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Smarter Systems for a
Smarter Planet

*MVS Core Technologies
Project Opening
WSC Hot Topics*

Session 16635 – March 2, 2015

Riaz Ahmad

IBM Washington Systems Center



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Agenda

- Operating Systems status
 - Washington Systems Center Flashes
 - Announcements
 - Parallel Sysplex™

z/OS Key Dates

- z/OS Version 2 Release 2
 - ▶ **January 14, 2015:** Preview
 - ▶ **July 14, 2015:** Announce
 - ▶ **September 30, 2015:** General availability via ServerPac, CBPDO

IBM Software Support Services - service extension offers defect support for IBM z/OS V1.11 and V1.12 beyond the z/OS end-of-service date

- IBM Software Support Services - service extension for z/OS is a fee-based corrective service (a fix, bypass, or restriction to a problem) for users who have not completed their migration to a newer z/OS release
- Beginning with z/OS V1.12, IBM Software Support Services replaces the IBM Lifecycle Extension for z/OS offering with a service extension for extended support coverage.
- Service extension support for z/OS V1.12 will provide for up to three years, beginning October 1, 2014 and available through September 30, 2017.
 - ▶ Additionally, service extension support for z/OS V1.11 is provided for up to two years, beginning October 1, 2014 and available through September 30, 2016

Announcement Letter: 614-010 Dated June 14, 2014

z/OS Support Summary

Release	z900/ z800 WdfM	z990/ z890 WdfM	z9 EC z9 BC WdfM	z10 EC z10 BC WdfM	z196 CPC	z196 w/zBX	z114 CPC	z114 w/zBX	zEC12 zBC12	z13	End of Service	Coexist with	Software Support Services for z/OS
z/OS V1.10	X	X	X	X	X	X	X	X	X		9/11 ¹	R12	9/13 ¹
z/OS V1.11	X	X	X	X	X	X	X	X	X		9/12*	R13	9/14 ¹
z/OS V1.12	X	X	X	X	X	X	X	X	X	X	9/14*	2.1	3*
z/OS V1.13	X	X	X	X	X	X	X	X	X	X	9/16*	2.2	3*
z/OS V2.1			X	X	X	X	X	X	X	X	9/18*	2.3	3*
z/OS V2.2*				X	X	X	X	X	X	X	9/20*	2.4*	3*

Notes:

WdfM – Server has been withdrawn from Marketing

- 1 The IBM Software Support Services for z/OS provides the ability for customers to purchase extended defect support for that release of z/OS for up to 24 months after the z/OS release's end of service date
 - 2 See IBM GTS services for additional fee-based extended service
 - 3 Optional extended service is planned to be offered
- Planned. All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

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Out of Software Support Services for z/OS support ⁴
Defect support provided with Software Support Services for z/OS
Generally supported
Planned Release

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z/OS Best Practices: Large Stand-Alone Dump Handling – Version 4

- **TD103286**
- This flash defines comprehensive “current best practices” when taking and handling large stand-alone dumps in the z/OS environment
- The document focuses on optimizing stand-alone dump data capture and optimizing problem analysis time
- This information is critical for large z/OS environments reporting problems to IBM
- The ability to handle large stand-alone dumps appropriately will speed up problem resolutions

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Leap Seconds and STP


- **WP102081**
- A Leap Second will be added on 6/30/2015
 - ▶ <http://www.timeanddate.com/time/leap-seconds-future.html>
- The question is: Should you care?
 - ▶ For those customers who pay attention to leap seconds probably already know this.
 - ▶ For those who don't, they will likely ask whether or not they should be concerned.
 - This White Paper answers this question, and it has been updated for the June event.



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Before we begin with the Announcements

- **Past Naming**

- Brand and Family
 - IBM System z

- Product Line

- IBM zEnterprise System

- Product Name

- IBM zEnterprise EC12
 - IBM zEnterprise BC12

- **New Naming**

- **Brand and Family**
 - IBM z Systems

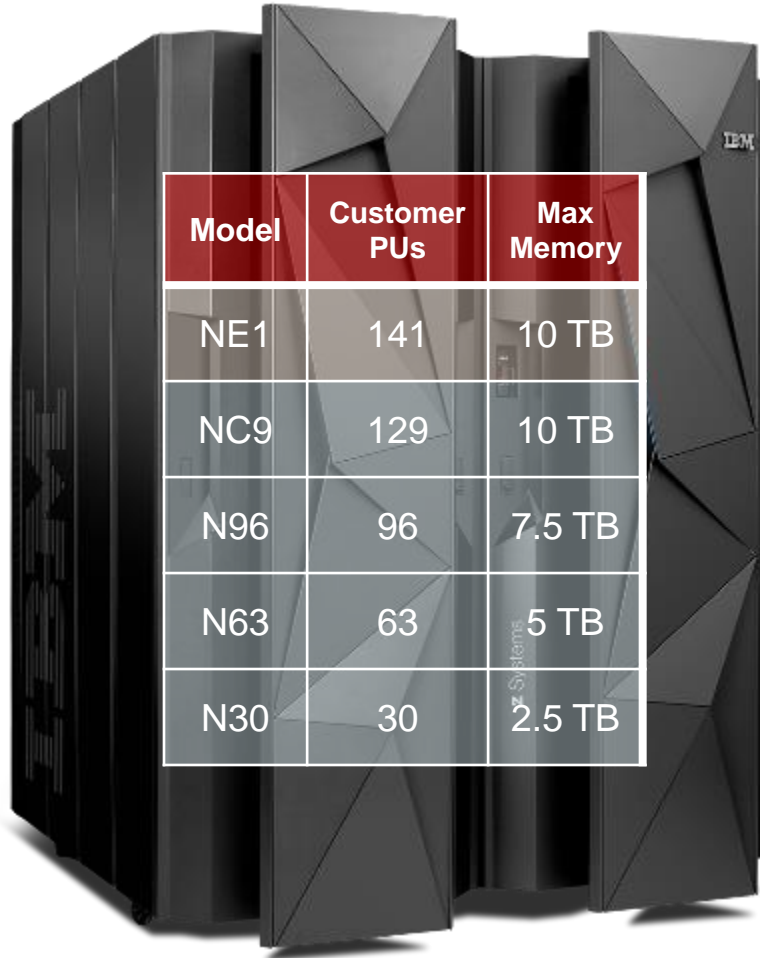
- **Product Line**

- IBM z Systems

- **Product Name**

- IBM z13

z13 Overview



- Machine Type
 - 2964
- 5 Models
- Processor Units (PUs)
 - 39 (42 for NE1) PU cores per CPC drawer
 - Up to 24 SAPs per system, standard
 - 2 spares designated per system
 - Dependent on the H/W model - up to 30, 63, 96, 129, 141 PU cores available for characterization
 - Central Processors (CPs), Internal Coupling Facility (ICFs), Integrated Facility for Linux (IFLs), IBM z Integrated Information Processor (zIIP), optional - additional System Assist Processors (SAPs) and Integrated Firmware Processor (IFP)
 - 85 LPARs, increased from 60
 - Sub-capacity available for up to 30 CPs
 - 3 sub-capacity points
- Memory
 - RAIM Memory design
 - System Minimum of 64 GB
 - Up to 2.5 TB GB per drawer
 - **Up to 10 TB for the System** and per LPAR is OS dependent
 - 4TB per LPAR – z/OS 2.1 (SoD), 1TB per LPAR - z/OS 1.12 & z/OS 1.13
 - 96 GB Fixed HSA, standard
 - 32/64/96/128/256/512 GB increments
 - Flash Express
- I/O
 - 6 GBps I/O Interconnects – carry forward only
 - Up to 40 PCIe Gen3 Fanouts @ 16 GBps each and Integrated Coupling Adapters @ 2 x 8 GBps per System
 - 6 Logical Channel Subsystems (LCSSs)
 - 4 Sub-channel sets per LCSS
- Server Time Protocol (STP)

z/OS V2.2 Preview*

Usability and Skills

z/OSMF as a base element of z/OS; TCP/IP configuration; z/OSMF plug-in setup workflow; Updates to WLM, RMF, Incident Log, Software Management, WebISPF applications; New z/OSMF External Applications API; DJC and Deadline Scheduling for JES2; System Symbol enhancements...

Application Development and Support for Industry and Open Standards

Web Enablement Toolkit, EU ordering rules for Unicode, ISPF improvements, DFSORT Date Functions, Enhanced RESTful data set and file APIs, Parallel Batch Scheduling, Improved JES3 symbol and JCL support, ...

Scalability & Performance

More threads for z/OS UNIX System Services, AMODE64 File System Services for zFS & NFS, CA-Level Locking for RLS, zFS performance, Even More Jobs for JES2, ...



Enhancing Security

Signed SMF records, RFC 4556 X.509 support in Kerberos, RRSF Dynamic Node Reassignment, Multiple certificate approvers, PKI RFC 6277 Support, System SSL RFC 2560 OCSP Support, z/OS UNIX security improvements, BCPii audit records, ...

Improving Availability

Dynamic JES2 Checkpoint Tuning & Expansion, Private Area Virtual Storage Tracking in PFA, Dynamic TDS (LDAP) Compatibility Upgrades, Multi-target PPRC, Incremental FlashCopy, XCF message processing, LOGREC deallocation, O/C/EOV Dynamic Exits, ...

Self Managing Capabilities

Smarter Subsystem Interface processing, DFSMSHsm Storage Tiers Extensions, Health-Based Workload Routing, RMF Reporting Enhancements, Generic Tracker Improvements, ...

Extending the Network

64-bit TCP/IP Stack, RoCE Improvements, DVIPA Limit, CICS Sockets, Enterprise Extender Scalability, NIST SP800-131a, TLS Session Reuse, Resolver Improvements, ...

HMC Multiple Console Support

- Support was introduced in z/OS 2.1
- This enhancement uses the existing Integrated 3270 Console session which is available on the HMC to provide a new type of console known as Hardware Management Console Multiple Console Support (HMCS)
 - ▶ The console looks identical to an MCS console
 - ▶ The HMCS console can be defined dynamically
 - ▶ There is a limit of one HMCS console per system

HMC Multiple Console Support

- Define/Update the CONSOLxx

```

/*****
/*
HMCS CONSOLE
*/
/*****
      CONSOLE DEVNUM (HMCS)           /* MASTER DEDICATED      */
      NAME (HMCS&SYSNAME.)          /*
      AUTH (MASTER)                  /*
      ROUTCODE (ALL)                 /*
      LEVEL (ALL)                    /*
      MONITOR (JOBNAMES-T)          /*
      RBUF (10)                      /*
      RTME (1/4)                    /*
      RNUM (25)                      /*

```

- Activate CONSOLxx; SET CON=xx

HMC Multiple Console Support

SET CON=00

```
CNZ6003I COMMAND ACCEPTED FOR EXECUTION: SET CON=00
IEE252I MEMBER CONSOL00 FOUND IN SYS1.PARMLIB
IEA189I CONSOL00: 0700 IGNORED. UNIT NOT SUPPORTED.
IEA196I CONSOL00 0700: IODEVICE STATEMENT UNIT APPLIED. REASON=1
CNZ6004I SYSCONS CANNOT BE ADDED DYNAMICALLY
IEA196I CONSOL00 INIT: GENERIC VALUE IGNORED. REASON=13
IEE252I MEMBER  CNGRP00 FOUND IN SYS1.PARMLIB
:.....
IEE712I SET CNGRP PROCESSING COMPLETE
T PFK=00   ISSUED FOR SET CON=00
T MPF=(00)  ISSUED FOR SET CON=00
CONTROL M,UEXIT=Y IEAVN701 - INTERNALLY ISSUED K M FOR SET CON=
IEE232I IBM DEFAULT PFKS USED FOR CONSOLE HMCSZBLC 619
        NO PFK TABLES REQUESTED
VARY OPERLOG,HARDCPY   ISSUED FOR SET CON=00
IEA630I  OPERATOR *OPLOGLC NOW ACTIVE,   SYSTEM=ZBLC   , LU=NONE
D C,HC,L=Z
VARY ,HARDCPY,CMDS,ROUT=ALL   ISSUED FOR SET CON=00
D C,HC,L=Z
IEE252I MEMBER PFKTAB00 FOUND IN SYS1.PARMLIB
IEE316I OPERATIONS LOG HAS FAILED ON SYSTEM ZBLC. UNABLE TO CONNECT TO
LOG STREAM - LOG STREAM NOT DEFINED
```


HMC: Select the System

TSYSHMC: Hardware Management Console Workplace (Version 2.13.0) - Mozilla Firefox: IBM Edition

https://tsyshmc.wsclab.washington.ibm.com/hmc/connects/mainuiFrameset.jsp

Hardware Management Console

Integrated 3270 Console ahmad | Help | Logoff

Systems Management > Systems > TSY5

Images | Topology

Select	Name	Status	Activation Profile	Last Used Profile	OS Name	OS Type	OS Level
<input type="checkbox"/>	TOSP1	Not operating	TOSP1				
<input checked="" type="checkbox"/>	TOSP11	Operating	TOSP11		ZBLC	z/OS	V2R1
<input type="checkbox"/>	TOSP12	Not operating	TOSP12				
<input type="checkbox"/>	TOSP13	Operating	TOSP13		PMT1	z/OS	V1R13
<input type="checkbox"/>	TOSP14	Not operating	TOSP14		TOSP14	z/VM	6.3.0 - 1301
<input type="checkbox"/>	TOSP15	Not operating	TOSP15		TOSP15	z/VM	6.2.0 - 1202
<input type="checkbox"/>	TOSP16	Not activated					
<input type="checkbox"/>	TOSP17	Operating			VMGB1	z/VM	6.1.0 - 1002
<input type="checkbox"/>	TOSP18	Operating			VSA1	z/OS	V1R13
<input type="checkbox"/>	TOSP19	Not activated		TOSP19			
<input type="checkbox"/>	TOSP1A	Not activated					
<input type="checkbox"/>	TOSP1B	Operating	TOSP1B		TOSP1B	z/VM	6.3.0 - 1302

Max Page Size: 500 Total: 60 Filtered: 60 Selected: 1

Tasks: TOSP11

- Image Details
- Toggle Lock
- Daily
- Recovery
- Operational Customization
- OpTasks

Access Removable Media
 Integrated 3270 Console
 Integrated ASCII Console
 Load
 Load from Removable Media or Server
 PSW Restart
 Reset Clear
 Start All
 Stop All

Status: Exceptions and Messages

Transferring data from tsyshmc.wsclab.washington.ibm.com...

HMCS Console Appears

```

TSYSHMC: Integrated 3270 Console for TSYS:TOSP11
File Keys Font Help
IEE928I DISPLAY AREA ID'S FOR CONSOLE HMCSZBLC ARE NONE
- d xcf,s
IXC336I 15.04.27 DISPLAY XCF 646
SYSplex ZELCplex
SYSTEM TYPE SERIAL LPAR STATUS TIME SYSTEM STATUS
ZBLC 2817 7675 11 02/16/2015 15:04:36 MONOPLEX MODE TM=STP

SYSTEM STATUS DETECTION PARTITIONING PROTOCOL CONNECTION EXCEPTIONS:
PROTOCOL NOT APPLICABLE IN MONOPLEX MODE

SYSplex INITIALIZATION TIME: 02/12/2015 00:40:03.128367
- d *,1
IEE114I 15.04.46 2015.047 ACTIVITY 649
JOBS M/S TS USERS SYSAS INITS ACTIVE/MAX VTAM OAS
00018 00021 00002 00032 00038 00002/00060 00028
ZB01CN ZB01CN CMDL NSW S ULF ULF ULF NSW S
LLA LLA LLA NSW S JES2 JES2 IEFPROC NSW S
APPC APPC APPC NSW S ASCH ASCH ASCH NSW S
RMF RMF RMF IEFPROC NSW S SDSF SDSF SDSF NSW S
VTAM VTAM NET NSW S0 TCF IP TCF IP TCF IP NSW S0
SOF SOF SOF OUT S RACF RACF RACF NSW S
SYSLOGD STEP1 OMVSJERN NSW A0 TN3270 TN3270 STEP01 NSW S0
FPFSEUVE STEP1 OMVSJERN OUT A0 RMPGAT RMPGAT IEFPROC NSW S0
GPMSEUVE GPMSEUVE STEP1 OUT S0 TSO TSO TCAS OUT S
SSHD4 STEP1 OMVSJERN OUT A0 DSM9MSTR DSM9MSTR IEFPROC NSW S
DSM9IRLM DSM9IRLM NSW S DSM9DBM1 DSM9DBM1 IEFPROC NSW S
DSM9DIST DSM9DIST IEFPROC NSW S0 SSHD5 *OMVSEX OMVSJERN OUT A0
SSHD7 STEP1 OMVSJERN OUT A0 JG00D *OMVSEX JG00D OUT A0
SSHD9 *OMVSEX OMVSJERN OUT A0 SSHD2 STEP1 OMVSJERN OUT A0
JG00D *OMVSEX JG00D OUT A0 SSHD1 *OMVSEX OMVSJERN OUT A0
SSHD3 STEP1 OMVSJERN OUT A0 JG00D *OMVSEX JG00D OUT A0
SSHD2 *OMVSEX OMVSJERN OUT A0 SSHD4 STEP1 OMVSJERN OUT A0
JG00D *OMVSEX JG00D OUT A0 SSHD6 *OMVSEX OMVSJERN OUT A0
SSHD8 STEP1 OMVSJERN OUT A0 JG00D *OMVSEX JG00D OUT A0
H23PROC H23PROC H23STEP NSW S0
JG00D OUT AHMAD OUT
IEE612I CW=HMCSZBLC TYPE=HMCS SYS=ZBLC
IEE163I MODE= RD
41/3
                
```

Activation Profile	Last Used Profile	OS Name	OS Type	OS Level
Not operating	TOSP1			
Operating	TOSP11	ZBLC	z/OS	V2R1
Not activated	TOSP12			
Operating	TOSP13	PMT1	z/OS	V1R13
Operating	TOSP14	TOSP14	z/VM	6.3.0 - 1301
Operating	TOSP15	TOSP15	z/VM	6.2.0 - 1202
Not activated	TOSP16			
Operating	TOSP17	VMGB1	z/VM	6.1.0 - 1002
Operating	TOSP18	VSA1	z/OS	V1R13
Not activated	TOSP19	TOSP19		
Not activated	TOSP1A			
Operating	TOSP1B	TOSP1B	z/VM	6.3.0 - 1302


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- Daily
- Recovery
- Operational Customization
- OpTasks

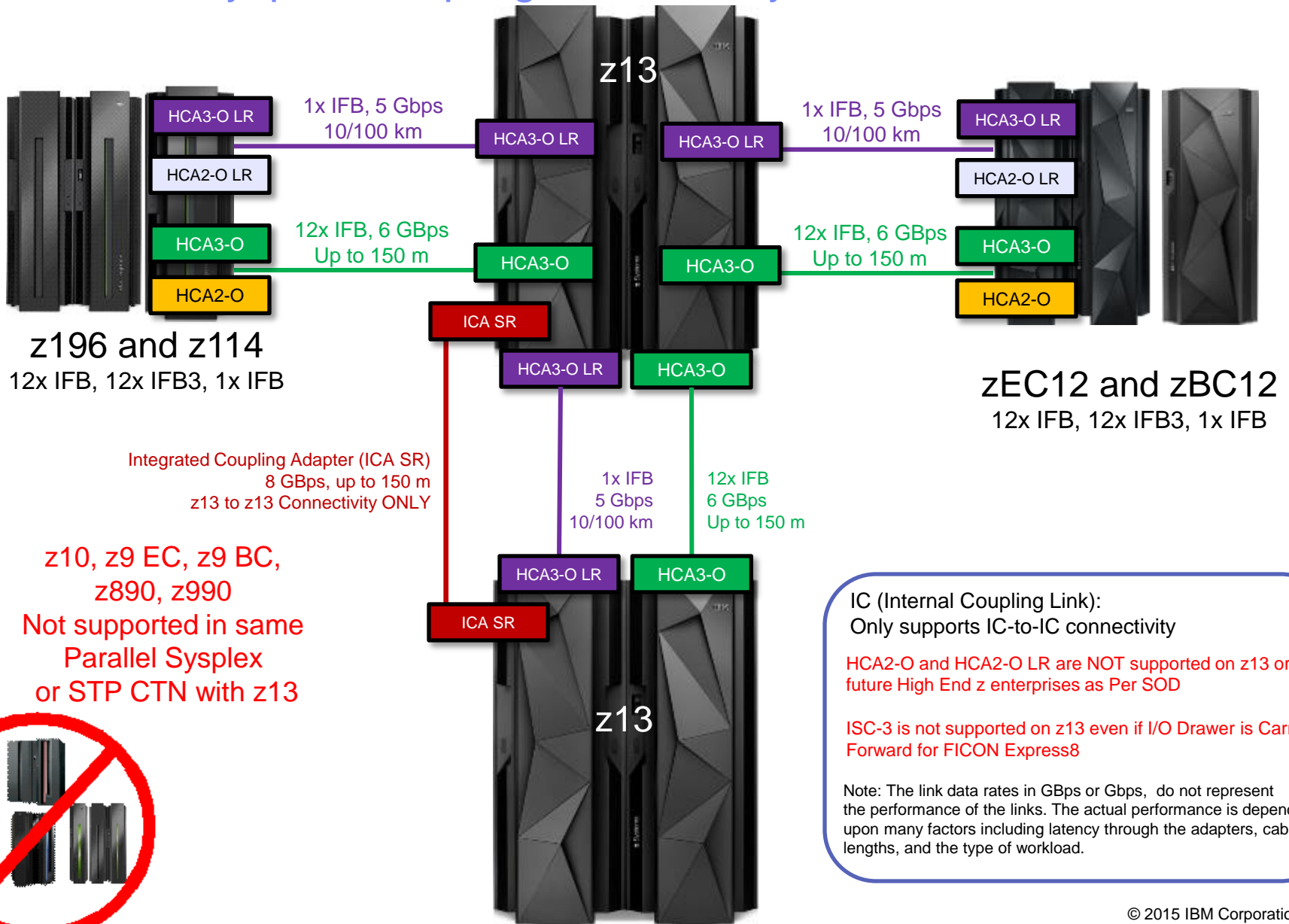
Status: Exceptions and Messages

Transferring data from tsyshmc.wsclab.washington.ibm.com...

Agenda

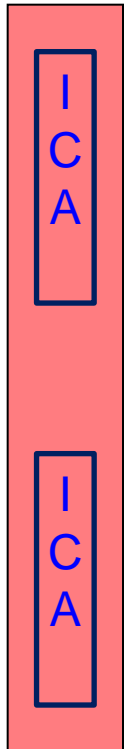
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z13 Parallel Sysplex Connectivity



Parallel Sysplex CFCC Level 20

- Support for up to 141 ICF processors
 - The maximum number of logical processors in a Coupling Facility Partition remains at 16
- Large memory Support
 - Improve availability for larger CF cache structures and data sharing performance with larger DB2 Group Buffer Pools (GBP). This support removes inhibitors to using large CF structures, enabling use of Large Memory to appropriately scale to larger DB2 Local Buffer Pools (LBP) and Group Buffer Pools (GBP) in data sharing environments.
 - CF structure size remains at a maximum of 1 TB
- Support for new ICA coupling adapters
- Structure Sizing with CFCC level 20
 - May increase storage requirements when moving from earlier CFCC levels to CF Level 20
 - Use of the CFSizer Tool is recommended: <http://www.ibm.com/systems/z/cfsizer/>



ICA SR

IBM zEnterprise System®: Performance Report on Exploiting Large Memory for DB2 Buffer Pools with SAP®

→ <http://www.ibm.com/support/techdocs/atmastr.nsf/WebIndex/WP102461>

thank you!