

Manage your Workloads and Performance with z/OSMF

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z/OS Management Facility

- The IBM z/OS Management Facility provides a Web-browser based management console for z/OS.
- Helps system programmers to more easily manage and administer z/OS by simplifying day to day operations and administration.
- More than just a graphical user interface, the z/OS Management Facility provides real value
 - Automated tasks can help reduce the learning curve and improve productivity
 - Embedded active user assistance (such as wizards) guides you through tasks and helps provide simplified operations







IBM z/OS Management Facility ...



z/OS application, browser access

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- z/OS Management Facility is a Web 2.0 application on z/OS
 - Manages z/OS from z/OS
 - Browser communicates with z/OSMF via secure connection, anywhere, anytime
- z/OS Management Facility uses industry standards, such as Java[™], DOJO, and CIM
- Can exploit zIIP and zAAP engines, parts of z/OSMF use:
 - The z/OS CIM Server, Java
 - Workloads eligible for zAAP, or zIIP (with the zAAP on zIIP capability introduced with z/OS R11)



z/OSMF V1.13 SPE

- z/OSMF V1.13 got enhanced by a set of APARs in December 2012:
 - z/OSMF Framework (APAR PM74502)
 - including Browser Currency
 - z/OSMF WLM and z/OSMF RM (APARs PM74508, PM74517)
 - Application Linking and Launch in Context between Workload Management Task, System Status Task and Resource Monitoring Task
 - Capacity Provisioning Task (APAR PM74519)
 - Create, edit, and activate domain configurations and capacity provisioning policies
 - Software Management Task (APAR PM73833)
 - Incident Log (APAR PM74518)
 - ISPF Application (APAR PM74507)
- Please check

http://www-03.ibm.com/systems/z/os/zos/zosmf/enhancements.html









The z/OSMF Workload Management Task



z/OSMF Workload Management Functions



in San Francisco

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- Policy editor
 - Simplified creation and editing of WLM service definitions
 - The elements of a service definition are displayed in tabular form
 - Service definition elements are created or edited directly in tables
 - The creation and editing of WLM service definitions is supported by best practice checks
 - Support for review and investigation of WLM service definitions
 - Direct navigation between policy elements
 - Filtering, sorting, and search functions
 - Serialization of the editing of the installed service definition
- Policy repository
 - WLM service definitions are stored in a repository integrated in the z/OSMF file system
 - Service definitions can be exported to the local workstation or a host data set as well as imported from a file or a host data set
 - Policies or best-practice recommendations can be printed for further study
 - Integrated operation history makes manual tracking superfluous

z/OSMF Workload Management Functions (cont.)



- Installation of service definitions and activation of service policies
- Monitoring of the WLM status in the sysplex
 - WLM status report is automatically updated if the WLM status on the systems changes
- Administration and operation tasks can be performed simultaneously
 - Simplified migration: Policy elements can be copied from one service definition to another
 - Simplified operation: User can start to edit a service definition, interrupt the editing to activate a service policy, and then continue with the editing without losing the context
- z/OSMF Workload Management synchronizes automatically with z/OS WLM



z/OSMF Workload Management – Some Benefits



	Without WLM Policy Editor**	With WLM Policy Editor** in z/OSMF
	using WLM Administrative Application	
Optimization of a service definition based on best- practices	Read through WLM-related manuals and identify best-practices. Print out the service definition and investigate it with respect to proposed best- practices. If required, modify the policy elements correspondingly.	Check the best-practice hints the GUI displays for policy elements. If required, modify the policy elements correspondingly.
	Hours (or days when done initially)	Minutes (or hours when done initially)
Review of service definitions for daily changes, migration,	To get an overview of a service definition you have to print it to a data set, download the data set, and print it out or feed it into the Service Definition Formatter tool to filter and sort policy elements.	Open a service definition from the service definition repository. Navigate through it using links. Filter and sort policy elements in the tables.
consolidation	5-10 minutes until review can start	Seconds until review can start
Transfer policy elements from a test service definition to a production	Print out the test service definition and update the production service definition by typing in the changes.	Open the test and production service definition simultaneously and copy over the changed policy elements via copy&paste operations.
service definition	Up to several minutes per policy element	Seconds per policy element

** Based on IBM laboratory results, your results may vary



z/OSMF Workload Management Task Overview

SHARE Technology - Connections - Results

- Manage Service
 Definitions: Create,
 modify, import, export,
 print, install service
 definitions
- Manage Service Policies for Sysplex: Activate or view the service policies in the service definition that is currently installed in the WLM couple data set
- Manage Settings: Specify history length, codepage, user preferences
- View WLM Status:

Displays information about the service definition installed in the WLM couple data set and the service policy active in the sysplex





Service Definition Repository



- Integrated repository for service definitions
- Service definitions
 can be
 - Imported
 - Exported
 - Printed
 - Viewed or edited
 - Created or Copied
 - Installed on the sysplex
- Indications
 - If service definition is installed and active
 - If service definitions are being viewed or edited
 - If messages exist for a service definition

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Service Definition Editing



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- Simplified creation, modification and review of service definitions
 - Policy elements are presented in tables
 - Tables can be filtered and sorted
 - Direct editing of policy elements within tables
 - Best-practice hints are displayed automatically while specifying policy elements
 - Several service definitions can be opened simultaneously
 - Cut, Copy, Paste of policy elements between service definitions

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Service Definition History



- A history is provided for each service definition listing the activities performed on the service definition
- A service definition history contains edit, install, activate, import, export activities
- The history displays for each activity timestamp and user
- The user can customize how long the history is kept



Printing of Service Definitions and Service Policies



- Before printing, a **Print Preview** function enables to
 - filter service definition elements
 - apply service policies
- Hints, warnings can also be printed
- Besides printing, the Print Preview panel is well suited to get a general idea of a service definition



Service Definition Installation and Service Policy Activation



- A wizard enables to install and activate a service definition
 - 1. Review properties of currently installed service definition and the one that is going to be installed
 - 2.Select service policy to be activated
 - 3. Review summary of install and activate that will be done and trigger it
- If a backup data set has been specified in the Settings, a copy of the installed service definition is stored in that data set

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Manage Service Policies



- The Manage Service Policies task enables to
 - View or print the service policies of the installed service definition
 - Activate a service policy of the installed service definition
- The Manage Service Policies panel displays the state of the service policies in the installed service definition





View WLM Status

- The View WI M Status task displays
 - The active service policy
 - The WI M status on the systems in the sysplex
 - The installed service definition
- The WI M Status panel comprises the information provided by the MVS console command D WLM, SYSTEMS
- Information may be automatically refreshed



Fine-grained Authorization (V1.13)

- Separate authorization levels for
 - Viewing of service definitions, service policies, and WLM status
 - Installation and activation of service policies
 - Modification of service definitions
- In repository authorization mode the WLM authorization of roles is controlled by three tasks on the Roles panel:
 - Workload Management
 - Workload Management Install
 - Workload Management Modify
- In SAF authorization mode the WLM authorization of roles is controlled via the SAF resource names:
 - ZOSMF.WORKLOAD_MANAGEMENT.WORKLOAD_MANAGEMENT.VIEW
 - ZOSMF.WORKLOAD_MANAGEMENT.WORKLOAD_MANAGEMENT.INSTALL
 - ZOSMF.WORKLOAD_MANAGEMENT.WORKLOAD_MANAGEMENT.MODIFY
- To enable a role to launch the Workload Management task it is not sufficient to provide authorization for 'installation' or 'modification'; in addition the role has to be authorized for 'viewing'.





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WLM Component Environment Overview









z/OSMF Resource Monitoring



IBM z/OSMF Resource Monitoring

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Infrastructure



- Browser connects to z/OSMF
- z/OSMF Resource Monitoring can connect to all systems where the RMF Distributed Data Server (DDS) is running



IBM z/OSMF Resource Monitoring ...



System Status Task





Resource Monitoring – Sysplex Definitions

Enterprise-wide Connections to RMF Distributed Data Server (DDS)

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Resource Monitoring – Sysplex Definitions

Add a new Entry



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Resource Monitoring – Sysplex Definitions



Add a new Entry

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System Status 🕨 Add Entry	
Add Entry	
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myhost1.us.ibm.com	
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IBM z/OSMF Resource Monitoring ...



Resource Monitoring Task: Monitoring Dasboards

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Predefined Dashboards

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Predefined Dashboards





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	XCF Activity				



RMF XP – Component Overview

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RMF XP – Invocation



- Started Task: SYS1.PROCLIB(GPM4CIM)
- Runs in USS Environment via BPXBATCH
- Multiple instances can run in parallel: one STC per platform
 - S GPM4CIM.GPM4A,OS=A
 - S GPM4CIM.GPM4X,OS=X
 - S GPM4CIM.GPM4Z,OS=Z

//GPM4CIM	PROC	OS=X			
//STEP1	EXEC	PGM=BPXBATCH,TIME=NOLIMIT,REGION=0M,			
<pre>// PARM='PGM /usr/lpp/gpm/bin/gpm4cim cfg=/etc/gpm/gpm4&OScfg'</pre>					
//STDENV	DD	PATH='/etc/gpm/gpm4cim.env'			
//STDOUT	DD	PATH='/var/gpm/logs/gpm4cim&OSout',			
//	PATHOPTS=(OWRONLY, OCREAT, OTRUNC),				
//	PATHMODE=(SIRUSR,SIWUSR,SIRGRP)				
//STDERR	DD	PATH='/var/gpm/logs/gpm4cim&OStrc',			
//	PATHOPTS=(OWRONLY, OCREAT, OTRUNC),				
//	PATHMODE=(SIRUSR,SIWUSR,SIRGRP)				
//SYSPRINT	DD	SYSOUT=*			
//SYSOUT	DD	SYSOUT=*			
//	PEND				


RMF XP – z/OSMF Integration



vashboards z/OS & AIX 🕨	x			
z/OS & AIX (Running)				
Start Pause Save A	ctions 🔻			
▼ TCB+SRB by job				
ZMF3.RMFGAT [005C]	1		p6rmf2.topasrec[3932324]	5.099469e+11
ZMF4.RMFGAT [002E]	1	- 1	p6rmf2.cimserver[5046452]	2.045384e+11
ZMF2.RMFGAT [005E]	0.9	=	p6rmf1.cimserver[6684754]	1.475561e+11
ZMF1.RMFGAT [005F]	0.9		pbxrmf1.2949288	8.9292e+10
ZMF3.WLM [000A]	0.2		p6rmf1.getty[2097350]	1.395935e+10
ZMF1.BBOS001 [006E]	0.2		p6rmf2.java[4784296]	9.517429e+09
ZMF1.BBOS001S [0073]	0.2		p6rmf1.java[3801226]	7.905521e+09
ZMF5.BB050015 [0008]	0.2		tmcc-123-131.7012598	6.869328e+09
ZME1 WI M [000A]	0.2	-	p6rmf2.syncd[1245310]	4.058761e+09
,LOCALPLEX,SYSPLEX %	appl (TCB + SRB) by job		,AIX,AIX_SYSTEM_COMPLEX AC	ccumulatedTotalCPUTime by process [filtered]
02/07/2013 0	8:31:00 - 02/07/2013 08:32:00 (2/2)		02/07/2013 08:30:	00 - 02/07/2013 08:32:00 (1/1)







Linking Workload Management with Resource Monitoring



Application Linking with Workload Management and Resource Monitoring



- The definitions of Workload Management determine the performance behavior of the systems.
- Resource Monitoring visualizes the performance behavior.
- Link z/OSMF WLM and RM to each other:
 - When working with WLM service definitions
 → Jump to Resource Monitoring to visualize the resulting performance.
 - When noticing conspicuous performance behavior in Resource Monitoring
 → Jump to Workload Management to look at the service definition.
- Performance metrics can be viewed more easily in context with the active service definition/policy and vice versa.



Scenario: Start with Workload Management

зlр





From WLM Status Link to System Status Task

Welcome X Workload Man... X Help Workload Management WLM Status X Overview WLM Status for Sysplex ZMF1PLEX from System ZMF2 Active Service Policy (View performance of active policy) Name: STANDARD Description: BB default policy 1 Jan 29, 2013 3:14:59 PM GMT Activated: Activated by: jbau from system ZMF2 Related service definition: DEFAULT Functionality level: 4 Installed: Jan 29, 2013 3:14:59 PM GMT Installed by: jbau from system ZMF2 Systems (View performance of systems) Actions Search Activated (GMT) **GPMP Status** WLM Version **Used Service** WLM Status CD Name Policy Level Le Filter Filter Filter Filter Filter Filter Filter ZMF1 STANDARD Jan 29, 2013 3:14:59 PM Active Unavailable ZMF2 STANDARD Jan 29, 2013 3:14:59 PM Active Unavailable 25 3 ZMF3 STANDARD Jan 29, 2013 3:14:59 PM Active Unavailable ZMF4 STANDARD Jan 29, 2013 3:14:59 PM Active Unavailable ZMF5 STANDARD Unavailable Jan 29, 2013 3:14:59 PM Active <. III Total: 5 **Installed Service Definition** DEFAULT Name: Description: BB default WLM policy - test Installed: Jan 29, 2013 3:14:59 PM GMT Installed by: jbau from system ZMF2 Refresh Automatic refresh Last refresh: Jan 30, 2013 11:13:10 AM local time (Jan 30, 2013 10:13:10 AM GMT)





System Status

z/OS

Welcome X Workload Man... X System Status X

System Status

IRDPLEX

Use this page to quickly assess the performance of the workloads running on the sysplexes in your installation. You can also use this page to define the target systems for the sysplexes and AIX or Linux system complexes that you want to monitor in the Resource Monitoring task.

Res	sources				
	Resource	System Type	Connectivity	Performance Index Status	Related Service
	Filter	Filter	Filter	Filter	Definition
					Filter
	LOCALPLEX	z/OS	Connected	PI > 1 for unimportant periods	DEFAULT
	SCLMPLEX	z/OS	Connected	💟 PI <= 1 for all periods	Default
	SYSPLEX	z/OS	Connected	PI <= 1 for all periods	SYSTES2

Error

Total: 4, Selected: 1

Refresh Last refresh: Jan 30, 2013 11:18:00 AM local time (Jan 30, 2013 10:18:00 AM GMT)

Automatic refresh





Help

Active WLM Policy

Filter

STANDARD STANDARD STANDARD

Welcome X Workload Man... X System Status X

System Status

Use this page to quickly assess the performance of the workloads running on the sysplexes in your installation. You can also use this page to define the target systems for the sysplexes and AIX or Linux system complexes that you want to monitor in the Resource Monitoring task.

Resources Actions 🔻 Performance Index Status Resource System Type Connectivity **Related Service** Active WLM Policy Definition Filter Filter Filter Filter Filter Filter LOCALPLEX 7/05 ▲ PI > 1 for unimportant periods DEFAULT STANDARD Connected Modify Entry SCLMPLEX Connected PI <= 1 for all periods Default STANDARD Remove Entry PI <= 1 for all periods</p> SYSTES2 SYSPLEX STANDARD View Performance Index Details × IRDPLEX z/OS Active WLM Service Definition Active WLM Policy WLM Status Total: 4, Selected: 1 Refresh Last refresh: Jan 30, 2013 11:20:04 AM local time (Jan 30, 2013 10:20:04 AM GMT) Automatic refresh

SHARE Technology - Connections - Results

Help



Welcome X Workload Man... X System Status X

System Status

Use this page to quickly assess the performance of the workloads running on the sysplexes in your installation. You can also use this page to define the target systems for the sysplexes and AIX or Linux system complexes that you want to monitor in the Resource Monitoring task.

		Syst	em Type	Connectivity		Performance Index Status	Related Service	Active WLM P	olicy
lter		Filter		Filter		Filter	Eitter	Filter	
OCALPLEX		7/05		Connected		▲ PI > 1 for unimportant periods	DEFAULT	STANDARD	
CLMPLEX	Modify Er	ntry Entry		Connected		PI <= 1 for all periods	Default	STANDARD	
YSPLEX	View	Liiti y •	Performanc	e Index Details	1	PI <= 1 for all periods	SYSTES2	STANDARD	
DPLEX	<u>d</u>	z/OS	Active WLM	I Service Definition	F	Resource Monitoring			
			Active WLM	I Policy		Dashboards Performance Ind	ex - LOCALPLEX 🍃	×	
					1		-		
						Performance Index - L	OCALPLEX (R	unning)	
						Start Pause Save A	ctions 🔻		
						✓ Important Service Class Period	riods	Service Class Pe	eriods
						PRDISO.1		STCCMD.1 🕨	0.67
								PRDTSO.1	0
: 4, Selec	ted: 1								
		20		0.4 AM land time (7-	- 20	2012 10:20:04 AM CMT)			

SHARE Tethnager- Center

Help

Welcome X Workload Man... X System Status X

System Status

Use this page to quickly assess the performance of the workloads running on the sysplexes in your installation. You can also use this page to define the target systems for the sysplexes and AIX or Linux system complexes that you want to monitor in the Resource Monitoring task.

Resources Actions 🔻 Resource System Type Connectivity Performance Index Status **Related Service** Active WLM Policy Definition Filter Filter Filter Filter Filter Filter LOCALPLEX 7/0S DEFAULT ▲ PI > 1 for unimportant periods STANDARD Connected Modify Entry SCLMPLEX STANDARD Connected PI <= 1 for all periods Default **Remove Entry** SYSPLEX PI <= 1 for all periods SYS TES2 STANDARD Performance Index Details View ۲ IRDPLEX z/OS Active WLM Service Definition Resource Monitoring Active WLM Policy Dash WLM Status Workload Management P Overview WLM Status X View DEFAULT X St This service definition is installed and policy STANDARD is active -Service Definition Details Service definition name: DEFAULT Description: BB default WLM policy - test Functionality level: 004 Total: 4, Selected: 1 Refresh Last refresh: Jan 30, 2013 11:20:04 AM local time (Jan 30, 2013 10:20:04 AM GMT) Automatic refresh SHARE •••• in San Francisco



2013

45

Help

Welcome X Workload Man... X System Status X

System Status

Use this page to quickly assess the performance of the workloads running on the sysplexes in your installation. You can also use this page to define the target systems for the sysplexes and AIX or Linux system complexes that you want to monitor in the Resource Monitoring task.

Resources Actions 🔻 Performance Index Status Resource System Type Connectivity **Related Service** Active WLM Policy Definition Filter Filter Filter Filter Filter Filter LOCALPLEX 7/05 STANDARD ▲ PI > 1 for unimportant periods DEFAULT Connected Modify Entry STAN DARD SCLMPLEX Connected PI <= 1 for all periods Default **Remove Entry** STANDARD SYSPLEX PI <= 1 for all periods SYSTES2 Performance Index Details View ۲ IRDPLEX z/OS Active WLM Service Definition Resource Monitoring Active WLM Policy Dash WLM Status Workload Management Per Workload Management Ove St Ŧ Overview WLM Status X View DEFAULT X S. Service Policies Properties This service definition is installed and policy STANDARD is active Sei Properties for Active Service Policy DEF Des Service policy name: Description: BB STANDARD BB default policy 1 Fun 004 Service Class Overrides Resource Group Overrides Actions - Table view: Tree Total: 4, Selected: 1 Service Class Period Importance Duration Goal Type Resp Refresh Last refresh: Jan 30, 2013 11:20:04 AM local time (Jan 30, 2013 10:20 Goal Filter Filter Filter Filter Filter Automatic refresh Filter •••• in San Francisco



Help

2013

Welcome X Workload Man... X System Status X

System Status

Use this page to quickly assess the performance of the workloads running on the sysplexes in your installation. You can also use this page to define the target systems for the sysplexes and AIX or Linux system complexes that you want to monitor in the Resource Monitoring task.

Resources Actions 🔻 Resource System Type Connectivity Performance Index Status **Related Service** Active WLM Policy Definition Filter Filter Filter Filter Filter Filter LOCALPLEX 7/05 ▲ PI > 1 for unimportant periods DEFAULT STANDARD Connected Modify Entry SCLMPLEX STANDARD Connected PI <= 1 for all periods Default **Remove Entry** PI <= 1 for all periods SYSPLEX SYSTES2 STANDARD Performance Index Details View ۲ IRDPLEX z/OS Active WLM Service Definition Resource Monitoring Active WLM Policy Dash WLM Status. Workload Management Pe Workload Management Ove St . Overview WLM Status X View DEFAULT X Ser ANDARD is active Workload Management Sei Pro DEF Des Overview WLM Status Serv BB STA WLM Status for Sysplex ZMF1PLEX from System ZMF2 Fun Active Service Policy (View performance of active policy) 004 STANDARD Ser Name: BB default policy 1 Description: V Activated: Jan 29, 2013 3:14:59 PM GMT Total: 4, Selected: 1 Activated by: jbau from system ZMF2 Resp Refresh Last refresh: Jan 30, 2013 11:20:04 AM local time (Jan 30, 2013 10:20 Related service definition: DEFAULT Goal Functionality level: Automatic refresh 4 Filter Installed: Jan 29, 2013 3:14:59 PM GMT Installed by: • • • • in San Francisco jbau from system ZMF2 2013

Technology - Connections - Recult

47



Link from WLM Status to Service Class Metrics



Automatic refresh Last refresh: Jan 30, 2013 11:13:10 AM local time (Jan 30, 2013 10:13:10 AM GMT)

Refresh





Dashboard with WLM Service Class Metrics







Link to WLM Service Class Definition







Service Class in Workload Management

..................







Switch to Edit Mode

0	rkl	oad Ma	nagen	nent								
					ALU T 3							
er	view		tus 🔺	VIEW DEF	AULI							
				Th	is servi	ce definition is installed a	nd policy STANDA	RD is activ	ve	Dot Not	es Sw	vitch To
er	vice	e Classes								Service Definit	ion Details	
7	F	Actions	Table	view: Tree	-					Service Policie	s	
		Actions			-		-			Workloads		
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	riiter		riller	riiter	riller	T III.CT	(hh:mm:ss.ttt)	Filter		Resource Grou	ips	
	_						Filter			Report Classes	3	
	±	BATCH1								Classification (Groups	
	±	BATCH2								Classifications		
	+	BATCHHI								Application En	/ironments	
	±	BATCHLOW								Resources	vicencete	
	+	BATCHMED								Scheduling En	Aronments	
	±	BATCHRSP								Messages		
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	=	HOTTSO								No	REGTSO	TSO
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	±	IRLM								No		BAT
	±	OE								No	REGTSO	OW/
	±	OMVS								No		BAT
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	±	PRDTSO								No	REGTSO	TSO
	±	STCCMD								No	REGSTC	STC
	+	STCLO								No	BATCHVEL	STC
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1		TSOEVEN	1							No		BAT
	1											





Switch to Edit Mode

en	viev	WLM Sta		ner _{View}	nt DEF	AULT >	ĸ							
erv	/ic	e Classes			Th	is servio	ce definition is inst	talled an	d policy STANDA	RD is acti	ve	Not	es Sv	vitch To
1		Actions 🔻	- Table v	view:	Tree	e								Sea
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F	ilte	r	Filter	Filter		Filter	Filter		Time Goal	Goal	Goal	Critical	Group	Filter
									Filter	Filter	Filter	Filter	Filter	
	÷	BATCH1										No		BATC
	+	BATCH2										No		BATC
	+	BATCHHI			W	arning						No		BATC
	±	BATCHLOW				A 17						No		BATC
	±	BATCHMED			1	You are going to modify the currently installed service No					BATC			
	+	BATCHRSP				de	finition. When you	i save ar	ny change, z/OSN	4F incorpo	rates	No		BATC
	+	DISCRET				yo im	imediately installs	the upda	ated version into	the z/OS		No		BATC
	=	HOTTSO				We	orkload Manager o	couple da	ata set.			No	REGTSO	TSO
		HOTTSO	1				Do not	show th	is message again				REGTSO	TSO
	+	IRLM						anow ch	is message again			No		BATC
	+	OE				0	OK Cancel				No	REGTSO	OMV	
	±	OMVS				-						No		BATC
	±	OMVSKERN										No		BATC
	+	PRDTSO										No	REGTSO	TSO
	+	STCCMD										No	REGSTC	STC
	±	STCLO										No	BATCHVEL	STC
	÷	STCSYS										No	HIGHPRTY	STC
	+	STORPROC										No		BATC
	1	TSOEVEN										No		RATO



Message IZUW989W is introduced with APAR PM74925, available now.



Modify Service Definition

rvic	e Classes	tus A	Modify DE	FAULT	ce definition is installed a	nd policy STANDA	RD is activ	ve	🗐 Not	es Sv	vitch To `
3	🕕 Acti	ons 🔻 1	Fable viev	v: Tree			1			1	Searc
Na	me	Period	Importa	Durati	Goal Type	Response Time Goal	Percent	Velocity	CPU	Resource	Work
Filter	r	Filter	Filter	Filter	Filter	(hh:mm:ss.ttt)	Filter	Filter	Filter	Filter	Filter
±.	* BATCH1								* No		* BAT
÷	* BATCH2								* No		* BAT
Đ	* BATCHHI								* No		* BAT
÷	* BATCHLC								* No		* BAT
÷	* BATCHME								* No		* BAT
+	* BATCHRS								* No		* BAT
÷	* DISCRET								* No		* BAT
	* HOTTSO								* No	REGTSO	* TSO
	HOTTSO	1	* 1		* Percentile Response Tin	* 00:00:00.500	* 95			REGTSO	TSO
÷	* IRLM								* No		* BAT
±	* OE								* No	REGTSO	* OM\
±	* OMVS								* No		* BAT
±	* OMVSKEI								* No		* BAT
+	* PRDTSO								* No	REGTSO	* TSO
±	* STCCMD								* No	REGSTC	* STC
(+)	* STCLO								* No	BATCHVEL	* STC
•				111							•





Switch to Related Workload

Vorkle	oad I	Management							He
verview Service	Class	Status X Modify DEFAULT X This service de	finition is installed an	nd policy STANDA	RD is acti	ve	D Not	es Sw	/itch To ▼
	Ø,	Actions 🔻 Table view: Tree	_						Search
Nam	ne	Expand Collapse	Туре	Response Time Goal	Percent Goal	Velocity Goal	CPU Critical	Resource Group	Worklo
TILCI		New Period		(hh:mm:ss.ttt) Filter	Filter	Filter	Filter	Filter	Tiller
÷ *	BATCH	Cut to Clipboard					* No		* BAT -
•	BATCH	Copy to Clipboard					* No		* BAT
	BATCH	Move Periods					* No		* BAT
	BATCH						* No		* BAT
🗌 🛨 *	BATCH	View Cross Beforences	Recourse Croup R	ECTEO	1		* No		* BAT
	BATCH	View Messages	Resource Group REGTSO				* No		* BAT
• •	DISCRE	View Performance of Selected	Classification P	(c) of Classification	IN TSO		* No		* BAT
2 = *	HOTTS	Exceed All	Classification reale				* No	REGTSO	* TSO
2	нотт		centile Response Tirr	* 00:00:00.500	* 95			REGTSO	TSO
. + *	IRLM	New Service Class					* No		* BAT
	OE	Paste Service Classes					* No	REGTSO	* OM\
. ± *	OMVS	View Performance of All					* No		* BAT
• •	OMVSH						* No		* BAT
	PRDTS						* No	REGTSO	* TSO
• •	STCCM	Configure Columns					* No	REGSTC	* STC
+ *	STCLO	Modify Filters					* No	BATCHVEL	* STC
•		Hide Filter Row							•
Total: 62	2, Selec	Clear Filters							
Reapply	/ Filter	Modify Sort							
ок	Apply	Clear Sorts							
			1						





Workloads

..............

.....

🖞 🛅 🗍 🗊 🕴 Actio	ns 🔻			Sear
Name	Description	Messages	Last Modified (GMT)	Modified B
Filter	Filter	Filter	Filter	Filter
* APPC	APPC		Mar 30, 2011 2:31:17 PM	debug1
* BATCH	Batch workload		Oct 16, 1998 11:58:16 AM	tage
CICS	Production CICS		Oct 16, 1998 11:58:30 AM	tage
* OMVS	Unix System Services		Oct 16, 1998 12:01:03 PM	tage
* STC	STC		Oct 16, 1998 12:01:45 PM	tage





Link to Workload Metrics

erview WL	M Status X Modify DEFAULT X			
orkloads	This service definition is in	nstalled and policy STAN	DARD is active	s Switch To
Ż 🗖 🗍 🗭	Actions 🔻			Sear
Name	Cut to Clipboard	Messages	Last Modified (GMT)	Modified B
Filter	Copy to Clipboard	Filter	Filter	Filter
* APPC	Delete		Mar 30, 2011 2:31:17 PM	debug1
* BATCH	View Cross References		Oct 16, 1998 11:58:16 AM	tage
* cics	View Messages		Oct 16, 1998 11:58:30 AM	tage
* OMVS	View Performance of Selected		Oct 16, 1998 12:01:03 PM	tage
* STC	New		Oct 16, 1998 12:01:45 PM	tage
* TSO	Paste		Oct 16, 1998 12:01:52 PM	tage
	Select All Deselect All Configure Columns Modify Filters Hide Filter Row Clear Filters Modify Sort Clear Sorts Clear Search			
		III		
<				





Dashboard with WLM Workload Metrics



ooards WL	M Service Class - LOCALPLEX 🕨 🗴 WLM Workload	d - Localplex 🕨	x
M Worklo rt Pause	ad - LOCALPLEX (Running) Save Actions 🔻		
xecution Vel	ocity		ne
STC 🗈	100	SYSTEM	0.019
SYSTEM	90	OMVS 🕨	0
BATCH 🕑	0	BATCH D	0
OMVS 🕨	0	TSO 🕨	0
TSO 🕨	0	STC 🕑	0
,LOCALPLE	X,SYSPLEX execution velocity by WLM workload	,LOCALPLE	EX,SYSPLEX response time by WLM workload
01/30/	2013 13:47:00 - 01/30/2013 13:48:00 (1/1)	01/30/	/2013 13:47:00 - 01/30/2013 13:48:00 (1/1)



User Customization of Dashboard used for Linking





- The user can customize dashboards opened by Application Linking and save them to the Dashboards list.
- ➔ In the future, the Dashboard can be opened directly in Resource Monitoring, using the Dashboards list.
- ➔ Similar application linking events will use the saved dashboard.



Conditions for Linking between WLM and RM



San Francisco

2017

- In the Workload Management task, the "View Performance ..." actions and links are only available if the service definition in the View/Modify tab is currently activated in the sysplex.
- In the System Status task, the WLM related "View" actions (and corresponding links) are only available if the selected resource is the z/OS sysplex where z/OSMF is running in (local sysplex).
- In a monitoring dashboard, the context menu icon is only visible if the performance data is retrieved from the local sysplex and the chart is related to WLM definitions, i.e.,
 - The resources in the chart are WLM service classes, service class periods, report classes, or workloads.

or

 The metric is filtered by a workscope of a WLM service class, service class period, report class, or workload. (Example: "% using by MVS image [BATCH,S]", where "[BATCH,S]" means: filtered by workscope of service class "BATCH")





The z/OSMF Capacity Provisioning Task



IBM z/OS Management Facility Capacity Provisioning Task





- View the domain status, active configuration and active policy
- Full editing capability for Policies and Domain Configurations
- Import/Export functionality
- Install and Activate functionality
- Copy/Paste support
 - Whole policies or domain configurations
 - Single elements
- No installation on local workstation required
- Multi User support

IBM z/OS Management Facility	V	leicome bossuda Log out IBM.					
Welcome Configuration Links Performance Resource Monitoring Resource Monitoring	Welcome X Capacity Pro X Capacity Provisioning Overview Policies X Doma 2/05 Capacity Provisioning ba	Help					
System status Workload Management Problem Determination Software Z/OS Classic Interfaces Z/OSMF Administration Z/OSMF Settings Refresh	ZUS Capacity Provisioning Near Provisioning neigh you manage additional processor capacity of system 2 servers. The Provisioning Nearger monitors the workload on a set of 2/OS systems and organizes the adjustment of the set of 2/OS systems and organizes the configuration and the rules for additional capacity allocation in a policy Use this task to work with Capacity Provisioning. To get started, select one of the following actions. View Status and Define Connections Provisioning Manager View tha status of your Provisioning Manager. Use this link to the accession for your devisioning the sector.						
	Manage Domain Configurations	Define, modify, view, import, export, or install and activate a domain configuration.					
	Policies	Define, modify, view, import, export, or install and activate a provisioning policy.					
	Settings	Set preferences for the time zone settings before you start working.					



Provision Manager Reports in z/OSMF



IB	M z/OS N	Management	Facility					IBM z/OS Management Facility			
Wel	come ×	Capacity Pro	х					Welsons X Consituation X			
								Welcome Capacity Pro			
Ca	pacity P	Provisioning	l	IBM	z/OS Management Facility			Capacity Provisioning			
C	verview	Provisioning M	anager X	Welco	me X Capacity Pro X			Overview Provicioning Manager			
P S	Provisioning Manager Active Configuration System Details System Details This area about detailed information about the a local data in the second s			Capacity Provisioning				Provisioning Manager > Domain Status			
À	III timestam	nps below are s	hown in GMT.		, , , , , , , , , , , , , , , , , , ,			This page shows information about the current state of the Provision			
•	General			Provisioning Manager Active Policy				All timestamps below are shown in GMT.			
	Configuration: IRD6 System: IRD6 Sysplex: IRD4PLEX Status: Zenabled Default status: Zenabled			Active Policy for Domain FCTRS This page shows information about the active policy. All timestamps below are shown in GMT. Active policy: CHKW456 Status: CEnabled				Domain name: FCTRS Provisioning Manager start time: Jan 18, 2013 8:07:35 AM Processing mode: Autonomic			
				Ad	tions 🔻 Table view: Tree			Processing mode activation time: Jan 18, 2013 8:07:36 AM Configuration name: CPDFCT			
•	▼ Connection				Type Name Status			Configuration activation time: Jan 17, 2013 1:03:32 PM			
•	Protocol/Port:				Filter	Filter CHKW456	Filter	Policy name: CHKW456			
			H11P/5900	0	O Policy			Code level: 13017			
			Primary Host	0	Logical processor scope						
	Address		boeird6.boeblingen.de.ibm.com	0	Maximum processor scope						
	Connectio	on status	Available		Maximum processor limit	P35		MSU limit: 9999; zAAP limit: 77; zIIP limit: 999			
	Status sin	nce	Jan 18, 2013 7:15:50 AM		Maximum processor limit	ECL2		MSU limit: 9999; zAAP limit: 254; zIIP limit: 255			
	System st	tatus	Sysplex valid	0	E Rule	RCHECKOU	Enabled	Default status: Enabled			
	Observati	ion status	Observed	0	Processor scope						
	Running o	on CPC	P35	0	Processor limit	P35		MSU limit: 600; zAAP limit: 1; zIIP limit: 1			
	▼ WLM				Processor limit	ECL2		MSU limit: 500; zAAP limit: 1; zIIP limit: 1			
•						CCHECKOU	Enabled	Default status: Enabled			
				0	Recurring time condition	RTC	Pending	Start: Nov 13, 2012; End: Feb 28, 2013; Days: XXXXXoo			
	Policy:	efinition:	CPOPOL #1	0	Workload condition	WORKLCPU		System: Any in sysplex; Sysplex: IRD4PLEX			
		Croroc+1			Included service class	CPULOW		Service class: CPULOW; Period: 1			
	Close										
				To	tal: 13, Selected: 0						

Refresh Last refresh: Jan 18, 2013 12:39:43 PM local time (Jan 18, 2013 11:39:43 AM GMT)



Domain Configuration Editing in z/OSMF

IBM z/OS Management Facility



M 7/05 M	Janagement Facility			Welcome bossuda	Conneltor	Descriptor			
111 2/00 1				Traconic boobada	Capacity	Provisionii	19		
lcome x	Capacity Pro X		Overview Domain Configurations X Modify CICSITEM X						
Capacity Provisioning Overview Policies Domain Configurations Domain Configurations Main Configurations Domain configurations describe the managed CPCs and observed systems in a domain.						CICSITEM > IRD5 System IRD5 Define the system to be monitored by the Provisioning Manager and a system name. * System: IRD5 IRD4 IRD5			
	Actions T	* Default status:							
	View				Enabled				
Nam	Modify Delete		Activity	Message	<pre># Primary host address: 9.152.87.209</pre>				
Filter			Filter	Filter					
GFLY1				🗥 Warning	Alternate	nost address:			
HRP91	Copy	or H91 R91 and P91			boeird5.b	oeblingen.de.il	om.com		
HRP91	Install	r H91 R91 and P91			* Protocol				
TEST	Export To File				нттр	•	-		
	New								
	Import	From Domain			* Port:				
	Activate	From File		5988					
	Select All				▼ Define	d Systems			
	Configure Columns				System	Sysplex	Default Status	Primary Host Ad	
	Modify Filters				IRD4	IRD4PLEX	Enabled	9.152.87.208	
	Hide Filter Row				IRD5	IRD4PLEX	Enabled	9.152.87.209	
	Clear Filters						6.1	20	
Total: 4,	Modify Sort					ancel			
):20:30 AM local time (Jan 18, 2013 9:20:30 AM (



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Policy Editing in z/OSMF

			IBM z/OS Management Facility Welcome	e shara01	Technology - Connections
			Welcome X Capacity Pro X		
			Capacity Provisioning		
I Z/OS M	lanagement Facility		Overview Policies X Modify ATSHARE X		
ome X	Capacity Pro 🗴		ATSHARE IN New Maximum Processor Limit		
Dacity P	rovisioning		Maximum Processor Limit New	IBM z/OS Management Facilit	у
aniau	Delicing X		Define the processor limit for a CPC. A processor limit places restrictions on be activated for the CPC through all the policy rules and define the amount	in Welcome X Capacity Pro X	
erview	Policies				
olicies			* CPC:	Capacity Provisioning	
ovisioning	policies contain a set of ti	me and workload o		Overview Modify ATSHARE X	
e list of po	olicies stored in the z/OSM	F repository (all tim	* Max. MSU:	ATSHARE Modify	
	Actions 🔻)	0	Rule RUL Delete	
Nam	View	4	* Max. zAAP processors:	Define a pre	a processor so
Filter	Modify	Filt		activated by New	- 36
ATSHA	Delete	ionina Demo Policy		* Rule nam Paste	Description:
	Copy	,	* Max. zIIP processors:	RULE221 Select All	Activation of pr
	Install		0	Configure Columns	
	Export To File		* Primary activation (MSU):	* Default st Modify Filters	
	New			Enabled Hide Filter Row	
	Import +	From Domain	¥	Clear Filters	
	Activate	From File	* Secondary activations (MSU):	Processor Modify Sort	
[Select All			Clear Sorts	
[Deselect All				
	Configure Columns		OK Cancel	CPC Max. MS	SU Max. zA Process
	Modify Filters			Filter	Filter
	Hide Filter Row			CPC88	100
	Clear Filters			P35	100
Total: 1,	Modify Sort				
			time (Jan 18, 2012 0.05.20 AM CMT)		

•••• in San Francisco 2013

Policy Editing Guided by Messages

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		-								317
			Capacity Pro	ovisioning						He
			Overview Po	olicies X View A	TSHARE X					
			Policy ATS	HARF					1 Message	s Switch to
me	X Canaci	ity Pro. X	A provisioning	policy contains a	set of provision	^{ing} Messages				risioning
	Capaci		capacity. The	maximum process the systems on w	which additional or scope restric hich Canacity Pr	ts Actions 🔻			Searc	h cessor
acit	ty Provis	sioning	for these syste	ems.	non capacity in	Message ID	Message Text		element	
			Policy name:	Description:		Filter	Filter		Filter	
ervie	ew Policies	s X	ATSHARE	Capacity Provis	ioning Demo Po	lic 🛕 IZUCP2633W	Max. MSU value 700 than Max. MSU value Maximum Provisioning	is greater 500 in	Processor limit "CPC88"	
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			Maria Dec	cessor Scope	onical Processor			ATCHA	DE N Bulat N CDC99	
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Navigation between Edit Elements







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Import and Installation

Capacity Provisioning

Overview Policies X

Policies

Provisioning policies contain a set of time and workload co The list of policies stored in the z/OSMF repository (all time



68 Complete your sessions evaluation online at SHARE.org/SanFranciscoEval







WLM, RMF, CPM Sessions

- 12792: Remote RMF Report Access Hands-on Lab
 - Juergen Baumann

Monday 02/04, 3:00-4:00 PM, Union Square 23-24, Fourth Floor

- 13088: Workload Management Update for z/OS V1.13 and V1.12
 - Brad D. Snyder Tuesday 02/05, 4:30-5:30 PM, Yosemite C, Ballroom Level
- 13099: Capacity Provisioning Update for z/OS V1.13 and V1.12

Juergen Baumann,

Wednesday 02/06, 6:00-7:00 PM, Yosemite C, Ballroom Level

- 13089: RMF: The Latest and Greatest
 - Brad D. Snyder

Thursday 02/07, 8:00-9:00 AM, Yosemite C, Ballroom Level

13090: z/OS Workload Manager: What Are You Thinking

Brad D. Snyder Thursday 02/07, 4:30-5:30 PM, Yosemite B, Ballroom Level



z/OSMF SHARE Sessions – San Francisco



ID	Day	Time	Title	Presenters	Location
13059	2/5	9:30 – 10:30	z/OSMF What is it? And why would I want it?	Anuja Deedwaniya	Franciscan B, Ballroom Level
13052	2/5	12:15 – 1:15	Engaging Users and Reducing Complexity: z/OSMF Project Usability Discussion	Toshiba Burns-Johnson	Franciscan B, Ballroom Level
13061	2/6	1:30 – 2:30	z/OSMF Advanced Functionality	Anuja Deedwaniya	Franciscan B, Ballroom Level
13048	2/6	6:00 – 7:00	z/OSMF Roundtable	Anuja Deedwaniya	Franciscan B, Ballroom Level
13099	2/6	6:00 – 7:00	Capacity Provisioning Update for z/OS 1.13 and 1.12	Juergen Baumann	Yosemite C, Ballroom Level
13082	2/7	8:00 – 9:00	New z/OSMF Software Management Capabilities	Greg Daynes	Franciscan B, Ballroom Level
13089	2/7	8:00 – 9:00	RMF: The Latest and Greatest	Brad Snyder	Yosemite C, Ballroom Level
13100	2/7	9:30 – 10:30	Manage your Workloads and Performance with z/OSMF	Juergen Baumann	Yosemite C, Ballroom Level
12752	2/7	11:00 – 12:00	z/OSMF Hands-On Lab	Anuja Deedwaniya	Union Square 23- 24, Fourth Floor
13040	2/7	4:30 – 5:30	z/OSMF User Experience	Doug Henry (US Bank) Mary_Anne Matyaz (U.S. Customs) Anuja Deedwaniya(IBM)	Imperial A, Ballroom Level
12753	2/8	8:00 - 9:00	z/OSMF Software Deployment Hands- on Lab	Marna Walle Greg Daynes	Union Square 23- 24, Fourth Floor
13070	2/8	8:00 – 9:00	z/OSMF Software Management Hands-on Lab	Greg Daynes	Union Square 23- 24, Fourth Floor













Closing Slide – Manage your Workloads and Performance with z/OSMF

Juergen Baumann IBM Corporation

Thursday, February 7, 2013 Session 13100

baumannj@de.ibm.com



