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Oracle CGBU

Work Instruction

HLR Router 4.x NOAM Failover

E74587-02

July 2016



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 HLR Router 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.

Oracle® Communications Tekelec HLR Router 4.1, HLRR NOAM Failover Work Instruction

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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.

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**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 successfully complete the transfer of functionality between a Primary and a Secondary NOAM NE is currently common to most 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 quick reference for the HLR Router product. It should also be noted that this document goes a step further than the individual product Disaster Recovery documents 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 Required Materials

No physical materials are required for this procedure. However, the user must have access to an “Administrator” level account in the HLRR NOAM GUI and “root” account access (release 4.0) or “admusr” account access (release 4.1) to both the HLRR Primary and Disaster Recovery NOAM server CLI.

1.3 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 contact “My Oracle Support” (MOS). 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!**

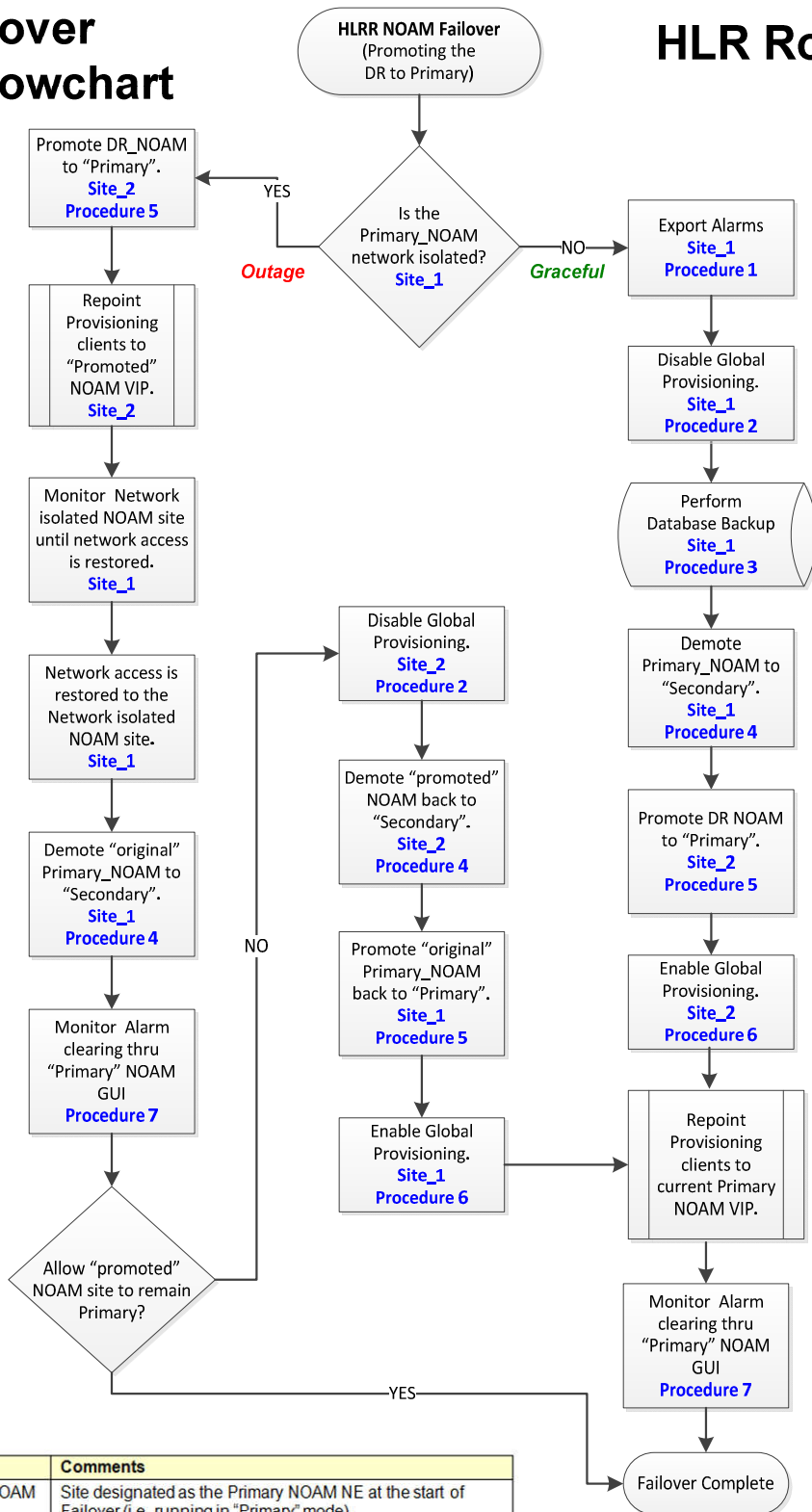
2.0 3-Tier NOAM Failover Process Flow Chart:

The flowchart on the following page (**Figure 1**) is intended to act as the core Procedure for HLRR 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 referenced procedure).
- After completing a referenced Procedure, never continue on to the next Procedure unless directed to do so based on the logic trail followed from "**Figure 1**".
- The user should understand that any NOAM NE may run as the "Primary" or the "Secondary" (*Disaster Recovery mode*). Do not confuse site names or designations with the actual real-time functional state of a NOAM NE.
- Before starting this procedure, it is strongly suggested that the user print out **Figure 1** and record the Primary NOAM (Site_1) and Disaster Recovery NOAM (Site_2) site names in the space provided (*see detailed description in Figure 1 Legend*).

NOAM Failover Process Flowchart

Figure 1.



Legend:

Site	Role	Comments
Site_1	Primary_NOAM	Site designated as the Primary NOAM NE at the start of Failover (i.e. running in "Primary" mode).
Site_2	DR_NOAM	Site designated as the Disaster Recovery (DR) NOAM NE at the start of Failover (i.e. running in "Secondary" mode).

Site_1 = Primary_NOAM = _____ (Site Name)

Site_2 = DR_NOAM = _____ (Site Name)

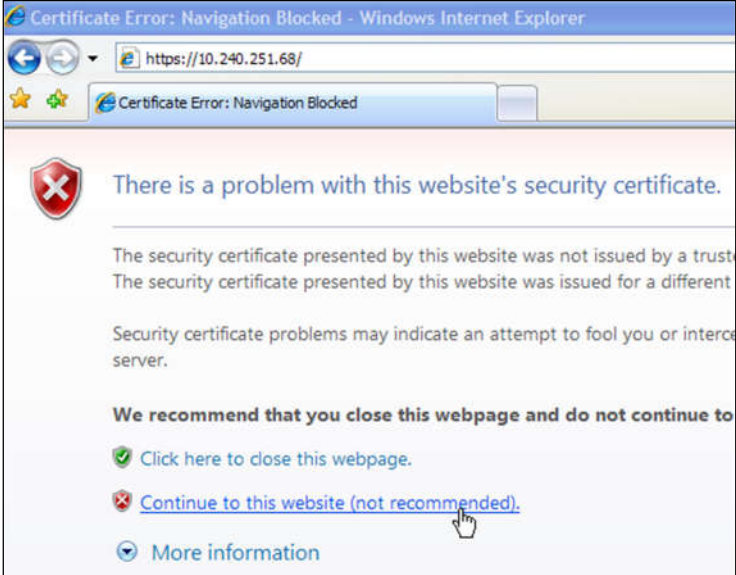

3.0 List of Procedures

Procedure	Title	Page No.
Procedure 1	<i>Export Alarms at the Active NOAM (Site_1)</i>	8
Procedure 2	<i>Disable Global Provisioning (Site_1)</i>	13
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Procedure 5	<i>Promoting the DR NOAM from Secondary to Primary (Site_2)</i>	27
Procedure 6	<i>Enable Global Provisioning (Site_2)</i>	34
Procedure 7	<i>Verify Alarm Status (system wide) at the Active Primary NOAM</i>	36
Procedure 8	<i>Reversing Primary/Secondary NOAM Failover (Backout)</i>	39

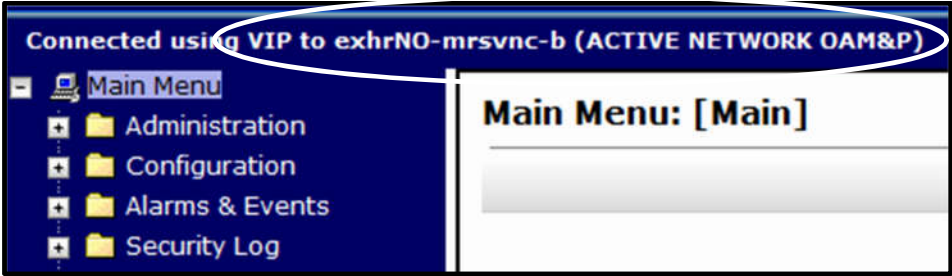
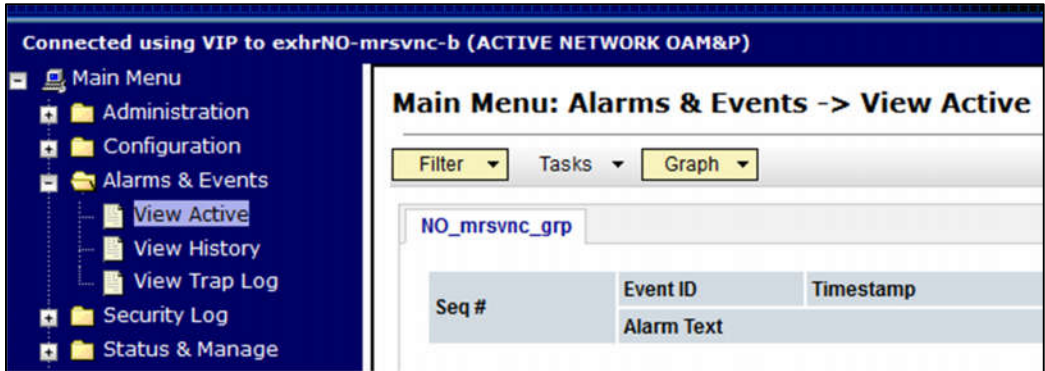
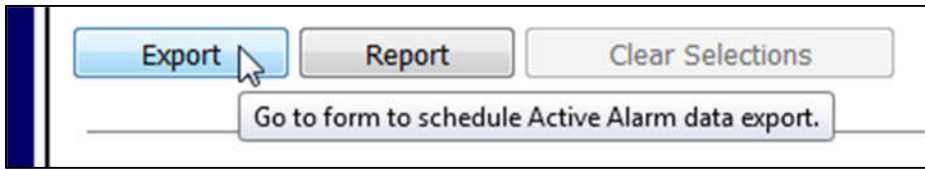
4.0 Pre-Failover Procedures

4.1 Exporting Alarms

Procedure 1: Export Alarms at the Active NOAM (Site_1).

<p>S T E P #</p>	<p>This procedure provides instructions on exporting alarms at the Primary Active NOAM.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT “MY ORACLE SUPPORT” (MOS) FOR ASSISTANCE.</p>	
<p>1.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>1) Launch Internet Explorer 8.x or higher and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.</p> <p>2) If a Certificate Error is received, click on the link which states...</p> <p>“Continue to this website (not recommended).”</p>	
<p>2.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using an “Admin” level user and password.</p>	


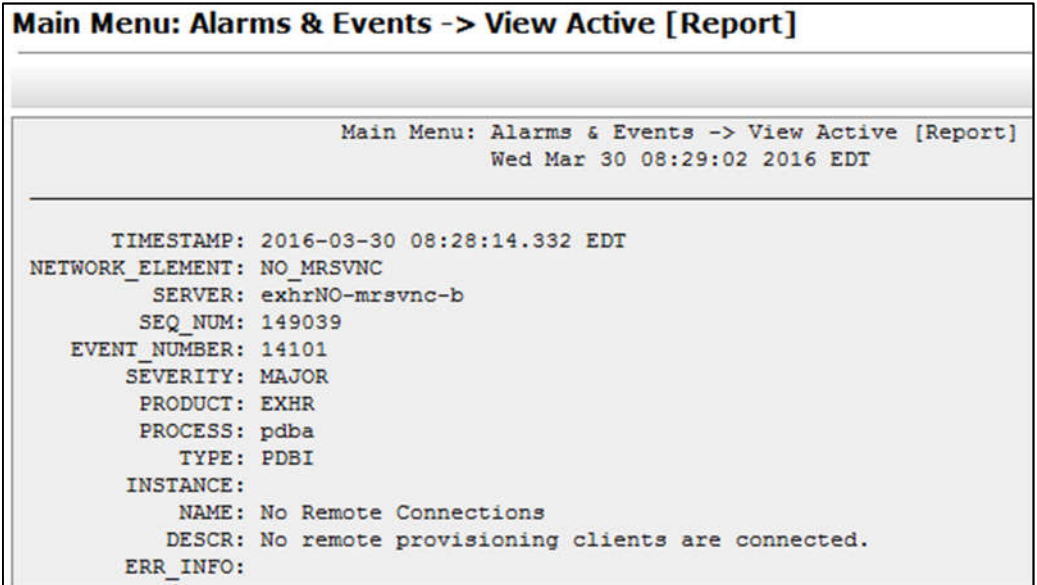
Procedure 1: Export Alarms at the Active NOAM (Site_1).

<p>3.</p> <input type="checkbox"/>	<p>Primary NOAM VIP:</p> <p>The user should be presented the Product Main Menu as shown on the right.</p> <p>Verify that the banner message shown across the top of the right panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&P”.</p>	
<p>4.</p> <input type="checkbox"/>	<p>Primary NOAM VIP:</p> <p>Select...</p> <p>Main Menu → Alarm & Events → View Active</p> <p>...as shown on the right.</p>	
<p>5.</p> <input type="checkbox"/>	<p>Active Provisioning Site VIP:</p> <p>Select the “Export” dialogue button from the bottom left corner of the screen.</p>	

Procedure 1: Export Alarms at the Active NOAM (Site_1).

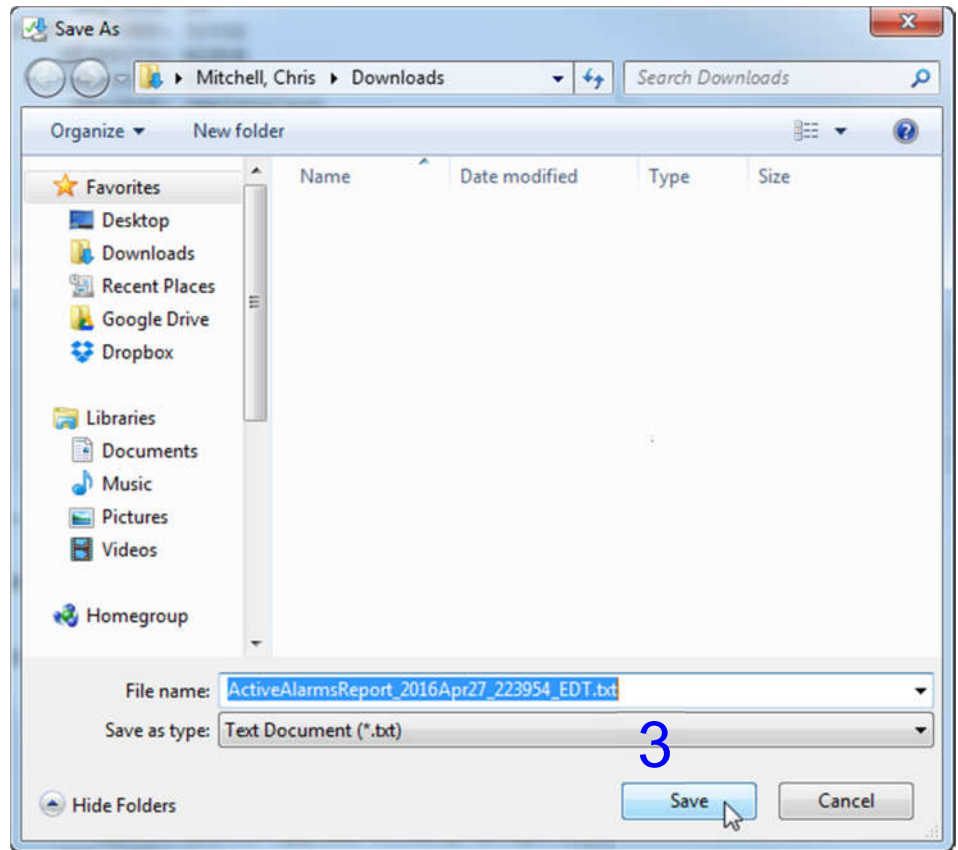
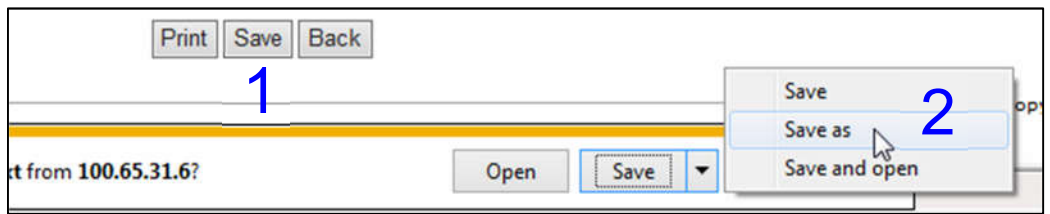
<p>6.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>Click the “Ok” button at the bottom of the screen.</p>	<h3>Schedule Active Alarm Data Export</h3> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Export Frequency</td> <td> <input checked="" type="radio"/> Once <input type="radio"/> Fifteen Minutes <input type="radio"/> Hourly <input type="radio"/> Daily <input type="radio"/> Weekly </td> <td>Select how often the data will be written to the file. Note that the Fifteen Minute, Hourly, Daily, and Weekly options are only enabled if the Daily option is enabled. [Default: Once.]</td> </tr> <tr> <td>Task Name</td> <td>APDE Alarm Export *</td> <td>Periodic export task name. [Required. The name must contain a minus sign, and spaces between words must be replaced with a minus sign.]</td> </tr> <tr> <td>Description</td> <td></td> <td>Periodic export task description. [Optional. The description must be alphanumeric, minus sign, and spaces character must not be a minus sign.]</td> </tr> <tr> <td>Minute</td> <td>0</td> <td>Select the minute of each hour when the data will be exported. [Default = 0. Range = 0 to 59.]</td> </tr> <tr> <td>Time of Day</td> <td>12:00 AM</td> <td>Select the time of day when the data will be exported. Select from 15-minute increments, or fill in the time manually.</td> </tr> <tr> <td>Day of Week</td> <td> <input checked="" type="radio"/> Sunday <input type="radio"/> Monday <input type="radio"/> Tuesday <input type="radio"/> Wednesday <input type="radio"/> Thursday <input type="radio"/> Friday <input type="radio"/> Saturday </td> <td>Select the day of week when the data will be exported. [Default: Sunday.]</td> </tr> </tbody> </table> <p style="text-align: right;"> <input type="button" value="Ok"/> <input type="button" value="Cancel"/> </p>	Attribute	Value	Description	Export Frequency	<input checked="" type="radio"/> Once <input type="radio"/> Fifteen Minutes <input type="radio"/> Hourly <input type="radio"/> Daily <input type="radio"/> Weekly	Select how often the data will be written to the file. Note that the Fifteen Minute, Hourly, Daily, and Weekly options are only enabled if the Daily option is enabled. [Default: Once.]	Task Name	APDE Alarm Export *	Periodic export task name. [Required. The name must contain a minus sign, and spaces between words must be replaced with a minus sign.]	Description		Periodic export task description. [Optional. The description must be alphanumeric, minus sign, and spaces character must not be a minus sign.]	Minute	0	Select the minute of each hour when the data will be exported. [Default = 0. Range = 0 to 59.]	Time of Day	12:00 AM	Select the time of day when the data will be exported. Select from 15-minute increments, or fill in the time manually.	Day of Week	<input checked="" type="radio"/> Sunday <input type="radio"/> Monday <input type="radio"/> Tuesday <input type="radio"/> Wednesday <input type="radio"/> Thursday <input type="radio"/> Friday <input type="radio"/> Saturday	Select the day of week when the data will be exported. [Default: Sunday.]
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<p>7.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The name of the exported Alarms CSV file will appear in the banner under the “Tasks” heading at the top of the right panel.</p> <p>NOTE: Depending on the product version, the user may have to left click on the “Tasks” heading in the banner in order to see the output dialogue box.</p>	<h3>Main Menu: Alarms & Events -> View Active</h3> <p>Filter Tasks Graph</p> <table border="1"> <thead> <tr> <th>ID</th> <th>Hostname</th> <th>Name</th> <th>Task State</th> <th>Details</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>30</td> <td>exhrNO-mrsvnc-b</td> <td>APDE Alarm Export</td> <td>completed</td> <td>Alarms_20160427-221633-EDT_30.csv.gz</td> <td>100%</td> </tr> </tbody> </table>	ID	Hostname	Name	Task State	Details	Progress	30	exhrNO-mrsvnc-b	APDE Alarm Export	completed	Alarms_20160427-221633-EDT_30.csv.gz	100%									
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30	exhrNO-mrsvnc-b	APDE Alarm Export	completed	Alarms_20160427-221633-EDT_30.csv.gz	100%																		

Procedure 1: Export Alarms at the Active NOAM (Site_1).

<p>8.</p> <input type="checkbox"/>	<p>Primary NOAM VIP:</p> <p>Record the filename of Alarms CSV file generated in the space provided to the right.</p> <p>NOTE: Depending on the product version, the file suffix may vary (e.g. csv, csv.gz, etc.).</p>	<p>Example: <code>Alarms_<yyyymmdd> - <hhmmss> - <TimeZone>_1.csv.gz</code></p> <p>_____ .csv.gz</p>
<p>9.</p> <input type="checkbox"/>	<p>Primary NOAM VIP:</p> <p>Select the “Report” dialogue button from the bottom left corner of the screen.</p>	
<p>10.</p> <input type="checkbox"/>	<p>Primary NOAM VIP:</p> <p>An Active “Alarms & Events” Report will be generated and displayed in the right panel.</p>	

Procedure 1: Export Alarms at the Active NOAM (Site_1).

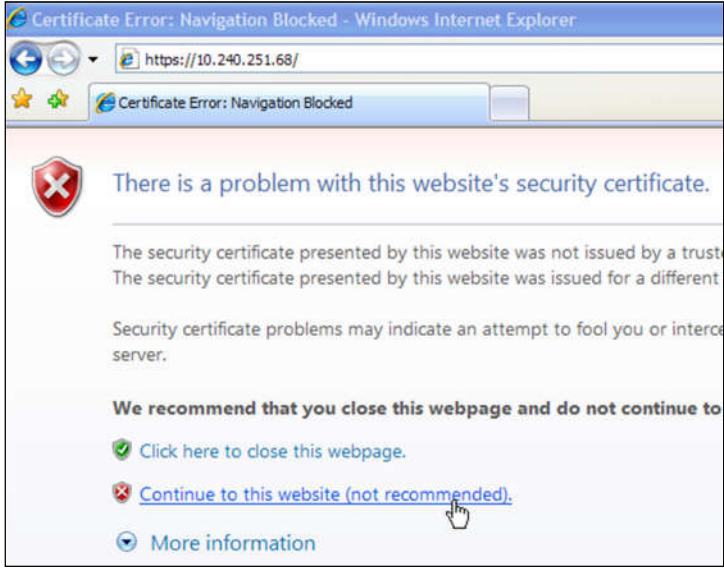

11. **Primary NOAM VIP:**
- 1) Select the “Save” dialogue button from the bottom/middle of the right panel.
 - 2) Click the “Save” dialogue button on the *File Download* pop-up box.
 - 3) Select a directory on the local disk drive to store the *Active “Alarms & Events”* Report file and click the “Save” dialogue button.



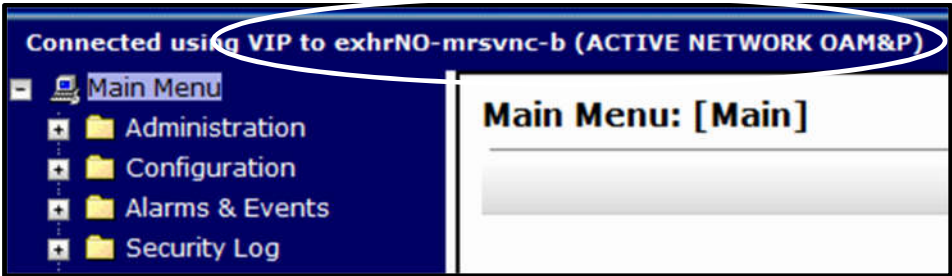
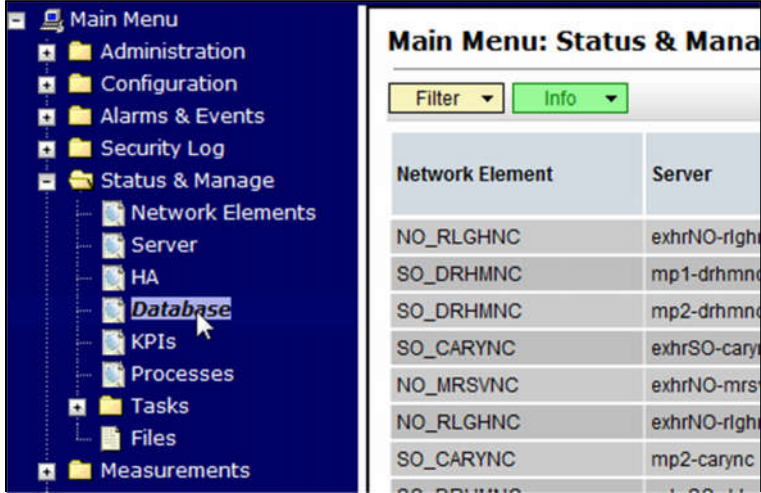
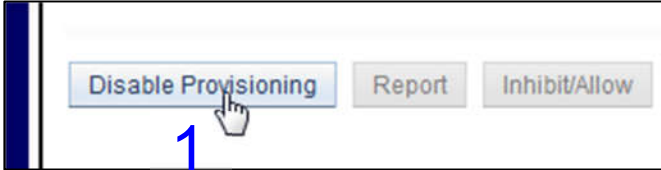

This Procedure has been completed. Return to Figure 1.

4.2 Disable Global Provisioning

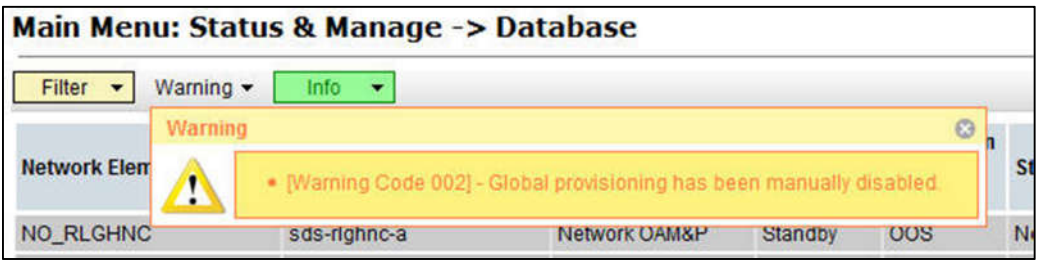
Procedure 2: Disable Global Provisioning (Site_1)

<p>S T E P #</p>	<p>This procedure provides instructions on “Disabling Global Provisioning” at the Primary NOAM GUI.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT “MY ORACLE SUPPORT” (MOS) FOR ASSISTANCE.</p>
<p>1.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>1) Launch Internet Explorer 8.x or higher and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.</p> <p>2) If a Certificate Error is received, click on the link which states...</p> <p>“Continue to this website (not recommended).”</p> 
<p>2.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using an “Admin” level user and password.</p> 

Procedure 2: Disable Global Provisioning (Site_1)

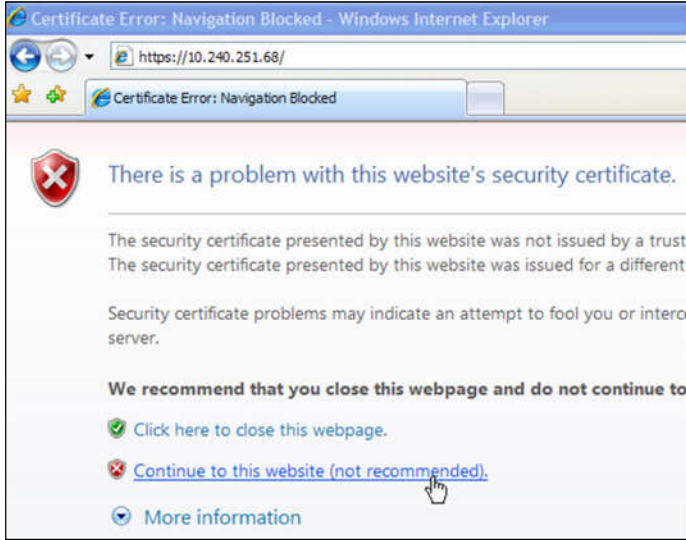

<p>3.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user should be presented the Product Main Menu as shown on the right.</p> <p>Verify that the banner message shown across the top of the right panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&P”.</p>																	
<p>4.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>Select...</p> <p>Main Menu → Status & Manage → Database</p> <p>...as shown on the right.</p>	 <table border="1" data-bbox="885 829 1261 1186"> <thead> <tr> <th>Network Element</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlgh</td> </tr> <tr> <td>SO_DRHMNC</td> <td>mp1-drhmc</td> </tr> <tr> <td>SO_DRHMNC</td> <td>mp2-drhmc</td> </tr> <tr> <td>SO_CARYNC</td> <td>exhrSO-cary</td> </tr> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrs</td> </tr> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlgh</td> </tr> <tr> <td>SO_CARYNC</td> <td>mp2-carync</td> </tr> </tbody> </table>	Network Element	Server	NO_RLGHNC	exhrNO-rlgh	SO_DRHMNC	mp1-drhmc	SO_DRHMNC	mp2-drhmc	SO_CARYNC	exhrSO-cary	NO_MRSVNC	exhrNO-mrs	NO_RLGHNC	exhrNO-rlgh	SO_CARYNC	mp2-carync
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NO_MRSVNC	exhrNO-mrs																	
NO_RLGHNC	exhrNO-rlgh																	
SO_CARYNC	mp2-carync																	
<p>5.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>1) Select the “Disable Provisioning” dialogue button located at the bottom of the right panel.</p> <p>2) Click “OK” on the pop-up confirmation dialogue box.</p>	 																

Procedure 2: Disable Global Provisioning (Site_1)

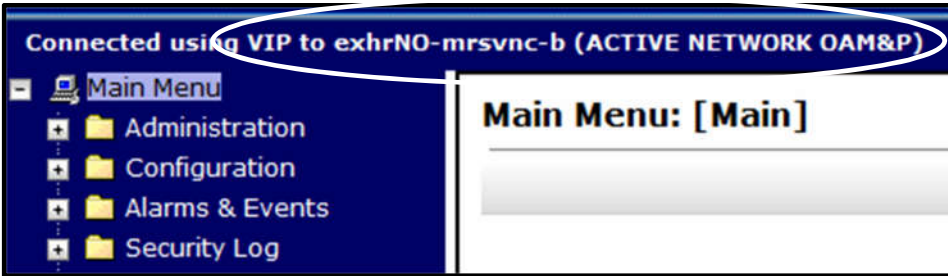
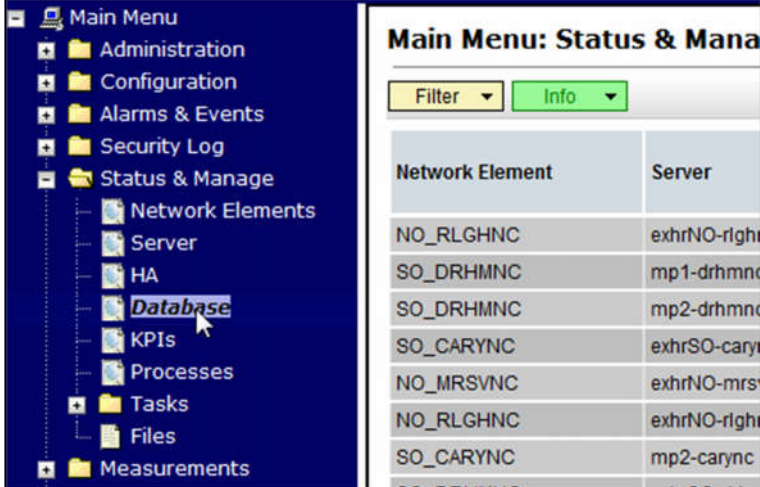
<p>6. <input type="checkbox"/></p> <p>Primary NOAM VIP:</p> <p>A Warning banner message should appear indicating that “Global Provisioning has been manually disabled”.</p> <p>NOTE: Event(s) 10008 will appear at this time and can be safely ignored.</p>	 <p>The screenshot shows a web-based interface titled "Main Menu: Status & Manage -> Database". At the top, there are dropdown menus for "Filter", "Warning", and "Info". A yellow warning banner is displayed in the center, containing a warning icon and the text: "[Warning Code 002] - Global provisioning has been manually disabled." Below the banner, a table lists network elements with columns for "Network Elem", "NO_RLGHNC", "sds-rghnc-a", "Network OAM&P", "Standby", "OOS", and "NA".</p>
<p style="text-align: center;">This Procedure has been completed.</p>	

4.3 Database Backup

Procedure 3: Database Backup (Site_1)

<p>S T E P #</p>	<p>This procedure provides instructions on performing database backup at the Primary Active NOAM.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT “MY ORACLE SUPPORT” (MOS) FOR ASSISTANCE.</p>
<p>1.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>1) Launch Internet Explorer 8.x or higher and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.</p> <p>2) If a Certificate Error is received, click on the link which states...</p> <p>“Continue to this website (not recommended).”</p> 
<p>2.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using an “Admin” level user and password.</p> 

Procedure 3: Database Backup (Site_1)

<p>3.</p> <input type="checkbox"/>	<p>Primary NOAM VIP:</p> <p>The user should be presented the Product Main Menu as shown on the right.</p> <p>1) Verify that the banner message shown across the top of the right panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&P”.</p> <p>2) Record the Hostname of the Primary Active NOAM server.</p>	 <p>Active NOAM Hostname: _____</p>																
<p>4.</p> <input type="checkbox"/>	<p>Primary NOAM VIP:</p> <p>Select...</p> <p>Main Menu → Status & Manage → Database</p> <p>...as shown on the right.</p>	 <table border="1" data-bbox="893 924 1282 1276"> <thead> <tr> <th>Network Element</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>NO_RLGHNC</td> <td>exhrNO-right</td> </tr> <tr> <td>SO_DRHMNC</td> <td>mp1-drhmc</td> </tr> <tr> <td>SO_DRHMNC</td> <td>mp2-drhmc</td> </tr> <tr> <td>SO_CARYNC</td> <td>exhrSO-cary</td> </tr> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrs</td> </tr> <tr> <td>NO_RLGHNC</td> <td>exhrNO-right</td> </tr> <tr> <td>SO_CARYNC</td> <td>mp2-carync</td> </tr> </tbody> </table>	Network Element	Server	NO_RLGHNC	exhrNO-right	SO_DRHMNC	mp1-drhmc	SO_DRHMNC	mp2-drhmc	SO_CARYNC	exhrSO-cary	NO_MRSVNC	exhrNO-mrs	NO_RLGHNC	exhrNO-right	SO_CARYNC	mp2-carync
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NO_MRSVNC	exhrNO-mrs																	
NO_RLGHNC	exhrNO-right																	
SO_CARYNC	mp2-carync																	

Procedure 3: Database Backup (Site_1)

<p>5.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>1) Select the row containing the server hostname previously identified in Step 3 of this procedure.</p> <p>2) Then click the "Backup..." button.</p>	<p>Main Menu: Status & Manage -> Database</p> <p>Filter Info</p> <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server</th> <th>Role</th> <th>OAM Max HA Role</th> </tr> </thead> <tbody> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-a</td> <td>Network OAM&P</td> <td>Standby</td> </tr> <tr style="background-color: #e0ffe0;"> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-b</td> <td>Network OAM&P</td> <td>Active</td> </tr> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlghnc-a</td> <td>Network OAM&P</td> <td>Active</td> </tr> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlghnc-b</td> <td>Network OAM&P</td> <td>Standby</td> </tr> </tbody> </table> <p>Report Inhibit Replication Backup... Compare...</p>	Network Element	Server	Role	OAM Max HA Role	NO_MRSVNC	exhrNO-mrsvnc-a	Network OAM&P	Standby	NO_MRSVNC	exhrNO-mrsvnc-b	Network OAM&P	Active	NO_RLGHNC	exhrNO-rlghnc-a	Network OAM&P	Active	NO_RLGHNC	exhrNO-rlghnc-b	Network OAM&P	Standby
Network Element	Server	Role	OAM Max HA Role																			
NO_MRSVNC	exhrNO-mrsvnc-a	Network OAM&P	Standby																			
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NO_RLGHNC	exhrNO-rlghnc-a	Network OAM&P	Active																			
NO_RLGHNC	exhrNO-rlghnc-b	Network OAM&P	Standby																			
<p>6.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user will be present with the backup form.</p>	<p>Main Menu: Status & Manage -> Database [Backup]</p> <p>Database Backup</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Server:</td> <td>sds-rlghnc-a</td> </tr> <tr> <td>Select data for backup</td> <td><input checked="" type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration</td> </tr> <tr> <td>Compression</td> <td><input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none *</td> </tr> <tr> <td>Archive Name</td> <td>Backup.sds.sds-rlghnc-a.ProvisioningAndConfiguration.NETWORK_OAMF *</td> </tr> <tr> <td>Comment</td> <td><input type="text"/></td> </tr> </tbody> </table> <p>Ok Cancel</p>	Field	Value	Server:	sds-rlghnc-a	Select data for backup	<input checked="" type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration	Compression	<input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none *	Archive Name	Backup.sds.sds-rlghnc-a.ProvisioningAndConfiguration.NETWORK_OAMF *	Comment	<input type="text"/>								
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Comment	<input type="text"/>																					

Procedure 3: Database Backup (Site_1)

<p>7.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>1) Uncheck the Configuration checkbox so only Provisioning data is backed up.</p> <p>2) Enter a comment to reflect the reason for the manual backup in the comment field.</p> <p>3) Click “Ok” button.</p>	
<p>8.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>Left-Click on the Info tab to verify that the backup shows “MAINT_IN_PROGRESS”.</p>	
<p>9.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>Left-Click on the Info tab to monitor the backup status until it shows “MAINT_CMD_SUCCESS”.</p> <p>NOTE: Provisioning Database Backup may take several minutes to complete. Depending on the release version, the user may have periodically click the [Status & Manage → Database] menu option in order for the Info tab information to be refreshed and display real-time status.</p>	

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)


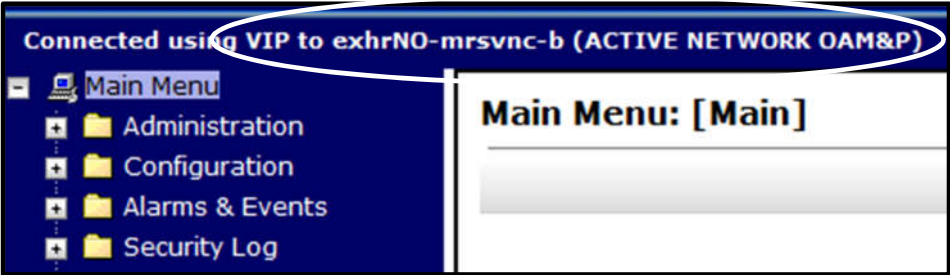
S T E P #	<p>This procedure provides instructions on Demoting the Active NOAM from Primary to DR.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT "MY ORACLE SUPPORT" (MOS) FOR ASSISTANCE.</p>
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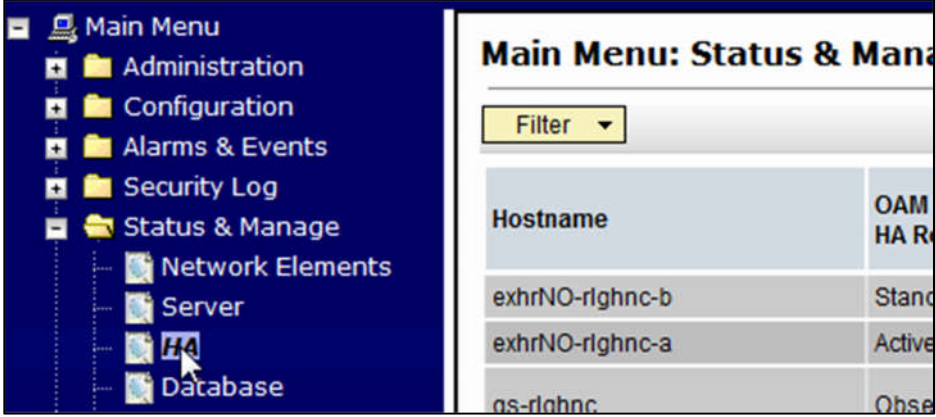
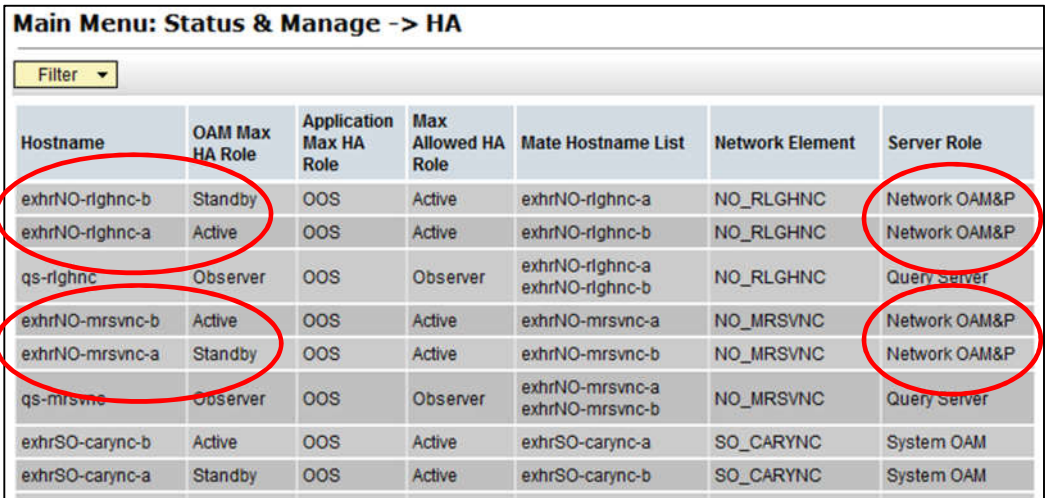
IF EXECUTING THIS PROCEDURE AFTER RECOVERY OF A NETWORK ISOLATED PRIMARY NOAM, SKIP DIRECTLY TO STEP 14.


<p>1. <input type="checkbox"/></p> <p>Original Primary NOAM VIP:</p> <p>1) Launch Internet Explorer 8.x or higher and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.</p> <p>2) If a Certificate Error is received, click on the link which states...</p> <p>"Continue to this website (not recommended)."</p>	
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Procedure 4: Demoting the Active NOAM from Primary to Secondary (Site_1)

<p>2.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	
<p>3.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user should be presented the Product Main Menu as shown on the right.</p> <p>1) Verify that the banner message shown across the top of the right panel indicates that the browser is using the "VIP" to connect to the "ACTIVE NETWORK OAM&P".</p> <p>2) Record the Hostname of the Primary Active NOAM server.</p>	 <p>Active NOAM Hostname: _____</p> <p>NOTE: The server <i>hostname</i> of the "ACTIVE NETWORK OAM&P" identifies the current "Primary" NOAM site.</p>

Procedure 4: Demoting the Active NOAM from Primary to Secondary (Site_1)

<p>4.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP:</p> <p>Select...</p> <p>Main Menu → Status & Manage → HA</p> <p>...as shown on the right.</p>	
<p>5.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP:</p> <p>1) Use the server hostname recorded in Step 3 of this procedure to identify the “Primary” NOAM site.</p> <p>2) In the right panel, identify the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers.</p>	

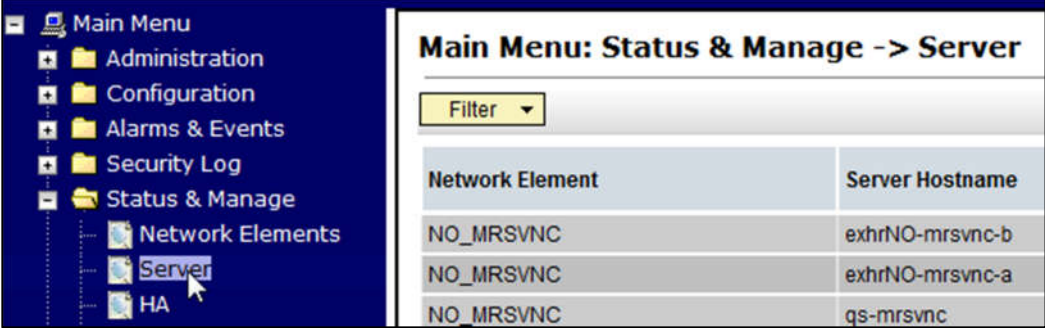
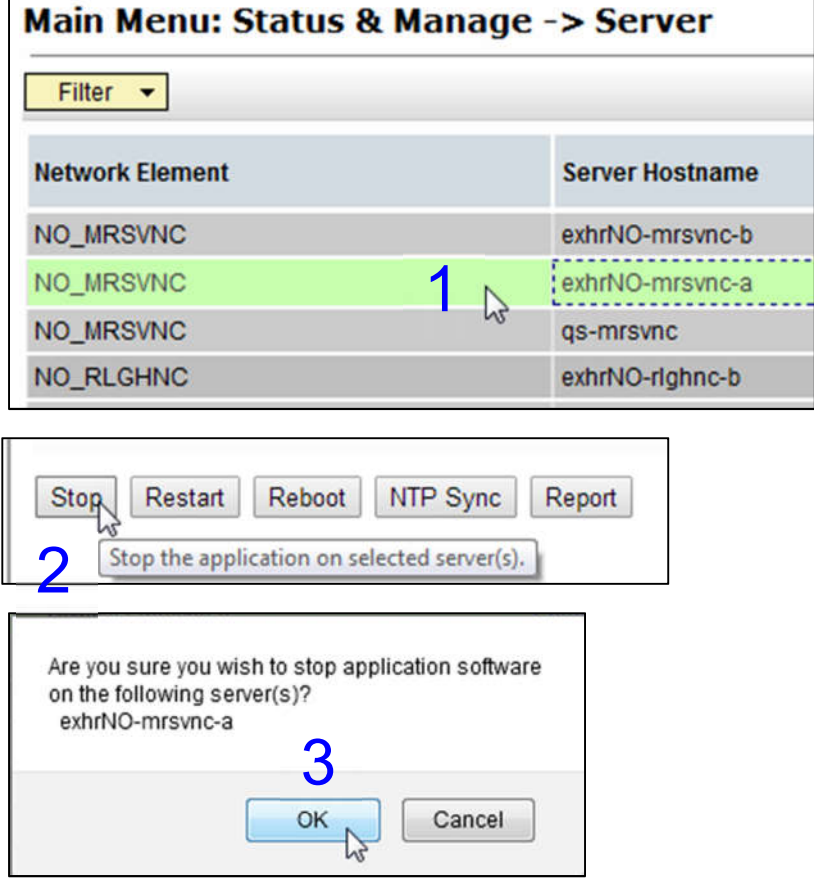
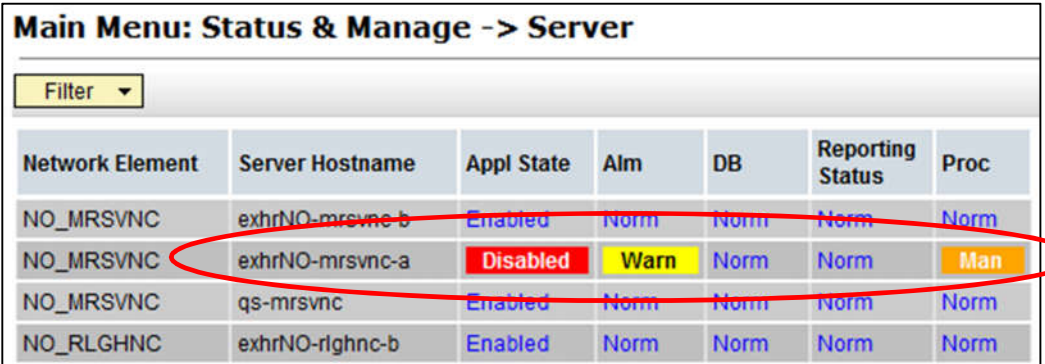


!!! WARNING !!! DO NOT SKIP THE FOLLOWING STEP!


“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.

<p>6.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP:</p> <p>Record the hostnames of the Active / Standby NOAM servers at the “Primary” and “Secondary” (DR) NOAM sites in the space provided.</p>	<p>Site_1 = Primary_NOAM (Active) = _____</p> <p>Site_1 = Primary_NOAM (Standby) = _____</p> <hr/> <p>Site_2 = DR_NOAM (Active) = _____</p> <p>Site_2 = DR_NOAM (Standby) = _____</p>
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Procedure 4: Demoting the Active NOAM from Primary to Secondary (Site_1)

<p>7.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP:</p> <p>Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	 <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> </tr> </thead> <tbody> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-b</td> </tr> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-a</td> </tr> <tr> <td>NO_MRSVNC</td> <td>qs-mrsvnc</td> </tr> </tbody> </table>	Network Element	Server Hostname	NO_MRSVNC	exhrNO-mrsvnc-b	NO_MRSVNC	exhrNO-mrsvnc-a	NO_MRSVNC	qs-mrsvnc																											
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<p>8.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP:</p> <p>Based on the information recorded in Step 6 of this procedure...</p> <p>Perform the below sub-steps on the Primary NOAM "Standby" Server.</p> <p>1) Select the Server in the right panel (GREEN highlight will occur).</p> <p>2) Click the "Stop" dialogue button in the button of the right panel.</p> <p>3) Click "OK" in the pop-up confirmation dialogue box.</p> <p>NOTE: Alarms will begin to generate at this time including but not limited to Event ID(s): 10075, 31102, 31106 & 31107.</p>	 <p>1</p> <p>2</p> <p>3</p>																																			
<p>9.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP:</p> <p>After the screen refresh, verify that the server now shows an Appl State value of "Disabled" and a Proc value of "Man".</p>	 <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-b</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-a</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>NO_MRSVNC</td> <td>qs-mrsvnc</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlghnc-b</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	NO_MRSVNC	exhrNO-mrsvnc-b	Enabled	Norm	Norm	Norm	Norm	NO_MRSVNC	exhrNO-mrsvnc-a	Disabled	Warn	Norm	Norm	Man	NO_MRSVNC	qs-mrsvnc	Enabled	Norm	Norm	Norm	Norm	NO_RLGHNC	exhrNO-rlghnc-b	Enabled	Norm	Norm	Norm	Norm
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NO_MRSVNC	qs-mrsvnc	Enabled	Norm	Norm	Norm	Norm																															
NO_RLGHNC	exhrNO-rlghnc-b	Enabled	Norm	Norm	Norm	Norm																															

Procedure 4: Demoting the Active NOAM from Primary to Secondary (Site_1)

<p>10.</p> <input type="checkbox"/>	<p>Original Primary NOAM VIP:</p> <p>“Stop” the SW on the Primary NOAM “Active” Server.</p>	<p>Repeat Steps 8- 9 of this Procedure for the Primary NOAM “Active” Server.</p>
<p>11.</p> <input type="checkbox"/>	<p>Original Primary NOAM VIP:</p> <p>“Stop” the SW on the DR NOAM “Standby” Server.</p>	<p>Repeat Steps 8- 9 of this Procedure for the DR NOAM “Standby” Server.</p>
<p>12.</p> <input type="checkbox"/>	<p>Original Primary NOAM VIP:</p> <p>“Stop” the SW on the DR NOAM “Active” Server.</p>	<p>Repeat Steps 8- 9 of this Procedure for the DR NOAM “Active” Server.</p>
<p>13.</p> <input type="checkbox"/>	<p>Original Primary NOAM VIP:</p> <p>Logout of the Primary NOAM GUI at this time.</p>	
<p>14.</p> <input type="checkbox"/>	<p>Original Primary NOAM VIP (CLI):</p> <p>1) Access the command prompt (CLI).</p> <p>2) Log into the server as the “admusr” user.</p> <p>NOTE: The password will not appear on the screen as the characters are typed.</p>	<pre>Oracle Linux Server release 6.7 Kernel 2.6.32-573.18.1.el5prere17.0.3.0.0_86.44.0 on an x86_64 exhrNO-mrsvnc-b login: admusr Password: <admusr_password></pre>
<p>15.</p> <input type="checkbox"/>	<p>Original Primary NOAM VIP (CLI):</p> <p>Output similar to that shown on the right will appear as the server returns to a command prompt.</p>	<p>*** TRUNCATED OUTPUT ***</p> <pre>RELEASE=6.4 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/a wptransportmgr:/usr/TKLC/comagent- gui:/usr/TKLC/comagent:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@exhrNO-mrsvnc-b ~]\$</pre>

Procedure 4: Demoting the Active NOAM from Primary to Secondary (Site_1)

<p>16.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP (CLI):</p> <p>Use the “sudo” command to become the “root” user.</p>	<pre>[admusr@exhrNO-mrsvnc-b ~]\$ sudo su - *** TRUNCATED OUTPUT *** RELEASE=6.4 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptransportmgr:/usr/TKLC/comagent- gui:/usr/TKLC/comagent:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [root@exhrNO-mrsvnc-b ~]#</pre>
<p>17.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP (CLI):</p> <p>1) Confirm via the command prompt that you are connected to the Primary Active NOAM server recorded in Step 3 of this procedure.</p> <p>2) Confirm that the server is still the Active NOAM server, displaying “VIP Active”, for the given command.</p>	<pre>[root@exhrNO-mrsvnc-b ~]# ha.states -i -w grep VIP VIP Obsrvr qs-mrsvnc 0 0220:180815.358 VIP Stby exhrNO-mrsvnc-a 0 0220:182018.444 VIP Active exhrNO-mrsvnc-b 0 0220:180815.306 [root@exhrNO-mrsvnc-b ~]#</pre>
<p>18.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP (CLI):</p> <p>Verify that the current value for “myClusterRole” is “Primary”.</p>	<pre>[root@exhrNO-mrsvnc-b ~]# top.myrole myNodeId=A0200.195 myMasterCapable=true myMateNodeId=A0200.212 myParentCluster=00000 myClusterRole=Primary myClusterTimestamp=01/23/14 21:42:33.235 [root@exhrNO-mrsvnc-b ~]#</pre>
<p>19.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP (CLI):</p> <p>Set the value for “myClusterRole” to “Secondary”.</p>	<pre>[root@exhrNO-mrsvnc-b ~]# top.setSecondary - Using my cluster: A0200 - New Secondary Timestamp: 03/12/14 14:47:07.497 - Updating A0200.195: exhrNO-mrsvnc-b - Updating A0200.212: exhrNO-mrsvnc-a [root@exhrNO-mrsvnc-b ~]#</pre>
<p>20.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP (CLI):</p> <p>Verify that the value for “myClusterRole” is now “Secondary”.</p>	<pre>[root@exhrNO-mrsvnc-b ~]# top.myrole myNodeId=A0200.195 myMasterCapable=true myMateNodeId=A0200.212 myParentCluster=00000 myClusterRole=Secondary myClusterTimestamp=03/12/14 14:47:07.497 [root@exhrNO-mrsvnc-b ~]#</pre>
<p>21.</p> <p><input type="checkbox"/></p>	<p>Original Primary NOAM VIP (CLI):</p> <p>Verify the current PID for the “apwSoapServer” process.</p>	<pre>[root@exhrNO-mrsvnc-b ~]# pl grep apwSoapServer A 12476 apwSoapServer Up 04/27 11:12:59 1 !CMNOSIGCHK=1 apwSoapServer [root@exhrNO-mrsvnc-b ~]#</pre>

Procedure 4: Demoting the Active NOAM from Primary to Secondary (Site_1)

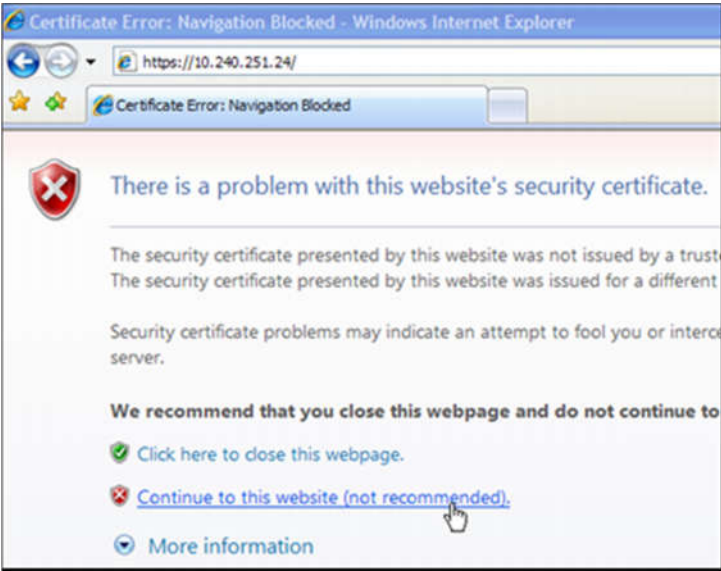
22. <input type="checkbox"/>	Original Primary NOAM VIP (CLI): Restart the “apwSoapServer” process.	<pre>[root@exhrNO-mrsvnc-b ~]# pm.kill apwSoapServer [root@exhrNO-mrsvnc-b ~]#</pre>
23. <input type="checkbox"/>	Original Primary NOAM VIP (CLI): Verify that the PID for the “apwSoapServer” process has changed from the previous value shown in Step 21 of this procedure.	<pre>[root@exhrNO-mrsvnc-b ~]# pl grep apwSoapServer A 22653 apwSoapServer Up 04/27 11:12:59 1 !CMNOSIGCHK=1 apwSoapServer [root@exhrNO-mrsvnc-b ~]#</pre>
24. <input type="checkbox"/>	Original Primary NOAM VIP (CLI): Verify the current PID for the “inetmerge” process.	<pre>[root@exhrNO-mrsvnc-b ~]# pl grep inetmerge I 31958 inetmerge Up 03/25 16:07:51 1 inetmerge [root@exhrNO-mrsvnc-b ~]#</pre>
25. <input type="checkbox"/>	Original Primary NOAM VIP (CLI): Restart the “inetmerge” process.	<pre>[root@exhrNO-mrsvnc-b ~]# pm.kill inetmerge [root@exhrNO-mrsvnc-b ~]#</pre>
26. <input type="checkbox"/>	Original Primary NOAM VIP (CLI): Verify that the PID for the “inetmerge” process has changed from the previous value shown in Step 24 of this procedure.	<pre>[root@exhrNO-mrsvnc-b ~]# pl grep inetmerge I 27175 inetmerge Up 03/25 19:06:47 2 inetmerge [root@exhrNO-mrsvnc-b ~]#</pre>
27. <input type="checkbox"/>	Original Primary NOAM VIP (CLI): Execute a manual alarm clear for Event ID 14101 .	<pre>[root@exhrNO-mrsvnc-b ~]# alarm.put -e 14101 -s 5 [root@exhrNO-mrsvnc-b ~]#</pre>
28. <input type="checkbox"/>	Original Primary NOAM VIP (CLI): 1) Logout of the “root” user shell. 2) Logout of the Primary NOAM VIP (CLI).	<pre>[root@exhrNO-mrsvnc-b ~]# exit logout [admusr@exhrNO-mrsvnc-b ~]\$ exit logout</pre>
This Procedure has been completed. Return to Figure 1.		

5.2 Promoting the DR NOAM from Secondary to Primary


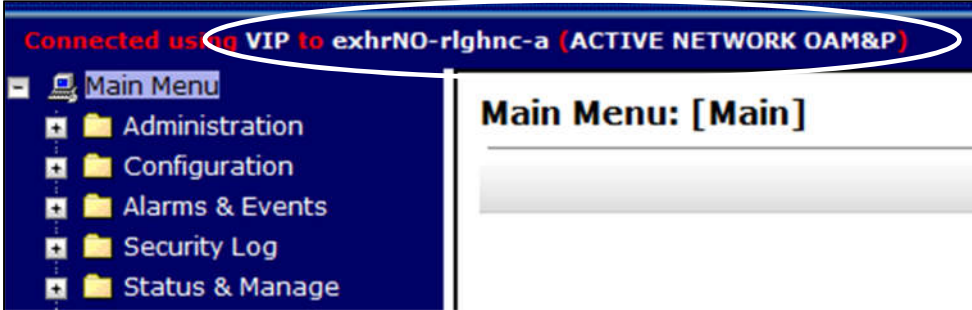

Procedure 5: Promoting the DR NOAM from Secondary to Primary (Site_2)

S T E P #	<p>This procedure provides instructions on Promoting the DR NOAM from Secondary to Primary.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT “MY ORACLE SUPPORT” (MOS) FOR ASSISTANCE.</p>	
1. <input type="checkbox"/>	<p>DR NOAM VIP (CLI):</p> <p>1) Access the command prompt (CLI).</p> <p>2) Log into the server as the “admusr” user.</p> <p>NOTE: <i>The password will not appear on the screen as the characters are typed.</i></p>	<pre>Oracle Linux Server release 6.7 Kernel 2.6.32-573.18.1.el5prere17.0.3.0.0_86.44.0 on an x86_64 exhrNO-rlghnc-a login: admusr Password: <admusr_password></pre>
2. <input type="checkbox"/>	<p>DR NOAM VIP (CLI):</p> <p>Output similar to that shown on the right will appear as the server returns to a command prompt.</p>	<pre>*** TRUNCATED OUTPUT *** RELEASE=6.4 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/a wptransportmgr:/usr/TKLC/comagent- gui:/usr/TKLC/comagent:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@exhrNO-rlghnc-a ~]\$</pre>
3. <input type="checkbox"/>	<p>DR NOAM VIP (CLI):</p> <p>Use the “sudo” command to become the “root” user.</p>	<pre>[admusr@exhrNO-rlghnc-a ~]\$ sudo su - *** TRUNCATED OUTPUT *** RELEASE=6.4 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/a wptransportmgr:/usr/TKLC/comagent- gui:/usr/TKLC/comagent:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [root@exhrNO-rlghnc-a ~]#</pre>
4. <input type="checkbox"/>	<p>DR NOAM VIP (CLI):</p> <p>Verify that the current value for “myClusterRole” is “Secondary”.</p>	<pre>[root@exhrNO-rlghnc-a ~]# top.myrole myNodeId=A2857.049 myMasterCapable=true myMateNodeId=A2857.048 myParentCluster=00000 myClusterRole=Secondary myClusterTimestamp=01/01/70 00:00:00.000 [root@exhrNO-rlghnc-a ~]#</pre>
5. <input type="checkbox"/>	<p>DR NOAM VIP (CLI):</p> <p>Set the value for “myClusterRole” to “Primary”.</p>	<pre>[root@exhrNO-rlghnc-a ~]# top.setPrimary - Using my cluster: A2857 - New Primary Timestamp: 03/12/14 18:44:03.255 - Updating A2857.048: exhrNO-rlghnc-a - Updating A2857.049: exhrNO-rlghnc-b [root@exhrNO-rlghnc-a ~]#</pre>

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

<p>6.</p> <input type="checkbox"/>	<p>Primary NOAM VIP (CLI): <i>(promoted from DR)</i></p> <p>Verify that the value for “myClusterRole” is now “Primary”.</p>	<pre>[root@exhrNO-rlghnc-a ~]# top.myrole myNodeId=A2857.049 myMasterCapable=true myMateNodeId=A2857.048 myParentCluster=00000 myClusterRole=Primary myClusterTimestamp=03/12/14 18:44:03.255 [root@exhrNO-rlghnc-a ~]#</pre>
<p>7.</p> <input type="checkbox"/>	<p>Primary NOAM VIP (CLI): <i>(promoted from DR)</i></p> <p>1) Logout of the “root” user shell.</p> <p>2) Logout of the Primary NOAM VIP (CLI).</p>	<pre>[root@exhrNO-rlghnc-a ~]# exit logout [admusr@exhrNO-rlghnc-a ~]\$ exit logout</pre>
<p>8.</p> <input type="checkbox"/>	<p>Primary NOAM VIP: <i>(promoted from DR)</i></p> <p>1) Launch Internet Explorer 8.x or higher and connect to the XMI Virtual IP address (VIP) assigned to newly promoted Primary Active NOAM site (Site_2).</p> <p>2) If a Certificate Error is received, click on the link which states... “Continue to this website (not recommended).”</p>	

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

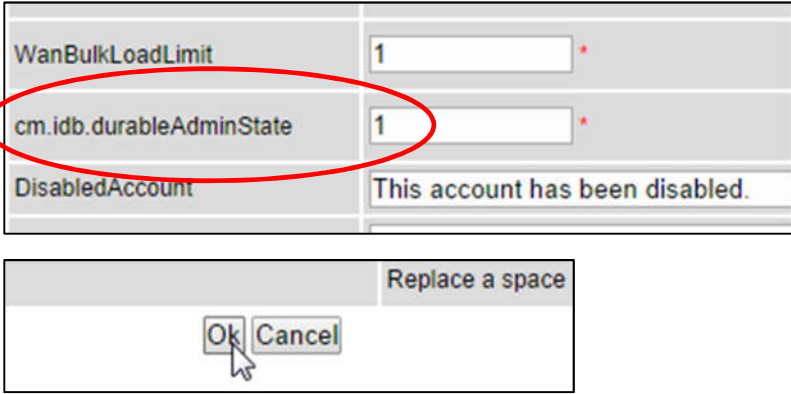
<p>9. <input type="checkbox"/></p> <p>Primary NOAM VIP: (promoted from DR)</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p> <p>NOTE: In an outage scenario (e.g. Primary NO site down or network isolated), login to the GUI of the newly promoted NO site can take a prolonged period of time. Please be patient and allow several minutes for the GUI login to complete.</p>							
<p>10. <input type="checkbox"/></p> <p>Primary NOAM VIP: (promoted from DR)</p> <p>The user should be presented the Product Main Menu as shown on the right.</p> <p>1) Verify that the banner message shown across the top of the right panel indicates that the browser is using the "VIP" to connect to the "ACTIVE NETWORK OAM&P".</p> <p>2) Record the Hostname of the Primary Active NOAM server.</p>	 <p>Active NOAM Hostname: _____</p> <p>NOTE: The server hostname of the "ACTIVE NETWORK OAM&P" identifies the current "Primary" NOAM site.</p>						
<p>11. <input type="checkbox"/></p> <p>Primary NOAM VIP: (promoted from DR)</p> <p>Select...</p> <p>Main Menu → Administration → General Options</p> <p>...as shown on the right.</p>	 <table border="1"> <thead> <tr> <th>Variable</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>LastLoginExpiration</td> <td>0 *</td> </tr> <tr> <td>LockoutWindow</td> <td>30 *</td> </tr> </tbody> </table>	Variable	Value	LastLoginExpiration	0 *	LockoutWindow	30 *
Variable	Value						
LastLoginExpiration	0 *						
LockoutWindow	30 *						

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

12. Primary NOAM VIP:
(promoted from DR)

1) Verify the value for the “cm.idb.durableAdminState”.

2) If executing this procedure in response to a network isolated Primary NOAM (outage), modify the “cm.idb.durableAdminState” value to 1 (if necessary) and click the “OK” dialogue button.



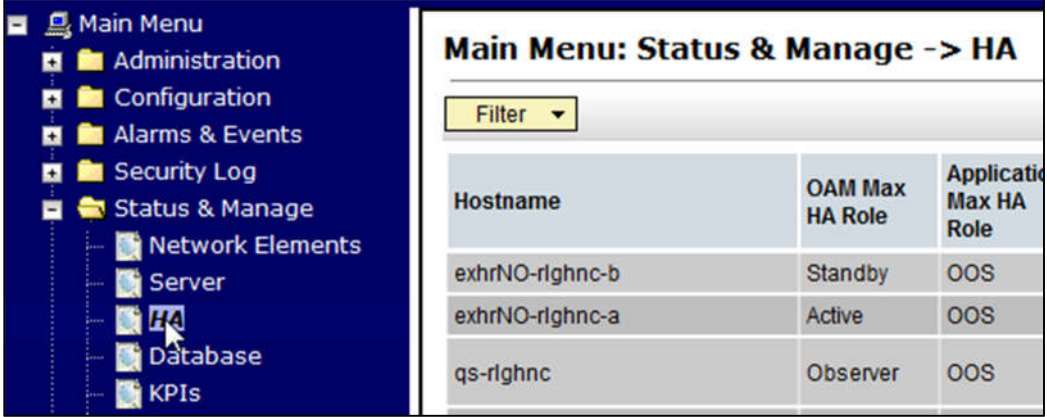
IF EXECUTING THIS PROCEDURE IN RESPONSE TO A NETWORK ISOLATED PRIMARY NOAM, SKIP THE REST OF THIS PROCEDURE AND RETURN TO FIGURE 1.

13. Primary NOAM VIP:
(promoted from DR)

Select...

Main Menu
→ Status & Manage
→ HA

...as shown on the right.

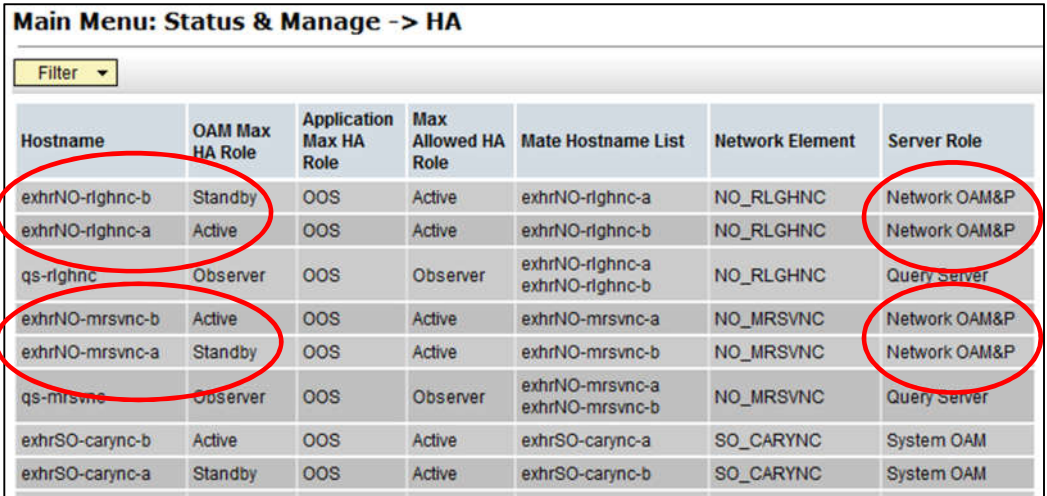


Hostname	OAM Max HA Role	Application Max HA Role
exhrNO-righnc-b	Standby	OOS
exhrNO-righnc-a	Active	OOS
qs-righnc	Observer	OOS

14. Primary NOAM VIP:
(promoted from DR)


1) Use the server hostname recorded in Step 10 of this procedure to identify the promoted “Primary” NOAM site.

2) In the right panel, identify the current Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers.



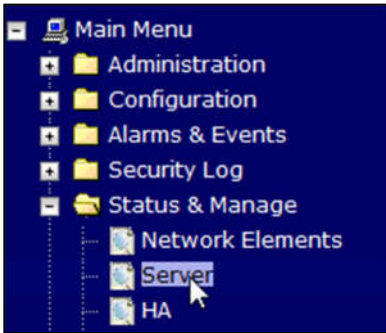
Hostname	OAM Max HA Role	Application Max HA Role	Max Allowed HA Role	Mate Hostname List	Network Element	Server Role
exhrNO-righnc-b	Standby	OOS	Active	exhrNO-righnc-a	NO_RLGHNC	Network OAM&P
exhrNO-righnc-a	Active	OOS	Active	exhrNO-righnc-b	NO_RLGHNC	Network OAM&P
qs-righnc	Observer	OOS	Observer	exhrNO-righnc-a exhrNO-righnc-b	NO_RLGHNC	Query Server
exhrNO-mrsvnc-b	Active	OOS	Active	exhrNO-mrsvnc-a	NO_MRSVNC	Network OAM&P
exhrNO-mrsvnc-a	Standby	OOS	Active	exhrNO-mrsvnc-b	NO_MRSVNC	Network OAM&P
qs-mrsvnc	Observer	OOS	Observer	exhrNO-mrsvnc-a exhrNO-mrsvnc-b	NO_MRSVNC	Query Server
exhrSO-carync-b	Active	OOS	Active	exhrSO-carync-a	SO_CARYNC	System OAM
exhrSO-carync-a	Standby	OOS	Active	exhrSO-carync-b	SO_CARYNC	System OAM

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



!!! 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 17 - 21 of this procedure.

<p>15.</p> <input type="checkbox"/>	<p>Primary NOAM VIP: <i>(promoted from DR)</i></p> <p>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.</p>	<p>Site_2 = Primary_NOAM (Active) = _____</p> <p>Site_2 = Primary_NOAM (Standby) = _____</p> <hr/> <p>Site_1 = DR_NOAM (Active) = _____</p> <p>Site_1 = DR_NOAM (Standby) = _____</p>								
<p>16.</p> <input type="checkbox"/>	<p>Primary NOAM VIP: <i>(promoted from DR)</i></p> <p>Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	 <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>Main Menu: Status & Manage -> Server</p> <p>Filter ▾</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Network Element</th> <th style="text-align: left;">Server Hostname</th> </tr> </thead> <tbody> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-b</td> </tr> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-a</td> </tr> <tr> <td>NO_MRSVNC</td> <td>qs-mrsvnc</td> </tr> </tbody> </table> </div>	Network Element	Server Hostname	NO_MRSVNC	exhrNO-mrsvnc-b	NO_MRSVNC	exhrNO-mrsvnc-a	NO_MRSVNC	qs-mrsvnc
Network Element	Server Hostname									
NO_MRSVNC	exhrNO-mrsvnc-b									
NO_MRSVNC	exhrNO-mrsvnc-a									
NO_MRSVNC	qs-mrsvnc									

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

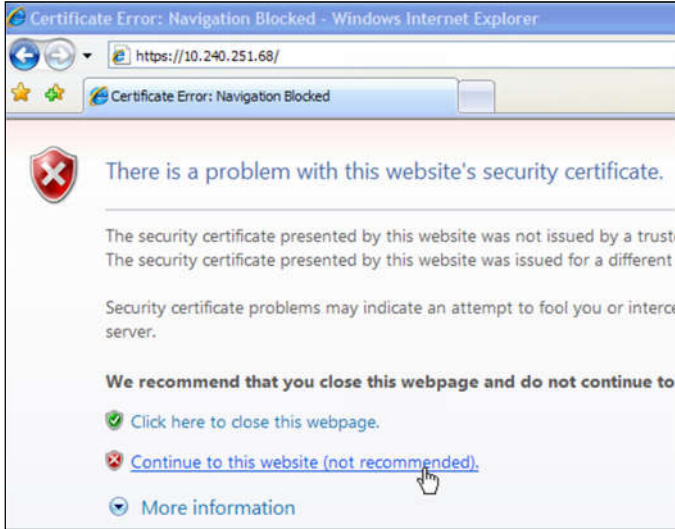

<p>17. <input type="checkbox"/></p>	<p>Primary NOAM VIP: (promoted from DR)</p> <p>Based on the information recorded in Step 15 of this procedure...</p> <p>Perform the below sub-steps on the newly promoted Primary NOAM "Active" Server (Site_2).</p> <p>1) Select the Server in the right panel (highlight will occur).</p> <p>2) Click the "Restart" dialogue button in the button of the right panel.</p> <p>3) Click "OK" in the pop-up confirmation dialogue box.</p> <p>NOTE: Alarms will begin to generate at this time including but not limited to Event ID(s): 10075, 31102, 31106 & 31107.</p>	<p>Main Menu: Status & Manage -> Server</p> <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-b</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-a</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>NO_MRSVNC</td> <td>qs-mrsvnc</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlghnc-b</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr style="background-color: #e0ffe0;"> <td>NO_RLGHNC</td> <td>exhrNO-rlghnc-a</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>NO_RLGHNC</td> <td>qs-rlghnc</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SO_CARYNC</td> <td>exhrSO-carync-b</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table> <p>Buttons: Stop, Restart, Reboot, NTP Sync, Report</p> <p>Restart selected server(s).</p> <p>Are you sure you wish to restart application software on the following server(s)? exhrNO-rlghnc-a</p> <p>Buttons: OK, Cancel</p>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	NO_MRSVNC	exhrNO-mrsvnc-b	Disabled	Warn	Norm	Norm	Man	NO_MRSVNC	exhrNO-mrsvnc-a	Disabled	Warn	Norm	Norm	Man	NO_MRSVNC	qs-mrsvnc	Enabled	Norm	Norm	Norm	Norm	NO_RLGHNC	exhrNO-rlghnc-b	Disabled	Warn	Norm	Norm	Man	NO_RLGHNC	exhrNO-rlghnc-a	Disabled	Err	Norm	Norm	Man	NO_RLGHNC	qs-rlghnc	Enabled	Norm	Norm	Norm	Norm	SO_CARYNC	exhrSO-carync-b	Enabled	Norm	Norm	Norm	Norm
Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc																																																				
NO_MRSVNC	exhrNO-mrsvnc-b	Disabled	Warn	Norm	Norm	Man																																																				
NO_MRSVNC	exhrNO-mrsvnc-a	Disabled	Warn	Norm	Norm	Man																																																				
NO_MRSVNC	qs-mrsvnc	Enabled	Norm	Norm	Norm	Norm																																																				
NO_RLGHNC	exhrNO-rlghnc-b	Disabled	Warn	Norm	Norm	Man																																																				
NO_RLGHNC	exhrNO-rlghnc-a	Disabled	Err	Norm	Norm	Man																																																				
NO_RLGHNC	qs-rlghnc	Enabled	Norm	Norm	Norm	Norm																																																				
SO_CARYNC	exhrSO-carync-b	Enabled	Norm	Norm	Norm	Norm																																																				
<p>18. <input type="checkbox"/></p>	<p>Primary NOAM VIP: (promoted from DR)</p> <p>After the screen refresh, verify that the server now shows an Appl State value of "Enabled" and a Proc value of "Norm".</p>	<table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-b</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrsvnc-a</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>NO_MRSVNC</td> <td>qs-mrsvnc</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlghnc-b</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlghnc-a</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>NO_RLGHNC</td> <td>qs-rlghnc</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	NO_MRSVNC	exhrNO-mrsvnc-b	Disabled	Warn	Norm	Norm	Man	NO_MRSVNC	exhrNO-mrsvnc-a	Disabled	Warn	Norm	Norm	Man	NO_MRSVNC	qs-mrsvnc	Enabled	Norm	Norm	Norm	Norm	NO_RLGHNC	exhrNO-rlghnc-b	Disabled	Warn	Norm	Norm	Man	NO_RLGHNC	exhrNO-rlghnc-a	Enabled	Err	Norm	Norm	Norm	NO_RLGHNC	qs-rlghnc	Enabled	Norm	Norm	Norm	Norm							
Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc																																																				
NO_MRSVNC	exhrNO-mrsvnc-b	Disabled	Warn	Norm	Norm	Man																																																				
NO_MRSVNC	exhrNO-mrsvnc-a	Disabled	Warn	Norm	Norm	Man																																																				
NO_MRSVNC	qs-mrsvnc	Enabled	Norm	Norm	Norm	Norm																																																				
NO_RLGHNC	exhrNO-rlghnc-b	Disabled	Warn	Norm	Norm	Man																																																				
NO_RLGHNC	exhrNO-rlghnc-a	Enabled	Err	Norm	Norm	Norm																																																				
NO_RLGHNC	qs-rlghnc	Enabled	Norm	Norm	Norm	Norm																																																				
<p>19. <input type="checkbox"/></p>	<p>Primary NOAM VIP: (promoted from DR)</p> <p>"Restart" the SW on the Primary NOAM "Standby" Server.</p>	<p>Repeat Steps 17 - 18 of this Procedure for the Primary NOAM "Standby" Server.</p>																																																								
<p>20. <input type="checkbox"/></p>	<p>Primary NOAM VIP: (promoted from DR)</p> <p>"Restart" the SW on the DR NOAM "Standby" Server.</p>	<p>Repeat Steps 17 - 18 of this Procedure for the DR NOAM "Standby" Server.</p>																																																								

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

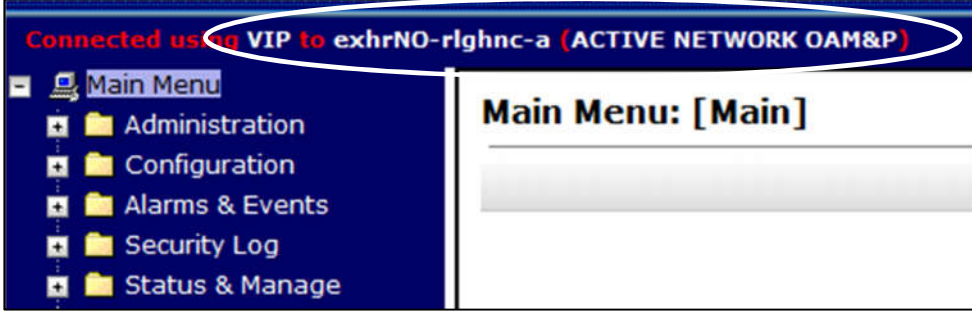
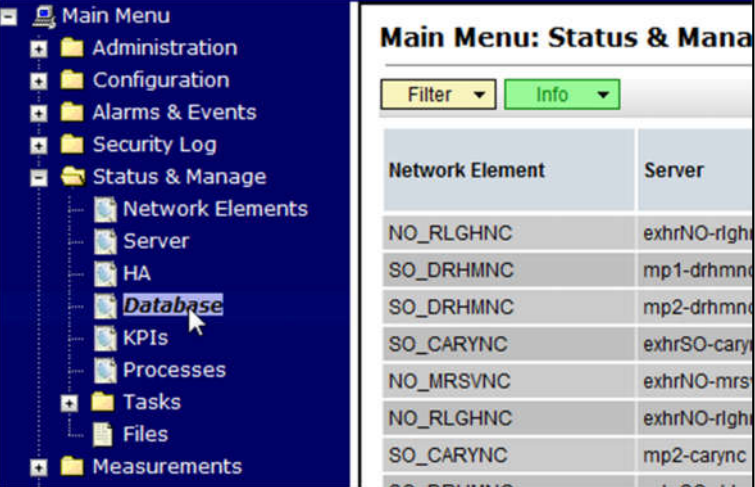
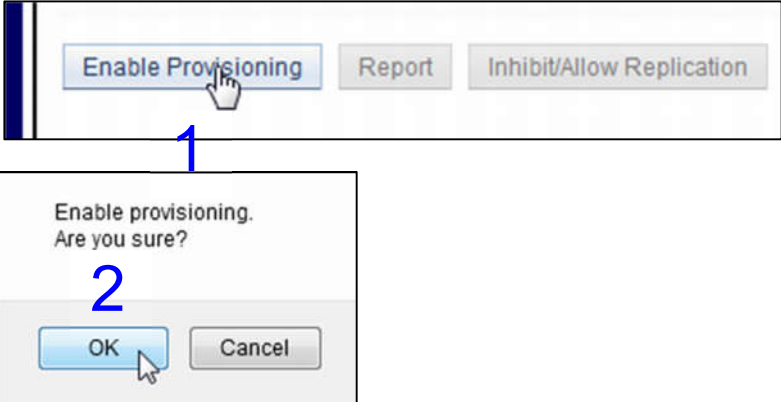
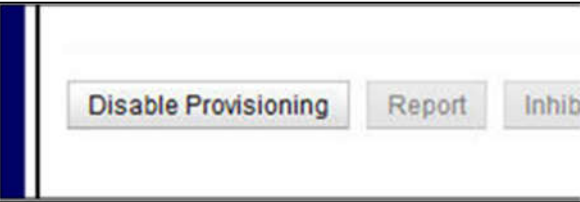
21. <input type="checkbox"/>	Primary NOAM VIP: <i>(promoted from DR)</i> “Restart” the SW on the DR NOAM “Active” Server.	Repeat Steps 17 - 18 of this Procedure for the DR NOAM “Active” Server.
This Procedure has been completed. Return to Figure 1.		

5.3 Enable Global Provisioning

Procedure 6: Enable Global Provisioning (Site_2)

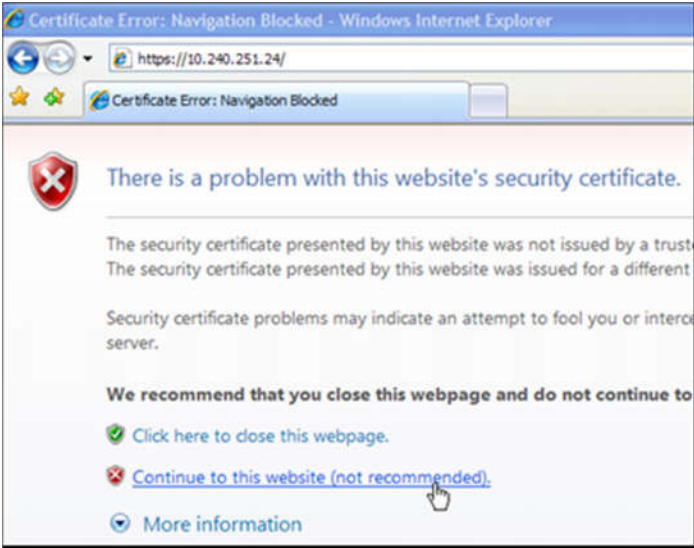

<p>S T E P #</p>	<p>This procedure provides instructions on “Enable Global Provisioning” at the “newly promoted” Primary NOAM GUI. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. IF THIS PROCEDURE FAILS, CONTACT “MY ORACLE SUPPORT” (MOS) FOR ASSISTANCE.</p>
<p>1. <input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>1) Launch Internet Explorer 8.x or higher and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.</p> <p>2) If a Certificate Error is received, click on the link which states... “Continue to this website (not recommended).”</p> 
<p>2. <input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using an “Admin” level user and password.</p> 

Procedure 6: Enable Global Provisioning (Site_2)

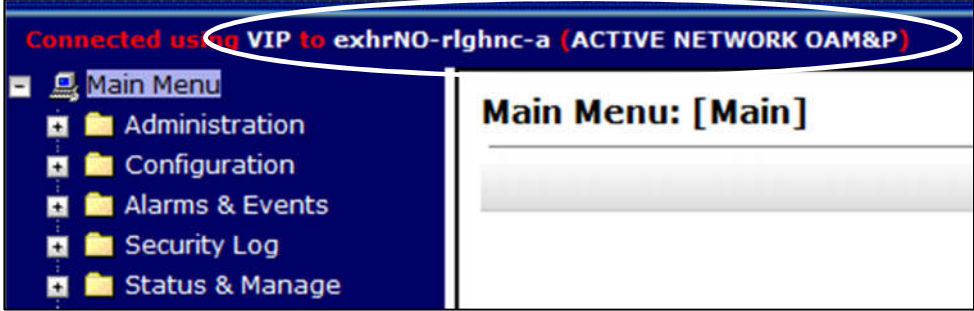
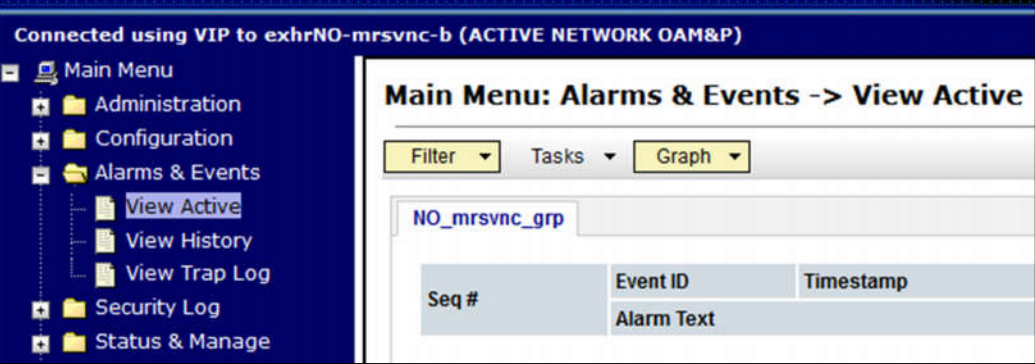
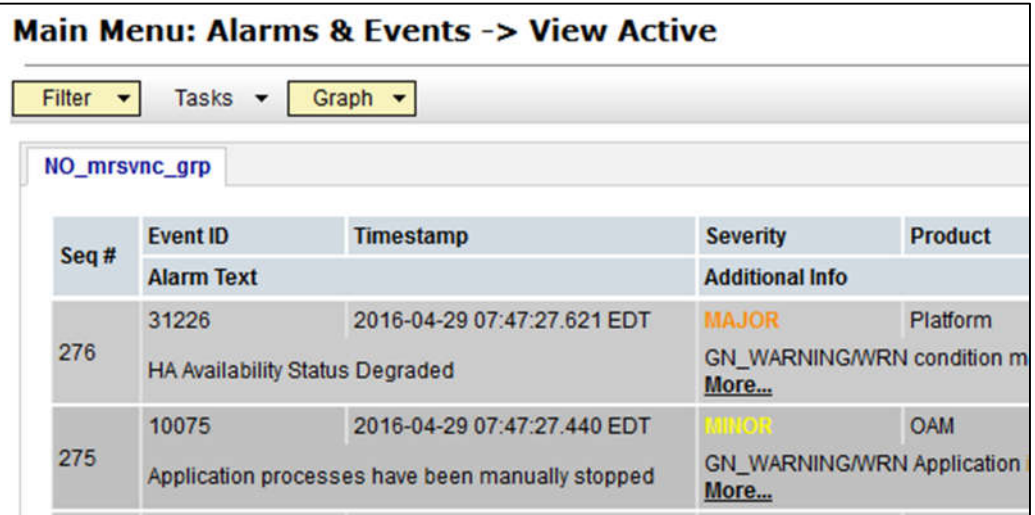
<p>3.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user should be presented the Product Main Menu as shown on the right.</p> <p>Verify that the banner message shown across the top of the right panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&P”.</p>																	
<p>4.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>Select...</p> <p>Main Menu → Status & Manage → Database</p> <p>...as shown on the right.</p>	 <table border="1" data-bbox="889 835 1263 1178"> <thead> <tr> <th>Network Element</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlgh</td> </tr> <tr> <td>SO_DRHMNC</td> <td>mp1-drhmn</td> </tr> <tr> <td>SO_DRHMNC</td> <td>mp2-drhmn</td> </tr> <tr> <td>SO_CARYNC</td> <td>exhrSO-cary</td> </tr> <tr> <td>NO_MRSVNC</td> <td>exhrNO-mrs</td> </tr> <tr> <td>NO_RLGHNC</td> <td>exhrNO-rlgh</td> </tr> <tr> <td>SO_CARYNC</td> <td>mp2-carync</td> </tr> </tbody> </table>	Network Element	Server	NO_RLGHNC	exhrNO-rlgh	SO_DRHMNC	mp1-drhmn	SO_DRHMNC	mp2-drhmn	SO_CARYNC	exhrSO-cary	NO_MRSVNC	exhrNO-mrs	NO_RLGHNC	exhrNO-rlgh	SO_CARYNC	mp2-carync
Network Element	Server																	
NO_RLGHNC	exhrNO-rlgh																	
SO_DRHMNC	mp1-drhmn																	
SO_DRHMNC	mp2-drhmn																	
SO_CARYNC	exhrSO-cary																	
NO_MRSVNC	exhrNO-mrs																	
NO_RLGHNC	exhrNO-rlgh																	
SO_CARYNC	mp2-carync																	
<p>5.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>1) Select the “Enable Provisioning” dialogue button located at the bottom of the right panel.</p> <p>2) Click “OK” on the pop-up confirmation dialogue box.</p>																	
<p>6.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>Verify that the dialogue button located at the bottom of the right panel now displays the text “Disable Provisioning”.</p>																	
<p>This Procedure has been completed.</p>																		

6.0 Verifying Alarm Status (after failover)

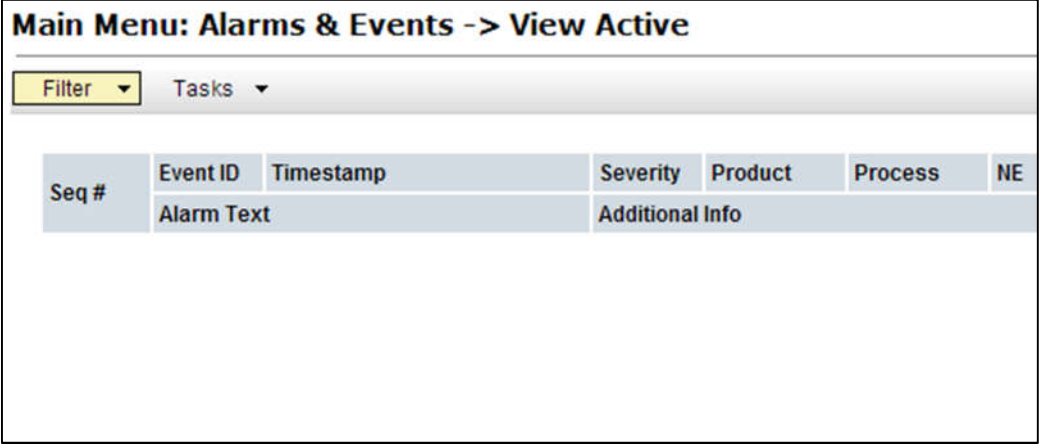
Procedure 7: Verify Alarm Status (system wide) at the Active Primary NOAM

<p>S T E P #</p>	<p>This procedure provides instructions on verifying alarms at the Primary Active NOAM.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT “MY ORACLE SUPPORT” (MOS) FOR ASSISTANCE.</p>
<p>1.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>1) Launch Internet Explorer 8.x or higher and connect to the XMI Virtual IP address (VIP) assigned to newly promoted Primary Active NOAM site.</p> <p>2) If a Certificate Error is received, click on the link which states...</p> <p>“Continue to this website (not recommended).”</p> 
<p>2.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p> 

Procedure 7: Verify Alarm Status (system wide) at the Active Primary NOAM

<p>3.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user should be presented the Product Main Menu as shown on the right.</p> <p>Verify that the banner message shown across the top of the right panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&P”.</p>																															
<p>4.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>Select...</p> <p>Main Menu → Alarm & Events → View Active</p> <p>...as shown on the right.</p>																															
<p>5.</p> <p><input type="checkbox"/></p>	<p>Primary NOAM VIP:</p> <p>The user is presented with the current list of Active Alarms.</p> <p>NOTE: Alarms visible at this time may include but are not limited to Event ID(s): 10075, 14152, 14201, 14203, 31102, 31102, 31106, 31107 & 31214.</p>	 <table border="1"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> </tr> </thead> <tbody> <tr> <td></td> <td colspan="2">Alarm Text</td> <td colspan="2">Additional Info</td> </tr> <tr> <td>276</td> <td>31226</td> <td>2016-04-29 07:47:27.621 EDT</td> <td>MAJOR</td> <td>Platform</td> </tr> <tr> <td></td> <td colspan="2">HA Availability Status Degraded</td> <td colspan="2">GN_WARNING/WRN condition m More...</td> </tr> <tr> <td>275</td> <td>10075</td> <td>2016-04-29 07:47:27.440 EDT</td> <td>MINOR</td> <td>OAM</td> </tr> <tr> <td></td> <td colspan="2">Application processes have been manually stopped</td> <td colspan="2">GN_WARNING/WRN Application More...</td> </tr> </tbody> </table>	Seq #	Event ID	Timestamp	Severity	Product		Alarm Text		Additional Info		276	31226	2016-04-29 07:47:27.621 EDT	MAJOR	Platform		HA Availability Status Degraded		GN_WARNING/WRN condition m More...		275	10075	2016-04-29 07:47:27.440 EDT	MINOR	OAM		Application processes have been manually stopped		GN_WARNING/WRN Application More...	
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Procedure 7: Verify Alarm Status (system wide) at the Active Primary NOAM

<p>6.</p> <input type="checkbox"/>	<p>Primary NOAM VIP:</p> <p>Monitor the current list of “Active” alarms until all alarms associated with the Failover have cleared.</p> <p>NOTE: <i>The user should allow at least 15 minutes for resulting alarms to clear before attempting any troubleshooting activities.</i></p>	
<p>7.</p> <input type="checkbox"/>	<p>Primary NOAM VIP:</p> <p>Contact “My Oracle Support” (MOS) if assistance is needed in clearing any persistent or reoccurring alarms.</p>	<ul style="list-style-type: none"> • Refer to Appendix A: Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service. <p>NOTE: <i>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.</i></p> <p><i>Here is a partial list of features that use SSH key exchange based file transfer:</i></p> <ul style="list-style-type: none"> ○ HLRR: provimport, provexport, PDE, APDE ○ HLRR: Alarms related to SSH key exchange based file transfer may include but are not limited to Event ID(s): 14152, 14201, 14203 & 31214.
<p>This Procedure has been completed. Return to Figure 1.</p>		

7.0 Backout Procedure

Procedure 8: Reversing Primary/Secondary NOAM Failover (Backout)

S T E P #	<p>This procedure provides instructions on reversing Primary/DR NOAM Failover.</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT "MY ORACLE SUPPORT" (MOS) FOR ASSISTANCE.</p>	
<p>7.</p> <input type="checkbox"/>	<p>Repeat Procedures in Figure 1.</p>	<p>The user should recognize that the Primary/Secondary NOAM statuses are now reversed from what they were prior to the execution of this procedure!!!</p> <p>Replace the Site_1 and Site_2 names in the bottom of Figure 1 according to the real-time status (Primary/Secondary) for each NOAM site and follow the Figure 1 Flowchart.</p>
<p>This Procedure has been completed.</p>		

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 menu 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.
2. In this set of menu options, select 3, “Hardware, Networking and Solaris Operating System Support”. A third set of menu options begins.
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, 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>.

1. Access the OHC site at <http://docs.oracle.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.
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.