Installation Guide

Physical Batch Servers

Installation and Configuration Guide for: Physical Batch Servers

Installation Guide

	DOCUMENT APPROVAL HISTORY
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Approved By	

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1. INTRODUCTION

Physical Batch Servers run the daily and weekly batch reports which are handled by the Control-M application. This runbook provides the details steps to install and configure the physical batch servers.

2. ROLES AND RESPONSIBILITIES

The table below lists the roles and responsibilities associated with this application.

ROLE	RESPONSIBILITY
Systems Administrators	 Documenting the base installation steps Completing the base installation into each environment using environment specific installation variables provided by Application Engineering Completing subsequent re-installs based on updated runbook content and environment specific variables provided by Application Engineering
Application Engineering	 Documenting environment specific variables for each application Maintaining section 10.4 - Post Installation Configuration Procedures of each application runbook Reviewing and accepting each installation

Table 1 Roles and Responsibilities

3. BACKUP & RESTORE PROCESS

All applications and application data are backed up to the ZFS appliance located within the Primary Datacenter. Restorations can be requested through the Service Request portal.

The current backup and retention schedule is as follows:

Table 2 Backup and Retention Schedule

TYPE	SCHEDULE	RETENTION
Daily	M-F @ 10pm	Fourteen (14) days or back to the last Application Software version, whichever is longer;
Weekly	Sunday 11pm	Six (6) weeks
Monthly	Last day of the month @ 11pm	Four (4) months

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TYPE	SCHEDULE	RETENTION
Quarterly	Last day of the quarter @ 11pm	Four (4) quarters
Annual	Last day of the year @ 11pm	Seven (7) years
Disaster recovery		Last two (2) functional versions of the Application Software

For more information, see the operations documentation.

4. CONFIGURATION OF SERVICE DEVICE

This runbook provides generic installation, configuration, and support instructions. Because system consists of multiple environments with unique requirements, running across multiple physical and logical devices, these instructions use variables in a way that allows application of a common set of instructions to a diverse set of implementations.

The environment specific value(s) for each variable can be found in SharePoint.

5. MONITORING

5.1 What is Monitored

The Network Operations Center (NOC) is responsible for monitoring availability for all applications and all physical and virtual infrastructure components (servers, vServers, VDIs, networks, network devices). Tools deployed by the NOC team also provide performance and capacity monitoring information used by the Capacity Manager. The NOC team also provided SOC (Security Operations Center) and CSOC (Cyber Security Operations Center) monitoring services using tools deployed by the IT Security Manager.

5.2 How is it Monitored

During the Development and Test phase, the Network and Security Operations Center staff provides co-located application and infrastructure event monitoring Monday through Friday between 6am and 8pm. Additionally, Ops Center personnel can support temporary surges of 24/7 co-located monitoring. Major and critical alerts are also configured to contact Ops Center personnel in real-time.

Devices and individual applications are monitored via full-spectrum monitoring solutions, including Oracle Enterprise Manager and BMC Patrol. Network monitoring is

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performed via SolarWinds, which also acts as an additional infrastructure monitoring tool as well. Finally, a proprietary tool known as Total Information Management, created specifically for the program, monitors and reports on infrastructure as well. These tools capture performance and capacity data and provide alerts in the event that a device or application is offline, with a great deal of redundancy in order to catch every possible alert. Presently, security monitoring is conducted via TippingPoint Security Management Server, alerting Ops Center personnel to any suspicious network traffic in real time. ArcSight, an integrated security incident and logging management tool will soon be introduced to the development environment.

Detailed monitoring processes and procedures are provided within the operations documentation.

5.3 Ticket Coding

Through the use of automated scripts and manual templates, Incident tickets are opened for all exceptions identified by the monitoring tools. Many of the scripts and templates include severity and escalation information designed to expedite event investigation and tracking.

5.4 On Call List

For incidents where immediate technical support is required, refer to the On Call list found in the SharePoint. This list is updated weekly.

5.5 Subject Matter Expert List

Business and technical subject matter experts have been identified for each application. This Subject Matter Expert (SME) list is part of the On Call List in SharePoint.

6. PATCHING AND UPDATES

6.1 Schedule

Because version control is critical to the overall stability of each environment, all patches and updates require thorough testing and are completed on an "on request" basis. While the long term plan is to use Oracle OEM as the approved tool for all application patching and updates, this is currently being accomplished in a more manual fashion. In all cases, compliance with the Change Management process is mandatory for all patching and updates.

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6.2 Work Instructions

The Application Engineering (AE) team initiates all patch / update activity. AE performs the initial assessment of patches and initiates the Change Request required to gain change approval. When appropriate, specific work instructions will be developed for each patch or update.

6.3 Service Lifecycle

Once implemented, the BMC Configuration Management Database (CMDB) will provide a centralize view into the complete service lifecycle of each Configuration Item (CI). Information found in the CMDB will include "in service" date, version information, pointers to Incidents and Changes, and other elements required to gain a full understanding of the CI lifecycle.

7. RESTORATION

This section details the steps required to successfully restart this application in the event that it fails. Consideration should be given to re-establishing communication with other processes and to potential impact on "in flight" transactions" when the application failed.

7.1 Dependencies including Data Integrity Considerations

No dependencies have been established for restarting this application at this time. This section will be updated as additional information becomes available.

7.2 Restart Instructions

During system startup, application startup scripts are executed to initialize each application.

Specific restart instructions will be provided as they become available.

7.3 Verification Instructions

Specific verification instructions will be provided as they become available.

8. STORAGE MANAGEMENT

8.1 Quotas / Locations

This section establishes storage location and quotas for the application and for the various files that the application creates.

Installation Path <<Installation Path>>

-8-

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User Data: <<User Data Path>>

Log files: <<Log Path>>

Cache files: <<Cache Path>>

Backup Files: <<Backup Path>>

Disk quotas for this application include:

No application specific quotas have been defined at this time.

8.2 Alert Levels

Storage utilization alerts are set and monitored for each physical and virtual server and for all VDIs. Alert thresholds are as follows:

Informational 70% Utilized

Warning: 80% Utilized

Critical: 95% Utilized

8.3 Retention requirements

During the Development and Test phase of this project, specific requirements for online, near-line, and archival retention have not been set. These requirements will be defined, with County input, prior to go live.

9. DATA INTEGRITY

9.1 What to Monitor

9.2 How to Monitor

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10. INSTALLATION GUIDE

10.1 Pre-installation

10.1.1 Download Instructions

1. Find the ILOM IP address from the latest **Servers-NIC.xls** spreadsheet. In the example below, the IP address is<<IP Address>>.

Figure 1 Servers-NIC.xls Spreadsheet

170 171			10.67.121.178	eth1 eth7		255.255.255.0	10.67.121.253	pdlpdeapp01-ilo
172 pdlpdeapp01	DEV- Sun X3-2 Batch Processing 1	Dev	10.67.109.166	eth3 (fiber) eth5 (fiber)	sun-dev sw1-13 sun-dev sw2-13	255.255.255.128	10.67.109.253	IP:10.67.121.142 NM:255.255.255.0 GW:10.67.121.253

2. Download the Oracle Linux 6.4 (64bit) ISO, named **OracleLinux6.4.iso**, from the RHEL WebServer located here:

http://10.67.109.24/web/iso

NOTE: Only the X3-2 version server has the features to install OEL ISO compatibles 6.1 or 6.2. Therefore, the workaround is to install with the ISO 6.2 v29459-01 and let the finish script/yum update bring it in line with latest OEL 6.5 Version.

- 10.1.2 Account information
- 10.1.3 Product Key Locations

10.1.4 Other Requirements and Dependencies

10.2 Prerequisites

- 1. The physical server has already been racked.
- 2. An ILOM (Integrated Lights Out Manager) has already been configured.

WARNING: If an ILOM has not yet been configured, do not proceed with this document.

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10.3 Installation Procedures

1. Using Internet Explorer (Firefox does not work well for this), point your browser at the ILOM IP and login using the root/<Infrastructure password>.

Figure 2 ILOM Login Screen

C S & https://10.67.148.142/ D + & Cer., 2 C	R RMC Remedy (Search)	Precia/01 Integrate
x Norton THIS PAGE IS O ACCESS	ARE VIA CEBOOK	onucity integration in
http://www.com/action/		
	ABOUT	
		ORACLE
	Java ⁻	Oracle® Integrated Lights Out Manager SP Hostname: bdpdrapp01-i0 User Name: [root] Password:
	Copyright © 2013, Oracle and/or its affiliates. All rights i trademarks of their respective owners.	eserved. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be

2. After login, click on Remote Console Launch button to launch the remote console.

Figure 3 ILOM Summary Screen

w system summary information. You	may also change power state and view sys	stem status and fault information.		
General Information		Actions		
System Type	Rack Mount	Power State		Tur 04
Model	SUN FIRE X4170 M3		ON	Tum Off
Part Number	31754111+28+1	Locator Indicator	OFF OFF	Turn On
Serial Number	1319FML003	Oracle Sustem Assistant	1000	
System Identifier	-	Version: 0.0.0		Launch
System Firmware Version	3.1.2.10.b	System Firmware Update		
Primary Operating System	Not Available			Update
Host Primary MAC Address	00:10:e0:23:c6:1e	Remote Console		Launch
ILOM Address	10.67.121.142			Eddnor
ILOM MAC Address	00:10:E0:23:C6:22			

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3. On the Java pop up window click **OK**.

Figure 4 Java Pop Up



4. On the file message pop up click **Open**.

Figure 5 File Message Pop Up

Do you want to op	pen or save jnlpgenerator-16.jnlp from 10.67.148.142 ? Open	Save	•	Cancel	×
		-			

5. On the Internet Explorer Security pop up click Allow.

Figure 6 Internet Explorer Security Pop Up



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6. On the Security Warning pop up click **Continue**.

Figure 7 Security Warning Pop UP



7. When the pop up appears that asks you if you want to run this application click **Run**.



Do you want t	o run this	application?				
	Name:	com.ami.javarconsole.ui.FrameMain				
	Publisher:	Orade America, Inc.				
Ē	Locations:	: https://10.67.148.142:443				
		Launched from downloaded JNLP file				
This application will ru information at risk. R	This application will run with unrestricted access which may put your computer and personal information at risk. Run this application only if you trust the locations and publisher above.					
This application will b update because the Permissions attribute information. More In	e blocked in a f JAR file manife a. Please conta iformation	future Java security est does not contain the ct the Publisher for more				

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8. If you are prompted for a username and password, use the same one you used in Step 1.

Figure 9 ILOM Remote Console Login



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 You will see a screen similar to the one shown below. Reset it by doing Keyboard→Control Alt Delete.



Figure 10 ILOM Remote Console

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10. Press F9 to launch the Oracle SystemAssistant.

Figure 11 ILOM Remote Console After Reset



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11. The system will appear to be looping about a dozen times. Then you will see a screen similar to the one shown below. Click **Accept**.



Figure 12 Software License Agreement Window

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12. When the following window appears click **Close**.

Figure 13 About Oracle System Assistant Window



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13. The Oracle System Assistant will appear. Click on the **Configure Hardware** button.

System Information	System Overview System Inventory	k
a (111 1	Product Name:	SUN SERVER X4-2
Configure Network	Serial Number:	1419NMLOBX
Get Updates	System Type:	Rack Mount
	System Identifier:	(none)
Update Firmware	BIOS Version:	25010601
Configure Hardware	BIOS Mode:	Legacy
	ILOM Version:	3.1.2.30.a rB3B40
Install OS	ILOM IP Address:	10.67.148.142
Proforences	II OM MAC Address:	00:10:E0:57:48:46
Treferences	Host IP Address:	<pre>chending></pre>
Advanced Tasks	Host MAC Address	00:10:E0:57:48:42 (net0)
	and install operating system(s). For more information, click Help bu AThe network needs to be setup. To set up the network, go to <u>Confic</u>	tton. <u>gure Network</u> təsk.
	Keyboard Language To change your keyboard language,	go to the Preferences task and select <u>Keyboard Language</u> .

Figure 14 Oracle System Assistant

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14. On the RAID Configuration tab, from the HBA dropdown select the available hardware bus adapter.

<u>ه</u>	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Devices Keyboard Vide	0
10.67.148.142	
ORACLE' System A	ssistant platform software release 1.0.1
System Information Configure Network Get Updates Update Firmware	RAID Configuration Service Processor Configuration BIOS Configuration HBA Select from available HBAs P To create Solicit from available HBAs pcate disks to the volume. To learn m SoxSAS6 R-NT-2 ton. ton. - Select RAID level- • •
Configure Hardware	
Install 05	
Preferences	
Advanced Tasks	
Platform Documentation	Help

Figure 15 RAID Configuration Tab – HBA Dropdown

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15. From the Select RAID level dropdown choose **RAID 1**. This creates an OS mirror.

System Information	HBA S	GX-SAS6-R-INT-2	Processor Cor	figuration	BIOS Configura	tion		
Get Updates	To create a To learn mor	volume, first sel re about RAID le	ect RAID level. ' vels, click the H	Then allocate Help button.	disks to the v	olume.		
Update Firmware	- Select RAI	D level-						
Configure Hardware	RAID 0	Diever						Details/
Install 05	RAID 10		Vendor	Size	(GB) Ty	pe	State	Actions
Advanced Tasks								
Advanced Tasks	Created Vo	a Volume						
Advanced Tasks	Create Created Vo	e Volume olumes Volume ID	RAID Level	Size (GB)	Number Of Disks	Current Boot Devic	Volume	Details/ Actions
Advanced Tasks	Create Created Vo Volume Name	e Volume olumes Volume ID sdb	RAID Level	Size (GB) 557	Number Of Disks	Current Boot Devic	e Volume State Optimal	Details/ Actions Details
Advanced Tasks	Created Vo Volume Name	e Volume olumes Volume ID sdb sdc edd	RAID Level	Size (GB) 557 557 557	Number Of Disks	Current Boot Devic	e Volume State Optimal Optimal	Details/ Actions Details Details Details
Advanced Tasks	Create Created Vo Volume	a Volume blumes Volume ID sdb sdc sdd sde	RAID Level 0 0 0 0 0	Size (GB) 557 557 557 557 557	Number O Disks 1 1 1 1	Current Boot Devic	e Volume State Optimal Optimal Optimal	Details/ Actions Details Details Details Details

Figure 16 RAID Configuration Tab – Select RAID Level Dropdown

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16. Highlight and delete all previously allocated volumes by first clicking on the volume in the Volume ID column then clicking the **Delete Volume** button.

			Oracle(R) Int	egrated Light	s Out Manage	r Remote Cons	ole	
edirection Devices Keyboard Video	0							
10.67.148.142								
	ssistant PL	ATFORM SOFTW	ARE RELEASE	1.0.1				
System Information	RAID Configu	ation Service	Processor Cor	nfiguration E	IIOS Configurat	on		
- System memorial	HBA S	X-SAS6-R-INT-2	2	*				
Configure Network	To create a v	olume, first sel	ect RAID level.	Then allocate	disks to the vo	lume.		
Get Updates	To learn mon	e about RAID le	vels, click the H	lelp button.				
Update Firmware	RAID 1							
Configure Hardware	Available D	isks						
Install OS	Select To Allocate	Device	Vendor	Size (GB) Typ	e St	ate	Details/ Actions
Preferences								
Advanced Tasks								
	Created Vo	lumes						
	Volume	Volume ID	RAID Level	Size (GB)	Number Of	Current Dept Davise	Volume	Details/
	wame	sdb	0	557	1	BOOL DEVICE	Optimal	Details
		sdc	ò	557	i		Optimal	Details
		sde	0	557 557	1		Optimal	Details
	Delete	Volume						
Platform Documentation	Help							Exit

Figure 17 RAID Configuration Tab – Delete Volume

17. When the Warning message appears click Yes.

Figure 18 Warning Message



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18. To create a new volume, in the Available Disks table check the boxes for disk0 and disk1 only (the top two boxes) for the mirror. Then click the **Create Volume** button.

direction Digvices Keyboard Video TOTACLE' System Assistant PLATFORM SOFTWARE RELEASE 1.0.1 PRAD Configuration Service Processor Configuration BIOS Configuration Configure Network Get Updates Update Firmware Configure Herdware Available Disks Network Advanced Tasks Device Vendor Size (GB) Type State Actions Details Device Vendor Size (GB) Type State Actions Details Device Vendor Size (GB) Type State Actions Created Volume Created Volume Created Volume Details Device Vendor Size (GB) Number Of Current Volume Details Created Volume Delete Volume Help Help Evitorm Documentation Help Evitorm Decumentation Help Evitorm Decumentation Help Evitorm Decumentation				Oracle(R) Inte	grated Lights	Out Manager	Remote Cons	ole	
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Get Updates To learn more about RAUL level. Mich Hand Level Subs to the volume. Update Firmware RAD 1 Configure Hardware Available Disks Install OS Preferences Advanced Tasks Select To Device Vendor Select To Device Vendor Size (GB) To learn more about RAUL Host. RAD 1 * Available Disks Select To Device Preferences M M Enc252-Slot0 HITACHH S58 Sale Catter Details Enc252-Slot0 HITACHH State Details Enc252-Slot1 HITACHH State Unconfigured Details Enc252-Slot2 Create Volume Created Volume Created Volume Disks Delete Volume Disks Delete Volume Disks Delete Volume Ext	Configure Network	To crooto o v	olumo, first solo	et RAID level T	ben allesate d	licks to the vol			
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Platform Documentation Help Ext		Name				DISKS	BOOL Device	State	ACTIONS
Platform Documentation Help Ext									
Platform Documentation Help Ext									
Platform Documentation Help Ext									
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Platform Documentation Help Ext		Delete	Volume						
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Platform Documentation Help Exit									
Platform Documentation Help Exit									
Plational Documentation Help	Distant Desumentation	1 tala							E. H
	Platform Documentation	Heip							Exit

Figure 19 RAID Configuration Tab – Create Volume

19. In the Create Volume window that appears, enter **os-mirrow** in the Volume Name textbox and click the **Create** button.

Figure 20 Create Volume Window

Ň	Create Volume	
You may name the vo	lume and choose s	stripe size.
Volume Name:	os-mirror	
Stripe Size (KB):	64	
	C	Cancel

Installation Guide

20. The RAID Configuration Progress window will appear.

Figure 21 RAID Configuration Progress Window



21. Make a note of the new volume ID. In the example below the ID is **sdb**.

Figure 22 RAID Configuration Tab – New Volume

System Information	RAID Configur	ation Service Pi	rocessor Config	uration BIOS Co	onfiguration		
Configure Network	HBA SC	3X-SAS6-R-INT-Z					
Get Updates	To create a v	olume, first selec a about BAID leve	t RAID level. The Is, click the Heli	en allocate disks o button.	to the volume.		
Update Firmware	RAID 1	•					
Configure Hardware	Available D	isks					
Install OS	Select To Allocate	Device	Vendor	Size (GB)	Туре	State	Details/ Actions
Preferences		Enc252-Slot	2 HITACHI	558	SAS	Unconfigured	Details
	Create						
	Created Vo	lumes					
	Created Vo	lumes Volume ID	RAID Level 5	Size (GB) Nu	mber Of Cur	rent Volume	Details/
	Created Vo Volume Name os-mirror	lumes Volume ID sdb	RAID Level 5	Size (GB) Nui 1557 2	mber Of Cur Disks Boot	rent Volume Device State Optimal	Details/ Actions Details

Installation Guide

22. Now it is time to install the OS. On the left side of the Oracle System Assistant click on the **Install OS** button.

System Information	RAID Configu	ration Service Pr	rocessor Con	figuration BIO	S Configuratio	n		
Configure Network	HBA S	GX-SAS6-R-INT-Z		•				
Get Updates	To create a v	olume, first select	t RAID level. 1	hen allocate di	sks to the volu	ime.		
Liadata Sizeuroza	RAID 1	e about HAID level	IS, CIICK LITIE H	eip button.				
Opuace Pirmware								
Configure Hardware	Available D	isks						
Install OS	Select To Allocate	Device	Vendor	Size (GE	3) Type	Sta	ate	Details/ Actions
Preferences		Enc252-Slot	2 HITACHI	558	SAS	Ur	nconfigured	Details
Advanced Tasks		Enc252-Slot	3 HITACHI	558	SAS	Ur	ncontigured	Details
	Created Vo	numes			Mumber Of	Comment	Makinga	Detailed
	Created Vo Volume Name	Volume ID	RAID Level	Size (GB)	Number Of Disks	Current Boot Device	Volume State	Details/ Actions
	Created Vo Volume Name os-mirror	Volume ID I sdb	RAID Level	Size (GB) 557	Number Of Disks 2	Current Boot Device	Volume State Optimal	Details/ Actions Details

Figure 23 Oracle System Assistant – Install OS

Installation Guide

23. From the Select Operating System dropdown select Oracle Unix 6 Update 4.

\$	Oracle(R) Integrated Lights Out Manager Remot	e Console
Redirection Devices Keyboard Video		
10.67.148.142		
ORACLE' System As	sistant PLATFORM SOFTWARE RELEASE 1.0.1	
System Information	INSTALL OPERATING SYSTEM	
Canflature Makingeli	- Select Operating System -	
Conligure Network	- Select Operating System -	
Get Updates	Microsoft Windows Server 2008	
Update Firmware	Microsoft Windows Server 2008 R2 Microsoft Windows Server 2012	
Configure Hardware	Oracle Linux 5 Update 9	
Install OS	Oracle Linux 6 Update 3 Oracle Linux 6 Update 4	
Preferences	Oracle Solaris 10 Update 11	
Advanced Textu	Oracle Solaris 11 Update 1 Oracle VM Server 3 2 1	
Advanced Tasks	Oracle VM Server 3.2.2	
	Oracle VM Server 3.2.3	
Platform Documentation	Help	Exit

Figure 24 Install Operating System

Installation Guide

24. On the Oracle System Assistant menu do **Devices→CD ROM Image**.

4	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Davices Keyboard Video	
■ 10.67.1 ✓ Keyboard An ✓ Mouse An ✓ CD.ROM An □ Eloppy An	s ant Platform Software Release 1.0.1
C CD-ROM image	Reducting CODOM INVENTING SYSTEM
Save as host defaults Compare retwork	Oracle Unux 6 Update 4
Get Updates	Current BIOS mode: Legacy BIOS BIOS mode for booting the OS: UEFI @ Legacy BIOS
Configure Hardware	Install Media Location
Install OS	Insert the first CD/DVD of the OS to be installed.
Preferences	If you have attached a new CD drive and do not see it in the CD/DVD Location, click "Refresh List".
Advanced Tasks	CD/DVD Location: Refresh List Refresh List
	Boot Disk Selected disk will be erased!
	Boot Disk: - Select Boot Disk -
	View installation Options
Platform Documentation	Help

25. Navigate to your local copy of the ISO image and click **Open**.

Figure 26 File Navigation Window

<u></u>	Open ×				
Look In:	Downloads				
C Softwar	re 🗋				
en_win	en_windows_xp_professional_with_service_pack_3_x86_cd_x14-80428.iso				
Oracle1	Linux6.4-64.iso				
🗋 оумм-	OVMM-3.2.8.iso				
🗋 оумм-	OVMM-3.2.8-upgrade.iso				
OVMS.	3.2.8.iso				
•					
File <u>N</u> ame:	OracleLinux6.4-64.iso				
Files of <u>T</u> yp	e: *.iso and *.ISO				
	Open Cancel				

Installation Guide

26. Click on the **Refresh List** button to get the newly mounted ISO image to display in the dropdown.

2,	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Devices Keyboard Video	
10.67.148.142	
	sistant PLATFORM SOFTWARE RELEASE 1.0.1
System Information	INSTALL OPERATING SYSTEM
Configure Network	Oracletinux 6 Update 4
Get Updates	Current BIOS mode: Legacy BIOS
Update Firmware	BIOS mode for booting the OS: O UEFI O Legacy BIOS
Configure Hardware	Install Media Location
Install OS	Insert the first CD/DVD of the OS to be installed.
Preferences	If you have attached a new CD drive and do not see it in the CD/DVD Location, click "Refresh List".
Advanced Tasks	CD/DVD Location: - Select location - Refresh List
	Boot Disk
	1 Selected disk will be erased!
	Boot Disk: - Select Boot Disk -
	View Installation Options
Platform Documentation	Help

Figure 27 Install Operating System – Refresh List

Installation Guide

27. From the CD/DVD Location dropdown select Virtual CDROM.

Figure 28 CD/DVD Locations Dropdown

System Information	Oracle Linux 6 Lindate 4	
Get Updates	Current BIOS mode: Legacy BIOS BIOS mode for booting the OS: UEFI @ Legacy BIOS	3
Opdate Firmware Configure Hardware Install OS	Install Media Location Insert the first CD/DVD of the 0S to be installed.	
Preferences	If you have attached a new CD drive and do not see it in the CD/I	DVD Location, click "Refresh List".
Advanced Tasks	CD/DVD Location:	Refresh List
	Selected disk will be erased! Boot Disk: - Select Boot Disk -	•
	View Installation Options	k

Installation Guide

28. Make the new mirrored volume bootable. From the Boot Disk dropdown select the available boot disk.

<u>ه</u>	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Devices Keyboard Video	
10.67.148.142	
ORACLE [®] System Ass	SISTANT PLATFORM SOFTWARE RELEASE 1.0.1
System Information	INSTALL OPERATING SYSTEM Oracle Linux 6 Update 4
Get Lindotes	Current BIOS mode: Legacy BIOS
Get opuates	BIOS mode for booting the OS: O UEFI O Legacy BIOS
Update Firmware	Install Media Leastion
Configure Hardware	
Install OS	insert the first CD/DVD of the US to be installed.
Preferences	If you have attached a new CD drive and do not see it in the CD/DVD Location, click "Refresh List".
Advanced Tasks	CD/DVD Location: AMI Virtual CDROM Refresh List
	Boot Disk Selected disk will be erased! Boot Disk: -Select Boot Disk - -Select Boot Disk - - -Select Boot Disk - - -Select Boot Disk - - -Select Boot Disk - - -Select Boot Disk - - - -Select Boot Disk - - - - - - - - - - - - - -
	Install OS
Platform Documentation	Help

Figure 29 Boot Disk Dropdown

Installation Guide

29. Click Install OS.

Redirection Devices Keyboard Video	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Davices Keyboard Video Total 10.67.148.142	Sistant PLATFORM SOFTWARE RELEASE 1.0.1 INSTALL OPERATING SYSTEM Oracle Linux 6 Update 4 Current BIOS mode: Legacy BIOS BIOS mode for booting the OS: UEFI @ Legacy BIOS Install Media Location Insert the first CD/DVD of the OS to be installed. If you have attached a new CD drive and do not see it in the CD/DVD Location, click "Refresh List". CD/DVD Location: AMI Virtual CDROM Refresh List Boot Disk Selected disk will be erased! Boot Disk Please make sure to set the selected device as bootable in BAID Configuration task. View Installation Options Install OS
Platform Documentation	Help

30. In the Warning popup click **Yes**.

Figure 31Warning Popup



Installation Guide

31. The Install OS progress screen will appear.

Figure 32 Install OS Progress Screen



32. When the Warning popup appears click **OK**.

Figure 33 Warning Popup



Installation Guide

33. The Exiting Oracle System Assistant progress window appears.

Sigure 34 Image: Conclet System Assistant Exiting Oracle System Assistant

Installation Guide

34. When complete, the ILOM Remote Console will appear. Press **F8** to display the BBS Popup menu.

Figure 35



Installation Guide

35. Select Virtual CDROM (your locally mounted ISO).

Figure 36 BBS Popup Menu



Installation Guide

36. It takes a while for the Oracle Linux Server Welcome screen to appear. If it takes longer than 5 minutes, or if it goes into a screen where it is waiting for a PXE Server to respond, you will need to send a Control-Alt-Delete from the keyboard then try pressing F8 again. If all goes well, you should see the screen below.



Figure 37 Oracle Linux Server Welcome Screen

37. From the Oracle Linux Welcome screen select Install or upgrade an existing system.
Installation Guide

38. When the Disc Found message appears click **Skip**.

Figure 38 Disc Found Message



39. A blue screen appears with the message "Welcome to Oracle Linux Server for x86_64."

Figure 39 Blue Screen With Welcome Message



Installation Guide

40. Eventually the Oracle Linux 6 screen will appear. Click Next.

Figure 40 Oracle Linux 6 Screen



41. In the language selection window highlight English and click Next.

Figure 41 Language Selection Window

	Oracle(R) Integrated Lights Out Manager Remote Console	- 🗆 ×
edirection Devices Keyboard Video		He
10.67.148.142		
What language would you like to use installation process?	during the	
Arabic (العربية)		
Assamese (অসমীয়া)		
Bengali (बाश्मा)		
Bengali(India) (বাংলা (ভারত))		
Bulgarian (Български)		
Catalan (Català)		
Chinese(Simplified) (中文 (篇体))		
Chinese(Traditional) (中文(正體))		
Croatian (Hrvatski)		
Czech (Čeština)		
Danish (Dansk)		
Dutch (Nederlands)		
English (English)		
Estonian (eesti keel)		
Finnish (suomi)		
French (Français)		
German (Deutsch)		
Greek (Ελληνικά)		
Gujarati (greidi)		
Hebrew (עברית)		
Hindi (terat)		
Hungarian (Magyar)		
Icelandic (Icelandic)		
lloko (lloko)		
(Indonesian (Indonesia)		
	Sack A Rext	

Installation Guide

42. In the keyboard selection window highlight U.S. English and click Next.

<u>.</u>	Oracle(R) Integrated Lights Out Manager Remote Co	onsole _ 🗆
Redirection Devices Keyboard Video		Н
10.67.148.142		
Select the appropriate key the system.	sard for	
Italian		
Italian (IBM)		
Italian (it2)	h-	
Japanese		
Korean		
Latin American		
Macedonian		
Norwegian		
Polish		
Portuguese		
Romanian		
Russian		
Serbian		
Serbian (latin)		-
Slovak (qwerty)		
Slovenian		
Spanish		
Swedish		
Swiss French		
Swiss French (latin1)		
Swiss German		1
Swiss German (latin1)		
Turkish		
U.S. English		
U.S. International		
Ukrainian		
United Kingdom		
		₩ <u>Back</u>

Figure 42 Keyboard Selection Window

43. When the device type installation window appears, click the **Basic Storage Device** radio button and click **Next**.

Figure 43 Installation Device Type Window



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Installation Guide

- 44. When the hostname window appears, enter the hostname in the Hostname text box according to the following format:
 - Hostname: <<servername>>.xxx.org

Figure 44 Hostname Window

	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Devices Keyboard Video	
a narcheche	
Please name this computer. The hostname identifies the computer on a network.	
Hostname:	
(manufacture)	
Configure Network	
	de Back de Next
	First Alex

45. Click **Configure Network**.

Installation Guide

46. In the Network Connections Window, highlight the appropriate interface from the Servers-NIC-v??.xls spreadsheet and click **Edit...**

A 0	racle(R) Integrated Lights Out Manager Remote Console	- 🗆 🗙
Redirection Devices Keyboard Video		Help
10.67.148.142		
Please name this computer. The hostname identifies the computer on a network.		
Hostname: Repaire statements		
Ne	twork Connections	
	(a)	
Name	Last Used Add	
System eth4	never Edit	
System eth1	never Delete	
System eth5	never	
System eth2	never	
System eth6	never	
System.eth3	never	
System eth0	never	
System eth7	never	
	Close	
Configure Network		
	A Back	
	Eacy Meye	J

Figure 45 Network Connections Window

Installation Guide

47. In the Editing System ethX window, check the **Connect automatically** check box then click on **IPv4 Settings** tab.

		Editing Sy	stem eth3	
Connection	name:	System etha	3	
Connect Available Wired 802	<u>a</u> utoma e to all 2.1x See	atically users curity IPv4 Se	ttings IPv6 s	settings
Method:	Autor	matic (DHCP)		•
Address	es			
Addres	5	Netmask	Gateway	<u>A</u> dd Delete
<u>D</u> NS ser	vers: domain	s:		
D <u>H</u> CP cl	ient ID iire IPv	: 4 addressing f	or this connec	tion to complete
			k	<u>R</u> outes
÷			<u>C</u> anc	el Apply

Figure 46 Edit System Window

48. In the IPv4 Settings tab, from the Method dropdown select **Manual** then click the **Add** button.

notion re-	na. Curta	ma ath 2			
nection <u>n</u> ar	ne: Syste	em etn3			
Connect <u>a</u> ui	tomatically				
Available to	all users				
red 802.1>	Security	IPv4 Set	tings	IPv6 Se	ettings
				0.000000000000	-
lethod: M	lanual				<
ddresses					_
Address	Netma	sk	Gatev	vay	Add
					Delete
					Delete
					Delete
DNS serve	rs:				Delete
DNS server	rs:				Delete
<u>D</u> NS server	rs:				Delete
<u>D</u> NS server Search don D <u>H</u> CP clien	rs:				Delete
DNS server Search don DHCP clien	rs:	ssing for	r this c	connect	Delete
DNS server Search don DHCP clier ☑ Require	rs:	ssing for	r this c	connecti	Delete

Figure 47 IPv4 Tab

49. In the popup that appears, enter the following information and then click **OK**.

- Address: <<IP address>>
- Netmask: **255.255.255.0**
- o Gateway: <<Gateway>>

Installation Guide

50. In the IPv4 tab, enter the following information and then click Apply...

- DNS servers: <<DNS IP1>>, <<DNS IP2>>
- Search domains: **xxx.org**

Figure 48 DNS Servers and Search Domains

ired 802.1x	Security IPv4 Se	ettings IPv6 Set	tings
<u>1</u> ethod: Ma	nual		:
Addresses			-1
Address	Netmask	Gateway	Add
			Delete
	: 1		1.
DNS servers			
<u>D</u> NS servers	ains:		
<u>D</u> NS servers <u>S</u> earch doma	ains:		

Installation Guide

51. When the Network Connections window reappears click **Close**.

Figure 49 Network Connections Window

Add	^	Last Used	Name
			▽ Wired
Edit		never	System eth4
Delete	1	never	System eth1
		never	System eth5
		never	System eth2
		never	System eth6
		never	System eth3
		never	System eth0
	2	never	System eth7

52. When the hostname window reappears click Next.

Figure 50 Hostname Window

	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Devices Keyboard Video	
10.67.148.142	
Please name this computer. The hostname identifies the computer on a network.	k
Hostname: b	
Configure Network	
	est Next

Installation Guide

53. In the time zone window, from the Selected city dropdown select **America/Los Angeles** for the Primary Data Center or **America/Denver** for the Backup Data Center. Then click **Next**.

<u></u>	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Devices	Keyboard Video
10.67.148.142	
Please select the	earest city in your time zone:
Selected city: Der	ver, America (Mountain Time)
America/Denver	
k	
☑ System clock (ises UTC
	Reck Next

Figure 51 Time Zone Window

Installation Guide

54. In the Root Password window enter the current infrastructure password twice and click **Next**.

Figure 52 Root Password Window

Bedirection Devices Keyboard Video	Help
2 10.67.148.142	
The root account is used for administering the system. Enter a password for the root user.	
Root Password:	
Confirm:	
1	
🙀 Back 🏼 🏘 Next 🛛	
E	

Installation Guide

55. When the installation type window appears, click the **Use All Space** radio button. Make sure the **Review and modify partitioning layout** check box is checked and click **Next**.

Figure 53 Installation Type Window

<u>*</u>	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection	Devices Keyboard Video
10.67.1	48.142
Which typ	e of installation would you like?
	Use All Space
01 01	Removes all partitions of the selected device(s). This includes partitions created by other operating systems.
_	Tip: This option will remove data from the selected device(s). Make sure you have backups.
05	Replace Existing Linux System(s)
0	partitions you may have on your storage device(s) (such as VFAT or FAT32).
	Tip: This option will remove data from the selected device(s). Make sure you have backups.
05	Shrink Current System
	Shrinks existing partitions to create free space for the default layout.
05	Use Free Space
	Retains your current data and partitions and uses only the unpartitioned space on the selected device (s), assuming you have enough free space available.
0	Create Custom Layout
?	Manually create your own custom layout on the selected device(s) using our partitioning tool.
Encryp	t system
Review	/ and modify partitioning layout
	ar Back

Installation Guide

56. When the data storage devices window appears, highlight the volume you just created (not the 4 GB internal memory) and click the → so that the device appears in the Install Target Device column. Then click **Next**.

Figure 54 Data Storage Devices Window

			Oracle(R) Integra	ted Lights O	ut Manager Rem	ote Console		
edirection Devices	s Key <u>b</u> oard	Video						
Below are the sto indicate using the not be formatted, (these may be for bootloader install	rage devices arrows belo only mount matted). Pl led.	s you've sel ow which de ed) and whi ease also ir	ected to be a part of this installation. Ple vices you'd like to use as data drives (the ch devices you'd like to use as system dri dicate which system drive will have the	ase se will ves				
Data Storage D	evices (to l	be mounted	only)		Install Target I	Devices		
Model	Capacity	Vendor	Identifier		Loader Model	Capacity	Identifier	
LSI MR9261-8	i 571250 ME	B LSI	pci-0000:50:00.0-scsi-0:2:0:0					
				*				
				•				
Tip: Install ta backups.	rget devices	will be refo	matted and wiped of any data. Make su	e you have				
							Back	<u>N</u> ext

Installation Guide

57. When the new device appears in the Install Target Devices column click Next.

Figure 55 Install Target Devices Window

			Oracle(R) Integ	rated Lights C	Dut Mana	ager Remote Co	nsole	
direction Devices	s Key <u>b</u> oard	Video						
elow are the sto ndicate using the ot be formatted, these may be for ootloader install Data Storage D	rage devices e arrows belo , only mount rmatted). Pl led. Devices (to l	s you've sel ow which de ed) and whi ease also ir be mounted	ected to be a part of this installation. Pl vices you'd like to use as data drives (ti ch devices you'd like to use as system of dicate which system drive will have the only)	ease hese will drives	Install	Target Device	25	
Model	Capacity	Vendor	Identifier		Boot	Model	Capacity	Identifier
ORACLE SSM	3824 MB	ORACLE	pci-0000:00:1a.0-usb-0:1.2:1.0-scsi-0		۲	LSI MR9261-8i	571250 MB	pci-0000:50:00.0-sc
				•				
				•				

Installation Guide

58. In the LVM Volume Groups window, highlight *lv_home* and click **Delete**.

		LVM Volume G	oup ng juli ping 100 (570748 MB)	}	
Device	Size (MB)	Mount Point/ RAID/Volume	Туре	Format		
VM Volume Groups						
7 V <u>C</u>	570748					
lv_root	51200	/	xt4	\checkmark		
Iv_home	515452	/home	ext4	\checkmark		
lv_swap	4096		swap	\checkmark		
lard Drives						
sda (/dev/sda)						
sdal	3583		EFI System Partition			
Free	240					
sdb (/dev/sdb)						
sdb1	500	/boot	ext4	\checkmark		
sdb2	570749	V(physical volume (LVM) 🗸		

Figure 56 LVM Volume Groups Window – lv_home

Installation Guide

59. In the same window, highlight *lv_swap* and click **Delete**.

		LVM Volume G vg_bdlp Free 51200 I 515452 I	roup v <mark>ši i i piero (</mark> ив	70748 MB)				
Device	Size (MB)	Mount Point/ RAID/Volume	Туре	Format				
LVM Volume Groups								
▼ v <u></u> 1	570748							
lv_root	51200	/	ext4	\checkmark				
lv_swap	4096		swap	\checkmark				
Free	515452							
Hard Drives								
✓ sda (/dev/sda)								
sdal	3583		EFI System Partition					
Free	240							
✓ sdb (/dev/sdb)								
sdbl	500	/boot	ext4	\checkmark				
sdb2	570749	v1	. physical volume (LVM)	\checkmark				
						-		r
					Create	Edit	Delete	Reset

Figure 57 LVM Volume Groups Window – lv_swap

Installation Guide

60. In the same window, highlight the host you created in Step 44 under the LVM Volume Groups and click **Edit**.

			Oracle(R)	Integrated Lights O	ut Manager Remo	e Console		
irection D <u>e</u> vices Key <u>b</u> o	ard <u>V</u> ideo							
a								
	LVM	Volume Group vg	<u></u>	570748 MB)		1		
	5120	10 1519548 MB						
Device	Size Mo (MB) RAI	unt Point/ D/Volume	Туре	Format				
LVM Volume Groups								
⊽ vg1	570748							
lv_root	51200 /	ext4		\checkmark				
Free	519548							
Hard Drives								
sda (/dev/sda)								
sdal	3583	EFI Sy	stem Partition					
Free	240							
sdb (/dev/sdb)								
sdb1	500 /boot	ext4		\checkmark				
sdb2	570749 v	1 physic	cal volume (LV	M) 🗸				
		R ²						
					Create	Edit	Delete	Reset
							e Back	Nex Nex

Figure 58 LVM Volume Groups Window - Edit

Installation Guide

61. When the Edit LVM Volume Groups window appears click Add.

		LVM Volume Group vg_pdipFree 51200 1519548 MB	vg_ <u>ndindonp</u>	21-(E70748 MB)		
Device	Size (MB)	Mount Point/ RAID/Volume	Туре	Format		
✓ LVM Volume Groups						
▼ vg]1	5707	Edit	LVM Volume G	iroup: vg_pdlpdeapp01		
lv_root	512 V	olume Group Name:	vg	1		
Free	5195	husical Extents	4 ME	•		
✓ Hard Drives	P	nysical extent:	4 ME)		
▼ sda (/dev/sda)			√ s	db2 570748.00 MB		
sdal	35					
Free	11P	hysical Volumes to <u>U</u> s	e:			
Sdb (/dev/sdb)	-					
SOD1	CTOTI	Irad Enaros	5120	0.00 MR (0.0%)		
Sdb2	57070 F	ree Space: ptal Space:	5195 5707	48.00 MB (91.0 %) 48.00 MB (91.0 %) 48.00 MB		
	1	ogical Volumes				
		Logical Volume Nam	e Mount Point	Size (MB)		
		ly root	1	51200	Add	
		-			Edit	
					Delete	
					Delete	
				Cancel	ок	

Figure 59 Edit LVM Volume Groups Window

62. When the Make Logical Volume window appears, you will need to enter a value in the Size (MB) text box for the swap file. If the server has 256GB of RAM, enter **128000** in the textbox and click **OK**.

Figure 60 Make Logical Volume Window

Make Lo	gical Volume	
<u>M</u> ount Point:	<not applicable=""></not>	~
File System Type:	swap	0
Logical Volume Name:	swap	
<u>S</u> ize (MB):	128000	
Encrypt	(Max size is 519548 MB)
	Cancel OK	

Installation Guide

63. Now you will place the remainder under /u01. In the Edit LVM Volume Groups window click **Add** again.

<u>V</u> olume Group Name:	vg_t	1	
<u>P</u> hysical Extent:	4 M	B	0
		sdb2 570748.00 MB	
Physical Volumes to <u>U</u> se:			
Used Space:	1792	200.00 MB (31.4 %)	
Free Space: Total Space:	3915 5707	548.00 MB(68.6 %) 748.00 MB	
<u>L</u> ogical Volumes			
Logical Volume Name	Mount Point	Size (MB)	
lv_root	/	51200	Add
swap	N/A	128000	Edit
			Delete

Figure 61Edit LVM Volume Groups Window

64. When the Make Logical Volume window appears, enter the following information and then click **OK**:

Cancel

<u>0</u>K

- Mount Point: /u01
- File System Type: ext4
- Logical Volume Name: *lv_u01*
- o Size: 391548

Figure 62 Make Logical Volume Window

<u>M</u> ount Point:	/u01	~
<u>F</u> ile System Type:	ext4	\$
Logical Volume Name:	[lv_u01]	
<u>S</u> ize (MB):	391548	
<u>Encrypt</u>	(Max size is 391548 MB)	

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Installation Guide

65. When the Edit LVM Volume Group window reappears click **OK**.

Figure 63 Edit LVM Volume Group Window

Edit L\	/M Volume (Group: vg_bdlpdrapp01	
<u>V</u> olume Group Name:	[vg_b		
Physical Extent:	4 MI	В	0
	✓ 5	sdb2 570748.00 MB	
Physical Volumes to <u>U</u> se:			
Used Space: Reserved Space: Free Space: Total Space: <u>L</u> ogical Volumes	5707 0 5707	748.00 MB(100.0 %) .00 MB(0.0 %) 748.00 MB	
Logical Volume Name	Mount Point	Size (MB)	
lv_u01	/u01	391548	Add
lv_root	1	51200	<u>E</u> dit
swap	N/A	128000	Delete
		Cancel	<u>о</u> к

Installation Guide

66. In the LVM Volume Groups window click Next.

			Please Sele	ect A Devic	e k			
Device	Size (MB)	Mount Point/ RAID/Volume	Туре	Format				
✓ LVM Volume Groups								
▼	570748							
lv_u01	391548	/u01	ext4	\checkmark				
lv_r	51200	1	ext4	\checkmark				
swap	128000		swap	\checkmark				
 Hard Drives 								
∽ sda (/dev/sda)								
sdal	3583		EFI System Partition					
Free	240							
v sdb (/dev/sdb)								
sdb1	500	/boot	ext4	\checkmark				
sdb2	570749	- 3pp	. physical volume (LV	M) 🗸				
					Create		Pecet	
					Eleace Four		neger	
							_	
						e Back	Next	

67. When the warning window appears click Write changes to disk.

Figure 64 Writing to Disk Warning



Installation Guide

68. When the book loader window appears click **Next**.

Figure 65 Boot Loader Window



Installation Guide

69. When the server install window appears, click the **Basic Server** radio button, click the **Customize now** radio button and then click **Next**.

The default installation of Oracle Linux Server is a basic server install. You can optionally select a different set of software now. Basic Server Uatabase Server Web Server Web Server Userver Userver Desktop Software Development Workstation Minimal	
The default installation of Oracle Linux Server is a basic server install. You can optionally select a different set of software now. Basic Server Database Server Web Server Vertualization Host Desktop Software Development Workstation Minimal	
select a different set of software now. Basic Server Database Server Web Server Vitualization Host Desktop Software Development Workstation Minimal	
Basic Server Database Server Web Server Ver Ver Udentity Management Server Virtualization Host Software Development Workstation Minimal	
Database Server Web Server Identity Management Server Virtualization Host Desktop Software Development Workstation Minimal	
Web Server Identify Management Server Virtualization Host Desktop Software Development Workstation Minimal	
Identity Management Server Virtualization Host Desktop Software Development Workstation Minimal	
 Virtualization Host Desktop Software Development Workstation Minimal 	
Desktop Software Development Workstation Minimal	
Software Development Workstation Minimal	
O Minimal	
Please select any additional repositories that you want to use for software installation.	
□ High Availability	
Load Balancer	
V Oracle Linux Server	
C Broullisch Stremm	
You can further customize the software selection now. or after install via the software	
management application.	
O Customize later O Customize now	
Customize later Customize now	
Customize Jater Customize now	

Figure 66 Server Install Window

Installation Guide

- 70. In the window that follows make sure **Base System** is highlighted in the left column. In the right column, in addition to accepting the defaults, check the boxes next to the following software packages:
 - o Backup Client
 - o Compatibility libraries
 - Legacy UNIX compatibility
 - o Networking tools
 - o Printing Client
 - Security Tools
 - Storage Availability Tools

Base System Servers Web Services Databases System Management Virtualization Desktops Applications Development Languages	Image: Second
	Clarge Systems Performance Carge Systems Performance Carge Systems Performance Carge Systems Performance Systems Performance Tools Systems Performance Tools Systems Performance Tools Systems Performance Tools
Tools for configuring and analyzing computer	networks.
	Optional packages selected: 2 of 17 Optional packages

Figure 67 Additional Software Packages

Installation Guide



Figure 68 Additional Software Packages

Installation Guide

- 71. Now highlight **Servers** in the left column. In the right column check boxes next to the following servers:
 - o Backup Server
 - o CIFS file server
 - o E-mail server
 - o FTP server
 - o NFS file server

Base System Servers Web Services Databases System Management Virtualization Desktops Applications Development Languages	 Backup Server CIFS file server CIFS file server FTP server Identity Management Server Identity Management Server NFS file server Network Infrastructure Server Network Storage Server Print Server Server Platform Server Administration tools
Utilities useful in system administration.	Optional packages selected: 0 of 20 Optional packages

Figure 69 Specify Servers

72. Check the box next to **System administration tools** and keep the row highlighted.

Installation Guide

73. At the bottom of the window, click on the **Optional packages** button.

Oracle(R) Integrated Lights Out Manager Remote Console \$ Redirection Devices Keyboard Video **E Base System** 🔜 🗹 Backup Server 📳 🗹 CIFS file server Web Services Directory Server Databases 🖉 🗹 E-mail server System Management Image: FTP server Virtualization Identity Management Server Desktops s in System administration tools Some packages associated with this group are not required to be installed but may provide additional functionality. Please choose the packages which you would like to have installed. Applications Development Languages oracleasm-support-2.1.8-1.el6.x86_64 - The Oracle Automatic Storage Man pexpect-2.3-6.el6.noarch - Pure Python Expect-like module rdist-6.1.5-49.el6.x86_64 - Maintains identical copies of files rrdtool-1.3.8-6.el6.x86_64 - Round Robin Database Tool to store and display t screen-4.0.3-16.el6.x86_64 - A screen manager that supports multiple logins scrub-2.2-1.el6.x86_64 - Disk scrubbing program symlinks-1.4-2.1.el6.x86_64 - A utility which maintains a system's symbolic vlock-1.3-31.el6.x86_64 - A program which locks one or more virtual consoles xdelta-1.1.4-8.el6.x86_64 - A binary file delta generator and an RCS replacem Utilities usefu Close Optional packages selected: 0 of 20 Optional packages Back Next

Figure 70 Optional Tools Packages Popup

- 74. In the Packages in System administration tools popup, check the box next to the following packages and then click **Close**.
 - o rdist-6.1.5-49.el6.x86_64
 - o tree-1.5.3-2.el6.x86_64

Installation Guide

75. In the window that appears, in the left column highlight **Web Services** and in the right column check the box next to **Web Server**.

lase System	🗿 🗆 PHP Support
ervers	TurboGears application framework
Veb Services	Web Server
Databases	👩 🗆 Web Servlet Engine
system Management	
/irtualization	
Desktops	
pplications	
Development	
anguages	
	h h
	erver, and run Perl and Python web applications.
Allows the system to act as a web se	
Allows the system to act as a web se	
Allows the system to act as a web se	
Allows the system to act as a web se	Optional packages selected: 6 of 20
Allows the system to act as a web so	Optional packages selected: 6 of 20 Optional packages

Figure 71 Web Services Options

Installation Guide

76. In the left column highlight **Databases** and in the right column check the box next to **MySQL Database client**.

buse system	🕒 🛛 MySQL Database client
Servers	MySQL Database server
Web Services	PostgreSQL Database client
System Management	PostgreSQL Database server
Virtualization	
Desktops	
Applications	
Development	
Languages	
	k
	h:
	b
The MySQL SQL database client, and associ	ated packages.
The MySQL SQL database client, and associa	ated packages.
The MySQL SQL database client, and associa	ated packages.
The MySQL SQL database client, and associa	ated packages. Optional packages selected: 2 of 5
The MySQL SQL database client, and associa	ated packages.

Figure 72 Database Options

Installation Guide

- 77. In the left column highlight **System Management** and in the right column check the box next to the following items:
 - o SNMP Support
 - System Management

Figure 73 System Management Options

الله Oracle	e(R) Integrated Lights Out Manager Remote Console
Redirection Devices Keyboard Video	
Base System Servers Web Services Databases System Management Virtualization Desktops Applications Development Languages	Messaging Client Support SNMP Support ✓ System Management ✓ Web-Based Enterprise Management
Various low-level hardware management frameworks.	Optional packages selected: 0 of 9 Optional packages
	Sack Next

Installation Guide

78. If you are creating a virtualized host, highlight **Virtualization** in the left column and check the box next to the appropriate item(s) in the right column.

<u>گ</u>	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Devices Keyboard Video	
10.67.148.142	
Base System Servers Web Services Databases System Management Virtualization Desktops Applications Development Languages	Virtualization Virtualization Client Virtualization Platform Virtualization Tools
	* 1
Provides an environment for hosting	virtualized guests.
	Optional packages

Figure 74 Virtualization Options

Installation Guide

- 79. In the left column highlight **Desktops** and in the right column check the box next to the following items:
 - o Desktop
 - Desktop Debugging and Performance Tools
 - Desktop Platform
 - o Fonts
 - o General Purpose Desktop
 - Graphical Administration Tools
 - Legacy X Window System compatibility
 - o X Window System

Figure 75 Desktop Options

Base System Servers Web Services Databases System Management Virtualization Desktops Applications Development Languages	 Desktop Desktop Debugging and Performance Tools Desktop Platform Fonts General Purpose Desktop Graphical Administration Tools Input Methods KDE Desktop Legacy X Window System compatibility Remote Desktop Clients X Window System
] [
X Window System Support.	
	Optional packages selected: 10 of 10 Optional packages

Installation Guide

80. In the left column highlight **Applications** and in the right column check the box next to **Internet Explorer**.

Base System	Emacs
Servers	M □ Graphics Creation Tools
Web Services	
Databases	TeX support
	Technical Writing
Desktops	
Applications	
Development	
Languages	
Firefox web browser	
1	Optional packages selected: 3 of 3
	Ontional analysis
	Optional packages

Figure 76 Application Options

Installation Guide

81. Click Next.

Base System Servers Web Services Databases System Management Virtualization Desktops Applications Development Languages	Albanian Support Amazigh Support Arabic Support Arabic Support Arabic Support Assamese Support Azerbaijani Support Basque Support Belarusian Support Belarusian Support Bhutanese Support Brazilian Portuguese Support Brazilian Portuguese Support Catalan Support Chattisgarhi Support Chickewa Support Chickewa Support Chickewa Support Chickewa Support Chickewa Support Chickewa Support
Albanian Support	Optional packages

Figure 77 Language Options

Installation Guide

82. The Oracle Linux installation process will begin.

Figure 78 Oracle Linux Installation Progress



Installation Guide

83. During installation a notification will appear showing that samba-common-3.6.9-151.el6,x86_64 is being installed.



Figure 79 Installing Samba Notice
Installation Guide

84. When the installation is finished, a window will appear with the message "Congratulations, your Oracle Linux Server installation is complete."



Figure 80 Installation Complete Screen

85. On the menu of that window, do **Devices→DC-ROM image...**

86. On the warning message that appears click Yes.

Figure 81 Stop Redirection Warning Popup



Installation Guide

87. The window will reappear. Click **Reboot**.

Figure 82 Reboot Screen



NOTE: If you have not done so already, this is a good time to add the new server to NIS and DNS. To add to the NIS (for SSH access to work), you will login to the main NIS server and add the hostname and IP of this new server to the /etc/hosts file and update the NIS table.

88. PuTTY into xx.xx.xx and enter the following commands in the shell:

#vi /etc/hosts

xx.xx.xx (subnet 121 is added here only)

#cat /etc/motd (this tell us to rebuild the NIS tables for SSH access)

#make -C /var/yp

NOTE: You may have to adjust the BIOS to ensure it boots the RAID.

Installation Guide

89. After successful reboot, you should see the Oracle Linux Welcome screen. Click **Forward**.

Figure 83 Oracle Linux Welcome Screen



Installation Guide

90. When the user license page appears, click the Yes, I agree to the License Agreement radio button and click Forward.

Figure 84 User License Agreement



Installation Guide

91. When the Software Updates screen appears, click the No, I prefer to register at a later time radio button and click Forward.

Oracle(R) Integrated Lights Out Manager Remote Console * Redirection Devices Keyboard Video Welcome Set Up Software Updates License Information Set Up Software Updates This assistant will guide you through connecting your system to Unbreakable Linux Network (ULN) for software updates, such as: Create User Date and Time Your Oracle Single Sign-On login Kdump • A name for your system's Unbreakable Linux Network profile Why Should I Connect to ULN? ... Would you like to register your system at this time? (Strongly recommended.) 🔘 Yes, I'd like to register n 😽. No, I prefer to register at a later time. Back Eorward

Figure 85 Software Updates Screen

Installation Guide

92. When the firstboot window appears, click the No thanks, I'll connect later button.

Figure 86 Firstboot Window

	firstboot	×
Are you s to Unbre benefits	sure you don't want to connect your system akable Linux Network? You'll miss out on the of an Unbreakable Linux Support subscription:	
Secur	ity & Updates:	
0	Receive the latest software updates, including security updates, keeping this Oracle Linux system updated and secure .	
Suppo	ort:	R.
	Access to the technical support experts at Oracle or Oracle's partners for help with any issues you might encounter with this system.	
You will n these su connecti Network	ot be able to take advantage of bscriptions privileges without ng your system to Unbreakable Linux	
_ <u>T</u> ake me	back to the setup process. No thanks, I'll conn	ect later.

Installation Guide

93. When the Finish Updates Setup screen appears click Forward.

Figure 87 Finish Updates Setup Screen



Installation Guide

94. Create the "monitor" account using the infrastructure password.

Figure 88 Create User Screen

<u>م</u>	Oracle(R) Integrated Lights Out Manager Remote Console
Redirection Devices Keyboard	/ideo
Weicome License Information Set Up Software Updates - Create User Date and Time Kdump	Back Envard

Installation Guide

95. It is not necessary to set the date and time yet. It will be set using a finish script. For now, just click **Forward**.

elcome cense	Date and Time		
t Up Software	Please set the date and time for the syste	m.	
eate User			
ite and Time	Date and Time Current date and time: Thu 25 Sep 201	07-72-33 AM MOT	
	Synchronize date and time over the ne	twork	
	Manually set the date and time of your s	ystem:	
	Date	Time	
	<pre>< September> < 2014 ></pre>	Hour: 7	
	Sun Mon Tue Wed Thu Fri Sat	<u>M</u> inute : 17	
	1 2 3 4 5 6 7 8 9 10 11 12 13	Second : 7	
	14 15 16 17 18 19 20		
	21 22 23 24 25 26 27		
	5 6 7 8 9 10 11		
			-
		Back	ard

Figure 89 Date and Time Screen

Installation Guide

96. When the Kdump screen appears, just click **Forward**.

Figure 90 Kdump Screen

direction Devices Keyboard	Oracle(R) Integr	rated Lights Out Manager Remote Co	insole
	Inco		
Welcome License Information Set Up Software Updates Create User Date and Time • Kdump	Kdump is a kernel crash dumping mechanism rash, kdump will capture information form invaluable in determining the cause of the require reserving a portion of system memory <u>enable kdump?</u>	n. In the event of a system your system that can be rash. Note that kdump does ny that will be unavailable for	
	Jocal System Memory (MB):	129140	
	Kdump Memory (MB):	128	
	Usable System Memory (MB):	129012	
	# Unsigned on the order of part circle and part part # This file contains a series of commands t # kernel crash has happened and the kdurn # this file are only applicable to the kdurn # the root filesystem is mounted and the # Currently only one dump target and patt # if the configured dump target fails, the d # the default action may be configured with # configured dump target succedes # Basics commands supported are: # path <path> - Append path to t # dumping to. ignored for ray # In uset, will default to /var, #</path>	o perform (in order) when a pickernel has been loaded. Di initramfs, and have no effect normal init scripts are proces in may be configured at once lefault action will be preformed the default directive below he filesystem device which y device dumps.	
	(K)		
	r disec, win default to yan		<u>B</u> ack <u>Finish</u>

Installation Guide

97. You should see the following screen. The setup is complete.

Figure 91Setup Successful Screen



98. Now it is time to run the finish script. Log into your new install via ssh and copy the finish script:

[root@xxx tmp]# scp xx.xx.xx:/opt/scripts/physical-finish.sh /tmp

The authenticity of host 'xx.xx.xx (xx.xx.xx)' can't be established.

RSA key fingerprint is.

Are you sure you want to continue connecting (yes/no)? yes

Warning: Permanently added 'xx.xx.xx.' (RSA) to the list of known hosts.

root@xx.xx.xx.xx's password:

physical-finish.sh

100% 22KB 21.6KB/s 00:00

[root@xxx tmp]#

99. Now run the finish script. Your interaction with the script will vary depending on what you are doing.

/tmp/physical-finish.sh

Checking OS Version

Oracle Linux Server release 6.4

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Installation Guide

Good, we're on Linux 6.4! Determining our physical location xxx.xxx.org This machine is in the BDC Most WLS Online, Batch Servers, OSB, BPM, & OBIEE/BIP need the public SSH key installed for xxx's admin account Would you like me to install this key? $(y/n) [n] \rightarrow y$ Answering "y" to the next question changes the default ulimits to 8192 Is this an Adobe LiveCycle vServer? (y/n) [n] --> Setting up TimeZone mv: `/etc/localtime' and `/etc/localtime-orig' are the same file Setting up automount No failover IP ready for the BDC; connecting to internal ZFS - Head #1 Make sure there is an NFS Exception for my IP Address for the 'dr' project !!!Ensure NFS Exceptions are setup in storage!!!, then push any key to proceed III Are you sure III, then push any key to proceed Setting up resolv.conf Configuring NTP [OK] Starting ntpd: Updating /etc/hosts Updating yp.conf Configuring domain Re-writing nsswitch.conf Starting NIS Starting NIS service: [OK] Binding NIS service: . [OK] Updating idmapd.conf and starting rpcidmapd.conf portmap: unrecognized service error reading information on service portmap: No such file or directory

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Installation Guide

Starting 'at' services

atd (pid 3419) is running...

Starting Automounter

Starting automount: automount: program is already running.

[OK]

Installing SSH Keys

Temporarily mounting /mnt to xx.xx.xx:/export

mnt is mounted as:

Does the above mount look correct? (y/n) [y] --> n

Trying again....

xx.xx.xx.xx:/export on /mnt type nfs (rw,vers=4,addr=xx.xx.xx.clientaddr=xx.xx.xx)

Does it look correct now? $(y/n) [y] \rightarrow y$

Setting up sudoers

Setting up sudo

Setting up OPAM

Creating oPAM accounts

Setting up NFS Mounts:

WARNING!!!

WARNING!!!

WARNING!!!

WARNING!!!

WARNING!!! - No server name matches for NFS Mount!!!

Please review the /etc/fstab file of this

Server or this system will not have its

own NFS filesystem for software installs

If needed, create a ZFS share/mount for this server

WARNING!!!

WARNING!!!

WARNING!!!

WARNING!!!

Installation Guide

100.

WARNING!!!	
Restarting some services	
Stopping RPC idmapd:	[OK]
Starting RPC idmapd:	[OK]
Shutting down NIS service:	[OK]
Starting NIS service:	[OK]
Binding NIS service: .	[OK]
Mounting filesystems	
NIS is bound to:	
bdlvtoinf04	
Would you like to run 'yum update' no	w? (y/n) [y]> y
[yum update output is truncated]	
Please make sure to update /etc/mot	d-base !!!
Consider doing this now so you don't fe	orget :)
If the yum update fails this is due to the /etc/yum.repos.d. Update the /etc/y known good server. In this example, so	e public-yum-ol6.repo file missing in the um.repos.d with file using scp from a cp the file from 10.67.148.178 as follows:
#scp dfatt@xx.xx.xx.xx:/etc/yum.re	pos.d/public-yum-ol6.repo /tmp
#cd /tmp	

#cp public-yum-ol6.repo /etc/yum.repos.d/

101. Rerun the yum command to update the server again:

#yum update

Installation Guide

102. Results will appear as shown below. Select "y" for the system to update.

Mapplications Places System System Wed Oct 8, 19:47 wse and run installed applications wse and run installed applications Image: Computer Im					
we and run installed applications Computer Image: Imag	Applications Places System 🕹 🛸 🗹		Q)))	Wed Oct 8, 19:47
Computer	se and run installed applications				
Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer Image: Computer					
Computer monitor@					
File Edit View Şearch Terminal Help p11-kit p11-kit p11-kit x86 64 0.18.5-2.el6 5.2 ol6 latest 94 k perl-Compress-Raw-Brip2 x86 64 2.021-136.el6 ol6 latest 71 k perl-Compress-Raw-Brip2 x86 64 2.021-136.el6 ol6 latest 47 k pytalloc x86 64 2.021-136.el6 ol6 latest 47 k pytalloc x86 64 1.0.99-3.el6 ol6 latest 47 k pytalloc x86 64 1.0.99-3.el6 ol6 latest 47 k redhat-lsb-compat x86 64 4.0.7.0.1.el6 ol6 latest 2.0 k redhat-lsb-core x86 64 4.0.7.0.1.el6 ol6 latest 2.0 k redhat-lsb-core x86 64 4.0.67.0.1.el6 ol6 latest 2.0 k redhat-lsb-core x86 64 4.0.67.0.1.el6 ol6 latest 2.0 k samba-vinbind x86 64 4.0.67.0.1.el6 ol6 latest 2.0 k samba-vinbind x86 64 1.1.0-1.el6 ol6 latest 4.0 M sampy x86 64 0.1.1.5.2.el6 ol6 latest 4.0 M system-config-keyboard-base x86 64 0.5.0-6.20130401git81aadb8.el6 ol6 latest 9.3 k sorg-xll-drv-modesetting x86 64 0.5.0-6.20130401git81aadb8.el6 ol6 latest 9.3 k sorg-xll-glamor x86 64 0.5.0-6.20130401git81aadb8.el6<	computer monitor@	etc/yum.repos.d			×
Importions Home pl1-kit x86 64 0.18.5-2.el6 5.2 ol6 latest 94 k Importions Home pl1-kit x86 64 0.18.5-2.el6 5.2 ol6 latest 71 k Importions Home pl1-kit x86 64 0.18.5-2.el6 5.2 ol6 latest 71 k Importions Home perl-tompress-Raw-Bzip2 x86 64 2.021-136.el6 ol6 latest 45 k perl-tompress-Baine x86 64 1.0.90-3.el6 ol6 latest 47 k python-krbV x86 64 1.0.90-3.el6 ol6 latest 5.0 k redhat-lsb-compat x86 64 4.0-7.0.1.el6 ol6 latest 2.0 k redhat-lsb-compat x86 64 4.0-7.0.1.el6 ol6 latest 2.0 k redhat-lsb-compat x86 64 4.0-63.el6 5.rc4 ol6 latest 2.0 k samba-winbind x86 64 1.0-63.el6 5.rc4 ol6 latest 2.0 k sampy x86 64 1.1.5-c0 ol6 latest 4.0 M sampa-vinbind x86 64 1.1.5-rc4 ol6 latest 2.0 k sampy x86 64 1.1.5-rc4 ol6 latest 4.0 M system-config-keyboard-base x86 64 0.5.0-1.el6 ol6 latest 4.0 M x86 64 1.1.5-le6 ol6 latest 4.0 M x86 64 0.5.0-1.el6 ol6 latest 4.0 M x87 c4 1.1.5-le1 ol6 latest 4.0 M x86 64 0.5.0-1.el6 ol6 latest 4.0 M	File Edit View Search Termir	nal Help			1000
monitor/S Home pl1-kit-trust x86 64 0.18.5-2.el6 5.2 ol6 latest 71 k perl-To-Compress-Rav-Bzip2 x86 64 2.021-136.el6 ol6 latest 43 k pytalloc x86 64 2.021-136.el6 ol6 latest 47 k pytalloc x86 64 2.09-3.el6 ol6 latest 43 k pytalloc x86 64 2.09-3.el6 ol6 latest 43 k redhat-lsb-compat x86 64 4.09-3.el6 ol6 latest 51 k redhat-lsb-core x86 64 4.0-7.0.1.el6 ol6 latest 2.0 k samba-tilbs x86 64 4.0.9-3.el6 ol6 latest 2.0 k samba-tilbs x86 64 4.0.9-6.5.el.0.1.el6 ol6 latest 2.0 k samba-tilbs x86 64 1.05-rer x86 64 1.00-16.el6 ol6 latest 2.0 k samba-tilbs x86 64 1.0-1.el6 ol6 latest 2.0 k ol6 latest 2.0 k samba-tilbs x86 64 1.0-1.el6 ol6 latest 2.0 k x86 64 1.0-1.el6 samba-tilbs x86 64 0.5.0-15.el6 ol6 latest 2.0 k x86 64 0.5.0-1.el6 samba-tilb x86 64 0.5.0-6.20130401git81aadbacd0.el6 ol6 latest 2.0 k x86 64 0.5.0-6.20130401git81aadbacd0.el6 samba-tilg samba-tilg x86 64 0.5.0-6.20130401git81aadbacd0.el6 ol6 latest 2.0 k samba-tilg	p11-kit	x86 64 0.18.5-2.el6 5.2	ol6 latest	94 k	A
Training perl-Compress-Raw-Bzip2 x806 64 2.021-136.el6 ol6 latest 45 k pytalloc x80 64 2.021-136.el6 ol6 latest 47 k pytalloc x80 64 2.0.7-2.el6 ol6 latest 47 k pytalloc x80 64 2.0.7-2.el6 ol6 latest 43 k prothon-krbv x80 64 2.0.9-3.el6 ol6 latest 51 k redhat-lsb-compat x80 64 4.0-7.0.1.el6 ol6 latest 25 k redhat-lsb-core x80 64 4.0-7.0.1.el6 ol6 latest 2.6 k samba-winbind x80 64 4.0-63.el6 5.rc4 ol6 latest 2.0 k samba-libs x80 64 4.0-63.el6 5.rc4 ol6 latest 39 k sampy x80 64 4.0-63.el6 5.rc4 ol6 latest 39 k ysystem.config.keyboard-base x80 64 1.1-0-1.el6 ol6 latest 2.6 k x0rg-xll-drv-modesetting x80 64 0.5.0-1.el6 ol6 latest 2.1 k x0rg-xll-drv-modesetting x86 64 0.5.0-6.20130401git81aadba.el6 ol6 latest 93 k x0rg-xll-glamor x86 64 0.5.0-6.20130401git81aadba.el6 ol6 latest 93 k Transaction Summary ol6 latest 93 k ol6 latest 93 k	monitor's Home pll-kit-trust	x86_64 0.18.5-2.el6_5.2	ol6_latest	71 k	Contractory of Contra
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Figure 92 System Update Results

103. The next step is to set up bonding. The example below will set up bond0 to include eth1 and eth7 (Ethernet) and bond1 to include eth3 and eth5 (Ethernet over fiber). Your server configuration may vary. Begin by turning off the Network Manager:

[root@xxx network-scripts]# /sbin/chkconfig NetworkManager off

[root@xxx network-scripts]# /sbin/service NetworkManager stop

Stopping NetworkManager daemon: [OK]

[root@xxx network-scripts]#

104. Make a backup of the network scripts directory in /etc/sysconfig/:

#cp -rp ./network-scripts ./network-scripts-orig

105. Define the bond name under /etc/modprobe.d:

[root@xxx sysconfig]# echo "alias bond0 bonding" >
/etc/modprobe.d/bond0.conf

[root@xxx sysconfig]# echo "alias bond1 bonding" >
/etc/modprobe.d/bond1.conf

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106. Create the ifcfg-bond0 file using your system IP and netmask:

[root@xxx network-scripts] # vi ifcfg-bond0 DEVICE="bond0" BONDING_OPTS="mode=1 miimon=250 use_carrier=1 updelay=500 primary=eth1" TYPE=BOND BOOTPROTO=none ONBOOT=yes IPADDR=xx.xx.xxx NETMASK=255.255.255.0 GATEWAY=xx.xx.xx USERCTL=no

107. Now repeat for bond1:

[root@xxx network-scripts] # vi ifcfg-bond1 DEVICE="bond1" BONDING_OPTS="mode=1 miimon=250 use_carrier=1 updelay=500 primary=eth3" TYPE=BOND BOOTPROTO=none ONBOOT=yes IPADDR=xx.xx.xxx NETMASK=255.255.255.128 GATEWAY= xx.xx.xx USERCTL=no

108. Edit the ifcfg-eth files for the respective bonds as shown below:

[root@xxx network-scripts] # vi /etc/sysconfig/network-scripts/ifcfg-eth1 DEVICE="eth1" HWADDR="00:10:E0:23:C6:1F" TYPE=Ethernet ONBOOT="yes" MASTER=bond0 SLAVE=yes NM_CONTROLLED="no" BOOTPROTO=static

[root@xxx network-scripts]# vi /etc/sysconfig/network-scripts/ ifcfg-eth7 DEVICE="eth7" HWADDR="00:10:E0:23:C6:21" TYPE=Ethernet ONBOOT=yes

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MASTER=bond0 SLAVE=yes NM_CONTROLLED="no" BOOTPROTO=static

[root@xxx 1 network-scripts]# vi ifcfg-eth3 DEVICE="eth3" HWADDR= TYPE=Ethernet UUID= ONBOOT=yes MASTER=bond1 SLAVE=yes NM_CONTROLLED="no" BOOTPROTO=static NAME="System eth3"

[root@xxx network-scripts]# vi ifcfg-eth5 DEVICE="eth5" HWADDR="" ONBOOT="yes" MASTER=bond1 SLAVE=yes NM_CONTROLLED="no" BOOTPROTO=static

[root@xxx network-scripts]# vi /etc/sysconfig/network-scripts ifcfg-eth7 DEVICE=eth5 HWADDR=<Interface's unique hardware address> TYPE=Ethernet UUID=<Interface's unique UUID> ONBOOT=yes MASTER=bond0 SLAVE=yes NM_CONTROLLED=no BOOTPROTO=static

109. Edit all other ifcfg-eth* and turn off the "ONBOOT". When finished, do the following to ensure only eth3 & eth5 (or your desired interfaces) are turned on:

[root@xxx network-scripts]# grep -i onboot ./ifcfg-eth*

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```
./ifcfg-eth0:ONBOOT="no"
./ifcfg-eth1:ONBOOT="yes"
./ifcfg-eth2:ONBOOT="no"
./ifcfg-eth3:ONBOOT=yes
./ifcfg-eth4:ONBOOT="no"
./ifcfg-eth5:ONBOOT="yes"
./ifcfg-eth6:ONBOOT="no"
./ifcfg-eth7:ONBOOT=yes
[root@xxx network-scripts]#
```

- 110. Now restart the network service:
 - # /sbin/service network stop
 # /sbin/service network start
- 111. Reboot the server once to make sure it comes up ok.
- 112. Review the server's backup policy to ensure that necessary data and configurations area backed up.

10.4 Post-Installation Configuration Procedures

10.4.1 General Server Maintenance Post-Install

NOTE: Please consult the **Middleware Standards and PreRequisities.docx** (Section 6.16.10- Batch level 0 & 1 requirements...) on the installation of the Batch Directories, SQL Client and Java Installs that are required before handing it over to the Development team.

NOTE: This section contains additional fixes that need to be done on physical servers xxx and yyy.

NOTE: The /etc/security/limits.conf, /etc/sysctl.conf, and /etc/security/limits.d/90nproc.conf must be updated to avoid Control-M memory and resource issues.

Updating etc/security/limits.conf

1. Open a terminal and in the command line enter the following:

```
[root@xxx security]# cat limits.conf
# /etc/security/limits.conf
#
```

#Each line describes a limit for a user in the form:

#

#<domain> <type> <item> <value>

#

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#Where:

#<domain> can be:

- an user name

- # a group name, with @group syntax
- # the wildcard *, for default entry
- # the wildcard %, can be also used with %group syntax,
- # for maxlogin limit
- #

#<type> can have the two values:

- # "soft" for enforcing the soft limits
- # "hard" for enforcing hard limits
- #

#<item> can be one of the following:

- # core limits the core file size (KB)
- # data max data size (KB)
- # fsize maximum filesize (KB)
- # memlock max locked-in-memory address space (KB)
- # nofile max number of open files
- # rss max resident set size (KB)
- # stack max stack size (KB)
- # cpu max CPU time (MIN)
- # nproc max number of processes
- # as address space limit (KB)
- # maxlogins max number of logins for this user
- # maxsyslogins max number of logins on the system
- # priority the priority to run user process with
- # locks max number of file locks the user can hold
- # sigpending max number of pending signals
- # msgqueue max memory used by POSIX message queues (bytes)
- # nice max nice priority allowed to raise to values: [-20, 19]

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```
#
    - rtprio - max realtime priority
#
#<domain> <type> <item>
                             <value>
#
#*
        soft core
                       0
#*
        hard rss
                      10000
#@student hard nproc
                            20
#@faculty soft nproc
                          20
#@faculty hard nproc
                           50
#ftp
      hard nproc
                         0
#@student - maxlogins
                           4
[root@xxx security]#
```

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Updating /etc/security/limits.d/90-nproc.conf

1. Open a terminal and in the command line enter the following:

[root@xxx limits.d] # cat 90-nproc.conf

Default limit for number of user's processes to prevent

accidental fork bombs.

See rhbz #432903 for reasoning.

- * soft nproc unlimited
- root soft nproc unlimited

Figure 93 Unlimited

Proot@piii1:/etc/security/limits.d
<pre>[root@partian for number of user's processes to prevent # Default limit for number of user's processes to prevent # accidental fork bombs. # See rhbz #432903 for reasoning.</pre>
* soft nproc unlimited root soft nproc unlimited [root@pdlpdeapp01 limits.d]#

Updating /etc/sysctl.conf

1. Open a terminal and in the command line enter the following:

[root@xxx etc] # ls -altr sysctl*
-rw-r--r-. 1 root root 1150 Mar 10 16:22 sysctl.conf.03_10_2015
-rw-r--r-. 1 root root 3223 Mar 10 16:33 sysctl.conf
[root@xxx etc] # cat sysctl.conf
Kernel sysctl configuration file for Oracle Enterprise Linux

#

For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and

sysctl.conf(5) for more details.

Controls IP packet forwarding

 $net.ipv4.ip_forward = 0$

- # Controls source route verification
- # See /usr/share/doc/kernel-doc-*/Documentation/networking/ip-sysctl.txt

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net.ipv4.conf.default.rp_filter = 2

Do not accept source routing

net.ipv4.conf.default.accept_source_route = 0

Controls the System Request debugging functionality of the kernel

Controls whether core dumps will append the PID to the core filename

Useful for debugging multi-threaded applications

kernel.core_uses_pid = 1

Controls the use of TCP syncookies

net.ipv4.tcp_syncookies = 1

Controls the maximum size of a message, in bytes

Controls the default maximum size of a message queue

Controls the maximum shared segment size, in bytes

Controls the maximum number of shared memory segments, in pages

For 11g, Oracle-Validated setting for fs.file-max is 6815744

For 10g, uncomment 'fs.file-max = 327679', and comment 'fs.file-max = 6553600' entry and re-run sysctl -p

fs.file-max = 327679

fs.file-max = 6815744

Oracle-Validated setting for kernel.msgmni is 2878

kernel.msgmni = 2878

Oracle-Validated setting for kernel.msgmax is 8192

kernel.msgmax = 65536

Oracle-Validated setting for kernel.msgmnb is 65536

kernel.msgmnb = 65536

Oracle-Validated setting for kernel.sem is '250 32000 100 142'

kernel.sem = 250 32000 100 142

Oracle-Validated setting for kernel.shmmni is 4096

kernel.shmmni = 4096

Oracle-Validated setting for kernel.shmall is 1073741824

kernel.shmall = 1073741824

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Oracle-Validated setting for kernel.shmmax is 4398046511104 on x86_64 and 4294967295 on i386 architecture. Refer Note id 567506.1

kernel.shmmax = 4398046511104

Oracle-Validated setting for kernel.sysrq is 1

kernel.sysrq = 1

Oracle-Validated setting for net.core.rmem_default is 262144

net.core.rmem_default = 262144

For 11g, Oracle-Validated setting for net.core.rmem_max is 4194304

For 10g, uncomment 'net.core.rmem_max = 2097152', comment 'net.core.rmem_max = 4194304' entry and re-run sysctl -p

net.core.rmem_max = 2097152

 $net.core.rmem_max = 4194304$

Oracle-Validated setting for net.core.wmem_default is 262144

net.core.wmem_default = 262144

For 11g, Oracle-Validated setting for net.core.wmem_max is 1048576

For 10g, uncomment 'net.core.wmem_max = 262144', comment 'net.core.wmem_max = 1048576' entry for this parameter and re-run sysctl -p

net.core.wmem_max = 262144

net.core.wmem_max = 1048576

Oracle-Validated setting for fs.aio-max-nr is 3145728

fs.aio-max-nr = 3145728

For 11g, Oracle-Validated setting for net.ipv4.ip_local_port_range is 9000 65500

For 10g, uncomment 'net.ipv4.ip_local_port_range = 1024 65000', comment 'net.ipv4.ip_local_port_range = 9000 65500' entry and re-run sysctl -p

net.ipv4.ip_local_port_range = 1024 65000

net.ipv4.ip_local_port_range = 9000 65500

Oracle-Validated setting for vm.min_free_kbytes is 51200 to avoid OOM killer

vm.min_free_kbytes = 51200

net.core.rmem_max = 16777216

net.core.wmem_max = 16777216

net.core.netdev_max_backlog = 250000

vm.min_free_kbytes = 524288

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[root@xxx etc]#

2. Reboot the server to test persistence or to loan manually the sysclt file: /sbin/sysctl --p

Update the /etc/sudoers files

Sudoers allows particular users to run various commands as

the root user, without needing the root password.

##

- ## Examples are provided at the bottom of the file for collections
- ## of related commands, which can then be delegated out to particular
- ## users or groups.

##

This file must be edited with the 'visudo' command.

Host Aliases

Groups of machines. You may prefer to use hostnames (perhaps using

wildcards for entire domains) or IP addresses instead.

Host_Alias FILESERVERS = fs1, fs2

Host_Alias MAILSERVERS = smtp, smtp2

User Aliases

These aren't often necessary, as you can use regular groups

(i.e., from files, LDAP, NIS, etc) in this file - just use %groupname

rather than USERALIAS

User_Alias ADMINS = jsmith, mikem

- ## Command Aliases
- ## These are groups of related commands...

Networking

```
#Cmnd_Alias NETWORKING = /sbin/route, /sbin/ifconfig, /bin/ping,
/sbin/dhclient, /usr/bin/net, /sbin/iptables, /usr/bin/rfcomm, /usr/bin/wvdial,
/sbin/iwconfig, /sbin/mii-tool
```

Installation and management of software

#Cmnd_Alias SOFTWARE = /bin/rpm, /usr/bin/up2date, /usr/bin/yum

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Services #Cmnd_Alias SERVICES = /sbin/service, /sbin/chkconfig ## Updating the locate database #Cmnd_Alias LOCATE = /usr/bin/updatedb ## Storage #Cmnd_Alias STORAGE = /sbin/fdisk, /sbin/sfdisk, /sbin/parted, /sbin/partprobe, /bin/mount, /bin/umount ## Delegating permissions #Cmnd_Alias DELEGATING = /usr/sbin/visudo, /bin/chown, /bin/chmod, /bin/chgrp ## Processes #Cmnd_Alias PROCESSES = /bin/nice, /bin/kill, /usr/bin/kill, /usr/bin/killall ## Drivers #Cmnd_Alias DRIVERS = /sbin/modprobe # Defaults specification Defaults log_year, logfile=/var/log/sudo.log # # Disable "ssh hostname sudo <cmd>", because it will show the password in clear. # You have to run "ssh -t hostname sudo <cmd>". # Defaults !requiretty # Defaults:ctmagt !requiretty # Defaults:ctmuser !requiretty # commented the above 2 lines and added ! to the defaults Figure 94 !requiretty root@_____:/etc/security

proot@______ :/etc/security
#
Defaults !requiretty
Defaults:ctmagt !requiretty
Defaults:ctmuser !requiretty
commented the above 2 lines and added ! to the defaults
.

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#

Refuse to run if unable to disable echo on the tty. This setting should also be# changed in order to be able to use sudo without a tty. See requiretty above.

#

Defaults !visiblepw

Defaults env_reset

Defaults env_keep = "COLORS DISPLAY HOSTNAME HISTSIZE INPUTRC KDEDIR \ LS_COLORS MAIL PS1 PS2 QTDIR USERNAME \

LANG LC_ADDRESS LC_CTYPE LC_COLLATE LC_IDENTIFICATION \

LC_MEASUREMENT LC_MESSAGES LC_MONETARY LC_NAME LC_NUMERIC \

LC_PAPER LC_TELEPHONE LC_TIME LC_ALL LANGUAGE LINGUAS \ _XKB_CHARSET XAUTHORITY''

Next comes the main part: which users can run what software on ## which machines (the sudoers file can be shared between multiple

systems).

Syntax:

##

user MACHINE=COMMANDS

##

The COMMANDS section may have other options added to it.

##

Allow root to run any commands anywhere

root ALL=(ALL) ALL

Allows members of the 'sys' group to run networking, software,

service management apps and more.

%sys ALL = NETWORKING, SOFTWARE, SERVICES, STORAGE, DELEGATING, PROCESSES, LOCATE, DRIVERS

Allows people in group wheel to run all commands

%wheel ALL=(ALL) ALL

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Same thing without a password

%wheel ALL=(ALL) NOPASSWD: ALL

%wheel ALL=NOPASSWD: /usr/bin/*, /bin/*, /usr/sbin/*, /sbin/*, !/bin/su

#

%batchapp ALL=NOPASSWD: /bin/su batchadm -c *, /bin/su - batchadm -c *, /bin/su batchadmat1 -c *, /bin/su - batchadmat1 -c *, /bin/su batchadmat2 -c *, /bin/su - batchadmat2 -c *, /bin/su batchadmdev1 -c *, /bin/su batchadmdev1 -c *, /bin/su batchadmdev2 -c *, /bin/su - batchadmdev2 -c *, /bin/su batchadmtr1 -c *, /bin/su - batchadmtr1 -c *, /bin/su batchadmtr2 -c *, /bin/su - batchadmtr2 -c *, /bin/su batchftpadm -c *, /bin/su - batchftpadm -c *, /bin/su batchadmsc -c *

%batchadmst1 ALL=NOPASSWD: /bin/su batchadmst1 -c *, /bin/su batchadmst1 -c *

%batchadmst2 ALL=NOPASSWD: /bin/su batchadmst2 -c *, /bin/su - batchadmst2 -c *

%batchadmst3 ALL=NOPASSWD: /bin/su batchadmst3 -c *, /bin/su - batchadmst3 -c *

%batchadmst4 ALL=NOPASSWD: /bin/su batchadmst4 -c *, /bin/su batchadmst4 -c *

%batchadme2e ALL=NOPASSWD: /bin/su batchadme2e -c *, /bin/su batchadme2e -c *

%batchadmsc ALL=NOPASSWD: /bin/su batchadmsc -c *, /bin/su - batchadmsc -c *

Allows members of the users group to mount and unmount the

cdrom as root

%users ALL=/sbin/mount/mnt/cdrom, /sbin/umount/mnt/cdrom

Allows members of the users group to shut down this system

%users localhost=/sbin/shutdown -h now

Allows people in group sudo group to run select commands

%sudo ALL=NOPASSWD: /bin/su admin, /bin/su - admin

%sudo ALL=NOPASSWD: /bin/su admin -c *, /bin/su - admin -c *

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Ensure SELinux is not running

1. Run the command getenforce to check if SELinux is running.

Figure 95 getenforce



2. If SELinux is enabled, modify the file etc/selinux/config. Set SELINUX=disabled and restart the batch server.

Figure 96 SELinux Disabled

Proot@p"
[root@p]# cd /etc/selinux/
[root@p
[root@pare selinux]# cat config
This file controls the state of SELinux on the system.
SELINUX= can take one of these three values:
<pre># enforcing - SELinux security policy is enforced.</pre>
permissive - SELinux prints warnings instead of enforcing.
disabled - No SELinux policy is loaded.
#SELINUX=enforcing
#SELINUX=permissive
SELINUX=disabled
<pre># SELINUXTYPE= can take one of these two values:</pre>
<pre># targeted - Targeted processes are protected,</pre>
<pre># mls - Multi Level Security protection.</pre>
SELINUXTYPE=targeted
[root@r

Ensure iptables is off an no rules are defined

1. Check iptables using the following commands:

Iptables –L Ip6tables -L

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2. If iptables and ip6tables are set to on, set them to off using the following commands:

chkconfig iptables off

chkconfig ip6tables off

Figure 97 iptables Off

Proot@,	
[root0] """"""""""""""""""""""""""""""""""""	
Chain INPUT (policy ACCEPT)	
target prot opt source	destination
Chain FORWARD (policy ACCEPT)	
target prot opt source	destination
Chain OUTDUT (nolicy ACCEPT)	
target pret opt course	destination
[root@	descination
[root@]#	
[root@]# in6tables -L	
Chain INPUT (policy ACCEPT)	
target prot opt source	destination
Chain FORWARD (policy ACCEPT)	
target prot opt source	destination
Chain OUTPUT (policy ACCEPT)	
target prot opt source	destination
[root0,]#	
[root@pump ~]#	
[root@ ~]# chkconfiglist	grep iptables
iptables U:off 1:off 2:off	3:011 4:011 5:011 6:011
[roote]#	gron inStables
instables 0.off 1.off 2.off	grep ipolables
	3.011 4:011 5:011 6:011
[1000%]uarpa ~]#	

Service user settings:

- 1. Ensure the NIS service is running.
- 2. Ensure ctmuser is listed in the file /etc/passwd, home directory /u01/sc/ControlM.
- 3. Create two folders under /u01/sc/ControlM, one called "Daily" and one called "Monthly". These folders will be used to ftp reports.
- 4. Configure ftp on the batch server (see VSFTPD Runbook).
- 5. Ensure batchadmsc user is defined in the file /etc/passwd, home directory /nfshome/batchadmsc.
- 6. batchadmsc needs to be a member of the "sudo" group.
- 7. Ensure ctmagt user home directory is /opt/bmc/ctmagt.
- 8. ctmagt user needs to be a member of the "wheel" and "sudo" groups.

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9. Ensure /etc/sudoers is synced up with the new batch server.

Additional OS fixes to be applied to Control-M batch servers

A job that is killed in the Enterprise Manager GUI, or from the Control-M Server with the *ctmkilljob* command does not terminate on the Control-M Agent running RedHat 5. On Red Hat 5 the operating system only kills the parent process and it's child. The process which actually runs the CONTROL-M job is not killed (it's a child of the child). The job will appear as killed in Control-M, but the script will continue to run. The issue is caused by a change in behavior in the 'su' utility in Red Hat 5 Solution:

- 1. Add the following line to the OS.dat file: CTM_SU_PATH /opt/bmc/ctmagt/ctm/exe/su.bmc (this is the correct path for NGC/LAC)
- 2. Cycle the CONTROL-M/Agent.

Current contents of /opt/bmc/ctmagt/ctm/data/OS.dat:

CM_DIR /opt/bmc/ctmagt/ctm/exe/ CM_LIB_NAME BEUNIX OUTPUT NAME MEMNAME VERSION 8.0.00 APPLICATION VERSION 8.0.00 SMTP PORT NUMBER 25 SMTP SENDER EMAIL control@m RJX CONN MODE 2 RJX_DETAILS_TO_OUTPUT Y RJX_CONN_TRY 15 RJX_CONN_TOUT 120 RJX_CLEAN_ENV Y RJX_OUTPUT_DIR . RJX_SYNC_TOUT 10000 RJX_OVMS_DEFAULT_QUEUE sys\$batch RJX_OVMS_SETVERIFY Y CTM PRM SH FLAGS -x

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CTM_PRM_KSH_FLAGS -x

CTM_PRM_DONT_DELETE NO

TRANSLATE_\$0 Y

PAM_ENABLED_FOR_ROOT N

Update /etc/hosts to support application connections

1. Add the following to /etc/hosts, if not done already done, andupdate the physical batch server to Edit the host file entries whenever a new physical batch server is created.

SOA/BPM 11.1.1.6/WLS 10.3.6	11.1.1.7.0	bpm-cluster
SOA/BPM 11.1.1.6/WLS 10.3.6	11.1.7.0	bpm-cluster
OBIEE + BIP (Datawarehouse)	11.1.1.7.0	dw-cluster
OBIEE + BIP (Datawarehouse)	11.1.1.7.0	dw-cluster
OBIEE + BIP (Reporting)	11.1.1.7.0	bi-cluster
OBIEE + BIP (Reporting)	11.1.1.7.0	bi-cluster
WC Content 11.1.1.7	11.1.1.7.0	wcc-cluster
WC Content 11.1.1.7	11.1.1.7.0	wcc-cluster

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Oracle Business Activity Monitoring (BAM)	11.1.7.0	bam-cluster
Oracle Business Activity Monitoring (BAM)	11.1.7.0	bam-cluster
Oracle Data Integrator + SqlPlus	11.1.1.7.0	odi11-cluster
Oracle Data Integrator + SqlPlus	11.1.1.7.0	odi11-cluster
Oracle Data Integrator + SqlPlus	12.1.2.0.0	odi12-cluster
Oracle Data Integrator + SqlPlus	12.1.2.0.0	odi12-cluster
Oracle Service Bus 11.1.1.6 + WLS 10.3.6	11.1.1.7.0	osb-cluster
Oracle Service Bus 11.1.1.6 + WLS 10.3.6	11.1.1.7.0	osb-cluster
Informatica Identity Resolution	9.5.3	N/A
Informatica Identity Resolution	9.5.3	N/A
Adobe Livecycle	10.3.6 WLS, LiveCycle 4	alc-cluster

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Adobe Livecycle	10.3.6 WLS, LiveCycle 4	alc-cluster
MapMaker + WLS	N/A, 10.3.6	mm-cluster
MapMaker + WLS	N/A, 10.3.6	mm-cluster

Update /etc/hosts to support Web Content and Adove Livecycle

1. Add the following four entries to /etc/hosts to include Web Content and Adobe Livecycle:

WC Content 11.1.1.7	11.1.1.	7.0	wcc-	16
cluster	4	16	Refer to Run Book	
WC Content 11.1.1.7	11.1.1.	7.0	wcc-	16
cluster	4	16	Refer to Run Book	
Adobe Livecycle	10.3.6	5 WLS, Liv	veCycle 4 alc-	16
cluster	4	16	Refer to Run Book	
Adobe Livecycle	10.3.6	5 WLS, Liv	veCycle 4 alc-	16
cluster	4	16	Refer to Run Book	

10.5 Product Validation

10.6 Post-Installation Clean-up

- 10.6.1 Vendor docs
- 10.6.2 Tailored Work Instructions
- 10.7 Troubleshooting

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10.7.1 Common Errors and Responses

The table below lists the most common errors and the resolution steps.

ERROR	ACTION

10.7.2 Known Errors and Solutions

Errors and bugs for which a work around exists are saved to the Known Error Database. The Known Error Database can be accessed on the SharePoint at ...

10.8 Uninstall

10.8.1 Uninstall Guide