

IBM System z Oracle Solutions Update, plus zSeries Oracle SIG Welcome

Session ID 253

**Mike Zechman, President zSeries
Oracle SIG, DB Consultant**
Gaylan Braselton, IBM



Objective of this session

- To provide an update on the z Oracle SIG
- To review other opportunities for z Oracle info
- To provide update on the System z Oracle Solution



Topics

- **zSeries Oracle SIG Update**
- **IBM Oracle System z Partnership**
- **Oracle System z Solutions, Support, Resources**
- **System z Enterprise, zBX and z114**





International zSeries Oracle SIG

The International zSeries Oracle Special Interest Group (SIG) is an organization of companies licensed for Oracle on z/Linux and/or the z/OS operating systems on IBM System z hardware. There are no membership fees or obligations. Communications are done through Oracle mailings, emails and our website www.zSeriesOracleSIG.org and our annual user conference.

Please:

Visit our website at the www.zSeriesOracleSIG.org to view technical presentations from past events

and

Sign up to be on our mailing list.



COLLABORATE¹³
TECHNOLOGY AND APPLICATIONS FORUM
FOR THE ORACLE COMMUNITY



International zSeries Oracle SIG



- **User Group Formed Over 27 Years Ago**
- **The oldest still active Oracle SIGs**
- **Started With Oracle on MVS (z/OS)**
- **Included Oracle on Linux on System z 11 Years Ago**
- **z/OS Oracle end of support announcement -> focus on Linux on System z**
- **Growing Technical Community**
- **In 2010 Joined IOUG as a SIG**
- **Future SIG Plans (ATTEND Wednesday Session 323 11:00 am)**





International zSeries Oracle SIG

Sessions on Oracle on Linux on z

Monday

253- IBM System z Oracle Solutions Update, plus zSeries Oracle SIG Welcome

308- Infrastructure Alternatives for Setting Up an Oracle DB on Linux on IBM

254 – How to run a successful proof of concept project on Linux on IBM System z - Quick tip 30 mins

Tuesday

322- CPU Usage, Isolation, and Reduction in a Oracle Database Virtual Environment

252 - High Availability Options with Oracle database and the tuning techniques

Wednesday

226- Oracle Support Update for Linux on System z

323- Panel discussion and closing session of zSeries Oracle SIG

Thursday

240 - Zero Downtime Migrations using Oracle GoldenGate





IBM Oracle Alliance – a Shared Commitment to Client Value

Sustained Collaboration for Customers

- Oracle 25 Years, PeopleSoft 23 Years, JD Edwards, 35 Years, Siebel 13 Years

Mutual Executive Commitment

- Dedicated, Executive-led Alliance teams
- Regular Senior executive reviews and functional Executive interlocks

Over 140K Total Joint Customers Worldwide

- Hardware and Software support via Applications Unlimited, over 30,000 Application joint customers

Award Winning Oracle Services Practice

- Over 5,500 Successful Joint Services Projects
- > 10,000 Oracle skilled resources worldwide
- IBM Solution Workbench For Oracle

Vibrant Technology Collaboration

- Continued joint development delivering Oracle SW optimized for IBM HW
- Substantial investment in skills and resources
- Dedicated International Competency Center

Cooperative Customer Support Process

- Dedicated On-Site Resources
- Significant Program Investments





IBM and Oracle's Commitment to Oracle on Linux for System z

To meet the rapid growth of Linux, server virtualization and IT Optimization, IBM and Oracle have increased development and support investments to deliver complete, open and integrated solutions to our customers. Specifically, IBM and Oracle have:

- **IBM and Oracle have expanded porting resources to make Oracle technology infrastructure current and complete for Linux on System z (“LoZ”)**
- **IBM is investing in >40 development and tech staff to bring LoZ solutions to market**
- **IBM is investing in hardware resources for Oracle development on LoZ**
- **IBM dedicated resources to engage customers in design, proof-of-concept and benchmark activities**
- **Aligned our technical support organizations to simplify problem resolution**
 - Dedicated Oracle System z team in Oracle Support
- **Published IBM and Oracle customer collateral covering various topics regarding Oracle on Linux on System z**

Why System z for Oracle:



- High Availability Requirements
- Open Standards and Linux
- Disaster Recovery Requirements
- Customer Data on Mainframe
- Increased Performance Requirements
- Utilization of IFL Specialty Engines
- TCO versus Total Cost of Acquisition
- 'Green' Value from Mainframe
- zEnterprise servers can virtualize everything with up to 100% utilization rates
- System z has the highest security rating or classification for any commercial server



Oracle Applications for System z Servers



IBM Data Server on DB2 z/OS and or Linux*

Oracle DB Server on Linux

** Note: Multi-Platform "Split Tier" Configuration – Only the Database runs on System z Servers unless otherwise noted*

*ERP & CRM
Solutions*

**Oracle
PeopleSoft Enterprise**

** Version 9.0 & 9.1 / Tools 8.50, 8.51 & 8.52
DB2 v8, v9.1, V10 Database on z/OS
* Batch Server Supported on z/OS & Linux*

** Version 9.0 & 9.1 / Tools 8.50, 8.51 & 8.52
Oracle 10gR2, 11gR2*

**Oracle
Siebel CRM Applications**

** Version 8.0 & 8.1.1
DB2 v8, v9.1 on z/OS
DB2 v9.1, v9.7 on Linux*

** Version 8.0 & 8.1.1
Oracle 10gR2, 11gR2*

** Version 8.1.1.7 +
DB2 v 9.1, v9.7 on Linux
DB2 v8, v9, v10 on z/OS*

** Version 8.1.1.8
DB2 v9.1, v10 on z/OS
DB2 v9.1, v9.7 on Linux*

**Oracle
E-Business Suite**

**Not Applicable
Oracle DB/FMW**

** Version R12.1.2, 12.1.3
Oracle 10gR2, 11gR2*

Oracle Industry Applications for System z Servers



IBM Data Server on DB2 z/OS and or Linux*

Oracle DB Server on Linux

* Note: Multi-Platform "Split Tier" Configuration – Only the Database runs on System z Servers unless otherwise noted

<p><i>Higher Education</i></p>	<p>Oracle PeopleSoft Campus Solutions</p>	<p>Not planned</p>	<p>New</p> <p>•Version 9.0 /Tools 8.50, 8.51, 8.52 Oracle 10gR2, 11gR2</p>
<p><i>Public Sector</i></p>	<p>Oracle Siebel Public Sector and Loyalty Management</p>	<p>* Version 8.2.2.1 DB2 v9.1, v10 on z/OS DB2 v9.7 on Linux</p> <p>* Version 8.1.1.8: DB2 v9, v10 on z/OS DB2 v9.1, 9.7 on Linux on System z</p>	<p>New</p> <p>* Version 8.1.1.8, 8.2.2.1 Oracle 10gR2, 11gR2</p>
<p><i>Insurance and Cross Industry</i></p>	<p>Oracle Insurance</p>	<p>Documaker Version 11.5, 12.0 DB2 v8, v9.1 z/OS</p>	<p>Not planned</p> <p>Oracle Policy Automation v10.3 Oracle WebLogic 11gR1 with Oracle DB 11gR2</p>
	<p>Oracle Cross Industry</p>	<p>Not Applicable Oracle DB/FMW</p>	

Oracle Applications for System z Servers



IBM Data Server on DB2 z/OS and or Linux*

Oracle DB Server on Linux

* Note: Multi-Platform "Split Tier" Configuration – Only the Database runs on System z Servers unless otherwise noted

Hyperion Enterprise Performance Management

<p>Oracle Enterprise Performance Management</p>	<p><i>* Version 11.1.2.2 DB2 v10 z/OS as Data Source</i></p>	<p>New</p> <p><i>* Version 11.1.2.2 Oracle 10g, Oracle 11gR2 as Data Source & Repository</i></p>
	<p><i>* Version 11.1.1.4 DB2 v10 z/OS as Data Source</i></p>	<p>Not planned</p>

OBIEE Solutions:

<p>Oracle Business Intelligence Enterprise Edition</p>	<p><i>* Version 11gR1 v11.1.1.6 DB2 V9.1, 9.5 Linux on z as Data Source DB2 V9.7 Linux on z as Data Source & Repository</i></p>	<p><i>* Version 11gR1 v11.1.1.6 Oracle 10g (10.2.0.4, 10.2.0.5) 11g Release 2 (11.2.0.2) as Data Source & Repository</i></p>
	<p><i>* Version v10.1.3.4.2 DB2 v8, 9.1 z/OS as Data Source DB2 v9.1, 9.5, DB2 9.7 Linux on z as Data Source</i></p>	<p><i>* Version v10.1.3.4.2 Oracle 10g (10.2.0.4, 10.2.0.5) 11g Release 2 (11.2.0.2) as Data Source & Repository</i></p>

Golden Gate:

<p>Oracle GoldenGate</p>	<p><i>Version 11.1.1.1.0 for z/OS DB2 v10/9.1/8.1 for z/OS</i></p>	<p><i>Version 11.1.1.1.0 for Linux on z Oracle 10g (10.2.0.4, 10.2.0.5) 11g Release 2 (11.2.0.2)</i></p>
---------------------------------	--	--

Oracle Technology Solutions for System z Servers




Oracle DB Server on z/OS

Oracle DB Server on Linux

Database	Oracle Database 10gR2	Oracle DB 10g Release 2 10.2.0.4 Planned 2012 10gR2 10.2.0.5 Terminal Release	Oracle DB 10g Release 2 10.2.0.4, 10.2.0.5
	Oracle Database 11gR2	No	Oracle DB 11g Release 2 11.2.0.2, 11.2.0.3

Oracle Fusion Middleware on z/OS

Oracle Fusion Middleware on Linux

Fusion Middleware 10g	Oracle FMW 10gR2/10gR3 Application Server	Not Applicable Oracle DB/FMW	Oracle Application Server 10gRelease 2 10.1.2.3 10g Release 3 10.1.3.5
Fusion Middleware	Oracle FMW 11gR1	Not Applicable Oracle DB/FMW	WebLogic Server 10.3.5 WebLogic Portal 10.3.2 SOA 11gR1 WebCenter 11gR1 Tuxedo 11gR1
	Oracle FMW 12cR1	Not Applicable Oracle DB/FMW	 WebLogic Server 12.1.1x
Enterprise Manager	Oracle Enterprise Cloud Control Agent	Not Applicable Oracle DB/FMW	Oracle Enterprise Cloud Control Agent 12c Release 2 12.1.0.2 12c Release 1 12.1.0.1 10g Release 10.2.0.5

Introducing the newest members of the zEnterprise System family

The zEnterprise EC12 and zEnterprise BladeCenter Extension Model 003

IBM zEnterprise EC12 (zEC12)

- zEC12 has the industry's fastest chip with each core at 5.5 GHz
- New innovation to drive availability with IBM zAware and Flash Express
- Optimized for the corporate data serving environment
- Hardware functions boost software performance for Java™, PL/I, DB2®



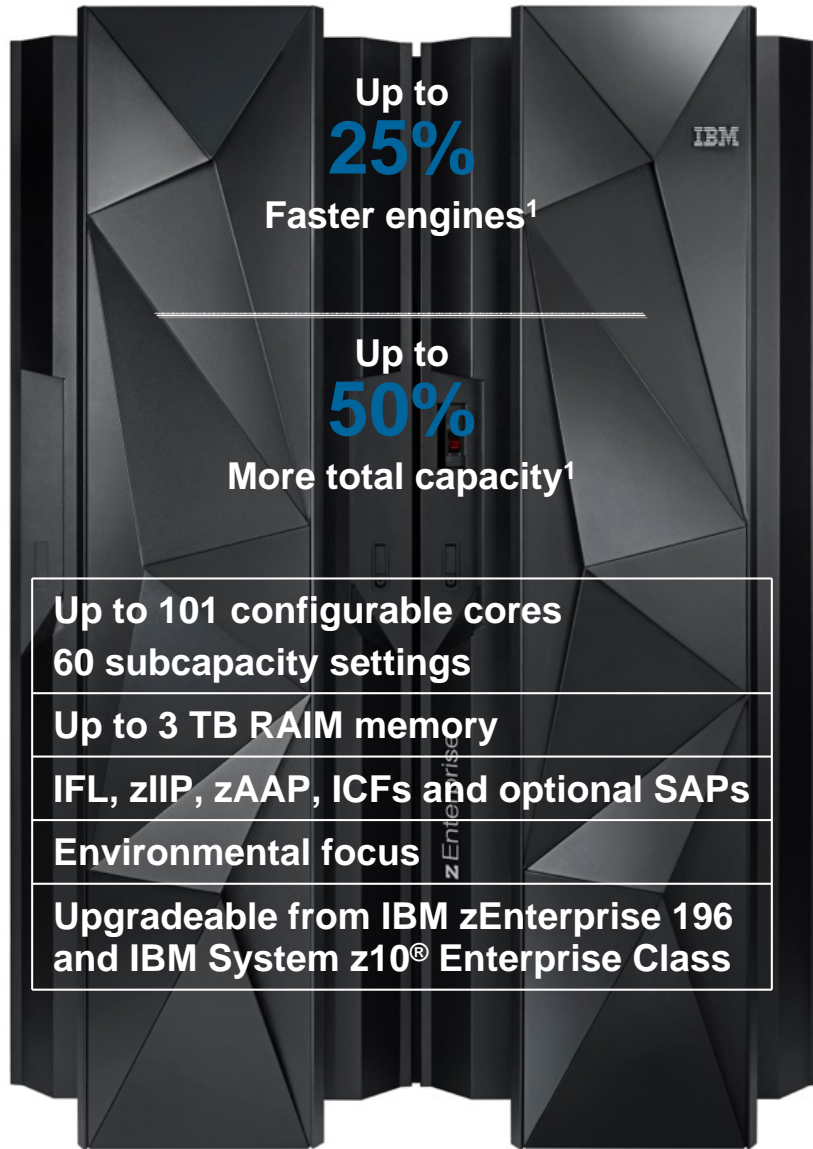
IBM zEnterprise Unified Resource Manager and zEnterprise BladeCenter Extension (zBX) Mod 003

- Supports the new zEC12 platform
- Hosts PS701 and HX5 blades
- Provides workload-awareness resource optimization
- Enhancements to System Director support zBX
- System z will continue to expand hybrid computing

Plus more flexibility and function with hybrid computing offerings

- Deployment of business analytics on the same platform as operational applications
- IBM Data Analytics Accelerator V3 lowers the cost of analytics
- Comprehensive query and reporting with new dashboard capability extending to mobile devices

zEnterprise EC12 is the core of next generation of System z



zEC12

Machine Type: 2827

Models: H20, H43, H66, H89, HA1

- **5.5 GHz 6-core processor chip delivers a performance boost for all workloads**
- **Innovation to drive availability**
 - **IBM zAware** offers snap-shot of the current state of your business
 - **FLASH Express and pageable large pages** to drive availability and performance for critical workloads
 - Up to 73% of CICS Server Level Agreement (SLA) report builder processing on **new OMEGAMON V5.1** may be off-loaded to a zIIP
- **Superior security is a zEnterprise standard**

¹Based on preliminary internal measurements and projections against a z196. Official performance data will be available upon announce and can be obtained online at LSPR (Large Systems Performance Reference) website at: <https://www.ibm.com/servers/resourceink/lib03060.nsf/pages/lspindex> . Actual performance results may vary by customer based on individual workload, configuration and software levels.

zEC12 – Supports efficiencies in the data center

- **New non-raised floor option offers flexible possibilities for the data center**
- **Continuing to support options for better control of energy usage and improved efficiency in your data center**
 - zEC12 has a new radiator-based air cooled system design for more efficient cooling and improved concurrent maintenance
 - Water cooled options on zEC12 allow for up to 9% additional data center energy savings¹
 - Savings with optional HV DC power when implemented in a new data center could be on the order of 7-12% of server input power²
- **More capacity but little change to the footprint in the data center**
 - Identical floor cutouts for zEC12 as the z196 and z10 EC³ with no significant increase in weight
 - Depth of system with covers will increase by 64 mm / 2.52 inches
- **Over 12 years experience in designing and building earthquake resistant servers**

¹ Based on internal measurements with average power usage effectiveness (PUE) of 2 with well configured zEC12 configuration.

² Based on internal measurements and projections.

³ With the exception of water cooling and overhead cabling

zBX – A Uniquely Configured Extension of the zEnterprise

- **zBX Model 003 supported by zEC12 with investment protection**
 - **No need to make changes to applications and application certifications are inherited from blades**
 - **Secure – new support for zBX by InfoSphere Guardium V9.0**
 - **Managed by Unified Resource Manager**
 - Management of resources as defined by your business goals and objectives
 - Integrated network for better security, control and faster time to value
 - Programmable interfaces (APIs) to connect with system management tools for total management capabilities - IBM Tivoli Monitoring (ITM) has been enhanced to use the APIs
- NEW**
- **New System Director capabilities using zManager APIs**
 - Ability to discover, inventory, and visualize zBX resources
 - Image management for blades within the zBX
 - Energy management to lower energy consumption and costs

zBX
Machine Type: 2458
Model: 003

PS701 blades (112 max)

Up to **11** HX5 (7873) blades (56 max)

DataPower XI50z (28 max)

1-4 Racks based on number of installed blades






One zBX per zEC12

Optional Acoustic Doors

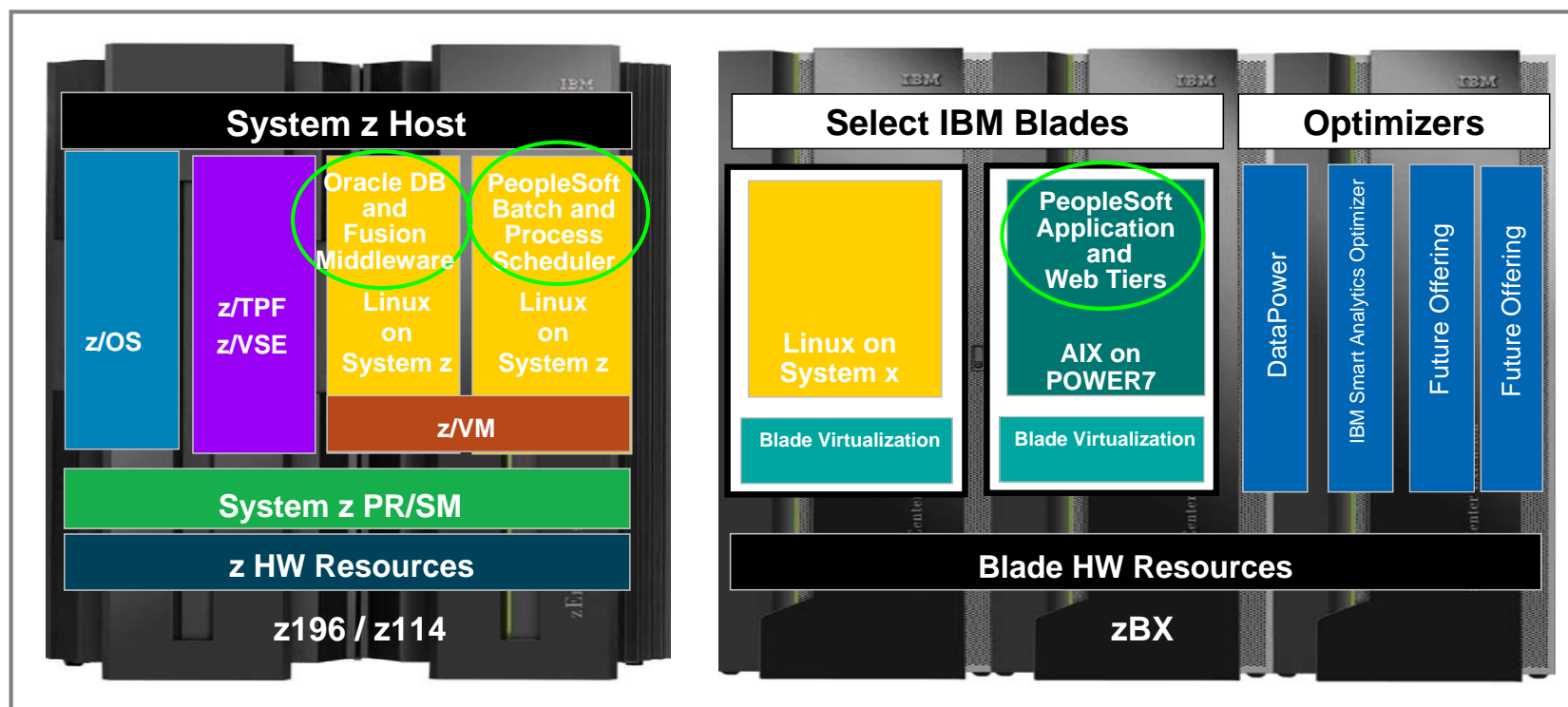
Optional Rear Door Heat Exchanger

Upgradeable from zBX

zBladeSizer Tool

PeopleSoft for Linux deployed on zEnterprise System



PeopleSoft 3-tier architecture on a single zEnterprise System

- Run Oracle database, Fusion Middleware, PeopleSoft Batch and Process Scheduler on the **highly available and reliable zEnterprise 196 (z196) or zEnterprise z114 (z114) Server**
- Run PeopleSoft Application and Web Tiers with AIX on **zEnterprise BladeCenter Extension (zBX)**
- Fully benefit from zEnterprise, **the first hybrid system**, and manage the PeopleSoft multi-tier environment with the zEnterprise Unified Resource Manager

Deploy Oracle databases to the “best fit” technology tier to meet business requirements

- zEnterprise enables Oracle workloads implemented on multiple heterogeneous platforms to be consolidated and managed end to end as single system
- With the centralized management of zEnterprise, it takes fewer resources to manage the Oracle operations and as a result it can reduce your exposure to operational errors and downtime
- The extensive automation and intelligent workload management capabilities help manage and optimize all aspects of IT services to achieve more efficient utilization of system resources
- zEnterprise can reduce cost by simplifying business process management infrastructure and optimize your infrastructure to meet workload requirements



Workshops – WSC

- **LXOR6 (Wildfire Workshops)**
- **Customizing Linux and the Mainframe for Oracle DB Applications**
 - For clients considering a move of Oracle to Linux on System z
 - Topics include hardware technologies, software components, best practices, performance and tuning, performance tools, linux distributions, tools and services for sizing

- **No charge, Client Team Registration**
- **Offered in Various Cities across North America**
- **2.5 days, Attendees responsible for travel expenses**
- **Combination Lectures and Lab Exercises**

- **Charlotte, North Carolina April 16 - 18**
- **New York, New York June 4 - 6**

Oracle Documentation

- Database Client Quick Installation Guide for IBM: Linux on System z -E18190
- Database Quick Installation Guide for IBM: Linux on System z -E18182
- Oracle® Database Release Notes 11g Release 2 (11.2) for Linux - E16778-09
- Grid Infrastructure for Linux -E17212- 11
- Oracle® Real Application Clusters Installation Guide – E17214

My Oracle Support Notes

- 1306465.1 - Getting Started - 11gR2 Grid Infrastructure, ASM and DB (IBM: Linux on System z)
- 1470834.1 - Requirements for Installing Oracle 11gR2 on RHEL 6 on IBM: Linux on System z (s390x)
- 1290644.1 - Requirements for Installing Oracle 11gR2 on SLES11 on IBM: Linux on System z (s390x)
- 1306889.1 - Requirements for Installing Oracle 11gR2 on RHEL 5 on IBM: Linux on System z (s390x)
- 1308859.1 - Requirements for Installing Oracle 11gR2 RDBMS on SLES 10 SP3 on IBM: Linux on System z (s390x)
- 1086769.1 - Ensure you have prerequisite rpms to install Oracle Database and AS10g(midtier) on IBM: Linux on System z (s390x)
- 169706.1 - Oracle Database on Unix AIX,HP-UX,Linux,Mac OS X,Solaris,Tru64 Unix Operating Systems Installation and Configuration Requirements Quick Reference (8.0.5 to 11.2)

Information Sources

- <http://www.oracle.com/ibm>
 - Oracle IBM Partner Relationship
- <http://otn.oracle.com>
 - Oracle Select “Downloads”
- <http://www.vm.ibm.com/perf/tips>
 - General z/VM Performance & Tuning Tips, Capacity planning
- <https://support.oracle.com>
 - Oracle Support Webpage (My Oracle Support)
- <http://www-124.ibm.com/developerworks/oss/linux390/index.shtml>
 - Lot’s of information on Linux for zSeries, IBM DeveloperWorks
- <http://www-128.ibm.com/developerworks/linux/linux390/perf/index.html>
 - Hints and Tips for tuning Linux on System z
- <http://www.zseriesoraclesig.org>
 - Special Interest Group of Oracle users on the mainframe (z/OS and Linux)
- <http://www.mail-archive.com/linux-390%40vm.marist.edu/>
 - Marist List Server
- <http://www.ibm.com/redbooks>
 - SG24-6482-00 Experiences with Oracle Database 10g on Linux for zSeries
 - SG24-7191-00 Experiences with Oracle 10gR2 Solutions on Linux for System z
 - SG24-7573-00 Using Oracle Solutions on Linux on System z
 - SG24-7634-00 Experiences with Oracle Solutions on Linux for IBM System z
 - SG24-8104-00 Experiences with Oracle 11gR2 on Linux on System z (Draft, NEW April 2013)
 - REDP-4788-00 Installing Oracle 11gR2 RAC on Linux on System z
 - REDP-9131 Experiences with a Silent Install of Oracle Database 11gR2 RAC on Linux on System z (11.2.0.3)
 - SG24-8104 Experiences with Oracle 11gR2 on Linux on System z (11.2.0.3), (available April 2013)

Questions?
Comments?



THANK YOU

contact@zseriesoraclesig.org

www.zseriesoraclesig.org





Trademarks

The following are trademarks of the International Business Machines Corporation in the United States and/or other countries.

AIX*	FICON*	IMS	Power7*	Redbooks*	WebSphere*
BladeCenter*	IBM*	InfiniBand	PowerHA	RMF	zEnterprise*
CICS*	IBM (logo)*	Lotus*	Power Systems	System x*	z/OS*
Cognos*	GDPS*	MQSeries*	PowerVM	System z*	z/VM*
DataPower*	Geographically Dispersed Parallel Sysplex	Parallel Sysplex*	PR/SM	System z10*	z/VSE*
DB2*	HiperSockets	POWER*	PureSystems	Tivoli*	
DS8000*	HyperSwap	POWER4*	Rational*		

* Registered trademarks of IBM Corporation

The following are trademarks or registered trademarks of other companies.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency which is now part of the Office of Government Commerce.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Windows Server and the Windows logo are trademarks of the Microsoft group of countries.

ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java and all Java based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.

Linear Tape-Open, LTO, the LTO Logo, Ultrium, and the Ultrium logo are trademarks of HP, IBM Corp. and Quantum in the U.S. and other countries.

* Other product and service names might be trademarks of IBM or other companies.

Notes:

Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios stated here.

IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply.

All customer examples cited or described in this presentation are presented as illustrations of the manner in which some customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics will vary depending on individual customer configurations and conditions.

This publication was produced in the United States. IBM may not offer the products, services or features discussed in this document in other countries, and the information may be subject to change without notice. Consult your local IBM business contact for information on the product or services available in your area.

All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

Information about non-IBM products is obtained from the manufacturers of those products or their published announcements. IBM has not tested those products and cannot confirm the performance, compatibility, or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

Prices subject to change without notice. Contact your IBM representative or Business Partner for the most current pricing in your geography.

Notice Regarding Specialty Engines (e.g., zIIPs, zAAPs and IFLs):

Any information contained in this document regarding Specialty Engines ("SEs") and SE eligible workloads provides only general descriptions of the types and portions of workloads that are eligible for execution on Specialty Engines (e.g., zIIPs, zAAPs, and IFLs). IBM authorizes customers to use IBM SE only to execute the processing of Eligible Workloads of specific Programs expressly authorized by IBM as specified in the "Authorized Use Table for IBM Machines" provided at www.ibm.com/systems/support/machine_warranties/machine_code/aut.html ("AUT").

No other workload processing is authorized for execution on an SE.

IBM offers SEs at a lower price than General Processors/Central Processors because customers are authorized to use SEs only to process certain types and/or amounts of workloads as specified by IBM in the AUT.