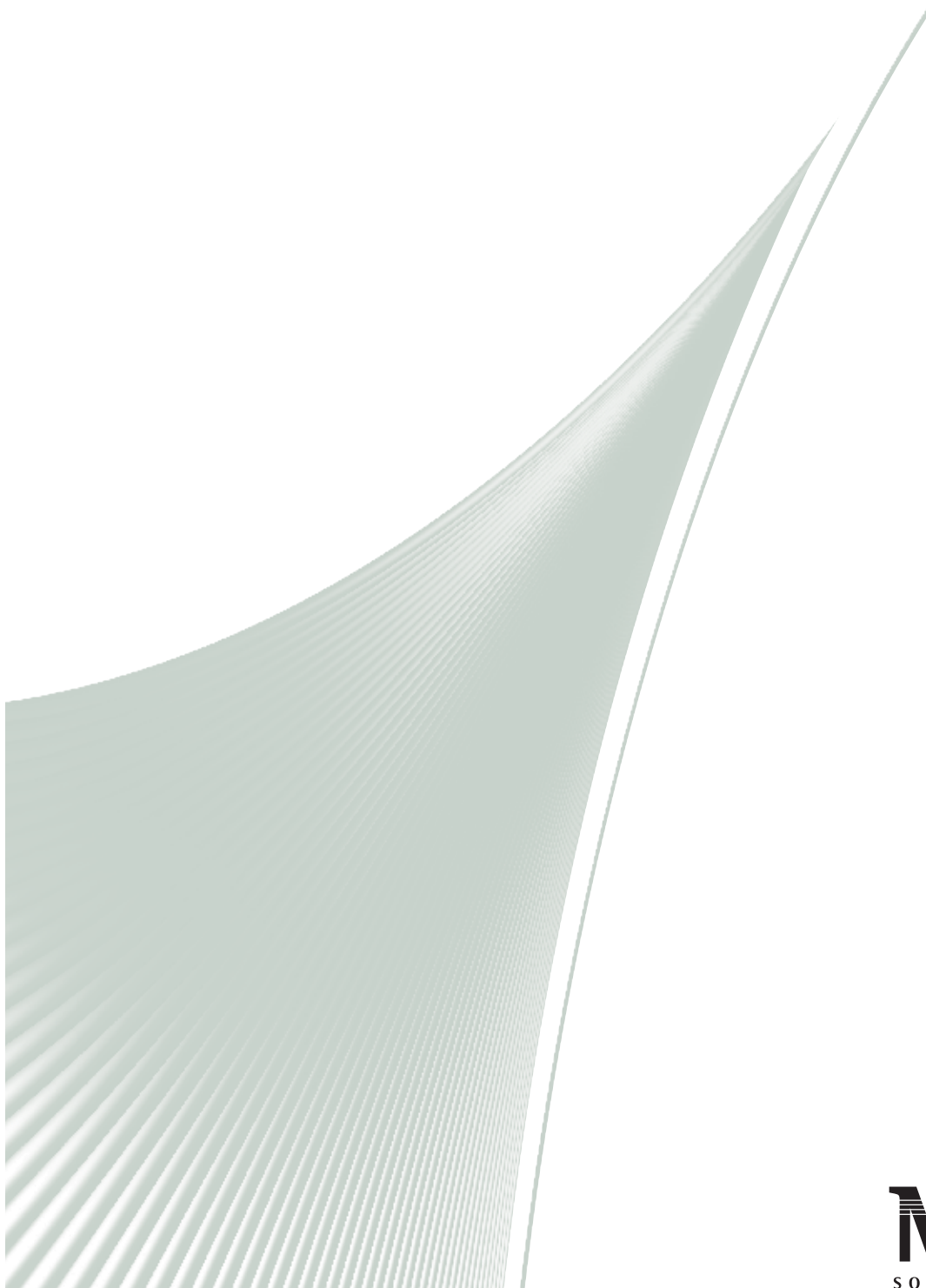


ThruPut
Manager[®] AE

Production Services
Supplement



MVS
solutions inc.

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Summary of Changes

V7R1-7109 • No changes
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V7R1-7108 • This is the base manual for ThruPut Manager Version 7 Release 1.0.
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About This Manual

The *Production Services Supplement* explains the concepts, setup process and runtime features provided to deploy Production Services in a ThruPut Manager AE environment.

This manual explains the *Production Services queue* and *Production Service Groups* as used with ThruPut Manager AE. If you are using them with ThruPut Manager AE⁺, also see the *Production Service Groups* appendix of the *PCS Concepts Guide*.

The supplement assumes you are familiar with:

- ThruPut Manager AE essentials and therefore understand the concepts and features covered in the *Concepts Guide to ThruPut Manager AE Essentials*, with its companion *Setup Guide* and *Runtime Guide*.
- a workload being managed by ThruPut Manager AE with appropriate (existing) General Service Groups and JAL statements.
- the ThruPut Manager AE Setup and Runtime dialogs.

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Production Services Concepts

The new Production Services feature of ThruPut Manager AE introduces a number of new concepts with this chapter explains and upon which subsequent chapters rely.

Two Models of Batch Automation

The new *Production Services* model of batch automation and management is similar in many respects to the General Services model that has been available with ThruPut Manager AE for several years. Comparing the two models, it is evident that Production Services is more suitable for managing production batch and General Services more suitable for managing non-production batch.

It has been common for z/OS installations to separate production and non-production batch, even to the extent of running them in separate LPARs or JESplexes. Production Services allows an installation to logically separate their production and non-production batch by supporting two queues within a JESplex: the *General Services queue* which current ThruPut Manager AE users are familiar with, and the *Production Services queue* to further differentiate your production workload. Datacenters benefit from the logical separation of batch that this provides, while TM AE benefits from the broader span of batch priority, importance and service goals and is thereby able to achieve better batch throughput while meeting the batch SLA targets.

In addition to separating production and non-production batch into the Production Services queue and the General Services queue, there are now two types of ThruPut Manager AE Service Groups: *General Service Groups* are essentially the former Service Groups, renamed, and *Production Service Groups* are introduced with additional features that are oriented to production batch automation and management.

Existing users of ThruPut Manager AE who are currently running both production and non-production batch under General Services can continue to do so. The Production Services model is available to implement at their convenience.

Definition of Production Service Groups

Production Service Groups are defined in the SLM Policy and assigned in JAL. When specifying a Production Service Group you provide values for:

- *Production importance* which is similar to batch importance (of General Service Groups) in that it has five values with **1** being the most important and **5** being the least.
- *Scheduler importance* which determines the relative importance of a job, within the group of jobs with the same production importance.

- *Target* and *Acceptable service times* which are similar to those specified for General Service Groups.

Production Service Group Jobs

Jobs assigned to Production Service Groups behave similarly at runtime as jobs assigned to General Service Groups, with following differences:

- Jobs assigned to a Production Service Group are placed in the Production Services queue rather than the General Services queue.
- The PS queue has a set of Service Classes dedicated to it. These Service Classes are generally designed to favor the work in the PS queue over work in the GS queue. They are defined on the **WLM Service Classes Definition** panel.
- While the SLM engine manages both queues, the jobs in the PS queue progress through the service time thresholds differently: once they reach the **ACCEPTABLE** threshold, they immediately progress to the **CRITICAL** threshold. (This is why the definition for Production Service Groups does not include a Critical service time value).
- Jobs in the PS queue are either *preferred* to General Services jobs at the same job selection point, or *preempt* General Services jobs according to the option set on the **Job Selection Option** panel.
- Jobs in the PS queue are favoured with respect to DFSMSHsm recalls according to options set on the **DFSMSHsm Dataset Recall Customization** panel.
- Quick Jobs that belong to a Production Service Group are immediately aged to the C1 level, regardless of their production importance. Within the Quick Jobs at C1, they are queued by production importance, acceptable time and scheduler importance (in that order) and are selected before any non-Quick Jobs in the PS queue.

Feedback Provided

The following feedback for jobs assigned to a Production Service Group is provided:

- The SLM dialog displays runtime information for Production Service Group jobs on the **Production Services Job Display** panel, which includes a line command to get UDF information.
- The **SLM SELECT**, **SLM FALLBACK** and **TM CLASS** commands take into account Production Service Group jobs, within their **production/noproduction** and **production_services** parameters.
- SMF records are available for all Production Service Group jobs.
- The Job Summary Report, if selected, includes Production Service Group details rather than General Service Group details.

- The SLM Policy Report includes Production Service Group details.

Setup Process

This chapter explains how to set up Production Service Groups. It includes changes to your ThruPut Manager AE Policy, Service Class definitions and JAL.

Setup Process Overview

Production Service Groups are straightforward to set up. Here are the steps involved:

1. Set up the new PS queue.
2. Define Service Classes, reserved for the PS queue, in the WLM Policy.
3. Activate the WLM policy.
4. Determine the Production Service Groups you need. For the targeted workload, determine how to classify it and which Production Service Group values are appropriate for it. Determine the number of Production Service Groups you need and name them.
5. Update your ThruPut Manager AE Policy:
 - a. Map the Service Classes to the appropriate production importance level.
 - b. Define the Production Service Groups.
 - c. Tailor your prefer/preempt option.
 - d. Tailor the DFSMSHsm recall option.
 - e. Activate your updated policy.
6. Update your JAL to classify your jobs and assign them to Production Service Groups. At the same time identify any quick jobs.
 - a. Assign jobs to an appropriate Production Service Group.
 - b. Identify any Quick Jobs.
 - c. Load the new JAL.

1. Set up the Production Services queue

Use the ThruPut Manager command, **TM CLASS SET PRODUCTION_SERVICES(x)**, to define the job class for the PS queue. As this job class is dedicated to ThruPut Manager processing, it must not be otherwise used.

Assume you choose '2' as your job class:

```

TM CLASS SET PRODUCTION_SERVICES(2)

/TM CLASS D
DTM3233I TM CLASS LIST
Analysis..... 9
  
```

Deferred.....	None
Selectable.....	A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,R,S,T,U,V,W,X,Y,Z 0,1,2,3,4,5,6,7,8,9
Exempt.....	Q
On_Demand.....	3
Production_Services.	2
General_Services....	1
Default.....	Z

2. Define Service Classes for Production Services

WLM Service Classes must be dedicated to the ThruPut Manager queues and cannot be used elsewhere. Setting them up is similar to setting up ones dedicated to the General Services queue. You set up five Service Classes, one for each level of production importance. (ThruPut Manager AE assigns WLM Service Classes at job selection, in order to control the amount of execution resources to be assigned to each batch workload.)

We suggest you start with the current Service Classes for the General Services queue and create a parallel set for use within the PS queue, modifying or adding to them as follows:

- Use names for these new Service Classes that are different from any of the current ones, and are unlikely to be used in the future. In the example **TMPS1**, **TMPS2**, **TMPS3**, **TMPS4**, **TMPS5** are used.
- These WLM Service Classes must be dedicated to ThruPut Manager to use with jobs in the PS queue. You must not assign these new WLM Service Classes using the classification rules in the WLM Policy. You simply define them in WLM.
- As a best practice, we suggest you define five WLM Service Classes, one for each production importance level. However less than five are allowed; the same Service Class may be specified for more than one production importance level.
- We recommend you use velocity goals which should not take queue time into account, since ThruPut Manager AE uses JES2 initiators.
- You should favor a single performance period, as this allows for more accurate prediction by ThruPut Manager AE of the effect on adding more work in a given Service Class¹.
- The relative Importance Levels and Goals for the individual Service Classes must reflect the relative importance of the categories of jobs. For example, the Service Class assigned to production importance 1 jobs must not have a lower Importance Level or Goal than the Service Class assigned to production importance 2 jobs.
- Furthermore the relative WLM Importance Levels and Goals for the individual Service Classes must reflect the relative importance of the queues. For example,

¹ Using multiple periods requires ThruPut Manager AE to take a “blended” view of the Service Class performance. If multiple periods must be used, try to select a first period duration such that a significant portion, ideally more than 95%, of jobs using that Service Class complete in the first period.

the Service Class assigned to production importance 1 jobs in the PS queue must not have a lower WLM Importance Level or Goal than the Service Class assigned to batch importance 1 jobs in the GS queue.

3. Activate the WLM Policy

Though obvious the process differs from installation to installation, so ensure this step happens for a smooth implementation.

4. Determine Production Service Groups

Apex Insurance decides their new Human Resources Product needs to be handled using Production Service Groups. The jobs are submitted by a popular job scheduler. Here's the result of their analysis:

JAL Jobname Identification	Production Service Group assigned	Production Importance	Target Service Time	Acceptable Service Time
HUMnnnn	HUM	3	20	40
HUMxxDB	HUMDB	1	10	15
HUMXnnn	HUMEXPR	5	2	20
HUMxxPR	HUMPAYR	2	20	25
...				

Create a similar chart for your workload before proceeding.

5. Update the ThruPut Manager AE Policy

Use the SLM dialog for the following steps. The Production Service Groups are set up in the same Policy that has your existing General Service Groups. Start with the active Policy and save it with a new name. Coordinate the activation of the new Policy with the JAL refresh suggested in Step 6.

5.a. Map WLM Service Classes to Production Importance Levels

Map the WLM Service Classes reserved for use with the PS queue to the five production importance levels.

From this panel	key ...
ThruPut Manager Main Lobby	4 Automation Services
Primary Options	2 Automation File Services,
Automation File Services	1 Use an Existing File
AF file pop-up	"Enter" to accept "active" file
Selection Menu	2 SLM - Service Level Manager.
Policy Management	C to copy the active Policy
Policy Configuration Options	1 Configure JESPLEX Characteristics
Configure JESPLEX Characteristics	1 WLM Service Class Definitions

```

- File                                     Help
----- SLM Definition Services -----
                WLM Service Class Definitions
Command ==>

  Policy: PSPOLCY  Description: With Production Service Groups
                Last Modified: 10:39:42                By: User01

General Services                Production Services
  Batch Importance 1: TMGS1      Premium:
                        2: TMGS2      Production Importance 1: TMPS1
                        3: TMGS3      2: TMPS2
                        4: TMGS4      3: TMPS3
                        5: TMGS5      4: TMPS4
                                        5: TMPS5

Automated Capacity Management (ACM)
  General Services
  Level 1:          2:          3:          4:          5:

  Production Services
  Level 1:          2:          3:          4:          5:

Press PF1 for information and guidelines on specifying Service Classes.
    
```

The Service Classes for Apex's implementation are filled out. (As a best practice, they started their names with **TM** in the hopes they would not conflict with the names of other WLM Service Classes in use now or in the future.)²

² ThruPut Manager uses the Premium Service Class when a Production Services job with PI=1 reaches the Critical threshold. If you don't supply a value for it the one for Production Importance 1 is used.

5.b. Define the Production Service Groups

The data fields for the Production Service Group closely align with the General Service Group definition:

Production Importance: has a value of 1-5, with **1** the most important. Jobs assigned to this Production Service Group inherit this production importance and are associated with the corresponding Service Class. More important jobs are favoured when jobs age pass the ACCEPTABLE threshold, and when recalling datasets or staging virtual volumes. The default is **3**.

Scheduler Importance: has a value of 1-5, with **1** the most important. Jobs assigned to this Production Service Group inherit this scheduler importance and are further ordered with jobs within the same production importance. The default is **3**.

Scheduler importance is useful when jobs come from different schedulers such as one for QA work and one for production work.

Generate Job Summary?: has a value of **Y-es** or **N-o**. It acts similarly to the setting for General Service Groups: a Job Summary Report is added to the SYSMMSGs dataset when the job completes. The default is **Y**.

Minutes to Target: this value is similar to the Target service time specified for General Service Groups: it is the number of minutes the job has to age before it reaches the TARGET threshold in the queue.

Minutes to Acceptable: this value is similar to the Acceptable service time specified for General Service Groups: it is the number of minutes the job has to age before it reaches the ACCEPTABLE threshold in the queue.

Installation Data: use this field to annotate the **Production Services Job Display** panel and the Production Services SMF record.

Use the values from your version of the chart on page 7 to fill out this panel for each Production Service Group; use the **File** drop down menu to configure a new Production Service Group.

From this panel	key ...
ThruPut Manager Main Lobby	4 Automation Services
Primary Options	2 Automation File Services,
Automation File Services	1 Use an Existing File
AF file pop-up	"Enter" to accept "active" file
Selection Menu	2 SLM - Service Level Manager.
Policy Management	C to copy the active Policy
Policy Configuration Options	2 Configure Production Services
Configure Production Services	2 Production Service Groups

```

- File                                                    Help
+----- SLM -----+
| 1. Configure New Production Service Group ... | tion Service Group Management
| 2. Exit |
+-----+
Line Commands: D - Delete E - Edit

                               Line 1 of 3
- --Name--  -----Description----- -I- -I- -S- -Target / Accept- -Class- --Data--
. HUM       For undifferentiated HUM jobs 3 3 Y 20 40 TMPS3  GENERIC
. HUMDB     for old database jobs        1 3 Y 10 15 TMPS1  OLD S2K
. HUMEXPR   for express jobs             5 3 Y 2 20  TMPS5  EXPRESS
*****
    
```

Apex's adds the HUMPAYR group with the following values:

```

- File                                                    Help
+----- SLM -----+ +----- SLM -----+
| Production Service Group Definition | on Service Group Management
C Command ==>
L Production Service Group Name: HUMPAYR
  Description: Payroll for Drivers
- Production Importance: 2 (1-5)
. Scheduler Importance: 3 (1-5)
* Generate Job Summary: Y (Y/N)
  20 Minutes to Target, 25 Minutes to Acceptable
  Installation Data: DRIVERS
  Press END to Continue
  Press CANCEL to Cancel
+-----+
                               Line 1 of 3
J Minutes To Service
S- -Target / Accept- -Class
Y 20 40 TMPS3
Y 10 15 TMPS1
Y 2 20 TMPS5
*****
    
```


5.c. Tailor Prefer/Preempt Option

By default the SLM engine will prefer jobs in the PS queue to those at the same service threshold in the GS queue. If you need to change this to the “preempt” option, i.e., select Production Service Group jobs that have passed a job selection point (that you specify) before any GS jobs, then update the following panel.

From this panel	key ...
ThruPut Manager Main Lobby	4 Automation Services
Primary Options	2 Automation File Services,
Automation File Services	1 Use an Existing File
AF file pop-up	“Enter” to accept “active” file
Selection Menu	2 SLM - Service Level Manager.
Policy Management	C to copy the active Policy
Policy Configuration Options	2 Configure Production Services
Configure Production Services	1 Job Selection Option

```

File ----- SLM ----- Help
-----
Configure Production Services

Command ==> 1

Policy: PSPOLCY Description: With Production Service Groups
Last Modified: 10:39:42 By: USER01

Select one of the following:

1 Job Selection Option
+----- SLM -----+
| Job Selection Option |
| Command ==>         |
| Job Selection Option: Currently set to 1 |
| 1 Prefer Production Services (Default) |
| - Prefer selection of a ready Production Services job |
| over a General Services job of equal or lesser urgency |
| as determined by ThruPut Manager Automation |
| Edition. |
| 2 Preempt General Services |
| - Always select ready Production Services jobs that are |
| approaching or have passed their target selection |
| time before selecting any General Services job. |
+-----+
    
```

5.d. Tailor DFSMSHsm Recall Option

The following panel explains the DFSMSHsm recall order for jobs in the Production Services and General Services queues. The default for other jobs (i.e., jobs in neither the GS queue nor the PS queue) is after jobs with batch importance of 3 in the General Services queue, and before jobs with production importance of 4 in the PS queue. You can change that default on this panel.

From this panel	key ...
ThruPut Manager Main Lobby	4 Automation Services
Primary Options	2 Automation File Services,
Automation File Services	1 Use an Existing File
AF file pop-up	“Enter” to accept “active” file
Selection Menu	2 SLM - Service Level Manager.
Policy Management	C to copy the active Policy
Policy Configuration Options	1 Configure JESPLEX Characteristics
Configure JESPLEX Characteristics	2 Customize
JESPLEX Customization	1 DFSMSHms Options

```

- File                                                    Help
----- SLM -----
DFSMSHsm Data Set Recall Customization
Command ==>

Policy: PSPOLCY Description: With Production Service Groups
Last Modified: 10:39:42 By: USER01

Select Non-SLM DFSMSHsm Recall Priority Index: 3 (1-5)

          TYPE           Mode   Batch Importance
          ----           -
          Production_Services Preempt   All
          Production_Services Prefer      1
          General_Services      1

1          Production_Services Prefer      2
          General_Services      2

2          Production_Services Prefer      3
          General_Services      3

3 > Non-SLM
          Production_Services Prefer      4
          General_Services      4

4          Production_Services Prefer      5
          General_Services      5

5

Maximum number of allowed TAPE recalls: 40
    
```

5.e. Activate the Updated Policy

Once you have validated your Policy successfully, it is ready to be activated. Coordinate the activation of the Policy with the associated JAL changes.

The SLM Policy report, provided by the **G-Generate Report** line command on the **Policy Management** display, lists the Production Service Groups for this policy. The example below shows the information applicable to the Production Service Groups for the Human Resources jobs.

```

                                SLM Policy Report

...
000037 DFSMSHsm Options:
000038     Non-SLM DFSMSHsm Recall Priority Index: 3
000039     Maximum number of allowed TAPE recalls: 40
...

0Customize
000061 Job Selection Option:
000062     Prefer Production

000063 0Production Service Groups:
000064 0 Name: HUM           Description: For undifferentiated HUM jobs
000065     Production Importance: 3 Scheduler Importance: 3 Job Summary: N Installation Data: GENERIC
000066     20 minutes to Target, 40 minutes to Acceptable

000067 0 Name: HUMDB        Description: for old database jobs
000068     Production Importance: 1 Scheduler Importance: 3 Job Summary: N Installation Data: OLD S2K
000069     10 minutes to Target, 15 minutes to Acceptable

000070 0 Name: HUMEXPR     Description: for express jobs
000071     Production Importance: 5 Scheduler Importance: 3 Job Summary: N Installation Data: EXPRESS
000072     2 minutes to Target, 20 minutes to Acceptable

000073 0 Name: HUMPAYR     Description: Payroll for Drivers
000074     Production Importance: 2 Scheduler Importance: 3 Job Summary: N Installation Data: DRIVERS
000075     20 minutes to Target, 25 minutes to Acceptable

000076 0Automated Capacity Management (ACM)

```

6. Update your JAL

Remember to coordinate refreshing your JAL with activating the new Policy.

6.a. Assign a Job to a Production Service Group

Update your JAL to classify your jobs. To assign a job to a Production Service Group, from which the job is to receive its goals, use the following JAL action statement:

```
SLM SERVICE PRODUCTION GROUP(groupname)
```

Here's a snippet of the JAL for Apex's Production Service Group jobs.

```

APEX JAL Source
00100 PROC ID(JAL) DESC('JAL FOR APEX WORKLOAD')
00200
00300 /*****
00400 /*
00500 /*... <previous updates>
00600 /*
00700 /* ADDED PRODUCTION SERVICE GROUPS FOR HUMAN RESOURCES
00800 /*
00900 /*****
001000
...
001400 EVAL HUM ($JOBNAME(HUM*) )
001500 EVAL HUMDB ($JOBNAME(HUM??DB))
001600 EVAL HUMPR ($JOBNAME(HUM??PR))
001700 EVAL HUMX ($JOBNAME(HUMX*))
...
003000 /* LOGIC SECTION
...
005000
005100 /* Always manage HUM jobs with a Production Group
005200
005300 IF (HUM)
005500 IF (HUMDB)
005600 SLM SERVICE PRODUCTION GROUP(HUMDB)
005700 ORIF (HUMPR)
005800 SLM SERVICE PRODUCTION GROUP(HUMPAYR)
005900 ORIF (HUMX)
006000 SLM SERVICE PRODUCTION GROUP(HUMEXPR)
006100 OTHERWISE
006110 SLM SERVICE PRODUCTION GROUP(HUM)
006120 ENDIF
006200 ENDIF ...

```

6.b. Identify a Quick Job in a Production Service Group

This feature may be of interest if your Production Service Groups include very short running jobs that you would like to give priority. It is appropriate to use when there is a mix of “quick” and “normal” jobs. If the environment has only short running jobs, the Quick Job feature is unnecessary.

To identify a Production Service Group job that is to be treated as a Quick Job, include in your JAL:

```

SLM SET QUICKJOB

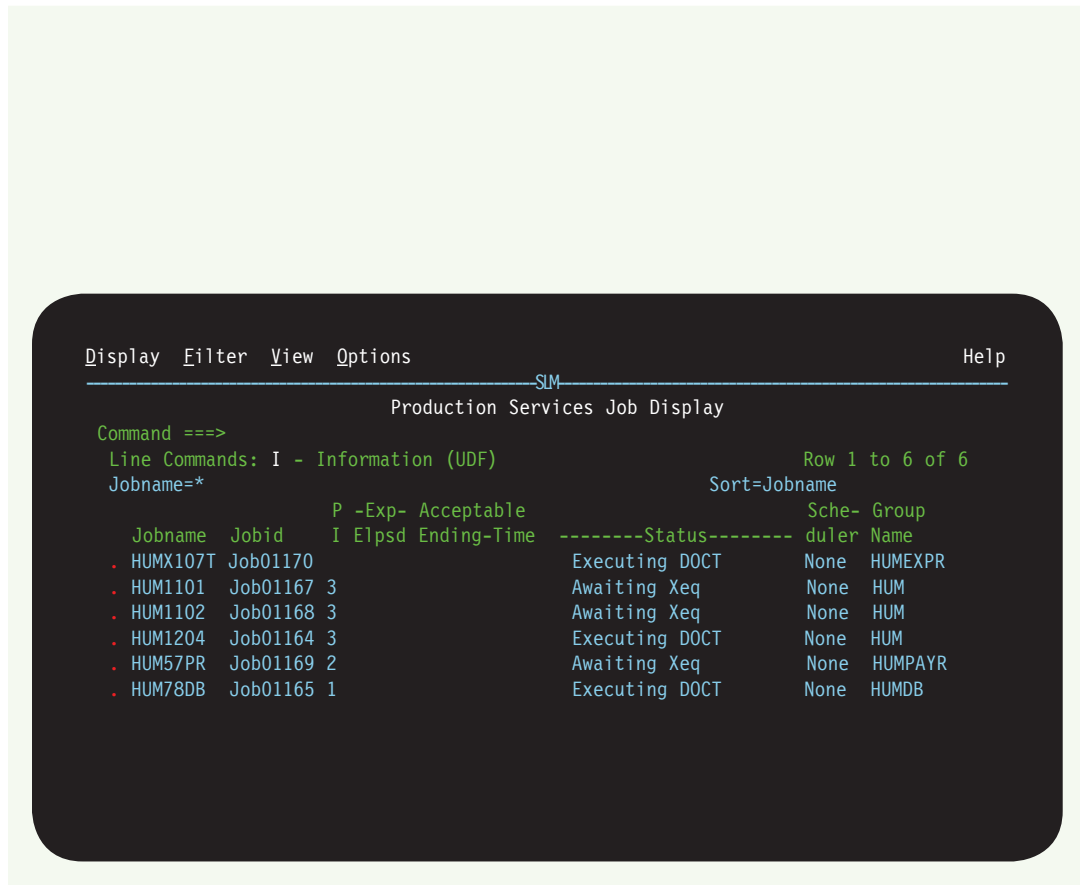
```

Runtime Features

ThruPut Manager feedback for Production Service Group jobs is similar to other jobs. Significant variations are noted here.

Runtime Displays

The **Production Services Job Display** panel is available to view the status of your Production Service Group jobs³.



UDF support for Production Service Group jobs is provided. Recall you can use **D** for more details, **V** for volume information, and **I** for initial information, as well as tab to any ThruPut Manager keywords, such as **JB** or **DCS** for specific binding or dataset contention information.

³ For Production Service Group jobs **Exp-Elpsd**, and **Acceptable Ending Time** are not populated and the value of is "None".

This example shows the detailed information for the **HUM57PR** job.

```

----- ThruPut Manager User Display Services V7 -----
Command ==>
                                Production Services Job Display
Command ==>
Line Commands: I - Information (UDF)          Row 1 to 6 of 6
Jobname=*                                     Sort=Jobname
      P -Exp- Acceptable
Jobname Jobid  I Elpsd Ending-Time  -----Status-----  duler Name
. HUMX107T Job01170 5      Executing DOCT      None HUMEXPR
. HUM1101  Job01167 3      Awaiting Xeq       None HUM
. HUM1102  Job01168 3      Awaiting Xeq       None HUM
. HUM1204  Job01164 3      Executing DOCT     None HUM
i HUM57PR  Job01169 2      Executing DOCT     None HUMPAYR
. HUM78DB  Job01165 1      Executing DOCT     None HUMDB
*-----SLM Production Services Information -----*
| HUM57PR(JOB01169)  - SLM DJ JB
| Executing DOCT
| Job Scheduler      : None
| Production Service Group : HUMPAYR
| Production Importance : 2
*-----*

```

Runtime Commands

Use the usual ThruPut Manager commands to display the status of Production Service Group jobs. To restrict (and restore) the flow of jobs in the PS queue, use the **SLM SELECT** command with the **NOPRODUCTION** and **PRODUCTION** (and the **ALL** and **NONE**) parameters.

The options of the **SLM FALLBACK** command affects whether a Production Service Group job is included in a “fallback” (and is requeued to the job class it would have been queued to had it not been SLM-managed). Production Service Group jobs are included in the **ALL** and **PRODUCTIONONLY** options.

See the *Command Reference Guide* for exact syntax and parameters.

Job Summary Report

The Job Summary Report can be included for the jobs assigned to a Production Service Group by selecting the appropriate option on the **Production Service Group Definition** panel. It is similar to the Job Summary Report for GS Service Group jobs, with the differences highlighted on the following example.

SLM Job Summary

```

***** SLM Job Summary *****
* Read on Node PARIS, System DOCT      Executed on Node PARIS, System DOCT      *
* Read at 11:12:17                      Recognized by SLM at 11:12:18                      *
* Elapsed time from when job was read in to SLM recognition... 00:00:01      *
* Job Selection Option: Prefer Production Services                          *
*                                                                              *
* Production Services Information:                                          *
*   Production Service Group Name: HUMDB      Description: For HR database jobs  *
*   Production Importance: 1 Scheduler Importance: 3                          *
* Queue Time Information:                                                  *
*   Actual... 00:03:07 Delay... 00:00:01 Effective... 00:03:06              *
*                                                                              *
* Queue Time Delays                                                        *
*   Datacenter..... 00:00:00 Operations..... 00:00:00 JTS..... 00:00:00    *
*   JSS..... 00:00:00 Scheduling Environment.. 00:00:00 User..... 00:00:00    *
*   Binding/Environment.... 00:00:00 Limiting..... 00:00:00 DJC..... 00:00:01 *
*   DBS..... 00:00:00 Resource Conflicts..... 00:00:00 DCS..... 00:00:00    *
*   Recalls..... 00:00:00 Virtual Volume Staging.. 00:00:00                *
*                                                                              *
* Times Restarted... 0                                                    *
*

```

SMF record

SMF records are available for each Production Service Group job.

ACM Considerations

This chapter explains how you specify Automated Capacity Management constraints for Production Service Groups.

We assume you are familiar with Automated Capacity Management (ACM) concepts and have set capacity management constraints for General Service Groups. Review the *Automated Capacity Management Guide* for the background motivation and concepts.

Constraints by Production Importance

Automated Capacity Management constraints for Production Service Groups are based on production importance. For each level of production importance, you specify what to do as the system reaches each *capacity level*.

There are two ways to constrain Production Service Group jobs. The first is to constrain the relevant jobs by *job selection point* which stems the flow of jobs by ensuring the jobs age to a particular service threshold before being eligible for selection.

The second way to constrain Production Service Group jobs is to reduce the processor resources consumed by the relevant workload by deploying Service Classes with reduced goals. These Service Classes have similar guidelines to those for the General Services queue. You can specify a different set for the PS queue, or use the same definitions for both the General Services and Production Services queues.

Apex Insurance determines once the system reaches capacity level three, all jobs with production importance of 5, 4, or 3 need to use the reduced-service Service Classes . (Later they may refine this strategy making more distinctions between the production importance levels.)

From this panel	key ...
ThruPut Manager Main Lobby	4 Automation Services
Primary Options	2 Automation File Services,
Automation File Services	1 Use an Existing File
AF file pop-up	"Enter" to accept "active" file
Selection Menu	2 SLM - Service Level Manager.
Policy Management	C to copy the active Policy
Policy Configuration Options	2 Configure Production Services
Configure Production Services	3 Automated Capacity Management (ACM)
Automated Capacity Management (ACM) Constraints	2 Constraints by Production Importance

```

- File                                                    Help
----- SLM -----
Automated Capacity Management (ACM) Constraints
Command ==> 2
Policy: PSPOLCY Description: With Production Service Groups
Last Modified: 10:52:42 By: USER01

Select one of the following:

1 Constraints by PCS Application
2 Constraints by Production Importance

+----- SLM -----+
| ACM Constraints by Production Importance |
| Command ==> |
| Production | Capacity Level | | | | | |
| Importance | 1 2 3 4 5 |
| | | | | | | |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| | | | | | | |
| Capacity Level at which jobs will be placed into |
| the ACM Service Class. |
| | | | | | | |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | 3 | (1-5 or blank) |
| 4 | 3 | |
| 5 | 3 | |
| Press END to accept changes |
| Press CANCEL to Cancel |
+-----+
    
```

Enable and Activate

Before you activate the new SLM Policy:

- If you haven't already set up the ACM Service Classes for the PS queue in Workload Manager. Remember to activate your WLM Policy.
 - Map these Service Classes to the relevant capacity level on the following panel.

From this panel	key ...
ThruPut Manager Main Lobby	4 Automation Services
Primary Options	2 Automation File Services,
Automation File Services	1 Use an Existing File
AF file pop-up	"Enter" to accept "active" file
Selection Menu	2 SLM - Service Level Manager.
Policy Management	C to copy the active Policy
Policy Configuration Options	1 Configure JESPLEX Characteristics
Configure JESPLEX Characteristics	1 WLM Service Class Definitions

```

- File                                                                                               Help
----- SLM Definition Services -----
                                           WLM Service Class Definitions

Command ==>

Policy: PSPOLCY   Description: With Production Service Groups
                  Last Modified: 11:17:07                      By: USER01

General Services                                     Production Services
Batch Importance 1: TMGS1                            Premium:
                2: TMGS2                            Production Importance 1: TMPS1
                3: TMGS3                            2: TMPS2
                4: TMGS4                            3: TMPS3
                5: TMGS5                            4: TMPS4
                                                    5: TMPS5

Automated Capacity Management (ACM)
General Services
Level 1:          2:          3:          4:          5:

Production Control Services
Level 1: TMPS1  2: TMPS2  3: TMPS3  4: TMPS4  5: TMPS5

Press PF1 for information and guidelines on specifying Service Classes.
    
```

ThruPut Manager AE

- Enable ACM on the following panel.

From this panel	key ...
ThruPut Manager Main Lobby	4 Automation Services
Primary Options	2 Automation File Services,
Automation File Services	1 Use an Existing File
AF file pop-up	"Enter" to accept "active" file
Selection Menu	2 SLM - Service Level Manager.
Policy Management	C to copy the active Policy
Policy Configuration Options	4 Automated Capacity Management
Automated Capacity Management	1 Configure Automated Capacity Management (ACM)

```
- File                                     Help
----- SLM -----
Automated Capacity Management Configuration
Command ==>

Policy: PSPOLCY   Description: With Production Service Groups
                Last Modified: 11:17:07                       By: USER01

Enter "/" to enable option
/ Enable Automated Capacity Management (ACM)
  Exempt all Quick Jobs from ACM

Enter "/" to update optional values
Update JESPLEX Member MSU Values

Threshold Values For Capacity Levels
Descending values with a maximum of 1 decimal place.
Level 1: 99.9
      2: 95.0
      3: 90.0
      4: 85.0
      5: 80.0
```

This is also where you can exempt Quick Jobs, including jobs assigned to a Production Service Group, from being constrained by the ACM feature.

Remember to activate the new Policy.

Feedback

The Policy Report contains information on ACM constraints based on production importance which apply to any jobs assigned to a Production Service Group. At runtime information on jobs constrained by ACM is provided by the **SLM DISPLAY SC** command and the Job Summary Report.

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ThruPut Manager AE Manuals¹

Essential Features

- Concepts Guide to ThruPut Manager AE Essentials
- Setup Guide to ThruPut Manager AE Essentials
- Runtime Guide to ThruPut Manager AE Essentials
- Production Services Supplement

Elective Features

- Automated Capacity Management Guide
- Base Product: System Programming Guide
- Drive Booking Services: System Programming Guide
- Dataset Contention Services: System Programming Guide
- Job Binding Services: System Programming Guide
- User Control Services: System Programming Guide
- Exits: System Programming Guide
- Virtual Volume Staging (VVS) Supplement
- User Control Services User Guide
- JES3 Compatibility Services Guide

Reference Guides

- z/OS 2.1 Supplement
- Installation Guide
- Version 7 Release Guide
- JAL Reference Guide
- DAL Reference Guide
- DAL/JAL User Guide
- JECL Reference Guide
- Command Reference Guide
- Messages

¹ Needs to be aligned with set available for the release this is published with.



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