



Calgary **ORACLE**
Users Group

Oracle Engineered Systems: Your New *Time Machine*



Calgary **ORACLE**
Users Group

What is the most valuable commodity in a DBA's day?

Syllabus

- Other Activities
- Mandatory Disclaimer
- ODA: Oracle Database Appliance
- ZFS Storage Appliance
- OVM: Oracle Virtual Machine



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

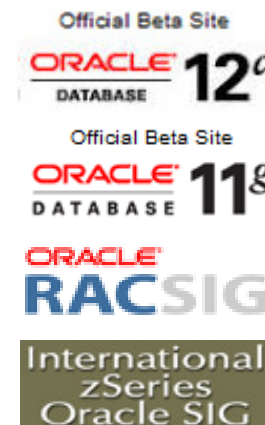


Board Member: Victoria and Vancouver OUGs

■ Upcoming Presentations

- Serbia Oracle Users Group
- Oracle Users Group Finland

■ Never worked for Oracle



- 🏆 Oracle ACE Director
 - Oracle University Instructor
 - Oracle Instructor of the Year, 2010
 - More than 40 years in IT
 - More than 30 years with Oracle technology
 - More than 10 years teaching Oracle's products
 - Internationally recognized conference speaker (keynotes, classes, seminars, and panels)

Syllabus

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Other Activities

events.oracle.com/search/search?group=Events&keyword=

DuckDuckGo Google Email Humor News Oracle Rolta Science Headlines

Date

- This Week (59)
- This Month (124)
- Next Month (203)
- Next 60 Days (363)
- Next 90 Days (398)
- 90+ Days (9)

Location

- Europe (134)
- Asia Pacific (127)
- North America (112)
- Latin America (13)
- Africa (9)
- Middle East (5)


Browse By Type

- In-Person Events (364)
- Live Webcasts (37)
- Virtual Tradeshows (1)

Information For

- IT Management (192)
- Functional Management (71)
- DBA (42)
- Developer (36)
- Executive (35)

Found 400 Upcoming Events Map On | Map Off



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Results 1 - 10 of about 408 matches Subscribe to this result set

January 13, 2014 **Oracle RightNow CX Cloud Service 2012 Implementation BootCamp**
Reston

[Register](#) [Show Details](#) [Email to a Friend](#) **ORACLE** PARTNER NETWORK

Syllabus

- Other Activities
- Mandatory Disclaimer
- ODA: Oracle Database Appliance
- ZFS Storage Appliance
- OVM: Oracle Virtual Machine



Disclaimer *

- This room is an unsafe harbour
- We are not subject to any NDA
- No one from Oracle has previewed this presentation
- No one from Oracle knows what we are going to say
- No one from Oracle has supplied any of our materials
- This presentation is about released products, currently available, that work extremely well
- What we are 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 we say

Syllabus

- Other Activities
- Mandatory Disclaimer
- ODA: Oracle Database Appliance
- ZFS Storage Appliance
- OVM: Oracle Virtual Machine



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!

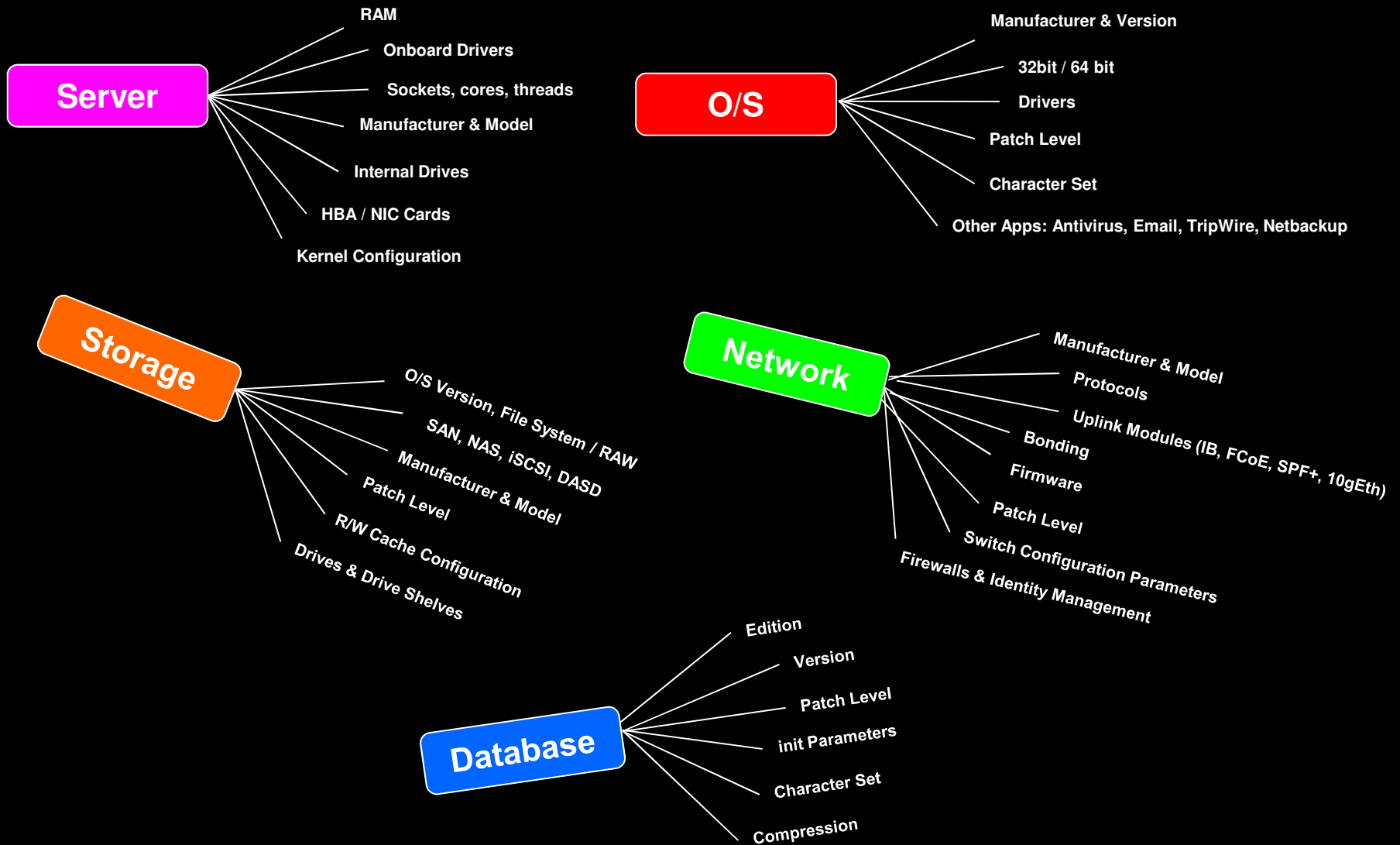
The Great Switch Fiasco

- 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



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

One Hundred Degrees of Separation

Presented: Calgary Oracle Users Group - 20 March, 2014

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





© DESPAIR.COM

LONELINESS

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

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
- High Availability
 - RAC
 - One Node: for "active-active"
 - Server failover: for "active-passive"



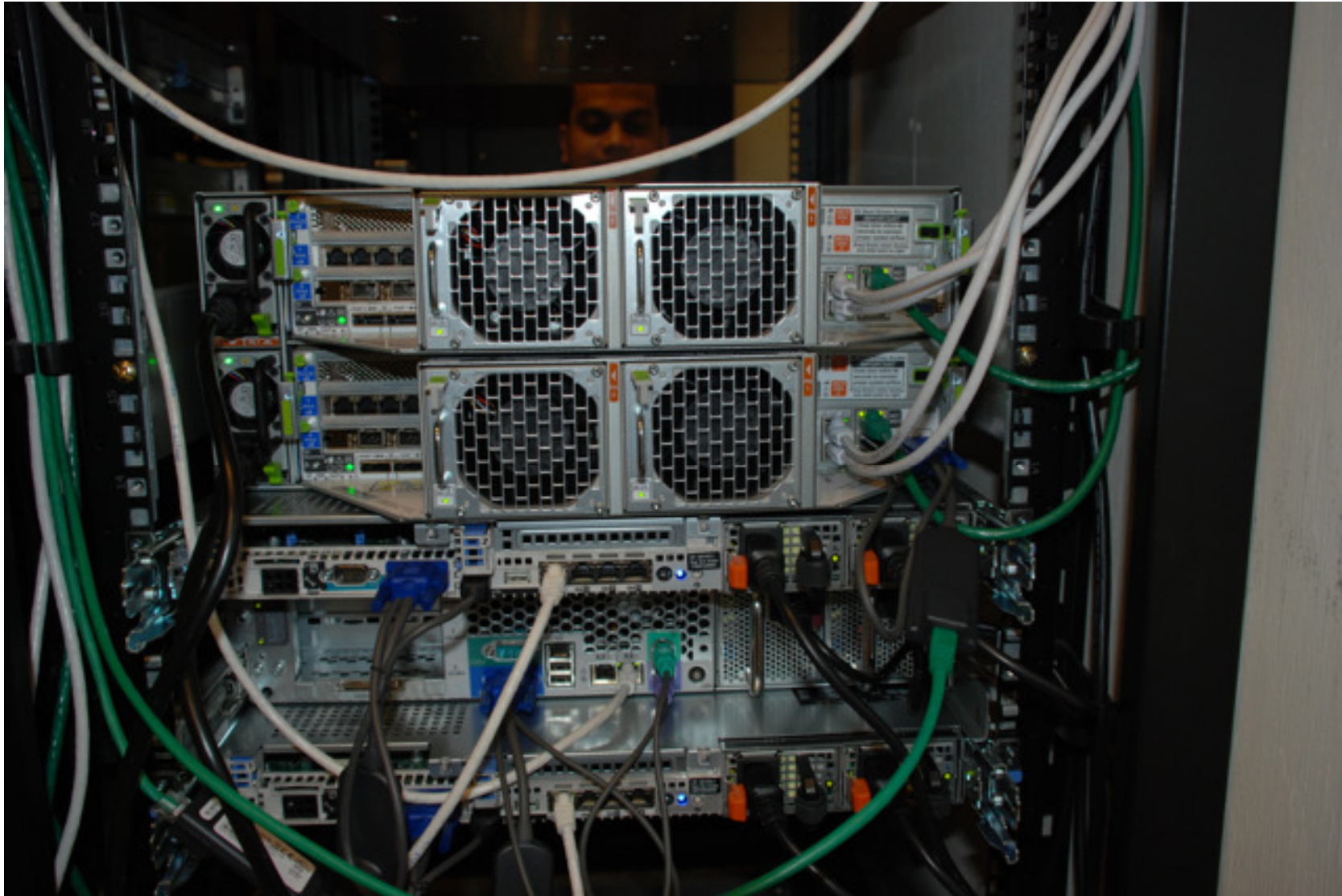
Additional Value Adds

- ZFS Storage Appliance
- OVM: Oracle Virtual Machine

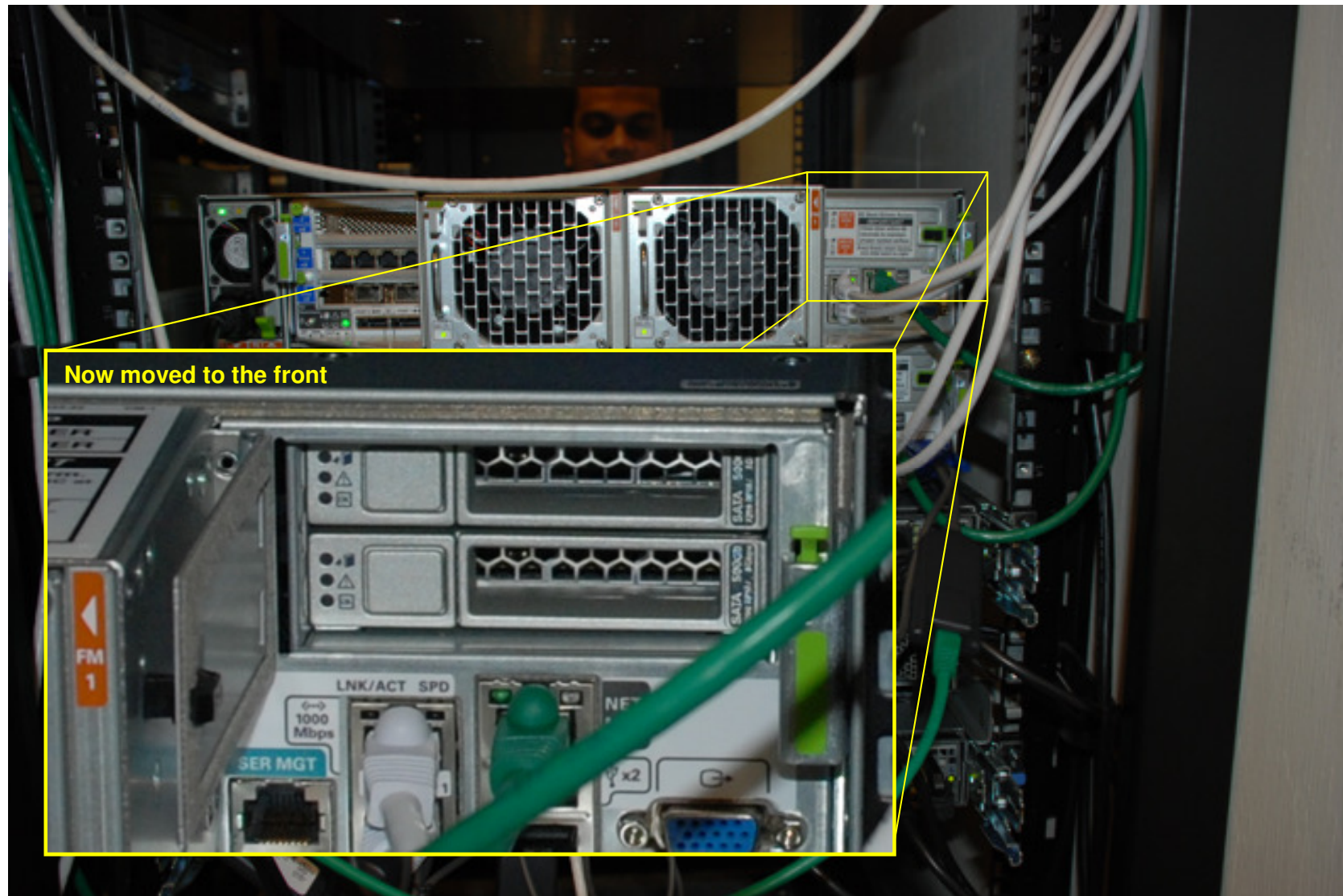
ODA Front



ODA Back



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

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

Support the community by organizing:

- Education Seminars
- Technical Presentations
- Case Studies
- Hands-on Workshops
- Best Practice Symposiums
- Special Guest Lectures
- Networking Opportunities
- Social Events

Our Next Event

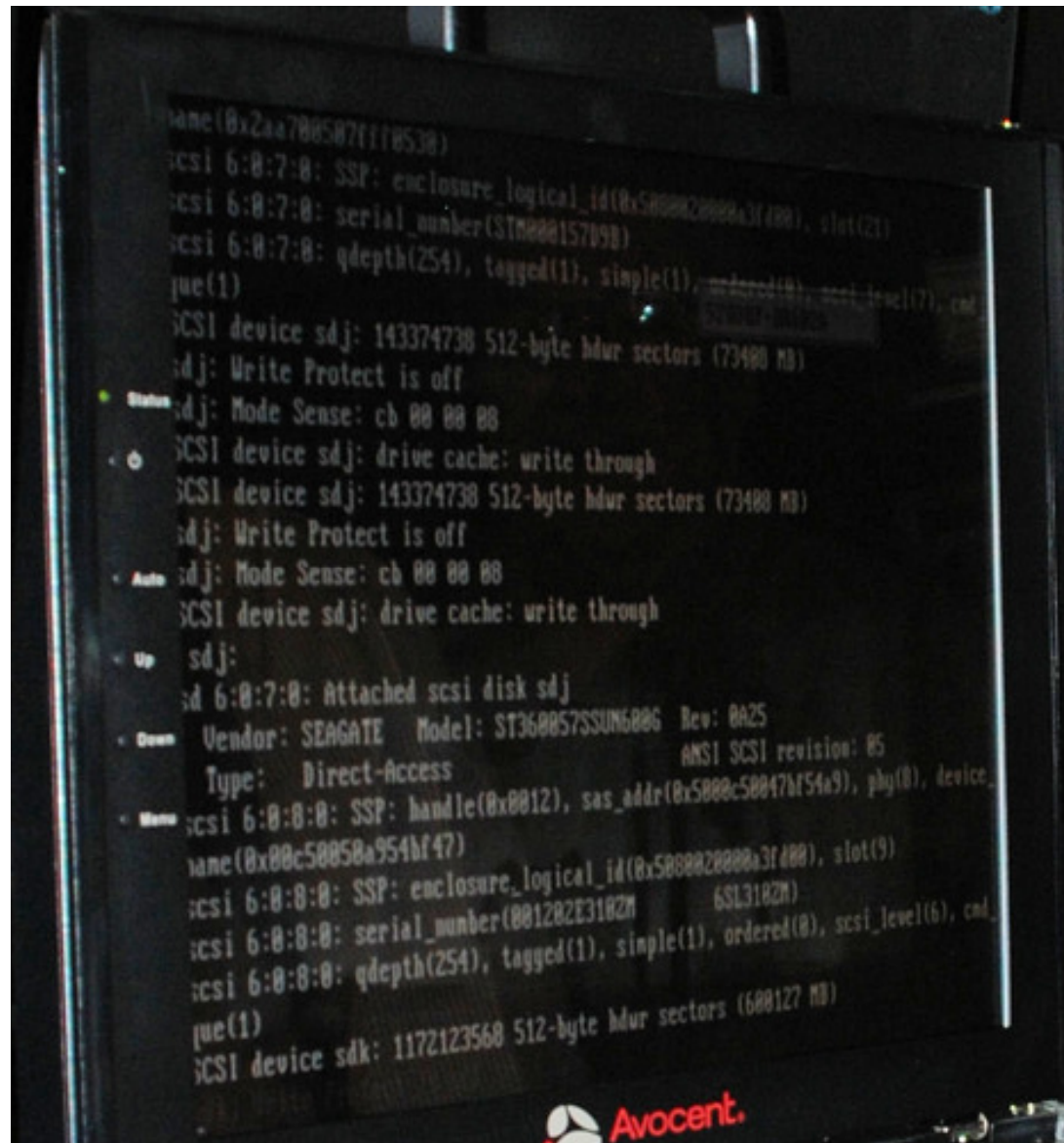


Coming soon to Winnipeg, Manitoba
Two informative and entertaining presentations to launch the Manitoba Oracle Users Group
A great networking opportunity to meet your peers

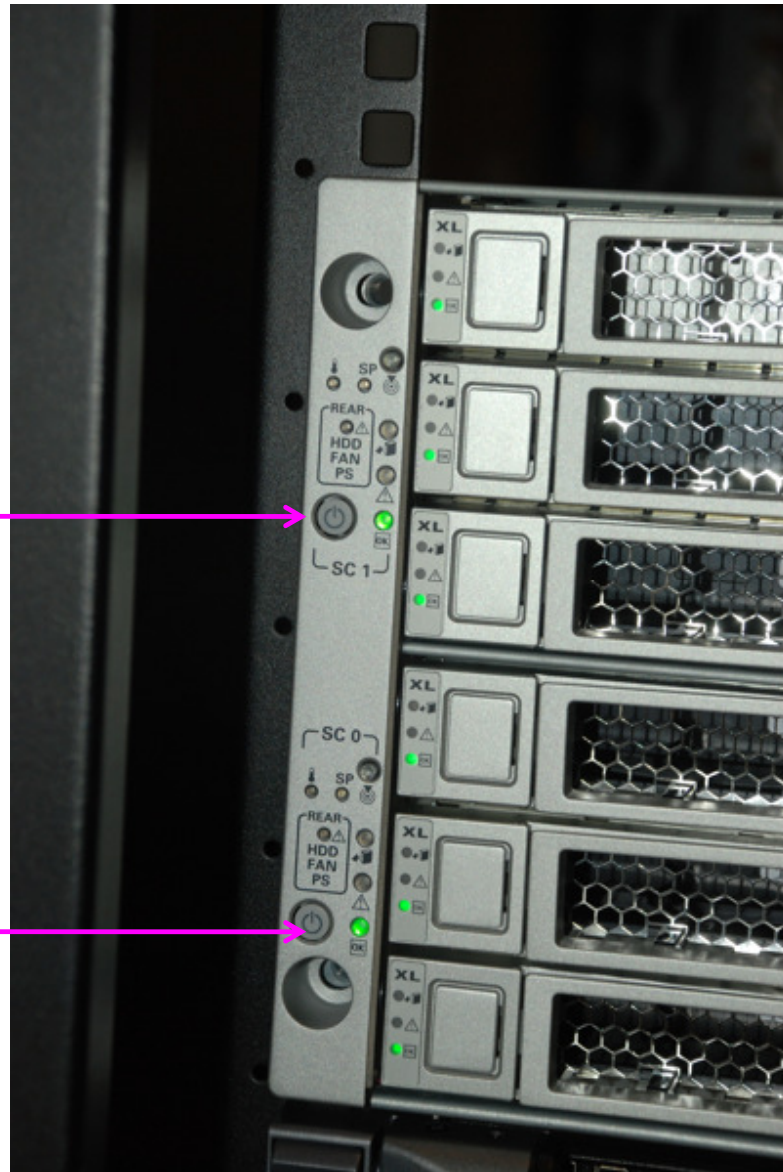
Date to be announced
5:00-8:00pm
Location to be announced
Light dinner included, come after work!

[Advance registration required](#)

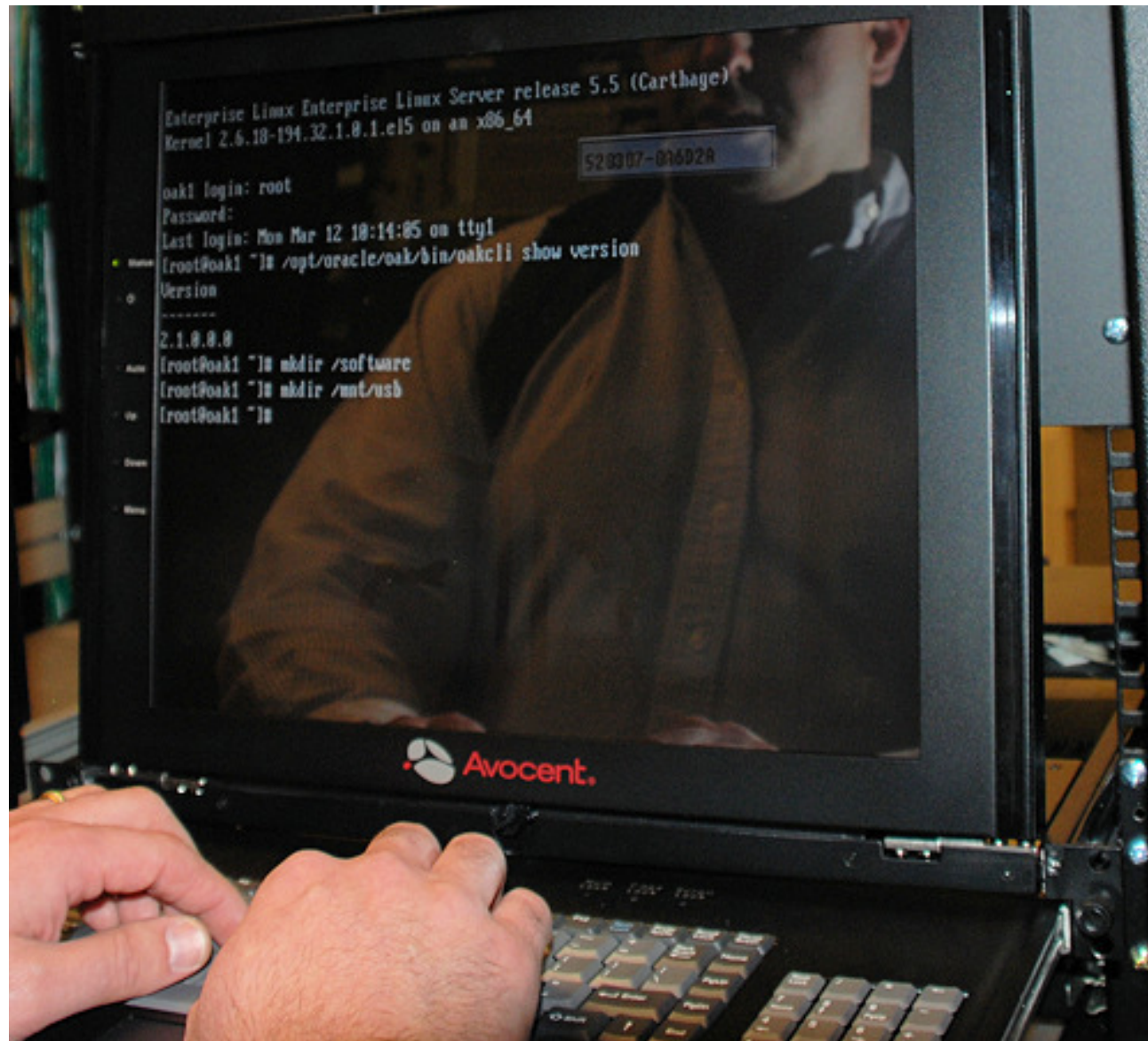
Step 1: Power On



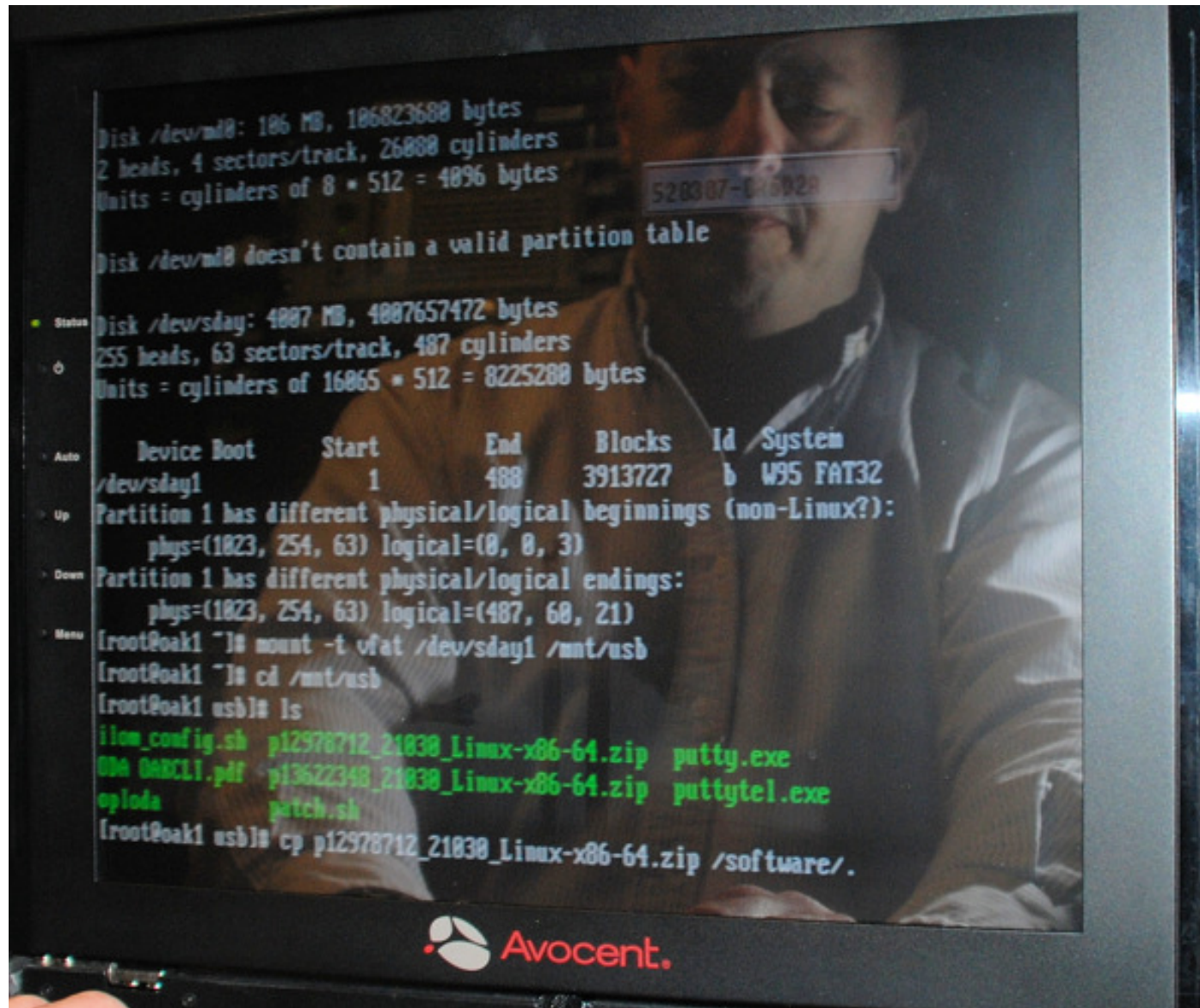
Step 2: Wait for OK Lights



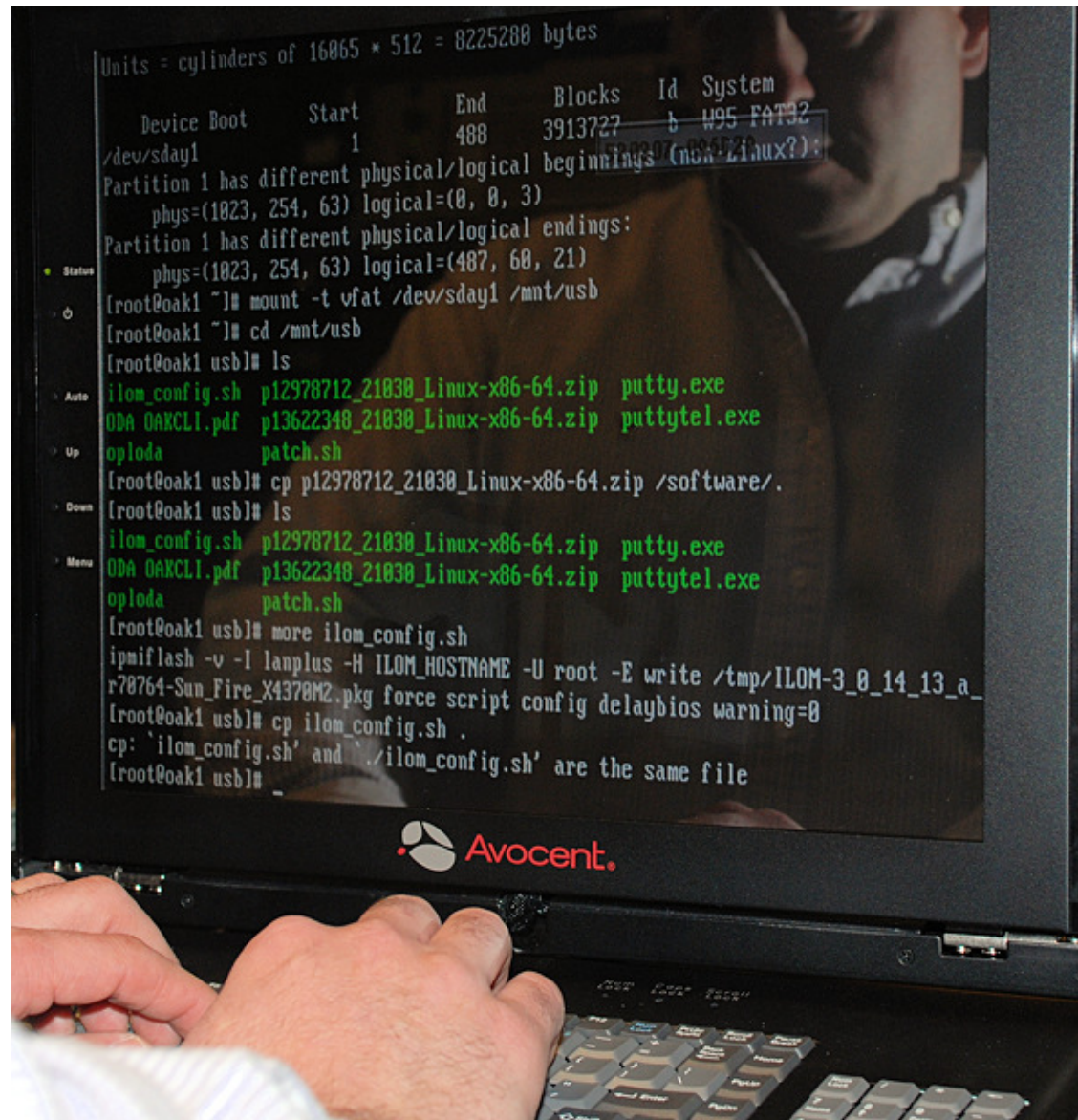
Step 3: Log In as root



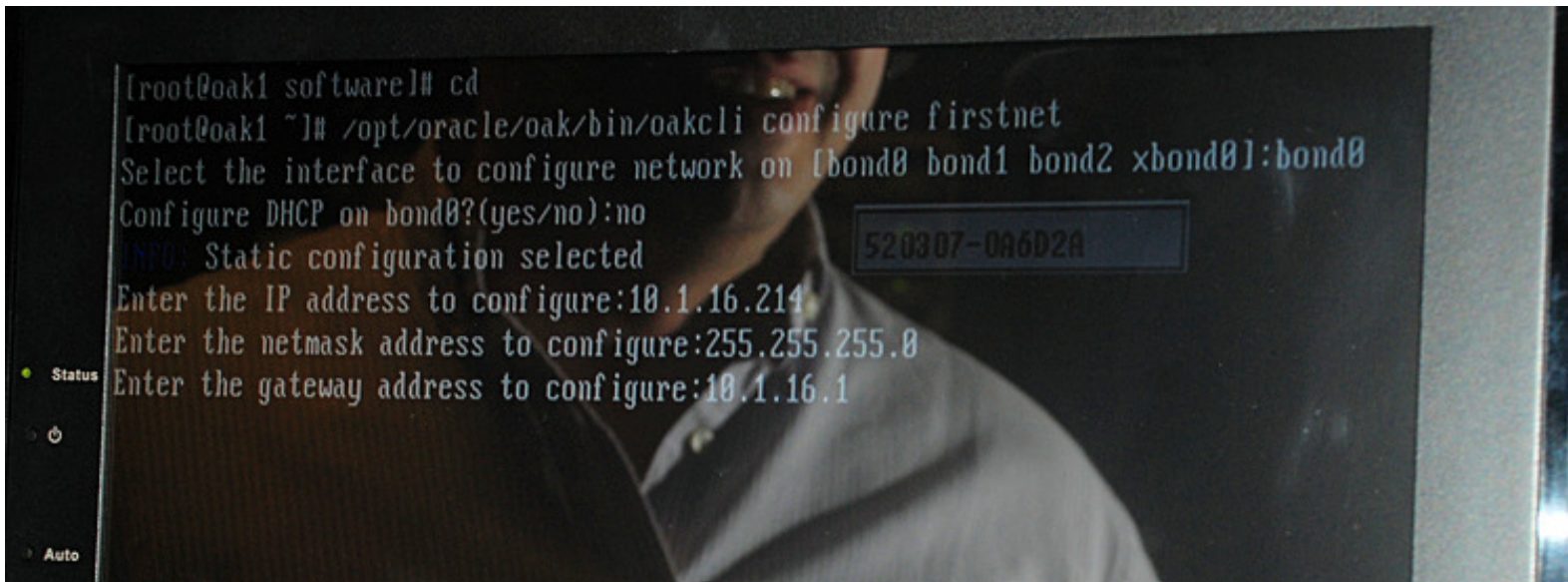
Step 4: A little Linux Configuration



Step 5: Perform ILOM Configuration



Step 6: A Little Network Config



```
[root@oak1 software]# cd
[root@oak1 ~]# /opt/oracle/oak/bin/oakcli configure firstnet
Select the interface to configure network on [bond0 bond1 bond2 xbond0]:bond0
Configure DHCP on bond0?(yes/no):no
INFO: Static configuration selected
Enter the IP address to configure:10.1.16.214
Enter the netmask address to configure:255.255.255.0
Enter the gateway address to configure:10.1.16.1
```

520307-0A6D2A

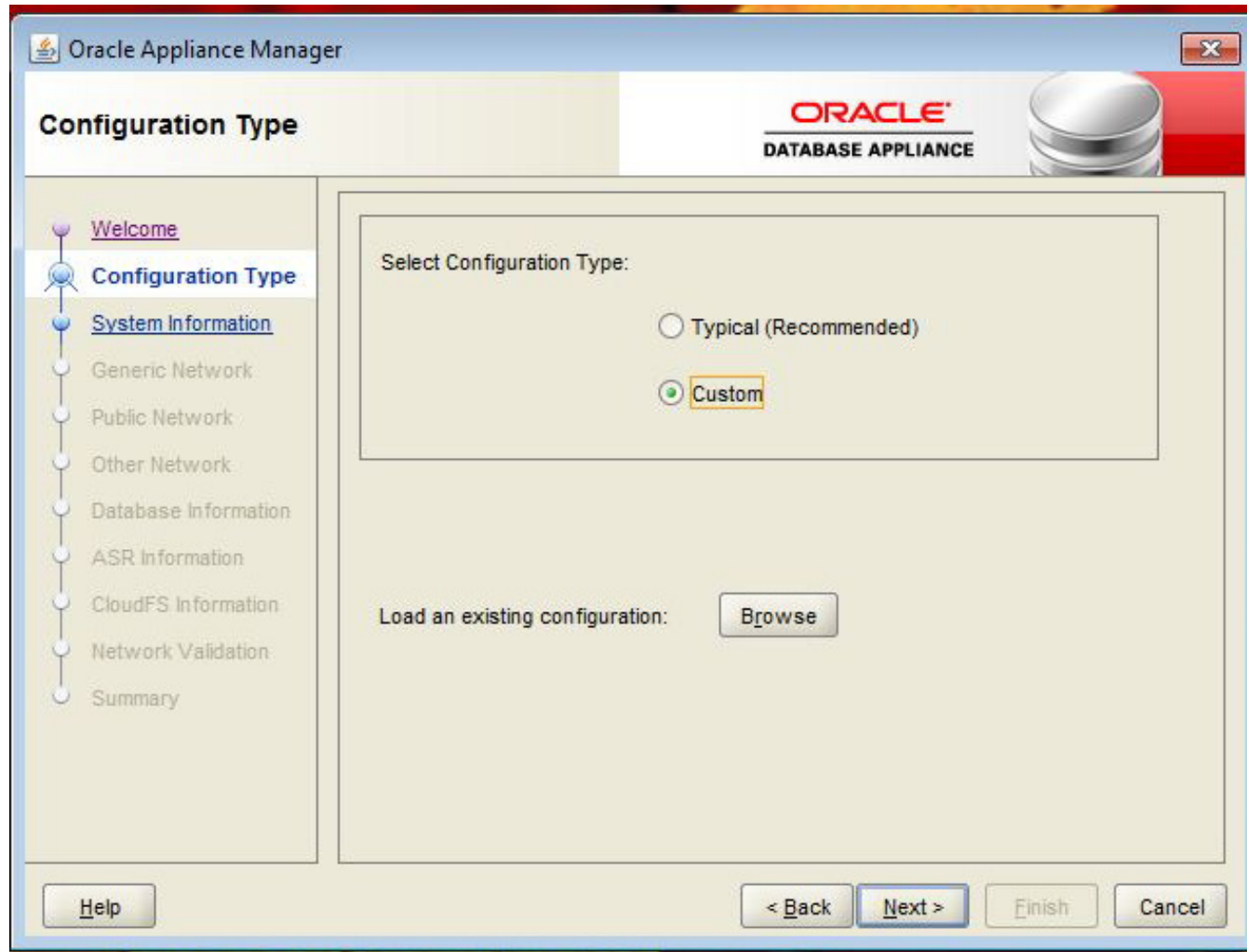
Status

Auto

Install Screens: 1



Install Screens: 2



Install Screens: 3

Oracle Appliance Manager

System Information

ORACLE
DATABASE APPLIANCE

System Name: hqodarac02t

Region: America

Timezone: America/Los_Angeles

Database Deployment: RAC

Database Backup: Local

New Root Password:

New Root Password(confirm):

Help < Back Next > Finish Cancel

Install Screens: 4

The screenshot shows the 'Generic Network' configuration window in the Oracle Appliance Manager. The window has a title bar with the Oracle logo and 'DATABASE APPLIANCE'. On the left is a navigation pane with a tree view containing: Welcome, Configuration Type, System Information, Generic Network (selected), Public Network, Other Network, Database Information, ASR Information, CloudFS Information, Network Validation, and Summary. The main area contains the following fields:

- Domain Name: corp.drugstore.com
- ☐ No DNS Server available
- DNS Servers: 10.1.1.1, 10.1.1.2, and an empty field.
- NTP Servers: 10.1.0.2, 64.47.139.100, and an empty field.

At the bottom, there are buttons for Help, < Back, Next >, Finish, and Cancel.

Install Screens: 5

Oracle Appliance Manager

Public Network

ORACLE
DATABASE APPLIANCE

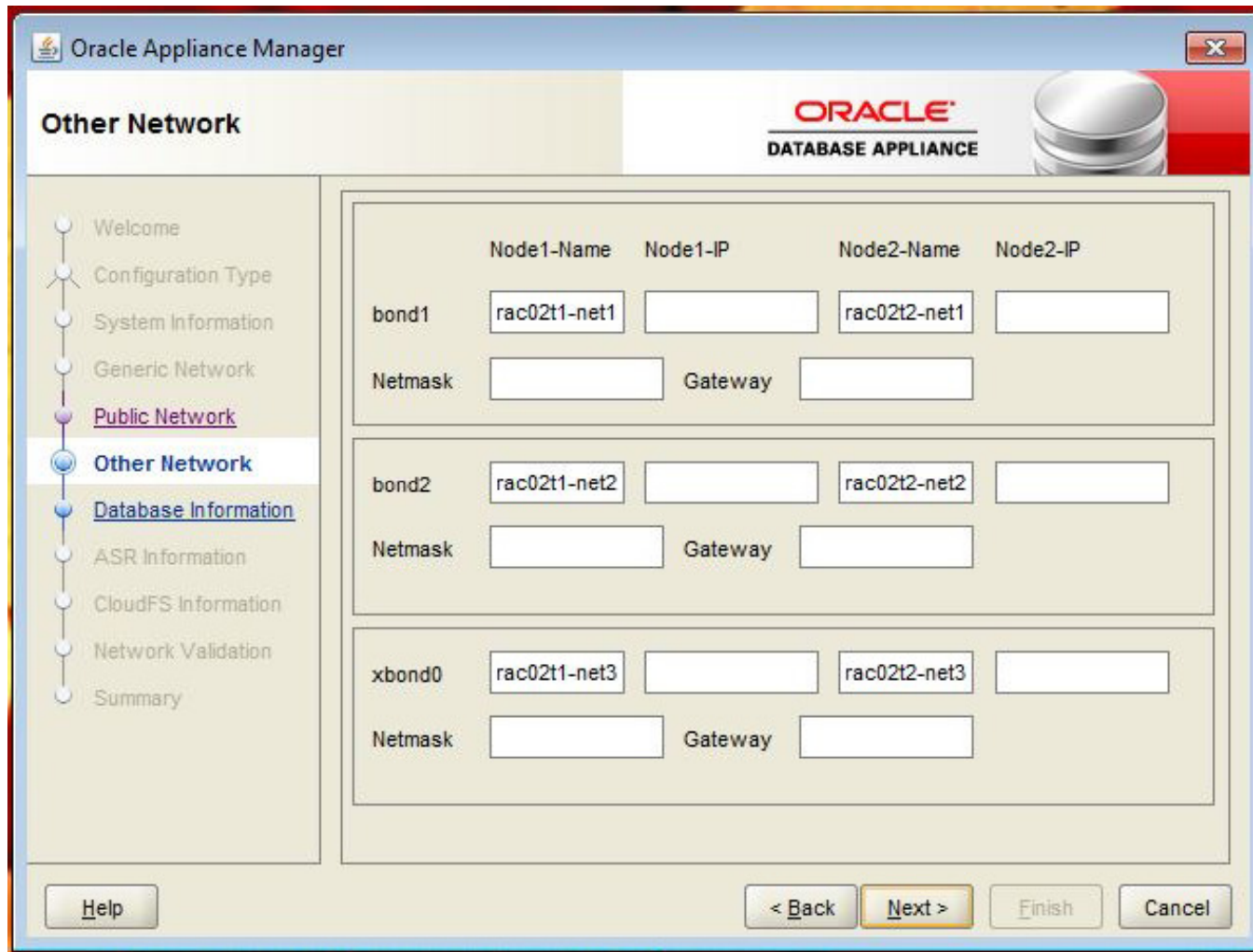
Welcome
Configuration Type
System Information
Generic Network
Public Network
Other Network
Database Information
ASR Information
CloudFS Information
Network Validation
Summary

	Node1-Name	Node1-IP	Node2-Name	Node2-IP
Public	hqodrac02s	10.221.0.21	hqodrac02t	10.221.0.25
VIP	hqodrac02s	10.221.0.23	hqodrac02t	10.221.0.27
SCAN	hqodrac02t-s	Addresses	10.221.0.24	10.221.0.28
Netmask	255.255.255.0	Gateway	10.221.0.1	
Interface	bond0			

ILOM	hqodrac02s	10.221.0.22	larac02bt-ilor	10.221.0.26
Netmask	255.255.255.0	Gateway	10.221.0.1	

Help < Back Next > Finish Cancel

Install Screens: 6



The screenshot shows the 'Other Network' configuration screen in the Oracle Appliance Manager. The window title is 'Oracle Appliance Manager'. On the left is a navigation pane with the following items: Welcome, Configuration Type, System Information, Generic Network, Public Network, **Other Network** (highlighted), Database Information, ASR Information, CloudFS Information, Network Validation, and Summary. The main area is titled 'Other Network' and features the Oracle Database Appliance logo. It contains three network configuration sections for bond1, bond2, and xbond0. Each section has fields for Node1-Name, Node1-IP, Node2-Name, Node2-IP, Netmask, and Gateway. The 'bond1' section has 'rac02t1-net1' in the Node1-Name field. The 'bond2' section has 'rac02t1-net2' in the Node1-Name field. The 'xbond0' section has 'rac02t1-net3' in the Node1-Name field. At the bottom are buttons for Help, < Back, Next >, Finish, and Cancel.

	Node1-Name	Node1-IP	Node2-Name	Node2-IP
bond1	rac02t1-net1		rac02t2-net1	
Netmask		Gateway		
bond2	rac02t1-net2		rac02t2-net2	
Netmask		Gateway		
xbond0	rac02t1-net3		rac02t2-net3	
Netmask		Gateway		

Install Screens: 7

Oracle Appliance Manager

Database Information

ORACLE
DATABASE APPLIANCE

- Welcome
- Configuration Type
- System Information
- Generic Network
- Public Network
- Other Network
- Database Information**
- ASR Information
- CloudFS Information
- Network Validation
- Summary

Database Name: TEST

Database Class: Medium

Database Language: AMERICAN

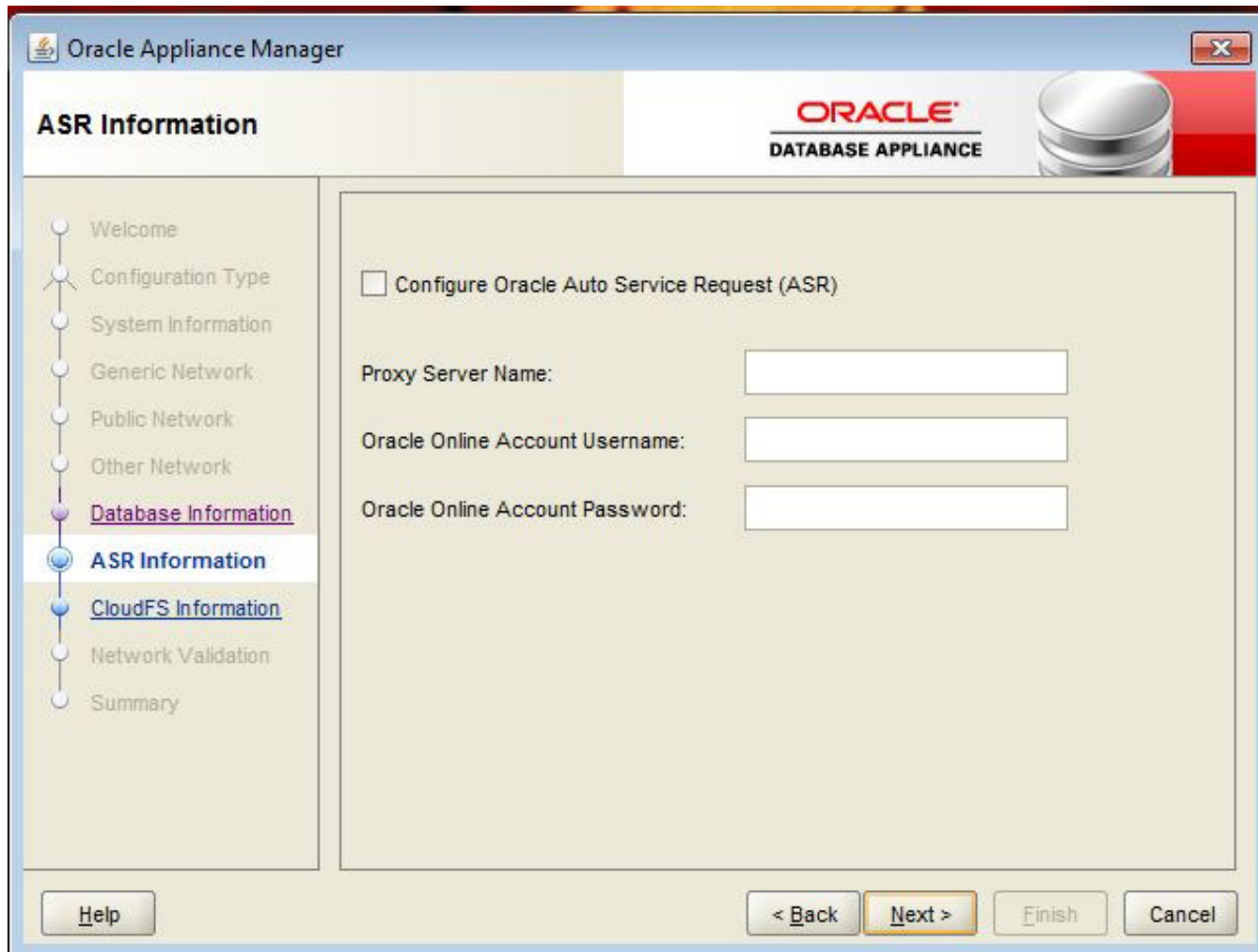
Database Block Size: 8192

Database Characterset: AL32UTF8

Database Territory: AMERICA

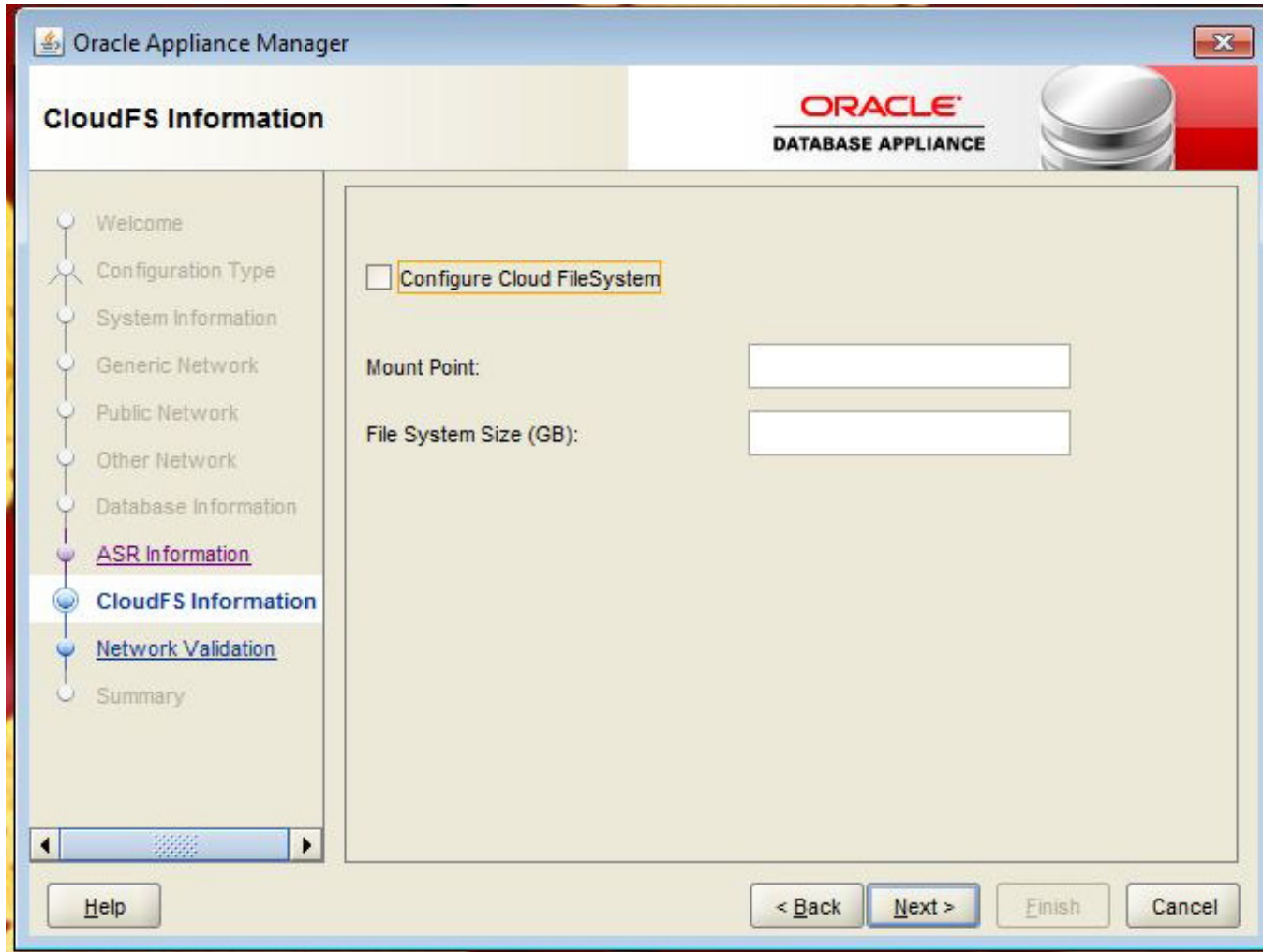
Help < Back Next > Finish Cancel

Install Screens: 8

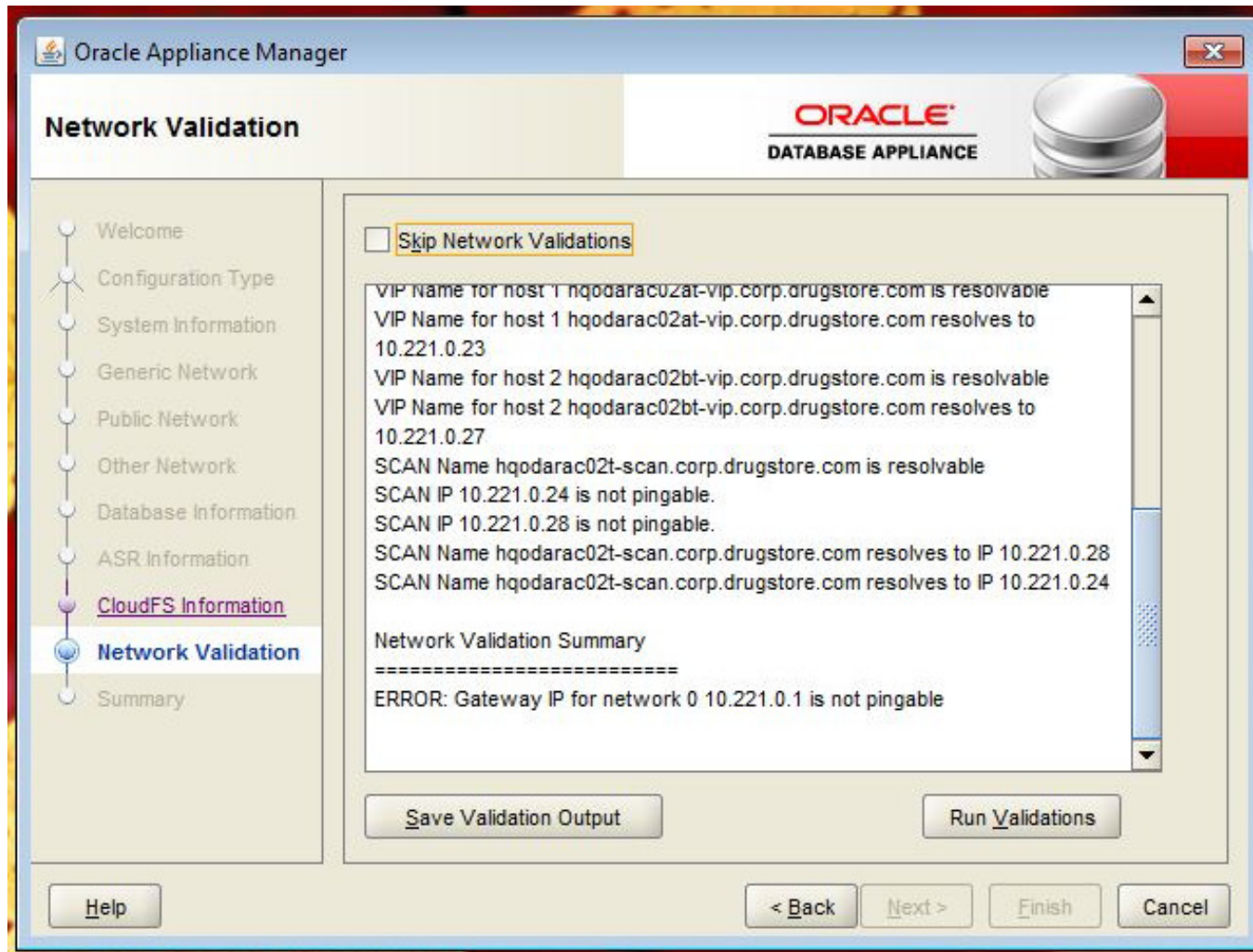


The screenshot shows the 'Oracle Appliance Manager' window. The title bar includes the Oracle logo and the text 'ORACLE DATABASE APPLIANCE'. The main window is titled 'ASR Information'. On the left, a vertical navigation pane lists the following steps: Welcome, Configuration Type, System Information, Generic Network, Public Network, Other Network, Database Information, **ASR Information** (highlighted), CloudFS Information, Network Validation, and Summary. The main content area contains a checkbox labeled 'Configure Oracle Auto Service Request (ASR)'. Below this are three text input fields: 'Proxy Server Name:', 'Oracle Online Account Username:', and 'Oracle Online Account Password:'. At the bottom of the window, there are four buttons: 'Help', '< Back', 'Next >', and 'Finish'. The 'Next >' button is highlighted.

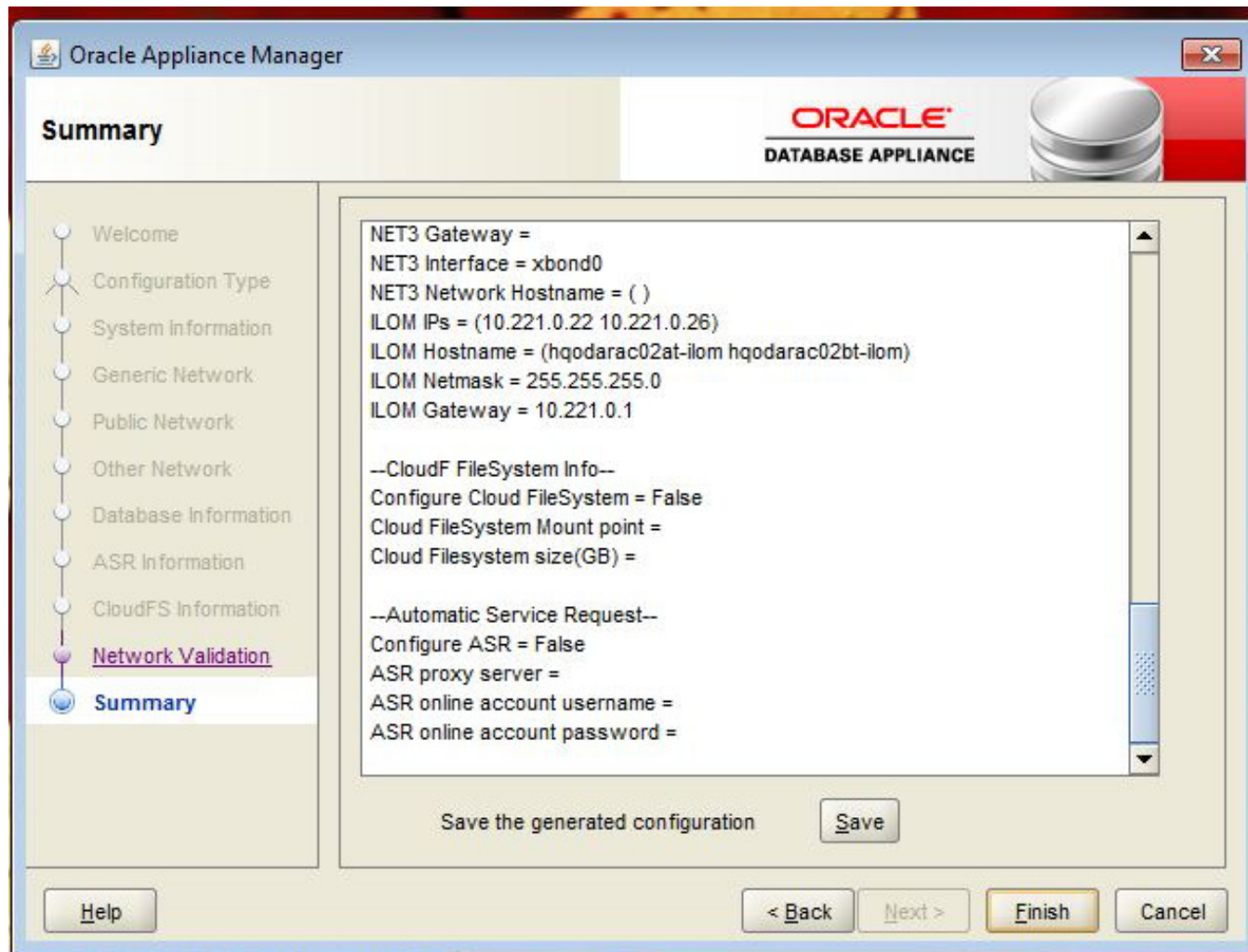
Install Screens: 9



Install Screens: 10



Install Screens: 11



Value Adds

The ILOM

System Information: System Information Overview

The screenshot shows the Oracle(R) Integrated Lights Out Manager (ILOM) web interface. The browser window title is "Oracle(R) Integrated Lights Out Manager - Windows Internet Explorer". The address bar shows the URL "https://hqedarac01at-ilom.com:2238/Configuration/Views/suntab.asp". The page has a "Certificate Error" warning. The main content area is titled "Oracle® Integrated Lights Out Manager" and includes a "User: root Role: auro SP Hostname: hqedarac01at-ilom" header. Below the header is a navigation bar with tabs: "System Information", "System Monitoring", "Power Management", "Storage", "Configuration", "User Management", "Remote Control", and "Maintenance". The "System Information" tab is selected, and the "Overview" sub-tab is active. The "System Overview" section displays the following 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: hqedarac01at-ilom
- Uptime: 70 days, 00:58:32
- IP Address: 10.1.15.215
- ILOM Version: v3.0.14.13.a.r70764

System Information: System Information Overview

The screenshot shows the Oracle Integrated Lights Out Manager (ILOM) web interface. The browser title is "Oracle(R) Integrated Lights Out Manager - Windows Internet Explorer". The address bar shows the URL "https://hqodarac01at-ilom.corp.drugstore.com/iPages/suntab.asp". The page has a navigation menu with tabs for "System Information", "System Monitoring", "Power Management", "Storage", "Configuration", "User Management", "Remote Control", and "Maintenance". Under "System Information", there are sub-tabs: "Overview", "Components", "Fault Management", "Identification Information", "Banner Messages", "Session Timeout", and "Versions". The "Overview" sub-tab is selected, showing the "System Overview" section. Below this, there is a description: "View system summary information. You may also change power state and view system status and fault information." The system details are listed as follows:



Product Name:	SUN FIRE X4370 M2 SERVER
Part/Serial Number:	30480808+1+1 / 1207FMW000
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

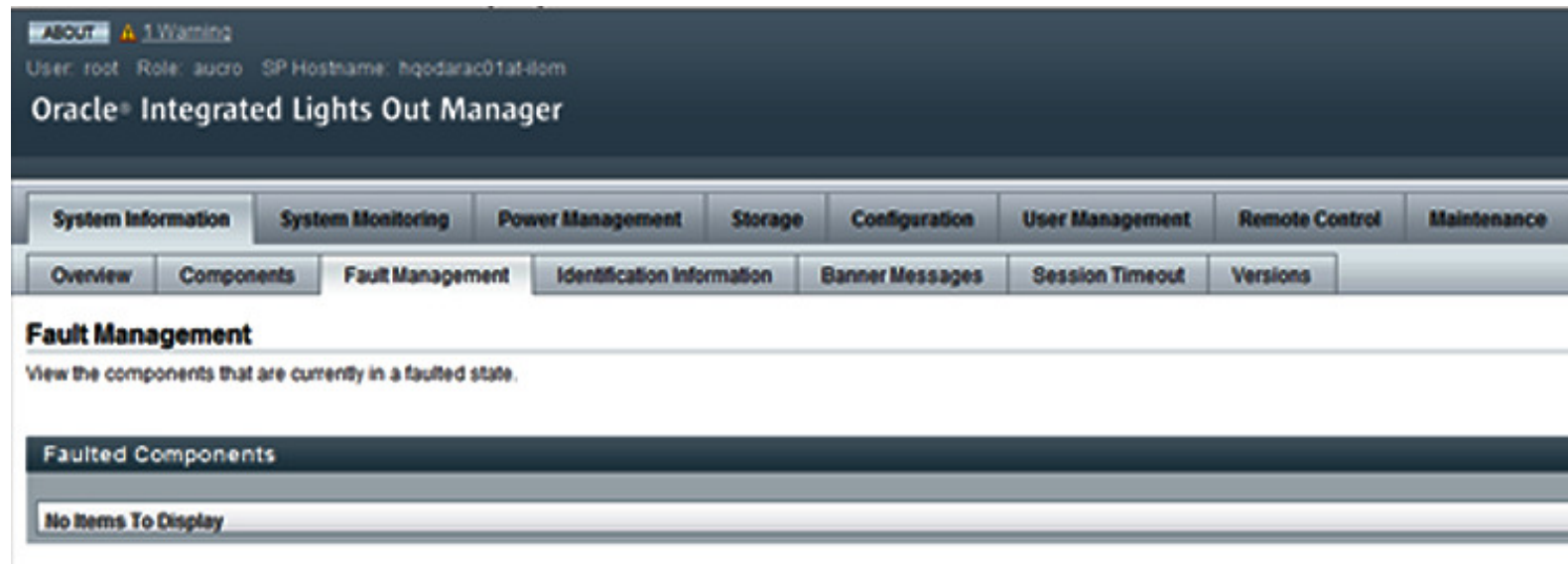
View component information, prepare to install or remove a component, or clear fault status from this page. To modify a component, select the radio button next to that component, then selected component and lights its blue Ready to Remove LED. To view further details, click on a Component Name.

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/RH000	Hard Disk Module	-

System Information: Fault Management



System Information: Identification Information

The screenshot shows the Oracle Integrated Lights Out Manager (ILOM) interface. At the top, there's a header with 'ABOUT' and a warning icon. Below it, user information is displayed: 'User: root Role: auro SP Hostname: hqodarc01at-ilom'. The main title is 'Oracle® Integrated Lights Out Manager'. A navigation bar contains tabs for 'System Information', 'System Monitoring', 'Power Management', 'Storage', 'Configuration', 'User Management', 'Remote Control', and 'Maintenance'. Under 'System Information', there are sub-tabs: 'Overview', 'Components', 'Fault Management', 'Identification Information' (which is selected), 'Banner Messages', 'Session Timeout', and 'Versions'. The 'Identification Information' section has a description: '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.' Below this, several fields are shown: 'SP Hostname' (hqodarc01at-ilom), 'SP System Identifier' (Oracle Database Appliance), 'SP System Contact' (oda@...), 'SP System Location' (... 12th Floor, Be), 'SP System Description' (SUN FIRE X4370 M2 SERVER, ILOM v3.0.14.13.a, r70764), and 'Physical Presence Check' (checked/Enabled). A 'Save' button is at the bottom left.

ABOUT ▲ 1 Warning

User: root Role: auro SP Hostname: hqodarc01at-ilom

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:

SP System Identifier:

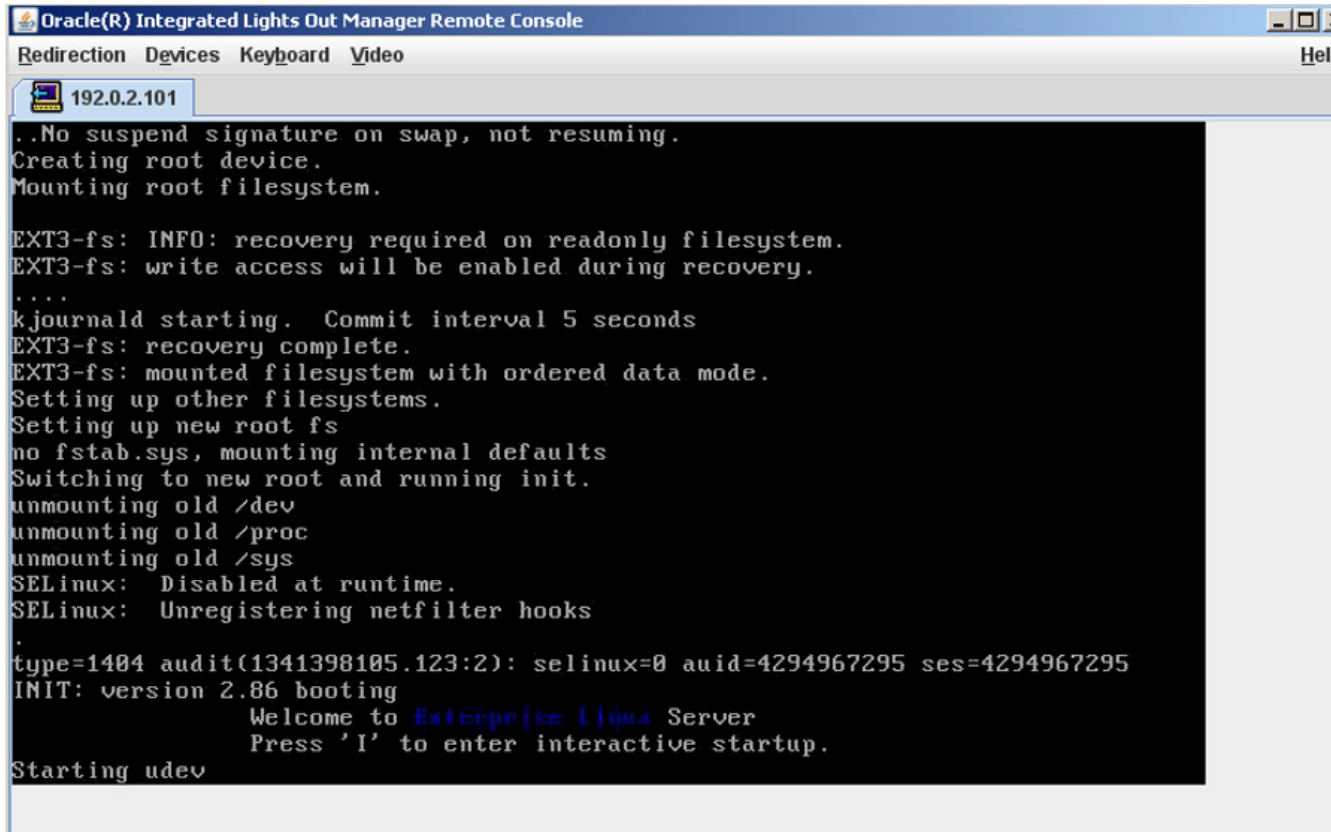
SP System Contact:

SP System Location:

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

Physical Presence Check: ☒ Enabled

Remote Control: Host Control: Remote Console



The screenshot shows a remote console window titled "Oracle(R) Integrated Lights Out Manager Remote Console". The window has a menu bar with "Redirection", "Devices", "Keyboard", "Video", and "Help". Below the menu bar is a tab labeled "192.0.2.101". The main area displays a black terminal window with white text showing system boot logs. The logs include messages about swap, root device creation, filesystem mounting, journaling, and SELinux status. The boot process concludes with a welcome message to the Linux Server and instructions to press 'I' for interactive startup.

```
..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 Linux Server
       Press 'I' to enter interactive startup.

Starting udev
```

ILOM Warning Message



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

The screenshot shows a web browser window displaying the Oracle Database Appliance Documentation page. The browser's address bar shows the URL `docs.oracle.com/cd/E22693_01/index.html`. The page title is "ORACLE Database Appliance Documentation Release 2". A search bar is located in the top right corner. Below the header, there is a "Welcome" section and a "Documentation" section listing various guides and manuals with links to HTML and PDF versions. The bottom section shows the "MY ORACLE SUPPORT" header and a "KM Search Results" section. The search results are for "Security Technical Implementation Guides" and show three results with their respective dates and article IDs.

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

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 Clear All

Source

- All Sources
- Knowledge Base
- Knowledge Base Archives
- Bug Database
- Patches
- Documentation
- Communities

28-Feb-2013	Oracle Exadata Database Machine DoD C&A STIG [Article ID 1526868.1]
04-Apr-2013	Oracle Database Appliance DoD C&A STIG [Article ID 1456609.1]
02-Jun-2013	STIG Implementation Script for Oracle Database Appliance [Article ID 1461102.1]

Purpose This document describes the implications of Department of Defense (DoD) DISA **Security Technical Implementation Guides** (STIGs) on Oracle Exadata Database Machine environments.

Main Content The Department of Defense(DoD) DISA Information Assurance Process includes Certification and Accreditation(C&A) including the **Security Technical Implementation Guides**(STIGs).

Goal The **Security Technical Implementation Guides** (STIGs) and the NSA Guides are the configuration standards for DOD IA and IA-enabled devices/systems.

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

- 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 'orclsys1'

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

Syllabus

- Other Activities
- Mandatory Disclaimer
- ODA: Oracle Database Appliance
- ZFS Storage Appliance
- OVM: Oracle Virtual Machine



What is ZFS?

- Designed to protect data on disk from data corruption caused by bit rot
- Similar advantages as ASM
- A 128 bit file system
- Eliminates the SAN lost write issue
- Integrated logical volume management

What is a ZFS Storage Appliance?

- NFS Mount to ODA or anything else
- Deduplication
- 10X – 50X compression with Hybrid Columnar Compression
- Optimized storage hierarchy with Hybrid Storage Pools containing DRAM, flash cache, and disk drives
- Simultaneous multiprotocol support across multiple network interconnects, including GbE, 10 GbE, fibre channel and InfiniBand
- 12c Cloud Control Integration

What is a ZFS Storage Appliance?

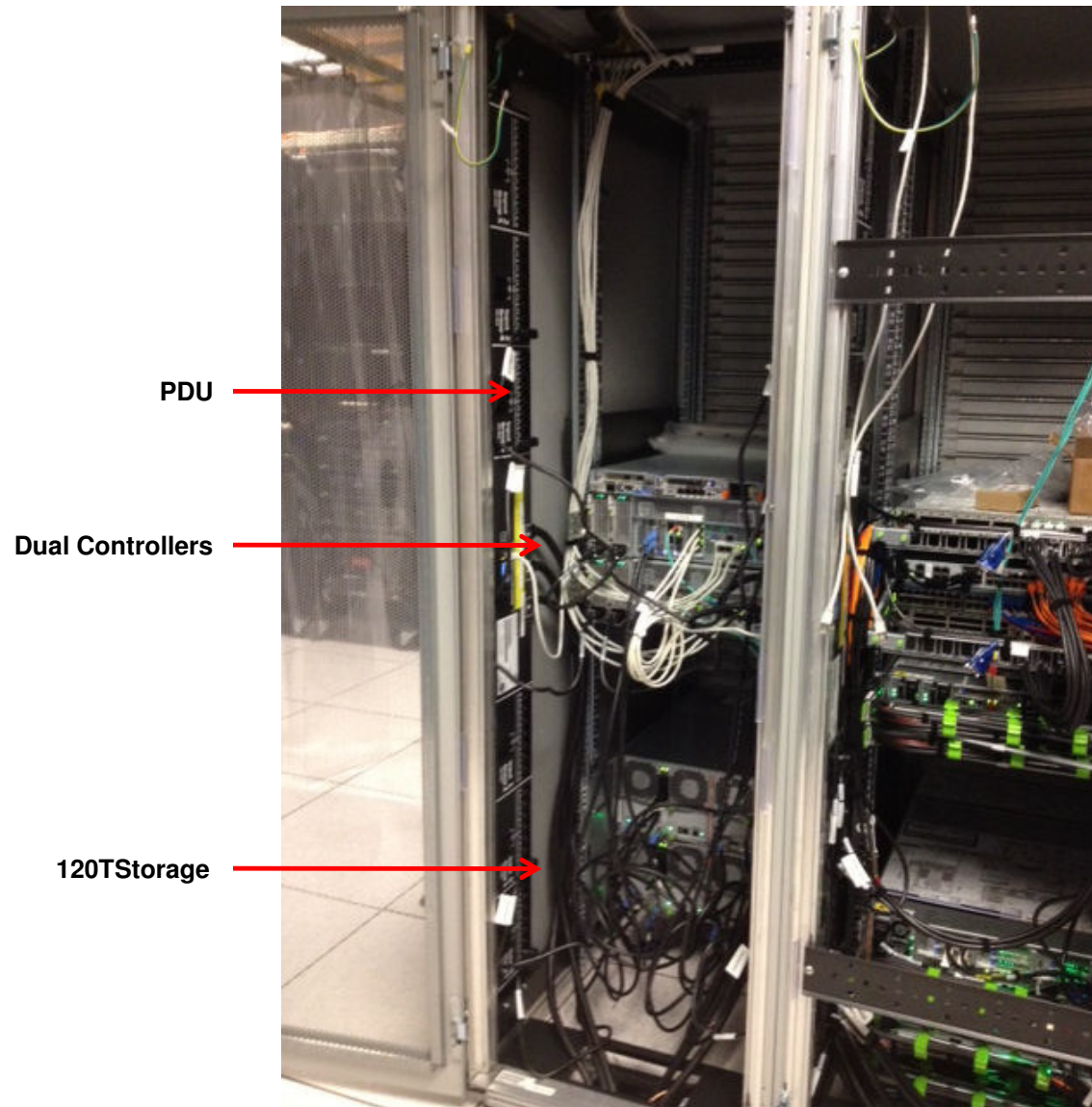
- Enterprise class Network Attached Storage (NAS)
- Choose the size that meets your needs
- Hybrid Columnar Compression (w/o an Exadata)
- Hybrid storage pools for DRAM and Flash caches
- DTrace storage analytics
- Use for
 - Backup and Restore
 - Cloning
 - Data Masking



ZFS 7420



ZFS Internals



ZFS BUI: Config Services

Sun ORACLE SUN ZFS STORAGE 7420 The cluster peer has rejoined the cluster. LOGOUT HELP Dismiss

Configuration Maintenance Shares Status Analytics

SERVICES STORAGE NETWORK SAN CLUSTER USERS PREFERENCES ALERTS

Services

Data Services

NFS	Online	2012-10-10 09:28:04		
iSCSI	Disabled	2012-9-25 16:19:08		
SMB	Disabled	2012-9-25 16:19:15		
FTP	Disabled	2012-9-20 17:49:03		
HTTP	Disabled	2012-9-20 17:49:03		
NDMP	Disabled	2012-9-25 16:19:21		
Remote Replication	Online	2012-9-20 17:49:50		
Shadow Migration	Online	2012-9-20 17:49:50		
SFTP	Online	2012-9-21 18:50:18		
SRP	Disabled	2012-9-20 17:49:03		
TFTP	Disabled	2012-9-20 17:49:54		
Virus Scan	Disabled	2012-9-20 17:49:03		

Directory Services

NIS	Disabled	2012-9-25 16:12:36		
LDAP	Online	2012-9-25 16:12:36		
Active Directory	Online	2012-9-25 15:59:30		
Identity Mapping	Online	2012-9-25 15:56:16		


System Settings


DNS	Online	2012-9-25 16:12:36		
IPMP	Online	2012-9-20 17:49:51		
NTP	Online	2012-9-24 14:23:46		
Phone Home	Disabled	2012-9-20 17:49:50		
Dynamic Routing	Online	2012-10-8 14:53:10		
Service Tags	Online	2012-9-20 17:49:50		
SMTP	Online	2012-9-25 16:12:36		
SNMP	Online	2012-9-21 18:39:52		
Syslog	Online	2012-9-21 18:20:47		
System Identity	Online	2012-9-20 17:52:32		

Remote Access

SSH	Online	2012-9-20 17:52:33		
-----	--------	--------------------	--	--

ZFS BUI: Config Storage

SUN ZFS STORAGE 7420

 The cluster peer has rejoined the cluster.

LOGOUT HELP
Dismiss







Confirm that all devices are present and minimally functional, and allocate them to a storage pool.

ABORT COMMIT

Verify and allocate devices

Step 1 of 2

Devices may be added on a per-device basis, however SATA devices in SAS-1 enclosures may be added in half- or whole-chassis units only. While affected devices may be allocated, they will not be available for use and cannot be added later without reconfiguring the pool; for best results, defer configuring storage until any problems can be repaired. Mixing devices of differing speeds within a storage pool is strongly discouraged.

NAME	MODEL	RPM	DATA	LOG	CACHE	
 c0zfs742001p	Sun ZFS Storage 7420	--	-	-	-	
 1235FMD003	Sun Disk Shelf (SAS-2)	7200	5 (49.1T)	-	-	
 1235FMD002	Sun Disk Shelf (SAS-2)	7200	18 (49.1T)	-	-	

0

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ZFS BUI: Config Storage



SUN ZFS STORAGE 7420

LOGOUT HELP
Dismiss

The cluster peer has rejoined the cluster.

Confirm that all devices are present and minimally functional, and allocate them to a storage pool.

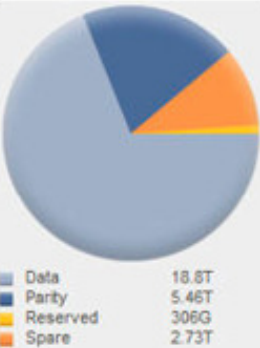
ABORTCOMMIT

Choose Storage Profile

Configure available storage into a pool by defining its underlying redundancy profile. Carefully read the profile descriptions to understand how each balances the inherent trade-offs between availability, performance, and capacity, and select the profile that best fits your workload. If available, NSPF indicates no single point of failure, which affords certain profiles the ability for a pool to survive through loss of a single disk shelf.

Step 2 of 2

Storage Breakdown



Data

18.8T

Parity

5.46T

Reserved

306G

Spare

2.73T

Data Profile

TYPE ^	NSPF	AVAILABILITY	PERFORMANCE	CAPACITY	SIZE
Double parity	No	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	18.8T
Mirrored	Yes	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	10.7T
Mirrored	No	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	10.7T
Single parity, narrow stripes	No	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	16.1T
Striped	No	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	26.9T
Triple mirrored	Yes	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	8.06T
Triple mirrored	No	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	8.06T
Triple parity, wide stripes	No	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div></div>	16.1T

Disk Breakdown

Data + Parity

9 disks

Spare

1 disks

Log

0 disks

Cache

0 disks

Data profile: Double parity

Each array stripe contains two parity disks, yielding high availability while increasing capacity over mirrored configurations. Double parity striping is recommended for workloads requiring little or no random access, such as backup/restore.

ZFS BUI: Config Network Config

The screenshot shows the Sun ZFS Storage 7420 Network Configuration page. The top navigation bar includes 'Configuration', 'Maintenance', 'Shares', 'Status', and 'Analytics'. Below this is a sub-navigation bar with 'SERVICES', 'STORAGE', 'NETWORK' (selected), 'SAN', 'CLUSTER', 'USERS', 'PREFERENCES', and 'ALERTS'. The main content area is titled 'Network' and has tabs for 'Configuration', 'Addresses', and 'Routing'. A brief instruction states: 'To configure networking, build Datalinks on Devices, and Interfaces on Datalinks. Click on a pencil icon to edit object properties. Select an object to view its relationship to other objects. Drag objects to extend Aggregations or IP Multipathing Groups.' There are 'REVERT' and 'APPLY' buttons. The page is divided into three columns: 'Devices' (12 total), 'Datalinks' (4 total), and 'Interfaces' (4 total).
Devices:
- BUILT-IN: igb0 (1Gb full), igb1 (1Gb full), igb2 (link down), igb3 (link down).
- PCIe 3: ixgbe0 (10Gb full), ixgbe1 (link down).
- PCIe 6: ixgbe2 (10Gb full), ixgbe3 (link down).
- PCIe 7: ibp2 (port down), ibp3 (port down).
- PCIe 2: ibp0 (port down), ibp1 (port down).
Datalinks:
- igb0 (via igb0)
- igb1 (via igb1)
- ixgbe0 (Custom MTU(9000), via ixgbe0)
- ixgbe2 (Custom MTU(9000), via ixgbe2)
Interfaces:
- head1 net0 (IPv4 static, 192.168.40.248/22, via igb0)
- head2 net1 (IPv4 static, 192.168.40.249/22, via igb1)
- private10gb (IPv4 static, 10.221.112.49/24, via ixgbe0)
- private10gb2 (IPv4 static, 10.221.112.50/24, via ixgbe2)

ZFS BUI: Configuration Services LDAP

The screenshot shows the Sun ZFS Storage 7420 BUI interface. At the top, the Sun and Oracle logos are on the left, and the user 'Super-User@c0zfs742001p' is logged in. The main navigation bar includes 'Configuration', 'Maintenance', 'Shares', 'Status', and 'Analytics'. Below this, a sub-navigation bar lists 'SERVICES', 'STORAGE', 'NETWORK', 'SAN', 'CLUSTER', 'USERS', 'PREFERENCES', and 'ALERTS'. The 'Services' tab is active, showing the 'LDAP' service configuration. The 'LDAP Directory Service' section explains its purpose and provides links for help and Wikipedia. The configuration fields include: 'Protect LDAP traffic with SSL/TLS' (unchecked), 'Base search DN' (dc-unix, dc-m1ib,dc=com), 'Search scope' (Subtree (recursive) selected), 'Authentication method' (Simple (RFC 4513) selected), 'Bind credential level' (Anonymous selected), and 'Schema definition' (Edit...). Below these fields, a 'Servers' section shows a table with one server entry: 'perrito3.m1ib.com:389'. The table has columns for 'SERVER', 'CERTIFICATE', and 'EXPIRES'.

Sun
ORACLE | SUN ZFS STORAGE 7420

Super-User@c0zfs742001p LOGOUT HELP

Configuration Maintenance Shares Status Analytics

SERVICES STORAGE NETWORK SAN CLUSTER USERS PREFERENCES ALERTS

Services LDAP Properties Logs

Back to Services 2012-10-11 12:30:32 Online REVERT APPLY

LDAP Directory Service
Recognize users and groups defined in an LDAP directory. Once the LDAP service is configured, go to Configuration/Users to give users permission to log into the administrative interface.

See Also
Help: LDAP
Wikipedia: LDAP

Protect LDAP traffic with SSL/TLS ☐

Base search DN

Search scope ☐ One-level (non-recursive)
☒ Subtree (recursive)

Authentication method

Bind credential level ☒ Anonymous
☐ Proxy
DN
Password
☐ Self

Schema definition [Edit...](#)

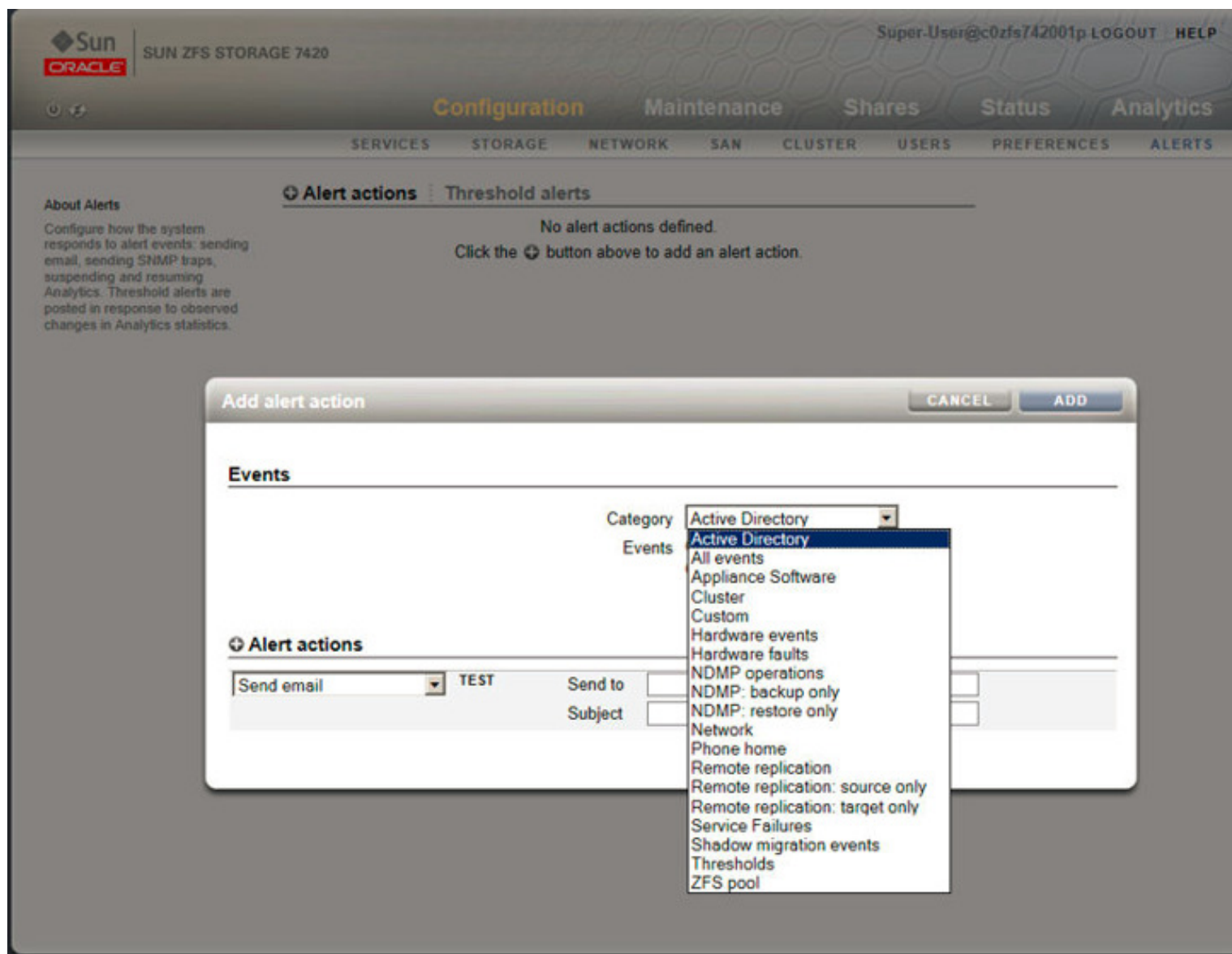
Servers 1 Total

SERVER	CERTIFICATE	EXPIRES
perrito3.m1ib.com:389		

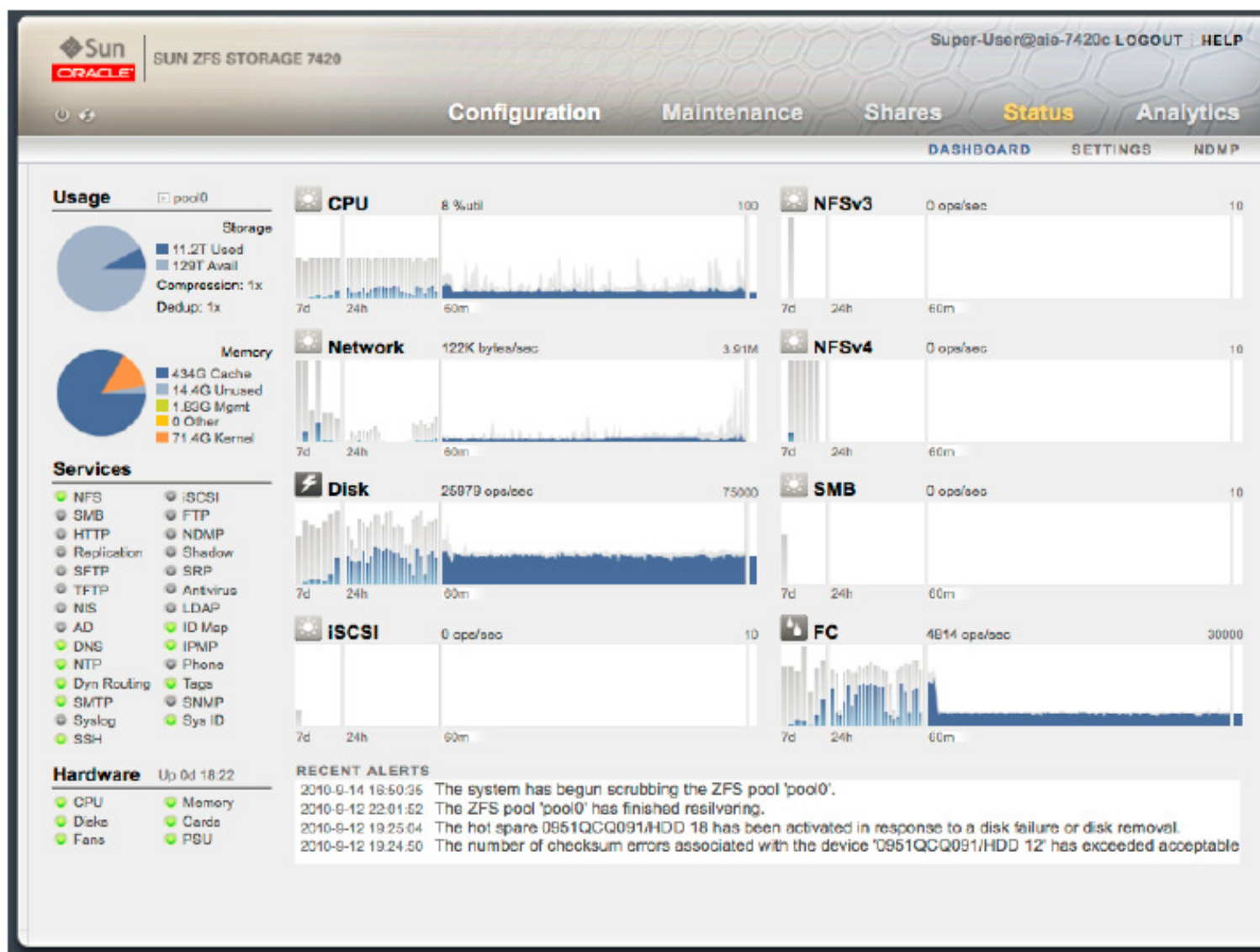
ZFS BUI: Maintenance Logs

		Configuration	Maintenance	Shares	Status	Analytics
		HARDWARE		SYSTEM	PROBLEMS	LOGS
				WORKFLOWS		
Alerts 119 Total				100-119		
ALERTS		FAULTS		SYSTEM		
				AUDIT		
				PHONE HOME		
TIME	EVENT ID	DESCRIPTION				TYPE
2012-9-24 15:29:46	63714813-695f-c125-f88e-e434ebd2f7d	The system has finished scrubbing the ZFS pool 'GENERIC'.				Minor Alert
2012-9-24 15:29:46	a6838d57-8ee4-43d2-e42f-c695e62ccb0e	The system has begun scrubbing the ZFS pool 'GENERIC'.				Minor Alert
2012-9-24 15:14:54	4ada53dd-7124-cfc6-dbd1-c279f717d381	The system has finished scrubbing the ZFS pool 'RMANBACK'.				Minor Alert
2012-9-24 15:14:53	8e22aee9-a6b4-4c79-cb9f-f61bb1b5fe8d	The system has begun scrubbing the ZFS pool 'RMANBACK'.				Minor Alert
2012-9-24 14:23:44	2d5106de-ee58-c299-c247-8882df53fb7	Network connectivity via datalink ixgbe0 has been established.				Minor alert
2012-9-24 14:23:44	0a2e7265-49b1-cb50-e280-d1812ff449d1	Full IP connectivity via interface ixgbe0 has been established.				Minor alert
2012-9-24 14:23:44	cd81ccf9-8ee1-eb79-f46e-9e86513c2ad3	Network connectivity via port ixgbe0 has been established.				Minor alert
2012-9-24 14:23:30	985892eb-6a10-653d-c73a-d901f91f5443	Network connectivity via datalink ixgbe0 has been lost.				Major alert
2012-9-24 14:23:30	0d81abd7-c431-e3b4-835f-cfcc01170dac	IP connectivity via interface ixgbe0 has been lost due to link-based failure.				Major alert
2012-9-24 14:23:30	b979b7b9-9129-e2d5-ae44-b5bc6bc3c1ae	Network connectivity via port ixgbe0 has been lost.				Minor alert
2012-9-24 14:23:16	78d4a9b8-5664-44a9-afd7-d8eab505b33a	Full IP connectivity via interface ixgbe2 has been established.				Minor alert
2012-9-24 14:23:15	d8a8d18b-346c-665e-c9af-acef6acdd23c	Network connectivity via datalink ixgbe2 has been established.				Minor alert
2012-9-24 14:23:15	b55569fb-330b-496a-a619-cd30001473de	Network connectivity via port ixgbe2 has been established.				Minor alert
2012-9-24 14:23:10	9022ff22-7be1-e65c-f929-da96173fa21f	IP connectivity via interface ixgbe2 has been lost due to link-based failure.				Major alert
2012-9-24 14:23:10	d70af351-ca2a-cb6d-8a54-b6e9f1366c8b	Network connectivity via datalink ixgbe2 has been lost.				Major alert
2012-9-24 14:23:10	01c8f48b-06a9-c95c-d560-efe98a944f39	Full IP connectivity via interface ixgbe2 has been established.				Minor alert
2012-9-24 14:23:10	2246e904-22ad-4a40-ca2c-d5f5b2d357ec	Network connectivity via port ixgbe2 has been lost.				Minor alert
2012-9-24 14:23:10	ddcc68fb-eaef-4b7f-83a4-9ca3e75d0543	Network connectivity via datalink ixgbe2 has been established.				Minor alert
2012-9-24 14:23:10	de514e43-5839-6b58-92a3-e31a44caeb06	Network connectivity via port ixgbe2 has been established.				Minor alert
2012-9-24 14:23:10	68f550f6-d4f2-c76e-ea2b-babf8d03c455	IP connectivity via interface ixgbe2 has been lost due to link-based failure.				Major alert

ZFS BUI: Configuration Alerts



ZFS Storage Appliances



Syllabus

- Other Activities
- Mandatory Disclaimer
- ODA: Oracle Database Appliance
- ZFS Storage Appliance
- OVM: Oracle Virtual Machine



Virtual Machines

- There are a lot of VMs on the market
 - VMWare
 - Hyper-V
 - IBM LPar (Logical Partitions)
 - AIX - P Series
 - zLinux - Z Series
 - Sun Containers
 - 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

Why Does OVM Exist?

- Think about Oracle's development environment
- Think about virtualizing on one machine versus materializing on multiple machines
 - Enterprise Architecture
 - Resource pools

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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 \(PDF\)](#)

OVM

The screenshot shows the Oracle VM documentation page on the Oracle Technology Network (OTN) website. The page layout includes a top navigation bar with the Oracle logo, a search bar, and links for Sign In/Register, Help, Country, Communities, I am a..., I want to..., Products, Solutions, Downloads, Store, Support, Training, Partners, and About. Below this is a breadcrumb trail: Oracle Technology Network > Server and Storage Systems > Oracle VM > Documentation. The main content area is divided into three columns. The left column is a sidebar with a list of product categories: Engineered Systems, Ksplice, Oracle Linux, Oracle Optimized Solutions, Oracle VM, Oracle VM VirtualBox, SAN Storage, Secure Global Desktop, Server Management Tools, Solaris 10, Solaris 11, Solaris Cluster, Solaris Studio, SPARC Servers, StorageTek Tape Storage, Sun Blade 6000 Modular Systems, and Sun Desktops & Peripherals. The middle column contains the 'Documentation' tab selected, showing the 'Oracle VM Server for x86 and Oracle VM Manager Documentation Library' and the 'Oracle VM Server for SPARC Documentation Library'. The right column contains the 'Compatibility & Templates' tab selected, showing links to Hardware Certification List, Oracle Validated Configurations, VM Templates, News, Training, Blogs, and Valuable Assets.

ORACLE

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- [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

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Compatibility & Templates

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News

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

Open Universities Realizes Valuable Savings with Oracle VM

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Blogs

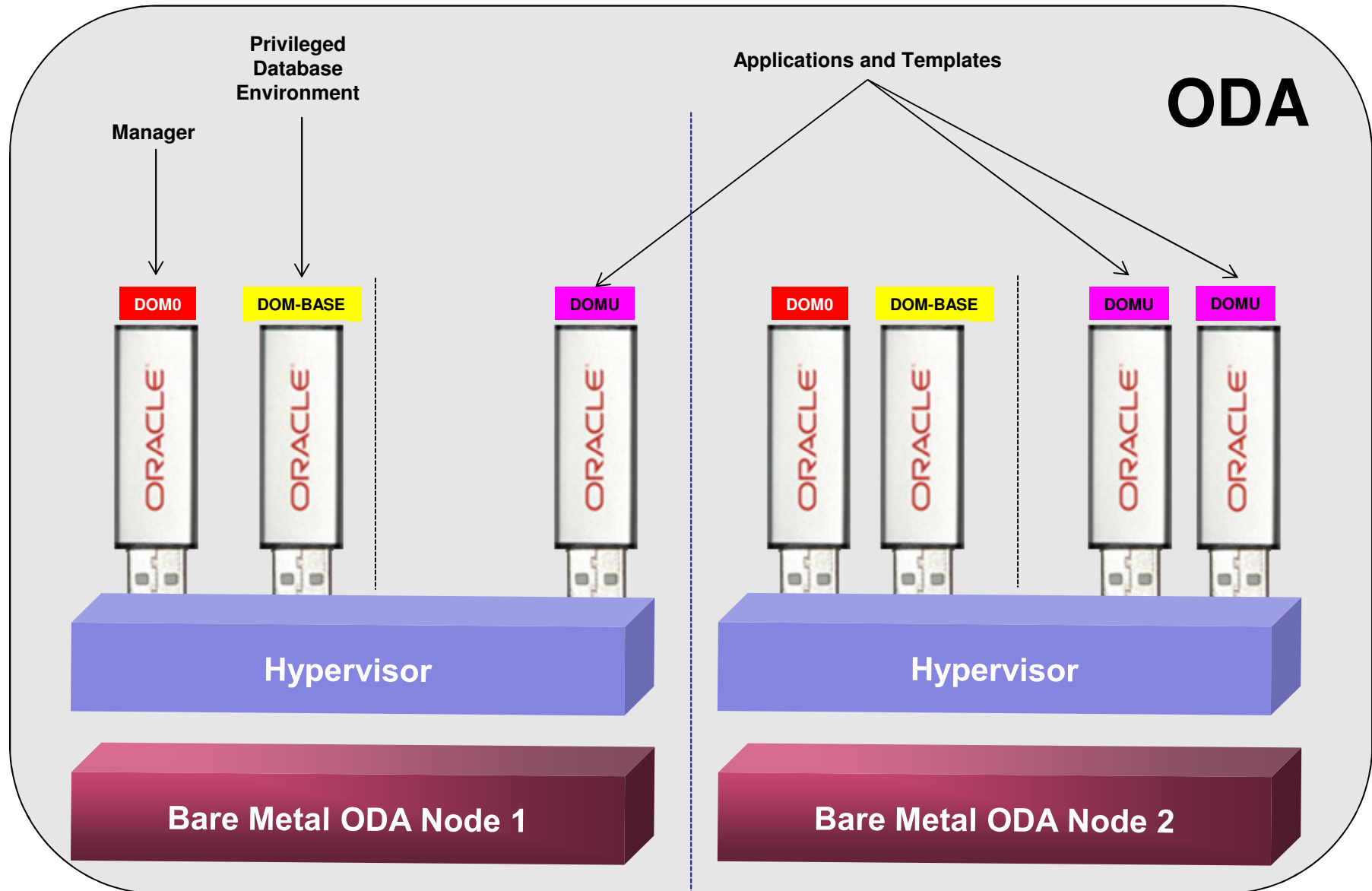
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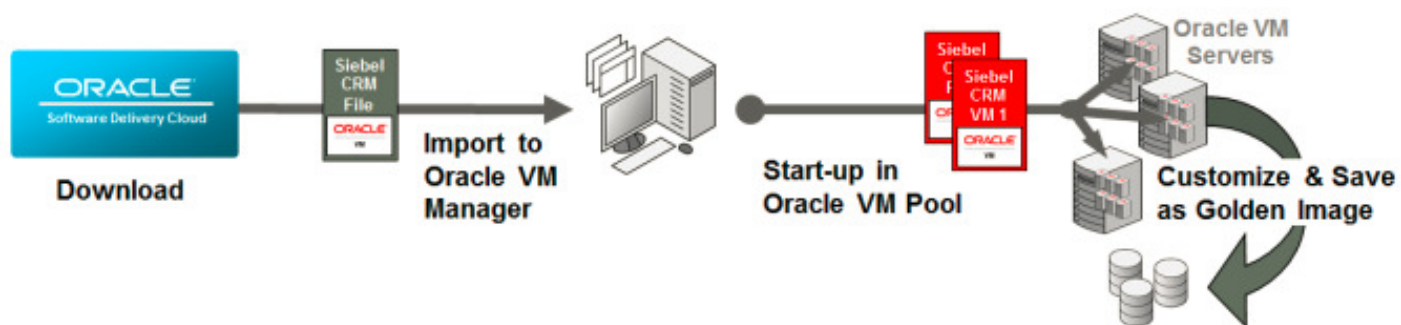
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Valuable Assets

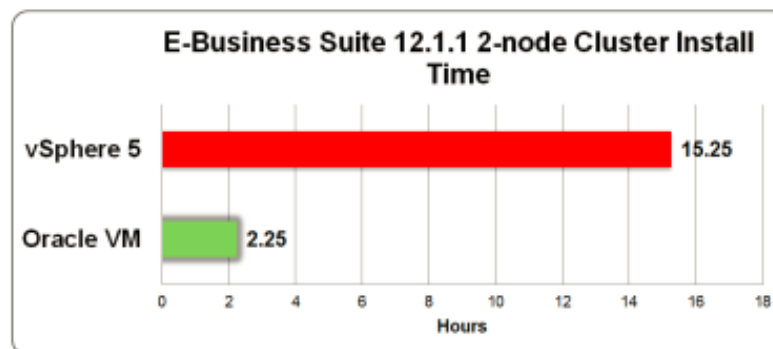
ODA OVM Architecture



OVM



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



Questions

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



Thank you

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



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