

z/OS V2.4 IBM Education Assistant (IEA)

Line Item : RMF Metering and Capping Stage 4

Element/Component: RMF



Agenda

- Trademarks
- Session Objectives
- Overview
- Usage & Invocation
- Interactions & Dependencies
- Migration & Coexistence Considerations
- Installation
- Session Summary
- Appendix

Trademarks

- See URL: <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.
- Additional Trademarks:
 - None

Session Objectives

- Explain purpose/usage of RMF item Epic 210496
 - RMF online monitoring with Monitor III and Distributed Data Server (DDS)
 - Introducing new Monitor III Resource Group Activity (SYSRG) report.
 - Introducing new WLM Active Policy resources into the DDS.
 - Explain different invocation steps, usage and importance of the SYSRG reports.

Overview

- Problem Statement / Need Addressed:
 - To perform short term analysis for z/OS workload associated with (tenant) resource groups (e.g. SPARK workload and pricing containers).
- Solution:
 - Introduced New Monitor III Resource Group Activity (SYSRG) report:
 - Detailed processor and memory limits of all (tenant) resource groups that are defined in WLM Policy.
 - Provides performance metrics which indicates the actual processor and memory consumption of (tenant) resource group at System and Sysplex level.
- Benefit/Value:
 - RMF online monitoring with Monitor III and Distributed Data Server(DDS)
 - SYSRG report – Reporting and displaying of actual performance metrics of (tenant) resource groups.
 - Introduced new WLM Active Policy resources into the DDS.

Usage & Invocation

RMF Monitor III SYSRG Report:

To request the Monitor III SYSRG Sysplex report:

- Option A:

1. Select 'S' from the Primary Menu,
2. Then select option- 1A from the Sysplex Report Selection Menu.

- Option B:

Enter one of these command:

- SYSRG `resource_group`

RMF Sysplex Report Selection Menu		
Enter selection number or command for desired report.		
Sysplex Reports		
1 SYSSUM	Sysplex performance summary	(SUM)
1A SYSRG	Resource Group activity	(SRG)
2 SYSRTD	Response time distribution	(RTD)
3 SYSWKM	Work Manager delays	(WKM)
4 SYSENG	Sysplex-wide Enqueue delays	(ES)
5 CFOVER	Coupling Facility overview	(CO)
6 CFSYS	Coupling Facility systems	(CS)
7 CFACT	Coupling Facility activity	(CA)
8 CACHSUM	Cache summary	(CAS)
9 CACHDET	Cache detail	(CAD)
10 RLSSC	VSAM RLS activity by storage class	(RLS)
11 RLSDS	VSAM RLS activity by data set	(RLD)
12 RLRLRU	VSAM LRU overview	(RLL)
13 ZFSOVW	zFS Overview	(ZFO)
14 ZFSFS	zFS File System	(ZFF)
15 ZFSKN	zFS Kernel	(ZFK)
Data Index		
D DSINDEX	Data index	(DI)

Usage & Invocation

RMF Monitor III SYSRG Report:

This report can be used:

- To display processor and memory limits of all (tenant) resource groups as defined in the WLM policy.
- To display metrics such as processor and memory consumption of a (tenant) resource group at
 - System level and
 - Sysplex level.

RMF V2R4				Resource Groups - SYSDPLEX				Line 1 of 24			
WLM Samples: 104		Systems: 3		Date: 03/28/19		Time: 11.38.35		Range: 25		Sec	
Name	Type	System	---CPU #CPs	consumption---		---CPU Min	capacity---		---Memory---		
				MSU	SU/sec		Max	Unit	Usage	Limit	
TRGRMFN1	TRG	*ALL	2.59	536	223K		50000	MSU		1111G	
		SYSD	0.53	109	45169				4110K		
		SYSE	0.80	165	68616				4077K		
		SYSF	1.27	263	109K				4094K		
TRGRMFN2	TRG	*ALL	2.86	591	246K		99999	SU/sec		1024M	
		SYSD	1.00	207	86186				6115K		
		SYSE	1.04	214	89220				6132K		
		SYSF	0.82	170	70767				6140K		
TRGRMFN3	TRG	*ALL	1.09	224	93397		3.33	#CPs		3333G	
		SYSD	0.48	98	40964				2038K		
		SYSE	0.31	63	26404				2055K		
		SYSF	0.30	63	26029				2043K		
TRGRMFN4	TRG	*ALL	0.73	151	62828		60	%LPAR		444G	
		SYSD	0.34	69	28866				2055K		
		SYSE	0.16	33	13556				2038K		
		SYSF	0.24	49	20406				2043K		
TRGRMFN5	TRG	*ALL	0.77	158	65843		0.10G	SU/sec		53P	
		SYSD	0.19	39	16323				2038K		
		SYSE	0.29	61	25210				2038K		
		SYSF	0.28	58	24310				2047K		
TRGRMF0	TRG	*ALL	1.37	282	118K		50000	MSU		1111G	
		SYSD	0.48	98	40955				3798K		
		SYSE	0.46	94	39155				3827K		
		SYSF	0.44	90	37436				3029K		
Command ==> F1=HELP F2=SPLIT F3=END F4=RETURN F5=RFIND F6=TOGGLE F7=UP F8=DOWN F9=SWAP F10=BREF F11=FREF F12=RETRIEVE											
MA A 41/015											

Usage & Invocation

RMF Monitor III SYSRG: Fields

Field Heading	Meaning
Name	Name of the resource group or tenant resource group.
Type	Type of resource group being reported on. RG Resource group TRG Tenant resource group
System	Name of a MVS system that belongs to the Sysplex. If the MVS system name is not available, the four-character SMF system identifier is shown.
CPU consumption	Processor consumption in terms of #CPs number of general purpose processors MSU millions of service units per hour SU/sec unweighted CPU and SRB service units per second The scope of the reported value can be <ul style="list-style-type: none">• a resource groups• a particular system in the Sysplex• a service class that is associated with a resource group• a tenant report class that is associated with a tenant resource group
CPU capacity	Resource group capacity limits. Min Minimum amount of service that the resource group should receive if demand exists. Max Maximum amount of service that the resource group should be allowed to consume. Unit The method of how the resource group's capacity is defined: <ul style="list-style-type: none">- SU/sec: in unweighted CPU and SRB service units per second across the Sysplex- %LPAR: as percentage of the LPAR share on each system in the Sysplex- #CPs: as number of general-purpose processors on each system in the Sysplex- MSU: as MSU/h capacity across the Sysplex
Memory Usage	Amount of memory in bytes used by the resource group on this system.

Usage & Invocation

RMF Monitor III Cursor Sensitivity

- Cursor sensitivity on 'Resource-group name' points to the pop up panel with
- Detailed breakdown of Processor Consumption Data on Service class level or Tenant report class level.
- Contents of the report depends on the 'Resource Group Type'.

The diagram illustrates the cursor sensitivity of the RMF Monitor III. A blue oval labeled 'Pop up Panel' has two red arrows pointing to two separate panels. The top panel is titled 'Resource Group Activity Details' and the bottom panel is titled 'Tenant Resource Group Activity Details'. Both panels display detailed CPU consumption data for a specific resource group.

Resource Group Activity Details

Press Enter to return to the report panel.

Resource Group Name: REGTSO
Description: Non-priority TSO work

Specialty Processor Consumption Included: Yes
Definition of CPU capacity limits: SU/sec
Minimum CPU capacity: 0
Maximum CPU capacity: 1000K

Service	Class	#CPs	MSU	SU/sec
----- CPU consumption -----				
*ALL		0.23	27	19K
TSOUS001		0.11	13	9K
TSOUS002		0.12	14	10K

Tenant Resource Group Activity Details

Press Enter to return to the report panel.

Tenant Resource Group Name: TRGCLD
Description: Tenant Resource Group for Cloud

Specialty Processor Consumption Included: No
Container Based Processor: Yes
Definition of CPU capacity limit: MSU
Maximum CPU capacity: 500

Tenant Report	Class	#CPs	MSU	SU/sec
----- CPU consumption -----				
*ALL		0.87	101	71K
CLOUD001		0.36	42	29K
CLOUD002		0.51	59	42K

Usage & Invocation

RMF Monitor III Cursor Sensitivity: Example

Pop up Panels

- SYSRG: Cursor sensitivity on 'Resource-group name' points to the different pop up panels.

RMF V2R4 Resource Groups - SYSDPLEX Line 1 of 52

WLM Samples: 480 Systems: 3 Date: 02/19/19 Time: 14.39.00 Range: 120 Sec

Name	Type	System	---CPU consumption---	---CPU capacity---	---Memory---
			#CPs MSU SU/sec	Min Max Unit	Usage Limit
RGPIX1	RG	*ALL	0.10 8611	1.00 9999 #CPs	95P
		SYSD	0.00 0		
		SYSE	0.06 4779		26M
		SYSF	0.04 3832		1868K
RGPIX2	RG	*ALL	0.16 13607	20 60 %LPAR	52P
		SYSD	0.04 3030		2016K
		SYSE	0.04 3396		3126K
		SYSF	0.08 7180		5683K
RGPIX3	RG	*ALL	0.15 12822	40.0M 50.0M SU/sec	120G
		SYSD	0.03 2646		1127K
		SYSE	0.03 2353		1971K
		SYSF	0.09 7822		3732K
RGPIX4	RG	*ALL	0.08 7294		120G
		SYSD	0.00 0		0
		SYSE	0.00 0		0
		SYSF	0.08 7294		3728K
RGPIX5	RG	*ALL	0.13 11319		
		SYSD	0.00 0		0
		SYSE	0.00 0		0
		SYSF	0.13 11319		5587K
RGROUP2	RG	*ALL	0.00 0	100 SU/sec	
		SYSD	0.00 0		0
		SYSE	0.00 0		0
		SYSF	0.00 0		0
RGROUP3	RG	*ALL	0.00 3	10000 SU/sec	
		SYSD	0.00 0		0
		SYSE	0.00 3		0
		SYSF	0.00 0		0
TRGRMFN1	TRG	*ALL	1.52 130K	50000 MSU	1111G
		SYSD	0.00 0		0
		SYSE	0.00 0		0
		SYSF	1.52 130K		7660K

Command ==> F1=HELP F2=SPLIT F3=END F4=RETURN F5=RFIND F6=TOGGLE F7=UP F8=DOWN F9=SWAP F10=BREF F11=FREF F12=RETRIEVE

Resource Group Activity Details Line 1 of 3

Resource Group Name: RGPIX5
Description: RG for RGPIX5

Specialty Processor Consumption Included: No
Definition of CPU capacity limits:
Minimum CPU capacity:
Maximum CPU capacity:

Service	--- CPU consumption ---
Class	#CPs MSU SU/sec
*ALL	0.13 11319
BMAISVC5	0.09 7448
BMAISVC6	0.05 3872

Press Enter to return to the report panel.
F1=Help F2=SplitScr F3=End F6=RMFHelp
F7=Backward F8=Forward F9=SwapScr F12=Return

Tenant Resource Group Activity Details Line 1 of 3

Tenant Resource Group Name: TRGRMFN1
Description: RMF Tenant Resource Group nmbr 1

Specialty Processor Consumption Included: No
Definition of CPU capacity limit: MSU
Maximum CPU capacity: 50000

Tenant Report	--- CPU consumption ---
Class	#CPs MSU SU/sec
*ALL	1.52 130K
RMFTRCN1	1.32 114K
RMFTRCN6	0.19 16574

Press Enter to return to the report panel.
F1=Help F2=SplitScr F3=End F6=RMFHelp
F7=Backward F8=Forward F9=SwapScr F12=Return

Usage & Invocation

RMF Monitor III SYSRG: Report Options

- The contents of the Monitor III SYSRG reports can be tailored by report options:
 - Invoke with RO (*Report Options*) command on SYSRG panel

Example: Showing only lines for `ALL` Resource Group Type and include active lines

```
RMF Resource Group Activity Report Options: SYSRG      Line 1 of 3
Change or verify parameters. To exit press END.
Changes will apply to the SYSRG report.

Name      ==> ALL      ALL or one of the available resource groups below
Type      ==> ALL      Resource group type (RG, TRG or ALL)
Detail    ==> YES     Show single system data (YES or NO)
Inactive  ==> YES     Show inactive resource groups (YES or NO)

Available Resource Groups
RGPIX1    RGPIX2    RGPIX3    RGPIX4    RGPIX5    RGROUP2
RGROUP3   TRGRMFN1   TRGRMFPM TRGRMFN2 TRGRMFN3 TRGRMFN4
TRGRMFN5
```

RMF V2R4 Resource Groups - SYSDPLEX Line 1 of 52										
WLM Samples: 480 Systems: 3 Date: 02/19/19 Time: 14.39.00 Range: 120 Sec										
Name	Type	System	---CPU consumption---		---CPU capacity---			---Memory---		
			#CPUs	MSU	SU/sec	Min	Max	Unit	Usage	Limit
RGPIX1	RG	*ALL	0.10		8611	1.00	9999	#CPUs		95P
		SYSD	0.00		0				0	
		SYSE	0.06		4779				26M	
		SYSF	0.04		3832				1868K	
RGPIX2	RG	*ALL	0.16		13607	20	60	%LPAR		52P
		SYSD	0.04		3030				2016K	
		SYSE	0.04		3396				3126K	
		SYSF	0.08		7180				5683K	
RGPIX3	RG	*ALL	0.15		12822	40.0M	50.0M	SU/sec		120G
		SYSD	0.03		2646				1127K	
		SYSE	0.03		2353				1971K	
		SYSF	0.09		7822				3732K	
RGPIX4	RG	*ALL	0.08		7294					120G
		SYSD	0.00		0				0	
		SYSE	0.00		0				0	
		SYSF	0.08		7294				3728K	
RGPIX5	RG	*ALL	0.13		11319					
		SYSD	0.00		0				0	
		SYSE	0.00		0				0	
		SYSF	0.13		11319				5587K	
RGROUP2	RG	*ALL	0.00		0	100		SU/sec		
		SYSD	0.00		0				0	
		SYSE	0.00		0				0	
		SYSF	0.00		0				0	
RGROUP3	RG	*ALL	0.00		3	10000		SU/sec		
		SYSD	0.00		0				0	
		SYSE	0.00		3				0	
		SYSF	0.00		0				0	
TRGRMFN1	TRG	*ALL	1.52		130K		50000	MSU		1111G
		SYSD	0.00		0				0	
		SYSE	0.00		0				0	
		SYSF	1.52		130K				7660K	

Usage & Invocation

RMF Monitor III SYSRG: Report Options


Example: Showing only lines for `Type` ==> TRG ; include active lines

```
RMF Resource Group Activity Report Options: SYSRG      Line 1 of 1

Change or verify parameters. To exit press END.
Changes will apply to the SYSRG report.

Name      ==> ALL      ALL or one of the available resource groups below
Type      ==> TRG      Resource group type (RG, TRG or ALL)
Detail    ==> YES      Show single system data (YES or NO)
Inactive  ==> YES      Show inactive resource groups (YES or NO)

                        Available Resource Groups
TRGRMFN1   TRGRMFPM
```



```
RMF V2R4      Resource Groups - SYSDPLEX      Line 1 of 8
WLM Samples: 480  Systems: 3  Date: 02/19/19 Time: 13.41.00 Range: 120 Sec

Name      Type System      ---CPU consumption---  ---CPU capacity---  ---Memory---
          #CPs  MSU  SU/sec  Min  Max  Unit  Usage  Limit
TRGRMFN1  TRG  *ALL      1.62      140K      50000  MSU      1111G
          SYSD      0.00        0
          SYSE      0.00        0
          SYSF      1.62      140K
TRGRMFPM  TRG  *ALL      0.00        0      543K  SU/sec  7660K
          SYSD      0.00        0
          SYSE      0.00        0
          SYSF      0.00        0
```

Usage & Invocation

RMF Monitor III SYSRG: Report Options

Example: Showing only lines for type ==> TRG ; `Detail` ==> NO and `Inactive` ==> YES


```
RMF Resource Group Activity Report Options: SYSRG      Line 1 of 1

Change or verify parameters. To exit press END.
Changes will apply to the SYSRG report.

Name      ==> ALL      ALL or one of the available resource groups below
Type      ==> TRG      Resource group type (RG, TRG or ALL)
Detail    ==> NO      Show single system data (YES or NO)
Inactive  ==> YES      Show inactive resource groups (YES or NO)

                                     Available Resource Groups

TRGRMFN1  TRGRMFPM
```



```
RMF V2R4      Resource Groups - SYSDPLEX      Line 1 of 2

WLM Samples: 480  Systems: 3  Date: 02/19/19 Time: 13.41.00 Range: 120 Sec

Name      Type System      ---CPU consumption---      ---CPU capacity---      ---Memory---
          #CPs  MSU  SU/sec      Min  Max  Unit      Usage  Limit

TRGRMFN1  TRG  *ALL      1.62      140K      50000  MSU      1111G
TRGRMFPM  TRG  *ALL      0.00      0          543K  SU/sec
```

Usage & Invocation

RMF DDS Full Report Support

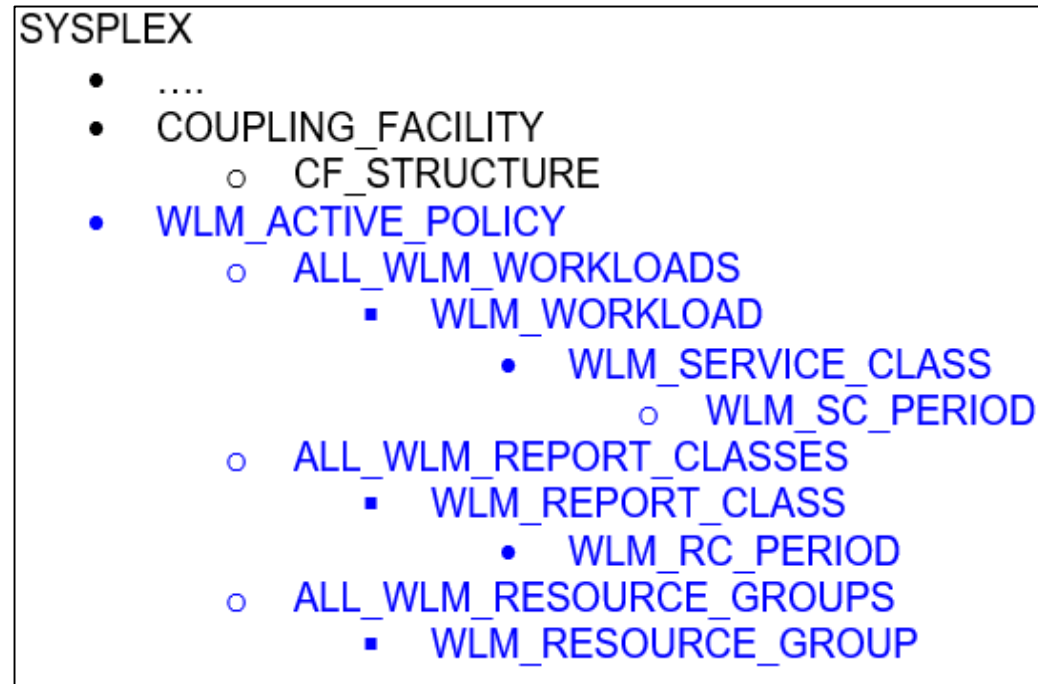
- The browser based version of SYSRG can be requested from RMF Distributed Data Server (DDS) using the following URL:

http://hostname:8803/gpm/rmf_m3.xml?report=SYSRG&resource=,SYSDPLEX,SYSplex

RMF Report [,SYSDPLEX,SYSPLEX] : SYSRG (WLM Resource Group Activity)															
Time Range: 02/19/2019 14:53:00 - 02/19/2019 14:54:00															
Resource Group Name	Type	Description	System Name	Associated WLM Class	Capacity Def	Capacity Min	Capacity Max	Capacity Actual (# CPs)	Capacity Actual (MSU)	Capacity Actual (SU/sec)	Include Specialty Processors	Memory Limit	Memory Actual	CBP Eligible	SMF ID
RGPIX1	RG	RG for RGPIX1	*ALL	*ALL	#CPs	1.00	9999	0.10		8665	No	9500000000000000		No	*ALL
			SYSD	*ALL				0.00		0			0		S4
			SYSE	*ALL				0.06		4773			27000000		SYSE
			SYSF	*ALL				0.05		3891			1872000		SYSF
			*ALL	BMAISVC1				0.10		8665					
RGPIX2	RG	RG for RGPIX2	*ALL	*ALL	%LPAR	20	60	0.15		12615	No	5200000000000000		No	*ALL
			SYSD	*ALL				0.05		4063			2780000		S4
			SYSE	*ALL				0.05		4058			3804000		SYSE
			SYSF	*ALL				0.05		4493			5660000		SYSF
			*ALL	BMAISVC2				0.15		12615					
RGPIX3	RG	RG for RGPIX3	*ALL	*ALL	SU/sec	40000000	50000000	0.19		16245	No	120000000000		No	*ALL
			SYSD	*ALL				0.05		4219			1792000		S4
			SYSE	*ALL				0.05		4210			3532000		SYSE
			SYSF	*ALL				0.09		7816			3740000		SYSF
			*ALL	BMAISVC3				0.19		16245					
RGPIX4	RG	RG for RGPIX4	*ALL	*ALL				0.09		7576	No	120000000000		No	*ALL
			SYSD	*ALL				0.00		0			0		S4
			SYSE	*ALL				0.00		0			0		SYSE
			SYSF	*ALL				0.09		7576			3736000		SYSF
			*ALL	BMAISVC4				0.09		7576					
RGPIX5	RG	RG for RGPIX5	*ALL	*ALL				0.13		11452	No			No	*ALL
			SYSD	*ALL				0.00		0			0		S4
			SYSE	*ALL				0.00		0			0		SYSE
			SYSF	*ALL				0.13		11452			5608000		SYSF
			*ALL	BMAISVC5				0.09		7534					
			*ALL	BMAISVC6				0.05		3917					
RGROUP2	RG	resource group 2	*ALL	*ALL	SU/sec	100		0.00		0	No			No	*ALL
			SYSD	*ALL				0.00		0			0		S4
			SYSE	*ALL				0.00		0			0		SYSE
			SYSF	*ALL				0.00		0			0		SYSF
			*ALL	FAST				0.00		0					
			*ALL	RESGROUP				0.00		0					
			*ALL	SINGLER				0.00		0					
			*ALL	SINGLEV				0.00		0					
			*ALL	SOAKERPI				0.00		0					
			*ALL	VEL90I1				0.00		0					
			*ALL	VEL90I2				0.00		0					
RGROUP3	RG	min=10000 SU	*ALL	*ALL	SU/sec	10000		0.00		3	No			No	*ALL
			SYSD	*ALL				0.00		0			0		S4
			SYSE	*ALL				0.00		3			0		SYSE
			SYSF	*ALL				0.00		0			0		SYSF
			*ALL	VEL10				0.00		3					
			*ALL	VEL90				0.00		0					
			*ALL	VEL90I3				0.00		0					
			*ALL	VEL90I4				0.00		0					
TRGRMFN1	TRG	RMF Tenant Resource Group nmr 1	*ALL	*ALL	MSU		50000	1.54		132000	No	11110000000000		No	*ALL
			SYSD	*ALL				0.00		0			0		S4
			SYSE	*ALL				0.00		0			0		SYSE
			SYSF	*ALL				1.54		132000			7660000		SYSF
			*ALL	RMFTRCN1				1.34		115000					
			*ALL	RMFTRCN6				0.20		16885					

Usage & Invocation

- RMF DDS WLM Resources:
 - The DDS resource model is enhanced to reflect WLM workload activity.
 - New WLM resources are added to the DDS resource model.
 - added as children of top-level resource *SYSPLEX* (as shown in Resource Model below)



RMF Monitor III DDS Resource Model

Usage & Invocation

- RMF DDS WLM Resources:
 - Details are available for the newly added resource WLM_ACTIVE_POLICY.

RMF Data Portal for z/OS Home Explore Overview My View ? RMF

Children of: ,SYSDPLEX,SYSPLEX

Icon	Resource	Metrics	Attributes	Res-Type
	,S4.MVS_IMAGE	Metrics	Show	MVS_IMAGE
	,SYSF.MVS_IMAGE	Metrics	Show	MVS_IMAGE
	,SYSE.MVS_IMAGE	Metrics	Show	MVS_IMAGE
	,CF01.COUPLING_FACILITY	Metrics	Show	COUPLING_FACILITY
	,CF02.COUPLING_FACILITY	Metrics	Show	COUPLING_FACILITY
	,BASEPOL.WLM_ACTIVE_POLICY	Metrics	Show	WLM_ACTIVE_POLICY
	,C5327.CPC	Metrics	Show	CPC

RMF Data Portal for z/OS Home Explore Overview My View ?

Attributes of: ,BASEPOL,WLM_ACTIVE_POLICY

Description	Value
Service Definition name	VICOM6MF
Service Definition installation time	03/22/19, 08.40.11
Activated at	03/22/19, 08.40.18

Usage & Invocation

- RMF DDS WLM Metrics:
 - ALL_WLM_WORKLOADS

RMF Data Portal for z/OS Home Explore Overview My View ?

Children of: ,BASEPOL,WLM_ACTIVE_POLICY

Icon	Resource	Metrics	Attributes	Res-Type
	BASEPOL,*,ALL_WLM_WORKLOADS	Metrics	N/A	ALL_WLM_WORKLOADS
	BASEPOL,*,ALL_WLM_REPORT_CLASSES	Metrics	N/A	ALL_WLM_REPORT_CLASSES
	BASEPOL,*,ALL_WLM_RESOURCE_GROUPS	Metrics	N/A	ALL_WLM_RESOURCE_GROUPS

RMF Data Portal for z/OS Home Explore Overview My View ?

Available metrics for: BASEPOL,*,ALL_WLM_WORKLOADS




Metric description	Help	Id
by WLM service class period		
active time (ms) by WLM service class period	Explanation	8D5E30
execution velocity by WLM service class period	Explanation	8D0F60
percentile achieving response time goal by WLM service class period	Explanation	8D0FF0
performance index by WLM service class period	Explanation	8D1020
queue time (ms) by WLM service class period	Explanation	8D5E90
response time (ms) by WLM service class period	Explanation	8D5F40
transaction ended rate by WLM service class period	Explanation	8D1240
wait time (ms) by WLM service class period	Explanation	8D6F00
by WLM service class		
active time (ms) by WLM service class	Explanation	8D5E20
execution velocity by WLM service class	Explanation	8D0F50
percentile achieving response time goal by WLM service class	Explanation	8D6E80
performance index by WLM service class	Explanation	8D6EB0
queue time (ms) by WLM service class	Explanation	8D5E80
response time (ms) by WLM service class	Explanation	8D5F20
transaction ended rate by WLM service class	Explanation	8D1230
wait time (ms) by WLM service class	Explanation	8D6EF0
by WLM workload		
active time (ms) by WLM workload	Explanation	8D5E40
execution velocity by WLM workload	Explanation	8D0F80
queue time (ms) by WLM workload	Explanation	8D5EA0
transaction ended rate by WLM workload	Explanation	8D1250
wait time (ms) by WLM workload	Explanation	8D6F10

Usage & Invocation

- RMF DDS WLM Metrics:
 - ALL_WLM_REPORT_CLASSES

RMF Data Portal for z/OS [Home](#) [Explore](#) [Overview](#) [My View](#) ?

Children of: ,BASEPOL,WLM_ACTIVE_POLICY

Icon	Resource	Metrics	Attributes	Res-Type
	BASEPOL.*,ALL_WLM_WORKLOADS	Metrics	N/A	ALL_WLM_WORKLOADS
	BASEPOL.*,ALL_WLM_REPORT_CLASSES	Metrics	N/A	ALL_WLM_REPORT_CLASSES
	BASEPOL.*,ALL_WLM_RESOURCE_GROUPS	Metrics	N/A	ALL_WLM_RESOURCE_GROUPS


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Available metrics for: BASEPOL.*,ALL_WLM_REPORT_CLASSES

Metric description	Help	Id
by WLM report class period		
active time (ms) by WLM report class period	Explanation	8D5E10
execution velocity by WLM report class period	Explanation	8D3080
performance index by WLM report class period	Explanation	8D3110
queue time (ms) by WLM report class period	Explanation	8D5E70
transaction ended rate by WLM report class period	Explanation	8D3230
wait time (ms) by WLM report class period	Explanation	8D6EE0
by WLM report class		
active time (ms) by WLM report class	Explanation	8D5E00
execution velocity by WLM report class	Explanation	8D0F20
queue time (ms) by WLM report class	Explanation	8D5E60
transaction ended rate by WLM report class	Explanation	8D1220
wait time (ms) by WLM report class	Explanation	8D6ED0

Usage & Invocation

- RMF DDS WLM Metrics:
 - ALL_WLM_RESOURCE_GROUPS



Icon	Resource	Metrics	Attributes	Res-Type
	BASEPOL *,ALL_WLM_WORKLOADS	Metrics	N/A	ALL_WLM_WORKLOADS
	BASEPOL * ALL WLM REPORT CLASSES	Metrics	N/A	ALL WLM REPORT CLASSES
	BASEPOL * ALL WLM RESOURCE GROUPS	Metrics	N/A	ALL WLM RESOURCE GROUPS



Metric description	Help	Id
by WLM resource group		
capacity actual (# CPs) by WLM resource group	Explanation	8D6E30
capacity actual (MSU) by WLM resource group	Explanation	8D6E50
capacity actual (SU/sec) by WLM resource group	Explanation	8D6E70

Interactions & Dependencies

- Software Dependencies
 - None.
- Hardware Dependencies
 - None.
- Exploiters
 - None.

Migration & Coexistence Considerations

- None

Installation

- This support is included in the GA shipment of the z/OS V2.4 RMF (HRM77C0) deliverable.

Session Summary

- Introduced new Monitor III SYSRG report.
- Included new report options to tailor the Monitor III SYSRG reports
- Provided performance and memory metrics for (tenant) resource groups at the System and Sysplex level.
- Introduced new WLM Active Policy resources into the Distributed Data Server.

Appendix

- RMF website: <https://github.com/IBM/IBM-Z-zOS/tree/master/zOS-RMF>
 - Contains Product information, newsletters, presentations, etc.
- RMF email address: rmf@de.ibm.com.
- Documentation and news
 - RMF Report Analysis, SC34-2665
 - RMF User's Guide, SC34-2664
 - RMF Programmer's Guide, SC34-2667
 - Latest version of PDF files can be downloaded from:
<http://www.ibm.com/systems/z/os/zos/bkserv/>

Thank you