Oracle on Linux on System z Solutions and Support Update

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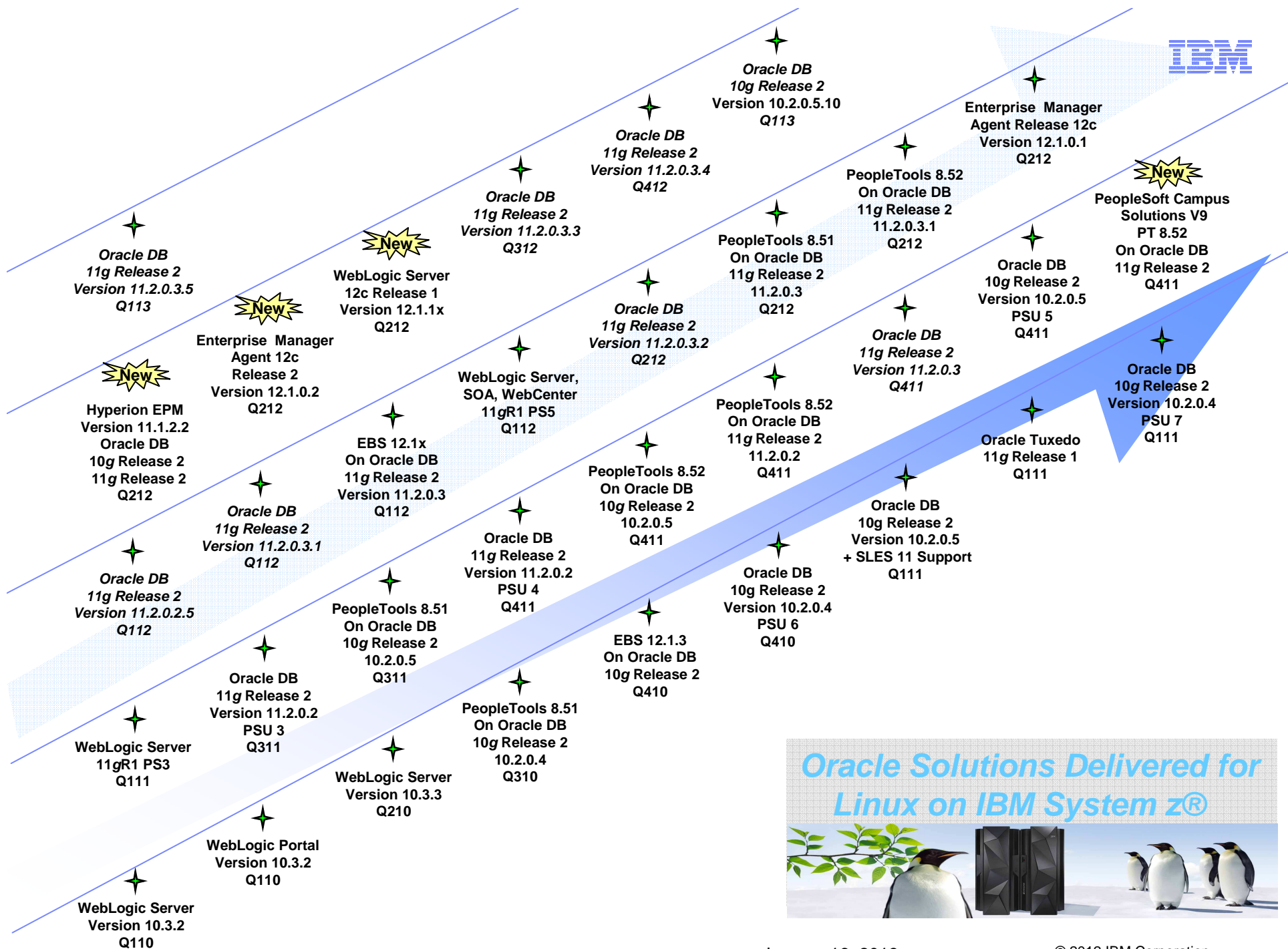
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IBM

Oracle DB
10g Release 2
Version 10.2.0.5.10
Q113

Enterprise Manager
Agent Release 12c
Version 12.1.0.1
Q212

New
PeopleSoft Campus
Solutions V9
PT 8.52
On Oracle DB
11g Release 2
Q411

Oracle DB
11g Release 2
Version 11.2.0.3.4
Q412

PeopleTools 8.52
On Oracle DB
11g Release 2
11.2.0.3.1
Q212

Oracle DB
11g Release 2
Version 11.2.0.3.3
Q312

PeopleTools 8.51
On Oracle DB
11g Release 2
11.2.0.3
Q212

Oracle DB
11g Release 2
Version 11.2.0.3.5
Q113

New
WebLogic Server
12c Release 1
Version 12.1.1x
Q212

Oracle DB
10g Release 2
Version 10.2.0.5
PSU 5
Q411

New
Enterprise Manager
Agent 12c
Release 2
Version 12.1.0.2
Q212

Oracle DB
11g Release 2
Version 11.2.0.3.2
Q212

Oracle DB
11g Release 2
Version 11.2.0.3
Q411

Oracle DB
10g Release 2
Version 10.2.0.4
PSU 7
Q111

New
Hyperion EPM
Version 11.1.2.2
Oracle DB
10g Release 2
11g Release 2
Q212

WebLogic Server,
SOA, WebCenter
11gR1 PS5
Q112

PeopleTools 8.52
On Oracle DB
11g Release 2
11.2.0.2
Q411

EBS 12.1x
On Oracle DB
11g Release 2
Version 11.2.0.3
Q112

PeopleTools 8.52
On Oracle DB
10g Release 2
10.2.0.5
Q411

Oracle Tuxedo
11g Release 1
Q111

Oracle DB
11g Release 2
Version 11.2.0.3.1
Q112

Oracle DB
10g Release 2
Version 10.2.0.5
+ SLES 11 Support
Q111

Oracle DB
11g Release 2
Version 11.2.0.2.5
Q112

Oracle DB
11g Release 2
Version 11.2.0.2
PSU 4
Q411

PeopleTools 8.51
On Oracle DB
10g Release 2
10.2.0.5
Q311

Oracle DB
10g Release 2
Version 10.2.0.4
PSU 6
Q410

Oracle DB
11g Release 2
Version 11.2.0.2
PSU 3
Q311

EBS 12.1.3
On Oracle DB
10g Release 2
Q410

WebLogic Server
11gR1 PS3
Q111

PeopleTools 8.51
On Oracle DB
10g Release 2
10.2.0.4
Q310

WebLogic Server
Version 10.3.3
Q210

WebLogic Portal
Version 10.3.2
Q110

WebLogic Server
Version 10.3.2
Q110

*Oracle Solutions Delivered for
Linux on IBM System z®*

January 16, 2013

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**

Oracle System z Support

- Dedicated System z Oracle Support

- WW Support, System z skilled and knowledgeable

- Patch Set Updates (PSUs) same date as all other platforms

- zSeries Community

- Joint User/Oracle/IBM Conference Calls

- zSeries SIG User Group Participation

Why System z and Linux for Oracle

- Open Standards and Linux

- High Availability Requirements

- Disaster Recovery Requirements

- Increased Performance Requirements

- Customer Data on Mainframe

- Economics of Linux (IFL) Specialty Engines[1]

- '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

- TCO versus Total Cost of Acquisition
  (IFL Costs, Data Center Costs, Systems Management Costs, Software Costs, etc)

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6

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**

Upcoming Oracle and IBM System z Coverage

- **zSeries Oracle SIG Events (www.zseriesoraclesig.org)**
  - RH6 Support Announce Update Conference Call
  - March 14 Webcast – Technical Update
  - Annual Conference at Oracle Collaborate

- **Oracle Collaborate/zOracle SIG Conference (Denver, CO, April 2013)**
  - Oracle on Linux on System z Sessions
  - zSeries Oracle SIG Sessions
  - User, Oracle, and IBM Presenters

- **Oracle OpenWorld (San Francisco, CA, October 2013)**
  - Executive Briefing Center, including z and Storage
  - Oracle on Linux on IBM System z
  - PeopleSoft on System z
  - Siebel on IBM System z
  - IBM Booth (Server/System z Ped)

Oracle Applications for System z Servers

IBM

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		IBM Data Server on DB2 z/OS and or Linux*	Oracle DB Server on Linux
	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 8.2.2.1* *DB2 v9, v10 on z/OS* *DB2 v9.7 on Linux* ** Version 8.1.1.8* *DB2 v9.1, v10 on z/OS* *DB2 v9.1, v9.7 on Linux*	** Version 8.2.2.1* Oracle 10gR2, 11gR2 ** Version 8.1.1.8* Oracle 10gR2, 11gR2
	Oracle **E-Business Suite**	**Not Applicable** **Oracle DB/FMW**	** Version R12.1.2, 12.1.3* Oracle 10gR2, 11gR2

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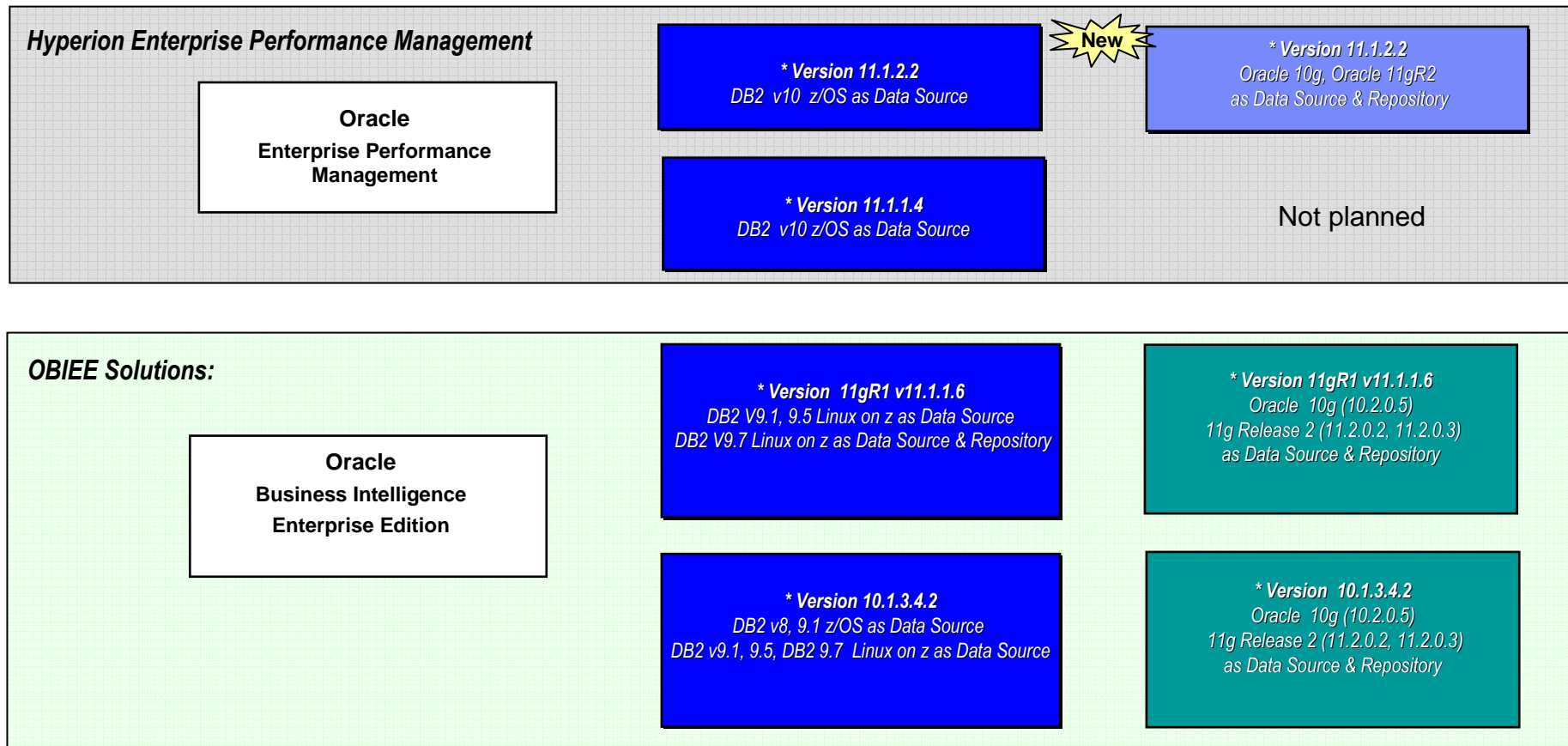
Oracle Industry Applications for System z Servers

IBM

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

Higher Education	Oracle PeopleSoft Campus Solutions	Not planned	**New** ** Version 9.0 /Tools 8.50, 8.51, 8.52* Oracle 10gR2, 11gR2
Public Sector	Oracle Siebel Public Sector and Siebel Loyalty Management	** Version 8.2.2.1* *DB2 v9.1, v10 on z/OS* *DB2 v9.7 on Linux* •*Version 8.1.1.8:* *DB2 v9 , v10 on z/OS* *DB2 v9.1, 9.7 on Linux on System z*	** Version 8.2.2.1* Oracle 10gR2, 11gR2 ** Version 8.1.1.8* Oracle 10gR2, 11gR2
Insurance and Cross Industry	**Insurance Industry** **Oracle Documaker**	*Version 12.1* *DB2 v8.1, v9.1 z/OS* *Version 11.5* *DB2 v8.1, v9.1 z/OS*	Not planned
	Cross Industry **Oracle Policy Automation**	**Not Applicable** **Oracle DB/FMW**	*Versions 10.4.2, 10.3.1* Oracle DB 11gR2 *With Oracle WebLogic 11gR1* *With IBM WAS 6.1, 7.0*

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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

Oracle
Enterprise Performance Management

New

* Version 11.1.2.2
DB2 v10 z/OS as Data Source

* Version 11.1.2.2
Oracle 10g, Oracle 11gR2
as Data Source & Repository

* Version 11.1.1.4
DB2 v10 z/OS as Data Source

Not planned

OBIEE Solutions:

Oracle
Business Intelligence
Enterprise Edition

* 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

* Version 11gR1 v11.1.1.6
Oracle 10g (10.2.0.5)
11g Release 2 (11.2.0.2, 11.2.0.3)
as Data Source & Repository

* Version 10.1.3.4.2
DB2 v8, 9.1 z/OS as Data Source
DB2 v9.1, 9.5, DB2 9.7 Linux on z as Data Source

* Version 10.1.3.4.2
Oracle 10g (10.2.0.5)
11g Release 2 (11.2.0.2, 11.2.0.3)
as Data Source & Repository

Oracle Technology Solutions for System z Servers

IBM

		Oracle DB Server on z/OS	Oracle DB Server on Linux
Database	Oracle Database 10gR2	Oracle DB 10g Release 2 (10.2.0.5) Terminal Release	Oracle DB 10g Release 2 (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	10g Release 2 (10.1.2.3) 10g Release 3 (10.1.3.5)
Fusion Middleware	Oracle FMW 11gR1	Not Applicable Oracle DB/FMW	WebLogic Server 11g Release 1 (11.1.1.6+) SOA 11g Release 1 (11.1.1.6+) WebCenter 11g Release 1 (11.1.1.6+) Tuxedo 11g Release 1 (11.1.1.2+) WebLogic Portal 11g Release 1 (10.3.2)
	Oracle FMW 12cR1	Not Applicable Oracle DB/FMW	**New** WebLogic Server 12c Release 1 (12.1.1x)
Enterprise Manager	Oracle Enterprise Cloud Control Agent	Not Applicable Oracle DB/FMW	**New** 12c Release 2 (12.1.0.2) Oracle DB 11gR2 (11.2.0.2,11.2.0.3)
			12c Release 1 (12.1.0.1) Oracle DB 11gR2 (11.2.0.2,11.2.0.3)
Golden Gate	Oracle GoldenGate	11g Release 1 (11.1.1.1.0) for z/OS DB2 v10, 9.1, 8.1 for z/OS	11g Release 2 (11.2.0.2) 11g Release 1 (11.1.1.1.1) Oracle DB 11gR2 (11.2.0.2) Oracle DB 10g R2 (10.2.0.5)

January 2013

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

Information Sources

- **Redbooks available at www.redbooks.ibm.com**
- Experiences with Oracle Solutions on Linux for IBM System z, SG24-7634
- Using Oracle Solutions on Linux on System z, SG24-7573
- Experiences with Oracle Database 10gR2 on Linux on System z, SG24-7191
- Installing Oracle 11gR2(11.2.0.2) RAC on Linux on System z, REDP4788
- Experiences with a Silent Install of Oracle Database 11gR2 RAC on Linux on System z (11.2.0.3), REDP9131
- Experiences with Oracle 11gR2 on Linux on System z (11.2.0.3), SG24-8104 (available April 2013)

Information Sources

- **Oracle Support Documents available at <u>support.oracle.com</u>**
- Note 1306465.1 Getting Started - 11gR2 Grid Infrastructure, SI(Single Instance), ASM and DB (IBM: Linux on System z)
- Note 1470834.1 - Requirements for Installing Oracle 11gR2 on RHEL 6 on IBM: Linux on System z (s390x)
- Note 1290644.1 - Requirements for Installing Oracle 11gR2 on SLES11 on IBM: Linux on System z (s390x) Also review note: OHASD fails to start on SuSE 11 SP2 on IBM: Linux on System z [ID 1476511.1]
- Note 1308859.1 Requirements for Installing Oracle 11gR2 on SLES 10 on IBM: Linux on System z   (s390x)
- Note 1306889.1 Requirements for Installing Oracle 11gR2 on RHEL 5 on IBM: Linux on System z (s390x)
- Note 1086769.1 - Ensure you have prerequisite rpms to install Oracle Database and AS10g(midtier) on IBM: Linux on System z (s390x)
- Note 1377392.1 How to Manually Configure Disk Storage devices for use with Oracle ASM 11.2 on IBM: Linux on System z)
- Note 1400185.1 How to Upgrade Oracle Restart i.e. Single Node Grid Infrastructure/ASM from 11.2.0.2 to 11.2.0.3
- Note 1276058.1 Oracle GoldenGate Best Practices: Instantiation from an Oracle Source Database

Information Sources

- **Oracle Support Documents available at <u>support.oracle.com</u> (Continued)**
- Note 1413787.1 How to completely remove 11.2 Grid Infrastructure, CRS and/or Oracle Restart - IBM: Linux on System z
- Note 259301.1 CRS and 10g Real Application Clusters
- Note 268937.1 Repairing or Restoring an Inconsistent OCR in RAC
- Note 239998.1 10g RAC How to clean up after a failed CRS Install
- Note 220970.1 RAC Frequently Asked Questions Topic
- Note 420382.1 Requirements for Installing Oracle 10gR2 RDBMS on RHEL 4 on zLinux (s390x).
- Note 431443.1 Requirements for Installing Oracle 10gR2 RDBMS on SLES 9 zLinux (s390x)
- Note 1082253 Requirements for Installing Oracle 10gR2 RDBMS on SLES 10 zLinux (s390x)
- Note 741646.1 Requirements for Installing Oracle 10gR2 RDBMS on RHEL 5 on zLinux (s390x).
- Note 415182.1 DB Install Requirements Quick Reference - zSeries based Linux .
- Note 741146.1 Installing Standalone Agent 10.2 on Linux on
- Note 1276058.1 Oracle GoldenGate Best Practices: Instantiation from an Oracle Source Database

- **Also on support.oracle.com there is a zSeries Community space where the latest information from Oracle Support is noted.**
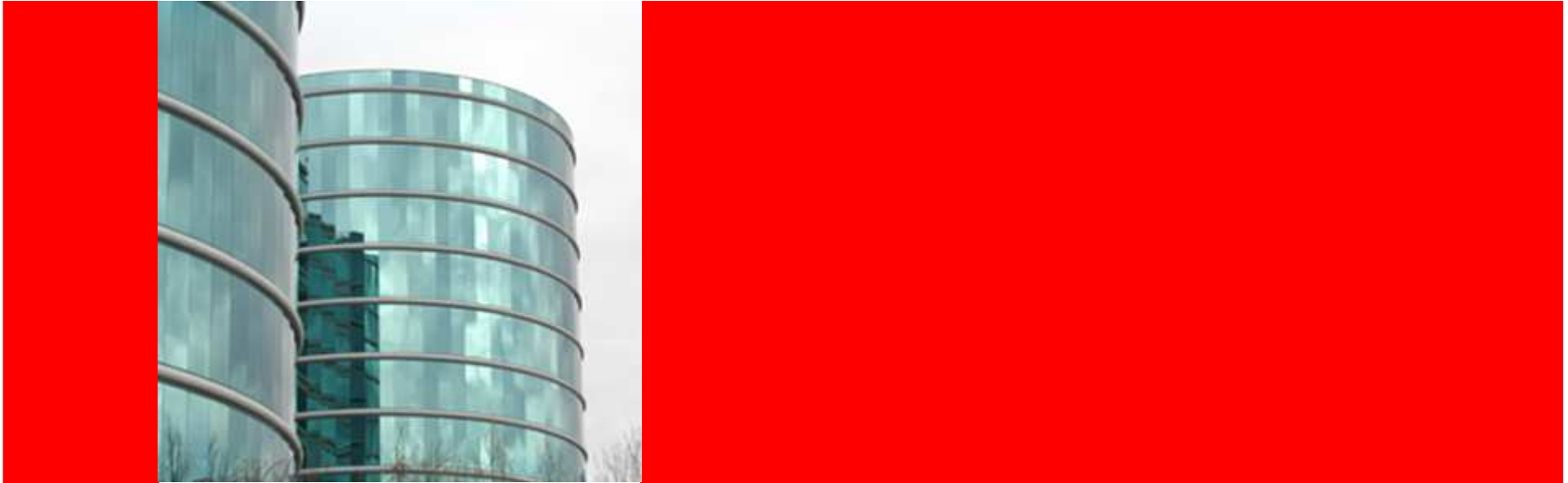
Oracle Support Update for Oracle running on Linux on System z

Rhoda Sarmiento-Pereira
Principal Technical Support Engineer
Mainframe Information Technology Support

Safe Harbor Statement

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Agenda

- Oracle RDBMS on z/Linux
    - Version Availability
    - Product Updates including PSU and SPU
    - Grid Infrastructure and Agent 12c Installation
    - OSW Black Box

- Q&A

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Product Availability

- 11.2.0.3
  - Premier Support Ends Jan 2015
  - Extended Support Ends Jan 2018

No words for 12c Database/Grid Infrastructure yet

- 12c Agent is already available

http://www.oracle.com/technetwork/oem/enterprise-manager/downloads/index.html

PSU and SPU (fka CPU Patch) Availability

- **Patch 14727347: GRID INFRASTRUCTURE PATCH SET UPDATE 11.2.0.3.5 (INCLUDES DB PSU 11.2.0.3.5)**

- **Patch 14841409: DATABASE SECURITY PATCH UPDATE 11.2.0.3.0 (CPUJAN2013)**

- **Patch 14727310: DATABASE PATCH SET UPDATE 11.2.0.3.5 (INCLUDES CPUJAN2013)**

To understand PSU and SPU:

Patch Set Updates for Oracle Products (Doc ID 854428.1)

Important: Patch Installation

- OPATCH AUTO is not available for z/linux
  platform

- Grid Infrastructure patching needs to be done
  manually

- **ALWAYS read the README documentation** as
  patching can change between PSU/SPUs.

- PLEASE install the recommended opatch version,
  Placeholder Patch 6880880

Important: **G**rid **Infrastructure Patch Installation**

Grid Infrastructure Patching - example as per PSUOCT2012
===
Download the OPatch utility to a temporary directory.
 For each Oracle RAC database home and the GI home that are being patched,
 run the following commands as the home owner to extract the OPatch utility.
 $ unzip <OPATCH-ZIP> -d <ORACLE_HOME>
 $ <ORACLE_HOME>/OPatch/opatch version

- Run the following command as respective Oracle home owner to check the consistency.

  $ <ORACLE_HOME>/OPatch/opatch lsinventory -detail -oh

  ✓ Check both GI and DB Home.

- UNZIP the patch
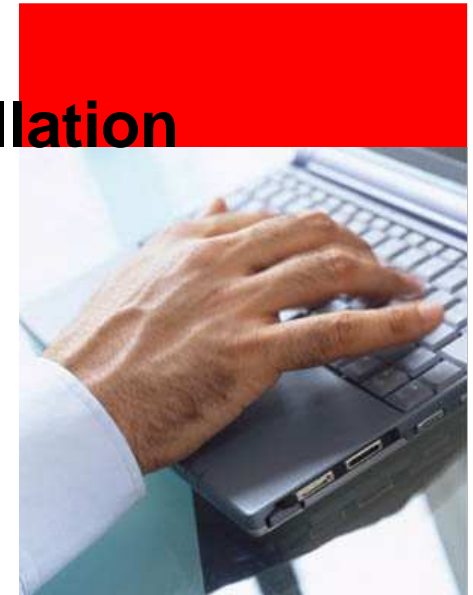
Important: **G**rid **Infrastructure Patch Installation**

- **Preparation**

1) $ <ORACLE_HOME>/bin/emctl stop dbconsole
2) Stop databases running out of the DB HOME

- Shut down everything and unlockpermissions to allow patching

3) As root user <GI_HOME>/crs/install/roothas.pl -unlock

• **Patch the GI home with both patches**

4) <GI_HOME>/OPatch/opatch napply -oh <GI_HOME>
     -local <UNZIPPED_PATCH_LOCATION>/14275572

5) <GI_HOME>/OPatch/opatch apply -oh <GI_HOME>
     -local <UNZIPPED_PATCH_LOCATION>/14275605

Important: Patch Installation

- **Apply the patch to the DBHOME**
  - **Run Pre patch script first**

$ <UNZIPPED_PATCH_LOCATION>/14275572/custom/server/14275572/custom/scripts/prepatch.sh -dbhome <ORACLE_HOME>

- **Patch the DBHOME with both patches**

$ <ORACLE_HOME>/OPatch/opatch \b napply\b0 -oh <ORACLE_HOME> -local
   <UNZIPPED_PATCH_LOCATION>/14275572/custom/server/14275572

$ <ORACLE_HOME>/OPatch/opatch \b apply\b0 -oh <ORACLE_HOME> -local <UNZIPPED_PATCH_LOCATION>/14275605

- **Run the POST-PATCH script**

<UNZIPPED_PATCH_LOCATION>/14275572/custom/server/14275572/custom/scripts/postpatch.sh -dbhome <ORACLE_HOME>

<GI_HOME>/rdbms/install/rootadd_rdbms.sh

- **Start Oracle Restart env - ohas + ASM instance.**

<GI_HOME>/crs/install/roothas.pl -patch

ORACLE

Important: Patch Installation

- **Start the database and run catbundle.sql**

```
cd $ORACLE_HOME/rdbms/admin
sqlplus /nolog
SQL> CONNECT / AS SYSDBA
SQL> STARTUP
SQL> @catbundle.sql psu apply
SQL> QUIT
```

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12c Agent Installation

- **There are two ways to install 12c agent on IBM Linux on System z**

  - **Online Installation**

  - **Offline Installation**

Requirements:

- ✓ OS RPMS required as per 11g database pre-requisites

- ✓ Ensure you have approx 1GB of space for the deployment of the AGENT_BASE_DIR and space in $TMP location.

12c Agent Installation - ONLINE

- ## STEPS

1) You must be running Enterprise Manager Cloud Control 12c Release 1 (12.1.0.1) for Linux x86-64
(With Bundle Patch 1)

2) Download and apply Patch 13707704 - this is a generic patch and has a prereq of Bundle Patch 1 (13242773)
   Make sure this is successfully applied and please read the associated README with all the post patch instructions e.g.

$emctl applypatch repos -patchHome $PWD/13653571
$ emctl register oms metadata -service swlib -file $ORACLE_HOME/sysman/metadata/swlib/multioms -core
$ emctl register oms metadata -service procedures -file $ORACLE_HOME/sysman/metadata/procedures/multioms/MultiOMS.xml -core
$ emctl register oms metadata -service derivedAssocs -file $ORACLE_HOME/sysman/metadata/derivedAssocs/emSystemAssocRules.xml -core

 3) Restart the OMS
 $emctl start oms

 4) Ensure the software Library is set up via Setup -> Provisioning and Patching > Software Library.

 5) Now you need to download the IBM: Linux on System z Agent Software via Setup -> Extensibility -> Self Update -> Actions -> Agent Software:
    Select IBM:Linux on System z and download this - you can check the status which will change from available to downloaded.

6) Go to Setup -> Extensibility -> Self Update

Click Check Updates and then Open up the Plug-in Folder:

Scroll down until you see the latest Oracle Database Plug-in– Generic Platform – revision 20120427.

Download Oracle Database Generic Platform 20120427

12c Agent Installation - ONLINE

7) Once the Plug has been successfully downloaded, navigate to the Plug-in page and you will see that the latest release(u120427)
 is ready to be deployed on the OMS.Click on the Deploy on Drop down and deploy to the OMS

 Click next and deploy and then you can check the status via emcli:-
 $emcli get_plugin_deployment_status -plugin_id=oracle.sysman.db

8) Now go back to Setup – Extensibility -> Self Update and select Agent Software
Select IBM:Linux on System z and click apply – this will show a window advising that it will just update the Enterprise Manager Console :
Click OK and then go to Setup – Add Target -> Add Targets Manually
Select Add Host Targets and now you will see the IBM: Linux on System z platform which will allow you to deploy software to zLinux servers.

12c Agent Installation - OFFLINE

This step is intended to describe the steps to follow to install the Management Agent 12c on IBM : Linux on System Z platform when the machine where the Management Agent will run doesn't have access.

Note that here the steps detailed are those to deploy the software into the Management Agent server and the OMS server has the Management Agent software downloaded in its repository

1. *If the OMS has not been installed and the Management Agent for Linux on System Z has not been downloaded then follow from step 1 to 7 from the previous slides.*

2. Make sure that in the Management Agent server the /etc/sudoers is writable
   (see EM 10g: Deploying the Enterprise Manager Grid Control 10.2.0.5 Management Agent
   Gives *a requiretty* flag Error[Document 1329531.1]

3. Make sure that the line Defaults *requiretty* is commented out in the /etc/sudoers

4. Connect to the **Grid Control Console** using sysman userid. Ex: https://cloud.uk.oracle.com:7803/em**/**

5. Go to menu Setup-> Provisioning and Patching -> Offline Support. Choose Offline Settings in the
 Setting section from tab Online and Offline Settings. Click apply

6. Go to menu Setup-> Extensibility -> Self-Update

12c Agent Installation - OFFLINE

7. Click in the Agent Software icon to launch the Add Targets/Agent installation wizard.

8. Click on + Add option in the Add Host Targets: Host and Platform

9. Put the name of the Management Agent Server in the host field and select IBM: Linux on System Z from the Platform field and click on next button

10. In the Add Host Targets: Installation Details window fill the Installation Base Directory and Instance Directory with empty directories. Also choose a Named Credentials already available or create a new one where the os account/password must be provided. The Named Credentials can be shared among the servers if the userid and passwords are the same.

11. Click on Deploy Agent button in the Add Hosts Target: Review window

12. The deployment process will start and can take a while.There are 3 phases: Initialization, Prerequisite Check and Deploy Agent The Prerequirements Check process may fail but you can continue and run the root.sh script after the prereq phase finishes

13. When the Agent Deployment Succeeded run the root.sh script when connected to root user in the Management Agent server "The user oracle does not have the privileges to run "/bin/bash" as user "root" using the Delegation user tool /usr/bin/sudo"

14. Connect to the Management Agent Server (strkf36.us.oracle.com) with root userid and run: /oracle/agent12c/core/12.1.0.1.0/root.sh and /home/oracle/oraInventory/orainstRoot.sh

OSWatcher Black Box

What is OSWatcher Black Box?

- one of the tools we request to diagnose performance issues.

- If the AWR is for database level, the OSWBB is data collection on the Operating System level.

OSWatcher Black Box

What is OSWatcher Black Box?

- Collects data for cpu, memory, io and network issues

- Provides 48 hours worth of "look back" data on the OS by default

- HIGHLY recommended to install and run it on your system.

OSWatcher Black Box

Where to download?

Refer to this note:

OSWatcher Black Box User Guide
(Includes: [Video]) (Doc ID 301137.1)

* We encourage every customer to
have the OSW enabled in their system

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OSWatcher Black Box Analysis

How to analyze an archive file using OSWbb

- need to archive file (can be zipped or tar'd when uploading to support)

- Requires java version 1.4.2 or higher

- Command:
    $ java -jar oswbba.jar -i [*directory of archive file*]

OSWatcher Black Box Analysis

Parsing Completed.

Enter 1 to Display CPU Process Queue Graphs
Enter 2 to Display CPU Utilization Graphs
Enter 3 to Display CPU Other Graphs
Enter 4 to Display Memory Graphs
Enter 5 to Display Disk IO Graphs

Enter 6 to Generate All CPU Gif Files
Enter 7 to Generate All Memory Gif Files
Enter 8 to Generate All Disk Gif Files

Enter L to Specify Alternate Location of Gif Directory
Enter T to Specify Different Time Scale ⬅
Enter D to Return to Default Time Scale
Enter R to Remove Currently Displayed Graphs
Enter P to Generate A Profile ⬅
Enter A to Analyze Data ⬅
Enter Q to Quit Program

Allows you to specify start and end time

Generates HTML profile with the graphs

48-hour printed analysis of the system

OSWatcher Black Box Analysis

Please Select an Option:**T**

Specify Chart Start Time. Valid entry between Dec 16 20:00:29 2012 and Dec 18 20
:44:23 2012
Example Format To Enter Time: Dec 16 20:00:29 2012 :Dec 18 4:45:00 2012

Specify Chart End Time. Valid entry between Dec 16 20:00:29 2012 and Dec 18 20:4
4:23 2012
Example Format To Enter Time: Dec 18 20:44:23 2012 :Dec 18 4:50:00 2012

Dates accepted. Recalibrating charts...

- Useful for isolating the time when the problem occurred
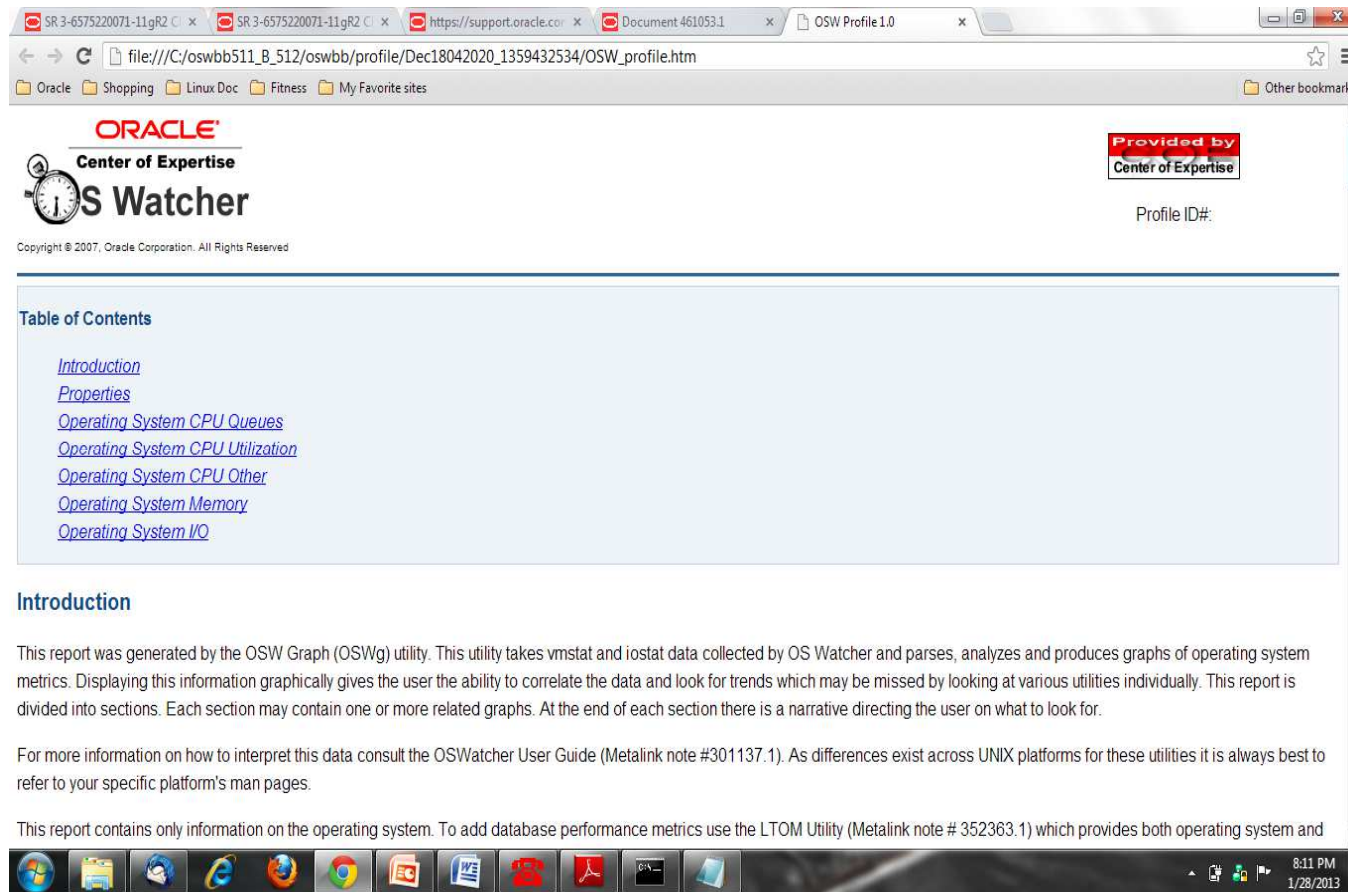
OSWatcher Black Box Analysis

Using OPTION: **P**

- This option produces a report in html format

- It contains graphs and information on what to look for*

- Report gets generated in /oswbb/profile/* directory

OSWatcher Black Box Analysis

Using OPTION: P

OSWatcher Black Box Analysis

II. Operating System CPU Utilization
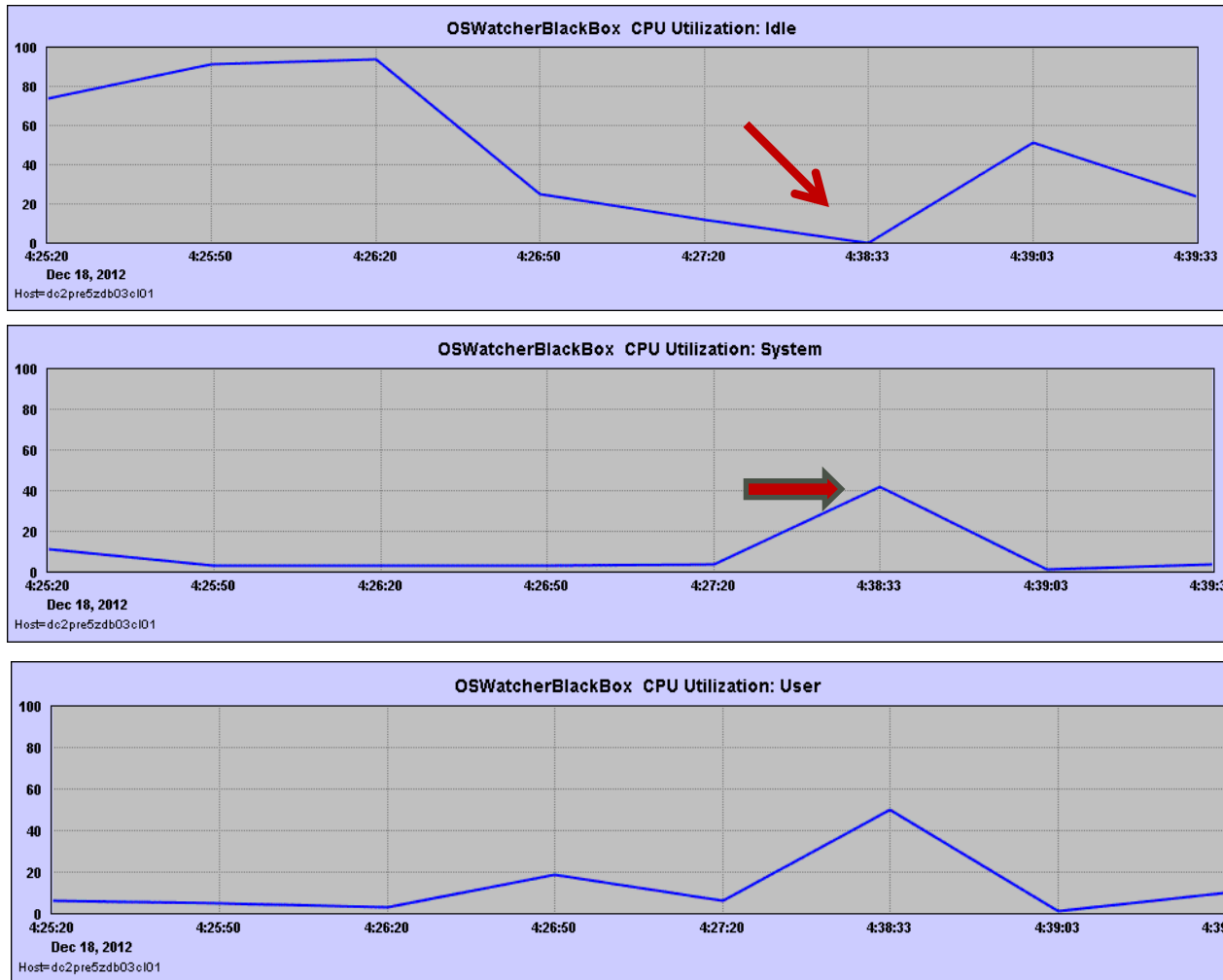
What to look for

CPU utilization. The amount of time spent running system code should not exceed 30%, for any length of time, especially if idle time is close to 0%.

A combination of large run queue with no idle CPU is an indication that the system has insufficient CPU capacity.

OSWatcher Black Box Analysis

Verifying the fact in the mpstat　　　**%sys**　　　　　　　　　　**%idle**

Time	CPU	%user	%nice	%sys	%iowait	%irq	%soft	%steal	%idle	intr/s
04:38:33	CPU	%user	%nice	%sys	%iowait	%irq	%soft	%steal	%idle	intr/s
04:38:34	all	47.70	0.00	43.58	0.00	0.97	2.66	5.08	0.00	7609.80
04:38:34	0	47.57	0.00	35.92	0.00	1.94	3.88	10.68	0.00	0.00
04:38:34	1	40.38	0.00	52.88	0.00	0.96	2.88	2.88	0.00	0.00
04:38:34	2	57.28	0.00	36.89	0.00	0.00	1.94	3.88	0.00	0.00
04:38:34	3	46.15	0.00	48.08	0.00	0.00	1.92	3.85	0.00	0.00
04:38:34	CPU	%user	%nice	%sys	%iowait	%irq	%soft	%steal	%idle	intr/s
04:38:35	all	52.02	0.00	40.40	0.00	0.76	2.53	4.29	0.00	6409.90
04:38:35	0	60.00	0.00	27.00	0.00	2.00	4.00	7.00	0.00	0.00
04:38:35	1	53.00	0.00	42.00	0.00	0.00	2.00	3.00	0.00	0.00
04:38:35	2	53.54	0.00	40.40	0.00	1.01	2.02	3.03	0.00	0.00
04:38:35	3	41.41	0.00	51.52	0.00	1.01	3.03	3.03	0.00	0.00
Average:	CPU	%user	%nice	%sys	%iowait	%irq	%soft	%steal	%idle	intr/s
Average:	all	49.81	0.00	42.03	0.00	0.87	2.60	4.70	0.00	7012.81
Average:	0	53.69	0.00	31.53	0.00	1.97	3.94	8.87	0.00	0.00
Average:	1	46.57	0.00	47.55	0.00	0.49	2.45	2.94	0.00	0.00
Average:	2	55.45	0.00	38.61	0.00	0.50	1.98	3.47	0.00	0.00
Average:	3	43.84	0.00	49.75	0.00	0.49	2.46	3.45	0.00	0.00

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OSWatcher Black Box Analysis

Using OPTION: **A**

- Analyzes the archive files and produces a report of the overall status of the system

```
Section 1: Overall Status

Subsystem              Status
-------------------------
CPU                    CRITICAL
MEMORY                 UNKNOWN
I/O                    CRITICAL
NET                    WARNING
```

- The 'T' option does not apply
- This produces a report for the last 48-hours

```
Archive Start Time:  Dec 16 20:00:29 2012
Archive Stop Time:   Dec 18 20:44:23 2012
```

OSWatcher Black Box Analysis

Using OPTION: A

- Show system slow down and details.

```
Section 2.1: System Slowdown RCA Ordered By Impact

SnapTime              Variance   Secs     Flags    Cause(Most Likely)
--------------------------------------------------------------------
Thu Jan 17 19:25:29   196        5899     0000-00-10   1: High Disk Service Time
Section 2.0: System Slowdown Summary Ordered By Impact 2: High Disk Utilization

>>>Cause 1: High Disk Service Time
SnapTime              Variance   Secs     Flags    SubSystem
Advise:
Check disks to see why service time is so high.
Thu Jan 17 19:25:29   196        5899     0000-00-10   I/O
Fri Jan 18 02:02:45   9.0        271      1100-00-00   CPU
Reasons:
1. Hot disk: I/O distribution should be evaluated
2. Disk may be defective

>>>Cause 2: High Disk Utilization

Advise:
Check disks to see why utilization is so high.

Reasons:
1. Hot disk: I/O distribution should be evaluated
2. The system is undersized with respect to I/O capacity
```

USEFUL NOTES

OSWatcher Black Box Analyzer User Guide (Doc ID 461053.1)

OSWatcher Black Box User Guide (Includes: [Video]) (Doc ID 301137.1)

Enterprise Manager Cloud Control Workbook for Applying Bundle Patch 1 (February 2012) and 12.1.0.2 Plugins (Doc ID 1393173.1)

How to Upgrade or Get Software Distribution of Enterprise Manager Cloud Control 12.1 Management Agent Using the Self Update Feature ? (Doc ID 1369575.1)

EM 10g: Deploying the Enterprise Manager Grid Control 10.2.0.5 Management Agent Gives a requiretty flag Error (Doc ID 1329531.1)

Cloud Control Agent 12c Installation - How to install Enterprise Manager Cloud Control 12.1 Agent From the EM 12c Console ? (Doc ID 1360183.1)

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Oracle on Linux on System z Solutions and Support Update

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