



Ottawa ORACLE USERS Group

learn.
network.
discuss.
do.

100 Degrees of Separation



January 2014 Meeting

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One Hundred Degrees of Separation

Presented: Ottawa Oracle Users Group - 29 January, 2014

Syllabus



- 09:00 - Introductions
- 09:15 - ODA: Oracle Database Appliance
- 10:30 - Break
- 10:45 - OVM: Oracle Virtual Machine
- 11:30 - Engineered Systems
- 11:45 - The Oracle Cloud
- 12:00 - Lunch
- 12:30 - Virtual Networking
- 13:15 - Break
- 13:30 - Database 12c
- 14:45 - Wrap up



Daniel A. Morgan



 Oracle ACE Director

 Consultant to Harvard University

 University of Washington Oracle Instructor, ret.



The Morgan of Morgan's Library on the web



Board Member: Western Washington OUG

- Upcoming Presentations

- Utah OUG
- Calgary OUG
- OUG Norway
- Azerbaijan OUG
- OUG Finland



Official Beta Site



Syllabus



- Mandatory Disclaimer
- ODA: Oracle Database Appliance
- OVM: Oracle Virtual Machine
- Engineered Systems
- The Oracle Cloud
- Lunch
- Virtual Networking
- Database 12c
- Conclusion



Disclaimer *



- This room is an unsafe harbour
- I am not subject to any NDA
- No one from Oracle has previewed this presentation
- No one from Oracle knows what I'm going to say
- No one from Oracle has supplied any of my materials
- This discussions is about released product, currently available, that works extremely well
- What I am going to emphasize today are those things you need to know to move your career and your organization forward
- You may rely upon this presentation to make decisions for yourself and your enterprise
- Oracle Corp. is not responsible for anything I say

Syllabus



- Mandatory Disclaimer
- ODA: Oracle Database Appliance
- OVM: Oracle Virtual Machine
- Engineered Systems
- The Oracle Cloud
- Lunch
- Virtual Networking
- Database 12c
- Conclusion





Discussion

I'm supposed to talk about the ODA
(Oracle Database Appliance)
but let's talk about something
equally important first

What DBAs Do



- Manage databases
 - deploy them
 - patch them
 - upgrade them
 - secure them
 - performance tune them
 - troubleshoot them
- Confronted by any Oracle database we can always find something about it that can be improved. Especially if someone else was managing it before us
- Would anyone in this room want to have their databases graded by Jonathan Lewis, Alex Gorbachev, Tanel Poder?
 - I wouldn't!

The Great Switch Fiasco



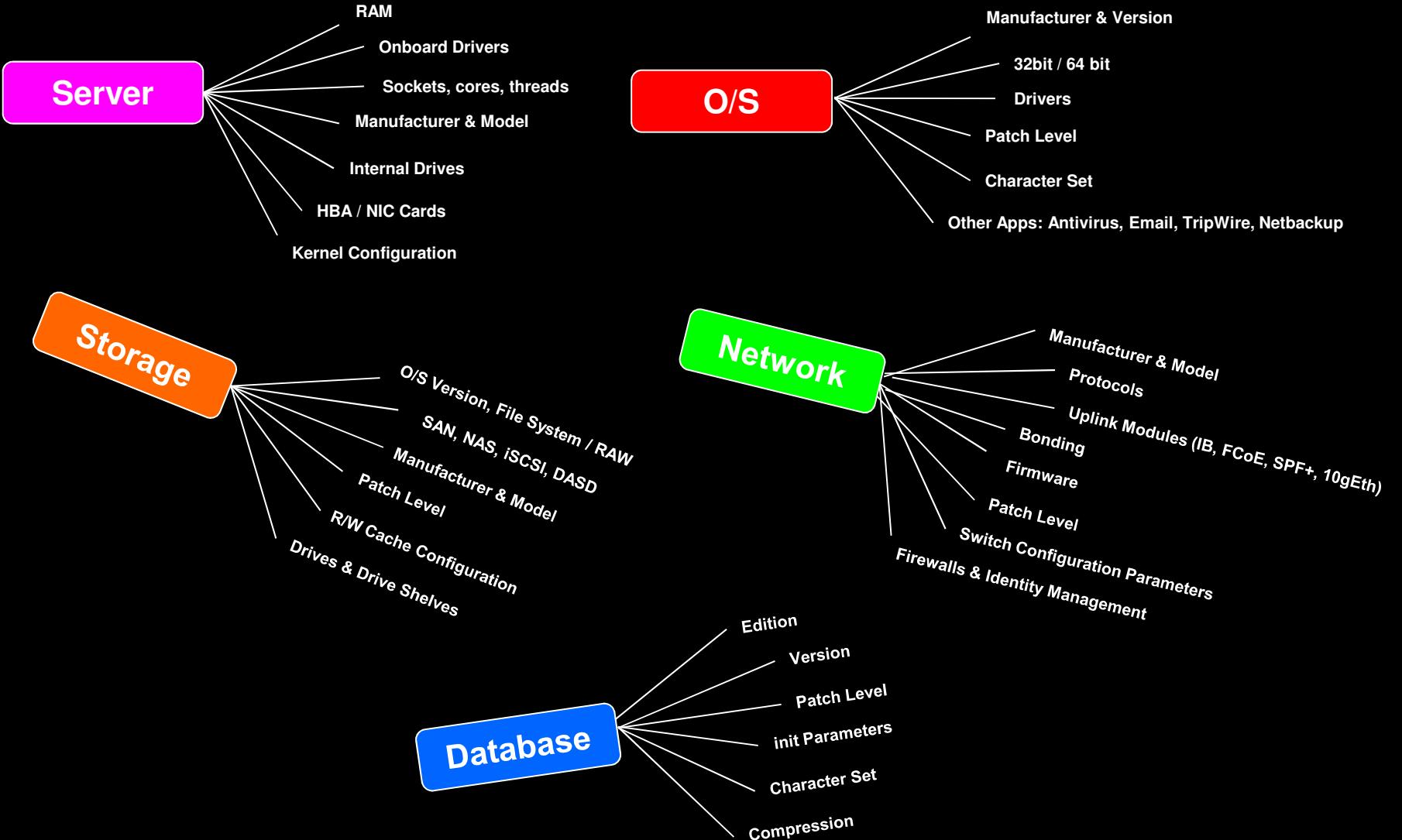
- The environment: RAC Cluster built with Sun M9000s
- At a major telecom where the network expertise is as good as it gets
- Application used to monitor network stability and real-time optimize call routing and performance
- Existing cluster interconnect is 10gEth, non-routable, jumbo frames, with dedicated Cisco 5010 switches
- New cluster interconnect is 10gEth, non-routable, jumbo frames, with dedicated Cisco 7010 switches
- What could possibly go wrong?
- And how much sleep would be lost in triage and implementing the fix?

If ODAs had been installed



- Packet would not have been rejected
- No outage would have been required
- An SLA violation would not have occurred
- The customer would have been happy
- DBAs would have gotten to go home and sleep
- Many people: ops management, system admins, network admins, project managers, outage managers, Network Operations Center personnel, would not have spent countless hours on an outage bridge listening to support engineers from three different companies point fingers or ask for just one more system state dump

Static Puzzle Pieces



Animated Puzzle Pieces



It's hard to get your arms around a barrel of squid





LONELINESS

IF YOU FIND YOURSELF STRUGGLING WITH LONELINESS, YOU'RE NOT ALONE.
AND YET YOU ARE ALONE. SO VERY ALONE.

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The Solution

make different, and better, decisions

What is an ODA?



- Literally: An appliance
 - Though in 2010 we had to pay extra for the power cords
- First announced Sept 2011
 - Latest generation is X4
- Two node RAC cluster
 - 2 x Intel Xeon E5-2697 v2 12-core processors per node
 - 24 cores per node
 - 256 GB memory per node
 - 18TB double or triple mirrored ASM
 - 4 x 200GB SSD for redo logs
 - Redundant 10gEth internal interconnect
- Oracle Enterprise Linux 5.9



Storage Expansion



- Start with 18TB
 - Double or triple mirrored ASM
- Optionally add an additional
 - 18TB for a total of 36TB with an expansion shelf
 - Includes four additional 200GB SSDs
- Pay-as-you-grow
 - Storage
 - CPU
 - Enterprise Edition, RAC, and other licenses too



Licensing Options



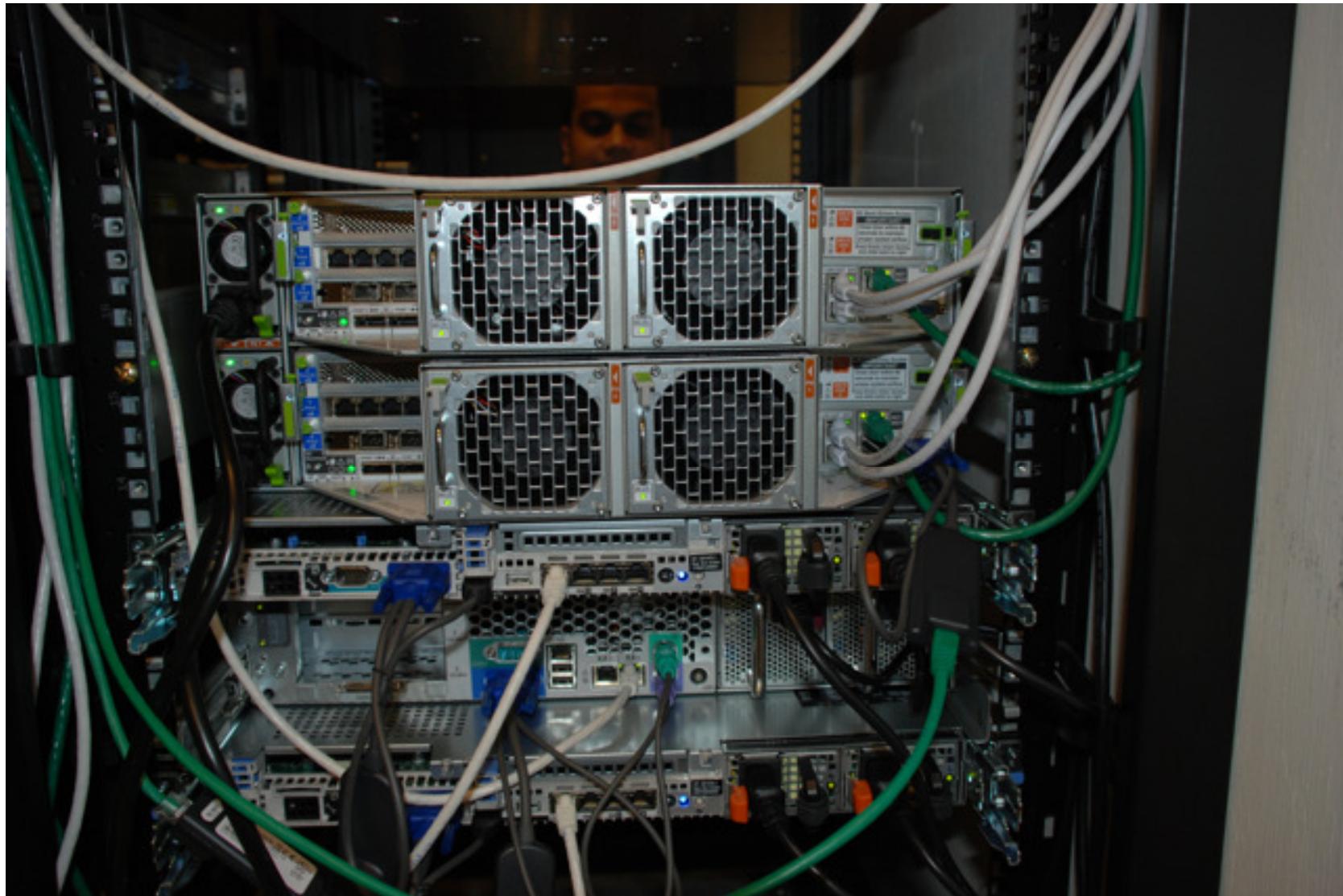
- Database
 - Enterprise Edition 11gR2
- HA
 - RAC
 - One Node: for "active-active"
 - Server failover: for "active-passive"



ODA Front



ODA Back

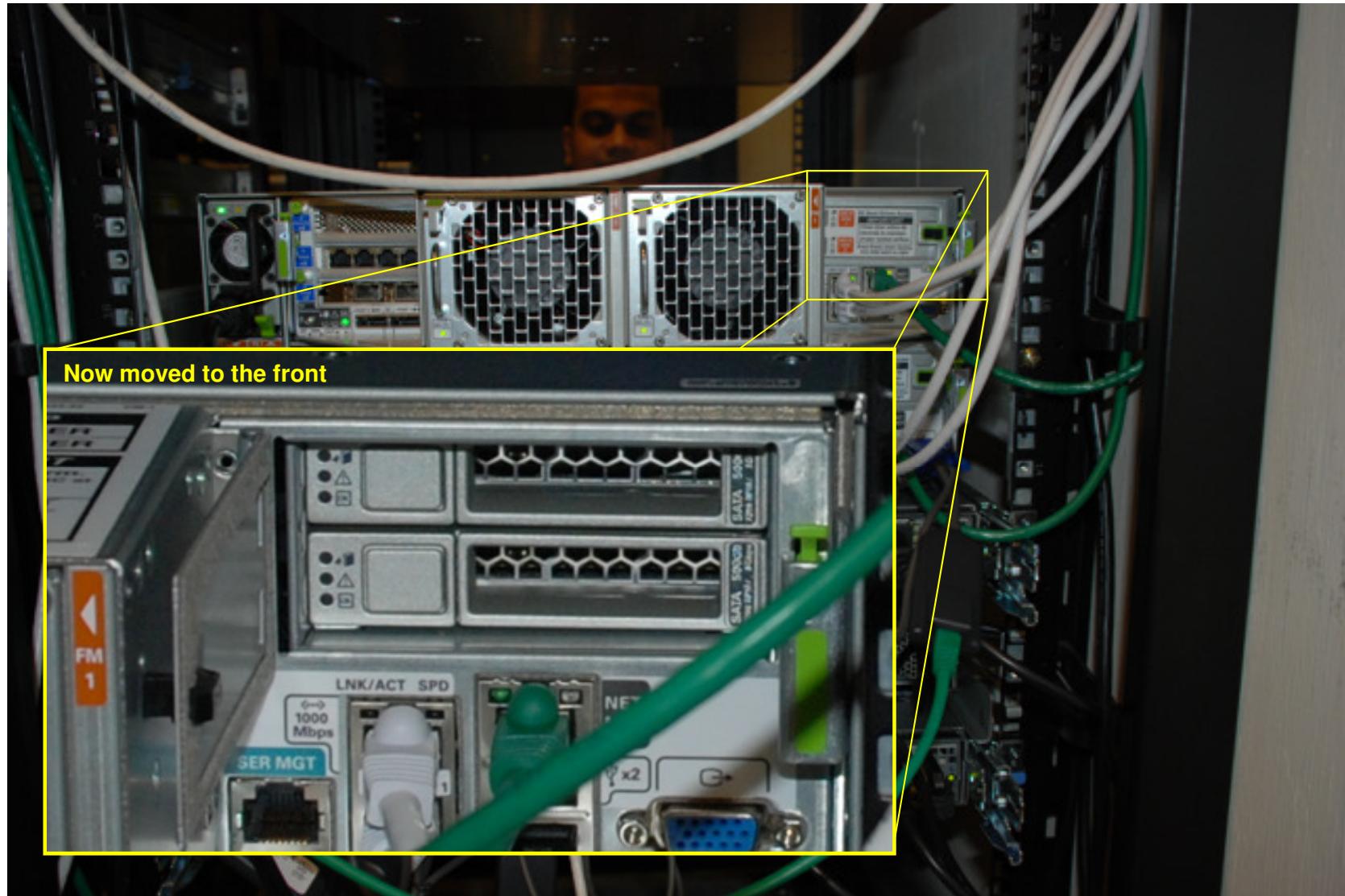


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ODA Back





Discussion

Why an ODA?

Why an ODA?



- Minimize complexity from rack-and-stack to full deployment
- Fast installation and configuration
- Ease of maintenance and patching
- Faster database performance than hardware not engineered for the Oracle database
- Stable

... but the best reasons to deploy ODAs:

Freedom from System Admin tyranny!

Freedom from Network Admin indifference!

Freedom from the Storage Admin gulag!

But ODA's are not perfect



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Oracle didn't make them childproof





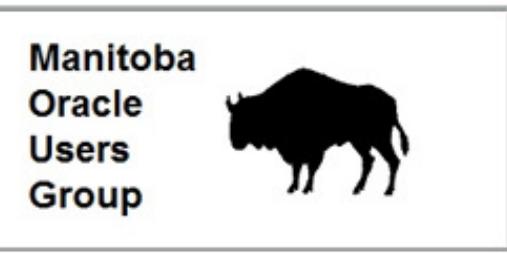
Discussion

Installation

Real World Deployments



- BC Hydro



Manitoba Oracle Users Group

MBOUG would like to thank our [Corporate Sponsors](#) for their contributions

The Oracle JOBS List is now active!

[Click Here to join the MBOUG events and jobs email lists!](#)

What We Do

- Education Seminars
- Technical Presentations
- Case Studies
- Hands-on Workshops

- Best Practice Symposiums
- Special Guest Lectures
- Networking Opportunities
- Social Events

Our Next Event

Coming soon to Winnipeg, Manitoba

Two informative and entertaining presentations to launch the Manitoba Oracle Users Group

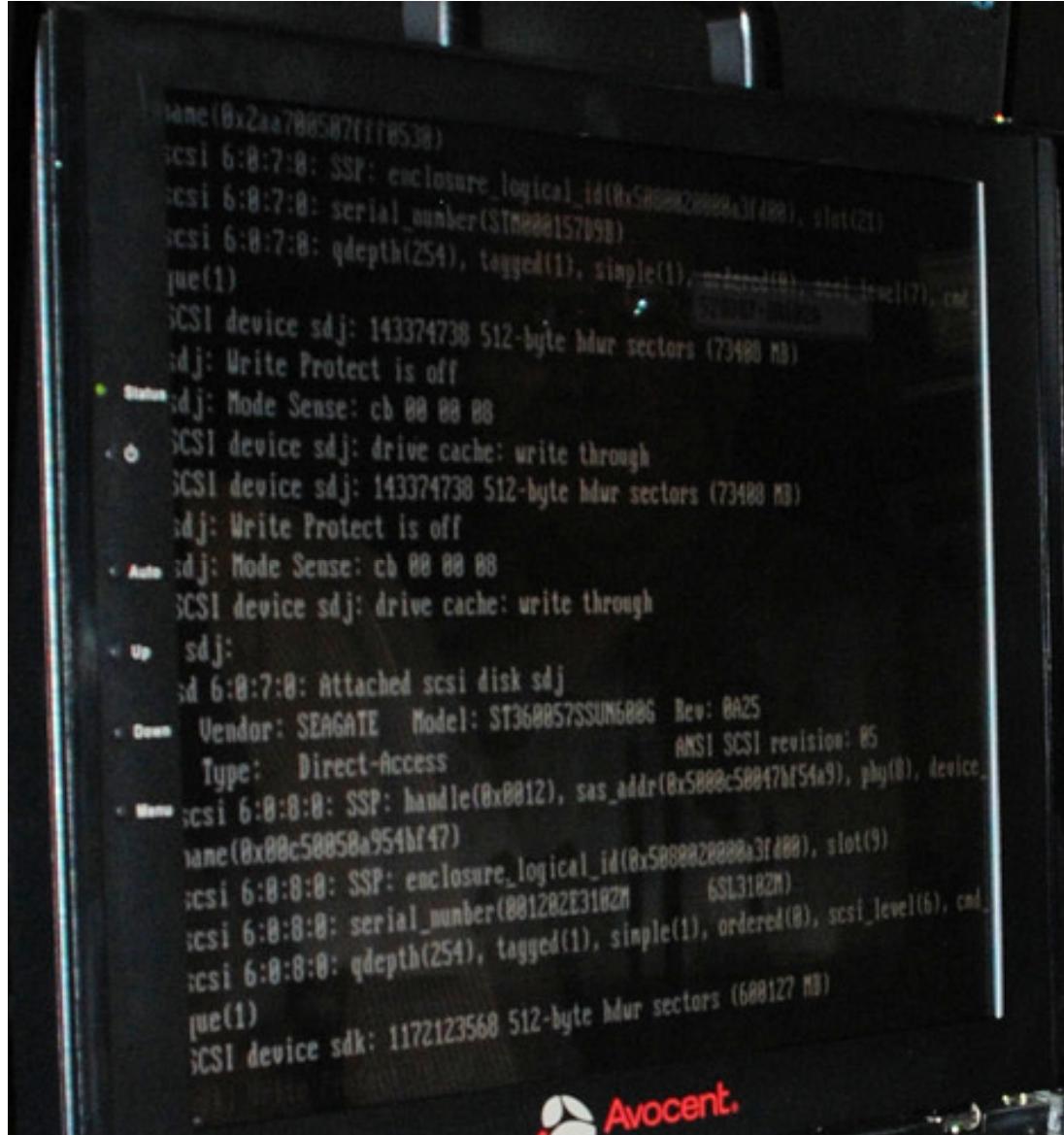
A great networking opportunity to meet your peers

Date to be announced
5:00-8:00pm
Location to be announced
Light dinner included, come after work!

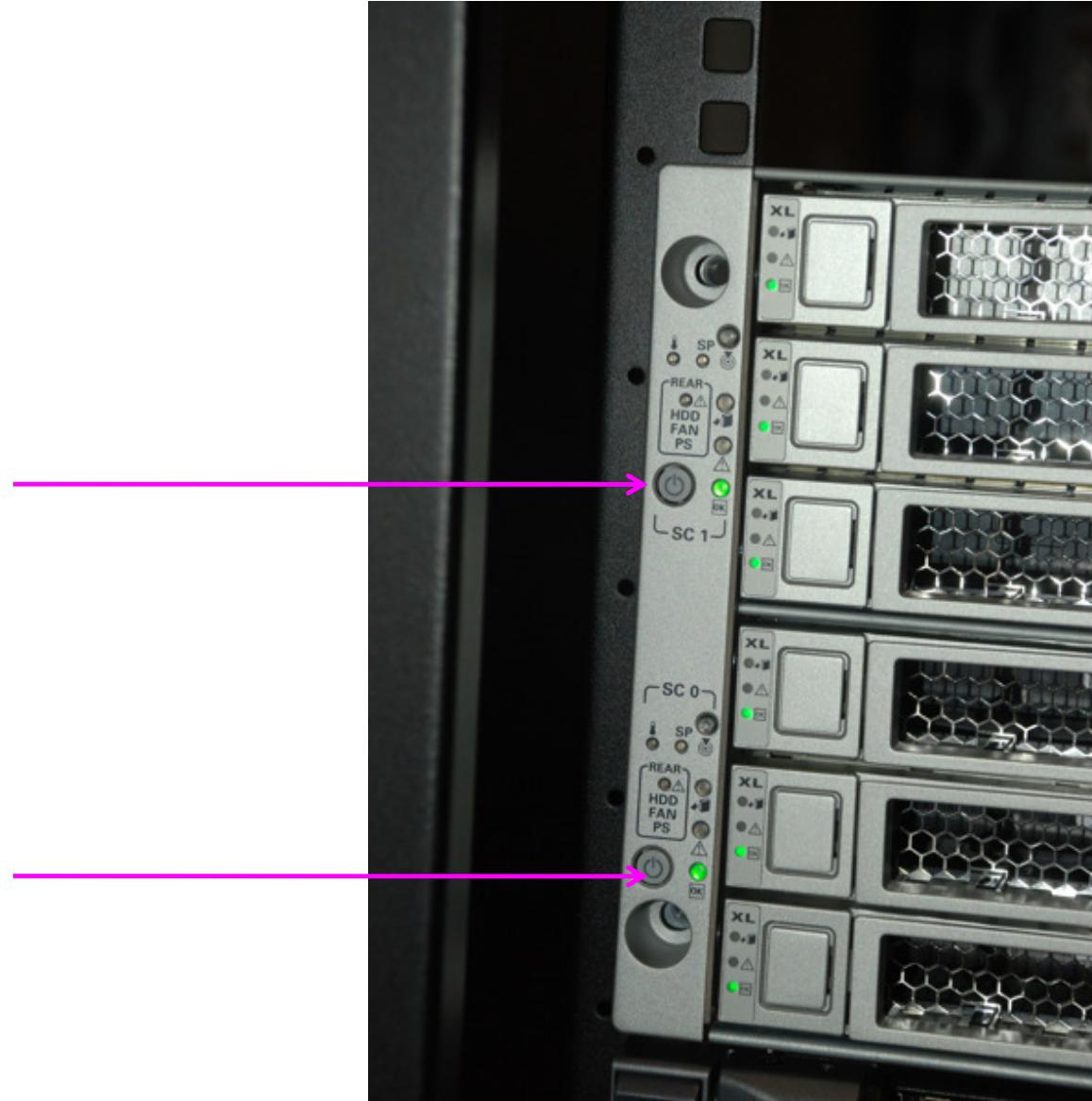
[Advance registration required](#)

ORACLE. ORACLE.

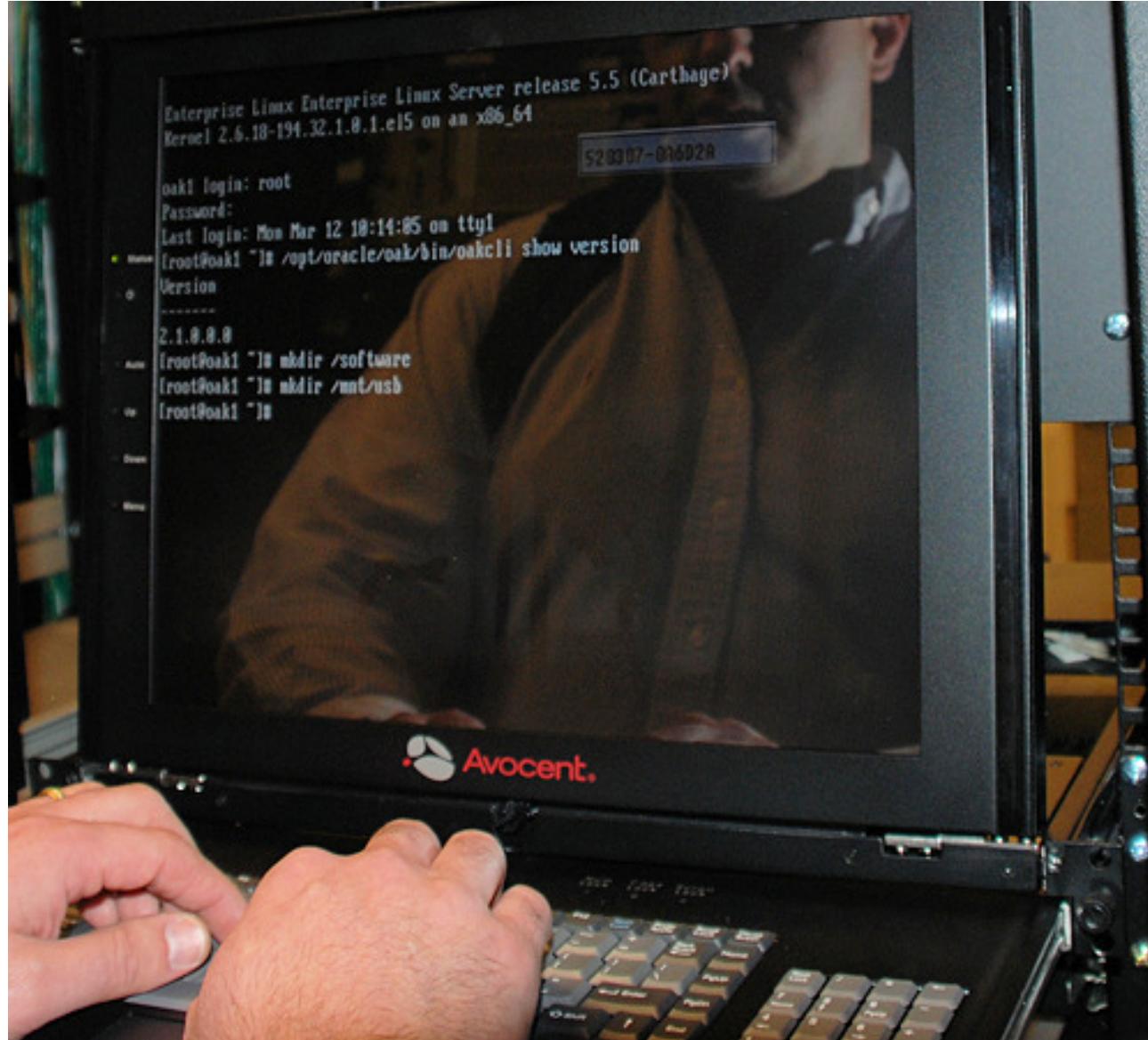
Step 1: Power On



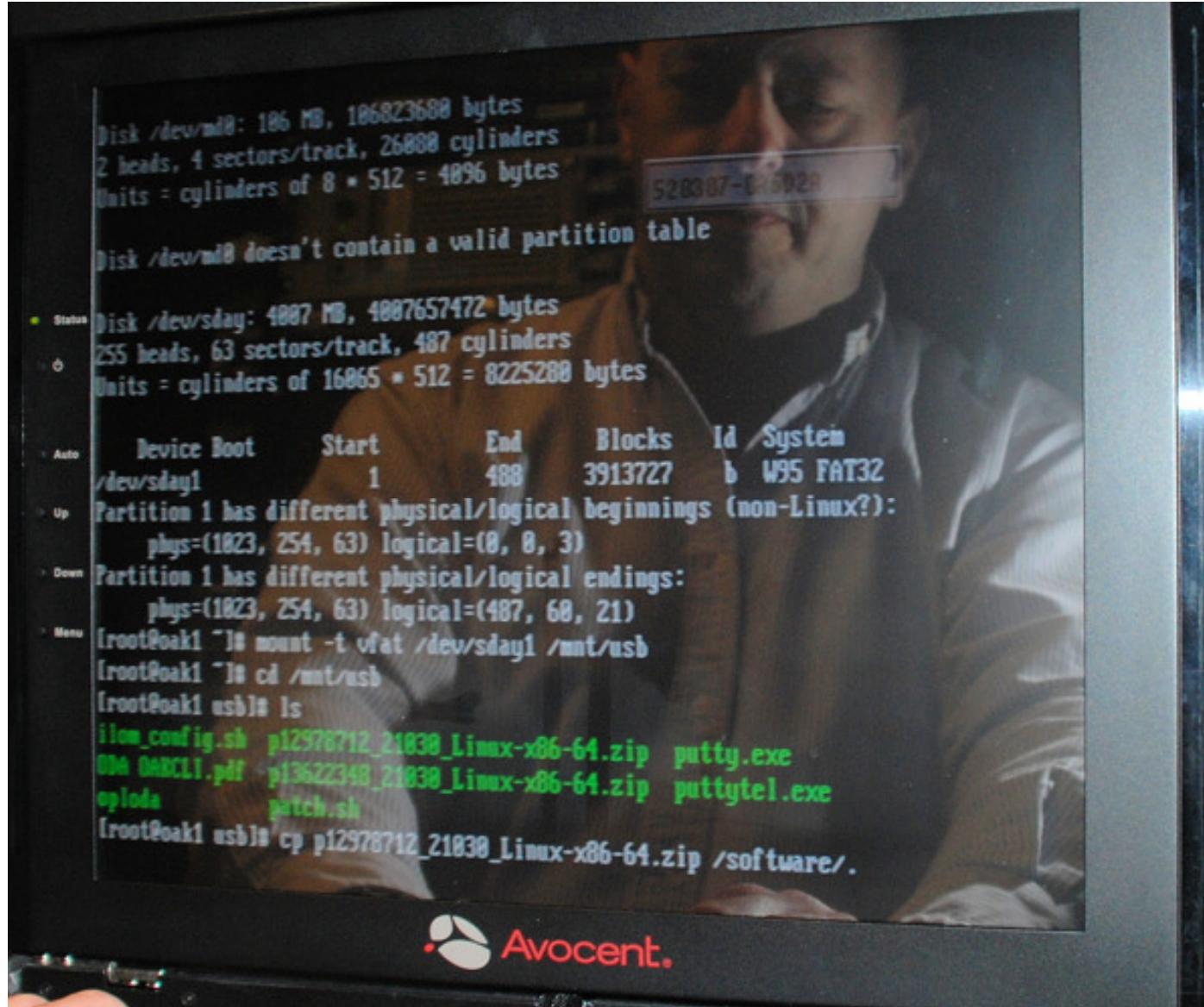
Step 2: Wait for OK Lights



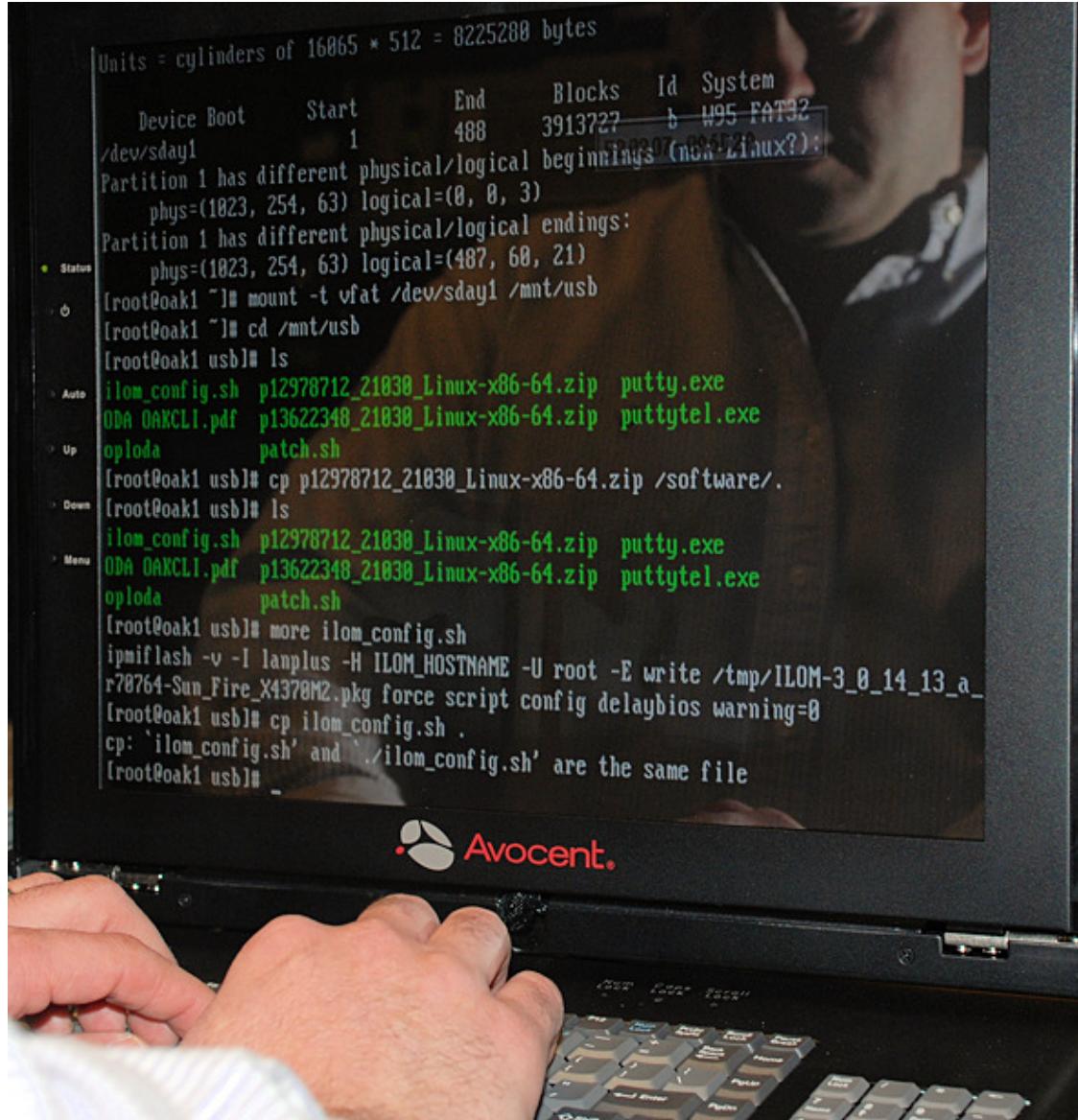
Step 3: Log In as root



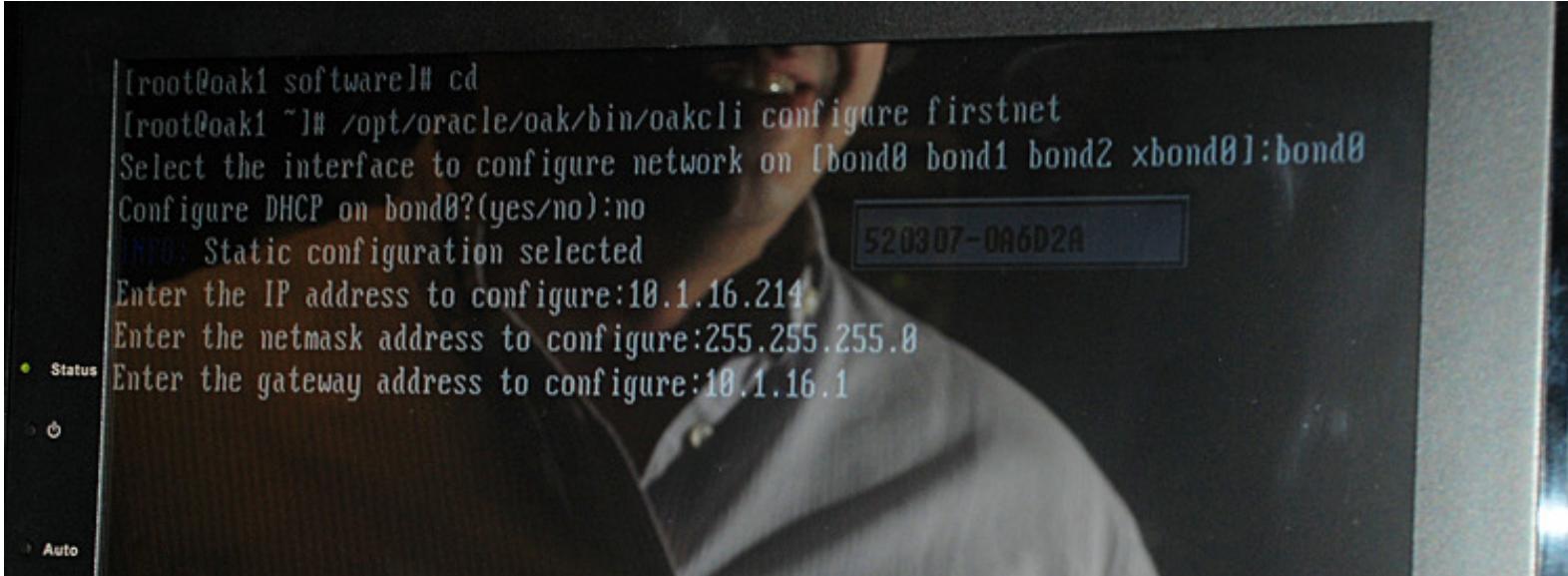
Step 4: A little Linux Configuration



Step 5: Perform ILOM Configuration



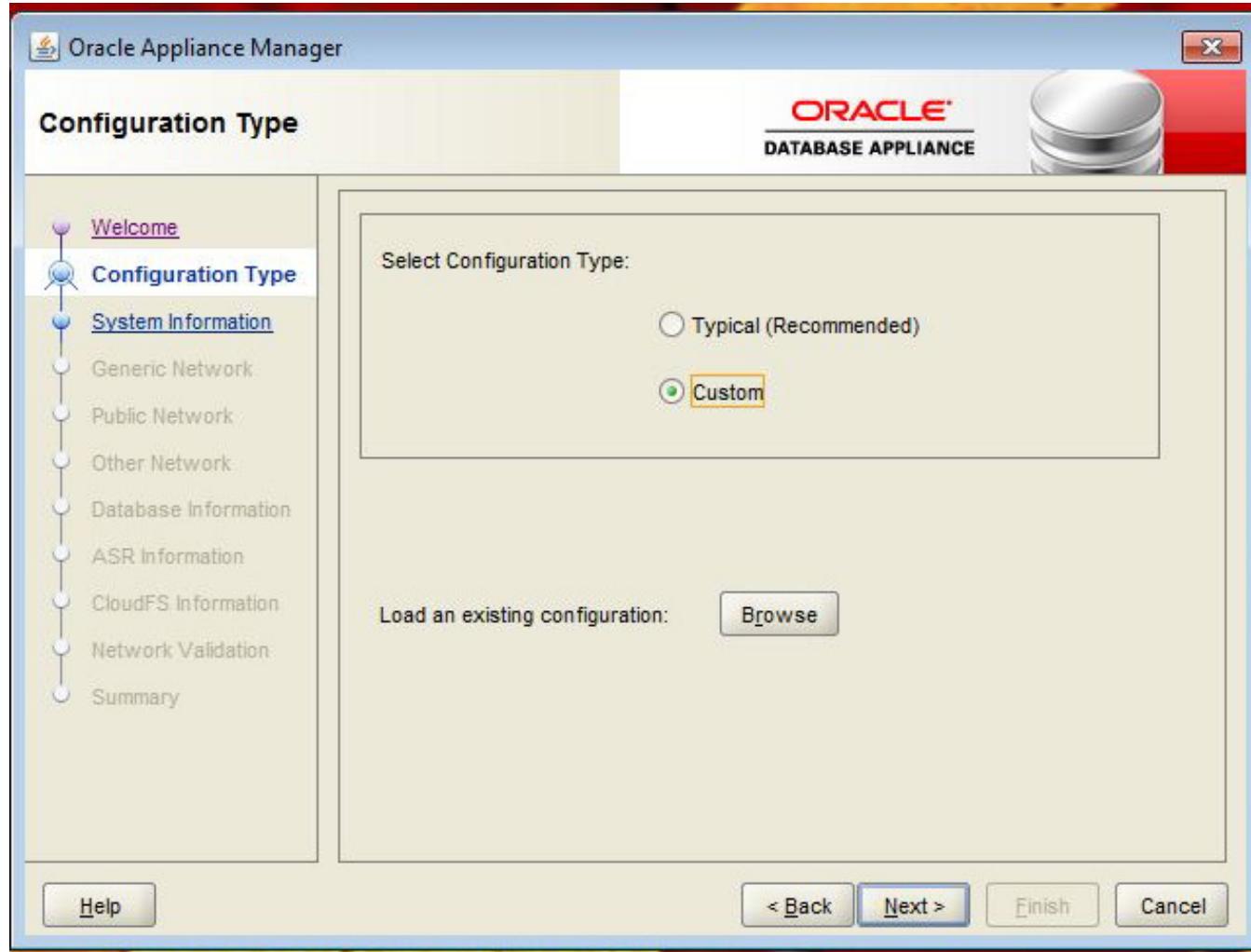
Step 6: A Little Network Config



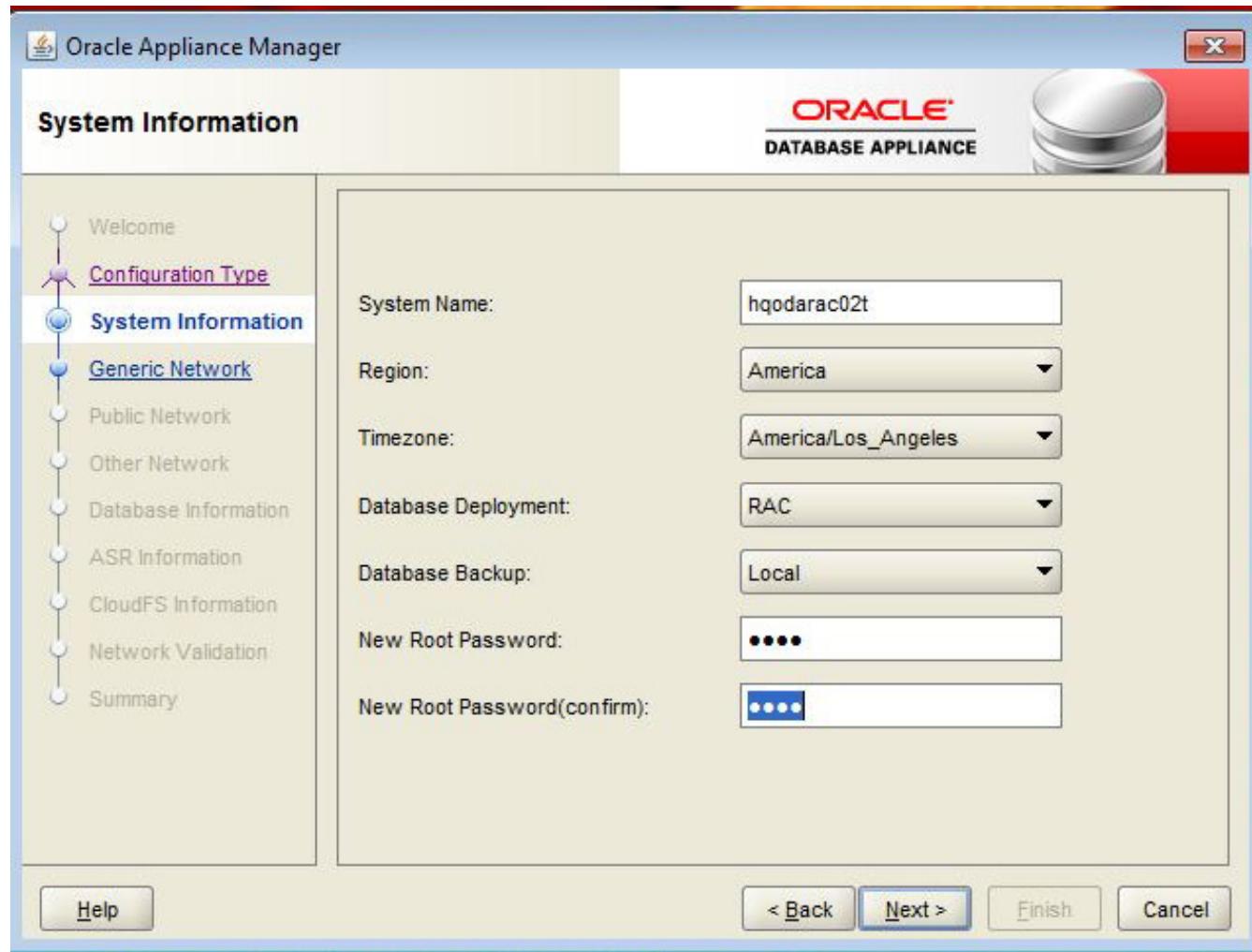
Install Screens: 1



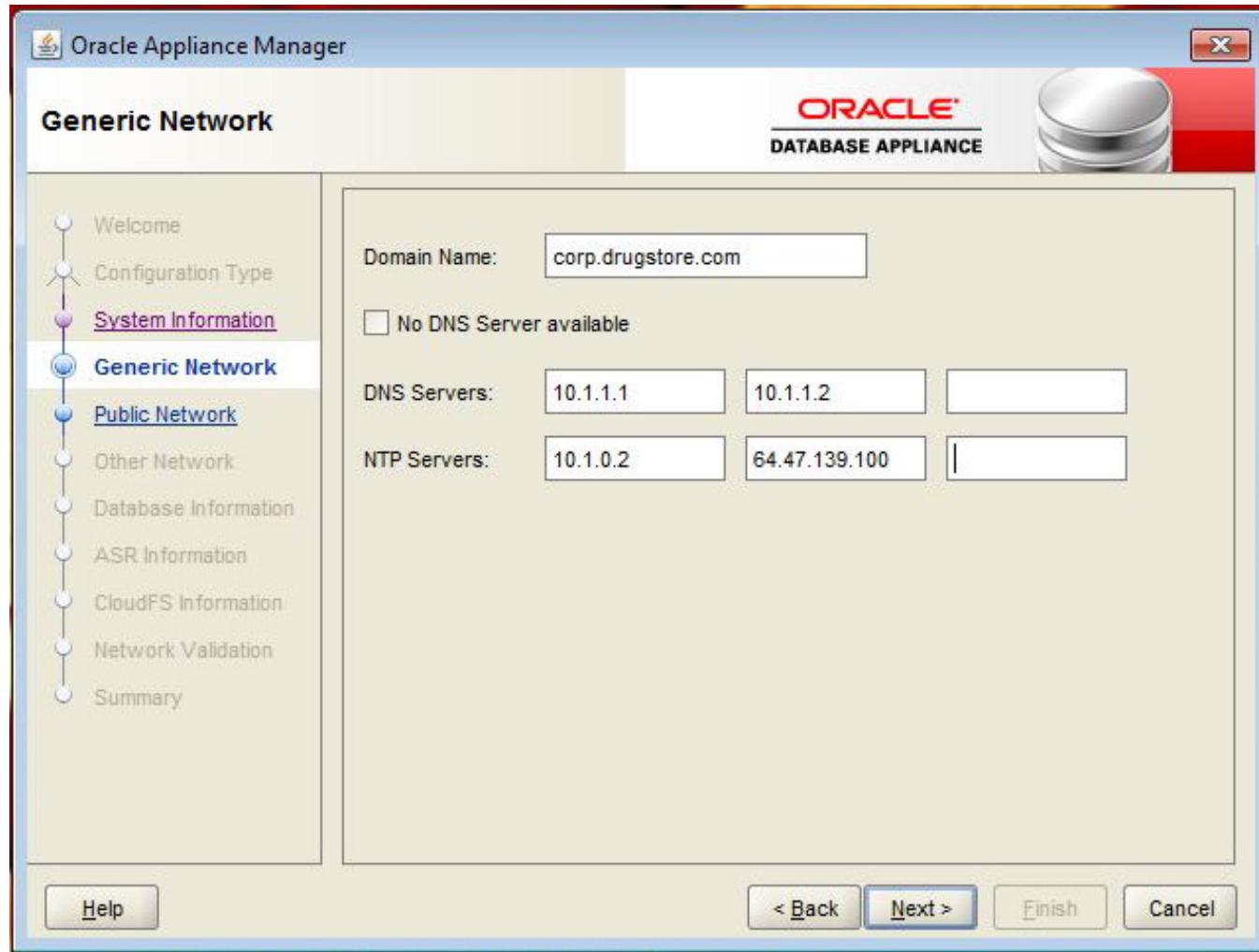
Install Screens: 2



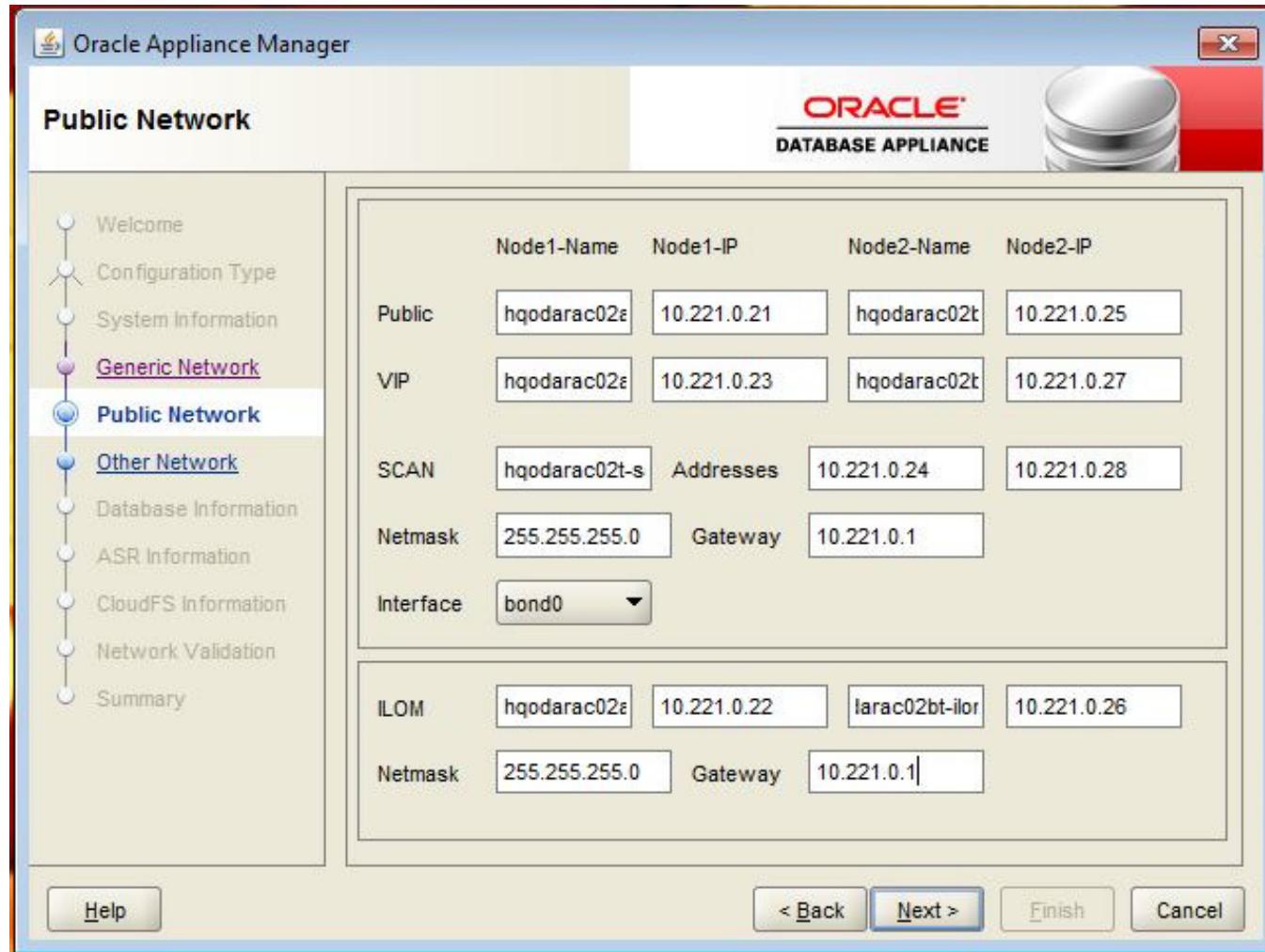
Install Screens: 3



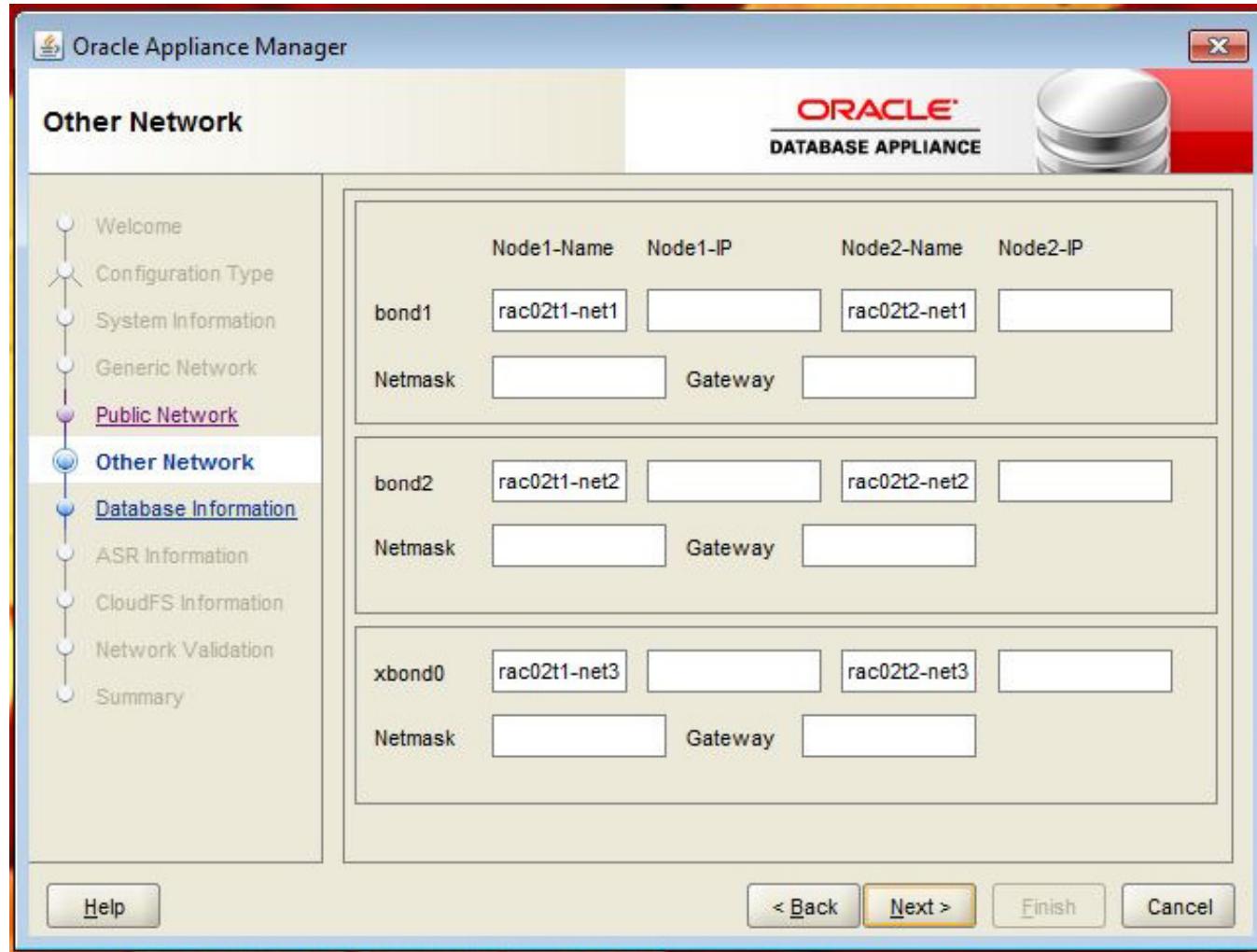
Install Screens: 4



Install Screens: 5



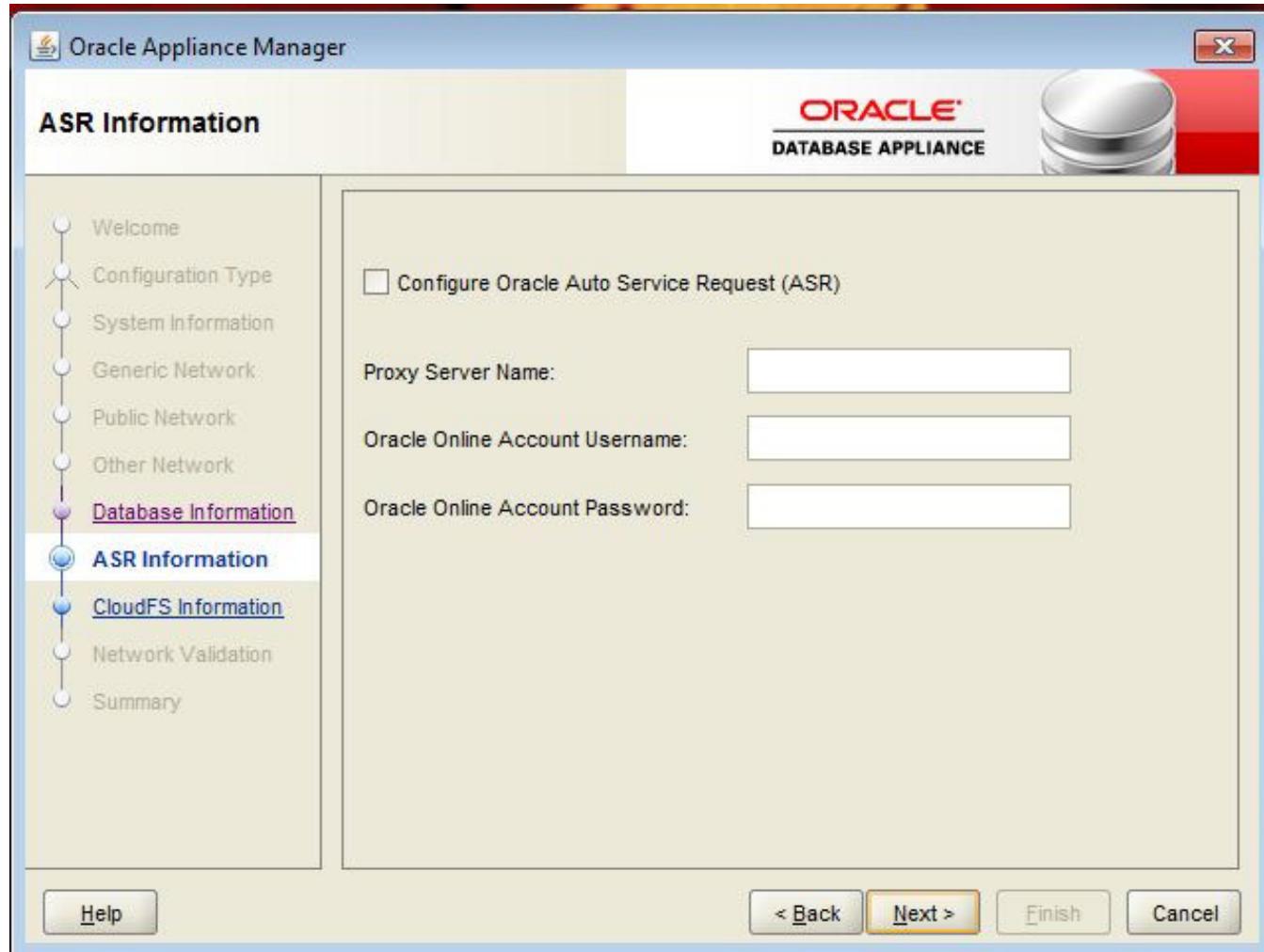
Install Screens: 6



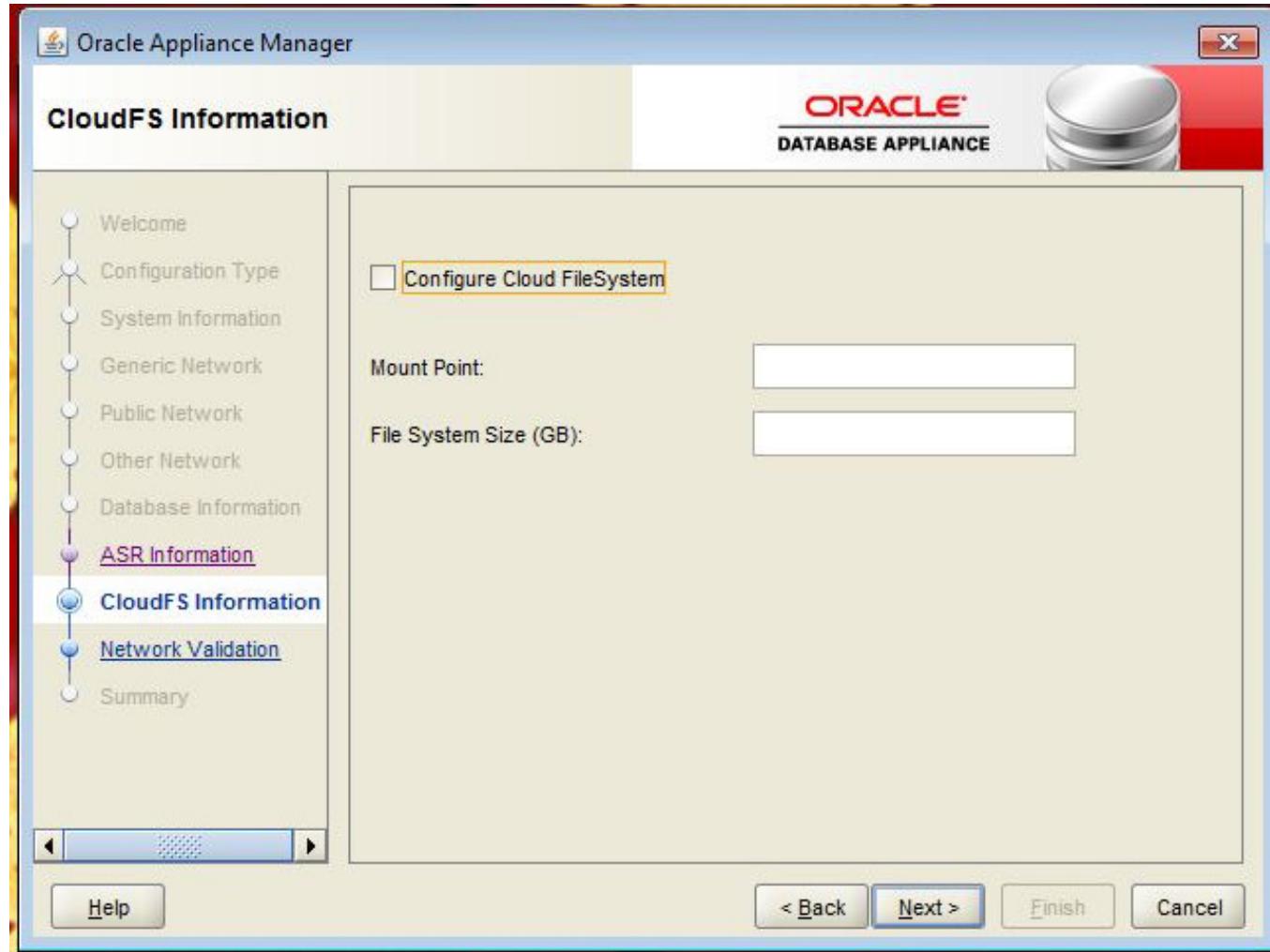
Install Screens: 7



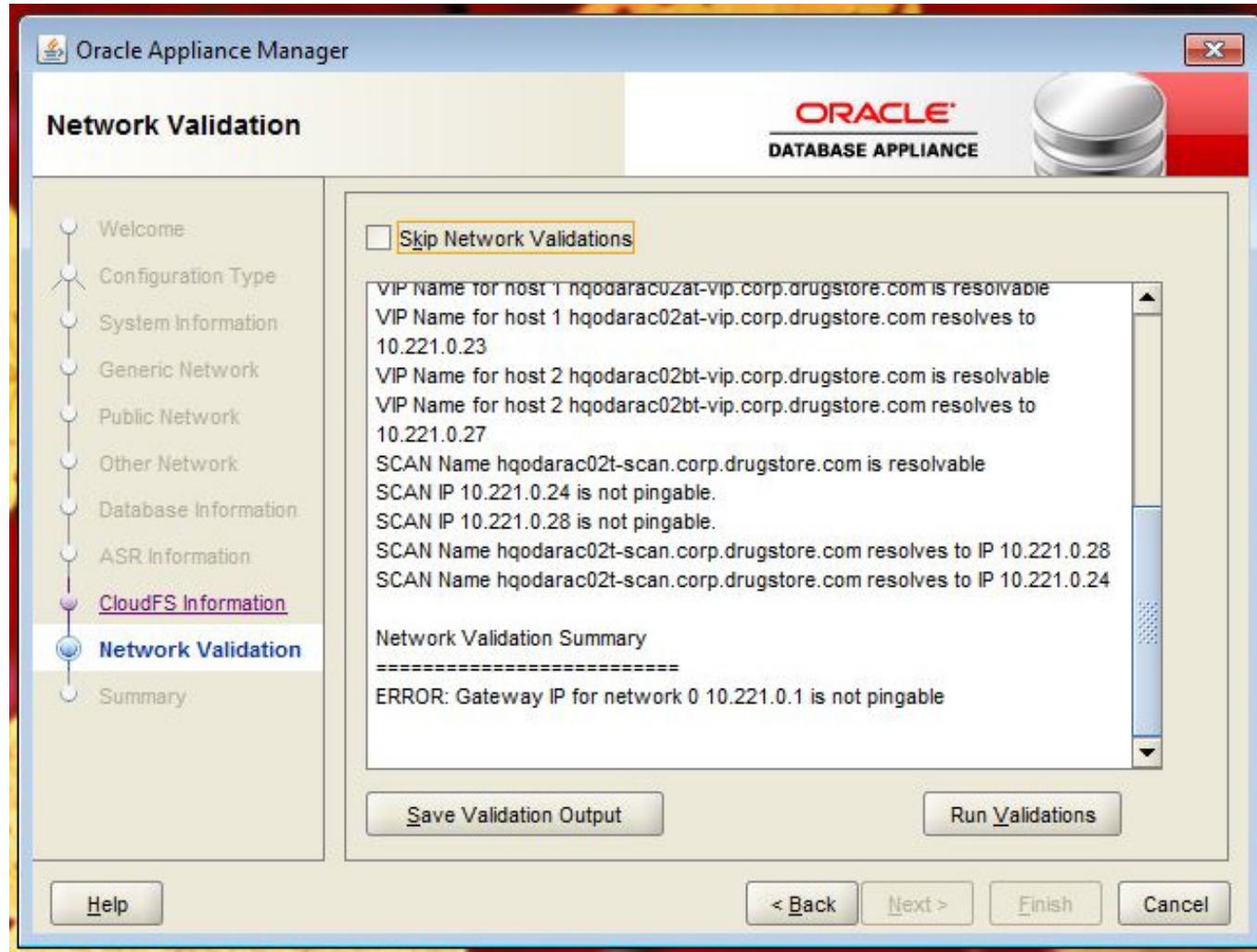
Install Screens: 8



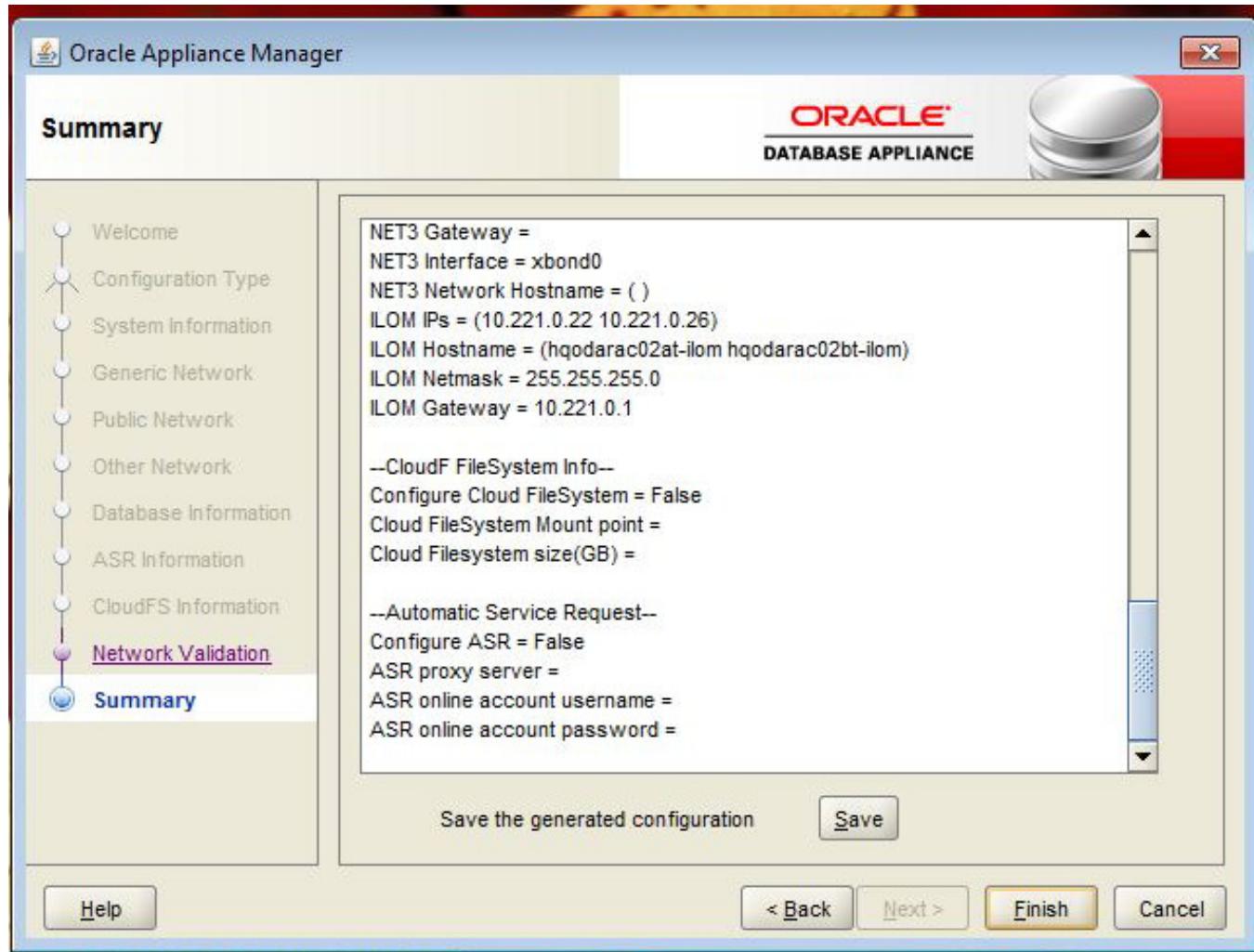
Install Screens: 9



Install Screens: 10



Install Screens: 11





Value Adds

The ILOM

System Information: System Information Overview



Oracle(R) Integrated Lights Out Manager - Windows Internet Explorer
https://hqodarac01atl-lom.corp.ottawaoug.ca/iPages/suntab.asp Certificate Error

Favorites Suggested Sites Web Slice Gallery Oracle(R) Integrated Lights Out Manager

ABOUT 3 Warning User: root Role: auro SP Hostname: hqodarac01atl-lom Oracle® Integrated Lights Out Manager

REFRESH LOG OUT

System Information System Monitoring Power Management Storage Configuration User Management Remote Control Maintenance

Overview Components Fault Management Identification Information Banner Messages Session Timeout Versions

System Overview
View system summary information. You may also change power state and view system status and fault information.

Product Name: SUN FIRE X4370 M2 SERVER
Part/Serial Number: 30480808-1+1 / 1207FMW00D

Host Power: **On** [Change](#)

System Status: Normal [View](#)

BIOS Version: 12010304

SP Hostname: hqodarac01atl-lom

Uptime: 70 days, 00:58:32

IP Address: 10.1.16.215

ILOM Version: v3.0.14.13.a r70764

System Information: System Information Overview



The screenshot shows the Oracle Integrated Lights Out Manager (ILOM) interface in a web browser. The URL is <https://hqodarac01at-ilom.corp.drugstore.com/iPages/suntab.asp>. The page title is 'Oracle(R) Integrated Lights Out Manager - Windows Internet Explorer'. The top menu bar includes 'Favorites', 'Suggested Sites', 'Web Slice Gallery', and the ILOM logo. Below the menu, a status bar shows 'User: root Role: admin SP Hostname: hqodarac01at-ilom'. The main title is 'Oracle® Integrated Lights Out Manager'. The navigation menu at the top includes 'System Information', 'System Monitoring', 'Power Management', 'Storage', 'Configuration', 'User Management', 'Remote Control', and 'Maintenance'. The 'System Information' tab is selected. Below it, sub-menu options are 'Overview', 'Components', 'Fault Management', 'Identification Information', 'Banner Messages', 'Session Timeout', and 'Versions'. The 'Overview' section is currently active. The 'System Overview' heading is displayed, with the sub-instruction 'View system summary information. You may also change power state and view system status and fault information.' Below this, various system parameters are listed:

| | |
|---------------------|--------------------------------|
| Product Name: | SUN FIRE X4370 M2 SERVER |
| Part/Serial Number: | 30480808•1+1 / 1207FMW00D |
| Host Power: | On Change... |
| System Status: | Normal VIEW... |
| BIOS Version: | 12010304 |
| SP Hostname: | hqodarac01at-ilom |
| Uptime: | 70 days, 00:58:32 |
| IP Address: | 10.1.16.215 |
| ILOM Version: | v3.0.14.13.a r70764 |

System Information: Component Management



Component Management

View component information, prepare to install or remove a component, or clear fault status from this page. To modify a component, select the radio button next to that component, then click the selected component and lights its blue *Ready to Remove* LED. To view further details, click on a Component Name.

Component Status

— Actions —

Filter: All Components

| Component Name | Type | Fault Status |
|----------------|-------------------|--------------|
| /SYS | Host System | OK |
| /SYSMB | Motherboard | OK |
| /SYSMB/BIOS | BIOS FRU | - |
| /SYSMB/CPLD | NVRAM | - |
| /SYSMB/NET0 | Network Interface | OK |
| /SYSMB/NET1 | Network Interface | OK |
| /SYSMB/NET2 | Network Interface | OK |
| /SYSMB/NET3 | Network Interface | OK |
| /SYSMB/P0 | Host Processor | OK |
| /SYSMB/P0/D0 | DIMM | OK |
| /SYSMB/P0/D1 | DIMM | OK |
| /SYSMB/P0/D2 | DIMM | OK |
| /SYSMB/P0/D3 | DIMM | OK |
| /SYSMB/P0/D4 | DIMM | OK |
| /SYSMB/P0/D5 | DIMM | OK |
| /SYSMB/P1 | Host Processor | OK |
| /SYSMB/P1/D0 | DIMM | OK |
| /SYSMB/P1/D1 | DIMM | OK |
| /SYSMB/P1/D2 | DIMM | OK |
| /SYSMB/P1/D3 | DIMM | OK |
| /SYSMB/P1/D4 | DIMM | OK |
| /SYSMB/P1/D5 | DIMM | OK |
| /SYSMB/SASEXP0 | I/O Board | OK |
| /SYSMB/SASEXP1 | I/O Board | OK |
| /SYSMB/RHDD0 | Hard Disk Module | - |

System Information: Fault Management



A screenshot of the Oracle Integrated Lights Out Manager interface. The title bar shows 'ABOUT' with 1 Warning, user 'root', role 'auro', and host 'hqodarac01at-l0m'. The main title is 'Oracle® Integrated Lights Out Manager'. The navigation menu includes 'System Information', 'System Monitoring', 'Power Management', 'Storage', 'Configuration', 'User Management', 'Remote Control', and 'Maintenance'. The 'Fault Management' tab is selected in the sub-menu, which also includes 'Overview', 'Components', 'Identification Information', 'Banner Messages', 'Session Timeout', and 'Versions'. The 'Fault Management' section header is 'Fault Management'. Below it, a message says 'View the components that are currently in a faulted state.' The 'Faulted Components' section header is shown, and the message 'No items To Display' is displayed.

System Information: Identification Information



ABOUT ! 1 Warning

User: root Role: audio SP Hostname: hqodarac01atl-lom

Oracle® Integrated Lights Out Manager

System Information System Monitoring Power Management Storage Configuration User Management Remote Control Maintenance

Overview Components Fault Management Identification Information Banner Messages Session Timeout Versions

Identification Information

Configure identification information. The setting for Physical Presence Check indicates whether a button press will be required for security related actions such as password recovery.

SP Hostname: hqodarac01atl-lom

SP System Identifier: Oracle Database Appliance

SP System Contact: oda@[REDACTED]

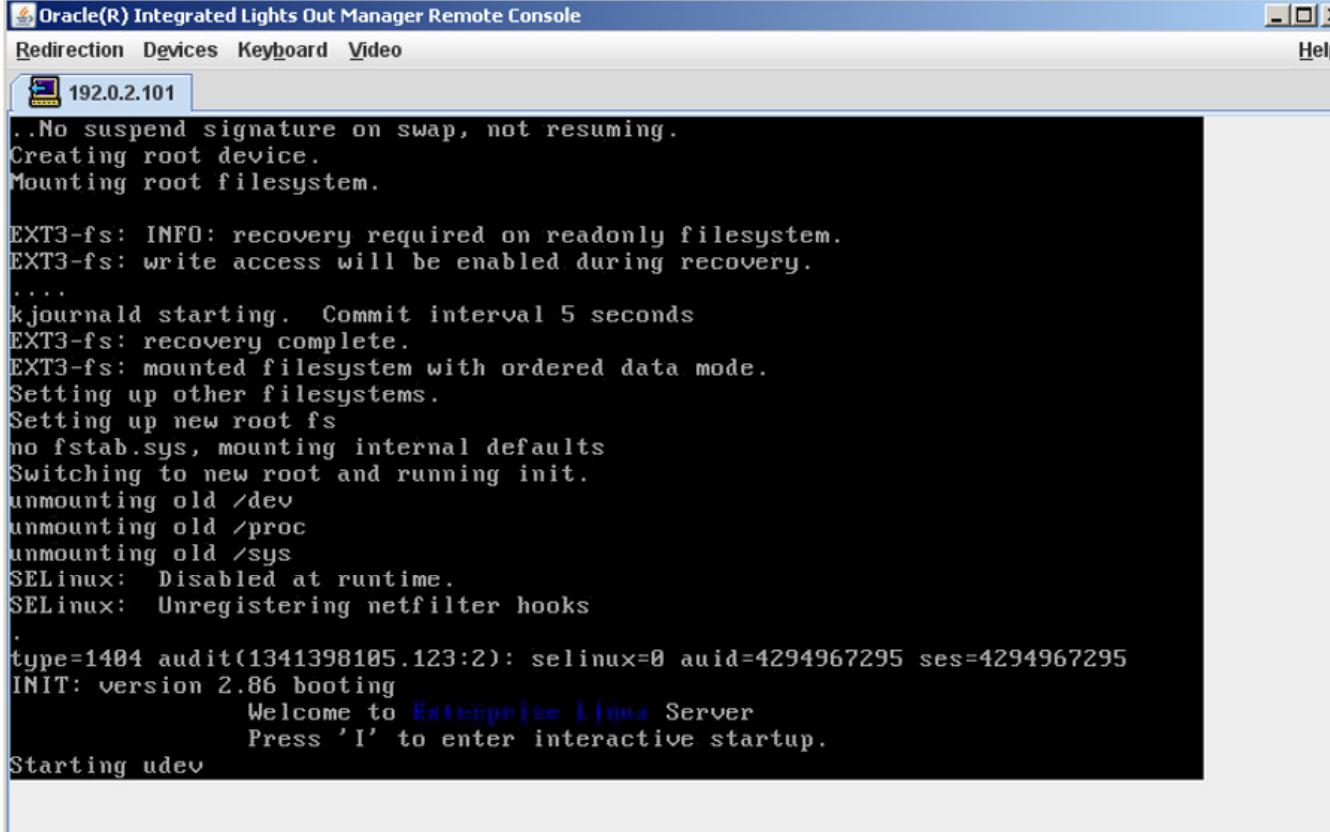
SP System Location: [REDACTED] 12th Floor, Be

SP System Description: SUN FIRE X4370 M2 SERVER, ILOM v3.0.14.13.a, r70764

Physical Presence Check: Enabled

[Save](#)

Remote Control: Host Control: Remote Console

A screenshot of the Oracle Integrated Lights Out Manager Remote Console window. The title bar reads "Oracle(R) Integrated Lights Out Manager Remote Console". The menu bar includes "Redirection", "Devices", "Keyboard", "Video", and "Help". The main window shows a terminal session on host "192.0.2.101". The terminal output is a Linux boot log:

```
..No suspend signature on swap, not resuming.
Creating root device.
Mounting root filesystem.

EXT3-fs: INFO: recovery required on readonly filesystem.
EXT3-fs: write access will be enabled during recovery.
...
kjournald starting. Commit interval 5 seconds
EXT3-fs: recovery complete.
EXT3-fs: mounted filesystem with ordered data mode.
Setting up other filesystems.
Setting up new root fs
no fstab.sys, mounting internal defaults
Switching to new root and running init.
unmounting old /dev
unmounting old /proc
unmounting old /sys
SELinux: Disabled at runtime.
SELinux: Unregistering netfilter hooks
.
type=1404 audit(1341398105.123:2): selinux=0 auid=4294967295 ses=4294967295
INIT: version 2.86 booting
        Welcome to Enterprise Linux Server
        Press 'I' to enter interactive startup.
Starting udev
```

ILOM Warning Message



From: **ilom-alert@10.102.2.125** Sent: Thu 9/27/2012 2:50 PM
To: **DSDBA**
Cc:
Subject: **dcodarac01bp-ilom:Log:ActDir:critical**

(ActDir) _BindAUser: bind error. -1:-1, Can't contact LDAP server. Check cert-file, network connectivity, local date/time

More Value Adds: High Availability



- RAC
- Data Guard
- RMAN
- Replication
 - GoldenGate
 - Streams
- OEM Cloud Control 12c
 - Diagnostic Pack
 - Tuning Pack
 - Data Masking Pack
- One-Button Solutions

Support Center



docs.oracle.com/cd/E22693_01/index.html

DuckDuckGo Google Email Humor News Oracle Rolla Science Headlines

ORACLE Database Appliance Documentation

Release 2

Overview

Welcome

Welcome to the Oracle Database Appliance documentation library. Oracle Database Appliance is a highly available all-in-one cluster, database, and storage server. The product provides appliance-like ease of use for installation and management, greatly simplifying the deployment and maintenance of an enterprise-level highly available relational database system. Built using industry-standard Oracle Linux Servers, and intelligent database and storage software from Oracle, Oracle Database Appliance is a complete package of software, servers, and storage, optimized for simple deployment and easy maintenance.

Documentation

| | | |
|--|----------------------|---------------------|
| Setup Poster X4-2 (Alternate text in HTML) | HTML | PDF |
| Setup Poster X3-2 (Alternate text in HTML) | HTML | PDF |
| Setup Poster (Alternate text in HTML) | HTML | PDF |
| Getting Started Guide | HTML | PDF |
| Release Notes | HTML | PDF |
| Owner's Guide | HTML | PDF |
| Service Manual | HTML | PDF |
| Safety and Compliance Guide | HTML | PDF |
| Licensing Information | HTML | PDF |

ORACLE MY ORACLE SUPPORT

PowerView is Off

Daniel (0) Contact Us Help

Dashboard Knowledge Service Requests Patches & Updates Community Certifications Systems Collector More... Search Knowledge Base Advanced

KM Search Results

Search: "Security Technical Implementation Guides"

1 - 3 of 3

| Refine Search | Date | Article ID | Content |
|----------------|-------------|------------|--|
| Source | 28-Feb-2013 | 1526868.1 | Oracle Exadata Database Machine DoD C&A STIG |
| All Sources | 04-Apr-2013 | 1456609.1 | Oracle Database Appliance DoD C&A STIG |
| Knowledge Base | 02-Jun-2013 | 1461102.1 | STIG Implementation Script for Oracle Database Appliance |

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STIG Download



★ STIG Implementation Script for Oracle Database Appliance (Doc ID 1461102.1)

Modified: 03-Jun-2013 Type: HOWTO

[To Bottom](#)



APPLIES TO:

Oracle Database Appliance - Version All Versions and later
Oracle Appliance Kit - Version 2.2.0.0 to 2.6.0.0 [Release 2.2 to 2.6]
Linux x86-64

```
# ./stig.sh -fix -force
```

```
*** Following is the list of stig violation fixed by script. ***
```

```
*** Below details can be found in log file: /opt/oracle/oak/log/stig/fix.log.06.06.12.02.41.49
```

```
*** Category : 1 ***
```

| STIG-ID | : Filename | : Message | : Status |
|----------|-----------------------|----------------------------|----------------|
| ----- | ----- | ----- | ----- |
| LNX00140 | : /boot/grub/menu.lst | : Enable password for GRUB | : ALREADY DONE |
| ----- | ----- | ----- | ----- |

Attachments

[Stig Script \(56.82 KB\)](#)



■ STIG Script Syntax

- The script logs its actions in the "/opt/oracle/oak/log//hostname/stig/" directory
- **-check** checks the system for guideline violations
- **-force** re-runs the script even if there are no violations
- **-fix** used to implement guideline recommendations
- lock and unlock options can be used to enable or disable direct ssh logging as root. Direct ssh login as root is required for Patching and therefore before patching, the unlock needs to be executed.

Sample usage

```
# ./stig.sh -fix
```

STIG Script Output: Category 1



```
2012-06-28 01:18:12 : Running stig script version: '1.0'
2012-06-28 01:18:12 : Executing script : ./stig.sh -check
2012-06-28 01:18:12 : Checking for stig violations on system 'orclsys'

2012-06-28 01:18:12 : List of Category-1 stig violation found by script
2012-06-28 01:18:12 : [STIG ID : LNX00140] : [CHECK] : Password for grub not enabled : FOUND
2012-06-28 01:18:12 : [STIG ID : GEN004640] : [CHECK] : sendmail decode command is not commented in /etc/aliases : FOUND
2012-06-28 01:18:12 : [STIG ID : LNX00320] : [CHECK] : Privilege account 'shutdown' is present : FOUND
2012-06-28 01:18:12 : [STIG ID : LNX00320] : [CHECK] : Privilege account 'halt' is present : FOUND
2012-06-28 01:18:12 : [STIG ID : LNX00580] : [CHECK] : Ctrl-Alt-Del combination to shutdown system is enabled : FOUND
2012-06-28 01:18:13 : [STIG ID : 2006-T-0013] : [CHECK] : RealVNC rpm is installed on system : FOUND
2012-06-28 01:18:13 : [STIG ID : LNX00040] : [CHECK] : Support for usb device found in kernel : FOUND

2012-06-28 01:18:13 : List of Category-2 stig violation found by script
2012-06-28 01:18:13 : [STIG ID : GEN000020] : [CHECK] : Single user mode boot is enabled without a password : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000340] : [CHECK] : Non privileged account oprofile found on system : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000340] : [CHECK] : Non privileged account avahi-autoipd found on system : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000460] : [CHECK] : pam_tally not used to lock account after 3 consecutive failed logins : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000800] : [CHECK] : remember not used in PAM configuration files : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000600] : [CHECK] : Force of at least one lower case character is not set for password : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000600] : [CHECK] : Force of at least one upper case character is not set for password : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000620] : [CHECK] : Force of at least one numeric character is not set for password : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000640] : [CHECK] : Force of at least one special character is not set for password : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000480] : [CHECK] : Login delay is not enabled in /etc/pam.d/system-auth : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000700] : [CHECK] : Maximum age for a password change is more than 60 days : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000540] : [CHECK] : Password can be changed more than once in 24 hours : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000580] : [CHECK] : Password length is less than 8 characters : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN001120] : [CHECK] : Direct login as root is enabled from ssh : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN002100] : [CHECK] : ekshell supported by the pam.rhost : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN002960] : [CHECK] : Access to cron is not through cron.allow and cron.deny : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN003080] : [CHECK] : Permission of file /etc/crontab is more permissive than octal 600 : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN003200] : [CHECK] : Permission of file /etc/cron.deny is more permissive than octal 600 : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN005400] : [CHECK] : Permission of file /etc/syslog.conf is more permissive than octal 640 : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN000920] : [CHECK] : Permission of directory /root is more permissive than octal 700 : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN003865] : [CHECK] : tcpdump rpm is installed on system : FOUND
2012-06-28 01:18:13 : [STIG ID : GEN004000] : [CHECK] : Permission of file /bin/traceroute is more permissive than octal 700 : FOUND
2012-06-28 01:18:13 : [STIG ID : LNX00340] : [CHECK] : Unnecessary account ftp found on system : FOUND

2012-06-28 01:18:35 : List of Category-3 stig violation found by script
2012-06-28 01:18:35 : [STIG ID : GEN004560] : [CHECK] : sendmail version is not hidden. : FOUND
```

When is an ODA the right answer?



- Small to medium sized operation
 - Stand-alone or inside a much larger enterprise
- Desire ease of an appliance for
 - Installation
 - Configuration
 - Patching
 - Maintenance
 - Lower operating cost
- High availability
- Admin team too busy with other responsibilities to manage the complexity of RAC



Discussion

ZFS Storage Appliance

Daniel A. Morgan | damorgan12c@gmail.com | www.morganslibrary.org

One Hundred Degrees of Separation

Presented: Ottawa Oracle Users Group - 29 January, 2014

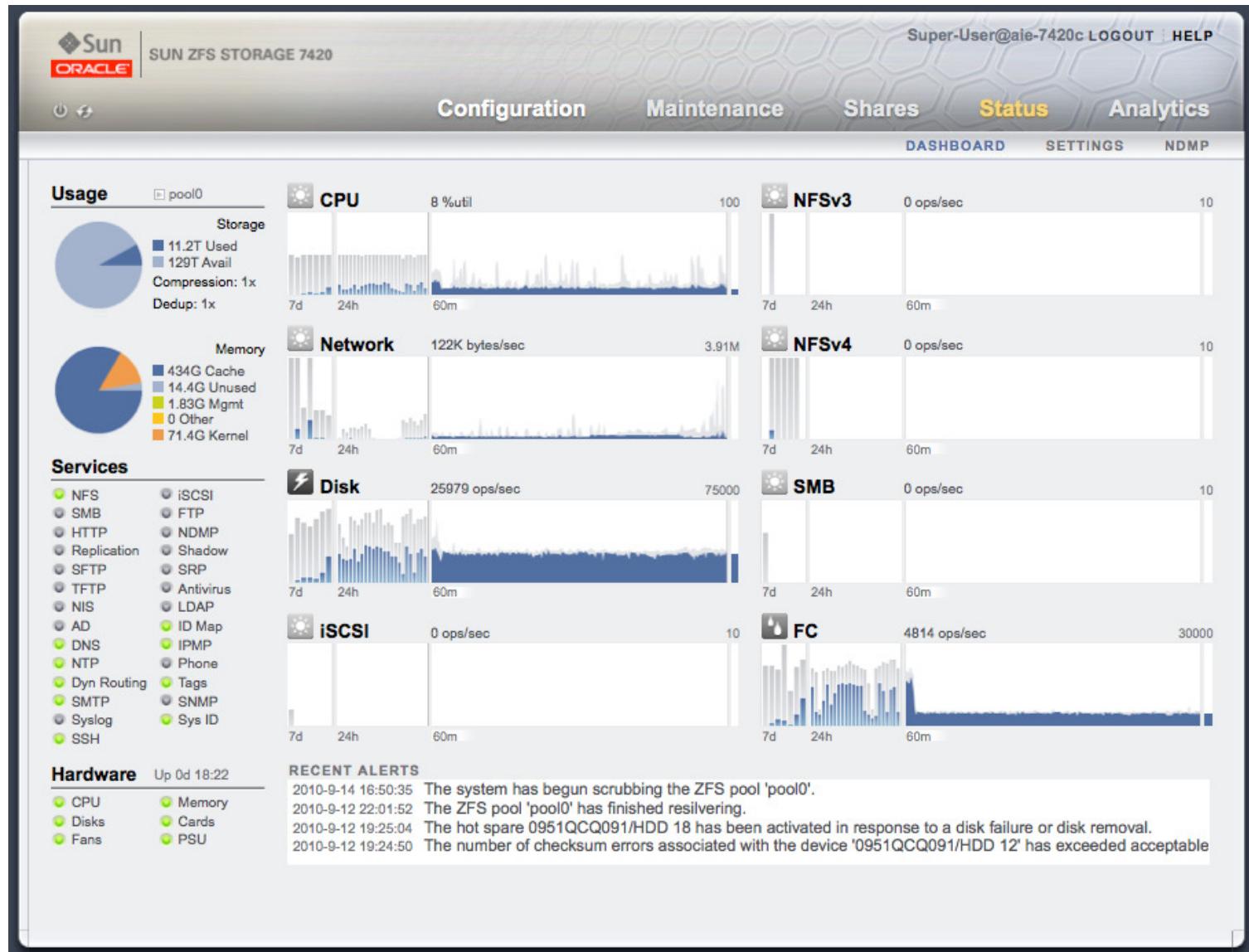
What is a ZFS Storage Appliance?



- NFS Mount to ODA or anything else
- 10X – 50X compression with Hybrid Columnar Compression
- Optimized storage hierarchy with Hybrid Storage Pools containing DRAM, flash cache, and disk drives
- Secure data sharing
- Eliminates the SAN lost write issue



ZFS Management Console



Other Activities



ODA X4-2 Webex Demo Jan 30 @ 2:00pm ET

ODA X4-2 delivers high-availability database services for a wide range of homegrown and packaged online transaction processing (OLTP) and data warehousing applications. ODA X4-2 saves up to 2000 hours of labor over a three year period Capacity On-Demand software licensing allows you to quickly scale from 2 processor cores to 48 processor cores. Businesses can consolidate OLTP and data warehousing databases up to 18 terabytes in size. Virtualization support enables customers to quickly deploy complete, highly available solution appliances to remote branch office locations.

Presenter's Biography:

Perley Mears has been with Sun/Oracle for over 15 years, helping customers architect solutions. He has focused on the Oracle Database Appliance since it was released, presenting at workshops and Virtual Classrooms, assisting with customer installations, and training Oracle employees and customers on the Oracle Database Appliance.

<https://oraclemeetings.webex.com/oraclemeetings/j.php?ED=202518768&RG=1&UID=1472428753&RT=MIMxMQ%3D%3D>

Other Activities



A screenshot of a web browser showing search results for "Events" on the events.oracle.com website. The search results are displayed on a world map where event locations are marked with red pins. The map shows concentrations of events in North America, Europe, and Asia. A sidebar on the left provides filtering options for Date, Location, and Information For. Below the map, a specific event listing is shown for "Oracle RightNow CX Cloud Service 2012 Implementation BootCamp" in Reston on January 13, 2014. The listing includes a "Register" button, "Show Details" link, "Email to a Friend" link, and the Oracle PartnerNetwork logo.

Questions



**ERROR at line 1:
ORA-00028: your session has been killed**



Syllabus



- Mandatory Disclaimer
- ODA: Oracle Database Appliance
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Virtual Machines



- There are a lot of VMs on the market
 - VMWare
 - OpenStack
 - IBM LPar (Logical Partitions)
 - AIX - P Series
 - zLinux - Z Series
 - Sun Containers (aka Zones)
 - OVM ... the Oracle Virtual Machine
- Most are generic and work well for app and web servers or for standing up development environments
- Most are totally unsuitable for enterprise-scale databases
- Support matters



- Shervin Sheidaei
Senior Database Architect
408 Churchill Av
Ottawa, Ontario





Oracle VM

Designed for efficiency and optimized for performance, Oracle's server virtualization products support x86 and SPARC architectures and a variety of workloads such as Linux, Windows and Oracle Solaris. In addition to solutions that are hypervisor-based, Oracle also offers virtualization built in to hardware and Oracle operating systems to deliver the most complete and optimized solution for your entire computing environment.

- [Announcement: Oracle VM 3.2 Now Available - Delivers Unified Management and Enhanced Automation Capabilities for x86 Servers and Oracle SPARC Servers](#)
- [Announcement: Oracle VM Server for SPARC 3.1](#)

See also: [Oracle Virtualization](#) | [Oracle VM Templates](#) | [Virtualization Topic](#) | [Cloud Topic](#) | [Oracle VM Wiki](#)

Oracle VM Server for x86 Technical White Papers

- [Oracle VM 3: Architecture and Technical Overview \(PDF\)](#)
- [Designing, Creating and Testing an Oracle VM 3.2 Environment \(PDF\)](#)
- [Oracle VM 3: Backup and Recovery Best Practices Guide \(PDF\)](#)
- [Oracle VM 3: Storage Connect Overview \(PDF\)](#)
- [Oracle VM 3: Server Pool Deployment Planning Considerations for Scalability and Availability \(PDF\)](#)
- [Oracle VM 3: Quick Start Guide \(PDF\)](#)
- [Oracle VM 3: Integrating Oracle VM into a Disaster Recovery Solution using SAN \(PDF\)](#)
- [Oracle VM 3: Looking "Under the Hood" at Networking \(HTML\), Fundamental Concepts for VLAN Networks \(HTML\), and Network Naming \(HTML\)](#)
- [Oracle VM 3: 10GbE Network Performance Tuning \(PDF\)](#)
- [Oracle VM 3: Building a Demo Environment using Oracle VM VirtualBox \(PDF\)](#)
- [Oracle Real Application Clusters in Oracle VM Environments \(PDF\)](#)



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SPARC Servers
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Oracle VM Server for x86 and Oracle VM Manager Documentation Library

- Release 3.2
- Release 3.1.1
- Release 3.0.3
- Release 3.0 (includes Releases 3.0.1 and 3.0.2)
- Release 2.2
- Release 2.1
- See the complete documentation library, which includes links to the translated documentation

Oracle VM Server for SPARC Documentation Library

- What's New
- Release 3.1
- Release 3.0
- Release 2.2
- Release 2.1
- Release 2.0
- See the complete documentation library which includes links to the translated documentation

Compatibility & Templates

Hardware Certification List
Oracle Validated Configurations
VM Templates

News

Nimble Storage announces a new SmartStack™ solution leveraging Oracle Linux, Oracle VM, and Oracle Database

Open Universities Realizes Valuable Savings with Oracle VM

Oracle VM for x86 Certified by SAP

Training

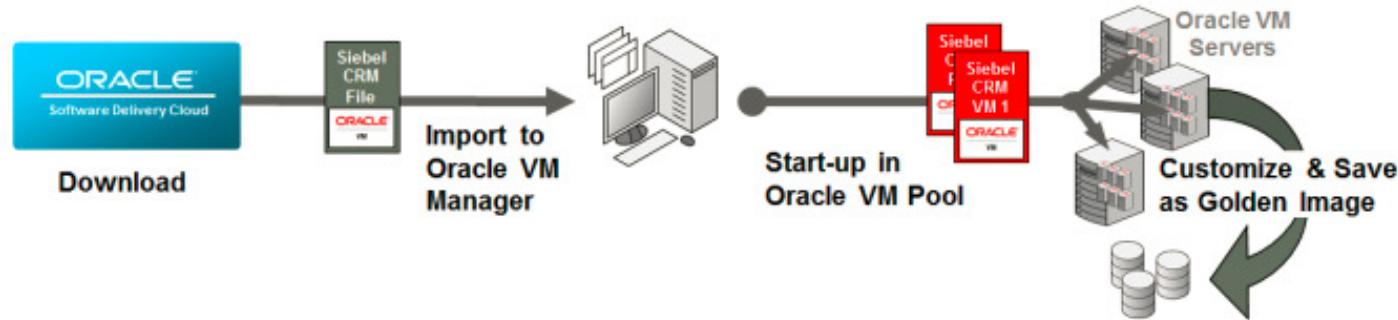
Oracle VM Training

Blogs

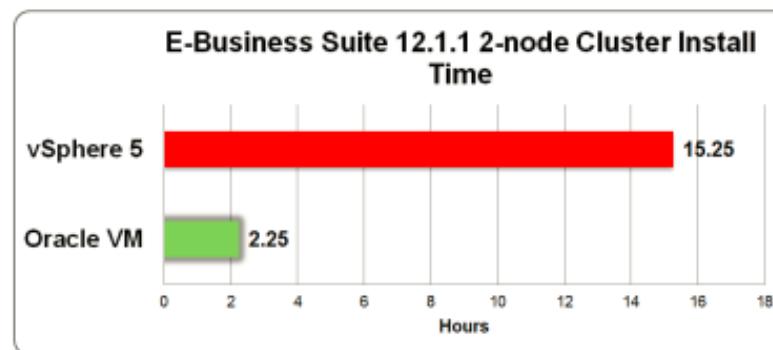
Oracle Virtualization
Wim Coekaerts

OTN Garage: Oracle VM

Valuable Assets



Deploy E-Business Suite up to 7x Faster Than VMware



Questions



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- Is there anyone, anywhere, that doesn't know what an Exadata is and what it could do for them if they had one?
- So let's focus about the X4 improvements

Exadata X4 Compared with X3

Much More Performance and Capacity Same Price



Per DB Machine Full Rack

| X4 Storage | |
|--------------------------------------|--|
| 2X Larger Physical Flash Memory | 44 TB of Flash Memory |
| Up to 4X Larger Logical Flash Memory | 88 TB using Flash Cache <u>Compression</u> |
| 77% More Flash IOs/sec on X4-2 | 2.66M Reads, 1.96M Writes from SQL |
| 33% Larger High Capacity Disks | 672 TB using 4TB Disks |
| 2X Larger High Performance Disks | 200 TB using 1.2 TB Disks |

| X4-2 Compute | |
|-----------------------------------|---|
| 50% More Database Cores | 192 Cores using 12-Core Xeon® CPUs |
| 2X Larger DB Server Local Storage | 2.4 TB per server using 600GB Disks |
| 2X Faster InfiniBand | InfiniBand PCI-3 Card. All Ports Active |

Exalogic Elastic Cloud



- WebLogic Application Server
- 50% more cpu per node with Sun X4 servers
 - Each running 12 core Intel Xeon Processor E5-2697 v2
- Extreme computing density with up to 720 processor cores, 7.5 TB of memory and 24 TB of Flash memory in a single rack
- 33% more storage capacity
- The ability to consolidate diverse deployment architectures on a single rack, including bare metal, template-driven virtualization and an infrastructure as a service (IaaS)
- But what really matters is that when it comes to support and integration ... you have one throat to choke

- In memory analytics for analysis, modeling, and planning
- Support for Business Intelligence workloads
- Exalytics X3-4
 - 2 TB of RAM
 - 2.4 TB of PCIe Flash
 - 5.4 TB of raw disk
 - 40 CPU cores
- T3-8
 - 4TB of RAM
 - x3.2 TB of PCIe Flash
 - 7.2 TB of raw disk
 - 128 cores



Ambulance Victoria



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Ambulance Victoria Deploys Oracle Exalytics to Power Advanced BI and Analytics

Oracle Exalytics In-Memory Machine Underpins Life-Saving Business Intelligence Deployment

MARKETWIRED

April 23, 2013: 08:00 AM ET

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CAREERS

ENTERPRISE ARCHITECT BI INTEGRATION SPECIALIST X2

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GAP Recruitment

Closes 29 Jan 2014

Non Paramedic Careers

Vacancy No: 2013-166

Current Vacancies

Our dedicated Enterprise Architecture team is searching for two passionate BI professionals seeking to significantly contribute to all aspects of a community based organisation during this exciting time of transformational change! You will work on the delivery of a new Enterprise Data Warehouse and BI capability underpinned by Oracle OBIEE, Informatica, Oracle SOA and Oracle Exalytics to enable our strategic business initiatives. These are 12 month, full time-fixed term appointments located at our Blackburn North business centre.

Related Links

Position Description

[Applying for a position with Ambulance Victoria](#)

Daniel A. Morgan | damorgan12c@gmail.com | www.morganslibrary.org

One Hundred Degrees of Separation

Presented: Ottawa Oracle Users Group - 29 January, 2014

Oracle Virtual Compute Appliance (OVCA)



- Includes Oracle Virtual Assembly Builder and support for Oracle templates so customers can rapidly deploy complex Oracle software stacks that have been pre-tested and factory integrated
- Out-of-the-box support for thousands of Oracle and third-party applications
- Simplified appliance management coupled with Oracle Enterprise Manager complete cloud control for full stack management
- Supports Oracle ZFS storage system and a wide range of 3rd party storage
- Supports Oracle Trusted Partitions, giving customers the flexibility to license Oracle software on a vCPU (virtual CPU) basis

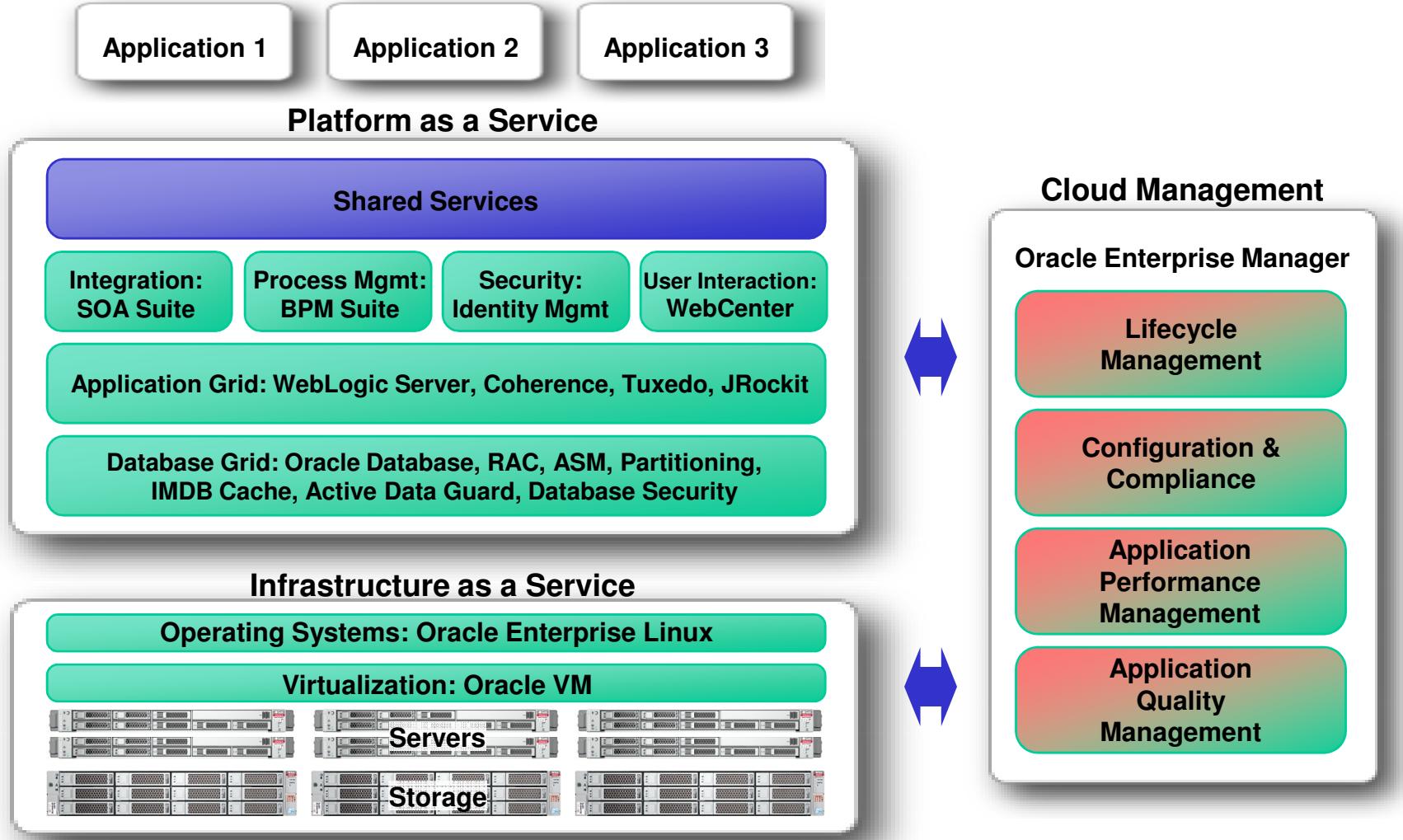
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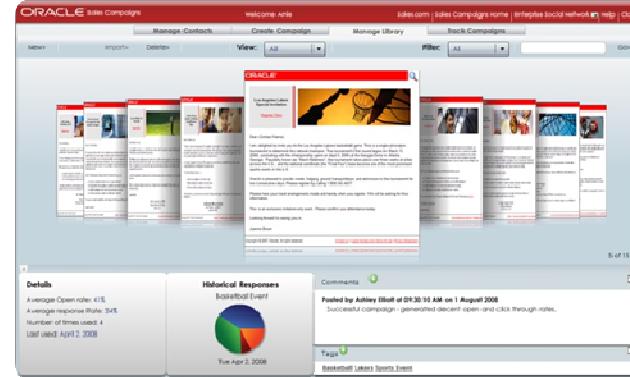
The Oracle Cloud: Platform as a Service



The Oracle Cloud: Software as a Service



- Wide range of applications
- Integration
- Enterprise quality



CRM



Oracle Beehive Online Trial

Secure Communications. Integrated Collaboration.

Sign up your organization for a complimentary 30-day trial of Oracle Beehive and experience first-hand the only complete, open and integrated platform for enterprise collaboration. Oracle Beehive provides a complete range of collaboration tools including conferencing, instant messaging, email, calendar, and team workspaces that can be deployed either on-premise or through Oracle On Demand.

Trial Information

- Review Terms of Use for the shared trial environment
- Register your organization
- Receive 5 generic trial accounts
- Read up on how to Get Started
- Enjoy your 30-day trial!

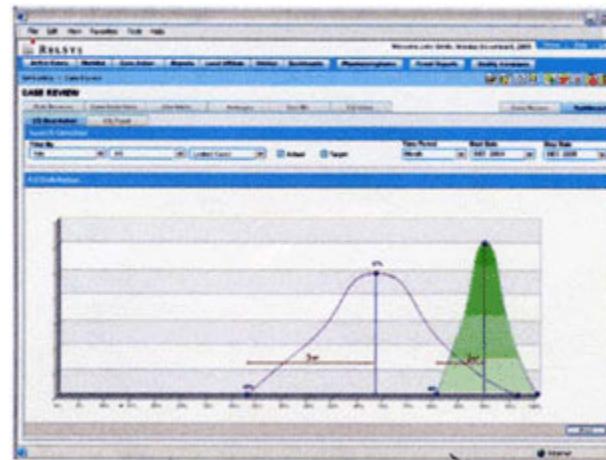
REGISTER NOW

For Your Beehive Online Trial

First Name:
Last Name:
Email:
Job Title:
Work Phone:
Company Name:
Address:
City:
Zip/Postal Code:
State/Province:
Country: Please Select
Main Interest: Please Select
Do you accept the Terms of Use? Yes No
* Required Fields

Register Now

Collaboration



Life Sciences: Drug Safety

Questions



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But first ...



- Network stability is critical to Oracle DBAs
- If you have network issues you can waste staggering amounts of time proving the issue ISN'T the database
- I have worked for the last 10 months with Cisco UCS
 - ~10 databases stand-alone 11gR2
 - ~75 RAC Active-Active and Clusterware Active-Passive Failover
 - What is the value of failover?
 - What is the value of functional network diagnostics?
 - Let's set realistically expectations for blade servers

Questions



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Slide One of Three



```
Oracle SQL*Plus
File Edit Search Options Help

SQL*Plus: Release 10.2.0.2.0 - Production on Sun Nov 11 15:30:58 2012

Copyright (c) 1982, 2005, Oracle. All Rights Reserved.

Enter password: *****

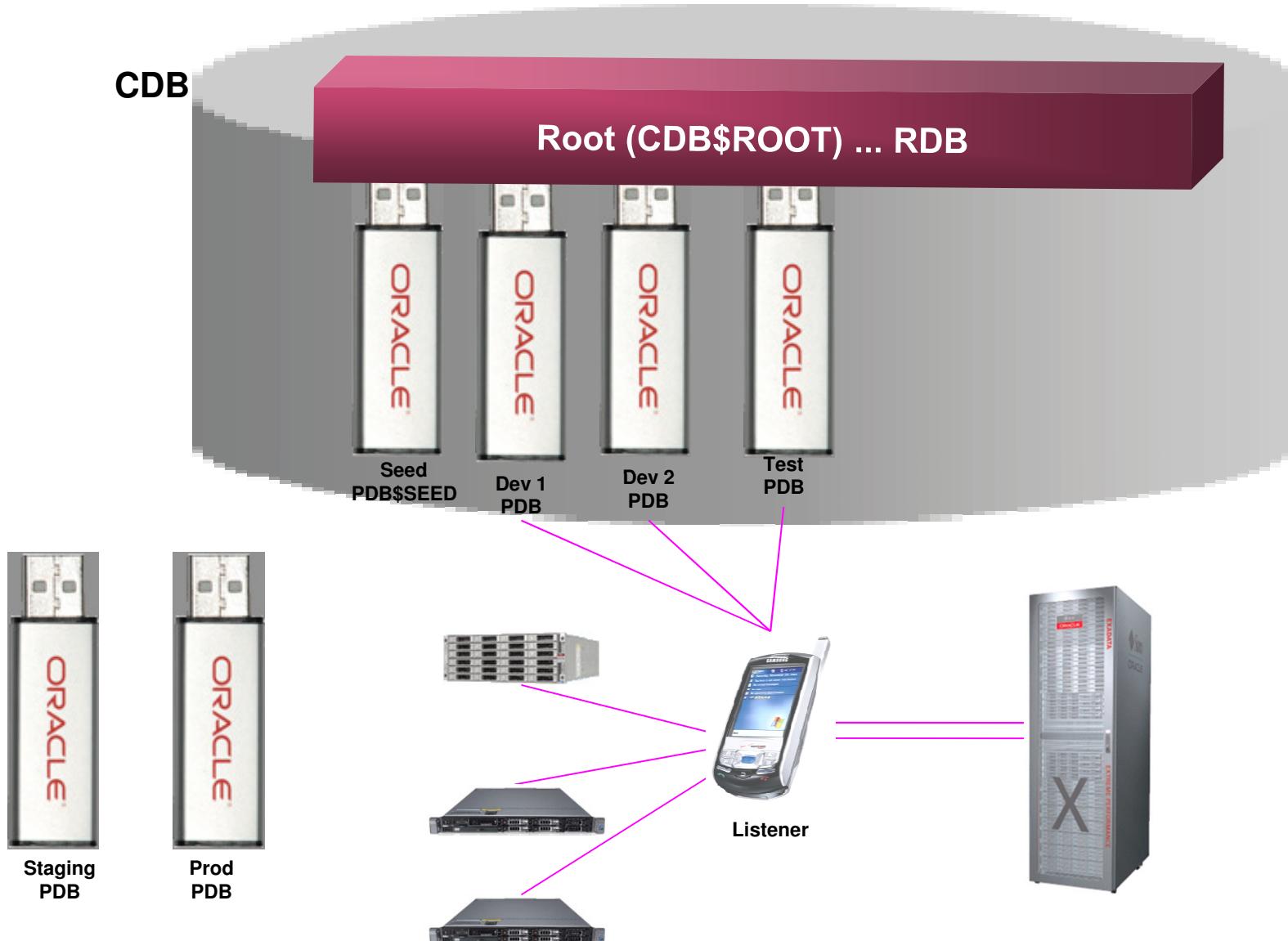
Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.0.2 - 64bit Beta
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

Session altered.

Session altered.

SQL>
```

Slide Two of Three



Slide Three of Three



- Oracle has changed fundamental constructs untouched since version 6.0
- What you need to pay attention to
 - Container Database (CDB)
 - Root Database (RDB)
 - Pluggable Database (PDB)
 - The DBA role ... I been warning people to stop using it?
 - As things stand today you must learn the SYS_CONTEXT function ... you are going to need it to survive
 - Take nothing for granted in a CDB
 - Throw away tools not certified to 12c
 - If you are a DBA with 20+ years experience
 - ... you MUST read the docs: Not doing so is not an option
 - ... unless you want a career change



**The balance of this presentation will be unscripted
and will not be available in any published form
until after the product is released.**

Now Let's Talk About What I Couldn't Talk About



■ Basics

- Column Size Expansion in the Data Dictionary
- RMAN Single Table Recovery
- Online Drop Constraint
- ALTER DATABASE Move Datafile
- ALTER DATABASE Control File Management
- ALTER DATABASE Switchover and Failover Clauses
- ALTER INDEX COALESCE includes CLEANUP syntax
- Temporal Validity Clause



- SQL
 - MATCH_RECOGNIZE function for Map Reduce
 - Model Clause extended with new NEXT and PREV functions
 - USING TRUST CONSTRAINTS clause for materialized views and partitions
- Tables
 - 32K VARCHAR2 columns
 - More PL/SQL data types can cross the SQL-PL/SQL barrier
 - ON NULL clause for CREATE and ALTER TABLE
 - VISIBLE | INVISIBLE clause for CREATE TABLE
 - CASCADE clause for async. partition index maintenance



- Sequences
 - Identity Columns where sequences are created implicitly and bound to a table column
 - KEEP and UNKEEP affecting NEXTVAL during replays
 - Session and Global syntax for CREATE and ALTER sequences
- Security
 - Unified key management interface for Transparent Data Encryption with ADMINISTER KEY MANAGEMENT
 - Unified Auditing by Policy *
 - New Database Super Users
 - New Database Roles
 - New System Priviliges

What's New



■ PL/SQL

- New ACCESSIBLE BY clause
- New FETCH FIRST clause
- New Predefined Inquiry Directives
- Invoker Rights functions can be result cached
- Roles can be granted to PL/SQL packages and objects
- Update triggers for LOB columns
- Updates enhancing Edition Based Redefinition
- PL/SQL function that run in SQL

What's New



■ Built-In Packages

- **DBMS_AUTO_REPORT** (AWR Reports)
- **DBMS_CREDENTIAL** (external proc security)
- **DBMS_HEAT_MAP** (storage heat maps)
- **DBMS_ILM** (Integrated Lifecycle Management)
- **DBMS_ILM_ADMIN** (Integrated Lifecycle Management)
- **DBMS_PART** (partition management)
- **DBMS_PDB** (multitenant support)
- **DBMS_PRIVILEGE_CAPTURE** (privilege analysis)
- **DBMS_QOPATCH** (API for OPatch information)
- **DBMS_REDACT** (data masking)
- **DBMS_ROLLING** (support for rolling upgrades)
- **DBMS_SQL_MONITOR**
- **DBMS_SQL_TRANSLATOR** (PL/SQL - TSQL translation)
- **DBMS_TSDP_MANAGE & PROTECT** (transparent sensitive data protection)

What's New



- Transaction Guard
 - A generic tool for applications to use for at-most-once execution in case of planned and unplanned outages and repeated submissions
 - New "logical transaction ID" (LTXID) to determine the outcome of the last transaction open in a database session following an outage
 - Prevents retry operations from causing logical corruption by committing duplicate transactions
 - For more information read the docs and look at the newly documented DBMS_APP_CONT built-in package

Questions



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Thank you



**Thank you for taking the
time to join us today**

**if you are not actively involved in the OOUG
today is a perfect day to join
and support your community**