# Oracle® Communications User Data Repository

Cloud Disaster Recovery Guide Release 12.11.0

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Oracle Communications User Data Repository Cloud Disaster Recovery Guide, Release 12.11.0

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# CAUTION: Open an Service Request on MOS and confer with Oracle before executing Disaster Recovery Procedure

# Before recovering any system, please access My Oracle Support (MOS) (https://support.oracle.com) and review any MOS Alerts that relate to this procedure.

My Oracle Support (MOS) (https://support.oracle.com) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html.

See more information on MOS in the Appendix section.

# TABLE OF CONTENTS

1	INTRODUCTION
	1.1 Purpose and Scope5
	1.2 References
	1.3 Acronyms6
	1.4 Terminology6
	1.5 How to Use this Document7
2	GENERAL DESCRIPTION
	2.1 Complete Site Outage (All Servers)
	2.2 Partial outage with one NOAMP server intact and both SOAMs failed
	2.3 Partial outage with both NOAMP servers failed and one SOAM server intact
	2.4 Partial outage with NOAMP and one SOAM server intact9
	2.5 Partial outage with Corrupt Database9
3	PROCEDURE OVERVIEW10
	3.1 Required Materials
	3.2 Disaster Recovery Strategy11
	3.3 Procedure Preparation
4	DISASTER RECOVERY PROCEDURE
	4.1 Recovering and Restoring System Configuration
	4.1.1 Recovery Scenario 1 (Complete Site Outage)15
	4.1.2 Recovery Scenario 2 (Partial Server Outage with one NOAMP server intact and both SOAMs failed)40
	4.1.3 Recovery Scenario 3 (Partial Server Outage with all NOAMP servers failed and one SOAM server intact)
	4.1.4 Recovery Scenario 4 (Partial Server Outage with one NOAMP server and one SOAM server intact)
	4.1.5 Recovery Scenario 5 (Database Recovery)
5	RESOLVING USER CREDENTIAL ISSUES AFTER DATABASE RESTORE
	5.1 Keeping a Restored User (Resetting User Password)
	5.2 Removing a Restored User 100
	5.3 Restoring a Modified User101
	5.4 Restoring an Archive that does not contain a Current User
	Appendix A. Oracle Communications User Data Repository Database Backup106
	Appendix B. Inhibit A and B Level Replication on C-Level Servers

Appendix C.	Un-Inhibit A and B Level Replication on C-Level Servers 1	12
Appendix D.	My Oracle Support (MOS)1	14
Appendix E.	Locate Product Documentation on the Oracle Help Center Site 1	15

# **List of Figures**

	-		
Figure	1. Determining	Recovery Scenario.	

# **List of Tables**

Table 1. Terminology	6
Table 2: Recovery Scenarios	12

### 1 INTRODUCTION

#### 1.1 **Purpose and Scope**

This document describes disaster recovery procedures used during disaster scenarios of the cloud based Oracle Communications User Data Repository 12.11.0 product.

This document is a guide to describe procedures used to execute disaster recovery for Oracle Communications User Data Repository Cloud deployments. This includes recovery of partial or a complete loss of one or more Oracle Communications User Data Repository virtual servers (Primary or DR). The audience for this document includes Oracle customers as well as the following internal groups: Software Development, Quality Assurance, Product Verification, Information Development, and Consulting Services including NPx.. This document provides step-by-step instructions to execute disaster recovery for Oracle Communications User Data Repository 12.11.0 Executing this procedure also involves referring to and executing procedures in existing support documents found in the reference section.

This document is intended for execution by Customer Service team on the fielded Oracle Communications User Data Repository 12.11.0 systems.

#### 1.2 References

- [1] Oracle Communications User Data Repository 12.11.0 Disaster Recovery Guide, F56665-01, latest revision
- [2] Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide, F56666-01, latest revision

## 1.3 Acronyms

Acronym	Meaning
BIOS	Basic Input Output System
CD	Compact Disk
DR	Disaster Recovery
FRU	Field Replaceable Unit
IMI	Internal Management Interface
ISL	Inter-Switch-Link
NE	Network Element
MP Host Server	Server that contains one SOAM and two MPs
NOAMP	Network Operations, Administration, Maintenance & Provisioning
ISO	Constains software images
OVA	Open Virtualization Archive
MOS	My Oracle Support
NAPD	Network Architecture Planning Diagram
SOAM	Systems Operations, Administration & Maintenance
TAC	Technical Assistance Centers
TPD	Tekelec Platform Distribution (Linux OS)
UDR	User Data Repository
VIP	Virtual IP
VM	Virtual Machine
XMI	External Management Interface

## 1.4 Terminology

#### Table 1. Terminology

Base hardware	Base hardware includes all hardware components (bare metal) and electrical wiring to allow a server to power on.
Base software	Base software includes installing the server's operating system: Tekelec Platform Distribution (TPD) and TVOE for the MP Host Servers only.
Failed server	A failed server in disaster recovery context refers to a server that has suffered partial or complete software and/or hardware failure to the extent that it cannot restart or be returned to normal operation and requires intrusive activities to re-install the software and/or hardware.

Enablement	The business practice of providing support services (hardware, software, documentation, etc) that enable a 3 <sup>rd</sup> party entity to install, configuration, and maintain Oracle products for Oracle customers.
Software Centric	The business practice of delivering an Oracle software product, while relying upon the customer to procure the requisite hardware components. Oracle provides the hardware specifications, but does not provide the hardware, and is not responsible for hardware installation, configuration, or maintenance.

#### 1.5 How to Use this Document

When executing this document, understanding the following helps to ensure that the user understands the manual's intent:

- Before beginning a procedure, completely read the instructional text (it appears immediately after the Section heading for each procedure) and all associated procedural WARNINGS or NOTES.
- Before execution of a STEP within a procedure, completely read the left and right columns including any STEP specific WARNINGS and/or NOTES.

If a procedural STEP fails to execute successfully, please STOP and contact My Oracle Support (MOS).

## 2 GENERAL DESCRIPTION

Disaster recovery procedures falls into five basic categories. It is primarily dependent on the state of the NOAMP servers and SOAM servers:

Recovery of the entire site from a total outage	<ul> <li>All NOAMP servers failed</li> <li>All SOAM servers failed</li> <li>1 or more MP servers failed</li> </ul>
Recovery of one or more servers with at least one NOAMP server intact	<ul> <li>1 or more NOAMP servers intact</li> <li>1 or more SOAM or MP servers failed</li> </ul>
Recovery of the NOAMP pair with one or more SOAM servers intact	<ul> <li>All NOAMP servers failed</li> <li>1 or more SOAM servers intact</li> </ul>
Recovery of one or more server with at least one NOAMP and one SOAM server intact.	<ul> <li>1 or more NOAMP servers intact</li> <li>1 or more SOAM servers intact</li> <li>1 SOAM or 1 or more MP servers failed</li> </ul>
Recovery of one or more servers with corrupt database	<ul> <li>Case 1: No Replication Channel</li> <li>Case 2: Replication Channel Available</li> </ul>

## 2.1 Complete Site Outage (All Servers)

This is the worst case scenario where all the servers in the site have suffered complete software failure. The servers are recovered using OVA images then restoring database backups to the active NOAMP and SOAM servers. Note: NOAMP servers which were originally installed by ISO instead of OVA will be recovered using ISO.

Database backups will be taken from customer offsite backup storage locations (assuming these were performed and stored offsite prior to the outage). If no backup files are available, the only option is to rebuild the entire network from scratch. The network data must be reconstructed from whatever sources are available, including entering all data manually.

### 2.2 Partial outage with one NOAMP server intact and both SOAMs failed

This case assumes that at least one NOAMP servers intact. All SOAM servers have failed and are recovered using OVA images. Database is restored on the SOAM server and replication will recover the database of the remaining servers.

#### 2.3 Partial outage with both NOAMP servers failed and one SOAM server intact

Database is restored on the NOAMP and replication will recover the database of the remaining servers.

#### 2.4 Partial outage with NOAMP and one SOAM server intact

The simplest case of disaster recovery is with at least one NOAMP and at least one SOAM servers intact. All servers are recovered using base recovery of software. Database replication from the active NOAMP and SOAM servers will recover the database to all servers.

#### 2.5 Partial outage with Corrupt Database

**Case 1:** Database is corrupted, <u>replication channel is inhibited</u> (either manually or because of comcol upgrade barrier) and database backup is available.

Case 2: Database is corrupted but *replication channel is available*.

### 3 **PROCEDURE OVERVIEW**

This section lists the materials required to perform disaster recovery procedures and a general overview (disaster recovery strategy) of the procedure executed.

#### 3.1 **Required Materials**

The following items are needed for disaster recovery:

- 1. A hardcopy of this document (E71445-01) and hardcopies of all documents in the reference list
- Hardcopy of all NAPD performed at the initial installation and network configuration of this customer's site. If the NAPD cannot be found, escalate this issue within My Oracle Support (MOS) until the NAPD documents can be located.
- 3. Oracle Communications User Data Repository recent backup files: electronic backup file (preferred) or hardcopy of all Oracle Communications User Data Repository configuration and provisioning data.
- 4. Latest Network Element report: Electronic file or hardcopy of Network Element report.
- 5. The network element XML file used for the VMs initial configuration.

The software media referenced here may be acquired online from the Oracle e-Delivery service at edelivery.oracle.com

This document and others referenced here can be acquired online from the Oracle Document Repository at the followin URL:

http://docs.oracle.com/en/industries/communications/user-data-repository/index.html

**Note:** For all Disaster Recovery scenarios, we assume that the NOAMP Database backup and the SOAM database backup were performed around the same time, and that no synchronization issues exist among them.

#### 3.2 Disaster Recovery Strategy

Disaster recovery procedure execution is performed as part of a disaster recovery strategy with the basic steps listed below:

- 1. Evaluate failure conditions in the network and determine that normal operations cannot continue without disaster recovery procedures. This means the failure conditions in the network match one of the failure scenarios described in section 2.
- 2. Read and review the content in this document.
- 3. Gather required materials in section 3.1 Required Materials
- 4. From the failure conditions, determine the Recovery Scenario and procedure to follow (using Figure 1. Determining Recovery Scenario.
- 5. Execute appropriate recovery procedures (listed in section 4).

#### Figure 1. Determining Recovery Scenario



## 3.3 **Procedure Preparation**

Disaster recovery procedure execution is dependent on the failure conditions in the network. The severity of the failure determines the recovery scenario for the network. Use Table 2: Recovery Scenarios below to evaluate the correct recovery scenario and follow the procedure(s) listed to restore operations.

**Note:** A failed server in disaster recovery context refers to a server that has suffered partial or complete software failure to the extent that it cannot restart or be returned to normal operation and requires intrusive activities to re-deploy base software.

<b>Recovery Scenario</b>	Failure Condition	Section
1	<ul><li>All NOAMP servers failed.</li><li>All SOAM servers failed.</li><li>MP servers may or may not be failed.</li></ul>	Section Recovery Scenario 1 (Complete Site Outage)
2	<ul> <li>At least 1 NOAMP server is intact and available.</li> <li>All SOAM servers failed.</li> <li>MP servers may or may not be failed.</li> </ul>	Section Recovery Scenario 2 (Partial Server Outage with one NOAMP server intact and both SOAMs failed)
3	<ul> <li>All NOAMP servers failed.</li> <li>At least 1 SOAM server is intact and available.</li> <li>MP servers may or may not be failed.</li> </ul>	Section Recovery Scenario 3 (Partial Server Outage with all NOAMP servers failed and one SOAM server intact)
4	<ul> <li>At least 1 NOAMP server is intact and available.</li> <li>At least 1 SOAM is intact and available.</li> <li>1 or more MP servers have failed.</li> </ul>	Section Recovery Scenario 4 (Partial Server Outage with one NOAMP server and one SOAM server intact)
5	<ul> <li>Server is intact</li> <li>Database gets corrupted on the server</li> </ul>	Section Recovery Scenario 5 (Database Recovery)
5: Case 1	<ul><li>Server is intact</li><li>Database gets corrupted on the server</li></ul>	Section Recovery Scenario 5: Case

#### Table 2: Recovery Scenarios

	• Replication is inhibited (either manually or because of comcol upgrade barrier)	
5: Case 2	<ul> <li>Server is intact</li> <li>Database gets corrupted on the server</li> <li>Replication is occurring to the server with corrupted database</li> </ul>	Section Recovery Scenario 5: Case 2

#### 4 DISASTER RECOVERY PROCEDURE

Call the CAS main number at **1-800-223-1711** (toll-free in the United States), or call the Oracle Support hotline for your local country from the list at <u>http://www.oracle.com/us/support/contact/index.html</u> prior to executing this procedure to ensure that the proper recovery planning is performed.

Before disaster recovery, users must properly evaluate the outage scenario. This check ensures that the correct procedures are executed for the recovery.



**Note:** Disaster recovery is an exercise that requires collaboration of multiple groups and is expected to be coordinated by the TAC prime. Based on TAC's assessment of Disaster, it may be necessary to deviate from the documented process.

#### 4.1 Recovering and Restoring System Configuration

Disaster recovery requires configuring the system as it was before the disaster and restoration of operational information. There are 7 distinct procedures to choose from depending on the type of recovery needed. Only one of these should be followed (not all).

#### 4.1.1 Recovery Scenario 1 (Complete Site Outage)

For a complete server outage, NOAMP servers are recovered using recovery procedures for software and then executing a database restore to the active NOAMP server. All other servers are recovered using recovery procedures for software.

Database replication from the active NOAMP server will recover the database on these servers. The major activities are summarized in the list below. Use this list to understand the recovery procedure summary. Do not use this list to execute the procedure. The actual detailed steps are in . The major activities are summarized as follows:

Recover Base software for all VMs:

- Recover the Virtual Machines hosting the NOAMPs and SOAMs
- Recover the Active NOAMP server by recovering the NOAMPs base software
- Recover the NOAMP database
- Reconfigure the application

Recover the **Standby NOAMP** server by recovering base software, for a Non-HA deployment this can be skipped.

• Reconfigure the Oracle Communications User Data Repository Application

Recover all SOAM and MP servers by recovering software, In a Non-HA deployment the Standby SOAM servers can be skipped.

- Recover the SOAM database
- Reconfigure the Oracle Communications User Data Repository Application
- Reconfigure the signaling interface and routes on the MPs, the Oracle Communications User Data Repository software will automatically reconfigure the signaling interface from the recovered database.

Restart process and re-enable provisioning replication

**Note:** Any other applications DR recovery actions (PCRF, etc) may occur in parallel. These actions can/should be worked simultaneously; doing so would allow faster recovery of the complete solution.

S T	This procedure performs recovery if both NOAMP servers are failed and all SOAM servers are failed. This procedure also caters the C-Level Sever failure		
E P	Check off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step number.		
#	If this procedure fai	ls, contact My Oracle Support (MOS), and ask for assistance.	
1.	Gather Required Materials	Gather the documents and required materials listed in Section Required Materials	
2.	Recover the Failed Software	Execute the following procedures from reference Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide, F56666-01, latest revision [2]:	
		<b>Procedure 2 :</b> Deploy Oracle Communications User Data Repository Virtual Machines	
4.	Obtain Latest Database Backup and Network Configuration Data.	Obtain the most recent database backup file from external backup sources (ex. file servers) or tape backup sources. From required materials list in <b>Section 3.1 Required Materials</b> ; use site survey documents and Network Element report (if available), to determine network configuration data.	
5.	Execute UDR Installation Procedure for the First NOAMP	Configure the First NOAMP server by executing procedures from reference <i>Oracle</i> <i>Communications User Data Repository 12.11.0 Cloud Installation and Configuration</i> <i>Guide</i> , F56666-01, <i>latest revision</i> [2]: <b>Procedure 3</b> "Configure NOAMP-A Server (1 <sup>st</sup> NOAMP Only)" <b>Note:</b> If Topology or nodeId alarms are persistent after the database restore, refer to the steps below.	

#### Login to the NOAMP GUI as the *guiadmin* user: Active NOAMP: 6. Login **ORACLE** Oracle System Login Log In Enter your username and password to log in Username: guiadmin Password: •••••• Change password Log In Welcome to the Oracle System Login. Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

7.	Active NOAMP: Upload the Backed up Database File	Browse to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ Files Status & Manage Network Elements Server HA Database KPIs Processes Tasks
		Files         Select the Active NOAMP server. The following screen will appear:         Cpa1-NO         Cpa1-Sbr1       Cpa1-Mp1       Cpa1-Mp2       Cpa1-Mp3       Cpa1-Sbr2         File Name         Backup.dsr.Cpa1-NO Configuration.NETWORK_OAMP 20120321_021501.AUTO.tar       Type       Timestamp         Backup.dsr.Cpa1-NO Configuration.NETWORK_OAMP 20120321_021501.AUTO.tar         Click on Upload as shown below and select the file "NO Provisioning and Provisioning and Provision Provisio
		Configuration: "Tile backed up after initial installation and provisioning.  Delete View Upload Download 0 used (0%) of 0 available   System utilization: 0 (0%) of 0 available.  Click on Browse and locate the backup file and click on Open as shown below.  File: Browse  Delete Browse
		Cancel         Conses file         Image: Proj wellowith the proj wellow th

Procedure 1: Recovery Scenario 1 -- Complete Server Outage

8.	Active NOAMP:	Click on Main Menu → Status & Manage → Database
8.	Active NOAMP: Disable Provisioning	Status & Manage Network Elements Server Replication Collection HA Database KPIs Processes Files Disable Provisioning by clicking on Disable Provisioning button at the bottom of the screen as shown below.
		A confirmation window will appear, press <b>OK</b> to disable Provisioning.

Procedure 1: Recovery Scenario 1 -- Complete Server Outage



10.	Active NOAMP: Restore the	Click on Main Menu → Status & Manage → Database
	Database	Select the Active NOAMP server, and click on Restore as shown below.
		The following screen will be displayed. Select the proper back up provisioning and configuration file.
		Database Restore
		Select archive to Restore on server: blade02 Backup.npqr.blade02.Configuration.NETWORK_OAMP.20100928_021502.AUTO.tar Backup.npqr.blade02.Configuration.NETWORK_OAMP.20100929_021501.AUTO.tar Backup.npqr.blade02.Configuration.NETWORK_OAMP.20101001_021501.AUTO.tar Backup.npqr.blade02.Configuration.NETWORK_OAMP.20101001_021501.AUTO.tar Backup.npqr.blade02.Configuration.NETWORK_OAMP.20101002_021502.AUTO.tar Backup.npqr.blade02.Configuration.NETWORK_OAMP.20101002_021502.AUTO.tar Backup.npqr.blade02.Configuration.NETWORK_OAMP.20101002_021502.AUTO.tar Backup.npqr.blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npqr.blade02.Configuration.NETWORK_OAMP.20101003_0
		Ok) Cancel
		Click <b>OK</b> Button. The following confirmation screen will be displayed.
		<b>Note:</b> You will get a database mismatch regarding the NodeIDs of the servers. That is expected. If that is the only mismatch, proceed, otherwise stop and contact My Oracle Support (MOS).
		Select the <b>Force</b> checkbox as shown above and Click <b>OK</b> to proceed with the DB restore.
		Detabase Restore Carfirm
		Incompatible database selected
		Discrepancies: - IMI Server Address A3118.120 has different node IDs in current topology and the selected backu p file. Current node ID: A3118.120, Selected backup file node ID: B2073.087 - IMI Server Address C1157.241 has different node IDs in current topology and the selected backu p file. Current node ID: C1157.241, Selected backup file node ID: B2073.087 - IMI Server Address B1787.161 has different node IDs in current topology and the selected backu p file. Current node ID: B1787.161 Selected backup file node ID: B2073.087 - Current node ID: B1787.161 Selected backup file node ID: B2073.087 - Current node ID: B1787.161 Selected backup file node ID: B2073.087
		Confirm archive "3blade0PQR.blade07.Configuration.NETWORK_OAMP.20110119_184253.MAN.tar" to Restore on server: blade07 Force Restore?  Force Restore?  Force restore on blade07, despite compare errors.   Conf. Cancel
		<b>Note:</b> After the restore has started, the user will be logged out of XMI NO GUI since the restored Topology is old data.

Procedure 1: Recovery	Scenario 1	<b>Complete Server</b>	Outage
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11.	Active NOAMP: Login	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of:
		http:// <primary_noamp_vip_ip_address></primary_noamp_vip_ip_address>
		Login as the guiadmin user:         COCCCCC         oracle System Login         reace Star Definition of the Crack System Login         reace Star Definition for the System Login
12	Active NOAMP:	Crace and Java are registered trademarks of their respective owners. Other names may be trademarks of their respective owners. Wait for <b>5-10 minutes</b> for the System to stabilize with the new topology:
	Monitor and Confirm database restoral	Monitor the Info tab for "Success". This will indicate that the backup is complete and the system is stabilized.
		Following alarms <b>must</b> be ignored for NOAMP and MP Servers until all the Servers are configured:
		Alarms with Type Column as " <b>REPL</b> ", " <b>COLL</b> ", " <b>HA</b> " (with mate NOAMP), " <b>DB</b> " (about Provisioning Manually Disabled)
		<b>Note:</b> Do not pay attention to alarms until all the servers in the system are completely restored.
		<b>Note:</b> The Configuration and Maintenance information will be in the same state it was backed up during initial backup.
13.	Active NOAMP: Login	Login to the recovered Active NOAMP via SSH terminal as <i>admusr</i> user.

14.	Active NOAMP: Restore /etc/hosts/	Execute the following command:
	NOAMP	<pre>\$ sudo AppWorks AppWorks_AppWorks updateServerAliases <noamp host="" name=""></noamp></pre>
15.	Active NOAMP: Recover Standby NOAMP	Configure the second NOAMP server by executing procedures from reference Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide, F56666-01, latest revision [2]:
	(HA Deployments Only)	<b>Procedure 4</b> "Create Configuration for Remaining Servers", Step 22.
	Olly)	<b>Procedure 10</b> "Apply Configuration for Remaining Servers" for second NOAMP.
		<b>Note:</b> If Topology or nodeId alarms are persistent after the database restore, refer to the steps below.
16.	Active NOAMP:	Navigate to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ Server,
	Restart UDR application on Recovered NOAMP	Select the recovered standby NOAMP server and click on <b>Restart</b> .

17.	Active NOAMP: Set HA on Standby NOAMP	Navigate to Status & Manage → HA Status & Manage Network Elements Server Database KPIs Processes Tasks Files Click on Edit at the bottom of the screen Select the standby NOAMP server, set it to Active Press OK
18.	Active NOAMP: Stop Replication to the C-Level Servers of this Site.	Inhibit Replication to the working C Level (MP) Servers which belong to the <b>same site</b> as of the failed SOAM servers, as the recovery of Active SOAM will cause the database wipeout in the C level servers because of the replication Execute <b>Appendix B: Inhibit A and B Level Replication on C-Level Servers</b>
19.	Active NOAMP: Recover SOAM Server	Recover the SOAM server by executing procedures from reference Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide, F56666-01, latest revision [2]:
		<b>Procedure 4</b> "Create Configuration for Remaining Servers", Step 22.
		Procedure 10 "Apply Configuration for Remaining Servers" for SOAM

Procedure 1: Recovery Scenario 1 -- Complete Server Outage



Procedure 1: Recovery Scenario 1 -- Complete Server Outage

21.	Active NOAMP: Upload the backed up SOAM Database file	Navigate to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ Files Select the Active SOAM server. The following screen will appear. Click on Upload as shown below and select the file "SO Provisioning and Configuration:" file backed up after initial installation and provisioning.
		Delete View Upload Oownload Pause U 0 used (0%) of 0 available   System utilization: 0 (0%) of 0 available.
		Click on Browse and Locate the backup file and click on Open as shown below.
		File: Browse
		Cancel
		Choose file  Look in: PV3  Backup EAGLEV/pelCOMProv.tgz  Backup EAGLEV/pelCOMProv.tgz  PV3_NetHawk.txt
		Desktop My Documents My Computer Total Action Ac
		My Network. Places Files of type: All Files (".") Cancel
		Click on the <b>Upload</b> button. The file will take a few seconds to upload depending on the size of the backup data. The file will be visible on the list of entries after the upload is complete.

22.	Recovered SOAM: Login	Establish a GUI session on the recovered SOAM server. Open the web browser and enter a URL of:
		http:// <recovered_soam_ip_address></recovered_soam_ip_address>
		Login as the <i>guiadmin</i> user:
		Oracle System Login  Finder 20 12:29:52 2015 EDT  Log In  Log In  Username: guidamin  Password: Log in  Wetcome to the Oracle System Login.  Wetcome to the Oracle System Login.  Substitution of the Market
		Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.



24.	<b>Recovered</b> <b>SOAM:</b> Restore the Database	Click on <b>Main Menu → Status &amp; Manage → Database</b>
		Select the Active SOAM server, and click on Restore as shown below.
		The following screen will be displayed. Select the proper back up provisioning and configuration file.
		Database Restore
		Select archive to Restore on server: blade02
		Select the formet for restore on balactic Configuration NETWORK_OAMP 20100928_021502 AUTO tar OBactup nopr.blade02 Configuration NETWORK_OAMP 20100928_021501 AUTO tar OBactup nopr.blade02 Configuration NETWORK_OAMP 2010030_021501 AUTO tar OBactup nopr.blade02 Configuration NETWORK_OAMP 2010101_021501 AUTO tar OBactup nopr.blade02 Configuration NETWORK_OAMP 20101001_021501 AUTO tar OBactup nopr.blade02 Configuration NETWORK_OAMP 20101003_021501 AUTO tar OBactup nopr.blade02 Configuration NETWORK_OAMP 20101003_021502 AUTO tar OBactup nopr.blade02 Configuration NETWORK_OAMP 2010104_021502 AUTO tar OBactup nopr.blade02 Configuration NETWORK_OAMP 2010104_0215
		Ok Cancel
		Click <b>OK</b> Button. The following confirmation screen will be displayed. If you get an error that the NodeIDs do not match. That is expected. If no other errors beside the NodeIDs are displayed, select the <b>Force</b> checkbox as shown below and Click <b>OK</b> to proceed with the DB restore.
		Discrepancies: - IMI Server Address A3118.120 has different node IDs in current topology and the selected backu p file. Current node ID: A3118.120, Selected backup file node ID: B2073.087 - IMI Server Address C1157.241 has different node IDs in current topology and the selected backu p file. Current node ID: C1157.241, Selected backup file node ID: B2073.087 - IMI Server Address B1787.161 has different node IDs in current topology and the selected backu p file. Current node ID: B1787.161 Selected backup file node ID: B2073.087 - Current node ID: B1787.161 Selected backup file node ID: B2073.087 - Current node ID: B1787.161 Selected backup file node ID: B2073.087
		Confirm archive "3bladeNPQR.blade07.Configuration.NETWORK_OAMP.20110119_184253.MAN.tar" to Restore on server: blade07 Force Restore?
		<b>Note:</b> After the restore has started, the user will be logged out of XMI SOAM GUI since the restored Topology is old data.

Procedure 1: Recovery Scenario 1 -- Complete Server Outage

25.	Recovered SOAM: Monitor and Confirm database restoral	<ul> <li>Wait for 5-10 minutes for the System to stabilize with the new topology:</li> <li>Monitor the Info tab for "Success". This will indicate that the backup is complete and the system is stabilized.</li> <li>Note: Do not pay attention to alarms until all the servers in the system are completely restored.</li> </ul>
		<b>Note:</b> The Configuration and Maintenance information will be in the same state it was backed up during initial backup.
26.	Active NOAMP: Login	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of:
		http:// <primary_noamp_vip_ip_address></primary_noamp_vip_ip_address>

Procedure 1: Recovery Scenario 1 -- Complete Server Outage

27.	Active NOAMP: Recover remaining SOAM (HA Deployments Only)	<b>NOTE:</b> For Non-HA sites <b>SKIP</b> this step. Recover second SOAM server by executing procedures from reference <i>Oracle</i> <i>Communications User Data Repository 12.11.0 Cloud Installation and Configuration</i> <i>Guide</i> , F56666-01, <i>latest revision</i> [2]:
		Procedure 4 "Create Configuration for Remaining Servers", Step 22.
		<b>Procedure 10</b> "Apply Configuration for Remaining Servers" for remaining SOAM.
		<b>NOTE:</b> Wait for server to reboot before continuing.
28.	Active NOAMP: Restart UDR application on remaining SOAM (HA Deployments Only)	NOTE: For Non-HA sites SKIP this step.         Navigate to Main Menu → Status & Manage → Server,         Status & Manage         Network Elements         Server         HA         Database         KPIs         Processes         Tasks         Files         Select the recovered server and click on Restart.         Stop       Restart         Reboot       NTP Sync         Report

29.	Active NOAMP: Set HA on Recovered	<b>NOTE:</b> For Non-HA sites <b>SKIP</b> this step.
	SOAM	Navigate to Status & Manage $\rightarrow$ HA
	(HA Deployments Only)	<ul> <li>Status &amp; Manage</li> <li>Network Elements</li> <li>Server</li> <li>Database</li> <li>M Fries</li> </ul>
		Click on <b>Edit</b> at the bottom of the screen
		Set Max Allowed HA Role to Active
		Press OK
30.	Active NOAMP: Start Replication on MP Servers	Un-Inhibit ( <i>Start</i> ) Replication to the <b>MP</b> Servers which belong to the <u>same site as of the</u> <u>failed SOAM</u> servers.
		Execute Appendix C Un-Inhibit A and B Level Replication on C-Level Servers
		Navigate to Main Menu → Status & Manage → Database
		If the <i>"Repl Status"</i> is set to "Inhibited", click on the <b>Allow Replication</b> button as shown below using the following order, otherwise if none of the servers are inhibited, skip this step and continue with the next step:
		<ul> <li>Active NOAMP Server</li> <li>Standby NOAMP Server</li> <li>Active SOAM Server</li> <li>Standby SOAM Server</li> <li>MP Servers</li> </ul>
		Verify that the replication on all the working servers is allowed. This can be done by clicking on each server and checking that the button below shows "Inhibit Replication", and <b>NOT</b> "Allow Replication".
		Disable Provisioning Report Allow Replication Backup Compare Restore

Procedure 1: Recovery Scenario 1 -- Complete Server Outage



Procedure 1: Recovery Scenario 1 -- Complete Server Outage

34.	Active NOAMP: Fetch and Store the database Report for the Newly Restored Data and Save it	Navigate to Main Menu → Status & Manage → Database Status & Manage Network Elements Server HA Database KPIs Processes Files Select the active NOAMP server and click on the Report button at the bottom						
		of the page. The following screen is displayed:						
		Main Menu: Status & Manage -> Database [Report]	Help UTC					
		NPOR Database Status Report Report Generated: Tue Oct 05 15:13:38 2010 UTC From Active Network OAME on host blade07 Buent Version: 3:0:13-0:0_10:13-0 Use: guideline Hostname						

35.	Active NOAMP:	Login to the Active NOAMP via SSH terminal as <i>admusr</i> user.										
	Verify Replication Between Servers	Execute the following command:										
		\$ sudo irepstat -m										
Output like below shall be generated:												
		Policy 0 ActStb [DbReplication]										
		RDU06-MP1 Stby										
		BC From	RDU06-SO1 Ac	tive	0	0.50 ^	0.178	cpu 4	2B/s	A=non	e	
		CC From RDU06-MP2	RDU06-MP2 Ac	tive	0	0.10 ^	0.17	0.88%	сри 32	2B/s	A=non	ie
		BC From	RDU06-SO1 Ac	tive	0	0.50 ^	0.108	сри 3	3B/s	A=non	e	
		CC To	RDU06-MP1 Ac	tive	0	0.10	0.088	cpu 2	0B/s	A=non	e	
		RDU06-NO1	Active									
		AB To	RDU06-SO1 Ac	tive	0	0.50 1	%R 0.	03%cp	u 21B/	s		
		RDU06-SO1	Active									
		AB From	RDU06-NO1 Ac	tive	0	0.50 ^	0.04%	cpu 2	4B/s			
		BC To	RDU06-MP1 Ac	tive	0	0.50 1	%R 0.	04%cp	u 21B/	s		
36.	Active NOAMP: Verify the Database states	Click on Ma	in Menu → St tatus & Mana Network Ele Server HA Database KPIs Processes	atus and M nge ements HA Role"	<b>Ianag</b>	er → I	Datab	ase	ndby"	for N	OAM	P and
		SOAM and " "Normal" as	'Application M shown below:	ax HA Rol	e" for	MPs is	"Act	ive", a	nd that	the sta	atus is	5
		Network Element	Server	Role	OAM Max HA Role	Max HA Role	Status	DB Level	OAM Repl Status	SIG Repl Status	Repl Status	Repl Audit Status
		NO_10303 SO_10303	NO2 PSBR	Network OAM&P	Active Active	OOS Active	Normal Normal	0	Normal Normal	NotApplicat Normal	Allowed Allowed	AutoInProg AutoInProg
		SO_10303	MP2	MP	Active	Active	Normal	0	Normal	Normal	Allowed	AutoInProg
		SO_10303 NO_10303	SO1 NO1	System OAM Network OAM&P	Standby Standby	00S 00S	Normal Normal	0	Normal Normal	NotApplicat NotApplicat	ol Allowed	AutoInProg AutoInProg
		SO_10303	IPFE	MP	Active	005	Normal	0	Normal	Normal	Allowed	AutoInProg
		SO_10303	SO2	System OAM	Active	OOS	Normal	0	Normal	NotApplicat	ol Allowed	AutoInProg

37.	Active NOAMP: Verify the HA Status	Click on Main Menu → Status and Manage → HA Status & Manage Network Elements Server MA Database KPIs									
		Select the row for all of the servers Verify that the "HA Role" is either "Active" or "Standby".									
		nosulaine	HA Role	Role	Role	mate nostname List	Network clement	Server Role	Acave VIPS		
		NO2	Active	005	Active	N01	NO_10303	Network OAM&P	10.240.70.132		
		S01	Standby	008	Active	S02	SO_10303	System OAM	10 240 70 122		
		MP1	Standby	Active	Active	MP2	SO_10303	MP	10.240.70.155		
		MP2	Active	Active	Active	MP1	SO_10303	MP			
		IPFE	Active	00S	Active		SO_10303	MP			
30.	Enable Provisioning	Status & Manage Status & Manage Network Elements Server Replication Collection HA Database KPIs Processes Files									
Enable Provisioning       Report       Inhibit/Allow Replication       Backup       Compare       Restor         A confirmation window will appear, press       OK       Cancel									pend Auto Audit		




43.	Active SOAM: Enable SPR Features	Navigate to Main Menu → Diameter → Maintenance → Applications         Maintenance         Route Lists         Route Groups         Peer Nodes         Connections         Egress Throttle Groups         Phylications         DA-MPs         Select the feature application.         Click the Enable button.         Inable       Pause updates	
44.	Active SOAM: Examine All Alarms	Navigate to Main Menu → Alarms & Events → View Active  Alarms & Events  View Active View History View Trap Log  Examine all active alarms and refer to the on-line help on how to address them. If needed contact My Oracle Support (MOS).	
45.	Active NOAMP: Examine All Alarms	Login to the NOAMP VIP if not already logged in. Navigate to Main Menu → Alarms & Events → View Active Alarms & Events View Active View History View Trap Log Examine all active alarms and refer to the on-line help on how to address them. If needed contact My Oracle Support (MOS).	
46.	Restore GUI Usernames and Passwords	If applicable, Execute steps in <b>Section 5</b> to recover the user and group information restored.	
47.	Backup and Archive All the Databases from the Recovered System	Execute <b>Appendix A Oracle Communications User</b> Data Repository Database Backup to back up the Configuration databases.	
	THIS PROCEDURE HAS BEEN COMPLETED		

# 4.1.2 Recovery Scenario 2 (Partial Server Outage with one NOAMP server intact and both SOAMs failed)

For a partial server outage with an NOAMP server intact and available; SOAM servers are recovered using recovery procedures for software and then executing a database restore to the active SOAM server using a database backup file obtained from the SOAM servers. All other servers are recovered using recovery procedures for software. Database replication from the active NOAMP server will recover the database on these servers. The major activities are summarized in the list below. Use this list to understand the recovery procedure summary. Do not use this list to execute the procedure. The actual procedures' detailed steps are in **Procedure 2**. The major activities are summarized as follows:

Recover **Standby NOAMP** server (*if needed*) by recovering software and the database.

• Recover the software.

Recover Active SOAM server by recovering software.

- Recover the software.
- Recover the Database.

Recover any failed SOAM and MP servers by recovering software.

- Recover the software.
- The database has already been restored at the active SOAM server and does not require restoration at the SO and MP servers.

This procedure perfo failed. This includes	rms recovery if at least 1 NOAMP server is available but all SOAM servers in a site have any SOAM server that is in another location.
Check off ( $$ ) each st	ep as it is completed. Boxes have been provided for this purpose under each step number.
If this procedure fails	s, contact My Oracle Support (MOS), and ask for assistance.
Gather Required Materials	Gather the documents and required materials listed in Section Required Materials
Active NOAMP: Login	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of:
	<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><text><text><text></text></text></text></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>
	This procedure perfo failed. This includes Check off (√) each st If this procedure fails Gather Required Materials Active NOAMP: Login

3.	Active NOAMP: Set Failed Servers to Standby	Navigate to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ HA Status & Manage Network Elements Server Database KPIS Processes
		Select Edit Set the Max Allowed HA Role drop down box to <b>Standby</b> for the failed servers. Select <b>Ok</b>
4.	Create VMs Recover the Failed Software	<ul> <li>Execute the following procedures from reference Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide, F56666-01, latest revision [2]:</li> <li>Procedure 2 : Deploy Oracle Communications User Data Repository Virtual Machines on VMware</li> </ul>
5.	Repeat for Remaining Failed Servers	If necessary, repeat <b>step 5</b> for all remaining failed servers.
6.	Active NOAMP: Login	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of: <pre>http://<primary_noamp_vip_ip_address></primary_noamp_vip_ip_address></pre> Login as the guiadmin user: CCCCCCC Oracle System Login

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

7. □	Active NOAMP: Recover Standby NOAMP	Configure the standby NOAMP server by executing procedures from reference <i>Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide</i> , F56666-01, <i>latest revision</i> [2]:
		Procedure 4 "Create Configuration for Remaining Servers", Step 22.
		<b>Procedure 10</b> "Apply Configuration for Remaining Servers" for NOAMP.
		<b>Note:</b> If Topology or nodeId alarms are persistent after the database restore, refer to the steps below.
8.	Active NOAMP: Restart UDR application on Recovered NOAMP	Navigate to Main Menu → Status & Manage         Status & Manage         Network Elements         Server         HA         Database         KPIs         Processes         Tasks         Files         Select the recovered standby NOAMP server and click on Restart.         Stop       Restart         Reboot       NTP Sync         Report
9.	Active NOAMP: Set HA on Recovered NOAMP	Navigate to Status & Manage   → Status & Manage   → Network Elements   → Server   → Database   → KPIs   → Processes   → Tasks   → Files   Click on Edit at the bottom of the screen Select the standby NOAMP server, set it to Active Press OK

10.	Active NOAMP: Stop Replication to the MP Servers of this Site.	Inhibit Replication to the working C Level Servers which belong to the <b>same site</b> as the failed SOAM servers, as the recovery of Active SOAM will cause the database wipeout in the C level servers because of the replication Execute <b>Appendix B Inhibit A and B Level Replication on C-Level Servers</b>
11.	Active NOAMP: Recover SOAM Server	Recovery the SOAM server by executing procedures from reference <i>Oracle</i> <i>Communications User Data Repository 12.11.0 Cloud Installation and Configuration</i> <i>Guide</i> , F56666-01, <i>latest revision</i> [2]: <b>Procedure 4</b> "Create Configuration for Remaining Servers", Step 22.
		Procedure 10 "Apply Configuration for Remaining Servers" for SOAM
12.	Active NOAMP: Restart UDR application on Recovered SOAM	Navigate to Main Menu → Status & Manage → Server
		Stop Restart Reboot NTP Sync Report



Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

14.	Active NOAMP: Upload the backed up SOAM Database file	Navigate to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ Files Select the Active SOAM server. The following screen will appear. Click on Upload as shown below and select the file "SO Provisioning and Configuration:" file backed up after initial installation and provisioning.
		Delete View Upload Download Pause u
		Used (0%) of 0 available <u>System utilization</u> : 0 (0%) of 0 available.
		Click on <b>Browse</b> and Locate the backup file and click on <b>Open</b> as shown below.
		0
		File:
		Browse
		Upload
		Cancel
		Choose file
		Look in: 🎦 PV3 🔽 🕑 🎲 📂 🖽 🗸
		Backup EAGLEVipelCOMProv.tgz
		My Recent Documents
		Desktop
		My Documents
		My Computer
		My Network File name: Backup PV3 tgz   Places  File at two at the second
		riles of type:   all riles []
		Click on the Unload button
		Chek on the <b>Opioau</b> button.
		The file will take a few seconds to upload depending on the size of the backup data. The
		file will be visible on the list of entries after the upload is complete.



15.	5. Recovered SOAM: Login	Establish a GUI session on the recovered SOAM server. Open the web browser and enter a URL of:
		http:// <recovered_soam_ip_address></recovered_soam_ip_address>
		Login as the <i>guiadmin</i> user:
		Definition         State System Login         Image: System Cogin         Image: System Cogin



17.	Recovered SOAM: Restore the Database	Click on Main Menu → Status & Manage → Database
	the Dutubuse	Select the Active SOAM server, and click on Restore as shown below.
		The following screen will be displayed. Select the proper back up provisioning and configuration file.
		Select archive to Restore on server: blade02 Backup.npqr:blade02.Configuration.NETWORK_OAMP.20100928_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20100929_021501.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20100920_021501.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101002_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101002_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npqr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npgr:blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar Backup.npgr:blade02.Configuration.NETWORK_OAMP.20101005_021502.AUTO.tar Backup.npgr:blade02.Configuration.NETWORK_OAMP.20101005_0
		Ok Cancel
		<ul><li>Click <b>OK</b> Button. The following confirmation screen will be displayed.</li><li><b>Note:</b> You will get a database mismatch regarding the NodeIDs of the servers. That is expected. If that is the only mismatch, proceed, otherwise stop and contact My Oracle Support (MOS).</li></ul>
		Select the <b>Force</b> checkbox as shown above and Click <b>OK</b> to proceed with the DB restore.
		Database Restore Confirm Incompatible database selected
		Discrepancies: - IMI Server Address A3118.120 has different node IDs in current topology and the selected backu p file. Current node ID: A3118.120, Selected backup file node ID: B2073.087 - IMI Server Address C1157.241 has different node IDs in current topology and the selected backu p file. Current node ID: C1157.241, Selected backup file node ID: B2073.087 - IMI Server Address B1787.161 has different node IDs in current topology and the selected backu p file. Current node ID: B1787.161 Selected backup file node ID: B2073.087 - Current node ID: B1787.161 Selected backup file node ID: B2073.087
		Confirm archive "3bladeNPQR.blade07.Configuration.NETWORK_OAMP.20110119_184253.MAN.tar" to Restore on server: blade07 Force Restore? Force restore on blade07, despite compare errors.
		<b>Note:</b> After the restore has started, the user will be logged out of XMI SOAM GUI since the restored Topology is old data.

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

18.	<ul> <li>Recovered</li> <li>SOAM: Monitor</li> <li>and Confirm</li> <li>database restoral</li> </ul>	Wait for <b>5-10 minutes</b> for the System to stabilize with the new topology:
		Monitor the Info tab for "Success". This will indicate that the backup is complete and the system is stabilized.
		<b>Note:</b> Do not pay attention to alarms until all the servers in the system are completely restored.
		<b>Note:</b> The Configuration and Maintenance information will be in the same state it was backed up during initial backup.
19.	Active NOAMP:	NOTE: For Non-HA sites SKIP this step
	Recover remaining SOAM Server	Configure the remaining SOAM server by executing procedures from reference <i>Oracle</i>
	(HA Deployments Only)	<i>Guide</i> , F56666-01, <i>latest revision</i> [2]:
		Procedure 4 "Create Configuration for Remaining Servers", Step 22.
		<b>Procedure 10</b> "Apply Configuration for Remaining Servers" for second SOAM.
		<b>NOTE:</b> Wait for server to reboot before continuing.
20.	Active NOAMP:	Navigate to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ Server
	Restart UDR application on Recovered SOAM ( <b>HA Deployments</b> <b>Only</b> )	<ul> <li>Status &amp; Manage</li> <li>Network Elements</li> <li>Server</li> <li>HA</li> <li>Database</li> <li>KPIs</li> </ul>
		Processes  Tasks  Files  Files
		Select the recovered SOAM server and click on Restart.
		Stop Restart Reboot NTP Sync Report
1	1	

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

21.	Active NOAMP: Set HA on SOAM Servers (HA Deployments Only)	NOTE: For Non-HA sites SKIP this step Navigate to Status & Manage → HA Status & Manage Network Elements Server Database KPIs Processes Tasks Files Click on Edit at the bottom of the screen For each SOAM server whose Max Allowed HA Role is set to Standby, set it to Active Press OK
22.	Recovered Servers: Login	Establish an SSH to the recovered server's XMI address:

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

23.	Recovered Servers: Sync NTP	1) Perform the following to retrieve the remote NTP server:
		\$ sudo ntpq -np
		Example output:
		[admusr@NOAMP-2 ~]\$ ntpq -np
		jitter
		======================================
		2) Stop ntpd service:
		\$ sudo service ntpd stop
		3) Sync the date to the ntp remote server:
		<pre>\$ sudo ntpdate <ntp remote="" server=""></ntp></pre>
		<b>Note:</b> The remote server below will be that of the one gathered in sub step 1.
		4) Start the ntp service:
		<pre>\$ sudo service ntpd start</pre>

24	Active NOAMP:	NOTE: For Non-HA sites SKIP this step
	Restart UDR application on Recovered servers	Navigate to <b>Main Menu</b> → <b>Status &amp; Manage</b> → <b>Server</b> ,
	(HA Deployments Only)	<ul> <li>Status &amp; Manage</li> <li>Network Elements</li> <li>Server</li> <li>HA</li> <li>Database</li> <li>KPIs</li> <li>Processes</li> <li>Tasks</li> <li>Files</li> </ul>
		Select the recovered server and click on <b>Restart</b> .
		Stop Restart Reboot NTP Sync Report
25.	Active NOAMP: Start Replication on MP Servers	Un-Inhibit ( <i>Start</i> ) Replication to the <b>MP</b> Servers which belong to the <u>same site as of the</u> <u>failed SOAM</u> servers.
		Execute Appendix C Un-Inhibit A and B Level Replication on C-Level Servers
		Navigate to <b>Main Menu</b> → <b>Status &amp; Manage</b> → <b>Database</b>
		If the " <i>Repl Status</i> " is set to "Inhibited", click on the <b>Allow Replication</b> button as shown below using the following order, otherwise if none of the servers are inhibited, skip this step and continue with the next step:
		<ul> <li>Active NOAMP Server</li> <li>Standby NOAMP Server</li> <li>Active SOAM Server</li> <li>Standby SOAM Server</li> <li>MP Servers</li> </ul>
		Verify that the replication on all the working servers is allowed. This can be done by clicking on each server and checking that the button below shows "Inhibit Replication", and <b>NOT</b> "Allow Replication".
		Disable Provisioning Report Allow Replication Backup Compare Restore

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

26.	Active NOAMP: Start replication on ALL Servers	Un-Inhibit (Start) Replication to the ALL C-Level (MP) Servers
		Navigate to Status & Manage → Database
		Status & Manage Network Elements Server HA Database KPIs Processes Tasks Files If the " <i>Repl Status</i> " is set to "Inhibited", click on the Allow Replication button as shown below using the following order:
		<ul> <li>Active NOAMPP Server</li> <li>Standby NOAMPP Server</li> <li>Active SOAM Server</li> <li>Standby SOAM Server</li> <li>MP Servers</li> </ul> Verify that the replication on all servers is allowed. This can be done by clicking on each server and checking that the button below shows "Inhibit Replication", and NOT "Allow Replication".
		Disable Provisioning Report Allow Replication Backup Compare Restore

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

27.	Active NOAMP: Set HA on all MP Servers	Navigate to Status & Manage → HA Status & Manage Network Elements Server Database KPIs Processes Files Click on Edit at the bottom of the screen For each server whose Max Allowed HA Role is set to Standby, set it to Active Press OK
28.	Active NOAMP: Perform key exchange between the active-NOAMP and recovered servers.	Establish an SSH session to the Active NOAMP, login as <i>admusr</i> . Execute the following command to perform a keyexchange from the active NOAMP to each recovered server: \$ keyexchange admusr@ <recovered hostname="" server=""> Note: If an export server is configured, perform this step.</recovered>

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

29.	Active NOAMP: Fetch and Store the database Report for the Newly Restored Data and Save it	Navigate to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ Database Status & Manage Network Elements Server HA Database KPIs Processes Tasks Files
		Select the active NOAMP server and click on the Report button at the bottom of the gage. The following screen is displayed: Main Menu: Status & Manage -> Database [Report] Two of 09 1513/38 2010 UT Two of 09 1513/38 2010 UT Peort Benerated: Two Oct 09 1512/38 2010 UT Peort Benerated: Two Oct 09 100 B 00 B 00 B 00 B 00 B Peort Benerated: Two Oct 00 B 00 B 00 B 00 B Peort Benerated: Two Oct 00 B 00 B 00 B 00 B Peort Benerated: Two Oct 00 B 00 B 00 B Peort Benerated: Two Oct 00 B 00 B Peort Benerated: Two Oct 00 B 00 B Peort Benerated: Two Oct 00

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

30.	Active NOAMP:	Login to the Active NOAMP via SSH terminal as <i>admusr</i> user.							
	Verify Replication Between Servers.	Execute the following command:							
		<pre>\$ sudo irepstat -m</pre>							
		Output like below shall be generated:							
		Policy 0 ActStb [DbReplication]							
		 RDU06-MP1 Stby							
		BC From RDU06-SO1 Active 0 0.50 ^0.17%cpu 42B/s A=none							
		CC From RDU06-MP2 Active 0 0.10 ^0.17 0.88%cpu 32B/s A=none							
		RDU06-MP2 Active							
		BC From RDU06-SO1 Active 0 0.50 ^0.10%cpu 33B/s A=none							
		CC To RDU06-MP1 Active 0 0.10 0.08%cpu 20B/s A=none							
		RDU06-NO1 Active							
		AB To RDU06-SO1 Active 0 0.50 1%R 0.03%cpu 21B/s							
		RDU06-SO1 Active							
		AB From RDU06-NO1 Active 0 0.50 ^0.04%cpu 24B/s							
		BC To RDU06-MP1 Active 0 0.50 1%R 0.04%cpu 21B/s							
		BC To RDU06-MP2 Active 0 0.50 1%R 0.07%cpu 21B/s							

31.	Active NOAMP:	Click on Main I	Menu -	$\rightarrow$ Stat	tus ano	d Manago	$\mathrm{er} \rightarrow \mathrm{I}$	Datab	ase				
	Verify the	💼 🚔 Stati	10 8. N	lanad									
	Database states		us och	anay	e								
		💓 N	etwor	'k Eler	nents								
		S .	erver										
		💓 H/	A										
		🚮 D	ataba	se									
		💓 KI	PIS										
		💽 Pi	rocess	ses									
		EX.											
		Verify that the "	OAM	Max H	IA Rol	e" is eithe	er "Act	ive" c	or "Stai	ndby"	for N	IOAMI	<b>P</b> and
		SOAM and "Ap	plicati	on Maz	x HA F	Role" for I	MPs is	"Acti	ve", a	nd that	the st	tatus is	
		"Normal" as sho	wn be	low:									
							Application						_
		Network Element Ser	ver	F	Role	OAM Max HA Role	Max HA Role	Status	DB Level	OAM Repl Status	SIG Repl Status	Repl Status	Repl Audit Status
		NO_10303 NO	2	1	Network OAM8	P Active	005	Normal	0	Normal	NotApplica	abl Allowed	AutoInProg
		SO_10303 PSI	BR	I	MP	Active	Active	Normal	0	Normal	Normal	Allowed	AutoInProg
		SO_10303 MP.	2	1	MP	Active	Active	Normal	0	Normal	Normal	Allowed	AutoInProg
		SO_10303 SO	1	5	System OAM	Standby Standby	008	Normal	0	Normal	NotApplica	abl Allowed	AutoInProg
		SO 10303 IPF	E			Active	005	Normal	0	Normal	Normal	Allowed	AutoInProg
		SO_10303 SO	2	\$	System OAM	Active	008	Normal	0	Normal	NotApplica	abl Allowed	AutoInProg
32.	Active NOAMP: Verify the HA Status	Click on Main M Statu Statu Select the row for Verify that the "	vienu - us & M etwor erver ataba Pis focess or all o HA Ro	→ Stat lanag k Elen se ses f the so ole" is	envers either	"Active"	$e \rightarrow H$ or "Sta	A undby'	2.				
		Hostname	OAM Max HA Role	Application Max HA Role	Max Allowed HA Role	Mate Hostname Li	ist Networ	k Element		Server Rol	e	Active VIPs	
		NO2	Active	OOS	Active	NO1	NO_10	303		Network O/	M&P	10.240.70.132	
		S01	Standby	OOS	Active	SO2	SO_10	303		System OA	M		
		SO2	Active	OOS	Active	S01	SO_103	303		System OA	M	10.240.70.133	
		MP1 MP2	Standby	Active	Active	MP2	SO_10	303		MP			
		IPFE	Active	OOS	Active		SO_10	803		MP			

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact



Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact



Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

37. □	Active SOAM: Enable SPR Features	Navigate to Main Menu $\rightarrow$ Diameter $\rightarrow$ Maintenance $\rightarrow$ Applications				
		<ul> <li>Maintenance</li> <li>Route Lists</li> <li>Route Groups</li> <li>Peer Nodes</li> <li>Connections</li> <li>Egress Throttle Groups</li> <li>Applications</li> <li>DA-MPs</li> </ul>				
		Select the feature application				
		Click the <b>Enable</b> button.				
		Enable Disable Pause updates				
38.	Active SOAM:	Navigate to Main Menu $\rightarrow$ Alarms & Events $\rightarrow$ View Active				
	Alarms	Alarms & Events          View Active         View History         View Trap Log				
		Examine all active alarms and refer to the on-line help on how to address them				
		If needed contact My Oracle Support (MOS).				
39.	Active NOAMP: Examine All	Login to the NOAMP VIP if not already logged in.				
	Alarins	Navigate to Main Menu $\rightarrow$ Alarms & Events $\rightarrow$ View Active				
		Alarms & Events           View Active           View History           View Trap Log				
		Examine all active alarms and refer to the on-line help on how to address them.				
		If needed contact My Oracle Support (MOS).				
40.	Backup and Archive All the Databases from the Recovered System	Execute <b>Appendix A Oracle Communications User</b> Data Repository Database Backup to back up the Configuration database.				
		THIS PROCEDURE HAS BEEN COMPLETED				

Procedure 2: Recovery Scenario 2 – Partial Outage One NOAMP Intact

# 4.1.3 Recovery Scenario 3 (Partial Server Outage with all NOAMP servers failed and one SOAM server intact)

For a partial server outage with an SOAM server intact and available; NOAMP servers are recovered using recovery procedures for software and then executing a database restore to the active NOAMP server using a NOAMP database backup file obtained from external backup sources such as customer servers. All other servers are recovered using recovery procedures for software. Database replication from the active NOAMP/active SOAM server will recover the database on these servers. The major activities are summarized in the list below. Use this list to understand the recovery procedure summary. Do not use this list to execute the procedure. The actual procedures' detailed steps are in **Procedure 3**. The major activities are summarized as follows:

Recover Active NOAMP server by recovering software and the database.

- Recover the software.
- Recover the database

Recover Standby NOAMP servers by recovering software.

• Recover the software.

Recover any failed SOAM and MP servers by recovering software.

- Recover the software.
- Database is already intact at one SOAM server and does not require restoration at the other SOAM and MP servers.

S T	This procedure performs recovery if ALL NOAMP servers are failed but 1 or more SOAM servers are intact.					
E P	Check off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step number.					
#	If this procedure fails, contact My Oracle Support (MOS), and ask for assistance.					
1.	Gather Required Materials	Gather the documents and required materials listed in Section Required Materials				
2.	Recover the Failed Software	Execute the following procedures from reference Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide, F56666-01, latest revision [2]:				
		<b>Procedure 2</b> : Deploy Oracle Communications User Data Repository Virtual Machines on VMware				
3.	Obtain Latest Database Backup andObtain the most recent database backup file from external backup sources.					
	Configuration Data.	From required materials list in <b>Section Required Materials</b> ; use site survey documents and Network Element report (if available), to determine network configuration data.				
4.	4. Execute UDR ☐ Installation Procedure for the First Configure the First NOAMP server by executing procedures from referent <i>Communications User Data Repository 12.11.0 Cloud Installation and C</i> <i>Guide</i> , F56666-01, <i>latest revision</i> [2]:					
	NOAM	<b>Procedure 3</b> "Configure NOAMP-A Server (1 <sup>st</sup> NOAMP Only)" for first NOAMP.				
		<b>Note:</b> If Topology or nodeId alarms are persistent after the database restore, refer to the steps below.				
5.	Active NOAMP: Login	Decrete         Oracle System Login         PO ME 20 22:35:52 2015 EDT         Decrete         Decrete      <				

6.	Active NOAMP: Upload the Backed up Database File	Browse to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ Files Status & Manage Network Elements Server HA Database KPIS Processes Tasks Tasks Tasks
		Select the Active NOAMP server. The following screen will appear: Cpa1-NO Cpa1-IPFE Cpa1-Sbr1 Cpa1-Mp1 Cpa1-Mp2 Cpa1-Mp3 Cpa1-Sbr2 File Name Size Type Timestamp Backup.dsr.Cpa1-NO.Configuration.NETWORK_OAMP.20120321_021501.AUTO.tar 720 Click on Upload as shown below and select the file "NO Provisioning and Configuration." file backed up after initial installation and provisioning.
		Configuration: The backed up after initial installation and provisioning.  Pause U O used (0%) of 0 available   System utilization: 0 (0%) of 0 available.  Click on Browse and locate the backup file and click on Open as shown below.  File: Browse Upload
		Cancel         Image: Concel         Image:

Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact

7. Active NOAMP: Disable Provisioning	Click on Main Menu → Status & Manage → Database
	Disable Provisioning by clicking on Disable Provisioning button at the bottom of the screen as shown below.          Disable Provisioning       Report       Inhibit/Allow       Backup       Compare       Restore         A confirmation window will appear, press       OK to disable Provisioning.       Disable provisioning.       Are you sure?         OK       Cancel       OK       Cancel       OK       Cancel

Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact



9.	Active NOAMP:	Click on Main Menu → Status & Manage → Database				
	Restore the Database	Select the Active NOAMP server, and click on Restore as shown below.				
		The following screen will be displayed. Select the proper back up provisioning and configuration file.				
		Database Restore				
		Select archive to Restore on server: blade02 Backup, npqr.blade02. Configuration.NETWORK_OAMP.20100928_021502.AUTO.tar Backup, npqr.blade02. Configuration.NETWORK_OAMP.20100929_021501.AUTO.tar Backup, npqr.blade02. Configuration.NETWORK_OAMP.20100930_021501.AUTO.tar Backup, npqr.blade02. Configuration.NETWORK_OAMP.20101002_021502.AUTO.tar Archive Backup, npqr.blade02. Configuration.NETWORK_OAMP.20101002_021502.AUTO.tar Select the archive to restore on blade02.				
		OBackup.npqr.blade02.Configuration.NETWORK_OAMP.20101003_021502.AUTO.tar OBackup.npqr.blade02.Configuration.NETWORK_OAMP.20101004_021502.AUTO.tar OBackup.npqr.blade02.Configuration.NETWORK_OAMP.20101005_021501.AUTO.tar *				
		Ok Cancel				
		Click <b>OK</b> Button. The following confirmation screen will be displayed.				
		<ul><li>expected. If that is the only mismatch, proceed, otherwise stop and contact My Oracle Support (MOS).</li><li>Select the Force checkbox as shown above and Click OK to proceed with the DB restore.</li></ul>				
		Database Restore Confirm				
		Discrepancies: - IMI Server Address A3118.120 has different node IDs in current topology and the selected backu p file. Current node ID: A3118.120, Selected backup file node ID: E2073.087 - IMI Server Address C1157.241 has different node IDs in current topology and the selected backu p file. Current node ID: C1157.241, Selected backup file node ID: E2073.087 - IMI Server Address E1787.161 has different node IDs in current topology and the selected backu p file. Current node ID: B1287.161 As different node IDs in current topology and the selected backu p file.				
		Confirm archive "3bladeNPQR.blade07.Configuration.NETWORK_OAMP.20110119_184253.MAN.tar" to Restore on server: blade07 Force Restore? Force Restore? Force restore on blade07, despite compare errors. Ok Cancel				
		<b>Note:</b> After the restore has started, the user will be logged out of XMI NO GUI since the restored Topology is old data.				

Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact

<b>Procedure 3: Recover</b>	y Scenario 3	– Partial Outage	<b>One SOAM Intact</b>
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10.	Active NOAMP: Login	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of:
		http:// <primary_noamp_vip_ip_address></primary_noamp_vip_ip_address>
		Login as the <i>guiadmin</i> user:
		Enter your usemame and password to log in
		Username: guadmin Password Change password
		Velcore to the Oracle System Logn. Unsufforced access is prolitized. This Oracle system requires the use of Microbott Internet Explorer 8.0, 9.0, or
		100 em support for JavaScript and cookes. Oracle and Java are registeried trademarks of Toracle Corporation and/or its attiliates. Other names may be trademarks of Torac respective owners.
11.	11. Active NOAMP: Monitor and Confirm database restoral	Wait for <b>5-10 minutes</b> for the System to stabilize with the new topology:
		Monitor the Info tab for " <b>Success</b> ". This will indicate that the backup is complete and the system is stabilized.
		Following alarms <b>must</b> be ignored for NOAMP and MP Servers until all the Servers are configured:
		Alarms with Type Column as <b>"REPL"</b> , <b>"COLL"</b> , <b>"HA"</b> (with mate NOAMP), <b>"DB"</b> (about Provisioning Manually Disabled)
		<b>Note:</b> Do not pay attention to alarms until all the servers in the system are completely restored.
		<b>Note:</b> The Configuration and Maintenance information will be in the same state it was backed up during initial backup.
12.	Active NOAMP: Login	Login to the recovered Active NOAMP via SSH terminal as <i>admusr</i> user.

13.	Active NOAMP: Restore /etc/hosts/	Execute the following command:	
	File of the Active	<pre>\$ sudo AppWorks AppWorks_AppWorks updateServerAliases <noamp host="" name=""></noamp></pre>	
14.	Active NOAMP: Re-enable Provisioning	Navigate to Main Menu → Status & Manage → Database Enable Provisioning Report Inhibit/Allow Replication Backup Con Click on the Enable Provisioning. A pop-up window will appear to confirm as shown below, press OK.	
		Enable provisioning. Are you sure? OK Cancel	
15.	Active NOAMP: Recover Standby NOAMP	Configure the second NOAMP server by executing procedures from reference Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide, F56666-01, latest revision [2]:	
	(HA Deployments Only)	<b>Procedure 4</b> "Create Configuration for Remaining Servers", Step 2.	
		<b>Procedure 10</b> "Apply Configuration for Remaining Servers" for second NOAMP.	
		<b>Note:</b> If Topology or nodeId alarms are persistent after the database restore, refer to the steps below.	
16.	Active NOAMP: Recover remaining failed SOAM Servers	Repeat <b>Step 7</b> for any SOAM server that needs to be recovered.	



Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact

19.	Recovered Servers: Sync NTP	1) Perform the following to retrieve the remote NTP server:
		\$ sudo ntpq -np
		Example output:
		<pre>[admusr@NOAMP-2 ~]\$ ntpq -np remote    refid    st t when poll reach delay offset jitter</pre>
		2) Stop ntpd service:
		\$ sudo service ntpd stop
		3) Sync the date to the ntp remote server:
		<pre>\$ sudo ntpdate <ntp remote="" server=""></ntp></pre>
		<b>Note:</b> The remote server below will be that of the one gathered in sub step 1.
		4) Start the ntp service:
		<pre>\$ sudo service ntpd start</pre>

20.	Active NOAMP: Restart UDR application on recovered servers	Navigate to Main Menu → Status & Manage         Status & Manage         Network Elements         Server         HA         Database         KPIs         Processes         Tasks         Files         Select each recovered server and click on Restart.         Stop       Restart         Reboot       NTP Sync         Report	
21.	Active NOAMP: Perform key exchange between the active- NOAMP and recovered servers.	Establish an SSH session to the Active NOAMP, login as <i>admusr</i> . Execute the following command to perform a keyexchange from the active NOAMP to each recovered server: \$ keyexchange admusr@ <recovered hostname="" server=""> Note: If an export server is configured, perform this step.</recovered>	

Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact
22. Active NOAM Fetch and Stor the database Report for the Newly Restore Data and Save	IP: Navigate to Main Menu → Status & Manage → Database e d d it Status & Manage it Network Elements it Server it A it Database it Files it Tasks it Files
	Select the active NOAMP server and click on the Report button at the bottom of the
	page. The following screen is displayed:
	Main Menu: Status & Manage -> Database [Report]
	040 Tue Oct 05 15:15:38 2010 OC
	NPOR Database Status Report       Report Generated: Two Cot 05 15:13:38 2010 UTC Formation States       Report Generated: Two Cot 05 15:13:38 2010 UTC Formation States       Generated: Two Cot 05 15:13:38 2010 UTC Formation: States       Generated: Two Cot 05 15:13:38 2010 UTC Formation: States       Hostinase       Generated: Two Cot 05 15:13:38 2010 UTC Formation: States       Hostinase       Hostinase       Capacities and Utilization Disk Utilization 0.6%: 136H used of 400 total. 286 available Memory Utilization 0.6%: 136H used of 23975H total. 23839H available       Alarnase Nome       Minitenance in Progress Pestore operation success       Service Information Coppedition: State State Avg Max Rovs Used / Alloc       Used / Alloc       Offsec       Green distation Coppedition: State State Avg Max Rovs Used / Alloc       Table Name       Service Information Coppedition: State State Avg Max Rovs Used / Alloc       Table Name       Coppedition: State State Avg Max Rovs Used / Alloc       Offsec       Offsec       Service Information Protice       Protice       Coppedition: State State Avg Max Rovs Used / Alloc       Offsec       Offsec       Service Information Coppedition: State State Avg Max Rovs Used / Alloc       World State State State Avg Max Rovs Dot Bot Dot Bot Dot Bot Bot Bot Bot Bot Bot Bot Bot Bot B

Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact

<b>Procedure 3: Recovery</b>	Scenario 3 – Partia	l Outage One SOAM Intact
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23.	Active NOAMP:	Login to the Active NOAMP via SSH terminal as <i>admusr</i> user.						
	Verify Replication Between Servers.	Execute the following command:						
		\$ sudo irepstat -m						
		Output like below shall be generated:						
		Policy 0 ActStb [DbReplication]						
		RDU06-MP1 Stby						
		BC From RDU06-SO1 Active 0 0.50 ^0.17%cpu 42B/s A=none						
		CC From RDU06-MP2 Active 0 0.10 ^0.17 0.88%cpu 32B/s A=none						
		RDU06-MP2 Active						
		BC From RDU06-SO1 Active 0 0.50 ^0.10%cpu 33B/s A=none						
		CC To RDU06-MP1 Active 0 0.10 0.08%cpu 20B/s A=none						
		RDU06-NO1 Active						
		AB To RDU06-SO1 Active 0 0.50 1%R 0.03%cpu 21B/s						
		RDU06-SO1 Active						
		AB From RDU06-NO1 Active 0 0.50 ^0.04%cpu 24B/s						
		BC To RDU06-MP1 Active 0 0.50 1%R 0.04%cpu 21B/s						
		BC To RDU06-MP2 Active 0 0.50 1%R 0.07%cpu 21B/s						

24.	Active NOAMP:	Click on Main N	Aenu -	$\rightarrow$ Stat	tus and	d Manage	$\mathrm{er} \rightarrow \mathrm{I}$	Datab	ase				
	Verify the												
	Databasa statas	📋 🚍 Status & Manage											
	Database states		etwor	k Elor	nonte								
			ection	K LICI	nenco								
		🚽 🚽 💽 Se	erver										
			۸										
			<u>`</u>	_									
		💓 Da	ataba	se									
		- KI	DIS										
			10										
		🚽 🔤 💽 Pr	rocess	ses									
		Verify that the "	OAM	Max H	IA Rol	e" is eithe	er "Act	ive" c	or "Stai	ıdby"	for N	OAMF	<b>and</b>
		SOAM and "Ap	plicatio	on Maz	x HA F	Role" for I	MPs is	"Acti	ve", ai	nd that	the st	atus is	
		"Normal" as sho	wn be	low:									
							Application						
		Network Element Ser	ver	F	Role	OAM Max HA Role	Max HA	Status	DB Level	OAM Repl Status	SIG Repl Status	Repl Status	Repl Audit Status
		NO 10303 NO	2	,	Vetwork OAM8	P Active	ROIE 00S	Normal	0	Normal	NotAnnlica	bl Allowed	AutoInProg
		SO_10303 PSE	SR .		MP	Active	Active	Normal	0	Normal	Normal	Allowed	AutoInProg
		SO_10303 MP:	2	1	MP	Active	Active	Normal	0	Normal	Normal	Allowed	AutoInProg
		SO_10303 SO	1	5	System OAM	Standby	008	Normal	0	Normal	NotApplica	bl Allowed	AutoInProg
		NO_10303 NO	1	1	Vetwork OAM8	P Standby	008	Normal	0	Normal	NotApplica	bl Allowed	AutoInProg
		SO_10303 IPF	E 2		MP Svetem OAM	Active	008	Normal	0	Normal	Normal	Allowed	AutoInProg
		30_10303 30.	2	,	System OAW	Active	003	Normai	0	Normai	NotApplica	DIAIlowed	AutoinFrog
25.	Active NOAMP:	Click on Main M	Menu -	$\rightarrow$ Stat	tus and	d Manago	$e \rightarrow H$	A					
	Verify the HA					8							
	Status	👘 💼 💼 Statu	is & M	lanag	e								
	Status		atwor	k Elon	nonte								
			etwor	K Elel	nencs								
		🧼 💽 Se	erver										
			4										
		🔜 🔤 🔂	ataba	se									
		💓 KI	'IS										
		📑 Pr	ocess	ses									
		G 1 1	11	6.4									
		Select the row fo	or all o	f the se	ervers								
		Verify that the "	HAR	le" is	either '	"Active"	or "Sta	ndby'	,				
		, only that the	11/11/0	10 13	entiter	100100	51 510	nuoy	•				
		Hostname	OAM Max	Application Max HA	Max Allowed HA	Mate Hostname Li	ist Networ	k Element		Server Rol	e /	Active VIPs	
		100	HA Role	Role	Role								
		N02 S01	Standby	005	Active	SO2	NO_103 SO 103	103		System QA	wike . M	10.240.70.132	
		SO2	Active	005	Active	S01	SO_103	103		System OA	M	10.240.70.133	
		MP1	Standby	Active	Active	MP2	SO_103	103		MP			
		MP2	Active	Active	Active	MP1	SO_103	03		MP			
		IPFE	Active	005	Active		SO_103	103		MP			

Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact



Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact



Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact



Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact

#### Procedure 3: Recovery Scenario 3 – Partial Outage One SOAM Intact

34.	Backup and Archive All the Databases from the Recovered System	Execute <b>Appendix A Oracle Communications User</b> Data Repository Database Backup to back up the Configuration databases.				
	THIS PROCEDURE HAS BEEN COMPLETED					

# 4.1.4 Recovery Scenario 4 (Partial Server Outage with one NOAMP server and one SOAM server intact)

For a partial outage with an NOAMP server and an SOAM server intact and available, only base recovery of software is needed. The intact NO and SOAM servers are capable of restoring the database via replication to all servers. The major activities are summarized in the list below. Use this list to understand the recovery procedure summary. Do not use this list to execute the procedure. The actual procedures' detailed steps are in Procedure 4. The major activities are summarized as follows:

Recover Standby NOAMP server by recovering software.

• Recover the software.

The database is intact at the active NOAMP server and does not require restoration at the standby NOAMP server.

- Recover any failed SO and MP servers by recovering software.
- Recover the software.

The database in intact at the active NOAMP server and does not require restoration at the SO and MP servers.

• Re-apply signaling networks configuration if the failed VM is an MP.

#### Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

S T	This procedure performs recovery if at least 1 NOAMP server is intact and available and 1 SOAM server is intact and available.			
E P	Check off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step number.			
#	If this procedure fai	ls, contact My Oracle Support (MOS), and ask for assistance.		
1.	Gather Required Materials	Gather the documents and required materials listed in Section 3.1 Required Materials		
2.	Active NOAMP: Login	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of:		
		http:// <primary_noamp_vip_ip_address></primary_noamp_vip_ip_address>		
		<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><image/><image/><image/></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>		
3.	Active NOAMP: Set Failed Servers to Standby	Navigate to Main Menu → Status & Manage → HA Status & Manage Network Elements Server Database KPIS Processes Select Edit Set the Max Allowed HA Role drop down box to Standby for the failed servers. Select Ok Ok Cancel		

4.	Recover the Failed Software	Execute the following procedures from reference Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide, F56666-01, latest revision [2]:					
		<b>Procedure 2</b> : Deploy Oracle Communications User Data Repository Virtual Machines on VMware					
5.	Repeat for Remaining Failed Servers	If necessary, repeat <b>4</b> for all remaining failed servers.					
6.	Active NOAMP: Login	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of:					
		http:// <primary_noamp_vip_ip_address></primary_noamp_vip_ip_address>					
		Login as the <i>guiadmin</i> user:					
		ORACLE					
		Oracle System Login Fri Mar 20 12:29:52 2015 EDT					
		Log In Enter your username and password to log in					
		Password: •••••• Change password					
		Log In					
		Welcome to the Oracle System Login. Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.					
		Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.					
7.	Active NOAMP: Recover Standby NOAMP if needed	Configure the second NOAMP server by executing procedures from reference Oracle Communications User Data Repository 12.11.0 Cloud Installation and Configuration Guide, F56666-01, latest revision [2]:					
		Procedure 4 "Create Configuration for Remaining Servers", Step 2.					
		Procedure 10 "Apply Configuration for Remaining Servers"					
		<b>Note:</b> If Topology or nodeId alarms are persistent after the database restore, refer to the steps below.					

8.	Active NOAMP: Recover the Failed SOAM Servers if needed	Repeat <b>Step 7</b> for any SOAM server that needs to be recovered.
9.	Active NOAMP: Set HA on Recovered Servers	Navigate to Status & Manage → HA Status & Manage Network Elements Server Database KPIs Processes Tasks Files Click on Edit at the bottom of the screen For each server whose Max Allowed HA Role is set to Standby, set it to Active Press OK
10.	<b>Recovered</b> <b>Servers:</b> Login	Establish an SSH to the recovered server's XMI address:

Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

## 1) Perform the following to retrieve the remote NTP server: Recovered 11. Servers: Sync NTP \$ sudo ntpq -np Example output: [admusr@NOAMP-2 ~]\$ ntpq -np remote refid st t when poll reach delay offset jitter \_\_\_\_\_ == \*10.240.9.186 10.250.33.2 3 u 356 1024 377 1.409 0.113 2.434 2) Stop ntpd service: \$ sudo service ntpd stop 3) Sync the date to the ntp remote server: \$ sudo ntpdate <NTP remote server> Note: The remote server below will be that of the one gathered in sub step 1. 4) Start the ntp service: \$ sudo service ntpd start

#### Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

12	Active NOAMP	Navigate to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ Server
12.	Restart UDR application on recovered SOAM	<ul> <li>Status &amp; Manage</li> <li>Network Elements</li> <li>Server</li> <li>HA</li> <li>Database</li> <li>Database</li> <li>Fricesses</li> <li>Files</li> </ul>
		Select the recovered server and click on <b>Restart</b> .
		Stop Restart Reboot NIP Sync Report
13.	Active NOAMP: Recover MP Servers	Recover the MP server(s) by executing procedures from reference <i>Oracle</i> <i>Communications User Data Repository 12.11.0 Cloud Installation and Configuration</i> <i>Guide</i> , F56666-01, <i>latest revision</i> [2]:
		<ul><li>Procedure 4 "Create Configuration for Remaining Servers", Step 2</li><li>Procedure 10 "Apply Configuration for Remaining Servers" for MP(s)</li></ul>
14.	Active NOAMP: Restart UDR Application on recovered MP servers.	Navigate to Main Menu → Status & Manage         Status & Manage         Network Elements         Server         HA         Database         Processes         Tasks         Files         Select the recovered servers and click on Restart.         Stop       Restart         Reboot       NTP Sync         Report

Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

15.	Active NOAMP: Set HA on all MP servers	Navigate to Status & Manage → HA Status & Manage Network Elements Server Database KPIs Processes Files Click on Edit at the bottom of the screen For each server whose Max Allowed HA Role is set to Standby, set it to Active Press OK
16.	Active NOAMP: Login	Login to the recovered Active NOAMP via SSH terminal as <i>admusr</i> user.
17.	Active NOAMP: Perform key exchange between the active- NOAMP and recovered servers.	Establish an SSH session to the Active NOAMP, login as <i>admusr</i> . Execute the following command to perform a keyexchange from the active NOAMP to each recovered server: <b>\$ keyexchange admusr@<recovered hostname="" server=""></recovered></b>
18.	Active NOAMP: Establish SSH	Establish an SSH session to the active NOAMP, login as <i>admusr</i> .

Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

19.	Active NOAMP:	Navigate to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ Database
_	Fetch and Store	
	the database	
	Report for the	
	Newly Postored	E Status & Manage
	Dete and Same it	🔤 🔤 💽 Network Elements
	Data and Save it	🔤 🌃 Server
		💿 🔤 💽 Database
		KPIs
		Processes
		🙀 🧰 Tasks
		Eilos
		Select the <b>active</b> NOAMP server and click on the <b>Report</b> button at the bottom of the
		page. The following screen is displayed:
		Main Menu: Status & Manage -> Database [Report]
		NPQR Database Status Report
		Report Generated: Tue Oct 05 15:13:38 2010 UTC From: Active Network OAMAP on host blade07
		Report Version: 3.0.13-3.0.0_10.13.0 User: guiadmin
		General
		Hostname : blade07
		Application Database Version :
		Capacities and Utilization
		Disk Utilization 0.6%: 249M used of 40G total, 38G available Memory Utilization 0.6%: 136M used of 23975M total, 23839M available
		Alarms
		None
		Maintenance in Progress
		Restore operation success
		Service Information
		Part: A_NpqrProvPart 
		Row Size Num Memory Disk Table Name Schema Avg Max Rows Used / Alloc Used / Alloc
		CgPa 44 1 44 B 44 B 44 B 44 B CgPa 52 0 0 B 0 B 0 B
		CgPaGGa 52 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		CountryCode 24 306 7344 B 7344 B 7344 B 7344 B GTConfig 52 2 114 B 114 B 104 B
		MccMnc 40 0 0 B 0 B 0 B 0 B Msisdn 52 0 0 B 0 B 0 B
		Msrn 68 0 0 B 0 B 0 B 0 B 0 B 0 B 0 B 0 B 0 B
		Print Save
		Click on Some and some the second to your local marking
		Click on <b>Save</b> and save the report to your local machine.
1	1	

## Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

20.	Active NOAMP:	Login to the	Active NOAM	IP via SSH	termin	al as <i>a</i>	dmusi	r user.				
	Verify Replication Between Servers.	Execute the following command:										
		\$ sudo	irepstat -	m								
		Output like	e below shall be	e generated	:							
		Policy	0 ActStb [Db	DReplicati	on] -							
		RDU06-MP1	Sthy									
		BC From	RDU06-SO1 Ac	ctive	0	0.50 ^	0.17%	cpu 4	2B/s	A=non	е	
		CC From	RDU06-MP2 Ad	ctive	0	0.10 ^	0.17	0.88%	cpu 32	2B/s	A=non	e
		RDU06-MP2	Active									
		BC From	RDU06-SO1 Ad	ctive	0	0.50 ^	0.10%	сри З	3B/s	A=non	е	
		CC TO	RDU06-MP1 Ac	ctive	0	0.10	0.08%	cpu 2	0B/s	A=non	e	
		AB TO	RDU06-SO1 Ad	ctive	0	0.50 1	%R 0.	03%cp	u 21B/	/s		
		RDU06-SO1	Active					1				
		AB From	RDU06-NO1 Ad	ctive	0	0.50 ^	0.04%	cpu 2	4B/s			
		BC To	RDU06-MP1 Ac	ctive	0	0.50 1	%R 0.	04%cp	u 21B,	/s		
		BC To	RDU06-MP2 Ac	ctive	0	0.50 1	%R 0.	07%cp	u 21B,	/s		
21.	Active NOAMP: Verify the Database states	Click on Ma	ain Menu → So tatus & Mana Network El Server HA Database KPIs Processes he "OAM Max "Application M	tatus and M age ements . HA Role" Iax HA Rol	<b>Manag</b> is eith le" for	er → I er "Act MPs is	Datab	ase or "Sta ive", a	ndby" nd that	for No	OAMI atus is	P and
		"Normal" as	s shown below:	Role	OAM Max	Application Max HA	Status	DB Level	OAM Repl Status	SIG Repl Status	Repl	Repl Audit Status
		NO_10303	NO2	Network OAM&P	Active	Role	Normal	0	Normal	NotApplicat	ol Allowed	AutoInProg
		SO_10303 SO_10303	PSBR MP2	MP	Active Active	Active Active	Normal Normal	0	Normal Normal	Normal Normal	Allowed	AutoInProg AutoInProg
		SO_10303	SO1	System OAM	Standby	008	Normal	0	Normal	NotApplicat	Allowed	AutoInProg
		NO_10303 SO_10303	NO1 IPFE	Network OAM&P	Standby Active	00S 00S	Normal Normal	0	Normal Normal	NotApplicat Normal	Allowed Allowed	AutoInProg AutoInProg
		SO_10303	SO2	System OAM	Active	OOS	Normal	0	Normal	NotApplicat	Allowed	AutoInProg

Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

22	Active NOAMP	Click on Main M	Jonu	_ Stat	ue on	d Managa -	→ HA		
22.	Active NOAMI.	CHCK OII IVIAIII I	vienu ·	→ Stat	us and	i Manage -	→ IIA		
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	Status	Status & Manage       Status & Manage       Server							
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		Select the row fo	or all o	f the se	rvere				
		Select the low it	JI all 0	i uic se	110013				
		Verify that the "	HAR	ole" is a	either '	"Active" or	"Standby"		
		verify that the	11/1 10	510 15	enner		Standoy .		
		United	OAM Max	Application	Max	Made Handstown Lind	Natural Flamout	Comuna Dalla	A stive MDs
		Hostname	HA Role	Role	Role	Mate Hostname List	Network Element	Server Role	Acuve VIPS
		NO2	Active	OOS	Active	NO1	NO_10303	Network OAM&P	10.240.70.132
		S01	Standby	OOS	Active	SO2	SO_10303	System OAM	
		SO2	Active	005	Active	S01	SO_10303	System OAM	10.240.70.133
		MP1	Standby	Active	Active	MP2	SO_10303	MP	
		MP2	Active	Active	Active	MP1	SO_10303	MP	
		IFFE	Active	003	Active		30_10303	WIF'	
23	Active SOAM	Navigate to Mai	in Mer	$m \rightarrow I$	Jiama	ter $\rightarrow$ Conf	figuration $\rightarrow Lc$	ocal Node	
25.	Active SOAM.	I avigate to Ma	III IVICI	IU / L			12 u a u 0 1 / LA		
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	Verify the Local Node Info	🖕 🛁 Diameter 📄 🛁 Configura 📑 Capaci 📑 Conne 📑 Applica 📑 CEX Pa	ition ity Sumn ction Ca ation Ids arameter	nary pacity Da	ashboard				
	Verify the Local Node Info	<ul> <li>Diameter</li> <li>Configura</li> <li>Capaci</li> <li>Conne</li> <li>Applica</li> <li>CEX Pa</li> <li>Comm</li> </ul>	ition ity Sumn iction Ca ation Ids arameter and Cod	nary pacity Da rs es	ashboard				
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Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact



Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact



Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

27.	Active SOAM: Enable Optional Features	Navigate to Main Menu $\rightarrow$ Diameter $\rightarrow$ Maintenance $\rightarrow$ Applications Maintenance Route Lists Route Groups Peer Nodes Genections Egress Throttle Groups DA-MPs
		Select the SPR feature applications.
		Click the <b>Enable</b> button.
		Enable Disable Pause updates
28.	Active SOAM: Examine All Alarms	Navigate to Main Menu → Alarms & Events → View Active Alarms & Events View Active View History View Trap Log
		Examine all active alarms and refer to the on-line help on how to address them.
		If needed contact My Oracle Support (MOS).
29.	Active NOAMP: Examine All Alarms	Login to the NOAMP VIP if not already logged in.
		Navigate to Main Menu $\rightarrow$ Alarms & Events $\rightarrow$ View Active
		Alarms & Events           Image: View Active           Image: View History           Image: View Trap Log
		Examine all active alarms and refer to the on-line help on how to address them.
		If needed contact My Oracle Support (MOS).

Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

30.	Restart oampAgent if Needed	Note: If alarm "10012: The responder for a monitored table failed to respond to a table change" is raised, the oampAgent needs to be restarted.		
		Establish an SSH session to each server that has the alarm. Login as <i>admusr</i>		
		Execute the following commands:		
		<pre>\$ sudo pm.set off oampAgent \$ sudo pm.set on oampAgent</pre>		
31.	Backup and Archive All the Databases from the Recovered System	Execute <b>Appendix A Oracle Communications User</b> Data Repository Database Backup to back up the Configuration databases.		
		THIS PROCEDURE HAS BEEN COMPLETED		

Procedure 4: Recovery Scenario 4 – Partial Outage One NOAMP & One SOAM Intact

Oracle Communications User Data Repository Cloud Disaster Recovery Guide

## 4.1.5 Recovery Scenario 5 (Database Recovery)

The following sections deal with recovering from database corruption, whether a backup is present or not.

#### 4.1.5.1 Recovery Scenario 5: Case 1

For a partial outage with

- Server having a corrupted database
- Replication channel from parent is inhibited because of upgrade activity or
- Server is in a different release then that of its Active parent because of upgrade activity.
- Verify that the Server Runtime backup files, performed at the start of the upgrade, are present in /var/TKLC/db/filemgmt area in the following format
  - o Backup.UDR.HPC02-NO2.FullDBParts.NETWORK\_OAMP.20140524\_223507.UPG.tar.bz2
  - o Backup.UDR.HPC02-NO2.FullRunEnv.NETWORK\_OAMP.20140524\_223507.UPG.tar.bz2

**Note:** During recovery, the corrupted Database will get replaced by the sever Runtime backup. Any configuration done after taking the backup will not be visible post recovery.

#### Procedure 5: Recovery Scenario 5 (Case 1) – Database Recovery Backup Present

S T	This procedure perfe	orms recovery if database is corrupted in the system				
E P #	Check off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step number.					
#	If this procedure fai	s, contact My Oracle Support (MOS), and ask for assistance.				
1.	Active NOAMP: Set Failed Servers to Standby	Navigate to Main Menu → Status & Manage         Status & Manage         Network Elements         Server         Database         KPIs         Processes         Select Edit         Set the Max Allowed HA Role drop down box to Standby for the failed servers.         Select Ok         Ok         Cancel				
2.	Server with DB Corruption: Login	Establish an SSH session to the server in question. Login as <i>admusr</i> user.				
3.	Server with DB Corruption:	Execute the following command to bring the system to runlevel 3.				
	to 3	\$ sudo init 3				

4.	Server with DB Corruption: Recover System	Execute the following command and follow the instructions appearing the console prompt           \$ sudo /usr/TKLC/appworks/sbin/backout_restore
5.	Server with DB Corruption: Change runlevel to 4	Execute the following command to bring the system back to runlevel 4. \$ sudo init 4
6.	Server with DB Corruption: Verify the server	Execute the following command to verify if the processes are up and running <pre>\$ sudo pm.getprocs</pre>
7.	Active NOAMP: Set Failed Servers to Active	Navigate to Status & Manage         Status & Manage         Network Elements         Server         Database         KPIs         Processes         Tasks         Files         Click on Edit at the bottom of the screen         For each failed server whose Max Allowed HA Role is set to Standby, set it to Active         Press OK
8.	Backup and Archive All the Databases from the Recovered System	Execute <b>Appendix A Oracle Communications User</b> Data Repository Database Backup to back up the Configuration databases:
		THIS PROCEDURE HAS BEEN COMPLETED

#### Procedure 5: Recovery Scenario 5 (Case 1) – Database Recovery Backup Present

Oracle Communications User Data Repository Cloud Disaster Recovery Guide

### 4.1.5.2 Recovery Scenario 5: Case 2

For a partial outage with

- Server having a corrupted database
- Replication channel is available or
- Server has the same release as that of its Active parent

#### Procedure 6: Recovery Scenario 5 (Case 2) – Database Recovery Backup Not Present

S T	This procedure performs recovery if database got corrupted in the system and system is in the state to get replicated				
E	Check off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step number				
Р #	If this procedure fai	ls, contact My Oracle Support (MOS), and ask for assistance.			
1.	Active NOAMP: Set Failed Servers to Standby	Navigate to Main Menu $\rightarrow$ Status & Manage $\rightarrow$ HA Status & Manage Network Elements Server Database KPIS Processes Select Edit Set the Max Allowed HA Role drop down box to Standby for the failed servers. Select Ok Ok Cancel			
2.	Server with DB Corruption: Login	Establish an SSH session to the server in question. Login as <i>admusr</i> user.			
3.	Server with DB Corruption: Take Server out of Service	Execute the following command to take the server out of service.  \$ sudo bash -1 \$ sudo prod.clobber			
4.	Server with DB Corruption: Take Server to DbUp State and Start the Application	Execute the following commands to take the server to Dbup and start the Oracle Communications User Data Repository application: \$ sudo bash -1 \$ sudo prod.start			

5.	Server with DB Corruption:	Execute the following commands to verify the processes are up and running:
	Verify the Server State	<pre>\$ sudo pm.getprocs</pre>
		Execute the following command to verify if replication channels are up and running:
		\$ sudo irepstat
		Execute the following command to verify if merging channels are up and running:
		<pre>\$ sudo inetmstat</pre>
6.	Active NOAMP: Restart UDR application	Navigate to Main Menu → Status & Manage         Status & Manage         Network Elements         Server         HA         Database         KPIs         Processes         Tasks         Files         Select each recovered server and click on Restart.         Stop       Restart         Reboot       NTP Sync         Report

#### Procedure 6: Recovery Scenario 5 (Case 2) – Database Recovery Backup Not Present

7.	Active NOAMP: Set Failed Servers to Active	Navigate to Status & Manage         → Status & Manage         → Network Elements         → Server         → Database         → Processes         → Tasks         → Files         Click on Edit at the bottom of the screen         For each failed server whose Max Allowed HA Role is set to Standby, set it to Active         Press OK
8.	Backup and Archive All the Databases from the Recovered System	Execute <b>Appendix A Oracle Communications User</b> Data Repository Database Backup to back up the Configuration databases:
		THIS PROCEDURE HAS BEEN COMPLETED

Procedure 6: Recovery Scenario 5 (Case 2) – Database Recovery Backup Not Present

Oracle Communications User Data Repository Cloud Disaster Recovery Guide

## 5 RESOLVING USER CREDENTIAL ISSUES AFTER DATABASE RESTORE

User incompatibilities may introduce security holes or prevent access to the network by administrators. User incompatibilities are not dangerous to the database, however. Review each user difference carefully to ensure that the restoration will not impact security or accessibility.

## 5.1 Keeping a Restored User (Resetting User Password)

User accounts kept across a restore operation should have their passwords reset. This procedure guides you through that process.

Drocodure 7. Vo	on Doctored	Lloom (D	locatting I	I laon Doga	(herew
Procedure /: Ke	ep Kestoreu	User (R	lesetting u	User Pass	woru)

S T E	Perform this proce Check off $(\lambda)$ each	dure to keep users that will be restored by system restoration.				
P #	number.					
1.	Before Restoration: Notify Affected Users (Before Restoration)	Contact each user that is affected <u>before the restoration</u> and notify them that you will reset their password during this maintenance operation.				
2.	After Restoration: Login to the Active NOAMP	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of: <pre>http://<primary_noamp_vip_ip_address></primary_noamp_vip_ip_address></pre>				
	(Before Restoration)	<section-header><section-header><section-header><section-header><section-header><section-header><section-header><image/><image/></section-header></section-header></section-header></section-header></section-header></section-header></section-header>				

3.	After Restoration: Reset User Passwords	Navigate to Administration → Access Control → Users
		Select the user Click the <b>Change Password</b> button Insert Edit Delete Report Change Password Enter a new password
		Enter the new password for <b>guiadmin</b> two times. New Password: Retype New Password: If Force password change on next login
		Click the <b>Continue</b> button
		THIS PROCEDURE HAS BEEN COMPLETED

Procedure 7: Keep Restored User (Resetting User Password)

## 5.2 Removing a Restored User

#### **Procedure 8: Remove the Restored User**

S T	Perform this procedure to remove users that will be restored by system restoration Check off $()$ each step as it is completed. Boxes have been provided for this purpose under each step number.			
E P				
#	If this procedure fa	ils, contact My Oracle Support (MOS), and ask for assistance.		
1. □	After Restoration: Login to the	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of:		
	Active NOAMP	http:// <primary_noamp_vip_ip_address></primary_noamp_vip_ip_address>		

**Procedure 8: Remove the Restored User** 

2.	After Restoration: Delete User	Navigate to Administration → Access Control → Users Main Menu General Options Access Control Sessions Certificate Management Authorized IPs SFTP Users	
		Select the user Click the <b>Delete</b> button Insert Edit Delete Report Change Password	
		Delete selected users?	
		Click the <b>OK</b> button to confirm.	
	THIS PROCEDURE HAS BEEN COMPLETED		

#### 5.3 Restoring a Modified User

These users have had a password change prior to creation of the backup and archive file. The will be reverted by system restoration of that file.

- The password for user 'testuser' differs between the selected backup file and the current database.

#### **Before Restoration:**

Verify that you have access to a user with administrator permissions that is not affected.

Contact each user that is affected and notify them that you will reset their password during this maintenance operation.

#### **After Restoration:**

Log in and reset the passwords for all users in this category. See the steps in Section 5.1 (Keeping a Restored User) for resetting passwords for a user.

## 5.4 Restoring an Archive that does not contain a Current User

These users have been created after the backup operation. The will be deleted by system restoration of that file.

If the user is no longer desired, do not perform any additional steps. The user is permanently removed.

#### Procedure 9: Restoring an Archive that does not Contain a Current User

S T	Perform this procedure to remove users that will be restored by system restoration		
E P #	Check off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step number.		
#	ls, contact My Oracle Support (MOS), and ask for assistance.		
1.	Before Restoration: Notify Affected Users (Before Restoration)	Contact each user that is affected <b>before the restoration</b> and notify them that you will reset their password during this maintenance operation.	
2.	Before Restoration: Login to the Active NOAMP	Establish a GUI session on the NOAMP server by using the VIP IP address of the NOAMP server. Open the web browser and enter a URL of:	
		http:// <primary_noamp_vip_ip_address></primary_noamp_vip_ip_address>	
	(Before Restoration)		
		Login as the <i>guiadmin</i> user:	
		ORACLE	
		Oracle System Login         Finder 20 12:29:52 2015 EDT	



Procedure 9: Restoring an Archive that does not Contain a Current User

5.	After Restoration: Recreate affected user	Navigate to Administrat	tion $\rightarrow$ Access Control $\rightarrow$ Users	
		Insert Edit Delete Report Change Password		
		Recreate the user using the data collected in Step 3.		
		Username	*	
		Group	admin 🔺	
		Authentication Options	Allow Remote Auth	
		Access Allowed	Account Enabled	
		Maximum Concurrent Logins	0	
		Session Inactivity Limit	120	
		Comment	*	
		Click Ok Ok Apply Cancel		
6.	After Restoration: Repeat for Additional Users	Repeat Step 5 to recreate	e additional users.	

Procedure 9: Restoring an Archive that does not Contain a Current User

7.	After Restoration: Reset the Passwords	Navigate to Administration → Access Control → Users		
		Select the user Click the <b>Change Password</b> button Insert Edit Delete Report Change Password		
		Enter a new password for <b>guiadmin</b> two times. New Password: Retype New Password: Force password change on next login		
	Click the <b>Continue</b> button			
		THIS PROCEDURE HAS BEEN COMPLETED		

Procedure 9: Restoring an Archive that does not Contain a Current User

## Appendix A. Oracle Communications User Data Repository Database Backup

#### Procedure 12: Restoring an Archive that does not Contain a Current User

S T E	The intent of this procedure is to back up the provision and configuration information from an NOAMP or SOAM server after the disaster recovery is complete			
Р	Check off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step number			
#	If this procedure fails, contact <b>My Oracle Support</b> ( <b>MOS</b> ), and ask for assistance.			
1.	Active NOAMP/SOAM: Login	Establish a GUI session on the Active NOAMP or SOAM server by using the VIP IP address of the NOAMP or SOAM server.		
		Open the web browser and enter a URL of:		
	http:// <primary_noamp soam_vip_ip_address=""></primary_noamp>			
		Login as the <i>guiadmin</i> user:		
		Oracle System Login         Fit Mar 20 12:29:52 2015 EDT         Fit Mar 20 12:29:52 2015 EDT           Image: Comparison of the		

2.	Active NOAMP/SOAM: Backup Configuration Data for the System	Navigate to Main Menu → Status & Manage         Status & Manage         Network Elements         Server         HA         Database         KPIs         Processes    Select the Active NOAMP Server and Click on Backup button          Disable Provisioning         Report       Inhibit Replication         Backup       Compare         Restore       Man Audit		
		Make sure that the	checkboxes next to "Configuration" is checked.	
		Field Server, lette NO 1	value	
		Select data for backup	Provisioning Configuration	
		Compression	⊙gzip ⊛bzip2 ⊂none *	
		Archive Name	Reakup dar Jate NO 1 Configuration NETWORK, OAMR 20150428, 00211	
		A GRIVE INGINE		
		Comment		
		Enter a filename fo	Ok Cancel	

Procedure 12: Restoring an Archive that does not Contain a Current User



Procedure 12: Restoring an Archive that does not Contain a Current User
4.	Active NOAMP/SOAM: Download the file to a local machine.	From the previous step, choose the backup file. Select the Download button Delete View Upload Download Deploy ISO Validate ISO 1.1 GB used (5.93%) of 18.4 GB available   System utilization: 1.1 GB (5.99%) of 18.4 GB available. Select OK to confirm the download. Select ok to confirm the download. Opening Backup.dsr.Jetta-NO-1.Configuration.NETWORK_OAMP.2015 You have chosen to open: ULonfiguration.NETWORK_OAMP.20150418_021510.AUTO.tar which is: tar Archive (13.5 MB) from: https://100.65209.143 What should Firefox do with this file? OK Cancel
5.	Upload the Image to Secure Location	Transfer the backed up image saved in the previous step to a secure location where the Server Backup files are fetched in case of system disaster recovery.
6.	Backup Active SOAM	Repeat <b>Steps 2 through 5</b> to back up the Active SOAM.
		THIS PROCEDURE HAS BEEN COMPLETED

Procedure 12: Restoring an Archive that does not Contain a Current User

# Appendix B. Inhibit A and B Level Replication on C-Level Servers

Procedure 15: Innibit A and B Level Replication on C-Level Servers	Procedure	13: Inhibit A	and B Level	<b>Replication</b> of	on C-Level Servers
--	-----------	---------------	-------------	-----------------------	--------------------

S T	The intent of this pr	ocedure is to in				L				uns site
E P	Check off $()$ each s number.	step as it is con	npleted	. Boxe	es have b	een pro	vided fo	r this pu	rpose unde	er each step
#	If this procedure fai	ls, contact My	y Oracl	le Supj	port (M	<b>DS</b> ), an	d ask foi	assistar	nce.	
]	Active NOAMP: Login	Login to the	Active	NOAN	MP serve	r via SS	SH as <i>ac</i>	<i>lmusr</i> u	ser.	
2.	Active NOAMP: Inhibit replication	Execute the f	followi	ng con	nmand:					
	on all MP servers	<pre>\$ for i in \$(iqt -p -z -h -fhostName NodeInfo where "nodeId like 'C*' and siteId='<ne name="" of="" site="" the="">'"); do iset -finhibitRepPlans='A B' NodeInfo where "nodeName='\$i'"; done Note: NE name of the site can be found out by logging into the Active NOAMP GUI and going to Configuration → Server Groups screen. Please see the snapshot below for more details. E.g. if ServerSO1 belong to the site</ne></pre>								
		Note: NE na and going to Please see the which is bein	ame of <b>Config</b> e snaps ng reco	the site guration hot be vered t	e can be to $\mathbf{n} \rightarrow \mathbf{Ser}$ con $\rightarrow \mathbf{Ser}$ clow for r then siteI	found o <b>ver G</b> i nore de d will b	out by log roups sc tails. E.g be SO_H	gging int reen. g. if Serv PC03.	o the Activ rerSO1 belo	ve NOAMP GU
		Note: NE na and going to Please see the which is bein Main Menu: Config	ame of Config e snaps ng reco guration -	the site guration hot be vered t > Server	e can be to $\mathbf{on} \rightarrow \mathbf{Ser}$ clow for r then siteI <b>Groups</b>	found o tver Gr nore de d will b	out by log roups sc atails. E.g be SO_H	gging int reen. g. if Serv PC03.	o the Activ	ve NOAMP GU ong to the site
		Note: NE na and going to Please see th which is bein Main Menu: Confi File:	ame of Config e snaps ng reco guration -	the site guration hot be vered t > Server	e can be to $\mathbf{on} \rightarrow \mathbf{Ser}$ clow for r then siteI Groups	found o rver Gr nore de d will b	out by log roups sc atails. E.g be SO_H	gging int reen. g. if Serv PC03.	o the Activ	ve NOAMP GU ong to the site
		Note: NE na and going to Please see th which is bein Main Menu: Config File: • Serier Group	ame of Config e snaps ng reco guration -	the site guratic hot be vered t > Server	e can be to $m \rightarrow Ser$ show for rithen site! Groups Function DSR (multi- ather duster)	Found o rver Gr nore de d will b Servers SC HPCCI SO_HPCCI SO_HPCCI	sevent by log roups sc etails. E.g be SO_H	gging int reen. g. if Serv PC03.	o the Activ rerSO1 belo	ve NOAMP GU
		Note: NE na and going to Please see th which is bein Main Menu: Config File: • Serier Group MSS	ame of Config e snaps ng recor guration -	the site guration hot be vered t > Server	e can be to $on \rightarrow Ser$ clow for r then site Groups Function DSR (multi- athe dasher) DSR (multi- athe dasher) DSR (multi- athe dasher)	Servers Servers Servers Source	sener Sener	gging int reen. g. if Serv PC03. BA Role Pref	verSO1 belo verSO1 belo verSO1 belo verSO1 belo verSo1 belo verSo1 belo	ve NOAMP GU

3	Active NOAMP: Verify Replication has been	After executing above steps to inhibit replication on MP(s), no alarms on GUI would be raised informing that replication on MP is disabled.								
	Inhibited.	Verification of replication inhibition on MPs can be done by analyzing NodeInfo output. InhibitRepPlans field for all the MP servers for the selected site e.g. Site SO_HPC03 shall be set as 'A B':								
	Perform the following command:									
		Expected output:								
		nodeId	nodeName	hostName	e nodeCapability	inhibitRepPlans	siteId	excludeTables		
		A1386.099	NO1	NO1	Active		NO_HPC03			
		B1754.109	SO1	SO1	Active		SO_HPC03			
		C2254.131	MP2	MP2	Active	A B	SO_HPC03			
		C2254.233	MP1	MP1	Active	A B	SO_HPC03			
		THIS PR	ROCEDURI	E HAS B		LETED				

### Procedure 13: Inhibit A and B Level Replication on C-Level Servers

### Appendix C. Un-Inhibit A and B Level Replication on C-Level Servers

#### Procedure 14: Un-Inhibit A and B Level Replication on C-Level Servers

S T	The intent of this procedure is to Un-inhibit A and B level replication on all C Level servers of this site											
E P	Check off $()$ each s number.	eck off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step nber.										
#	<sup>#</sup> If this procedure fails, contact <b>My Oracle Support (MOS)</b> , and ask for assistance.											
1.	Active NOAMP: Login	Login to the Active NOAMP server via SSH as <i>admusr</i> user.										
2.	Active NOAMP:	Execu	te the follo	wi	ng con	nmand:						
	Un-Inhibit replication on all C level Servers	\$ fo "noo do : "noo	<pre>\$ for i in \$(iqt -p -z -h -fhostName NodeInfo where "nodeId like 'C*' and siteId='<ne name="" of="" site="" the="">'"); do iset -finhibitRepPlans='' NodeInfo where "nodeName='\$i'"; done</ne></pre>									
		Note: and go	NE name oing to <b>Co</b>	of 1fig	the site guration	e can be f on → Sei	found o r <b>ver G</b>	out by log <b>roups</b> se	gging int reen.	to the Active N	OAMP GUI	
		Please which	see the sn	aps	hot be	low for n then sitel	nore de d will l	etails. E.g	g. if Serv PC03.	verSO1 belong	to the site	
		Main Me	nu: Configurati	ion -:	> Server	Groups	a (( 111 )				6	
		Filter •								Mon Aug 25 0	2/26/27 201	
			Server Group Name	Level	Parent	Function	Servers					
			NPSC	c	909G	DSR (multi- active cluster)	NE SO_HPC03 SO_HPC03	Server Servert/P1 Servert/P2	HA Role Prof	WPs		
			NOSC		NONE	OSR (adveistando pair)	NO_HPC03 NO_HPC03	Server ServerN01 ServerN02	HA Role Pref	VIPs 10,240 10,166 10,240,10,166		
			905G	B	NOSC	DSR (adveistand) pai()	NE SOUTIONS SO HPOD	Server ServerS01 ServerS02	HA Role Pref	WPs 10.240 10,186 10.240 10,186		

Procedure 14: Un-Inhibit A and B Level Replication on C-Level Servers

3.	Active NOAMP: Verify Replication has been Inhibited.	After executing above steps to un-inhibit replication on MP(s), no alarms on GUI would be raised informing that replication on MP is disabled. Verification of replication un-inhibition on MPs can be done by analyzing NodeInfo output. InhibitRepPlans field for all the MP servers for the selected site e.g. Site SO_HPC03 shall be set as 'A B': Perform the following command: \$ sudo iqt NodeInfo						
		nodeId	nodeName	hostName	nodeCapability	inhibitRepPlans	siteId excludeTables	
		A1386.099	NO1	NO	Active		NO_HPC03	
		B1754.109	SO1	SO1	Active		SO_HPC03	
		C2254.131	MP2	MP2	Active		SO_HPC03	
Ì		C2254.233	MP1	MP1	Active		SO_HPC03	
		THIS F	ROCED	URE H	AS BEEN	COMPLET	TED	

Oracle Communications User Data Repository Cloud Disaster Recovery Guide

## Appendix D. My Oracle Support (MOS)

MOS (<u>https://support.oracle.com</u>) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at **1-800-223-1711** (toll-free in the US), or call the Oracle Support hotline for your local country from the list at <u>http://www.oracle.com/us/support/contact/index.html</u>. When calling, make the selections in the sequence shown below on the Support telephone menu:

Select 2 for New Service Request

Select **3** for Hardware, Networking and Solaris Operating System Support

Select one of the following options:

- For Technical issues such as creating a new Service Request (SR), Select 1
- For Non-technical issues such as registration or assistance with MOS, Select 2

You will be connected to a live agent who can assist you with MOS registration and opening a support ticket.

MOS is available 24 hours a day, 7 days a week, 365 days a year.

## Appendix E. Locate Product Documentation on the Oracle Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center (OHC) site, <u>http://docs.oracle.com</u>. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at <u>http://www.adobe.com</u>.

- 1. Access the Oracle Help Center site at <u>http://docs.oracle.com</u>
- 2. Click Industries.
- 3. Under the Oracle Communications subheading, click the **Oracle Communications documentation** link. The Communications Documentation page appears. Most products covered by these documentation sets will appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."
- Click on your Product and then the Release Number.
   A list of the entire documentation set for the selected product and release appears.
- 5. To download a file to your location, right-click the **PDF** link, select **Save target as** (or similar command based on your browser), and save to a local folder.