Errors made during these procedures may critically impact Subscriber Provisioning! These procedures should only be executed by highly skilled personnel who are very familiar with DSR / SDS Administration and Maintenance.

It is also recommended that My Oracle Support (MOS) be notified in advance of executing these procedures on a Production network. Refer to APPENDIX A: Accessing My Oracle Support (MOS), for more information on contacting MOS.

Always download the latest version of this document from the Diameter Signaling Router Documentation online repository before executing.
Oracle® Communications DSR / SDS 8.2 NOAM Failover User's Guide

Copyright © 2018, Oracle and/or its affiliates. All rights reserved.

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

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

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

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

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

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

**CAUTION:** Before performing a Failover on any system, please access My Oracle Support (MOS) and review any Technical Service Bulletins (TSBs) that may relate to this procedure.

My Oracle Support (MOS) 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.

Refer to **APPENDIX A: Accessing My Oracle Support (MOS)**, for more information on contacting Oracle Customer Service.
TABLE OF CONTENTS

1.0 OVERVIEW OF FAILOVER PROCEDURES ................................................................. 4
   1.1 Introduction ........................................................................................................... 4
   1.2 References ......................................................................................................... 4
   1.3 Acronyms ............................................................................................................ 4
   1.4 Required Materials ............................................................................................ 4
   1.5 How to use this Document .................................................................................. 5
2.0 DSR / SDS NOAM FAILOVER PROCESS FLOW CHART: .............................................. 5
3.0 LIST OF PROCEDURES ............................................................................................ 7
4.0 PRE-FAILOVER PROCEDURES .................................................................................. 8
   4.1 Exporting Alarms ................................................................................................. 8
   4.2 Disable Global Provisioning / PDB Relay Verification ........................................ 13
   4.3 Database Backup ............................................................................................... 17
5.0 FAILOVER PROCEDURES ......................................................................................... 22
   5.1 Demoting the Active NOAM from Primary to Secondary .................................... 22
   5.2 Promoting the DR NOAM from Secondary to Primary ....................................... 28
   5.2.1 Promoting the DR NOAM from Secondary to Primary (Graceful) .................. 28
   5.2.2 Promoting the DR NOAM from Secondary to Primary (Outage) .................... 34
   5.3 Enable Global Provisioning ............................................................................... 40
6.0 VERIFYING ALARM STATUS (AFTER FAILOVER) .................................................. 43
7.0 BACKOUT PROCEDURES ....................................................................................... 46

APPENDIX A: ACCESSING MY ORACLE SUPPORT (MOS) ................................................ 47

List of Figures

Figure 1: DSR / SDS NOAM Failover Process Chart ....................................................... 6

List of Procedures

Procedure 1: Export Alarms at the Active NOAM [Site_1] .............................................. 8
Procedure 2: Disable Global Provisioning / PDB Relay Verification [Site_1] ................. 13
Procedure 3: Database Backup [Site_1] ........................................................................ 17
Procedure 4: Demoting the Active NOAM from Primary to Secondary [Site_1] .......... 22
Procedure 5: Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2] ............................................................................................................................... 28
Procedure 6: Promoting the DR NOAM from Secondary to Primary (Outage) [Site_2] ........................................................... 34
Procedure 7: Enable Global Provisioning [Site_2] ....................................................... 40
Procedure 8: Verify Alarm Status (system wide) at the Active Primary NOAM ......... 43
Procedure 9: Reversing Primary/Secondary NOAM Failover (Backout) ....................... 46

READ SECTION 2.0 BEFORE ATTEMPTING ANY PROCEDURES IN THIS DOCUMENT!
1.0  Overview of Failover Procedures

1.1  Introduction
Although each Product maintains individual Disaster Recovery Procedures, the steps required to manually transfer functionality between a Primary and a Secondary NOAM NE is currently common to all Oracle COMCOL based products matching a 3-tier topology with an installed DR NOAM. Therefore, the intent of this document is to function as a single reference supporting both the DSR and SDS.

Currently, the DSR and SDS Disaster Recovery procedures assume that the Primary NOAM is network isolated as a perquisite to Failover. It is important to note here that the reason for network isolation is not relevant to these procedures (i.e. the loss of the NOAM NE’s default router, a site power outage or the site being underwater due to flooding all look the same to the rest of the topology).

It should also be noted that this document goes a step further than just addressing Disaster Recovery procedures in that it also offers the methodology required to perform a “graceful” Failover where the Primary NOAM is not network isolated and no outage scenario exist.

1.2  References
[1] 3-Tier NOAM Failover, MO008266

1.3  Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLI</td>
<td>Command Line Interface</td>
</tr>
<tr>
<td>DR</td>
<td>Disaster Recovery</td>
</tr>
<tr>
<td>DSR</td>
<td>Diameter Signaling Router</td>
</tr>
<tr>
<td>GUI</td>
<td>Graphical User Interface</td>
</tr>
<tr>
<td>NE</td>
<td>Network Element</td>
</tr>
<tr>
<td>NOAM (or NOAMP)</td>
<td>Network Operations, Administration, Maintenance and Provisioning</td>
</tr>
<tr>
<td>SDS</td>
<td>Subscriber Database Server</td>
</tr>
<tr>
<td>VIP</td>
<td>Virtual IP</td>
</tr>
<tr>
<td>XMI</td>
<td>eXternal Management Interface</td>
</tr>
</tbody>
</table>

1.4  Required Materials
No physical materials are required for this procedure. However, the user must have access to an “Administrator” level account in the NOAM GUI and “root” access to both the Primary and Disaster Recovery servers CLI.
### 1.5 How to use this Document

When executing this document, there are a few points which help to ensure that the user understands the author’s intent. These points are as follows:

1. Before beginning a procedure, completely read the instructional text (it will appear immediately after the Section heading for each procedure) and all associated procedural WARNINGS or NOTES.

2. Before execution of a STEP within a procedure, completely read the left and right columns including any STEP specific WARNINGS or NOTES.

If a procedural STEP fails to execute successfully, **STOP** and **My Oracle Support (MOS)** for assistance before attempting to continue. Refer to **APPENDIX A: Accessing My Oracle Support (MOS)**, for more information on contacting Oracle Customer Service.

---

READ SECTION 2.0 BEFORE ATTEMPTING ANY PROCEDURES IN THIS DOCUMENT!

---

### 2.0 DSR / SDS NOAM Failover Process Flow Chart:

This document supports NOAM Failover for DSR/SDS 8.2 releases only (i.e. COMCOL 7.4)!

The flowchart on the following page (**Figure 1**) is intended to act as the core Procedure for DSR / SDS NOAM Failover.

- Executing to the flowchart, the user should execute all Procedures in this document as subroutines in a program (i.e. *always returning to the flowchart after executing a called out procedure*).

- After completing a “called out” Procedure, never continue on to the next Procedure unless directed to do so based on the logic trail followed from the flowchart in “**Figure 1**”.

- The user should understand that any NOAM NE may function as the “Primary” or the “Secondary” (**Disaster Recovery mode**). Do not confuse site names or designations with the actual functional state of the NOAM NE. Just because “DRNO” may be part of a NOAM server’s hostname does not mean that that server is currently running in Disaster Recovery mode (i.e. Secondary).

- Before starting this procedure, it is strongly suggested that the user print out **Figure 1** and write in the Primary (Site_1) and Disaster Recovery (Site_2) site names in the space provided (see detailed description in **Figure 1 Legend**).
**NOAM Failover Process Flowchart**

*Figure 1.*

<table>
<thead>
<tr>
<th>Site</th>
<th>Role</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site_1</td>
<td>Primary_NOAM</td>
<td>Site designated as the Primary NOAM NE at the start of Failover (i.e., running in &quot;Primary&quot; mode).</td>
</tr>
<tr>
<td>Site_2</td>
<td>DR_NOAM</td>
<td>Site designated as the Disaster Recovery (DR) NOAM NE at the start of Failover (i.e., running in &quot;Secondary&quot; mode).</td>
</tr>
</tbody>
</table>

Site_1 = Primary_NOAM = ________________ (Site Name)  
Site_2 = DR_NOAM = ________________ (Site Name)  

Figure 1: DSR / SDS NOAM Failover Process Chart
## 3.0 List of Procedures

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Title</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure 1</td>
<td>Export Alarms at the Active NOAM [Site_1]</td>
<td>8</td>
</tr>
<tr>
<td>Procedure 2</td>
<td>Disable Global Provisioning / PDB Relay Verification [Site_1]</td>
<td>13</td>
</tr>
<tr>
<td>Procedure 3</td>
<td>Database Backup [Site_1]</td>
<td>17</td>
</tr>
<tr>
<td>Procedure 4</td>
<td>Demoting the Active NOAM from Primary to Secondary [Site_1]</td>
<td>22</td>
</tr>
<tr>
<td>Procedure 5</td>
<td>Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2]</td>
<td>28</td>
</tr>
<tr>
<td>Procedure 6</td>
<td>Promoting the DR NOAM from Secondary to Primary (Outage) [Site_2]</td>
<td>34</td>
</tr>
<tr>
<td>Procedure 7</td>
<td>Enable Global Provisioning [Site_2]</td>
<td>34</td>
</tr>
<tr>
<td>Procedure 8</td>
<td>Verify Alarm Status (system wide) at the Active Primary NOAM</td>
<td>40</td>
</tr>
<tr>
<td>Procedure 9</td>
<td>Reversing Primary/Secondary NOAM Failover (Backout)</td>
<td>43</td>
</tr>
</tbody>
</table>
4.0 Pre-Failover Procedures

4.1 Exporting Alarms

Procedure 1: Export Alarms at the Active NOAM [Site_1]

1. **Primary NOAM VIP:**
   1) Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.
   2) If a Certificate Error is received, click on the link which states…
   "Continue to this website (not recommended)."

2. **Primary NOAM VIP:**
The user should be presented the login screen shown on the right.
Login to the GUI using a User account with Administrator privileges.
Procedure 1: Export Alarms at the Active NOAM [Site_1]

3. Primary NOAM VIP:
   The user should be presented the Product Main Menu as shown on the right.
   Verify that the message shown across the bottom of the panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&P”.

4. Primary NOAM VIP:
   Select…
   Main Menu → Alarm & Events → View Active
   …as shown on the right.

5. Primary NOAM VIP:
   Select the “Export” dialogue button from the bottom left corner of the screen.
Procedure 1: Export Alarms at the Active NOAM [Site_1]

6. Primary NOAM VIP:
   Click the “Ok” button at the bottom of the screen.

7. Primary NOAM VIP:
   The name of the exported Alarms CSV file will appear in the banner under the “Tasks” heading at the top of the right panel.

   NOTE: Depending on the product version, the user may have to click on the “Tasks” heading in the banner in order to see the output dialogue box.
### Procedure 1: Export Alarms at the Active NOAM  [Site_1]

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 8.   | **Primary NOAM VIP:** Record the filename of Alarms CSV file generated in the space provided to the right.  

**Example:** `Alarms_<yyyyymmdd>-<hhmmss>-<TimeZone>_<Task_ID>.csv.gz`  

---

**NOTE:** Depending on the product version, the file suffix may vary (e.g. csv, csv.gz, etc.). |

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td><strong>Primary NOAM VIP:</strong> Select the “Report” dialogue button from the bottom left corner of the screen.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 10.  | **Primary NOAM VIP:**  

1) An “Alarms & Events” Report will be generated in the right panel displaying all Active alarms.  

2) Select the “Save” dialogue button from the bottom/middle of the right panel.  

---

**Example:**

```
TIMESTAMP: 2017-03-09 13:19:48.094 UTC  
NETWORK_ELEMENT: NO_RLGHNC  
SERVER: rlghnc-sds-no-b  
SEQ_NUM: 5409  
EVENT_NUMBER: 52800  
SEVERITY: MINOR  
PRODUCT: TPO  
PROCESS: cmplatalarm  
TYPE: PLAT  
INSTANCE: hrFSMountPoint=/var/hrStorage/sensor/dcr  
NAME: Server Disk Space Shortage Warning  
DESCR: Server Disk Space Shortage Warning  
ERR_INFO:  
   GN_WARNING/VPN Platform detected an error condition [  
   E Additional details captured in /var/TKL8/log/syschk  
   E [7798:cmplatalarm.cmx:1200]`
```
Procedure 1: Export Alarms at the Active NOAM  [Site_1]

11. **Primary NOAM VIP:**
   Depending on the web browser, a “Save” file confirmation pop-up box may appear on the screen at this time (some examples are shown to the right).
   
   If so, select and click the “Save / Save File” dialogue button on the pop-up confirmation box.

12. **Primary NOAM VIP:**
   Select a directory on the local disk drive to store the Active “Alarms & Events” Report file and click the “Save” dialogue button.

---

This Procedure has been completed. Return to Figure 1.
### 4.2 Disable Global Provisioning / PDB Relay Verification

#### Procedure 2: Disable Global Provisioning / PDB Relay Verification [Site_1]

<table>
<thead>
<tr>
<th>STEP</th>
<th>Description</th>
</tr>
</thead>
</table>
| **1.** | **Primary NOAM VIP:**<br>1) Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.<br>2) If a Certificate Error is received, click on the link which states…<br>"Continue to this website (not recommended)."
| **2.** | **Primary NOAM VIP:**<br>The user should be presented the login screen shown on the right.<br>Login to the GUI using a User account with Administrator privileges. |
### Procedure 2: Disable Global Provisioning / PDB Relay Verification

#### Primary NOAM VIP:

1. The user should be presented the Product Main Menu as shown on the right.

   Verify that the message shown across the bottom of the panel indicates that the browser is using the "VIP" to connect to the "ACTIVE NETWORK OAM&P".

2. **Main Menu**
   - **Select...**
   - **Main Menu** ➔ **Status & Manage** ➔ **Database**
   ...as shown on the right.

3. **Primary NOAM VIP:**
   - **Select the “Disable Provisioning” dialogue button located at the bottom of the right panel.**
   - **Click “OK” on the pop-up confirmation dialogue box.**

4. **Primary NOAM VIP:**
   - **Select...**
   - **Main Menu** ➔ **Status & Manage** ➔ **Database**
   ...as shown on the right.
**Procedure 2: Disable Global Provisioning / PDB Relay Verification [Site_1]**

6. **Primary NOAM VIP:**
   - A Warning banner message should appear indicating that “Global Provisioning has been manually disabled”.
   - **NOTE:** Event(s) 10008 will appear at this time and can be safely ignored.

7. **SDS Systems Only (Steps 7 - 14):**
   - **Primary NOAM VIP:**
     1) Access the command prompt (CLI).
     2) Log into the server as the “admusr” user.
   - **NOTE:** The password will not appear on the screen as the characters are typed.

8. **Primary NOAM VIP:**
   - Output similar to that shown on the right will appear as the server returns to a command prompt.
   - ***TRUNCATED OUTPUT***
     - RUNID=00
     - VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds
     - PRODPATH=/opt/comcol/prod
     - [admusr@rlghnc-sds-NO-b ~]$ host

9. **Primary NOAM VIP:**
   - Confirm that you are connected to the **Primary Active** NOAM Server which will indicated by an entry showing “VIP Active”.
   - [admusr@rlghnc-sds-NO-b ~]$ host

10. **Primary NOAM VIP:**
    - **Verify the value for pdbRelayEnabled.**
    - [admusr@rlghnc-sds-NO-b ~]$ iqt -zhp -fvalue ProvOptions where "var='pdbRelayEnabled'"

- **FOR DSR SYSTEMS, THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS.**
- **FOR SDS SYSTEMS ONLY, CONTINUE WITH STEP 7 OF THIS PROCEDURE.**

- **IF THE VALUE = FALSE, THEN THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS.**
- **IF THE VALUE = TRUE, CONTINUE WITH STEP 11 OF THIS PROCEDURE.**
Procedure 2: Disable Global Provisioning / PDB Relay Verification  | [Site_1]

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Command</th>
<th>Timestamp</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>Primary NOAM VIP: Retrieve the pdbRelay timestamp.</td>
<td>[admusr@rlghnc-sds-NO-b ~]$ iqt -zhp -fvalue ProvOptions where &quot;var='pdbRelayMsgLogTimeStamp'&quot;</td>
<td>1524776142883</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Primary NOAM VIP: Record the value for the pdbRelay timestamp retrieved in the previous step.</td>
<td>pdbRelayMsgLogTimeStamp:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Primary NOAM VIP: Retrieve the pdbRelay timestamp again.</td>
<td>[admusr@rlghnc-sds-NO-b ~]$ iqt -zhp -fvalue ProvOptions where &quot;var='pdbRelayMsgLogTimeStamp'&quot;</td>
<td>1524776142883</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Primary NOAM VIP: Record the value for the pdbRelay timestamp retrieved in the previous step.</td>
<td>pdbRelayMsgLogTimeStamp:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- WAIT 30 SECONDS BEFORE EXECUTING THE NEXT STEP.

- VERIFY THAT THE TIMESTAMPS RECORDED IN STEPS 12 AND 14 OF THIS PROCEDURE ARE AN EXACT MATCH.
- IF THE VALUES DO NOT MATCH, REPEAT STEPS 11 THRU 14.
- DO NOT RETURN TO FIGURE 1 UNTIL TWO MATCHING TIMESTAMPS ARE RECORDED.

This Procedure has been completed. Return to Figure 1.
## 4.3 Database Backup

### Procedure 3: Database Backup [Site_1]

<table>
<thead>
<tr>
<th>STEP #</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1. | **Primary NOAM VIP:**
| | 1) Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.
| | 2) If a Certificate Error is received, click on the link which states…
| | “Continue to this website (not recommended).” |
| 2. | **Primary NOAM VIP:**
| | The user should be presented the login screen shown on the right.
| | Login to the GUI using a User account with Administrator privileges. |
### Procedure 3: Database Backup

#### [Site_1]

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td><strong>Primary NOAM VIP:</strong>&lt;br&gt;The user should be presented the Product Main Menu as shown on the right.&lt;br&gt;Verify that the message shown across the bottom of the panel indicates that the browser is using the “VIP” to connect to the Active NOAM server (hostname) on the “ACTIVE NETWORK OAM&amp;P” NE.</td>
</tr>
<tr>
<td>4.</td>
<td><strong>Primary NOAM VIP:</strong>&lt;br&gt;Select…&lt;br&gt;<strong>Main Menu</strong>&lt;br&gt;→ <strong>Status &amp; Manage</strong>&lt;br&gt;→ <strong>Database</strong>&lt;br&gt;…as shown on the right.</td>
</tr>
</tbody>
</table>
Procedure 3: Database Backup  [Site_1]

5. **Primary NOAM VIP:**
   1) Using the cursor, select the row containing the **hostname** of the **Active NOAM server** (previously identified in **Step 3** of this procedure).
   2) Then click the **“Backup…”** dialogue button in the bottom of the right panel.

6. **Primary NOAM VIP:**
   The user will be presented with the **Database [Backup]** screen.
Procedure 3: Database Backup  [Site_1]

7. **EXECUTE THIS STEP FOR SDS SYSTEMS ONLY!!**

   Primary NOAM VIP:
   1) Uncheck the **Configuration** checkbox so that only the **Provisioning** checkbox is selected.
   2) Enter a comment to reflect the reason for the manual backup in the comment field.
   3) Click “Ok” dialogue button.

8. **EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!!**

   Primary NOAM VIP:
   1) The **Provisioning** checkbox cannot be selected on DSR. Verify that the **Configuration** checkbox is selected.
   2) Enter a comment to reflect the reason for the manual backup in the comment field.
   3) Click “Ok” dialogue button.
Procedure 3: Database Backup  [Site_1]

9. **Primary NOAM VIP:**
   Click on the *Tasks* tab to verify that a new "Database backup from GUI" task has been created.

10. **Primary NOAM VIP:**
    Use the *Tasks* tab to monitor the status in the "Progress" column until it shows "100%".

   **NOTE:** Depending on the release version, the User may have to periodically click the [Status & Manage → Database] menu option in order for the information on the *Tasks* tab to refresh and show real-time status.

This Procedure has been completed. Return to Figure 1.
5.0 Failover Procedures

5.1 Demoting the Active NOAM from Primary to Secondary

Procedure 4: Demoting the Active NOAM from Primary to Secondary  [Site_1]

<table>
<thead>
<tr>
<th>STEP #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>This procedure provides instructions on Stopping the Application Software on the Primary and DR NOAM. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. IF ANY STEP IN THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.</td>
</tr>
</tbody>
</table>
|        | Primary NOAM VIP:  
| 1)     | Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.  
| 2)     | If a Certificate Error is received, click on the link which states… "Continue to this website (not recommended)." |
| 2.     | Primary NOAM VIP:  
|        | The user should be presented the login screen shown on the right.  
|        | Login to the GUI using a User account with Administrator privileges. |
Procedure 4: Demoting the Active NOAM from Primary to Secondary  [Site_1]

3. **Primary NOAM VIP:**
The user should be presented the Product Main Menu as shown on the right.

Verify that the message shown across the bottom of the panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&P”.

4. **Primary NOAM VIP:**
Select…

- **Main Menu**
  - Status & Manage
  - HA

…as shown on the right.
Procedure 4: Demoting the Active NOAM from Primary to Secondary

5. Primary NOAM VIP:
   Using the information shown in the browser window…

1) Use the Server hostname shown in the bottom banner for the “ACTIVE NETWORK OAM&P” to identify the current “Primary” NOAM site.

   Now that we know which NOAM site is Primary…

2) Identify the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers.

   NOTE: The server hostname of the “ACTIVE NETWORK OAM&P” identifies the current “Primary” NOAM site (e.g. rlghnc).

   !!! WARNING !!! DO NOT SKIP THE FOLLOWING STEP!

   “Active/Standby” states for each NOAM server must be recorded as it is Critical that the SW on each server be stopped in the exact order specified in Steps 8 - 12 of this procedure.

   Record the hostnames of the Active / Standby NOAM servers at the “Primary” and “Secondary” (DR) NOAM sites in the space provided.

   Site_1 = Primary_NOAM (Active) = _______________________

   Site_1 = Primary_NOAM (Standby) = _______________________

   Site_2 = DR_NOAM (Active) = _______________________

   Site_2 = DR_NOAM (Standby) = _______________________

6. Primary NOAM VIP:
   Record the hostnames of the Active / Standby NOAM servers at the “Primary” and “Secondary” (DR) NOAM sites in the space provided.

   Select…

   Main Menu  Status & Manage  Server

   …as shown on the right.
Procedure 4: Demoting the Active NOAM from Primary to Secondary  [Site_1]

8. Primary NOAM VIP:
Based on the information recorded in Step 6 of this procedure...

Perform the below sub-steps on the Primary NOAM “Standby” Server.

1) Select the server in the right panel (highlight will occur).

2) Click the “Stop” dialogue button in the bottom of the right panel.

3) Click “OK” in the pop-up confirmation dialogue box.

NOTE: Alarms will begin to generate at this time including but not limited to Event ID(s): 10008, 10075 & 31201.

9. Primary NOAM VIP:
After the screen refreshes, verify that the server now shows an Appl State value of “Disabled” and a Proc value of “Man”.

NOTE: Although the screen will automatically refresh after several seconds, the user may refresh it immediately if desired by reselecting the left menu option for the [Main Menu: Status & Manage  Server].

10. Primary NOAM VIP:
“Stop” the SW on the Primary NOAM “Active” Server.

Repeat Steps 8 - 9 of this Procedure for the Primary NOAM “Active” Server.
### Procedure 4: Demoting the Active NOAM from Primary to Secondary  
**[Site_1]**

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td><strong>Primary NOAM VIP:</strong> “Stop” the SW on the DR NOAM “Standby” Server. Repeat <strong>Steps 8 - 9</strong> of this Procedure for the DR NOAM “Standby” Server.</td>
</tr>
<tr>
<td>12.</td>
<td><strong>Primary NOAM VIP:</strong> “Stop” the SW on the DR NOAM “Active” Server. Repeat <strong>Steps 8 - 9</strong> of this Procedure for the DR NOAM “Active” Server.</td>
</tr>
</tbody>
</table>
| 13.  | **Primary NOAM VIP:**  
1) Access the command prompt (CLI).  
2) Log into the server as the “admusr” user.  
   **NOTE:** The password will not appear on the screen as the characters are typed.  
Oracle Linux Server release 6.8
Kernel 2.6.32-642.13.1.el6prere17.4.0.0.0_88.36.0.x86_64 on an x86_64
rlghnc-sds-NO-b login: admusr
Password: `<admusr_password>` |
| 14.  | **Primary NOAM VIP:** Output similar to that shown on the right will appear as the server returns to a command prompt.  
   *** TRUNCATED OUTPUT ***  
   PRODPATH=/opt/comcol/prod
   [admusr@rlghnc-sds-NO-b ~]$ |
| 15.  | **Primary NOAM VIP:** Confirm that you are connected to the Primary Active NOAM Server by verifying that the server hostname matches the entry showing “VIP Act/Act”.  
   [admusr@rlghnc-sds-NO-b ~]$ hostname
   rlghnc-sds-NO-b
   [admusr@rlghnc-sds-NO-b ~]$ ha.mystate -i |grep VIP
   VIP   Act/Act  rlghnc-sds-NO-b                  0
   0302:235736.946
   [admusr@rlghnc-sds-NO-b ~]$ |
| 16.  | **Primary NOAM VIP:** Verify that the current value for “myClusterRole” is “Primary”.  
   [admusr@rlghnc-sds-NO-b ~]$ top.myrole
   myNodeId=A0907.121
   myParentClusters=( )
   myClusterRole=Primary
   myRecognizedPrimary=A0907
   myRecognizedSecondary=A1103
   [admusr@rlghnc-sds-NO-b ~]$ |
| 17.  | **Primary NOAM VIP:** Set the value for “myClusterRole” to “Secondary”.  
   [admusr@rlghnc-sds-NO-b ~]$ top.setSecondary  
   - Using my cluster: A0907  
   - New Secondary Timestamp: 03/03/17 00:19:07.181  
   - Updating To A0907.060: rlghnc-sds-NO-a  
   - Updating To A0907.121: rlghnc-sds-NO-b  
   - Updating To A1103.165: mrsvnc-sds-NO-b  
   - Updating To A1103.223: mrsvnc-sds-NO-a
   [admusr@rlghnc-sds-NO-b ~]$ |
### Procedure 4: Demoting the Active NOAM from Primary to Secondary

#### [Site_1]

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Command</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.</td>
<td>Primary NOAM VIP: Verify that the value for “myClusterRole” is now “Secondary”.</td>
<td><code>$top.myrole</code>&lt;br&gt;<code>myNodeid=A0907.121</code>&lt;br&gt;<code>myParentClusters=( )</code>&lt;br&gt;<code>myClusterRole=Secondary</code>&lt;br&gt;<code>myRecognizedPrimary=A0907</code>&lt;br&gt;<code>myRecognizedSecondary=Unknown</code></td>
<td><code>[admusr@rlghnc-sds-no-b ~]$ top.myrole</code>&lt;br&gt;<code>myNodeid=A0907.121</code>&lt;br&gt;<code>myParentClusters=( )</code>&lt;br&gt;<code>myClusterRole=Secondary</code>&lt;br&gt;<code>myRecognizedPrimary=A0907</code>&lt;br&gt;<code>myRecognizedSecondary=Unknown</code></td>
</tr>
<tr>
<td>19.</td>
<td>Primary NOAM VIP: Verify the current PID for the “apwSoapServer” process.</td>
<td>`$pl</td>
<td>grep Server<code>&lt;br&gt;</code>946215 apwSoapServer<code>&lt;br&gt;</code>Up 03/02 23:52:31 3 !CMNOSIGCHK=1<code>&lt;br&gt;</code>apwSoapServer`</td>
</tr>
<tr>
<td>20.</td>
<td>Primary NOAM VIP: Restart the “apwSoapServer” process.</td>
<td><code>$sudo pm.kill apwSoapServer</code></td>
<td><code>[admusr@rlghnc-sds-no-b ~]$ sudo pm.kill apwSoapServer</code></td>
</tr>
<tr>
<td>21.</td>
<td>Primary NOAM VIP: Verify that the PID for the “apwSoapServer” process has changed from the previous value shown in Step 19 of this procedure.</td>
<td>`$pl</td>
<td>grep Server<code>&lt;br&gt;</code>951908 apwSoapServer<code>&lt;br&gt;</code>Up 03/02 23:52:31 3 !CMNOSIGCHK=1<code>&lt;br&gt;</code>apwSoapServer`</td>
</tr>
</tbody>
</table>

This Procedure has been completed. Return to Figure 1.
## 5.2 Promoting the DR NOAM from Secondary to Primary

### 5.2.1 Promoting the DR NOAM from Secondary to Primary (Graceful)

Procedure 5: Promoting the DR NOAM from Secondary to Primary (Graceful)  
[Site_2]

| STEP # | DR NOAM VIP: | Oracle Linux Server release 6.8  
Kernel 2.6.32-642.13.1.el6prere17.4.0.0.0_88.36.0.x86_64 on an x86_64  
msvnc-sds-NO-b login: admusr  
Password: <admusr_password> |
|--------|--------------|------------------------------------------------------------------|
| 1.     | 1) Access the command prompt (CLI).  
2) Log into the server as the "admusr" user.  
NOTE: The password will not appear on the screen as the characters are typed.  
Oracle Linux Server release 6.8  
Kernel 2.6.32-642.13.1.el6prere17.4.0.0.0_88.36.0.x86_64 on an x86_64  
msvnc-sds-NO-b login: admusr  
Password: <admusr_password> |
| 2.     | Output similar to that shown on the right will appear as the server returns to a command prompt.  
*** TRUNCATED OUTPUT ***  
PRODPATH=  
RELEASE=7.3.0  
RUNID=00  
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds  
PRODPATH=/opt/comcol/prod  
[admusr@msvnc-sds-NO-b ~]$ |
| 3.     | Verify that the current value for "myClusterRole" is "Secondary".  
[admusr@msvnc-sds-NO-b ~]$ top.myrole  
myNodeId=All103.165  
myParentClusters=(  )  
myRecognizedPrimary=1103  
myRecognizedSecondary=Unknown  
[admusr@msvnc-sds-NO-b ~]$ |
| 4.     | Set the value for "myClusterRole" to "Primary".  
[admusr@msvnc-sds-NO-b ~]$ top.setPrimary  
- Using my cluster: All103  
- New Primary Timestamp: 03/03/17 00:50:40.986  
- Updating To A0907.060: rlghnc-sds-NO-a  
- Updating To A0907.113: rlghnc-sds-QS  
- Updating To A0907.121: rlghnc-sds-NO-b  
- Updating To All103.165: msvnc-sds-NO-b  
- Updating To All103.223: msvnc-sds-NO-a  
[admusr@msvnc-sds-NO-b ~]$ |
| 5.     | Verify that the value for "myClusterRole" is now "Primary".  
[admusr@msvnc-sds-NO-b ~]$ top.myrole  
myNodeId=All103.165  
myParentClusters=(  )  
myClusterRole=Primary  
myRecognizedPrimary=1103  
myRecognizedSecondary=A0907  
[admusr@msvnc-sds-NO-b ~]$ |
Procedure 5: Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2]

6. New Primary NOAM VIP (former DR):
   1) Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.
   
   2) If a Certificate Error is received, click on the link which states...

   “Continue to this website (not recommended).”

7. New Primary NOAM VIP (former DR):
   The user should be presented the login screen shown on the right.

   Login to the GUI using a User account with Administrator privileges.
Procedure 5: Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2]

8. New Primary NOAM VIP (former DR):
   Select…
   **Main Menu**
   → Status & Manage
   → HA
   …as shown on the right.

9. New Primary NOAM VIP (former DR):
   Using the information shown in the browser window…
   1) Use the Server hostname shown in the bottom banner for the “ACTIVE NETWORK OAM&P” to identify the current “Primary” NOAM site.
   Now that we know which NOAM site is Primary…
   2) Identify the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers.

   **NOTE:** The server hostname of the “ACTIVE NETWORK OAM&P” identifies the current “Primary” NOAM site (e.g. mrsvnc).

   **!!! WARNING!!! DO NOT SKIP THE FOLLOWING STEP!!!**
   “Active/Standby” states for each NOAM server must be recorded as it is Critical that the SW on each server be restarted in the exact order specified in Steps 12 - 16 of this procedure.

10. New Primary NOAM VIP (former DR):
    Based on the information identified in the previous step, record the hostnames of the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers.

    Site_1 = Primary_NOAM (Active) = __________________________
    Site_1 = Primary_NOAM (Standby) = __________________________
    Site_2 = DR_NOAM (Active) = __________________________
    Site_2 = DR_NOAM (Standby) = __________________________
Procedure 5: Promoting the DR NOAM from Secondary to Primary *(Graceful)*  

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 11.  | New Primary NOAM VIP (former DR):  
Select…  
Main Menu → Status & Manage → Server  
...as shown on the right. |
| 12.  | New Primary NOAM VIP (former DR):  
Based on the information recorded in Step 10 of this procedure…  
Perform the below sub-steps on the newly promoted Primary NOAM “Active” Server *(Site_2).*  
1) Select the Server in the right panel *(highlight will occur).*  
2) Click the “Restart” dialogue button in the bottom of the right panel.  
3) Click “OK” in the pop-up confirmation dialogue box. |
| 13.  | New Primary NOAM VIP (former DR):  
After the screen refresh, verify that the server now shows an Appl State value of “Enabled” and a Proc value of “Norm.” |
**Procedure 5: Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2]**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td>New Primary NOAM VIP (former DR): <strong>“Restart”</strong> the SW on the Primary NOAM “Standby” Server. Repeat <strong>Steps 12 - 13</strong> of this Procedure for the Primary NOAM “Standby” Server.</td>
</tr>
<tr>
<td>15.</td>
<td>New Primary NOAM VIP (former DR): <strong>“Restart”</strong> the SW on the DR NOAM “Standby” Server. Repeat <strong>Steps 12 - 13</strong> of this Procedure for the DR NOAM “Standby” Server.</td>
</tr>
<tr>
<td>16.</td>
<td>New Primary NOAM VIP (former DR): <strong>“Restart”</strong> the SW on the DR NOAM “Active” Server. Repeat <strong>Steps 12 - 13</strong> of this Procedure for the DR NOAM “Active” Server.</td>
</tr>
</tbody>
</table>

- **FOR SDS SYSTEMS, THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS.**
- **FOR DSR SYSTEMS ONLY, CONTINUE WITH **STEP 17** OF THIS PROCEDURE.**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 17. | **DSR Systems Only (Steps 17 - 22):** New Primary NOAM VIP (former DR): Identify the clusterId values for the myRecognizedPrimary and the myRecognizedSecondary (e.g. Axxxx).  

```
[admusr@dominica-dr-noam-b ~]$ top.myrole
myNodeId=A0568.058
myParentClusters=( )
myClusterRole=Primary
myRecognizedPrimary=A0568
myRecognizedSecondary=A1667
[admusr@dominica-dr-noam-b ~]$
```

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 18. | New Primary NOAM VIP (former DR): Record the clusterId values for the myRecognizedPrimary and the myRecognizedSecondary in the space provided.  

```
myRecognizedPrimary (clusterId) = _____________________________
myRecognizedSecondary (clusterId) = _____________________________
```

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 19. | New Primary NOAM VIP (former DR): Identify which A-Level **clusterId** (e.g. Axxxx) is located in the “HaClusterResourceCfg” table.  

```
[admusr@dominica-dr-noam-b ~]$ iqt -p HaClusterResourceCfg
cluster resource optional
A0568 DSROAM_Proc Yes
C0804 DSROAM_Proc Yes
C1223 DSROAM_Proc Yes
C2346 DSROAM_Proc Yes
C3147 DSROAM_Proc Yes
C3316 DSROAM_Proc Yes
[admusr@dominica-dr-noam-b ~]$
```
**Procedure 5: Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2]**

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Syntax Example</th>
<th>Additional Notes</th>
</tr>
</thead>
</table>
| 20. | New Primary NOAM VIP (former DR): | $ irem HaClusterResourceCfg where "cluster='<myRecognizedPrimary_clusterId>'" | Delete the entry if the A-Level clusterId located in the “HaClusterResourceCfg” table is the myRecognizedPrimary value recorded in Step 18 of this procedure.
|      |        | [admusr@dominica-dr-noam-b ~]$ $ irem HaClusterResourceCfg where "cluster='A0568'" | *** deleted 1 records ***
|      |        | [admusr@dominica-dr-noam-b ~]$ | otherwise, continue to the next step.
|      |        | | $ iload -ha -xun -fcluster -fresource -foptional HaClusterResourceCfg
|      |        | [admusr@dominica-dr-noam-b ~]$ $ echo "A1667|DSROAM_Proc|Yes" | $ iload -ha -xun -fcluster -fresource -foptional HaClusterResourceCfg
|      |        | [admusr@dominica-dr-noam-b ~]$ | $ iqt -p HaClusterResourceCfg
|      |        | A1667 DSROAM_Proc Yes | C0804 DSROAM_Proc Yes
|      |        | C1223 DSROAM_Proc Yes | C2346 DSROAM_Proc Yes
|      |        | C3147 DSROAM_Proc Yes | C3316 DSROAM_Proc Yes
|      |        | [admusr@dominica-dr-noam-b ~]$ | This Procedure has been completed. Return to Figure 1.
### 5.2.2 Promoting the DR NOAM from Secondary to Primary (Outage)

#### Procedure 6: Promoting the DR NOAM from Secondary to Primary (Outage) [Site_2]

<table>
<thead>
<tr>
<th>Step #</th>
<th>Action</th>
</tr>
</thead>
</table>
| 1. | **DR NOAM VIP:**
| | 1) Access the command prompt (CLI).
| | 2) Log into the server as the "admusr" user.
| | **NOTE:** The password will not appear on the screen as the characters are typed.
| | **Oracle Linux Server release 6.8**
| | **Kernel 2.6.32-642.13.1.el6prere17.4.0.0.0_88.36.0.x86_64 on an x86_64**
| | msvnc-sds-NO-b login: admusr
| | Password: `<admusr_password>` |
| 2. | **DR NOAM VIP:**
| | Output similar to that shown on the right will appear as the server returns to a command prompt.
| | **PRODPATH=**
| | **RELEASE=7.3.0**
| | **RUNID=00**
| | **VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds**
| | **PRODPATH=/opt/comcol/prod**
| | [admusr@mrsvnc-sds-NO-b ~]$ |
| 3. | **DR NOAM VIP:**
| | Verify that the current value for "myClusterRole" is "Secondary".
| | [admusr@mrsvnc-sds-NO-b ~]$ **top.myrole**
| | myNodeId=A1103.165
| | myParentClusters=( A0907 )
| | myClusterRole=Secondary
| | myRecognizedPrimary=A0907
| | myRecognizedSecondary=A1103
| | [admusr@mrsvnc-sds-NO-b ~]$ |
| 4. | **DR NOAM VIP:**
| | Using the **clusterId** of the myRecognizedPrimary from the previous step, set the **clusterId** to Secondary.
| | **NOTE:** The connection timeouts to the Primary NOAM NE (shown in the output to the right) are expected when that NE is network isolated.
| | Under these circumstances, the user should allow several minutes (= 7) for this command to complete.
## Procedure 6: Promoting the DR NOAM from Secondary to Primary *(Outage)*  

### 5. DR NOAM VIP:

Set the value for "myClusterRole" to "Primary".

**NOTE:** The connection timeouts to the Primary NOAM NE (shown in the output to the right) are expected when that NE is network isolated. Under these circumstances, the user should allow several minutes (≈ 7) for this command to complete.

```bash
[admusr@mrsrvnc-stds-NO-b ~]$ top.setPrimary
- Using my cluster: A1103
- New Primary Timestamp: 03/03/17 18:35:26.279
- Updating To A0907.060: rlghnc-stds-NO-a
  setPrimaryTo(A1103) returned proxy error=28
  SOAP 1.2 fault SOAP-ENV:Receiver [no subcode]
  "Connection timed out"
  Detail: connect failed in tcp_connect()
- Updating To A0907.113: rlghnc-stds-QS
  setPrimaryTo(A1103) returned proxy error=28
  SOAP 1.2 fault SOAP-ENV:Receiver [no subcode]
  "Connection timed out"
  Detail: connect failed in tcp_connect()
- Updating To A0907.121: rlghnc-stds-NO-b
  setPrimaryTo(A1103) returned proxy error=28
  SOAP 1.2 fault SOAP-ENV:Receiver [no subcode]
  "Connection timed out"
  Detail: connect failed in tcp_connect()
- Updating To A1103.165: mrsrvnc-stds-NO-b
- Updating To A1103.223: mrsrvnc-stds-NO-a
[admusr@mrsrvnc-stds-NO-b ~]$ top.setPrimary
```

### 6. DR NOAM VIP:

Verify that the value for "myClusterRole" is now set to "Primary".

```bash
[admusr@mrsrvnc-stds-NO-b ~]$ top.myrole
myNodeId=A1103.165
myParentClusters=(  )
myClusterRole=Primary
myRecognizedPrimary=A1103
myRecognizedSecondary=A0907
[admusr@mrsrvnc-stds-NO-b ~]$ top.myrole
```

### 7. New Primary NOAM VIP (former DR):

1) Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.

2) If a Certificate Error is received, click on the link which states…

   “Continue to this website (not recommended).”

---

**There is a problem with this website's security certificate.**

The security certificate presented by this website was issued for a different website’s address. The security certificate presented by this website was not issued by a trusted certificate authority.

Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.

We recommend that you close this webpage and do not continue to this website.

- Click here to close this webpage.
- Continue to this website (not recommended)
- More information
Procedure 6: Promoting the DR NOAM from Secondary to Primary *(Outage)*  [Site_2]

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>New Primary NOAM VIP (former DR): The user should be presented the login screen shown on the right.…”Login to the GUI using a User account with Administrator privileges.”</td>
</tr>
<tr>
<td>9.</td>
<td>New Primary NOAM VIP (former DR): The user should be presented the Product Main Menu as shown on the right.…”Verify that the message shown across the bottom of the panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&amp;P”.”</td>
</tr>
<tr>
<td>10.</td>
<td>New Primary NOAM VIP (former DR): Select…Main Menu → Administration → General Options…”as shown on the right.”</td>
</tr>
</tbody>
</table>
Procedure 6: Promoting the DR NOAM from Secondary to Primary *(Outage)*  [Site_2]

11. New Primary NOAM VIP (former DR):
   1) Verify the value for “Durability Administrative State”.
   2) If executing this procedure in response to a network isolated Primary NOAM *(outage)*, modify the “Durability Administrative State” value to 1 *(if necessary)* and click the “OK” dialogue button.

12. New Primary NOAM VIP (former DR):
   1) Select…
   2) Main Menu → Status & Manage → Server
      …as shown on the right.
   2) Identify the hostname of the Primary Active NOAM server from the banner message across the bottom of the browser window.
Procedure 6: Promoting the DR NOAM from Secondary to Primary (Outage)  

13. New Primary NOAM VIP (former DR):

Based on the information recorded in Step 12 of this procedure...

Perform the below sub-steps on the newly promoted Primary NOAM “Active” Server (Site_2).

1) Select the Server in the right panel (highlight will occur).

2) Click the “Restart” dialogue button in the bottom of the right panel.

3) Click “OK” in the pop-up confirmation dialogue box.

New capture for top graphic.

- FOR SDS SYSTEMS, THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS.
- FOR DSR SYSTEMS ONLY, CONTINUE WITH STEP 14 OF THIS PROCEDURE.

14. **DSR Systems Only (Steps 14 - 19):**

New Primary NOAM VIP (former DR):

Identify the clusterId values for the myRecognizedPrimary and the myRecognizedSecondary (e.g. Axxxx).

```
[admusr@dominica-dr-noam-b ~]$ top.myrole
myNodeId=A0568.058
myParentClusters=( )
myClusterRole=Primary
myRecognizedPrimary=A0568
myRecognizedSecondary=A1667
[admusr@dominica-dr-noam-b ~]$
```

15. New Primary NOAM VIP (former DR):

Record the clusterId values for the myRecognizedPrimary and the myRecognizedSecondary in the space provided.

myRecognizedPrimary (clusterId) = _________________________

myRecognizedSecondary (clusterId) = _________________________
### Procedure 6: Promoting the DR NOAM from Secondary to Primary *(Outage)*  
*[Site_2]*

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Command Line Example</th>
</tr>
</thead>
</table>
| 16.  | New Primary NOAM VIP (former DR): Identify which A-Level `clusterId` (e.g. Axxxx) is located in the "HaClusterResourceCfg" table. | [admusr@dominica-dr-noam-b ~]$ iqt -p HaClusterResourceCfg  
  cluster resource optional  
  A0568 DSROAM_Proc Yes  
  C0804 DSROAM_Proc Yes  
  C1223 DSROAM_Proc Yes  
  C2346 DSROAM_Proc Yes  
  C3147 DSROAM_Proc Yes  
  C3316 DSROAM_Proc Yes  
  [admusr@dominica-dr-noam-b ~]$ |
| 17.  | New Primary NOAM VIP (former DR): If the A-Level `clusterId` located in the "HaClusterResourceCfg" table is the `myRecognizedPrimary` value recorded in Step 18 of this procedure, delete the entry as shown to the right. | **Syntax Example:**  
  $ irem HaClusterResourceCfg where "cluster='A0568'"  
  === deleted 1 records ===  
  [admusr@dominica-dr-noam-b ~]$ |
| 18.  | New Primary NOAM VIP (former DR): Add an entry to the "HaClusterResourceCfg" table for the `myRecognizedSecondary` value recorded in Step 18 of this procedure. | **Syntax Example:**  
  $ echo "<myRecognizedSecondary_clusterId>|DSROAM_Proc|Yes" | iload -ha -xun -fcluster -fresource -foptional HaClusterResourceCfg  
  [admusr@dominica-dr-noam-b ~]$ |
| 19.  | New Primary NOAM VIP (former DR): Verify that the "HaClusterResourceCfg" table now displays an entry for the `myRecognizedSecondary` value recorded in Step 18 of this procedure. | [admusr@dominica-dr-noam-b ~]$ iqt -p HaClusterResourceCfg  
  cluster resource optional  
  A1667 DSROAM_Proc Yes  
  C0804 DSROAM_Proc Yes  
  C1223 DSROAM_Proc Yes  
  C2346 DSROAM_Proc Yes  
  C3147 DSROAM_Proc Yes  
  C3316 DSROAM_Proc Yes  
  [admusr@dominica-dr-noam-b ~]$ |

This Procedure has been completed. Return to Figure 1.
5.3 **Enable Global Provisioning**

Procedure 7: **Enable Global Provisioning**  \[Site_2\]

<table>
<thead>
<tr>
<th>Step #</th>
<th>Description</th>
</tr>
</thead>
</table>
| **1.** | **New Primary NOAM VIP (former DR):**  
1) Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.  
2) If a Certificate Error is received, click on the link which states…  
"Continue to this website (not recommended)." |
| **2.** | **New Primary NOAM VIP (former DR):**  
The user should be presented the login screen shown on the right.  
Login to the GUI using a User account with Administrator privileges. |
### Procedure 7: Enable Global Provisioning

#### 3. New Primary NOAM VIP (former DR):
- The user should be presented the Product Main Menu as shown on the right.

Verify that the message shown across the bottom of the panel indicates that the browser is using the "VIP" to connect to the "ACTIVE NETWORK OAM&P".

#### 4. Primary NOAM VIP:
- Select...

- **Main Menu**
  - Status & Manage
  - Database

...as shown on the right.

#### 5. Primary NOAM VIP:
- 1) Select the "Enable Provisioning" dialogue button located at the bottom of the right panel.
- 2) Click "OK" on the pop-up confirmation dialogue box.
Procedure 7: Enable Global Provisioning  [Site_2]

6. Primary NOAM VIP:
Verify that the dialogue button located at the bottom of the right panel changes text to "Disable Provisioning".

This Procedure has been completed. Return to Figure 1.
6.0 Verifying Alarm Status (after failover)

Procedure 8: Verify Alarm Status (system wide) at the Active Primary NOAM

<table>
<thead>
<tr>
<th>STEP #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>New Primary NOAM VIP (former DR):</td>
</tr>
<tr>
<td>1)</td>
<td>Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.</td>
</tr>
<tr>
<td>2)</td>
<td>If a Certificate Error is received, click on the link which states…</td>
</tr>
<tr>
<td></td>
<td>“Continue to this website (not recommended).”</td>
</tr>
<tr>
<td></td>
<td>The user should be presented the login screen shown on the right.</td>
</tr>
<tr>
<td></td>
<td>Login to the GUI using a User account with Administrator privileges.</td>
</tr>
</tbody>
</table>

IF ANY STEP IN THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.
Procedure 8: Verify Alarm Status (system wide) at the Active Primary NOAM

3. New Primary NOAM VIP (former DR):
   The user should be presented the Product Main Menu as shown on the right.
   Verify that the message shown across the bottom of the panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&P”.

4. Primary NOAM VIP:
   Select…
   **Main Menu**
   → **Alarm & Events**
   → **View Active**
   …as shown on the right.

5. Primary NOAM VIP:
   The User is presented with the current list of Active Alarms.

   **NOTE:** Alarms visible at this time may include but are not limited to Event ID(s): 31106, 31107, 31114, 31233 & 31283.
Procedure 8: Verify Alarm Status (system wide) at the Active Primary NOAM

6. **Primary NOAM VIP:**

Monitor the current list of “Active” alarms until all alarms associated with the Failover have cleared.

**NOTE:** The User should allow at least 15 minutes for resulting alarms to clear before attempting any troubleshooting activities.

7. **Primary NOAM VIP:**

- Contact [My Oracle Support (MOS)](https://support.oracle.com) for assistance with any reoccurring alarms or alarms which fail to clear within a 15 minute timeframe.
- Refer to [APPENDIX A: Accessing My Oracle Support (MOS)](https://support.oracle.com), for more information on contacting Oracle Customer Service.

**NOTE:** If alarms fail to clear that are related to features that use **SSH key exchange** based file transfer and the user wishes to re-enable them prior to performing a Failover back to the original Primary/Secondary states, then the feature may be reconfigured using the product feature’s initial configuration procedures.

Partial list of features that use SSH key exchange based file transfer:
- **SDS:** provimport, provexport, APDE
- **HLRR:** PDE, APDE
- **DSR:** APDE

This Procedure has been completed. Return to Figure 1.
7.0 Backout Procedures

Procedure 9: Reversing Primary/Secondary NOAM Failover (Backout)

<table>
<thead>
<tr>
<th>STEP #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>This procedure provides instructions on reversing Primary/DR NOAM Failover. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. IF ANY STEP IN THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE. Repeat Procedures in Figure 1.</td>
</tr>
</tbody>
</table>

This Procedure has been completed.
APPENDIX A: Accessing My Oracle Support (MOS)

My Oracle Support

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. When calling, there are multiple layers of menus selections. Make the selections in the sequence shown below on the Support telephone menu:

1. For the first set of menu options, select 2, “New Service Request”. You will hear another set of menu options.
3. In the third set of options, select 2, “Non-technical issue”. Then you will be connected to a live agent who can assist you with MOS registration and provide Support Identifiers. Simply mention you are a Tekelec Customer new to MOS.

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

Emergency Response

In the event of a critical service situation, emergency response is offered by the CAS main number at 1-800-223-1711 (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system’s ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.

Locate Product Documentation on the Oracle Help Center Site

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

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.”
4. Click the Product and then the Release Number. A list of the entire documentation set for the selected product and release appears.

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.