Oracle® Enterprise Manager

Monitoring an Oracle Private Cloud Appliance Release 13.1.0.1.0 **E65699-01**

December 2015



Oracle Enterprise Manager Monitoring an Oracle Private Cloud Appliance, Release 13.1.0.1.0

E65699-01

Copyright © 2015, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Contents

Preface	v
Audience	v
Documentation Accessibility	v
Conventions	v
What's Changed	vi

1 Introduction to the Oracle PCA Plug-in

1.1	About the Oracle Private Cloud Appliance	1-1
1.2	About the Oracle Virtualization Plug-in	1-1
1.3	Oracle Private Cloud Appliance Features	1-2
1.4	Supported Hardware	1-2
1.5	Supported Software	1-3
1.6	Prerequisites	1-3

2 Discovering the Oracle Private Cloud Appliance

2.1	Installing the Management Agent on Oracle PCA	2-1
2.2	Discovering the Oracle PCA in Enterprise Manager	2-4
2.3	Enterprise Manager Agent Recovery After Oracle PCA Upgrade	2-10
2.4	Removing the Oracle PCA Target from Enterprise Manager	2-11

3 Troubleshooting the Oracle Private Cloud Appliance

3.1	Oracle ZFS Storage Appliance Error Message	3-1
3.2	Targets Still Appear as Pending	3-1

Index

Preface

This guide describes how to manage an Oracle Private Cloud Appliance (PCA) using Oracle Enterprise Manager Cloud Control 13*c*. This document provides detailed steps required to install and configure an Enterprise Manager agent and its related artifacts to manage and monitor an Oracle PCA.

Audience

This document is intended for Oracle Private Cloud Appliance customers, system administrators and data center administrators who are interested in managing their PCA using Oracle Enterprise Manager Cloud Control 13*c*.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

What's Changed

This table provides a brief overview of the document changes for the latest publication of the *Oracle*® *Enterprise Manager Cloud Control Monitoring an Oracle Private Cloud Appliance*:

Part Number	Change Summary
E65699-01	Initial release in support of Enterprise Manager Cloud Control 13c.

1

Introduction to the Oracle PCA Plug-in

This chapter provides a general overview of the Oracle Private Cloud Appliance (PCA) plug-in, including supported hardware and software.

The following topics are discussed:

- About the Oracle Private Cloud Appliance
- About the Oracle Virtualization Plug-in
- Oracle Private Cloud Appliance Features
- Supported Hardware
- Supported Software

1.1 About the Oracle Private Cloud Appliance

Oracle Private Cloud Appliance (PCA) is an integrated, "wire once," software-defined converged infrastructure system designed for rapid deployment of private cloud at industry-leading price point.

The Oracle PCA supports a large range of mixed workloads hosted in a converged server, network, and storage environment to enable general purpose, business-, and mission-critical application deployments in medium-to-large data centers.

With Oracle Enterprise Manager 13*c*, the Private Cloud Appliance is transformed into a powerful Cloud Services delivery platform and provides a simple path from on-premise to Oracle Cloud.

1.2 About the Oracle Virtualization Plug-in

The Enterprise Manager for Oracle Virtualization (VT) plug-in has been extended to support monitoring and management of the Oracle PCA Racks by Enterprise Manager. Through Enterprise Manager Cloud Control, you can monitor the various hardware components of the Oracle PCA rack (such as compute nodes, InfiniBand switches, and so forth).

1.3 Oracle Private Cloud Appliance Features

Features

"Turnkey" converged infrastructure solution automates hardware and software deployment with Oracle Private Cloud Appliance controller software.

Easy private cloud deployment ranging from IaaS to DBaaS by adding Oracle Enterprise Manager 13*c*.

Support for Oracle VM Templates enables deployment of ready-to-run VMs containing applications in minutes or hours, not days.

Oracle SDN software reduces operational complexity by enabling software-defined infrastructure in a "wire-once" system.

Saving hundreds of hours of installation and configuration time.

Faster Time-to-Market at industry-leading price point.

Reduced risks by running Microsoft Windows, Linux and Oracle Solaris workloads on one system.

Efficient Oracle software licensing based on what you use, not on the system's total capacity.

Lowered acquisition, deployment and operational costs.

Innovative converged infrastructure solution from a single vendor allows for superior ease-of-purchase, product integration, simplified management and single point of contact for support.



1.4 Supported Hardware

You can use the Oracle VT plug-in to monitor the performance of a wide variety of Oracle PCA targets, including:

- **Base rack.** The Oracle PCA is composed of the following components:
 - 2 to 25 compute nodes.
 - 2 management nodes.
 - 2 NM2-36 Sun InfiniBand Switches.
 - 2 ES1-24 Ethernet switches.
 - 2 Fabric Interconnect switches.
 - 1 Oracle ZFS Storage Appliance ZS3-ES.
- **Compute nodes.** The base rack can support a maximum of 25 compute nodes. The base rack supports mixing of compute nodes from the following Oracle Servers:
 - X5-2.
 - X4-2.
 - X3-2.
- Virtual networking. Each Private Cloud Appliance hardware configuration contains the following multiple redundant components that serve as gateways to the data center's Ethernet network:
 - QDR InfiniBand switches.

- Oracle Fabric Interconnect systems.
- Integrated storage. Oracle Private Cloud Appliance features a fully integrated, enterprise-grade Oracle ZFS Storage ZS3-ES for centrally storing the management environment as well as providing data storage for VMs.

The storage capacity of Private Cloud Appliance can be expanded beyond the internal, included storage, to external data center racks containing Oracle ZFS Storage Appliance or supported storage available from other storage vendors.

1.5 Supported Software

The following software, included with the Private Cloud Appliance, enable scalability, software-defined virtual networking, and GUI-based management:

- Oracle VM. Oracle VM application-driven server virtualization is designed to be highly scalable and built to enable rapid application deployment. Oracle VM supports up to 128 vCPUs and a variety of guest OSes such as Linux, Oracle Solaris, and Microsoft Windows. Oracle VM is also optimized to accelerate applications deployments.
- Oracle SDN software: Oracle SDN dynamically connects servers to networks and storage. It eliminates the physical storage and networking cards found in every server and replaces them with virtual network interface cards (vNICs) and virtual host bus adapters (vHBAs) that can be deployed on the fly. Applications and operating systems see these virtual resources exactly as they would see their physical counterparts. Oracle Virtual Networking simplifies complex data center deployments with a wire-once solution and simple software-defined network configurations.
- Oracle Private Cloud Appliance controller software: The controller software allows users to manage and monitor the systems hardware, perform software upgrades, create and manage virtual resources (virtual servers, virtual networks, and storage), and monitor utilization of all system resources in real-time. The controller software runs on two dedicated management nodes that are configured for high availability with automatic failover in the event of a failure. It is accessible via a GUI dashboard

1.6 Prerequisites

Ensure that the following prerequisites have been met before continuing:

- The Oracle Private Cloud Appliance (PCA) controller software should be version 2.1.1 or later.
- The ILOM version of the management nodes, compute nodes, InfiniBand switches and Oracle ZFS Storage Appliance should be version 3.1 or later.
- The agent needs to be installed on shared storage according to instructions, so that failover capability can be utilized. See Installing the Management Agent on Oracle PCA for details.

Discovering the Oracle Private Cloud Appliance

This chapter provides instructions for discovery of the Oracle Private Cloud Appliance (PCA) through Enterprise Manager Cloud Control 13*c*.

The following topics are provided:

- Installing the Management Agent on Oracle PCA
- Discovering the Oracle PCA in Enterprise Manager
- Removing the Oracle PCA Target from Enterprise Manager

2.1 Installing the Management Agent on Oracle PCA

Before discovering the Oracle PCA in Enterprise Manager, you must first prepare the PCA and install a Management Agent. Follow the steps below to properly configure your Oracle PCA:

1. Change the oracle user password to a known password on both management nodes of the PCA Rack:

passwd oracle

2. Verify the VIP and public Enterprise Manager IP are in the /etc/hosts file on both management nodes:

```
YOUR.VIP vip-host1.example.com vca1-vip-vip
YOUR.EMIP em-host1.example.com em01
```

3. On an active management node, create an agent directory on the shared NFS directory:

```
# mkdir /nfs/shared_storage/oemagent
# chown oracle !$
# chgrp dba !$
```

4. Open an Enterprise Manager agent port in the firewall by running the following command. Make sure you choose the same port while pushing the agent in step 5:

```
# iptables -A INPUT -m state --state NEW -m tcp -p tcp --dport <agent_port> -j
ACCEPT
# service iptables save
# service iptables restart
```

Note: By default, the Enterprise Manager agent port **3872** is pre-populated by PCA software. If you use this default Enterprise Manager agent port 3872 for pushing the agent, then this step is not needed.

- **5.** Push the Management Agent from the OMS. From Enterprise Manager Cloud Control:
 - **a.** From the **Setup** menu, select **Add Target**, then select **Add Targets Manually**.
 - **b.** In the Add Host Targets area of the Add Targets Manually page, click **Install Agent on Host**. The Add Host wizard will begin.
 - **c.** Add a Host and Platform. On this page, click **Add** and select **Manually**. Enter a host name (fully qualified) in the Host field. This name should be the fully qualified virtual IP host name of the PCA rack for deploying the agent. Select **Linux x86-64** from the Platform drop-down menu. Figure 2–1 shows an example:

Figure 2–1 Add Host Target: Host and Platform

Add Target							
•	0	0					
Host and Platform	Installation Details	Review					
Add Host Targ	ets: Host and Platf	orm		Back	Step 1 of 3	Next	Cancel
This wizard enables yo and their platforms on v	u to install Management Agen which you want to install the M	ts on unmanaged hosts, thereby c lanagement Agent.	onverting them to managed hosts. Enter a sessi	ion nam	e, and validat	e (or add	I) the hosts
* Session Name	ADD_HOST_SYSMAN_Nov_1	17_2015_9:38:17_AM_PST					
h							
Agent Software Op	ptions						
+ Add 🔻 💙	Remove	Platform Same for All Hosts	•				
Host			Platform				
host1.ex	ample.com		Linux x86-64				-
The largest h	octo platform is defaulted bar	ad an a combination of factors, inc	luding biological from submoted discovery	and the	platform of th	- OHO h	ant
TIP The default i	s a suggestion, however, we	recommend you to check the platfo	rm details before processing to the next step.	anutie	prationni or u	ie oma ii	USL
TIP If the platform	m name is appended with "Ao	ent Software Unavailable" then do	wnload the software for that platform using Self	Update			

Note: The target host's platform is defaulted based on a combination of factors, including hints received from automated discovery and the platform of the OMS host. The default is a suggestion; however, you should check the platform details before processing to the next step.

If the platform name is appended with "Agent Software Unavailable," then download the software for that platform using Enterprise Manager's Self Update feature.

Click Next.

d. On the Installation Details page (Figure 2–2), enter the following information:

Installation Base Directory: /nfs/shared_storage/oemagent

Instance Directory: /nfs/shared_storage/oemagent/agent_inst (This value is automatically completed based on the Installation Base Directory input.)

Named Credential: <agent_username>

If this is the first time you are adding a credential, an add icon (*) appears. Click this icon for a dialogue box that prompts for the credentials of the agent user (oracle/password for example).

Create a Named Credential for the oracle user with the password you set in step 1 above.

Once created, that credential and any other credentials that have already been added to Enterprise Manager will be available for selection. For an existing installation of an Enterprise Manager, a user may already have the necessary credentials available for selection for Oracle PCA discovery.

Privileged Delegation Setting: Leave the default. By default, this field is populated with /usr/bin/sudo -u %RUNAS% %COMMAND%

Port: By default, this field is populated with 3872

Preinstallation Script: Leave this field blank.

Postinstallation Script: Leave this field blank.

Additional Parameters: Leave this field blank.

Figure 2–2 Add Host Targets: Installation Details

-						
0						
Host and Platform Insta	allation Details Review	v				
Add Host Targets: I	nstallation Details		Back	Step 2 of 3	Next	Cancel
n this screen, select each row fi	rom the following table and provide	e the installation details in t	ne Installat	ion Details se	ection.	
Deployment Type: Free	ah Agent Install					
Platform	Agent Software Version	Hosts		Mandato	ory Inpu	ts
Linux x86-64	13.1.0.0.0	host1.example.com			5	
inux x86-64: Agent Installation * Installation Base Directory * Instance Directory * Named Credential	Details /nfs/shared_storage/oemagent /nfs/shared_storage/oemagent <agent_username></agent_username>	: /agent_inst				
inux x86-64: Agent Installation * Installation Base Directory * Instance Directory * Named Credential Yrivileged Delegation Setting	Details /nfs/shared_storage/oemagent /nfs/shared_storage/oemagent <agent_username></agent_username>	t /agent_inst > % %COMMAND%				
inux x86-64: Agent Installation * Installation Base Directory * Instance Directory * Named Credential 'rivileged Delegation Setting Port	Details Infs/shared_storage/oemagent Infs/shared_storage/oemagent <agent_username></agent_username>	t Vagent_inst > % %COMMAND%				

Once the fields are complete, click **Next**.

- e. On the Review page, review the details of the host information. Click **Deploy Agent**.
- **6.** If you get a failure, make a link (both management nodes):
 - # /nfs/shared_storage/oemagent to /u01/oemagent
 - # chown oracle /u01/oemagent
 - # chgrp dba /u01/oemagent
 - **a.** Rerun step 5 and set the Installation Base Directory to the link with the corrected permissions:

Installation Base Directory: /u01/oemagent

7. Run the privileged agent scripts on the active node:

```
# cd /u01/oemagent -or- cd /nfs/shared_storage/oemagent
# (
```

```
#./agent_13.1.0.0.0/root.sh
```

```
# /u01/app/oraInventory/orainstRoot.sh
```

8. On the active management node, set the emd property AgentListenOnAllNICs to false by running following command with the agent user (i.e., oracle):

```
<Agent_BASE_DIR>/agent_inst/bin/emctl setproperty agent -name
"AgentListenOnAllNICs" -value "false"
```

9. Copy the following agent installation files to the passive management node (ovcamn06r1 is passive in this example):

```
# scp /etc/init.d/gcstartup root@ovcamn06r1:/etc/init.d/
# rsync -og /etc/oragchomelist root@ovcamn06r1:/etc/oragchomelist
# rsync -rog /u01/app/oraInventory/ root@ovcamn06r1:/u01/app/oraInventory/
```

10. On the active management node, remove all gc rc.d links (no startup of agent on startup):

for x in `find /etc/rc.*/rc* | grep gcstart`; do rm \$x; done

11. Restart the Enterprise Manager agent on the active management node as root from the startup script or as oracle from the agent's emctl command:

```
# /etc/init.d/gcstartup stop
```

/etc/init.d/gcstartup start

or

```
% /nfs/shared_storage/oemagent/agent_inst/bin/emctl stop agent
```

% /nfs/shared_storage/oemagent/agent_inst/bin/emctl stop agent

2.2 Discovering the Oracle PCA in Enterprise Manager

The steps below provide the prerequisites and instructions to discover an Oracle Private Cloud Appliance (PCA) target in Enterprise Manager Cloud Control:

 From the Setup menu, select Add Targets, and then select Add Targets Manually (Figure 2–3):

	Initial Setup Console	
Configure Auto Discovery	Add Target	►
Auto Discovery Results	Extensibility	►
Add Targets Manually	Proxy Settings	►
Group	Security	►
Dynamic Group	Incidents	►
Administration Groups	Notifications	►
Generic System	Cloud	►
Redundancy System	Provisioning and Patching	►
Generic Service	My Oracle Support	►
	Middleware Management	►
	Manage Cloud Control	►
	Command Line Interface	
	Management Packs	►

Figure 2–3 Add Targets Manually Menu

2. On the Add Targets Manually page (Figure 2–4), click **Add Targets Using Guided Process**.

Figure 2–4 Add Targets Manually



3. On the Add Using Guided Process window, select **Private Cloud Appliance**. Click **Add** (Figure 2–5) to begin the discovery wizard.

Add Using Guided Process		×
Guided Discovery	Discovered Target Types	
Guided Discovery Oracle Directory Server Enterprise Edition	Discovered Target Types Oracle Directory Server Enterprise Edition Server, Dir	*
Oracle Exadata Database Machine	Oracle Exadata Database Machine, Oracle Engineer	
Oracle Fusion Middleware/WebLogic Domain	Oracle WebLogic Domain	
Oracle GlassFish Domain	Oracle GlassFish Domain	
Oracle SuperCluster	Oracle Exadata Storage Server, Systems Infrastructur	
Oracle Virtual Platform	Oracle Virtual Platform	
Private Cloud Appliance	Systems Infrastructure Switch, Systems Infrastructur	
Recovery Appliance	Recovery Appliance	
Standalone Oracle HTTP Server	Oracle HTTP Server	
Systems Infrastructure Cisco Switch	Systems Infrastructure Cisco Switch	Ξ
Systems Infrastructure Oracle InfiniBand Switch	Systems Infrastructure Oracle InfiniBand Switch	
Systems Infrastructure PDU	Systems Infrastructure PDU	
Systems Infrastructure Rack	Systems Infrastructure Rack	
Systems Infrastructure Server ILOM	Systems Infrastructure Server ILOM	-
	Add Cance	

Figure 2–5 Select Private Cloud Appliance

4. On the Discovery Inputs page (Figure 2–6), you will need to enter the Monitoring Agent host location.

Figure 2–6 PCA Discovery Wizard: Discovery Input

Discovery Input	Discovery Prerequisites	Discovered Targets	Monitoring Credentials	System Review	
Private Cloud A	ppliance Disco	overy Wizard: Di	scovery Input	Back Step 1 o	of 5 Next Cancel
Select an Enterprise Man with the Management No system.	ager Agent with acces de Host of the Private (s to Private Cloud Applian Cloud Appliance Engineer	ce Engineered system. The a ed System to discover all su	agent will communicate pported targets in the	
* Monitoring /	Agent			٩	

Click the **Search** icon to display the Select Discovery Agent pop-up window:

Search
Status
1
*

Figure 2–7 Select Discovery Agent

Select the URL from the available list. Once you select the URL, the Management Agent field on the Discovery Input page should auto-populate with the required information.

Click Next.

5. On the Discovery Prerequisites page (Figure 2–8), a series of checks are conducted automatically. Any errors returned must be resolved before continuing.

Figure 2–8 PCA Discovery Wizard: Discovery Prerequisites

0										
Discovery	Input	Discovery Prerequisites	Discovered Targets	Monitoring Credentials	System Review					
Private (Cloud App	liance Disco	overy Wizard: Di	scovery Prerequi	sites	Back	Step 2 of 5	Next	Reload	Cancel
Private Cloud	Appliance prere lebad to execute p	quisites check info prerequisites check a	ormation table. ERROR se Igain.	everity messages have to be	resolved before bei	ng able to	proceed with	the disc	:overy.	
Private Cloud TIP Click F Severity 1	Appliance prere Reload to execute p Message Discovered En	equisites check info prerequisites check a gineered System F	ormation table. ERROR si igain. ?rivate Cloud Appliance h	everity messages have to be ost1.example.com.	resolved before beir	ng able to	proceed with	n the disc	:overy.	
Private Cloud TIP Click F Severity (1) (1)	Appliance prere Reload to execute p Message Discovered En Discovered En	equisites check info prerequisites check a gineered System F gineered System F	ormation table. ERROR si igain. Private Cloud Appliance h Rack PCA Rack host1.exa	everity messages have to be ost1.example.com. ample.com.	resolved before bei	ng able to	proceed with	n the disc	:overy:	

Note: Click **Reload** to run the prerequisite checks again.

Click Next.

A confirmation pop-up window (Figure 2–9) will appear to show how many targets to be discovered:





Click **Close** to continue.

6. On the Discovered Targets page (Figure 2–10), select the targets you want included in the discovered PCA rack. By default, all available targets are pre-selected.

Figure 2–10 PCA Discovery Wizard: Discovered Targets

Discover	ry Input Discovery Prerequisites	Discovered Targets	Monitoring Credentials	System Review				
Private	Cloud Appliance Disco	overy Wizard: D	iscovered Targets	5	Back	Step 3 of 5	Next	Cancel
List of all ta	rgets discovered in the Private Cloud liscovered components are pre-selected	I Appliance Engineered S by default.	System. Please uncheck the	targets, that are to be ign	nored by this disco	overy wizard.		Î
🔺 Mana	gement Nodes							
Select	Rack Name		Name					
7	PCA Rack host1.example.com		ilom1/host1.example.com					
	PCA Rack host1.example.com		ilom2/host1.example.com					
d Comp	oute Nodes							
Select	Rack Name		Name					=
1	PCA Rack host1.example.com		ilom-cn12/host1.example.co	om				
	PCA Rack host1.example.com		ilom-cn11/host1.example.co	om				
V	PCA Rack host1.example.com		ilom-cn10/host1.example.co	om .				
V	PCA Rack host1.example.com		ilom-cn09/host1.example.co	om				
	PCA Rack host1.example.com		ilom-cn08/host1.example.co	om				
V	PCA Rack host1.example.com		ilom-cn07/host1.example.co	om				
. Ether	net Switches							
Select	Rack Name		Name					
V	PCA Rack host1.example.com		ethernet1 <i>l</i> host1.example	e.com				
🔺 Fabri	c Interconnect Switches							
Select	Rack Name		Name					
	PCA Rack host1.example.com		fabric1/host1.example.co	om				
	PCA Rack host1.example.com		fabric2/host1.example.co	om				

Click Next.

7. On the Monitoring Credentials page, the credentials must be set for each component in the Oracle PCA rack. A red status flag is shown for all components where the credentials are not set.

For each component type, click the **Edit** icon. In the Monitoring Credentials pop-up (Figure 2–11), enter the user name and password for each component in the Oracle PCA rack:

lom1/pca1.example.com Monitoring Credentials						
Use same credentials for all	Management Nodes targets 📝	Test Credentials	Save	Cancel		
Credential type	ILOM SSH Credentials]				
* Username						
* Password						
* Confirm Password						

Figure 2–11 Component Monitoring Credentials

Note: For the InfiniBand Switch, enter **public** in the Community String mandatory field input.

You can select **Use same credentials for all** in the credential's edit dialog to use the same credentials for all targets of the type. Figure 2–12 shows an example of the Monitoring Credentials page with all credentials set:

Figure 2–12 PCA Discovery Wizard: Monitoring Credentials

Discovery	Input Discovery Prerequisites	O Discovered Targets	Monitoring Credentials	System Review				
rivate C	Cloud Appliance Disco	overy Wizard: Mor	itoring Credenti	als		Back Step 4 of 5 Next Cance		
rovide monit	oring credentials to enable monito	oring of the targets.						
TIP You ca	in check 'Use for all' option in the cre	dentials edit dialog to use same	credentials for all targets of th	ie type.				
Manage	ement Nodes							
					Credentia	als		
Managed	Rack Name		ne	Status	Edit	Configured Credentials		
	PCA Rack host1.example.com	ilon	11/host1.example.com	R	0	ILOM SSH Monitoring Credent		
	PCA Rack host1.example.com	ilon	12/host1.example.com	N	0	ILOM SSH Monitoring Credent		
Compu	te Nodes							
				Monitoring	Monitoring Crodontials			
Managed	Rack Name	Nai	Name	Status	Edit	Configured Credentials		
	PCA Rack host1.example.com	cn1	2/host1.example.com	R	0	ILOM SSH Monitoring Credent		
	PCA Rack host1.example.com	cn1	1/host1.example.com	N	0	ILOM SSH Monitoring Credent		
	PCA Rack host1.example.com	cn1	0/host1.example.com	R	0	ILOM SSH Monitoring Credent		
	PCA Rack host1.example.com	cn0	9/host1.example.com	N	0	ILOM SSH Monitoring Credent		
	PCA Rack host1.example.com	cn0	8/host1.example.com	N	0	ILOM SSH Monitoring Credent		
	PCA Rack host1.example.com		cn07/host1.example.com		0	ILOM SSH Monitoring Credent		
4 Etherne	et Switches							
				Monitoring	Credentia	ls		
Managed	Rack Name	Nar	ne	Status	Edit	Configured Credentials		
	PCA Rack host1.example.com	ethe	emet1/host1.example.com	वि		This Target does not require		
Fabric I	nterconnect Switches							
				Monitorina	Credentia	ls		
Managed	Rack Name	Nar	ne	Status	Edit	Configured Credentials		

Click Next.

8. On the System Review page, click **Promote Targets** to promote all components of the Oracle PCA rack. If any component fails the promotion process, click **Back** to update the inputs for that component. A pop-up window will appear to show the progress. Once complete (Figure 2–13), click **Close**.

Figure 2–13 Target Promotion Confirmation





Figure 2–14 PCA Discovery Wizard: System Review





2.3 Enterprise Manager Agent Recovery After Oracle PCA Upgrade

To recover an Enterprise Manager agent after the Oracle PCA is upgraded:

- 1. Backup the oraInventory agent to the NFS-shared location:
 - # cd /u01/app
 - # tar -cvf EMagent_oraInventory.tar oraInventory
 - # cp EMagent_oraInventory.tar /nfs/shared_storage
- 2. After you have updated the Oracle PCA Rack, copy the oraInventory agent from the NFS-shared location and untar it to the previous oraInventory location:

cp /nfs/shared_storage/EMagent_oraInventory.tar /u01/app

```
# tar -xvf EMagent_oraInventory.tar
```

3. Keep the same password you created in Installing the Management Agent on Oracle PCA for the oracle user on both management nodes:

passwd oracle

4. Run the privileged agent scripts on the active management node:

```
# cd /u01/oemagent
```

or

```
# cd /nfs/shared_storage/oemagent
```

```
#./agent_13.1.0.0.0/root.sh
# /u01/app/oraInventory/orainstRoot.sh
```

5. On the active management node, remove all gc rc.d links (that is, no startup of agent on startup):

```
# for x in `find /etc/rc.*/rc* | grep gcstart`; do rm $x; done
```

6. Copy the following agent installation files to the passive management node (ovcamn06r1 is passive in this example):

```
# scp /etc/init.d/gcstartup root@ovcamn06r1:/etc/init.d/
# rsync -og /etc/oragchomelist root@ovcamn06r1:/etc/oragchomelist
# rsync -rog /u01/app/oraInventory/ root@ovcamn06r1:/u01/app/oraInventory
```

7. Add the Enterprise Manager agent port to the number chosen during agent push (see Installing the Management Agent on Oracle PCA) (default **3872**) to the firewall settings on both management nodes (active and passive):

```
# iptables -A INPUT -m state --state NEW -m tcp -p tcp --dport <agent_port> -j
ACCEPT
# service iptables save
# service iptables start
```

Note: By default, the Enterprise Manager agent port **3872** is pre-populated by PCA software. If you use this default Enterprise Manager agent port 3872 for pushing the agent, then this step is not needed.

8. Restart the Enterprise Manager agent on the active management node as root from the startup script or as oracle from the agent's emctl command:

```
# /etc/init.d/gcstartup stop
# /etc/init.d/gcstartup start
```

or

```
% /nfs/shared_storage/oemagent/agent_inst/bin/emctl stop agent
% /nfs/shared_storage/oemagent/agent_inst/bin/emctl stop agent
```

2.4 Removing the Oracle PCA Target from Enterprise Manager

To remove the Oracle Private Cloud Appliance (PCA) target from Enterprise Manager monitoring:

Note: Removing the Oracle PCA target from Enterprise Manager monitoring will also remove all PCA components from monitoring as well (for example, the Compute and Management Nodes, InfiniBand switches, Ethernet and Fabric Interconnect switches, Storage Servers, and so forth).

1. From the **Targets** menu, select the Private Cloud Appliance item (Figure 2–15):

Figure 2–15 Targets Menu

All Targets	Ctrl+Shift+T
Groups	
Systems	
Services	
Hosts	
Databases	
Middleware	
Business Applications	
Composite Applications	
Private Cloud Appliance	

Then, on the Targets page, select the Private Cloud Appliance item and click **Remove**.

 Alternatively, you can remove the target from the PCA target home page. Click the Private Cloud Appliance menu, then select Target Setup, then select Remove Target (Figure 2–16):

Figure 2–16 Remove Target

📱 Private Cloud Appliance 🔻	
Home	
Ø Open the home page in a new	window.
Monitoring	Þ
Diagnostics	•
Control	•
Job Activity	
Information Publisher Reports	
Members	•
Configuration	Þ
Compliance	Monitoring Configuration
Target Setup	Administrator Access
Target Sitemap	Remove Target
Target Information	Add to Group
	Brenetice
	Properties

3. A confirmation pop-up window appears (Figure 2–17):

Figure 2–17 PCA Target Removal Confirmation



Click Yes to continue.

4. After the PCA target is removed, the All Targets page will reload. A confirmation message will show that the PCA target and all of its components have been removed (Figure 2–18):

Figure 2–18 Oracle PCA Target Removed - All Targets Page

Confirmation The specified Private Cloud Appliance and all if	s targets were re	moved.						×
All Targets			Auto Refresh	Off	▼ Page	Refreshed Sep 11, 3	2015 10:13:55 AM PDT 1	ບ
Refine Search	View v	Search Target Name	٩			Save Search	Saved Searches 🔻	
⊿ Target Type	Target Na	ame		•	Target Type		Target Status	
d Cloud	/EMGC_EI	IENGC_ENGC_DOMAIN/EMGC_DOMAIN IENGC_ENGC_DOMAIN/EMGC_DOMAIN/emgc IENGC_ENGC_DOMAIN/EMGC_DOMAIN/EMGC_ADMINSERVER			Oracle WebLogic Domain		N/A	*
Middleware and Database Cloud (1)	/EMGC_EI				Domain Applica	N/A		
Oracle Cloud (1)	/EMGC_E				Oracle WebLog	*		
Groups, Systems and Services	JEMGC_EI	/EMGC_EMGC_DOMAIN/EMGC_DOMAIN/EMGC_ADMINSERVER/mds-ow			Metadata Repos	N/A		
EM Service (2)	/EMGC_EI	IGC_DOMAIN/EMGC_DOMAIN/EMG	C_ADMINSERVER/mds	s-sys	Metadata Repos	itory	N/A	
Management Servers (1)	E /EMGC_E	NGC_DOMAIN/EMGC_DOMAIN/EMG	C_OMS1		Oracle WebLog	c Server	*	
Middleware	/EMGC_EI	IGC_DOMAIN/EMGC_DOMAIN/EMG	C_OMS1/emgc		Application Dep	oyment		=
Application Deployment (3)	/EMGC_EI	IGC_DOMAIN/EMGC_DOMAIN/EMG	C_OMS1/empbs		Application Dep	loyment	*	
Domain Application Deployment (3)	/EMGC_EI	IGC_DOMAIN/EMGC_DOMAIN/EMG	C_OMS1/jvmdengine(1	3.1.1	Application Dep	-		
Metadata Repository (2)	. /EMGC_E	IGC_DOMAIN/EMGC_DOMAIN/emp	bs		Domain Applica	tion Deployment	N/A	

Troubleshooting the Oracle Private Cloud Appliance

This chapter describes some common problems you may encounter with your Oracle Private Cloud Appliance (PCA).

The following troubleshooting topics are covered:

- Oracle ZFS Storage Appliance Error Message
- Targets Still Appear as Pending

3.1 Oracle ZFS Storage Appliance Error Message

Problem: You may encounter a warning message in the agent log file about the Oracle ZFS Storage Appliance.

Resolution: This is a known issue. The warning message can be ignored. Typically, the message will look like this:

2015-05-15 13:06:04,896 [87:75FBA055] WARN - Can not evaluate push properties for target oracle_si_zfssa_diskshelf_server_akcli.zfs1.example.com/akcli/ 1/dis kshelf/chassis-001 akcli for metric ComponentFaults - skipping this metric oracle.sysman.emSDK.agent.fetchlet.exception.FetchletException: Can't resolve a non-optional query descriptor property [MatchAgentAddr] (StorageServerIpAddress) at oracle.sysman.gcagent.metadata.impl.PropertiesEvaluatorImpl\$QueryPropsComputer .compute(PropertiesEvaluatorImpl.java:1013) at oracle.sysman.gcagent.metadata.impl.PropertiesEvaluatorImpl\$QueryPropsComputer .<init>(PropertiesEvaluatorImpl.java:859) at oracle.sysman.gcagent.metadata.impl.PropertiesEvaluatorImpl.init(PropertiesEva luatorImpl.java:346) at oracle.sysman.gcagent.metadata.impl.PropertiesEvaluatorImpl.<init>(PropertiesE valuatorImpl.java:210) at oracle.sysman.gcagent.metadata.impl.TargetInstanceImpl.getPropertiesEvaluator (TargetInstanceImpl.java:1255) at $oracle.sysman.gcagent.target.interaction.execution.Receivelet \verb|Manager.addMetric||$ (ReceiveletManager.java:344) at oracle.sysman.gcagent.target.interaction.execution.ReceiveletInteractionMgr. addMetric(ReceiveletInteractionMgr.java:1446)

3.2 Targets Still Appear as Pending

Problem: After discovering the PCA Rack, you may still see all SI targets are in *Pending* state.

Resolution: You must kill the stuck availability job in the OMS:

\$ sqlplus sysman/sysman SQL> SELECT job_subname, elapsed_time, cpu_used FROM dba_scheduler_running_jobs WHERE job_name = 'EM_REPOS_SEV_EVAL'; SQL> BEGIN dbms_scheduler.stop_job('EM_REPOS_SEV_EVAL'); COMMIT; END;

Index

Α

about Oracle PCA, 1-1 add host and platform, 2-2 agent recovery, 2-10

В

base rack, 1-2

С

compute nodes, 1-2

D

discover Oracle PCA target, 2-4 document changes, vi

I

installation details, 2-2 integrated storage, 1-3

Μ

management agent install, 1 monitoring credentials, 2-8

0

Oracle PCA about, 1-1 controller software, 3 discovery, 2-4 features, 1-2 prerequisites, 1-3 supported hardware, 1-2 supported software, 1-3 Oracle SDN software, 3 Oracle VM, 3 Oracle ZFS Storage Appliance error, 3-1

Ρ

pending state error, 3-1 prerequisites, 1-3

R

remove Oracle PCA target, 2-11

S

storage, 1-3 supported hardware, 1-2 supported software, 1-3

Т

target remove, 2-11 troubleshooting, 3-1

V

virtual networking, 1-2 Virtualization plug-in about, 1-1

W

what's changed, vi