

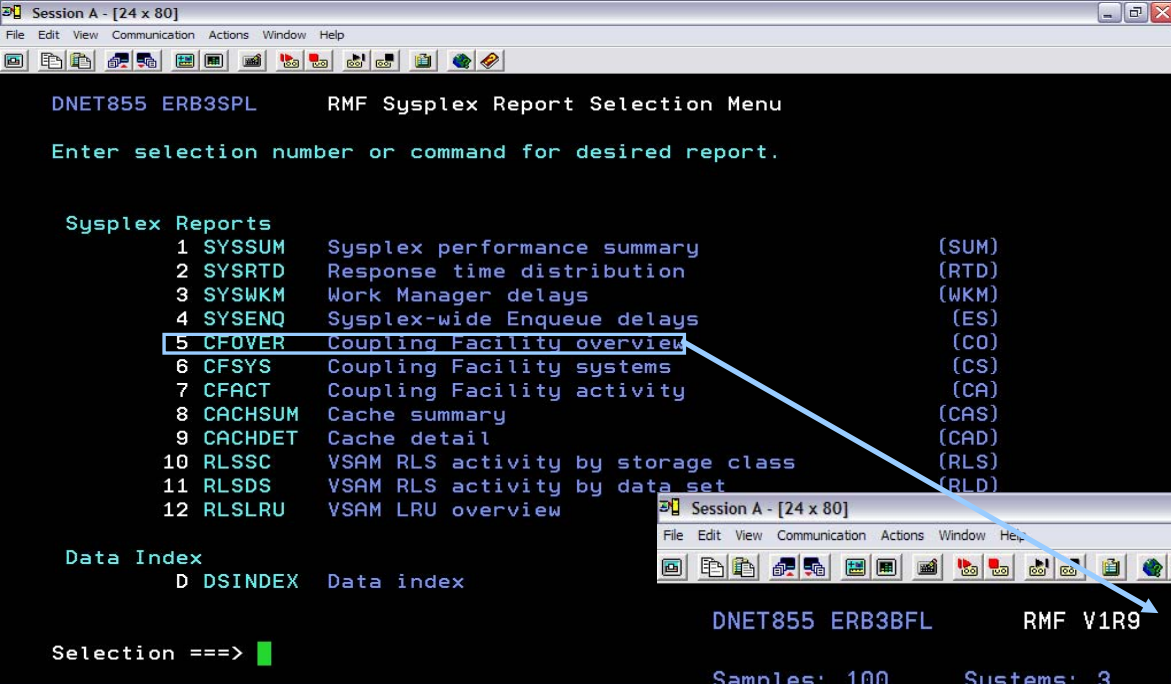
z/OS



# Resource Measurement Facility Report Analysis

***examples***

## RMF CF Reporting



## Coupling Facility Overview Report

The Coupling Facility Overview report (CFOVER) gives you information about all coupling facilities which are connected to the sysplex. You might start the investigation of the performance of the coupling facilities in your sysplex with the CFOVER report.

You get an overview about all coupling facilities showing the utilization of the processors and the storage. If you experience high values for these resources, this might indicate contention in the coupling facilities which could lead to internal queues causing performance problems.

In addition, you can evaluate the request rates to analyze whether the usage of the coupling facilities is as balanced as you want. This, of course, will not be the case if you have one coupling facility for production and the other one just as stand-by.

Session A - [24 x 80]

File Edit View Communication Actions Window Help

DNET855 ERB3BFL RMF V1R9 CF Overview - DEMOPLX Line 1 of 1

Samples: 100 Systems: 3 Date: 03/31/08 Time: 09.21.40 Range: 100 Sec

CF Policy: POLICY2 Activated at: 02/05/08 18.09.55

Name	Type	Model	Lvl	Dyn	Util%	Def	Shr	Wgt	Effect	Request Rate	Storage Size	Avail
CF2	2094	S18	15	ON	2.3	1	1	10	0.0	62.9	423M	336M

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The name  
of this  
Coupling  
Facility

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Session A - [24 x 80]
File Edit View Communication Actions Window Help
DNET855 ERB3SPL      RMF Sysplex Report Selection Menu
Enter selection number or command for desired report.

Sysplex Reports
1 SYSSUM      Sysplex performance summary      (SUM)
2 SYSRTD      Response time distribution        (RTD)
3 SYSWKM      Work Manager delays              (WKM)
4 SYSENO      Sysplex-wide Enqueue delays      (ES)
5 CQOVR      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                (RLR)

Data Index
D DSINDEX    Data index                      (DI)

Selection ==> █
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# Coupling Facility Systems Report

The Coupling Facility Systems report (CFSYS) gives you information about the distribution of coupling facility requests among the systems and about the activities in the subchannels and paths attached to the coupling facilities in the sysplex.

Using the CFSYS report, you see for each coupling facility all systems connected to it, and their activities. High values are indicators for contention and possible bottlenecks in the configuration.

The pop-up panel with the details provides information about the configuration and you see the path IDs for all channels which are connecting each coupling facility with a system. You can use the CHANNEL report to get the link utilization for each path.

33BFE RMF V1R9 CF Systems - DEMOPLX Line 1 of 3

Samples: 100 Systems: 3 Date: 03/31/08 Time: 09.21.40 Range: 100 Sec

CF Name	System	Subchannel		-- Paths --		-- Sync ---		----- Async -----			
		Delay	Busy	Avail	Delay	Rate	Avg Serv	Rate	Avg Serv	Chng	Del
		%	%		%					%	%
CF2	DEMOMVS	0.0	0.3	2	0.0	6.7	485	39.9	911	0.0	0.0
	DEMOMVS2	0.0	0.1	2	0.0	0.7	611	7.4	1817	0.0	0.0
	DEMOMVS3	0.0	0.0	2	0.0	1.1	465	1.6	1781	0.0	0.0

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Session A - [24 x 80]
File Edit View Communication Actions Window Help
DNET855 ERB3SPL      RMF Sysplex Report Selection Menu
Enter selection number or command for desired report.

Sysplex Reports
 1 SYSSUM Sysplex performance summary (SUM)
 2 SYSRTD Response time distribution (RTD)
 3 SYSWKM Work Manager delays (WKM)
 4 SYSENO 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 (RLR)

Data Index
D DSINDEX Data index (DI)

Selection ==>
```

## CFACT - Coupling Facility Activity Report

The Coupling Facility Activity report (CFACT) gives you information about the activities in each structure. You can use this report for analyzing in detail each structure in your coupling facilities. You see the type of a structure and the activities from each system that uses a structure.

If you want to get more details, you will receive them through cursor-sensitive control. A pop-up panel shows the allocation details and the name of the address space which is currently using the structure. If you experience performance problems for one or several structures in your coupling facilities, you should investigate into the appropriate applications.

example  
DB2  
Data  
Sharing

RMF V1R9 CF Activity - DEMOPLX Line 1 of 5

Samples: 100 Systems: 3 Date: 03/31/08 Time: 09.21.40 Range: 100 Sec

CF: ALL Type ST System CF Util Sync Rate Avg Serv Async Rate Avg Serv Chng % Del %

Structure Name	Type	ST	System	CF Util %	Sync Rate	Avg Serv	Async Rate	Avg Serv	Chng %	Del %
DSNSG_GBPO	CACHE	A	*ALL	N/A	<0.1	14	0.2	1992	0.0	0.0
DSNSG_LOCK1	LOCK	A	*ALL	N/A	1.4	130	7.4	1289	0.0	0.0
DSNSG_SCA	LIST	A	*ALL	N/A	0.1	907	4.0	1581	0.0	0.0
ISGLOCK	LOCK	A	*ALL	N/A	7.1	557	36.3	977	0.0	0.0
SYSIGGCAS_ECS	CACHE	A	*ALL	N/A	<0.1	764	1.1	926	0.0	0.0

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CF:

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DSN

DSN

ISG

SYS

## DNET855 ERB3PC3 RMF Coupling Facility - Structure Details

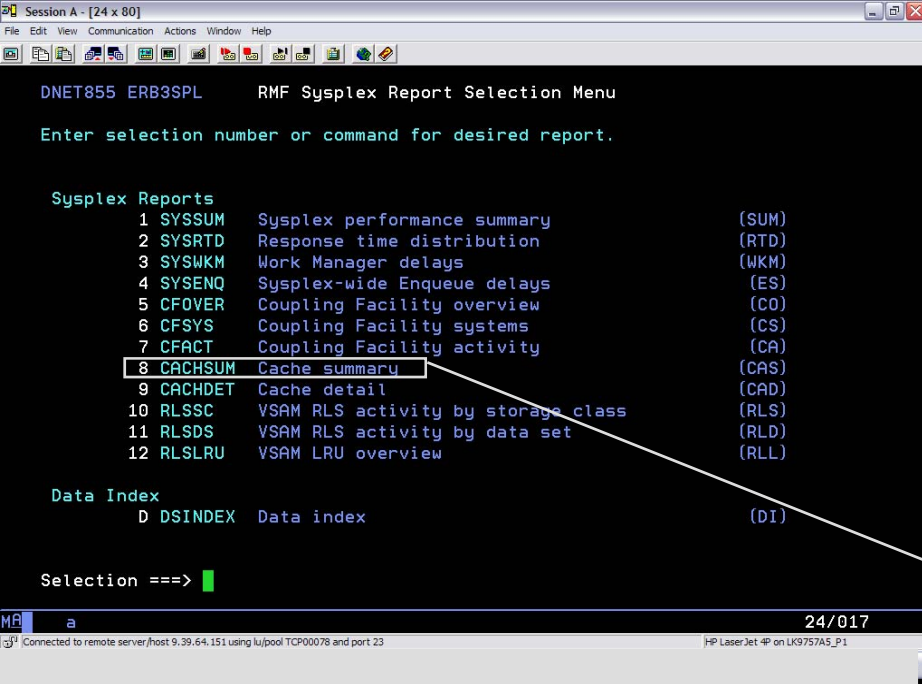
Cache Structure : DSNSG\_GBP0  
Coupling Facility : CF2  
System : \*ALL

Structure Size	:	32M	Connection Name :
Direct. Entries Total	:	26702	Jobname :
Current	:	48	Status :
Data Elements Total	:	5338	ASID :
Current	:	9	CF Level :
Request Rate	:	0.2	
Read Rate	:		
Write Rate	:		
Castout Rate	:		
XI Rate	:		
Directory Reclaims	:		

Press Enter to return to the Report panel.  
If data is missing, see Help panel.

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## Cache Summary Report

The Cache Summary report (CACHSUM) provides an overview about the activities in the cache subsystem for all SSIDs. You might take this as starting point when analyzing I/O performance to get a first impression about the I/O processing.

RMF V1R9 Cache Summary - DEMOPLX Line 1 of 9

Samples: 100 Systems: 3 Date: 03/31/08 Time: 09.21.40 Range: 100 Sec  
CDate: 03/31/08 CTime: 09.21.36 CRange: 100 Sec

SSID	CUID	Type-Mod	Size	I/O Rate	Hit %	Hit Rate	-- Miss Total	--- Stage	Read %	Seq Rate	Async Rate	Off Rate
CC00	0680	2105-E20	3072M	263.4	99.7	262.6	0.8	0.7	75.5	1.8	3.6	0.0
CC10	0700	2105-E20	3072M	202.5	99.7	201.9	0.7	0.6	92.0	1.4	1.3	0.0
CC20	081E	2105-E20	3072M	565.9	99.5	563.2	2.6	2.2	98.4	57.5	3.4	0.0
CC30	0926	2105-E20	3072M	218.9	100	218.8	0.1	0.1	99.6	215.1	0.1	0.0
CC40	0A17	2105-E20	3072M	31.9	100	31.9	0.0	0.0	94.0	0.0	0.7	0.0
CC50	0B46	2105-E20	3072M	5.2	100	5.2	0.0	0.0	96.9	0.0	0.1	0.0
CC60	0C16	2105-E20	3072M	3.1	95.5	3.0	0.1	0.0	50.8	0.0	1.0	0.0
CC80	0E74	2105-E20	3072M	55.4	99.7	55.2	0.2	0.2	88.7	3.6	0.4	0.0
D000	D014	1750-511	1315M	82.4	100	82.4	0.0	0.0	59.9	0.0	27.4	0.0

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Session A - [24 x 80]
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12 RLRLRU     VSAM LRU overview                (RLL)

Data Index
D DSINDEX    Data index

Selection ==> █
```

## Cache Detail Report

The CACHDET report provides detailed information about the activities of one cache subsystem.

If the cursor is placed on any field of the first two columns, a pop-up panel appears showing details for the selected volume. Cursor-sensitive control of the third column leads you to a pop-up panel with details for the selected SSID.

See next two slide examples.

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Connected to remote server/host 9.39.64.151 using lu/booll TCP00078 and port 23
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Session A - [24 x 80]  
File Edit View Communication Actions Window Help

DNET855 ERB3BFF RMF V1R9 Cache Detail - DEMOPLX Line 211 of 613

Samples: 100 Systems: 3 Date: 03/31/08 Time: 09.21.40 Range: 100 Sec  
CDate: 03/31/08 CTime: 09.21.36 CRange: 100 Sec

Volume	/Num	SSID	I/O %	I/O Rate	Hit %	Cache Read	Hit DFW	Rate CFW	- DASD Total	I/O Stage	Seq Rate	Async Rate
DME0S4	065F	CC00	0.1	0.2	100	0.0	0.2	0.0	0.0	0.0	0.0	0.0
DMZU09	082E	CC20	0.0	0.2	88.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
TCT015	D00E	D000	0.2	0.2	100	0.1	0.1	0.0	0.0	0.0	0.0	0.1
DMEU04	061B	CC00	0.1	0.2	88.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
TZ1U00	0B0B	CC50	3.3	0.2	100	0.1	0.1	0.0	0.0	0.0	0.0	0.0
TCT017	D010	D000	0.2	0.2	100	0.1	0.0	0.0	0.0	0.0	0.0	0.0
TZ1LX2	D019	D000	0.2	0.2	100	0.1	0.1	0.0	0.0	0.0	0.0	0.1
DMZU07	082C	CC20	0.0	0.1	93.3	0.1	0.1	0.0	0.0	0.0	0.0	0.1
TC2011	D07F	D000	0.2	0.1	100	0.1	0.1	0.0	0.0	0.0	0.0	0.1
DMPU16	0650	CC00	0.1	0.1	100	0.0	0.1	0.0	0.0	0.0	0.0	0.0
DMEP14	0676	CC00	0.1	0.1	100	0.0	0.1	0.0	0.0	0.0	0.0	0.0
DMPU11	0661	CC00	0.1	0.1	93.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0
TC3011	D091	D000	0.2	0.1	100	0.1	0.1	0.0	0.0	0.0	0.0	0.1
DMPU41	D0B4	D000	0.2	0.1	100	0.1	0.1	0.0	0.0	0.0	0.0	0.0
DME0S1	0604	CC00	0.1	0.1	100	0.0	0.1	0.0	0.0	0.0	0.0	0.0
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Connected to remote server/host 9.39.64.151 using lu/booll TCP00078 and port 23

Session A - [24 x 80]

File Edit View Communication Actions Window Help

DNE

Sam

Vol

DME

DMZ

TCT

DME

TZ1

TCT

TZ1

DMZ

TC2

DMP

DME

DMP

TC3

DMP

DME

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■ DNET855 ERB3PC9

RMF Cache Volume Detail

The following details are available for Volume TCT015 on SSID D000  
Press Enter to return to the Report panel.

Cache: Active      DFW: Active      Pinned: None

		----- Read -----		----- Write -----				Read	Tracks
		Rate	Hit	Hit%	Rate	Fast	Hit	Hit%	%
TCT	Norm	0.1	0.1	100	0.1	0.1	0.1	100	41.2
DME	Seq	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TZ1	CFW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TCT	Total	0.1	0.1	100	0.1	0.1	0.1	100	41.2

----- Misc -----

- Non-Cache -

--- CKD ---

- Record Caching -

TC2	DFW Bypass :	0.0	ICL :	0.0	Write:	0.1	Read Miss :	0.0
DMP	CFW Bypass :	0.0	Bypass:	0.0	Hits :	0.1	Write Prom:	0.0
DME	DFW Inhibit:	0.0						

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Connected to remote server/host 9.39.64.151 using lu/pool TCP00078 and port 23

HP LaserJet 4P on LK9757A5\_P1



Line 211 of 613

## RMF Cache SSID Details

The following details are available for SSID D000  
Press Enter to return to the Report panel.

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----- Misc ----- - Non-Cache - --- CKD --- - Record Caching -
DFW Bypass :      0.0 ICL      :      0.0 Write:   34.9 Read Miss :      0.0
CFW Bypass :      0.0 Bypass:    0.0 Hits :   34.9 Write Prom:  32.3
DFW Inhibit:      0.0

```