



IBM STG Technical Conference

IBM Systems and Technology Group Technical Conference

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IBM STG Technical Conference

Sysplex Analysis using zCP3000

Session zZS03

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Agenda

- What is Sysplex?
- What questions are you trying to answer?
- zCP3000 overview
- zCP3000 sysplex support
 - Performance Analysis (PA) mode
 - Capacity Planning (CP) mode
- References
 - Where to get more help
 - Where to get zCP3000 and other CPS Tools

What is a Parallel Sysplex?

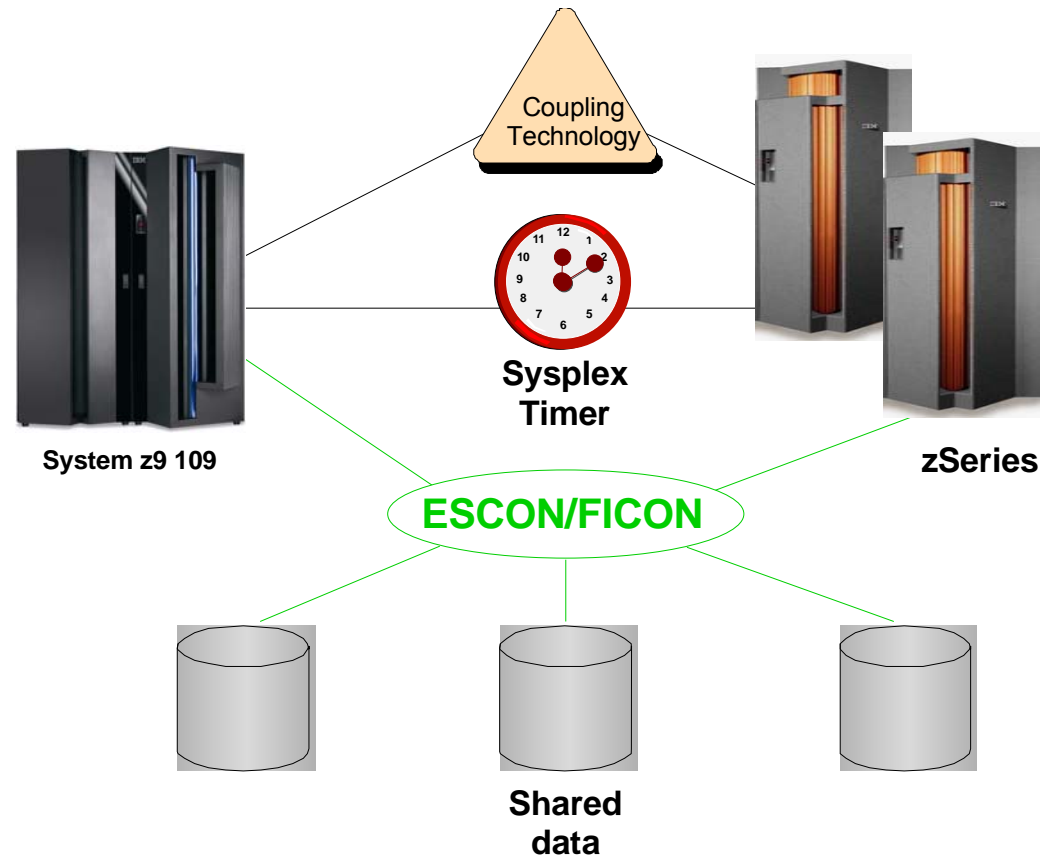
- Up to 32 z/OS logically functioning as one
- Transparent supporting infrastructure
- Hardware and software components

Parallel Sysplex Benefits

- Continuous availability
- Flexible growth
- High-performance shared data across systems
- **Potential software pricing benefit**

Parallel Sysplex – What is it ?

- Hardware
 - Timer
 - I/O Connectivity
 - Coupling Facility
- Software
 - XCF/XES
 - WLM
- μ -code (Microcode)
 - CFCC
 - Processor μ -code



Sysplex Questions

- Mainframe is being upgraded...

- Upgrade CF too?
- Upgrade links?

No more than one generation difference within sysplex

- Effect of distance on performance

- Where does it hurt?

- General Health
- Lock Contention
- Reasonable service times
- CF and link utilization

Depends on Link speed, distance, structure type, duplexing

Probably not the answer you think it is



Washington
Systems Center



Performance Analysis and Capacity Planning

zCP3000 Highlights

- Customer generated input from SMF and VM Monitor
- Automated graph and report generation
- Customizable HTML/JPG based output
- z/OS, z/VM, LPAR, Specialty engines
- Parallel Sysplex and FICON
- IBM System z, IBM zSeries and IBM S/390 processors
- zPCR based processor power numbers

- For IBM Field, IBM Techline, and IBM Business Partners, to assist in selling and successfully installing IBM System z processors.

- Thursday May 15 STG

zTL02 : zCP3000 What's
New

zTL52 : zCP3000 Demo/Lab

zCP3000 Main View

The screenshot shows a window titled "Sysplex Demo - zCP 3000 PA Overview" with a menu bar (File, Edit, View, Action, Help) and a toolbar. The main area displays a hierarchical tree of system components:

- 1900B**
 - SYSB (server icon)
 - SYSC (server icon)
 - MINI (server icon)
 - MVSPROD (server icon)
 - MVSTEST (server icon)
- 7C960**
 - SYSD (server icon)
 - SYSY (server icon)
 - ICFTESTA (blue triangle icon)
 - ICFTESTB (blue triangle icon)
- B34FF**
 - SYSE (server icon)
 - SYSDA (server icon)
 - SYSH (server icon)
 - SYSYA (server icon)
- 18FDB**
 - SYSG (server icon)
 - SYSK (server icon)
- CPCCF1**
 - CF03LPR1 (blue triangle icon)
 - CF04LPR1 (blue triangle icon)

Callouts and annotations:

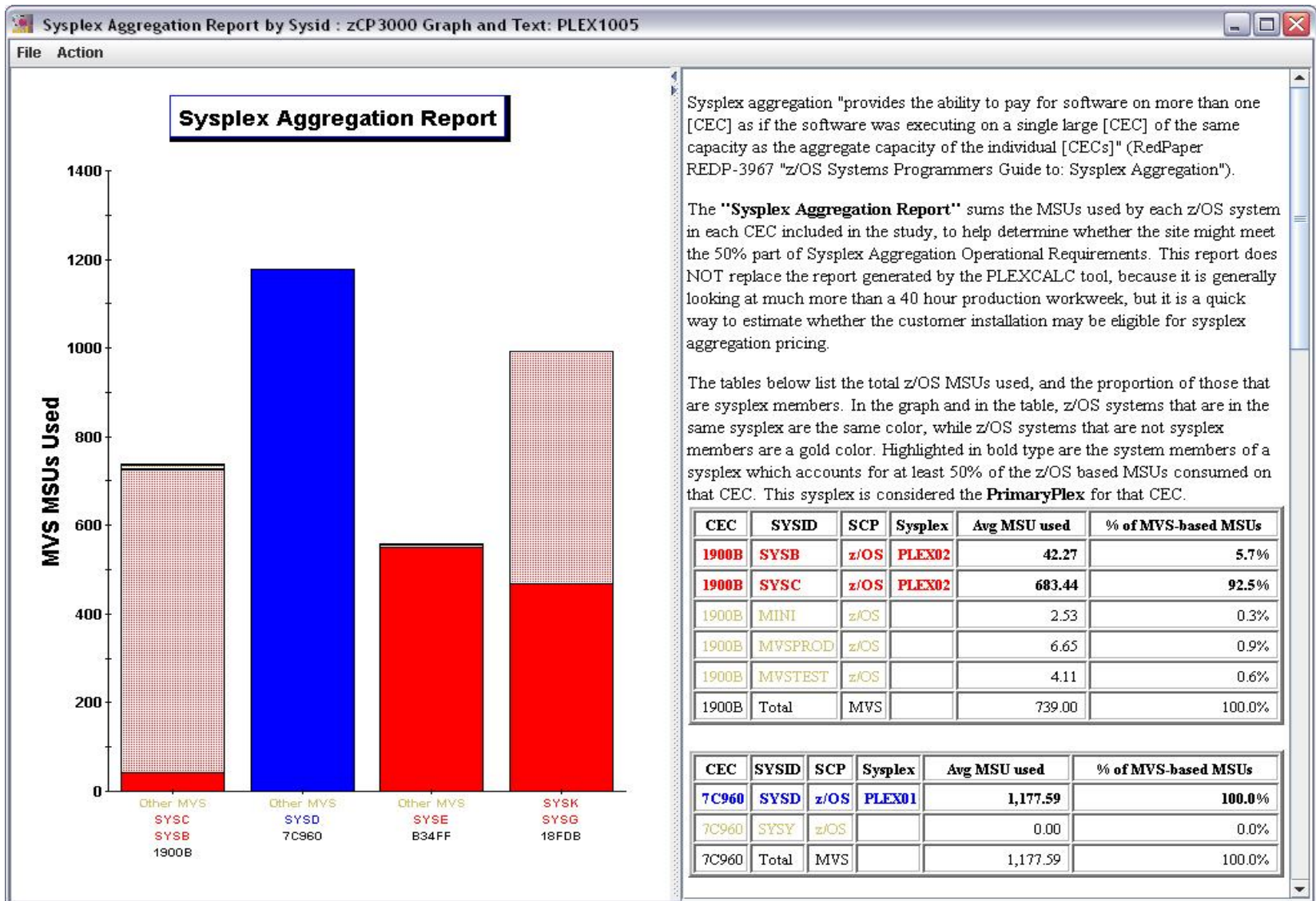
- A callout box points to the 1900B component with the text: "2094-S38/700" and "2094-724".
- A blue dotted box contains the text: "Flyover help available on many fields and objects".
- A grey callout box points to the SYSH/SYSYA component with the text: "Definition", "Properties", "Alternates", "zAAP Analysis", and "zIIP Analysis".
- A blue dotted box at the bottom contains the text: "Right Click options available on many fields and objects".

Logical Sysplex View → just the sysplex components

The screenshot shows a software window titled "Sysplex Demo - zCP3000 PA Overview". The menu bar includes File, Edit, View, Action, and Help. The View menu is open, showing options: CF, SYS, BCU, and Logical Sysplex. A red circle highlights the "Analysis" button in the top right corner. The main area displays two Sysplex PLEX components: PLEX02 and PLEX01. PLEX02 contains components SYSB, SYSC, SYSE, SYSG, SYSK, CF03LPR1, and CF04LPR1. PLEX01 contains components SYSD, ICFTESTA, and ICFTESTB. A status bar at the bottom reads: "Power: The logical configuration does not use all of the zIIPs B34FF/2094-S38/700/SYSE first in interval 1".

Graphs
And
Analysis

Sysplex Aggregation



Coupling Facility Summary

CF Information

CF Link Table

Structure Table

CF04LPR1: Coupling Facility PA Summary

View Action Help Analysis

CF Name: CF04LPR1
 Sysplex Name: PLEX02
 CF Machine Type: 2084-A08
 CF Level: 14

Logical
 CF Utilization: 16.5%
 ICF engines: 2.0
 Effective #engines: 1.9 Show Advanced Fields

Storage Defined: 64,052 mb
 Dump Storage: 2 mb
 Storage Available: 26,688 mb

Sysid:	SubChannels:	CF Links:	Mode:	Link Type:	Link Utilization
SYSB	14.0	2.0	Peer	ICB	0.1%
SYSC	14.0	2.0	Peer	ICB	1.1%
SYSE	14.0	2.0	Peer	ICB	1.9%
SYSG	14.0	2.0	Peer	ICB	0.4%
SYSK	14.0	2.0	Peer	ICB	2.2%

CF Study Interval: 2008-02-25 09:00:00 01:00:00

Structure	Type	Size	Reqs/sec	Duplexed?
ADP207_CACHE1	CACH	670.2	1,807.9	<input type="checkbox"/>
ADP207_LOCK1	LOCK	42.2	1.6	<input type="checkbox"/>
ADP213_CACHE1	CACH	71.5	259.0	<input type="checkbox"/>
ADP213_LOCK1	LOCK	16.7	1.3	<input type="checkbox"/>
ADP215_CACHE1	CACH	671.0	7,180.4	<input type="checkbox"/>
ADP215_LOCK1	LOCK	49.0	957.9	<input type="checkbox"/>
ADP216_CACHE1	CACH	300.0	447.1	<input type="checkbox"/>
ADP216_LOCK1	LOCK	11.7	144.0	<input type="checkbox"/>
ADP218_CACHE1	CACH	616.2	1,718.2	<input type="checkbox"/>
ADP218_LOCK1	LOCK	24.0	189.6	<input type="checkbox"/>
ADP220_CACHE1	CACH	212.7	3,247.2	<input type="checkbox"/>
ADP220_LOCK1	LOCK	19.2	404.7	<input type="checkbox"/>
ISGLOCK	LOCK	8.2	11.2	<input type="checkbox"/>
IXC_PLEX02_PAT	LIST	32.0	14.0	<input type="checkbox"/>
30 Structures	Totals	8,689.0	36,495.4	6 duplexed

Cancel Apply

Coupling Facility Summary

Partition Utilization
Vs
CFCC Utilization

1.9 Dedicated Engines???



Check/Correct the
CEC definition

CF04LPR1: Coupling Facility PA Summary

View Action Help Analysis

CF Name: CF04LPR1
 Sysplex Name: PLEX02
 CF Machine Type: 2084-A08
 CF Level: 14

CF Utilization: 16.5% **Logical CFCC Busy 16.5%**
 ICF engines: 2.0 **2.0 CF Defined**
 Effective #engines: 1.9 **Dedicated Engines** Show Advanced Fields

Storage Defined: 64,052 mb
 Dump Storage: 2 mb
 Storage Available: 26,688 mb

Sysid:	SubChannels:	CF Links:	Mode:	Link Type:	Link Utilization
SYSB	14.0	2.0	Peer	ICB	0.1%
SYSC	14.0	2.0	Peer	ICB	1.1%
SYSE	14.0	2.0	Peer	ICB	1.9%
SYSG	14.0	2.0	Peer	ICB	0.4%
SYSK	14.0	2.0	Peer	ICB	2.2%

CF Study Interval: 2008-02-25 09:00:00 01:00:00

Structure	Type	Size	Reqs/sec	Duplexed?
ADP207_CACHE1	CACH	670.2	1,807.9	<input type="checkbox"/>
ADP207_LOCK1	LOCK	42.2	1.6	<input type="checkbox"/>
ADP213_CACHE1	CACH	71.5	259.0	<input type="checkbox"/>
ADP213_LOCK1	LOCK	16.7	1.3	<input type="checkbox"/>
ADP215_CACHE1	CACH	671.0	7,180.4	<input type="checkbox"/>
ADP215_LOCK1	LOCK	49.0	957.9	<input type="checkbox"/>
ADP216_CACHE1	CACH	300.0	447.1	<input type="checkbox"/>
ADP216_LOCK1	LOCK	11.7	144.0	<input type="checkbox"/>
ADP218_CACHE1	CACH	616.2	1,718.2	<input type="checkbox"/>
ADP218_LOCK1	LOCK	24.0	189.6	<input type="checkbox"/>
ADP220_CACHE1	CACH	212.7	3,247.2	<input type="checkbox"/>
ADP220_LOCK1	LOCK	19.2	404.7	<input type="checkbox"/>
ISGLOCK	LOCK	8.2	11.2	<input type="checkbox"/>
IXC_PLEX02_PAT	LIST	32.0	14.0	<input type="checkbox"/>
30 Structures	Totals	8,689.0	36,495.4	6 duplexed

Cancel Apply

Change the CEC Definition

The screenshot shows a window titled "Sysplex Demo - zCP3000 PA Overview" with a menu bar (File, Edit, View, Action, Help) and a toolbar. The main area displays a grid of system definitions:

- 1900B**: SYSB, SYSC, MINI, MVSPROD, MVSTEST
- 7C960**: SYSD, SYSY, ICFTESTA, ICFTESTB
- B34FF**: SYSE, SYSDA, SYSH, SYSYA
- 18FDB**: SYSG, SYSK
- CPCCF1**: CF03LPR1, CF04LPR1

A callout box points to the CF03LPR1 and CF04LPR1 definitions, listing their properties:

- Definition**
- Properties
- Alternates
- zAAP Analysis
- zIIP Analysis

CEC Definition

A generated CEC is created when we know it must exist, but we don't have any SMF from it

Define CEC CPCCF1

Supervisor: LPAR

Interval	Processor	CPs	zAAPs	zIIPs	ICFs	IFLs	Change
2/24/08 19:00	2084-A08	0.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>
2/24/08 20:00	2084-A08	0.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>
2/24/08 21:00	2084-A08	0.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>
2/24/08 22:00	2084-A08	0.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>
2/24/08 23:00	2084-A08	0.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>
2/25/08 00:00	2084-A08	0.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>
2/25/08 01:00	2084-A08	0.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>
2/25/08 02:00	2084-A08	0.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>
2/25/08 03:00	2084-A08	0.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>

Name	CtlPgm	CPs	ICFs	IFLs	Weight	Cap	Mix	MinCap	MaxCap
CF03LPR1	CFCC	0.0	2.0	0.0	Ded	<input type="checkbox"/>	CFCC	743.4	743.4
CF04LPR1	CFCC	0.0	2.0	0.0	Ded	<input type="checkbox"/>	CFCC	743.4	743.4

Cancel Apply

View CFs Side by Side

Duplexed structures but no peer CF.

CF03LPR1: Coupling Facility PA Summary

View Action Help Analysis

CF Name: CF03LPR1
 Sysplex Name: PLEX02
 CF Machine Type: 2084-A08
 CF Level: 14
 Logical
 CF Utilization: 27.3%
 ICF engines: 2.0
 Effective #engines: 1.9 Show Advanced Fields

Storage Defined: 64,052 mb
 Dump Storage: 2 mb
 Storage Available: 55,370 mb

Sysid:	SubChannel...	CF Links:	Mode:	Link Type:	Link Utilizati...
SYSB	14.0	2.0	Peer	ICB	0.1%
SYSC	14.0	Unknown	Unknown	Unknown	2.6%
SYSE	14.0	2.0	Peer	ICB	1.8%
SYSG	14.0	2.0	Peer	ICB	1.3%
SYSK	14.0	Unknown	Unknown	Unknown	2.1%

CF Study Interval: 2008-02-25 09:00:00 01:00:00

Structure	Type	Size	Reqs/sec	Duplexed?
MSDPA1_GBP8K0	CACH	37.5	78.7	<input checked="" type="checkbox"/>
MSDPA1_GBP32K	CACH	494.2	13.1	<input checked="" type="checkbox"/>
MSDPA1_GBP2	CACH	1,953.2	7,572.5	<input checked="" type="checkbox"/>
MSDPA1_GBP16K0	CACH	75.0	2.5	<input checked="" type="checkbox"/>
MSDPA1_GBP1	CACH	1,245.2	8,924.2	<input checked="" type="checkbox"/>
MSDPA1_GBP0	CACH	309.5	68.6	<input checked="" type="checkbox"/>
SYSZWLM_34FF2094	CACH	6.0	0.1	<input type="checkbox"/>
RRS_STR2	LIST	16.0	18.5	<input type="checkbox"/>
PLX02_HASPCKPT	LIST	45.0	194.5	<input type="checkbox"/>
MQP1SYSTEM	LIST	200.0	2.9	<input type="checkbox"/>
MQP1PERAPPL01	LIST	400.0	1.8	<input type="checkbox"/>
MQP1NPERAPPL01	LIST	200.0	0.0	<input type="checkbox"/>
MQP1CSQ_ADMIN	LIST	20.0	3.8	<input type="checkbox"/>
LOGGER_LOGREC	LIST	2.0	0.2	<input type="checkbox"/>
50 Structures	Totals	8,679.0	42,478.6	6 duplexed

Cancel Apply

CF04LPR1: Coupling Facility PA Summary

View Action Help Analysis

CF Name: CF04LPR1
 Sysplex Name: PLEX02
 CF Machine Type: 2084-A08
 CF Level: 14
 Logical
 CF Utilization: 16.5%
 ICF engines: 2.0
 Effective #engines: 1.9
 CFCC Busy: 16.5%
 2.0 CF Defined
 Dedicated Engines: Show Advanced Fields

Storage Defined: 64,052 mb
 Dump Storage: 2 mb
 Storage Available: 26,688 mb

Sysid:	SubChannels:	CF Links:	Mode:	Link Type:	Link Utilization
SYSB	14.0	2.0	Peer	ICB-3	0.1%
SYSC	14.0	2.0	Peer	ICB	1.1%
SYSE	14.0	2.0	Peer	ICB	1.9%
SYSG	14.0	2.0	Peer	ICB	0.4%
SYSK	14.0	2.0	Peer	ICB	2.2%

CF Study Interval: 2008-02-25 09:00:00 01:00:00

Structure	Type	Size	Reqs/sec	Duplexed?
MSDPA1_GBP8K0	CACH	37.5	0.1	<input checked="" type="checkbox"/>
MSDPA1_GBP32K	CACH	494.2	10.0	<input checked="" type="checkbox"/>
MSDPA1_GBP2	CACH	1,953.5	913.4	<input checked="" type="checkbox"/>
MSDPA1_GBP16...	CACH	75.0	0.0	<input checked="" type="checkbox"/>
MSDPA1_GBP1	CACH	1,245.5	345.9	<input checked="" type="checkbox"/>
MSDPA1_GBP0	CACH	309.5	61.5	<input checked="" type="checkbox"/>
SYSZWLM_900B...	CACH	6.0	0.4	<input type="checkbox"/>
SYSZWLM_8FDB...	CACH	6.0	0.4	<input type="checkbox"/>
RRS_STR1	LIST	36.0	22.9	<input type="checkbox"/>
MSDPA1_SCA	LIST	48.2	109.9	<input type="checkbox"/>
MSDPA1_LOCK1	LOCK	256.0	16,215.9	<input type="checkbox"/>
MQP2SYSTEM	LIST	400.0	13.8	<input type="checkbox"/>
MQP2PERAPPL01	LIST	625.0	11.2	<input type="checkbox"/>
MQP2NPERAPP	LIST	400.0	0.1	<input type="checkbox"/>
30 Structures	Totals	8,689.0	36,495.4	6 duplexed

Cancel Apply

Coupling Facility Summary (RCF1 testcase)

System Managed Duplexing
Or is it
User Managed Duplexing?

EDF missing

Incomplete Input Data - does it matter?

RCF1: Coupling Facility PA Summary

View Action Help Analysis

CF Name: RCF1
 Sysplex Name: PLEX1
 CF Machine Type: 2084-310
 CF Level: 14

CF Utilization: Logical 30.0% CFCC Busy 30.0%
 ICF engines: 1.0 1.0 CF Defined
 Effective #engines: 1.0 Dedicated Engines

Storage Defined: 4,029 mb
 Dump Storage: 98 mb
 Storage Available: 1,336 mb

Peer Name: RCF2
 CF Machine Type: 2084-309
 CF Level: 14

Show Advanced Fields

Possible SM Duplexing

Sysid:	SubChannels:	CF Links:	Mode:	Link Type:	Link Utilization
RCC1	28.0	4.0	Peer	IC	1.9%
RCC2	35.0	5.0	Peer	ISC	1.3%
RCC3	28.0	4.0	Peer	IC	1.2%
RCC4	35.0	5.0	Peer	ISC	1.3%
Missing Data	Missing Data	Missing Data	Missing Data	Missing Data	0.0%

CF Study Interval: 2006-01-31 10:00:00 01:00:00

Structure	Type	Size	Reqs/sec	Duplexed?
DFHXQLS_RCC...	LIST	12.5	35.6	<input type="checkbox"/>
DSNCAT1_GBP0	CACH	13.7	0.9	<input checked="" type="checkbox"/>
DSNCAT1_GBP1	CACH	3.7	0.7	<input checked="" type="checkbox"/>
DSNCAT1_GBP...	CACH	6.0	0.0	<input checked="" type="checkbox"/>
DSNCAT1_GBP2	CACH	64.2	16.8	<input checked="" type="checkbox"/>
DSNCAT1_GBP3	CACH	159.2	439.0	<input checked="" type="checkbox"/>
DSNCAT1_GBP...	CACH	66.0	1.1	<input checked="" type="checkbox"/>
DSNCAT1_GBP...	CACH	120.0	52.4	<input checked="" type="checkbox"/>
DSNCAT1_GBP4	CACH	683.7	216.5	<input checked="" type="checkbox"/>
DSNCAT1_GBP5	CACH	12.7	0.6	<input checked="" type="checkbox"/>
DSNCAT1_GBP7	CACH	26.7	20.8	<input checked="" type="checkbox"/>
DSNCAT1_GBP8	CACH	90.2	0.4	<input checked="" type="checkbox"/>
DSNCAT1_GBP...	CACH	3.5	6.2	<input checked="" type="checkbox"/>
DSNCAT1_LOCK1	LOCK	1,024.0	7,122.6	<input checked="" type="checkbox"/>
DSNCAT1_SCA	LIST	35.5	12.4	<input checked="" type="checkbox"/>
33 Structures	Totals	2,589.6	12,802.2	17 duplexed

Cancel Apply

WARNING: EDF data missing for at least one sysplex member.

Coupling Facility Summary (RCF1 testcase)

Missing EDFs listed on

- CF Health Check
- CF Summary Rpt

CF Health Check Analysis : zCP3000 Graph and Text: CF1000

File Action

Health Check Analysis for RCF1

The analysis in the graph "Health Check Analysis for RCF1" is for Coupling Facility RCF1 (2084-310). It looks through the CF data for potential problems. The analysis is by resource. There are three levels of observations. **RED** would be a strong indication of a problem, **YELLOW** would be a potential problem, and **GREEN** would mean that the analysis didn't find a problem. This Health Check is to guide you. It does not mean that you can avoid looking at the data.

WARNING: Performance information was not collected for all members of the sysplex. The structure request rate and link utilization do not include the unmeasured systems. zCP3000 models saved before June 2007 must reload from source EDFs to have a complete list of missing systems. For models saved after June 2007, the following is a complete list of systems missing for this sysplex:

- RCK2
- RCK1

CF Processor
CF Processor Rule 1 - CF Processor Utilization - OK
 The processor utilization for Coupling Facility RCF1 was less than the target utilization for all samples. The average utilization for this CF was 12.65%, and the target utilization was 50.00%.

CF Processor Rule 2 - Effective CPs - OK
 For Coupling Facilities using shared ICF engines, the

Coupling Facility Summary Graphs

Graph Selection

- CF Health Check Analysis
- Coupling Facility Summary
- CF Logical Utilization over Time
- Advanced CF Utilization Analysis
- Relative CF Utilization by System
- CF Structures Table
- Request Rate by Structure over Time
- Request Rate by System over Time
- Request Rate by Request Type and System
- Request Rate by Structure Type and System
- Request Rate by Structure and Request Type
- CF Subchannel Utilization
- CF Subchannel Utilization over Time
- CF Subchannel Contention
- CF Subchannel Busy
- Service Time for Synchronous Structures
- Service Time for Asynchronous Structures
- Structures with the Highest Queue Time
- Busiest Structures with Queue Time
- Lock Contention Over Time

Favorites **Sel All** **Show** **OK**

CF04LPR1: Coupling Facility PA Summary

View Action Help

Analysis

CF Name: CF04LPR1
 Sysplex Name: PLEX02
 CF Machine Type: 2084-A08
 CF Level: 14
 Logical

CF Utilization: 16.5%
 ICE engines: 2.0
 Effective #engines: 1.9 Show Advanced Fields

Storage Defined: 64,052 mb
 Dump Storage: 2 mb
 Storage Available: 26,688 mb

Sysid:	SubChannels:	CF Links:	Mode:	Link Type:	Link Utilization
SYSB	14.0	2.0	Peer	ICB	0.1%
SYSC	14.0	2.0	Peer	ICB	1.1%
SYSE	14.0	2.0	Peer	ICB	1.9%
SYSG	14.0	2.0	Peer	ICB	0.4%
SYSK	14.0	2.0	Peer	ICB	2.2%

CF Study Interval: 2008-02-25 09:00:00 01:00:00

Structure	Type	Size	Reqs/sec	Duplexed?
ADP207_CACHE1	CACH	670.2	1,807.9	<input type="checkbox"/>
ADP207_LOCK1	LOCK	42.2	1.6	<input type="checkbox"/>
ADP213_CACHE1	CACH	71.5	259.0	<input type="checkbox"/>
ADP213_LOCK1	LOCK	16.7	1.3	<input type="checkbox"/>
ADP215_CACHE1	CACH	671.0	7,180.4	<input type="checkbox"/>
ADP215_LOCK1	LOCK	49.0	957.9	<input type="checkbox"/>
ADP216_CACHE1	CACH	300.0	447.1	<input type="checkbox"/>
ADP216_LOCK1	LOCK	11.7	144.0	<input type="checkbox"/>
ADP218_CACHE1	CACH	616.2	1,718.2	<input type="checkbox"/>
ADP218_LOCK1	LOCK	24.0	189.6	<input type="checkbox"/>
ADP220_CACHE1	CACH	212.7	3,247.2	<input type="checkbox"/>
ADP220_LOCK1	LOCK	19.2	404.7	<input type="checkbox"/>
ISGLOCK	LOCK	8.2	11.2	<input type="checkbox"/>
IXC_PLEX02_PAT	LIST	32.0	14.0	<input type="checkbox"/>
30 Structures	Totals	8,689.0	36,495.4	6 duplexed

Cancel **Apply**

CF Health Check

At a glance

BUT

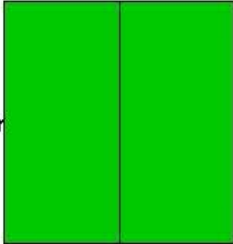
“it does not mean that you can avoid looking at the data.”

CF Health Check Analysis : zCP3000 Graph and Text: CF1000

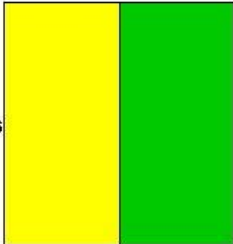
File Action

Health Check Analysis for CF04LPR1

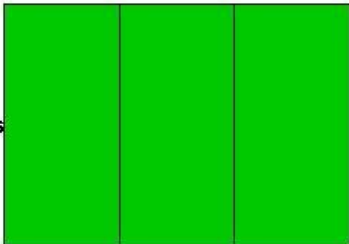
CF Processor




Structures



SubChannels





The analysis in the graph "Health Check Analysis for CF04LPR1" is for Coupling Facility CF04LPR1 (2084-A08). It looks through the CF data for potential problems. The analysis is by resource. There are three levels of observations. **RED** would be a strong indication of a problem, **YELLOW** would be a potential problem, and **GREEN** would mean that the analysis didn't find a problem. This Health Check is to guide you. It does not mean that you can avoid looking at the data.

CF Processor

CF Processor Rule 1 - CF Processor Utilization - OK
 The processor utilization for Coupling Facility CF04LPR1 was less than the target utilization for all samples. The average utilization for this CF was 16.73%, and the target utilization was 50.00%.

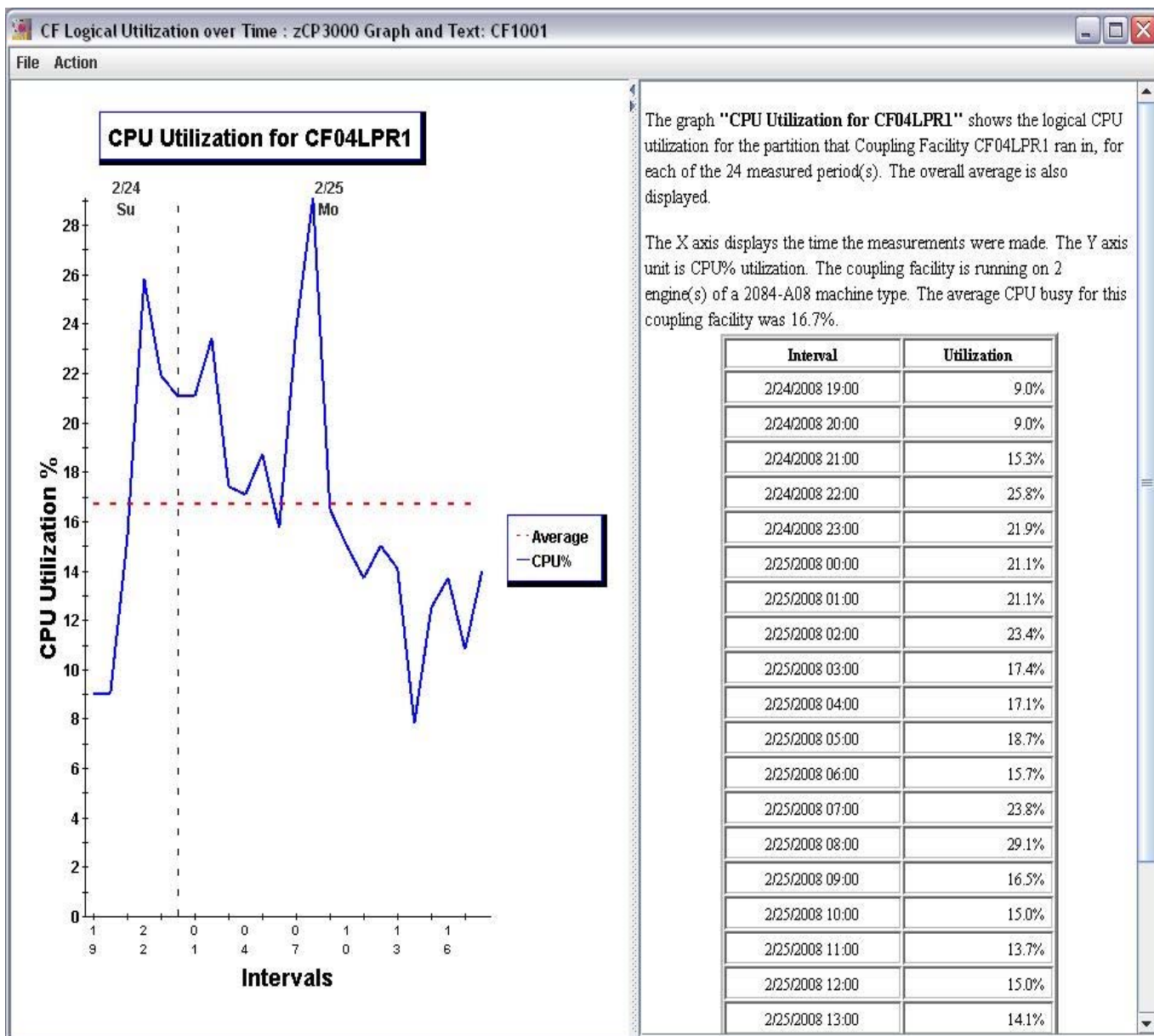
CF Processor Rule 2 - Effective CPs - OK
 For Coupling Facilities using shared ICF engines, the effective number of engines is a better indicator of the capacity available. For Coupling Facilities using dedicated engines, this number is always greater than or equal to 1, but for CFs using shared engines on a busy system, this number can fall below 1.0. The effective number of CPs for Coupling Facility CF04LPR1 was greater than 1.0 for all samples.

Structures
 There were 30 structures in CF04LPR1. Looking at data from all intervals, the busiest structure was MSDPA1_LOCK1, a LOCK type structure, with an average rate of 19063.47 requests per second. Requests from all 30 structures totalled 36709.28 per second, on average. Approximately 53.16% of the synchronous requests to MSDPA1_LOCK1 were from system SYSC.

Structures	Type	Average Req/sec	Lock Contention	False Lock Contention
ADP207_CACHE1	CACH	1195.45		

CF Utilization

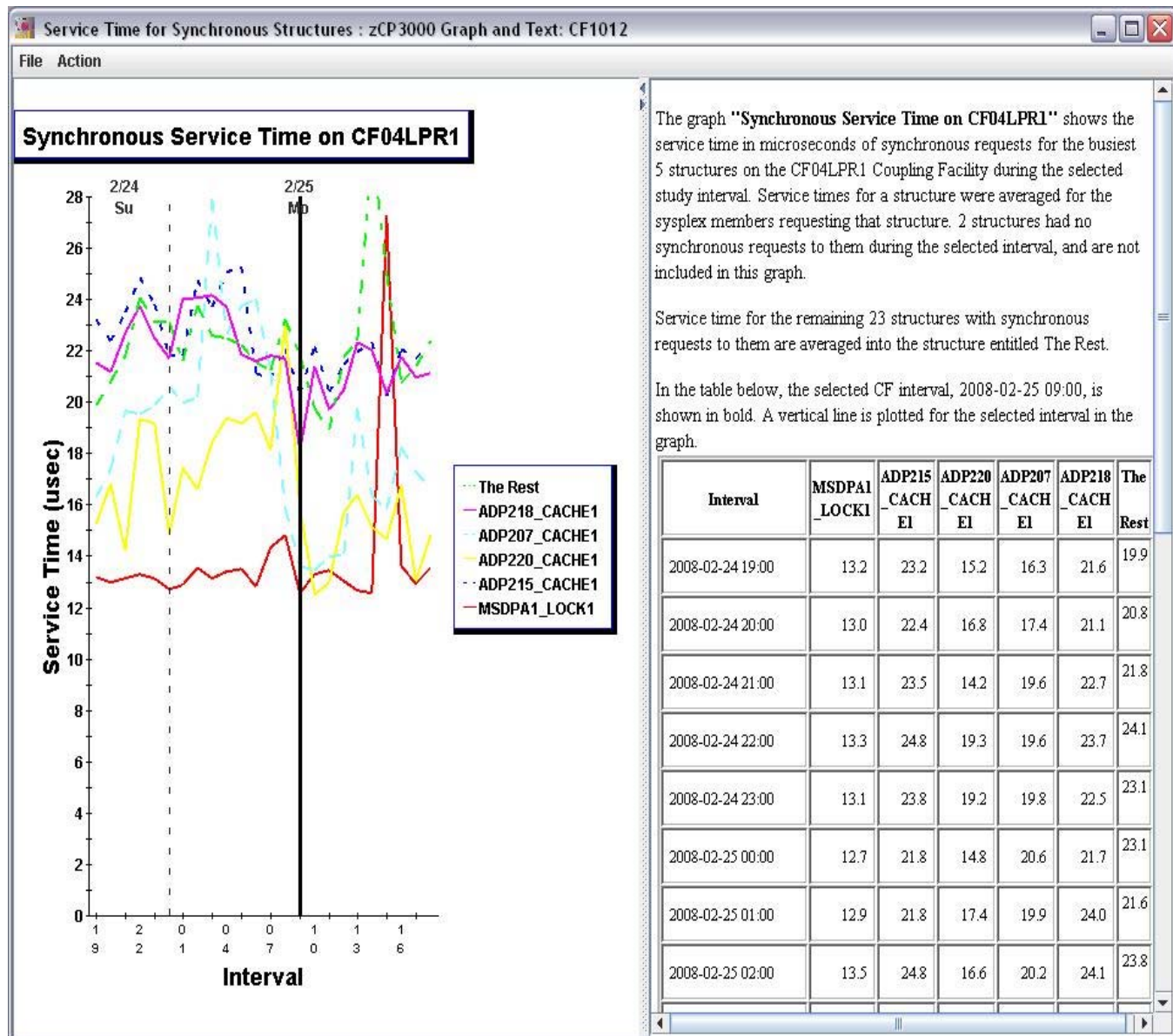
Logical Partition Utilization



Synchronous Service Time

Glimpse at the 5 Busiest Structures

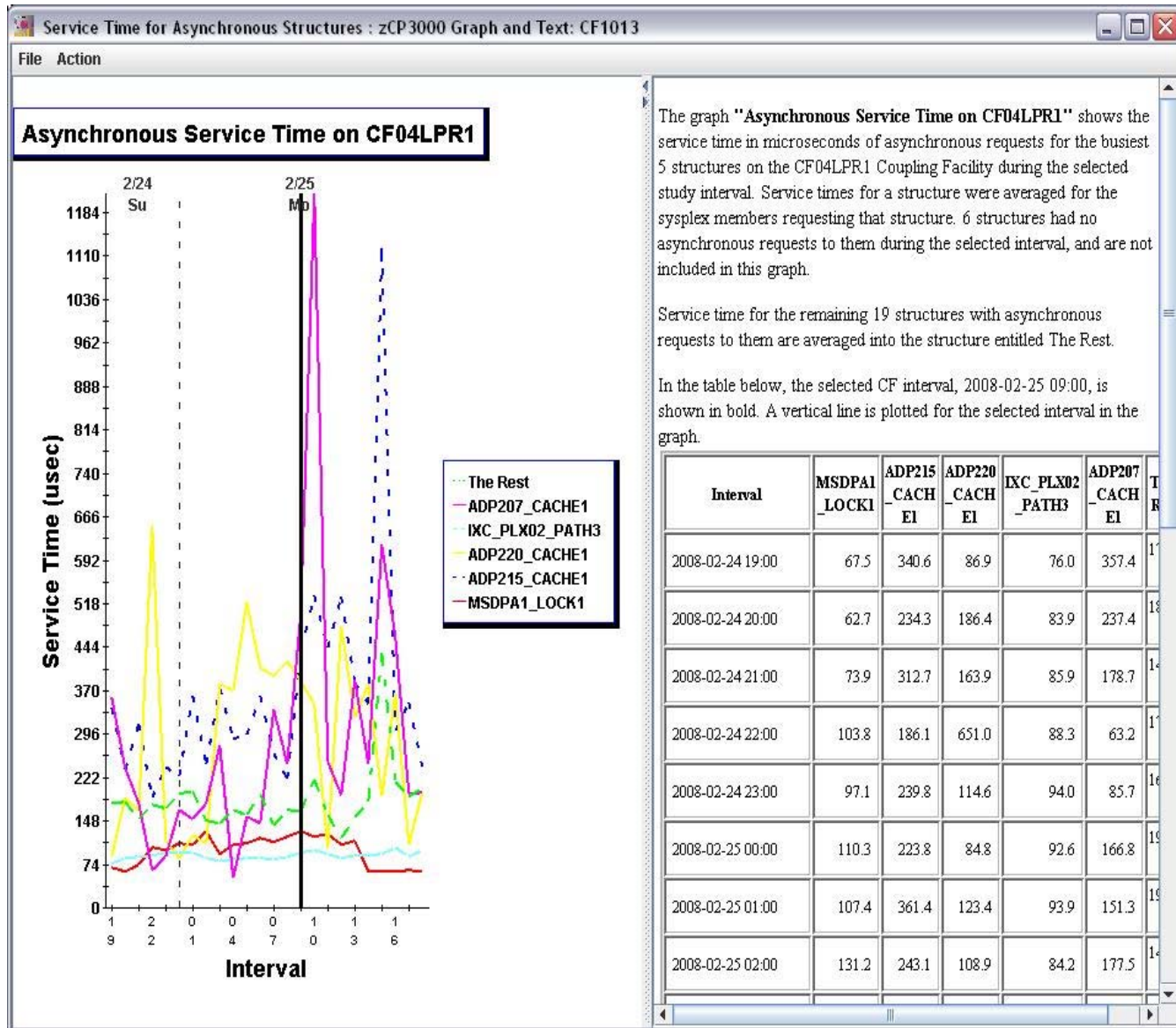
Average of all sysplex members



Asynchronous Service Time

5 Busiest Structures

Average of all sysplex members

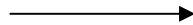


Why CF level Graphs?

- CF Health Check Rules of Thumb
- General View of Performance
- Identify Focus Areas for Further Study

Coupling Facility Summary

Double click a CF Link to see detail



CF04LPR1: Coupling Facility PA Summary

View Action Help Analysis

CF Name: CF04LPR1
 Sysplex Name: PLEX02
 CF Machine Type: 2084-A08
 CF Level: 14
 Logical
 CF Utilization: 16.5%
 ICF engines: 2.0
 Effective #engines: 1.9 Show Advanced Fields

Storage Defined: 64,052 mb
 Dump Storage: 2 mb
 Storage Available: 26,688 mb

Sysid:	SubChannels:	CF Links:	Mode:	Link Type:	Link Utilization
SYSB	14.0	2.0	Peer	ICB	0.1%
SYSC	14.0	2.0	Peer	ICB	1.1%
SYSE	14.0	2.0	Peer	ICB	1.9%
SYSG	14.0	2.0	Peer	ICB	0.4%
SYSK	14.0	2.0	Peer	ICB	2.2%

CF Study Interval: 2008-02-25 09:00:00 01:00:00

Structure	Type	Size	Reqs/sec	Duplexed?
ADP207_CACHE1	CACH	670.2	1,807.9	<input type="checkbox"/>
ADP207_LOCK1	LOCK	42.2	1.6	<input type="checkbox"/>
ADP213_CACHE1	CACH	71.5	259.0	<input type="checkbox"/>
ADP213_LOCK1	LOCK	16.7	1.3	<input type="checkbox"/>
ADP215_CACHE1	CACH	671.0	7,180.4	<input type="checkbox"/>
ADP215_LOCK1	LOCK	49.0	957.9	<input type="checkbox"/>
ADP216_CACHE1	CACH	300.0	447.1	<input type="checkbox"/>
ADP216_LOCK1	LOCK	11.7	144.0	<input type="checkbox"/>
ADP218_CACHE1	CACH	616.2	1,718.2	<input type="checkbox"/>
ADP218_LOCK1	LOCK	24.0	189.6	<input type="checkbox"/>
ADP220_CACHE1	CACH	212.7	3,247.2	<input type="checkbox"/>
ADP220_LOCK1	LOCK	19.2	404.7	<input type="checkbox"/>
ISGLOCK	LOCK	8.2	11.2	<input type="checkbox"/>
IXC_PLEX02_PAT	LIST	32.0	14.0	<input type="checkbox"/>
30 Structures	Totals	8,689.0	36,495.4	6 duplexed

Cancel Apply

Coupling Facility Summary

CF04LPR1: Coupling Facility PA Summary

View Action Help Analysis

CF Name: CF04LPR1
 Sysplex Name: PLEX02
 CF Machine Type: 2084-A08
 CF Level: 14
 Logical
 CF Utilization: 16.5%
 ICF engines: 2.0
 Effective #engines: 1.9

Show Advanced Fields

Link Type:	Link Utilization
	0.1%
	1.1%
	1.9%
	0.4%
	2.2%

Structure	Type	Size	Reqs/sec	Duplexed?
ADP207_CACHE1	CACH	670.2	1,807.9	<input type="checkbox"/>
ADP207_LOCK1	LOCK	42.2	1.6	<input type="checkbox"/>
ADP213_CACHE1	CACH	71.5	259.0	<input type="checkbox"/>
ADP213_LOCK1	LOCK	16.7	1.3	<input type="checkbox"/>
ADP215_CACHE1	CACH	671.0	7,180.4	<input type="checkbox"/>
ADP215_LOCK1	LOCK	49.0	957.9	<input type="checkbox"/>
ADP216_CACHE1	CACH	300.0	447.1	<input type="checkbox"/>
ADP216_LOCK1	LOCK	11.7	144.0	<input type="checkbox"/>
ADP218_CACHE1	CACH	616.2	1,718.2	<input type="checkbox"/>
ADP218_LOCK1	LOCK	24.0	189.6	<input type="checkbox"/>
ADP220_CACHE1	CACH	212.7	3,247.2	<input type="checkbox"/>
ADP220_LOCK1	LOCK	19.2	404.7	<input type="checkbox"/>
ISGLCK	LOCK	8.2	11.2	<input type="checkbox"/>
IXC_PLY02_P&T	LIST	32.0	14.0	<input type="checkbox"/>
30 Structures	Totals	8,689.0	36,495.4	6 duplexed

Message

In CP3000 PA mode, the CF link should be defined as it is currently configured. Service time and utilization reflect the actual configuration, and will not change.

Plain English:
 You cannot see the effect of a configuration change this way.

Edit CF Link Type

CF and SYS Info

Link Configuration

Performance Information

CF04LPR1 : SYSB : Edit CF Link Type

Help Analysis

Sysplex Name: PLEX02 Machine Type

Sysid: SYSB 2094-724

CF Name: CF04LPR1 2084-A08

CF Study Interval: 2008-02-25 09:00:00 ...

Fastest available is default

Link Configuration

Peermode: Peer

Distance (km): 0

Link Type: ICB-4

CF Links: 2

Subchannels: 14

Only valid links are listed.

Utilization		Current
Coupling Facility		16.5%
Sysid		17.9%
Subchannel		0.1%

Requests/sec		Current
Sync		63.47
Async		115.17
Total		178.64

Service Time (usec)		Current
Sync		14.62
Async		137.86

Use Defaults Cancel Apply

Please verify the current link configuration and distance, then press Apply.

Coupling Facility Summary

Click on column head to sort, again to toggle order

Double click a row to see Structure detail

CF04LPR1: Coupling Facility PA Summary

View Action Help Analysis

CF Name: CF04LPR1
 Sysplex Name: PLEX02
 CF Machine Type: 2084-A08
 CF Level: 14

Logical CFCC Busy
 CF Utilization: 16.5% 16.5%
 ICF engines: 2.0 2.0 CF Defined
 Effective #engines: 1.9 Dedicated Engines Show Advanced Fields

Storage Defined: 64,052 mb
 Dump Storage: 2 mb
 Storage Available: 26,688 mb

Sysid:	SubChannels:	CF Links:	Mode:	Link Type:	Link Utilization
SYSB	14.0	2.0	Peer	ICB-3	0.1%
SYSC	14.0	2.0	Peer	ICB	1.1%
SYSE	14.0	2.0	Peer	ICB	1.9%
SYSG	14.0	2.0	Peer	ICB	0.4%
SYSK	14.0	2.0	Peer	ICB	2.2%

CF Study Interval: 2008-02-25 09:00:00-01:00:00

Structure	Type	Size	Reqs/sec	Duplexed?
MSDPA1_LOCK1	LOCK	256.0	16,215.9	<input type="checkbox"/>
ADP215_CACHE1	CACH	671.0	7,180.4	<input type="checkbox"/>
ADP220_CACHE1	CACH	212.7	3,247.2	<input type="checkbox"/>
IXC_PLX02_PAT...	LIST	12.0	2,405.6	<input type="checkbox"/>
ADP207_CACHE1	CACH	670.2	1,807.9	<input type="checkbox"/>
ADP218_CACHE1	CACH	616.2	1,718.2	<input type="checkbox"/>
ADP215_LOCK1	LOCK	49.0	957.9	<input type="checkbox"/>
MSDPA1_GBP2	CACH	1,953.5	913.4	<input checked="" type="checkbox"/>
ADP216_CACHE1	CACH	300.0	447.1	<input type="checkbox"/>
ADP220_LOCK1	LOCK	19.2	404.7	<input type="checkbox"/>
MSDPA1_GBP1	CACH	1,245.5	345.9	<input checked="" type="checkbox"/>
ADP213_CACHE1	CACH	71.5	259.0	<input type="checkbox"/>
ADP218_LOCK1	LOCK	24.0	189.6	<input type="checkbox"/>
ADP216_LOCK1	LOCK	11.7	144.0	<input type="checkbox"/>
30 Structures	Totals	8,689.0	36,495.4	6 duplexed

Cancel Apply

Structure Detail

Request Rate
by System



Service Time
by System



CF04LPR1 : MSDPA1_LOCK1 : Structure Detail

Analysis

Splex Name: PLEX02
 CF Name: CF04LPR1
 Structure Name: MSDPA1_LO...
 Structure Type: LOCK
 Study Interval: 2008-02-25 0...

Requests per Second

Synchrono...	SYSB	SYSC	SYSE	SYSG	SYSK
Average	187.8	8,452.3	4,210.1	53.5	2,997.5
Max	1,829.4	18,244.3	8,185.9	332.8	9,776.1
Study Inte...	50.1	7,369.1	3,739.2	19.2	2,470.7

Asynchron...	SYSB	SYSC	SYSE	SYSG	SYSK
Average	0.4	24.4	38.4	0.0	30.4
Max	1.2	50.8	131.8	0.4	110.0
Study Inte...	0.3	15.5	33.5	0.0	36.8

Service Time (microseconds)

Synchrono...	SYSB	SYSC	SYSE	SYSG	SYSK
Average	14.6	11.0	14.4	15.5	13.8
Max	43.4	12.7	15.3	55.3	16.4
Study Inte...	12.3	10.3	13.0	13.4	13.8

Asynchron...	SYSB	SYSC	SYSE	SYSG	SYSK
Average	83.1	111.8	100.1	5.9	91.8
Max	144.8	177.8	159.0	74.3	145.4
Study Inte...	143.1	105.2	141.5	0.0	133.1

Graph Selection dialog:

Synchronous Service Time
 Asynchronous Service Time
 Lock Contention Over Time

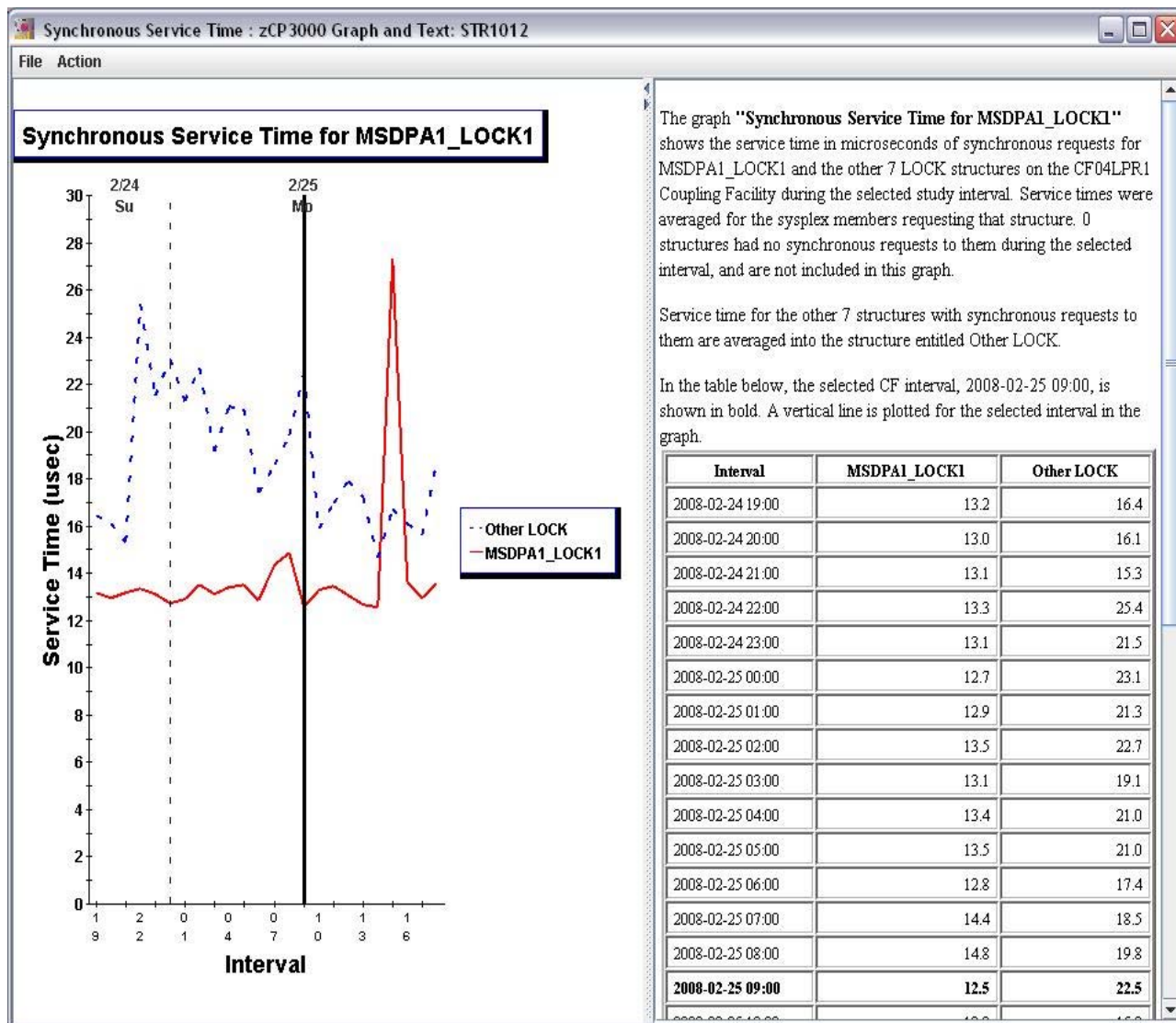
Favorites Sel All Show OK

Ok

Structure Synchronous Service Time

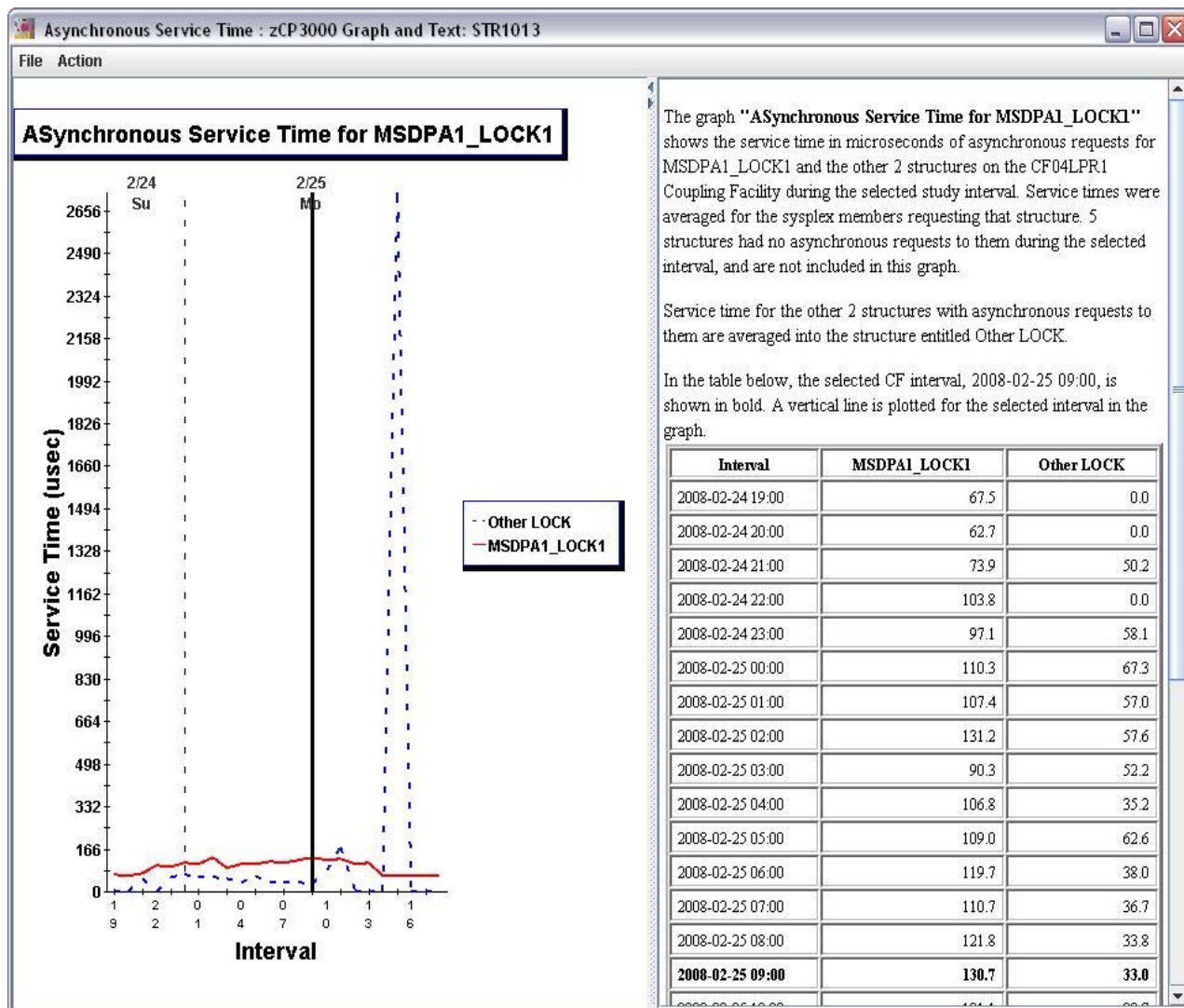
How happy is this particular structure?

This does not tell you about the link.



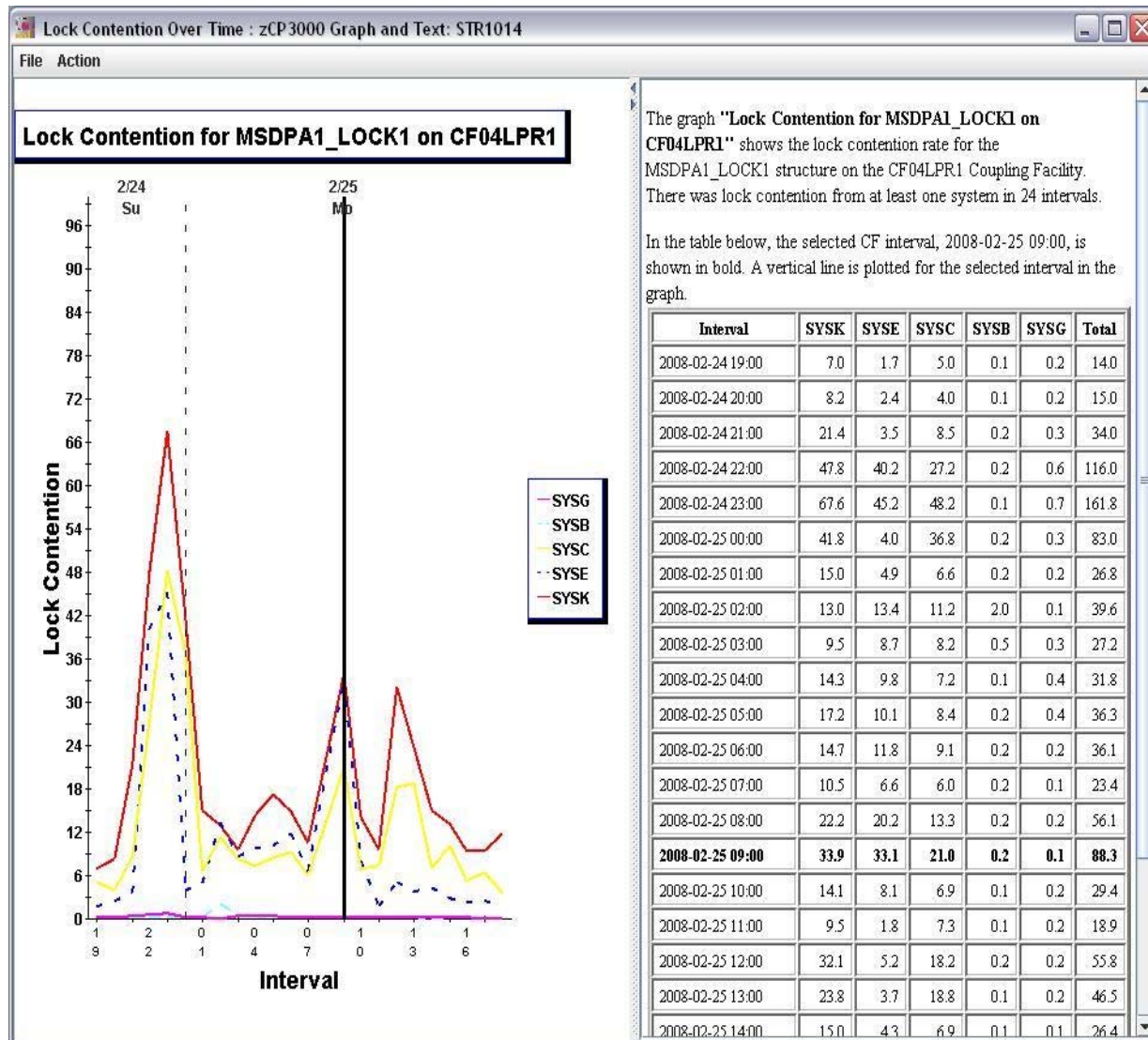
Structure Asynchronous Service Time

How important is asynchronous service?



Structure Lock Contention

How important is asynchronous service?



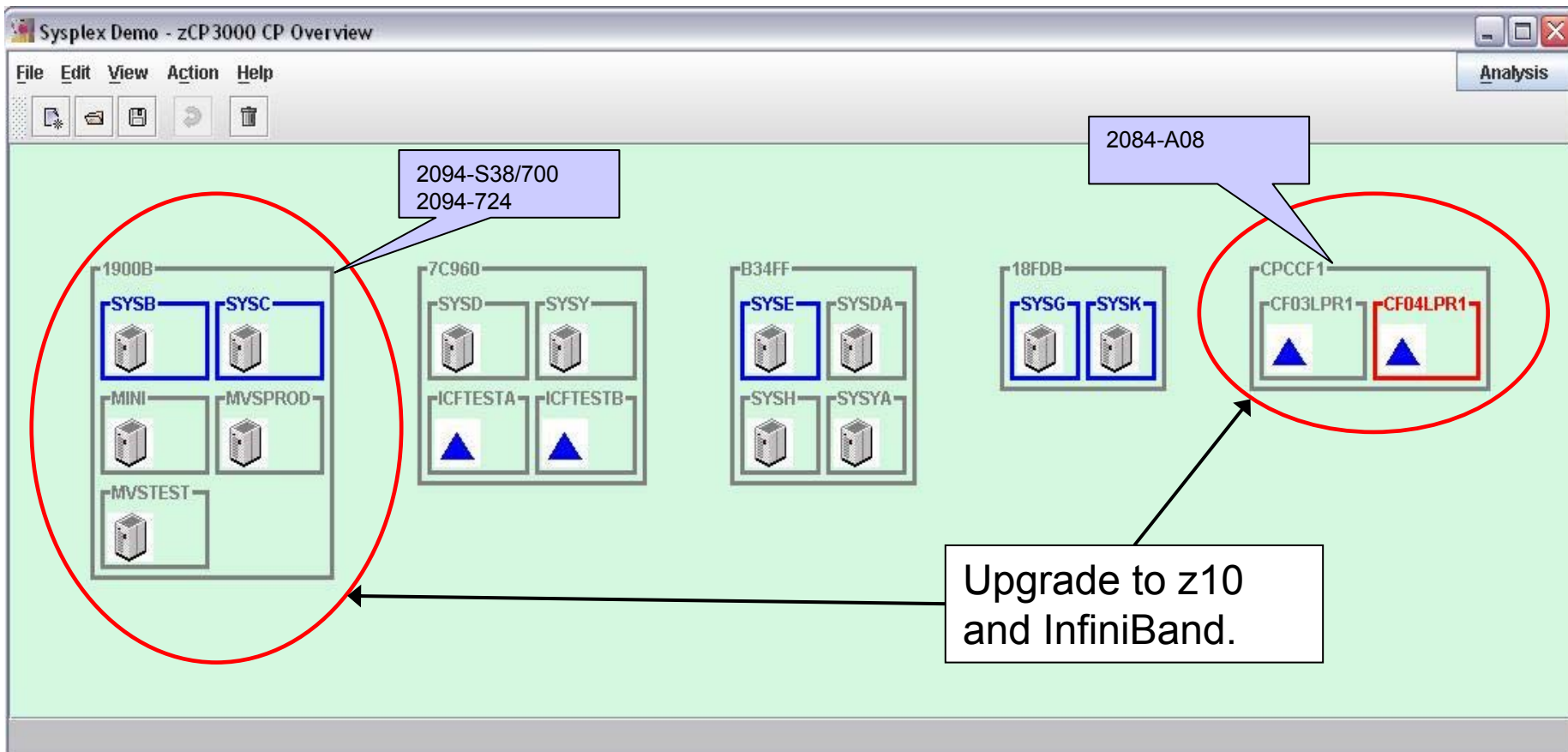
Capacity Planning Mode

The screenshot shows the Sysplex Demo - zCP 3000 PA Overview window. The menu is open, highlighting 'Go To Capacity Planning'. The main area displays several system icons and labels:

- 1900B: SYSB, SYSC, MINI, MVSPROD, MVSTEST
- 7C960: SYSD, SYSY, ICFTESTA, ICFTESTB
- B34FF: SYSE, SYSDA, SYSH, SYSYA
- 18FDB: SYSG, SYSK
- CPCCF1: CF03LPR1, CF04LPR1

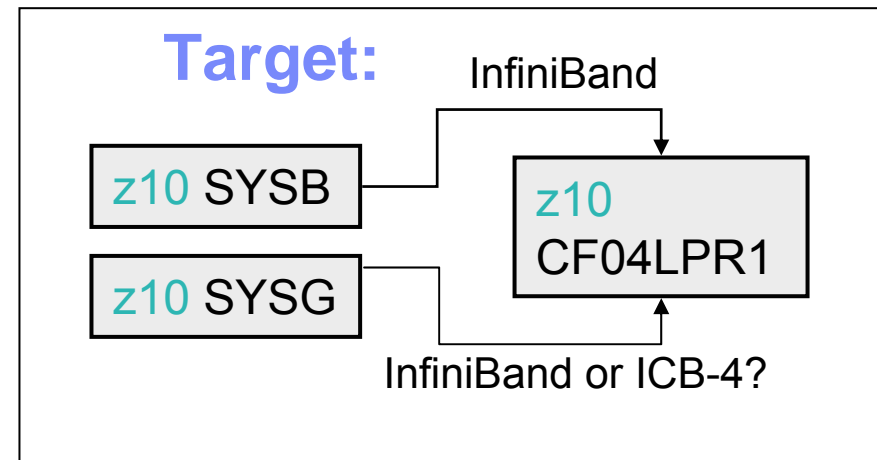
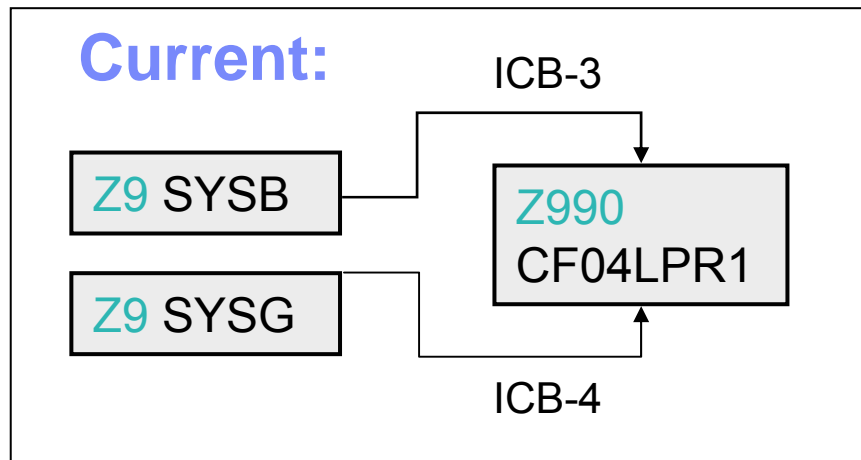
Use the study interval as reference point. All other interval data dropped.

Capacity Planning Mode



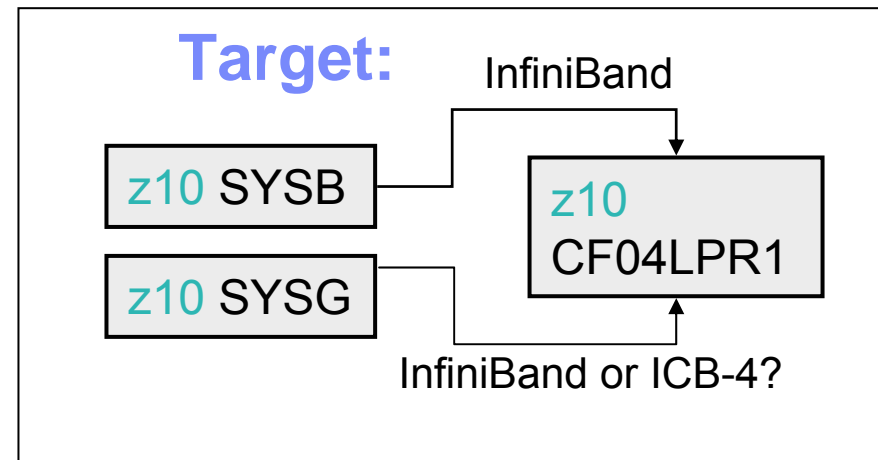
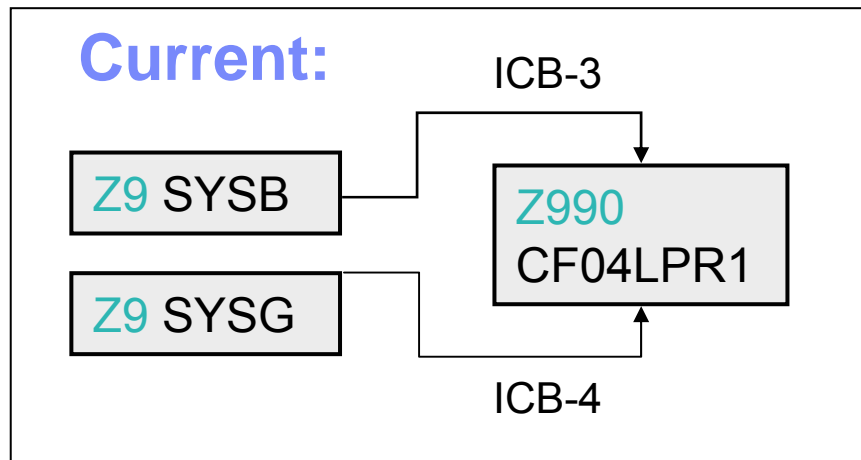
Change configuration in steps

- If z10, all members of sysplex must be z10, z9, z990, z890 only
- z10 support ISC-3, ICB-4, InfiniBand only
- For link type change, both “before” and “after” must be valid.
 - ICB-3 not valid on z10; InfiniBand not valid on z990



Change configuration in steps

1. Entire config ok if CF CEC changes to z10?
2. Change SYSB-CF link from ICB-3 to ICB-4
3. Change SYSB/SYSG CEC from 2094-724 to 2097-724
4. Change CFCCF1 to 2097-401 w/ 4 ICFs



The order changes are done in can be important.

This is what happens if you change the CEC first.

This invalid config will not be able to use the change link config button.

CF04LPR1: Coupling Facility CP Summary

View Action Help Analysis

CF Name: CF04LPR1
 Sysplex Name: MSPLX02
 CF Machine Type: 2097-401
 CF Level: 14

Logical
 CF Utilization: 9.2%
 ICF engines: 2.0
 Effective #engines: 1.9 Show Advanced Fields

Storage Defined: 64,052 mb
 Dump Storage: 2 mb
 Storage Available: 26,688 mb

Sysid:	SubChanne...	CF Links:	Mode:	Link Type:	Link Utilizati...
SYSB	14.0	2.0	Peer	ICB-3	0.1%
SYSC	14.0	2.0	Peer	ISC-3	1.1%
SYSE	14.0	2.0	Peer	ICB-4	1.9%
SYSG	14.0	2.0	Peer	ICB-4	0.4%

CF Study Interval: 03/08

Structure	Type	Size	Reqs/sec	Duplexed?
ADP207_CAC...	CACH	670.2	1,807.9	<input type="checkbox"/>
ADP207_LOC...	LOCK	42.2	1.6	<input type="checkbox"/>
ADP213_CAC...	CACH	71.5	259.0	<input type="checkbox"/>
ADP213_LOC...	LOCK	16.7	1.3	<input type="checkbox"/>
ADP215_CAC...	CACH	671.0	7,180.4	<input type="checkbox"/>
ADP215_LOC...	LOCK	49.0	957.9	<input type="checkbox"/>
ADP216_CAC...	CACH	300.0	447.1	<input type="checkbox"/>
ADP216_LOC...	LOCK	11.7	144.0	<input type="checkbox"/>
ADP218_CAC...	CACH	616.2	1,718.2	<input type="checkbox"/>
ADP218_LOC...	LOCK	24.0	189.6	<input type="checkbox"/>
ADP220_CAC...	CACH	212.7	3,247.2	<input type="checkbox"/>
30 Structures	Totals	8,689.0	36,495.4	6 duplexed

Cancel Apply

CF Summary Capacity Planning Mode

CF links were fully defined in PA mode.

Sysplex CP mode currently supports only one interval.

CF04LPR1: Coupling Facility CP Summary

View Action Help Analysis

CF Name: CF04LPR1
 Sysplex Name: MSPLX02
 CF Machine Type: 2084-A08
 CF Level: 14

CF Utilization: 16.5% Logical CFCC Busy: 16.5%
 ICF engines: 2.0 2.0 CF Defined
 Effective #engines: 1.9 Dedicated Engines Show Advanced Fields

Storage Defined: 64,052 mb
 Dump Storage: 2 mb
 Storage Available: 26,688 mb

Sysid:	SubChanne...	CF Links:	Mode:	Link Type:	Link Utilizati...
SYSB	14.0	2.0	Peer	ICB-3	0.1%
SYSC	14.0	2.0	Peer	ISC-3	1.1%
SYSE	14.0	2.0	Peer	ICB-4	1.9%
SYSG	14.0	2.0	Peer	ICB-4	0.4%
SYSK	14.0	2.0	Peer	ICB-4	2.2%

CF Study Interval: 03/08

Structure	Type	Size	Reqs/sec	Duplexed?
ADP207_CAC...	CACH	670.2	1,807.9	<input type="checkbox"/>
ADP207_LOC...	LOCK	42.2	1.6	<input type="checkbox"/>
ADP213_CAC...	CACH	71.5	259.0	<input type="checkbox"/>
ADP213_LOC...	LOCK	16.7	1.3	<input type="checkbox"/>
ADP215_CAC...	CACH	671.0	7,180.4	<input type="checkbox"/>
ADP215_LOC...	LOCK	49.0	957.9	<input type="checkbox"/>
ADP216_CAC...	CACH	300.0	447.1	<input type="checkbox"/>
ADP216_LOC...	LOCK	11.7	144.0	<input type="checkbox"/>
ADP218_CAC...	CACH	616.2	1,718.2	<input type="checkbox"/>
ADP218_LOC...	LOCK	24.0	189.6	<input type="checkbox"/>
ADP220_CAC...	CACH	212.7	3,247.2	<input type="checkbox"/>
ADP220_LOC...	LOCK	19.2	404.7	<input type="checkbox"/>
ISGLOCK	LOCK	8.2	11.2	<input type="checkbox"/>
30 Structures	Totals	8,689.0	36,495.4	6 duplexed

Cancel Apply

Change Link Configuration Button

- appears in CP mode only
- link must be valid as currently defined

CF04LPR1 : SYSB : Edit CF Link Type

Help Analysis

Sysplex Name: MSPLX02 Machine Type
Sysid: SYSB 2094-724
CF Name: CF04LPR1 2084-A08
CF Study Interval: 03/08

Link Configuration

Peermode: Peer
Distance (km): 0
Link Type: ICB-3
CF Links: 2
Subchannels: 14

Utilization	Current
Coupling Facility	16.5%
Sysid	17.9%
Subchannel	0.1%

Requests/sec	Current
Sync	63.47
Async	115.17
Total	178.64

Service Time (usec)	Current
Sync	14.62
Async	137.86

Change Link Configuration Cancel Apply

Change Link Configuration Button

- Estimate is based on sysplex benchmark workload, with your req rate and characteristics
- sync/async ratio may change as effect of service time change

CF04LPR1 : SYSB : Edit CF Link Type

Help Analysis

Sysplex Name: MSPLX02 Machine Type
 Sysid: SYSB 2094-724
 CF Name: CF04LPR1 2084-A08
 CF Study Interval: 03/08

Current New Configuration

Peer mode: Peer Peer
 Distance (km): 0 0
 Link Type: ICB-3 ICB-4
 CF Links: 2 2
 Subchannels: 14 14

Utilization	Current	Estimated
Coupling Facility	16.5%	16.5%
Sysid	17.9%	17.9%
Subchannel	0.1%	0.1%

Requests/sec	Current	Estimated
Sync	63.47	84.25
Async	115.17	94.39
Total	178.64	178.64

Service Time (usec)	Current	Estimated
Sync	14.62	14.32
Async	137.86	79.96

Cancel Apply

Adjust Sysplex Overhead

- Overhead changes when the sync/async ratio changes

SYSB : Apply Sysplex Overhead to Workloads

The CF Link change will lower sysplex overhead on the SYSB system by a small amount. This change must be attributed to specific workloads. Please enter the portion each workload contributes to the total sysplex workload for this system, adding up to 100%.

Workload	Percent of Sysplex Workload
CICS.CICSCRIT	25.0%
CICS.CICSHIGH	25.0%
ADABAS.DBAREFT	50.0%
STARTTSK.DDFDEFLT	0.0%
BATCH.JESCRIT	0.0%
BATCH.JESLOW	0.0%
STARTTSK.STCCRIT	0.0%
STARTTSK.STCHIGH	0.0%

Total 100.0%

Change the CF CEC Definition

The screenshot shows a window titled "Sysplex Demo - zCP 3000 CP Overview" with a menu bar (File, Edit, View, Action, Help) and a toolbar. The main area displays a grid of system components:

- 1900B:** SYSB, SYSC, MINI, MVSPROD, MVSTEST
- 7C960:** SYSD, SYSY, ICFTESTA, ICFTESTB
- B34FF:** SYSE, SYSDA, SYSH, SYSYA
- 18FDB:** SYSG, SYSK
- CPCCF1:** CF03LPR1, CF04LPR1

A callout box points to the CF04LPR1 component in the CPCCF1 group, listing its definition properties:

- Definition**
- Properties
- Alternates
- zAAP Analysis
- zIIP Analysis

Redefine CF CEC to z10

Define CEC CPCCF1

Supervisor: **LPAR**

Interval	Processor	CPs	zAAPs	zIIPs	ICFs	IFLs	Ch...
2/25/08 09:00	2097-E12/400	1.0	0.0	0.0	4.0	0.0	<input type="checkbox"/>

Name	CtlPgm	CPs	ICFs	IFLs	Weight	Cap	Mix	MinCap	MaxCap
CF03LPR1	CFCC	0.0	2.0	0.0	Ded	<input type="checkbox"/>	CFCC	1333.5	1333.5
CF04LPR1	CFCC	0.0	2.0	0.0	Ded	<input type="checkbox"/>	CFCC	1333.5	1333.5

Cancel **Apply**

Click Processor cell to select family and model.

Redefine z/OS member CEC to z10

Define CEC 1900B

Supervisor: **LPAR**

Interval	Processor	CPs	zAAPs	zIIPs	ICFs	IFLs	Change
2/25/08 09:00	2097-724	24.0	0.0	0.0	0.0	0.0	<input type="checkbox"/>

Name	CtlPgm	CPs	ICFs	IFLs	Weight	Cap	Mix	MinCap	MaxCap
SYSB	z/OS 1.8	6.0	0.0	0.0	115	<input type="checkbox"/>	LoIO-Mix	0.0	0.0
SYSC	z/OS 1.8	24.0	0.0	0.0	804	<input type="checkbox"/>	LoIO-Mix	0.0	0.0
MINI	z/OS 1.6	1.0	0.0	0.0	6	<input type="checkbox"/>	LoIO-Mix	0.0	0.0
MVSPROD	z/OS 1.6	1.0	0.0	0.0	54	<input type="checkbox"/>	LoIO-Mix	0.0	0.0
MVSTEST	z/OS 1.6	1.0	0.0	0.0	21	<input type="checkbox"/>	LoIO-Mix	0.0	0.0

One or more partition definitions is invalid2097-E26/700 1900B

Cancel **Apply**

* z/OS 1.6 must be changed to z/OS 1.8

InfiniBand

Not the fastest type of CF link

- Slower than ICB4
- Longer latency than any ICB
- Faster and shorter latency than any ISC
- tolerates longer distance than ICB



CF04LPR1 : SYSB : Edit CF Link Type

Help Analysis

Sysplex Name: MSPLX02 Machine Type

Sysid: SYSB 2097-724

CF Name: CF04LPR1 2097-401

CF Study Interval: 03/08

Current New Configuration

Peermode: Peer Peer

Distance (km): 0 0

Link Type: ICB-4 InfiniBand

CF Links: 2 2

Subchannels: 14 14

Utilization	Current	Estimated
Coupling Facility	9.2%	9.2%
Sysid	11.4%	11.4%
Subchannel	0.1%	0.0%

Requests/sec	Current	Estimated
Sync	84.25	178.62
Async	94.39	0.02
Total	178.64	178.64

Service Time (usec)	Current	Estimated
Sync	14.32	22.07
Async	79.96	66.8

Cancel Apply

CF Link Summary Report

- an html report version of the CF Link window.

- File->Save to generate html/jpg

Coupling Facility Link Summary : zCP3000 Graph and Text: CFL001

File Action

- Save Options Ctrl-O
- Save Ctrl-S
- Copy Ctrl-C

and configuration changes being considered are shown in the table below. In the new configuration, the CF linktype has changed from a ISC-3 link to a InfiniBand link. Changing the linktype may change the service time for both synchronous and asynchronous requests, because of differences in link speed and latency.

	Current	New Configuration
Peermode	Peer	Peer
Distance (km)	0	0
Link Type	ISC-3	InfiniBand
CF Links	2	2
Subchannels	14	14

The following tables show the estimated effect on z/OS overhead, CF utilization, subchannel utilization, and service time for CF requests to structures residing on CF CF04LPR1.

Utilization	Current	Estimated
Coupling Facility	9.2%	9.2%
Sysid	36.2%	36.2%
Subchannel	1.1%	0.8%

Requests/sec	Current	Estimated
Sync	8,234.08	8,643.63
Async	1,016.06	606.51

Service Time (usec)	Current	Estimated
Sync	10.84	7.09
Async	63.80	73.78

Creating Output

zCP3000 - Save Options

Help
 Graphs (.jpg) will be saved in the same directory as the latest .HTML file specified below. (If only JPGs are saved, the HTML file will not be used). Graph names and flat file names will be generate using a four character prefix and a four digit suffix.

Options

- Display Enterprise name on each graph
- Include Page break style in .HTM
- Include Extended Page break style in .HTM (before and after the graph)
- Display Green Rules in Health Check
- Display Yellow Rules in Health Check
- Display Dates on the graphs
- Section Title = Graph Title
- Color Printer

Overrides

Instead of "GKWE" use

"The Rest"= The number of Workloads before combining

Graph file name information

four character prefix:

four digit suffix beginning with:

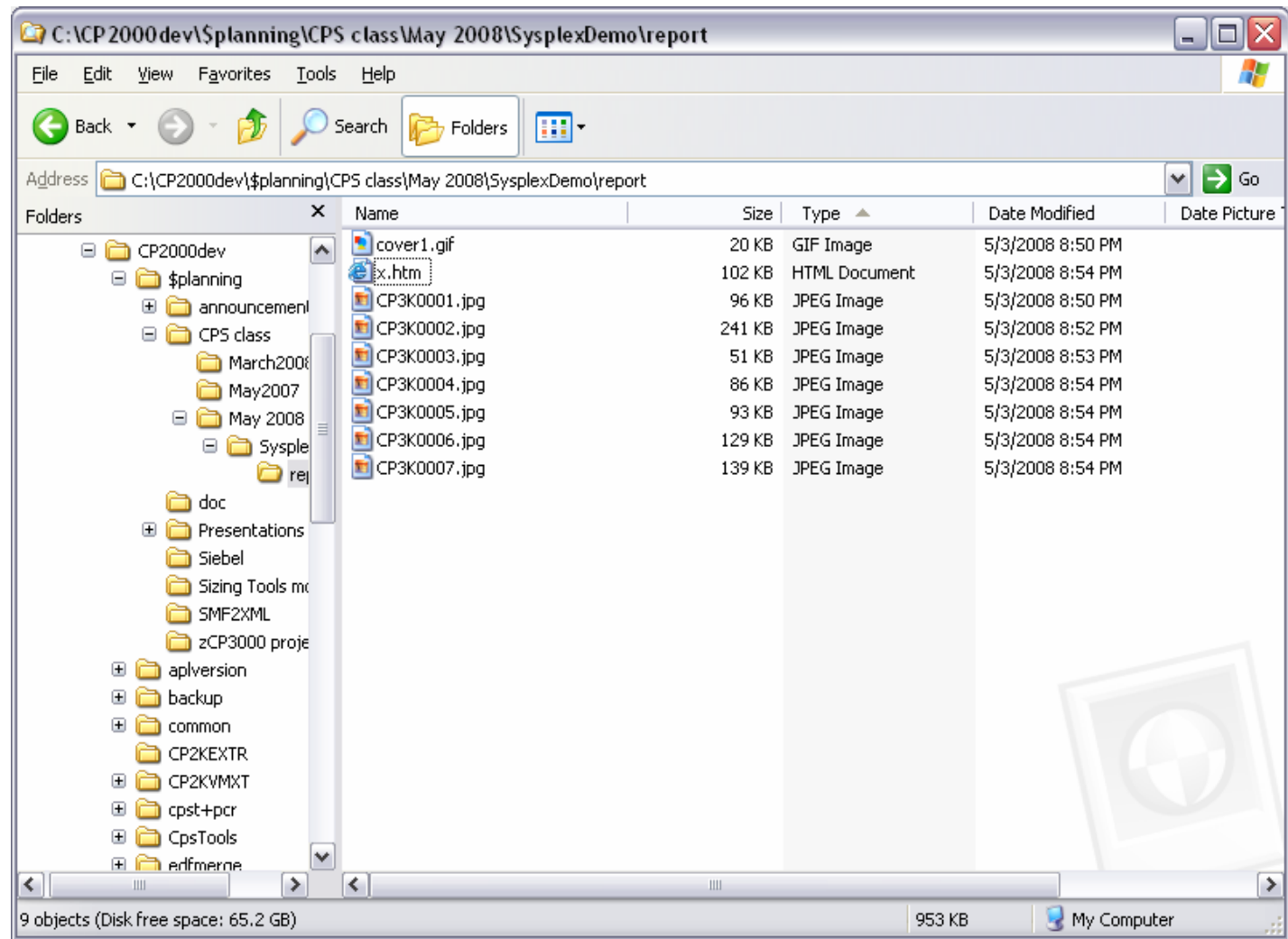
The suffix will be adjusted to avoid existing JPGs

File types to be saved

- Graph Image (.PNG)
- Graph Image (.JPG)
- HTML text from analysis (.HTM)
- Flat file with graph data (.CSV)

Press the "OK" button to accept your changes.

Generated Report



References

IBM Parallel Sysplex

- <http://www.ibm.com/systems/z/pso/index.html>

IBM Parallel Sysplex Aggregation

- <http://www.ibm.com/servers/eserver/zseries/swprice/sysplex/>

z/OS System Programmer's Guide to Sysplex Aggregation

- <http://www.redbooks.ibm.com/redpapers/abstracts/redp3967.html>

Tools from IBM Capacity Planning Support

- **IBM** <http://w3.ibm.com/support/americas/wsc/cpsproducts.html>
- **IBM BP** <http://partners.boulder.ibm.com/src/atmastr.nsf/WebIndex/PRS1762>

Where to get CPS Tools

IBM BP

<http://partners.boulder.ibm.com/src/atsmastr.nsf/WebIndex/PRS1762>

IBM

<http://w3.ibm.com/support/americas/wsc/cpsproducts.html>

The screenshot shows a Microsoft Internet Explorer browser window displaying the IBM Techdocs page for Capacity Planning Tools for IBM System z Family. The browser address bar shows the URL: <http://partners.boulder.ibm.com/src/atsmastr.nsf/WebIndex/PRS1762>. The page features the IBM logo, navigation tabs (Home, Products, Services & industry solutions, Support & downloads, My IBM), and a search bar. The main content area is titled "Capacity Planning Tools for IBM System z Family" and includes document metadata (Author: Gretchen Frye, Document ID: PRS1762, Organization: Washington Systems Center, Revised: 04/25/2008) and a list of products covered (z9-109, zSeries 800, zSeries 890, zSeries 900, zSeries 990, zSeries, z/OS, z/VM, IBM System z). An abstract describes the Capacity Planning Support (CPS) team's role. Below the abstract is a table of programs with download links and last update dates.

Program	Download Last Updated	User's Guide Last Updated	Online Education
SOFTCAP Version 3.3	Download 11/16/2007	11/16/2007	
zPCR Version 5.0d	Download 03/26/2008	03/05/2008	View Education
zCP3000 Version 04/08	Download 04/03/2008	04/04/2008	zCP3000 Education 10/31/2007
zTPM Version 3.2.31	Download 04/23/2008	11/26/2006	zTPM Education 08/31/2005

Interest Areas for Development

- More Health Check Rules
- Shared Subchannel support
- System Managed Duplexing
- Add a system/more workload to an existing sysplex
- Move structures between CFs
- _____ ?????