Oracle® Communications

Diameter Signaling Router

DSR/SDS NOAM Failover

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ORACLE

DSR/SDS NOAM Failover User's Guide

Oracle® Communications DSR/SDS NOAM Failover User's Guide.

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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 BEFORE ATTEMPTING ANY PROCEDURES IN THIS DOCUMENT!

1. 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
[2] DSR 8.3 Disaster Recovery User's Guide
[3] SDS 8.3 Disaster Recovery User's Guide

1.3 Acronyms

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

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 BEFORE ATTEMPTING ANY PROCEDURES IN THIS DOCUMENT.

2. DSR / SDS NOAM Failover Process Flow Chart:

This document supports NOAM Failover for DSR/SDS 8.3 releases only (i.e. COMCOL 7.4).

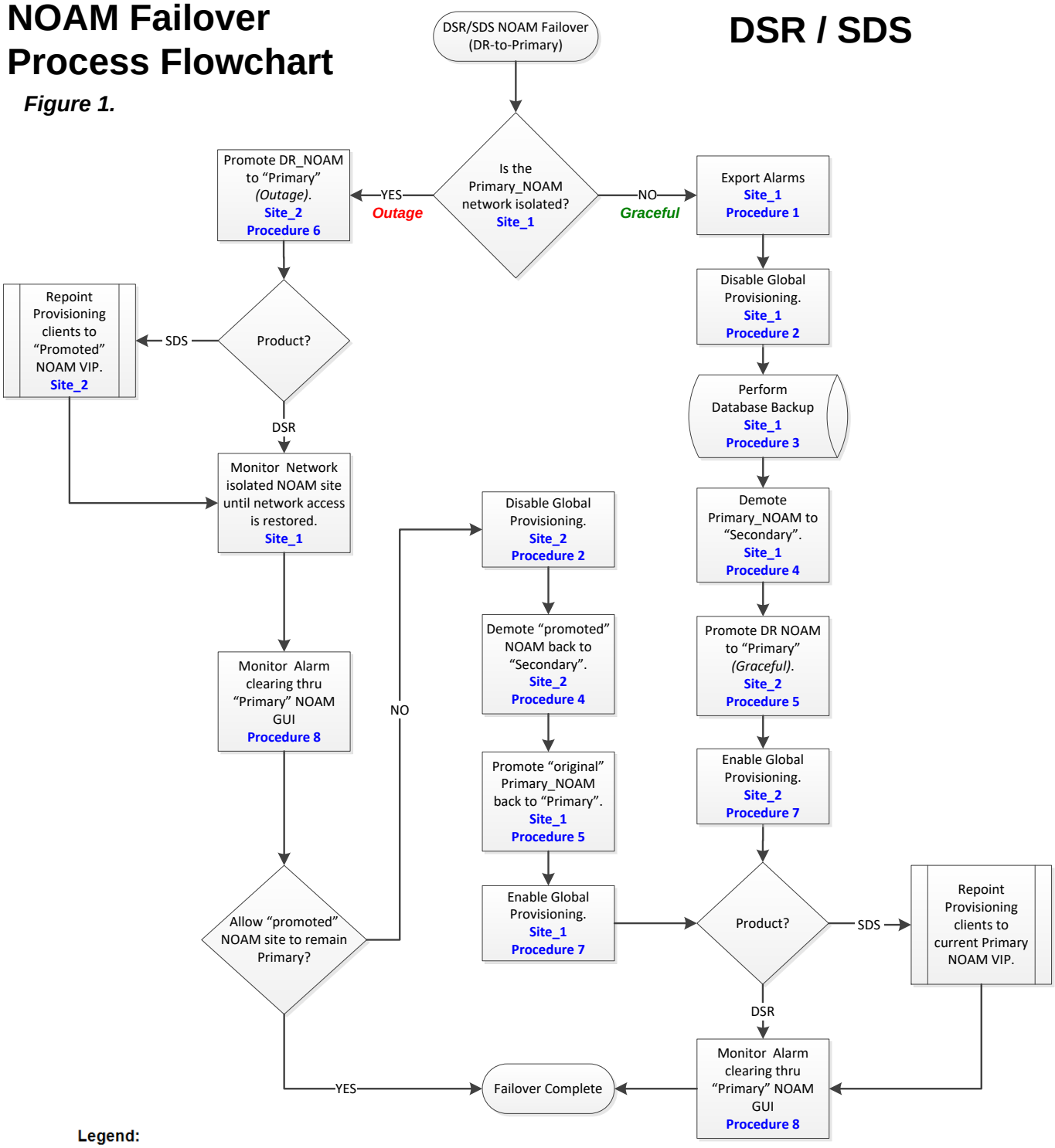
The flowchart on the following page (***Figure 1***) is intended to act as the core Procedure for DSR / SDS NOAM Failover.

- 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

DSR / SDS

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)

Figure 1: DSR / SDS NOAM Failover Process Chart

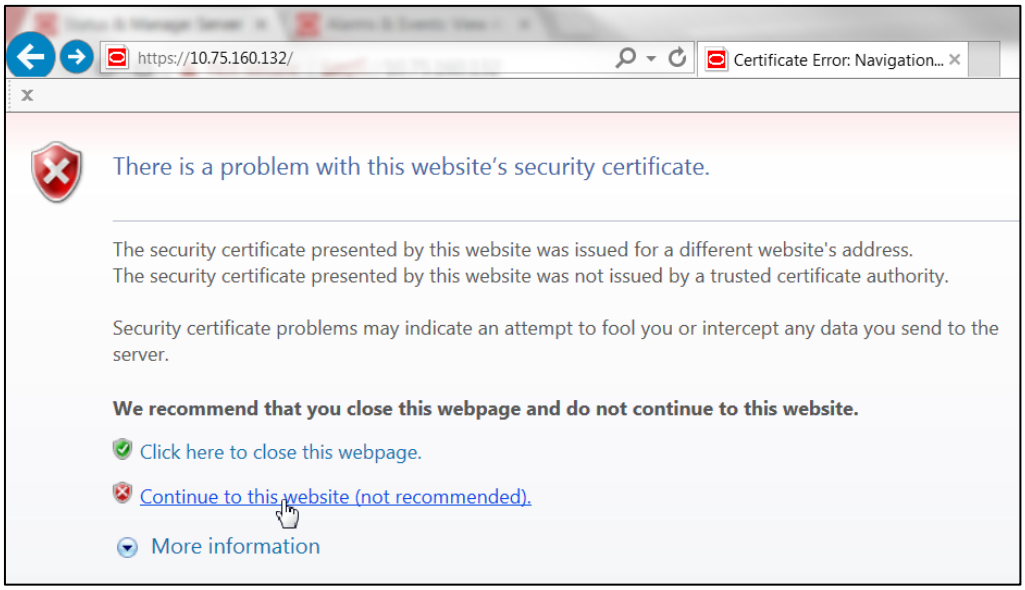
3. List of Procedures

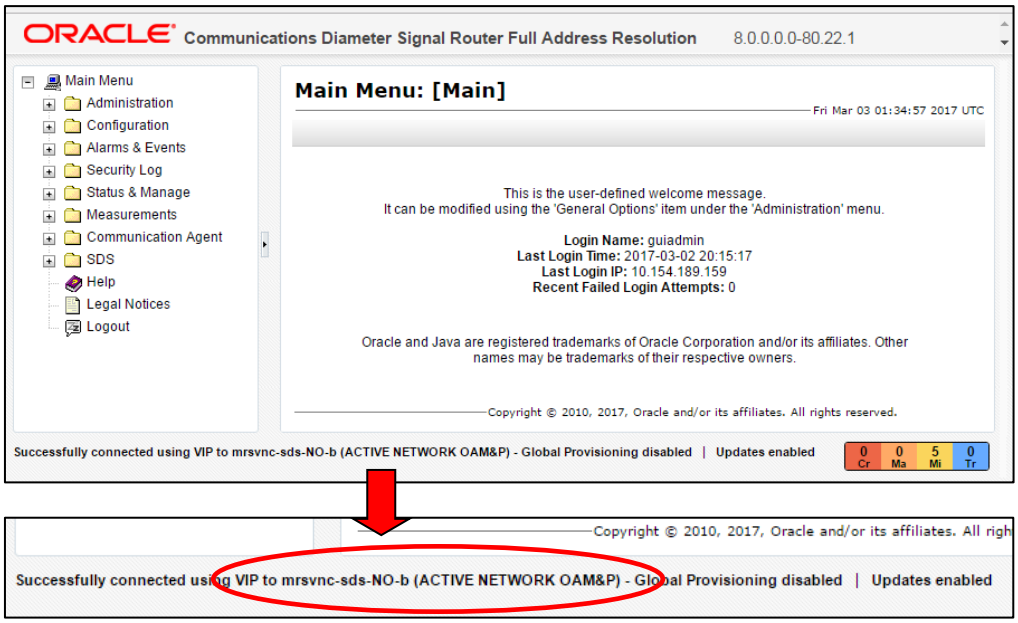
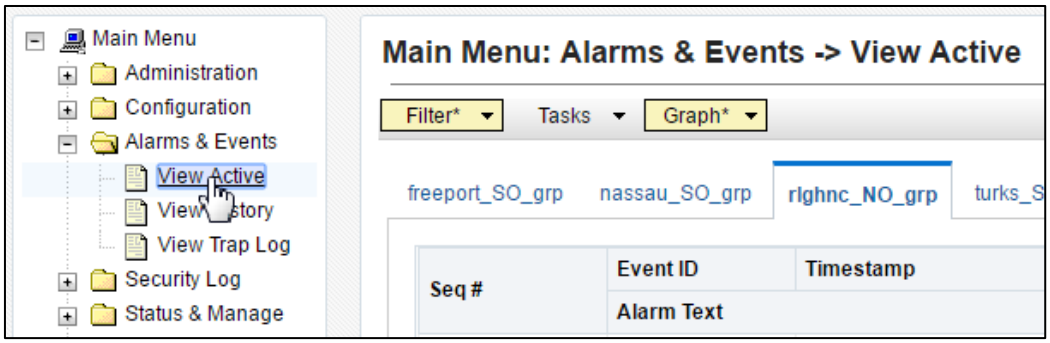
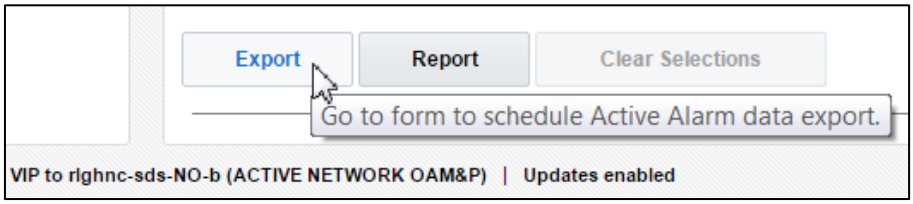
Procedure	Title	Page No.
Procedure 1	Procedure 1: Export Alarms at the Active NOAM [Site_1]	9
Procedure 2	Disable Global Provisioning / PDB Relay Verification [Site_1]	14
Procedure 3	Database Backup [Site_1]	20
Procedure 4	Demoting the Active NOAM from Primary to Secondary [Site_1]	25
Procedure 5	Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2]	32
Procedure 6	Promoting the DR NOAM from Secondary to Primary (Outage) [Site_2]	37
Procedure 7	Enable Global Provisioning [Site_2]	37
Procedure 8	Verify Alarm Status (system wide) at the Active Primary NOAM	44
Procedure 9	Reversing Primary/Secondary NOAM Failover (Backout)	47

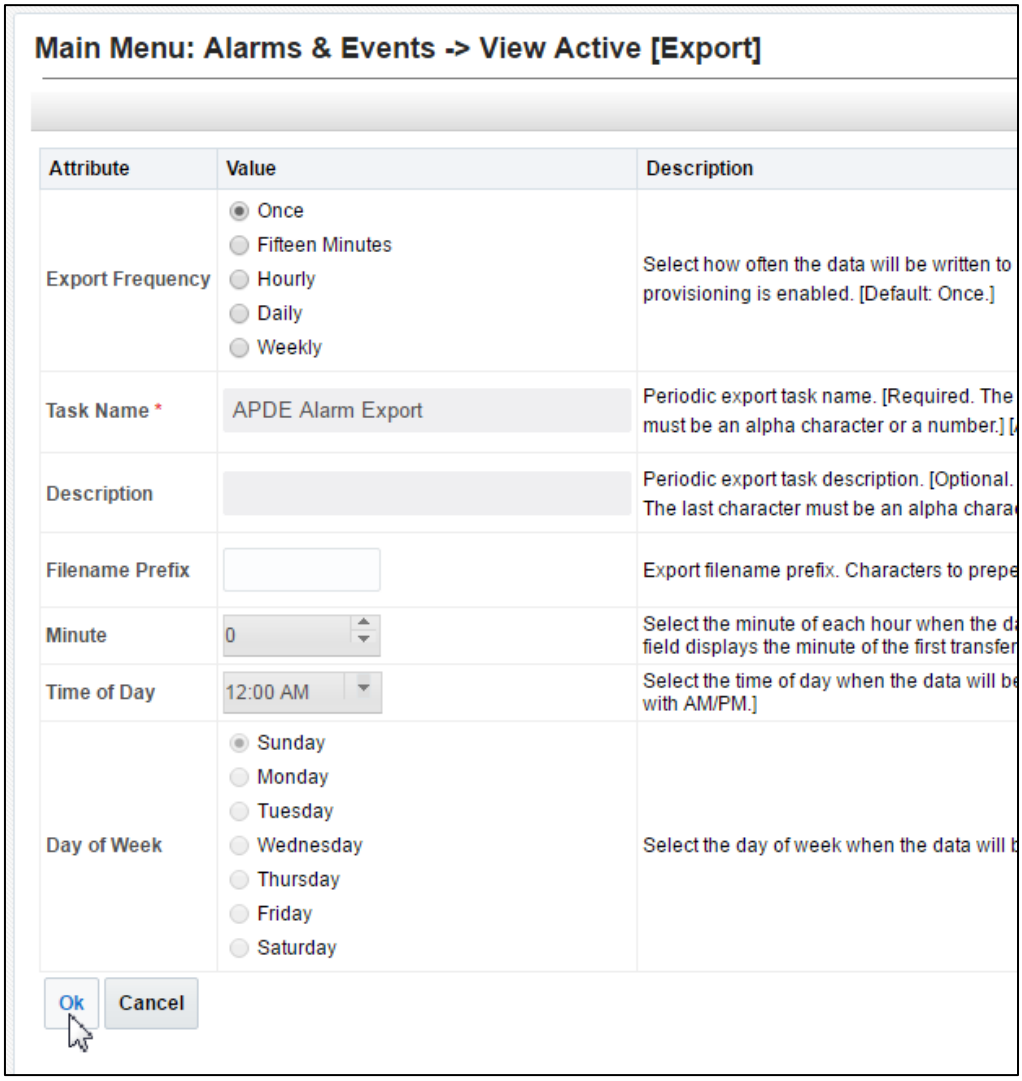
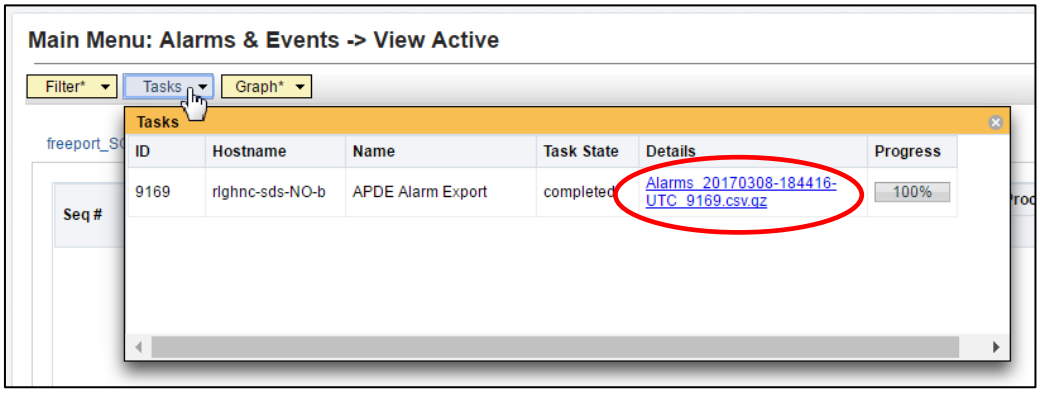
4. Pre-Failover Procedures

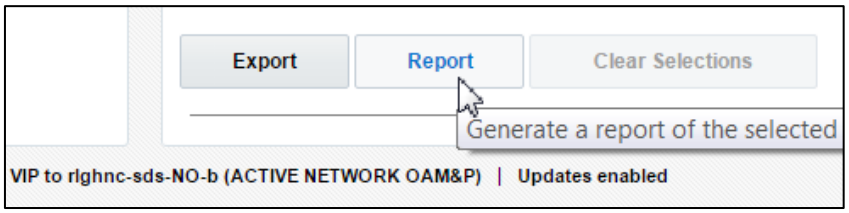
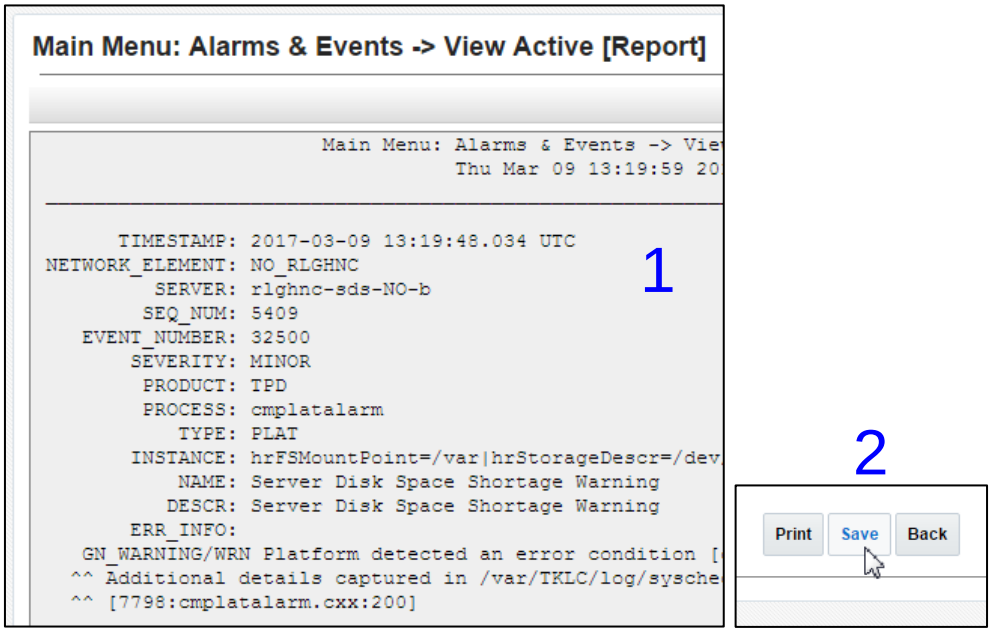
4.1 Exporting Alarms

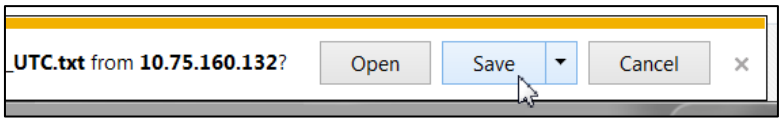
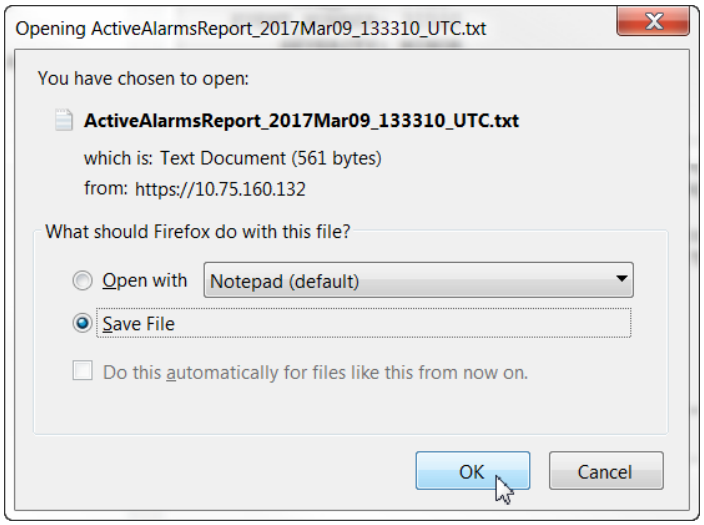
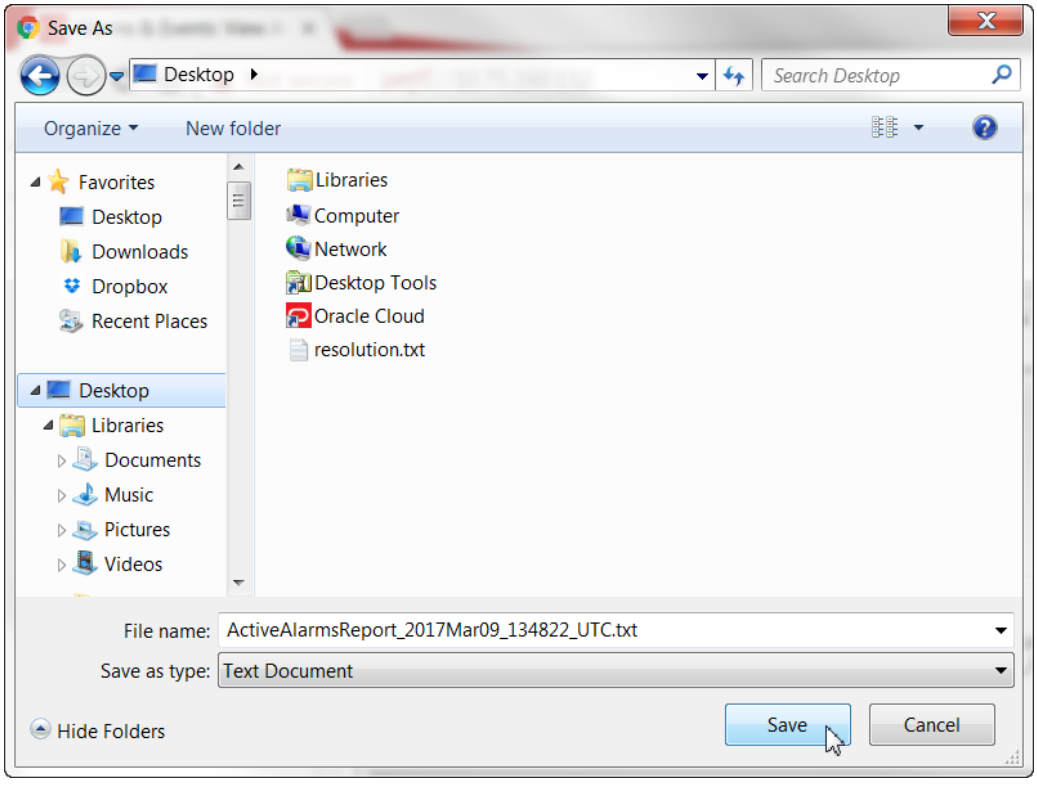
Procedure 1: Export Alarms at the Active NOAM [Site_1]

Step #	Procedure	Description
This procedure provides instructions on exporting alarms at the Primary Active 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.		
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.	

Step #	Procedure	Description
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… **<u>Main Menu</u>** **→ 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.	

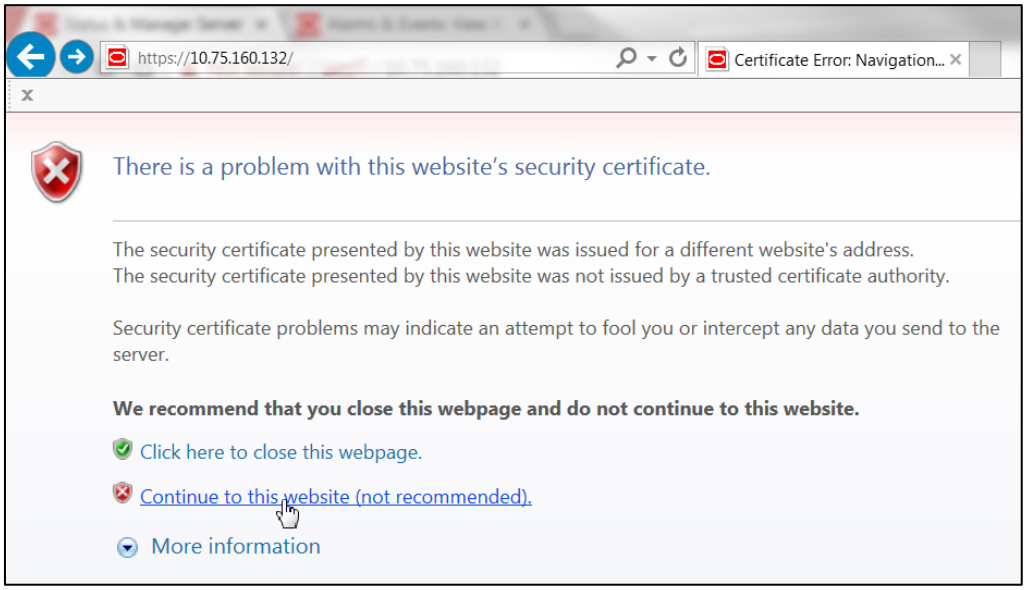
Step #	Procedure	Description
6. ☐	**Primary NOAM VIP:** Click the **"Ok"** button at the bottom of the screen.	
7. ☐	**Primary NOAM VIP:** The name of the exported Alarms CSV file will appear in the banner under the **"Tasks"** heading at the top of the right panel. **NOTE:** *Depending on the product version, the user may have to **click** on the **"Tasks"** heading in the banner in order to see the output dialogue box.*	

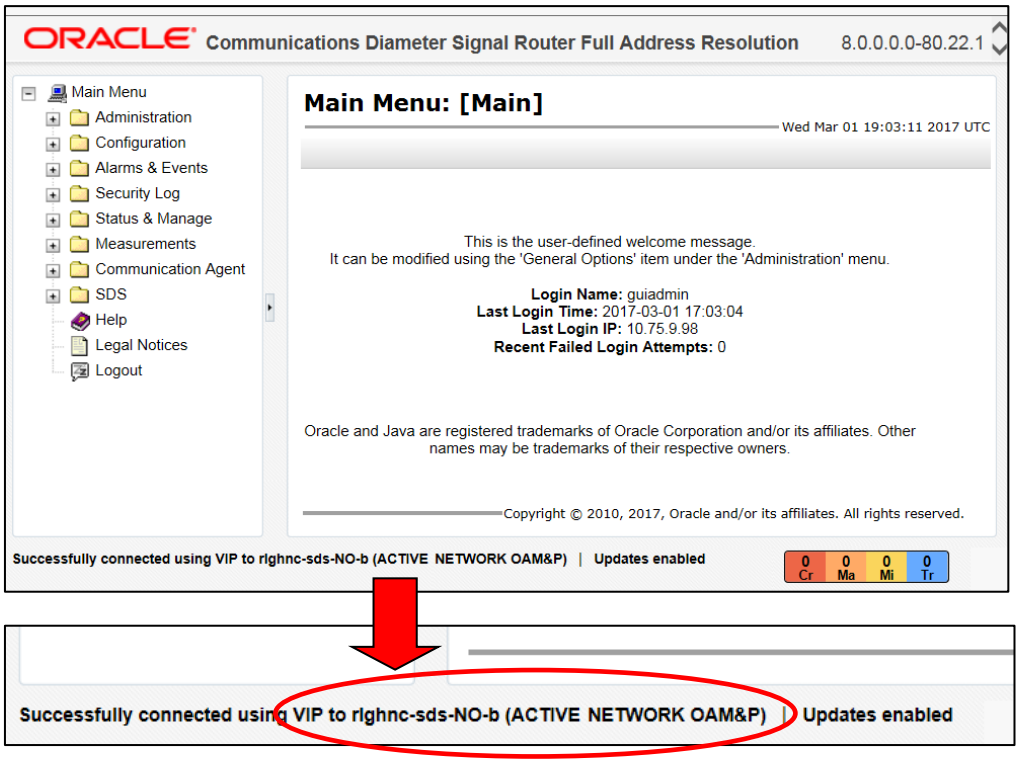
Step #	Procedure	Description
8. ☐	**Primary NOAM VIP:** Record the filename of Alarms CSV file generated in the space provided to the right. **NOTE:** *Depending on the product version, the file suffix may vary (e.g. csv, csv.gz, etc.).*	**Example:** *Alarms_<yyyymmdd> - <hhmmss> - <TimeZone>_<Task_ID>.csv.gz* _____ .csv.gz
9. ☐	**Primary NOAM VIP:** Select the **"Report"** dialogue button from the bottom left corner of the screen.	
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.	

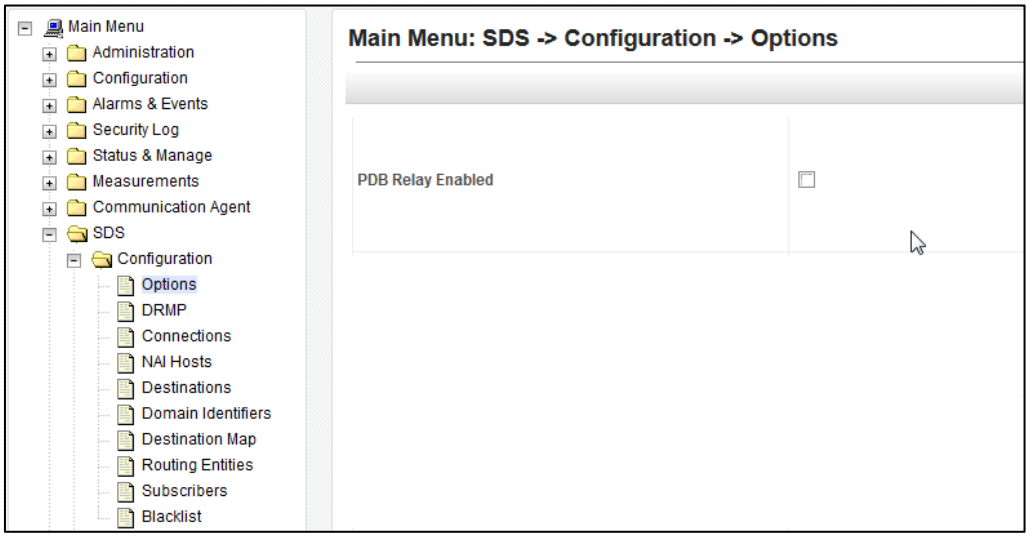
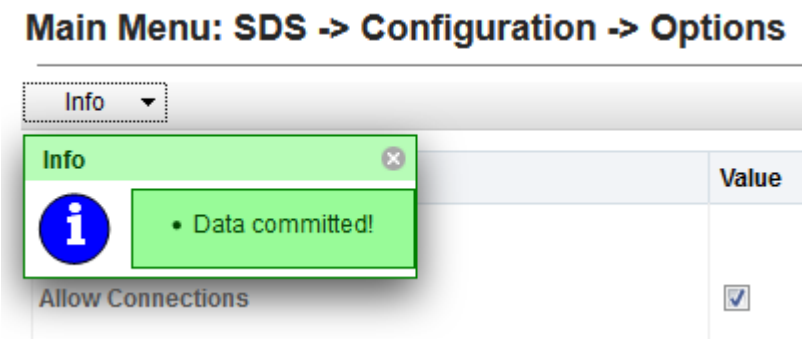
Step #	Procedure	Description
11. ☐	**Primary NOAM VIP:** Depending on the web browser, a **"Save"** file confirmation pop-up box may appear on the screen at this time *(some examples are shown to the right).* If so, select and click the **"Save / Save File"** dialogue button on the pop-up confirmation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

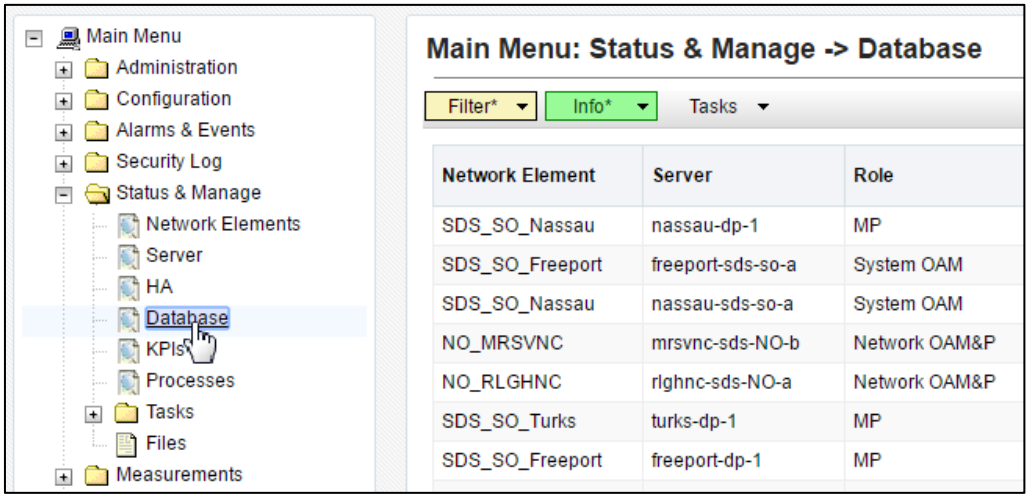
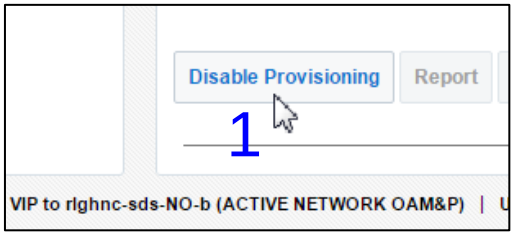
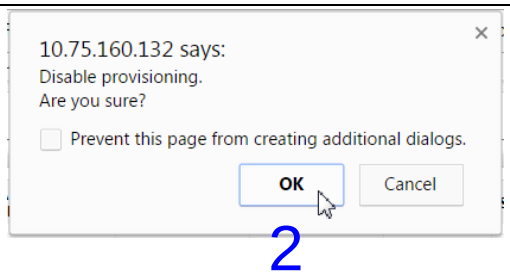
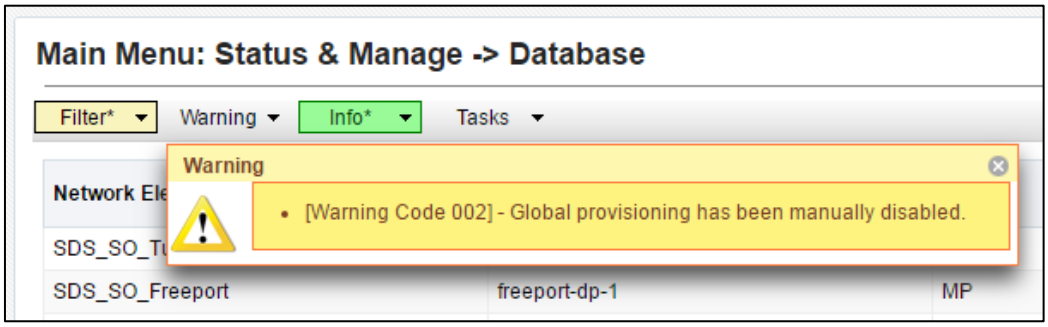
4.2 Disable Global Provisioning / PDB Relay Verification

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

Step#	Procedure	Description
This procedure provides instructions on "Disabling Global Provisioning" at the Primary NOAM GUI. 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.		
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.	

Step#	Procedure	Description
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".**	

Step#	Procedure	Description
4.	**Primary NOAM VIP:** Disable PDB Relay. **Main Menu** → **Configurations** → ***Options*** …as shown on the right.	Go to **Configurations -> Options** Uncheck **PDB Relay Enabled** option box.  Click **Apply**.  The following confirmation message is received: 

Step#	Procedure	Description
5. ☐	**Primary NOAM VIP:** Select… **<u>Main Menu</u>** **→ Status & Manage** **→ *Database*** …as shown on the right.	
6. ☐	**Primary NOAM VIP:** **1)** Select the **"Disable Provisioning"** dialogue button located at the bottom of the right panel. **2)** Click **"OK"** on the pop-up confirmation dialogue box.	 
7. ☐	**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.*	

- **FOR DSR SYSTEMS, THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS.**
- **FOR SDS SYSTEMS ONLY, CONTINUE WITH STEP 8 OF THIS PROCEDURE.**

Step#	Procedure	Description
8. ☐	***SDS Systems Only (Steps 8 - 15):*** **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.el6prerel7.4.0.0.0_88.36.0.x86_64 on an x86_64 rlghnc-sds-NO-b login: **admusr** Password: ***<admusr_password>***
9. ☐	**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-gui:/usr/TKLC/comagent:/usr/TKLC/sds PRODPATH=/opt/comcol/prod [admusr@rlghnc-sds-NO-b ~]$
10. ☐	**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 ~]$ **hostname** rlghnc-sds-NO-b [admusr@rlghnc-sds-NO-b ~]$ **ha.mystate -i |grep VIP** VIP Act/Act rlghnc-sds-NO-b 0 0302:235:236.946 [admusr@rlghnc-sds-NO-b ~]$
11. ☐	**Primary NOAM VIP:** Verify the value for **pdbRelayEnabled.**	[admusr@rlghnc-sds-NO-b ~]$ **iqt -zhp -fvalue ProvOptions where "var='pdbRelayEnabled'"** **TRUE** [admusr@rlghnc-sds-NO-b ~]$

- **IF THE VALUE = FALSE, THEN THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS.**
- **IF THE VALUE = TRUE, CONTINUE WITH STEP 12 OF THIS PROCEDURE.**

12. ☐	**Primary NOAM VIP:** Retrieve the **pdbRelay timestamp.**	[admusr@rlghnc-sds-NO-b ~]$ **iqt -zhp -fvalue ProvOptions where "var='pdbRelayMsgLogTimeStamp'"** **1524776142883** [admusr@rlghnc-sds-NO-b ~]$
13. ☐	**Primary NOAM VIP:** Record the value for the **pdbRelay timestamp** retrieved in the previous step.	**pdbRelayMsgLogTimeStamp:** _____

- **WAIT 30 SECONDS BEFORE EXECUTING THE NEXT STEP.**

Step#	Procedure	Description
14. ☐	**Primary NOAM VIP:** Retrieve the **pdbRelay timestamp** again.	[admusr@rlghnc-sds-NO-b ~]$ **iqt -zhp -fvalue ProvOptions where "var='pdbRelayMsgLogTimeStamp'"** **1524776142883** [admusr@rlghnc-sds-NO-b ~]$
15. ☐	**Primary NOAM VIP:** Record the value for the **pdbRelay timestamp** retrieved in the previous step.	**pdbRelayMsgLogTimeStamp:** _____

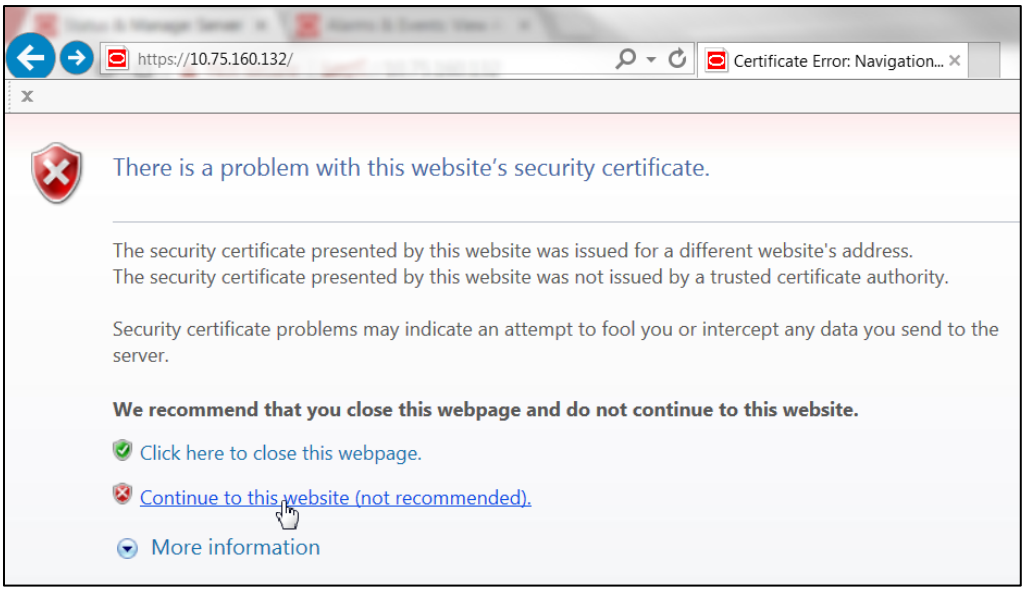


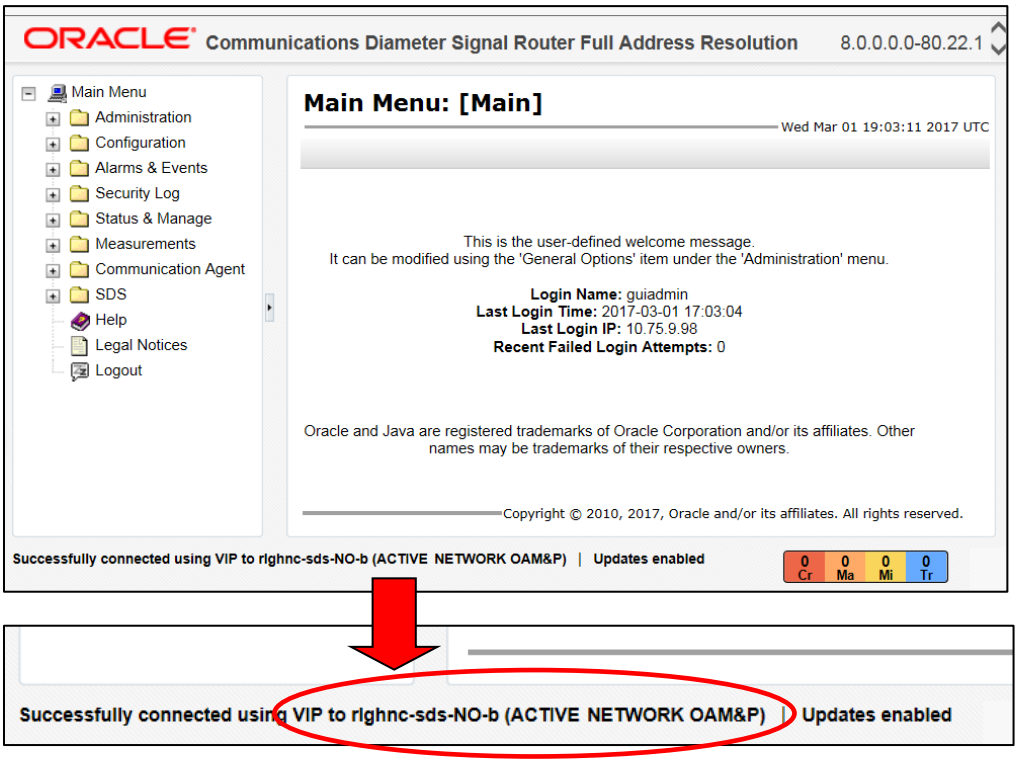
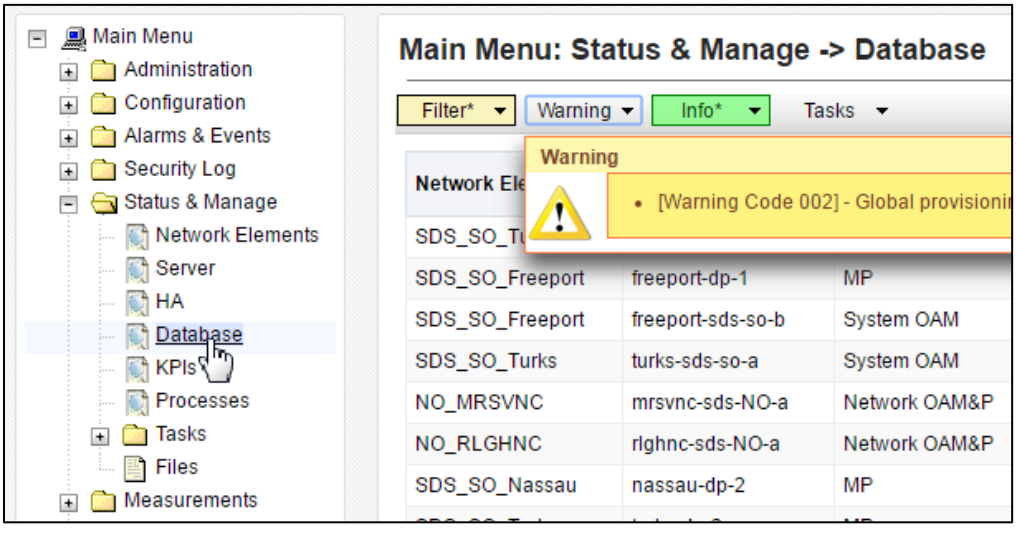
- **VERIFY THAT THE TIMESTAMPS RECORDED IN STEPS 13 AND 15 OF THIS PROCEDURE ARE AN EXACT MATCH.**
- **IF THE VALUES DO NOT MATCH, REPEAT STEPS 12 THRU 15.**
- **DO NOT RETURN TO FIGURE 1 UNTIL TWO MATCHING TIMESTAMPS ARE RECORDED.**

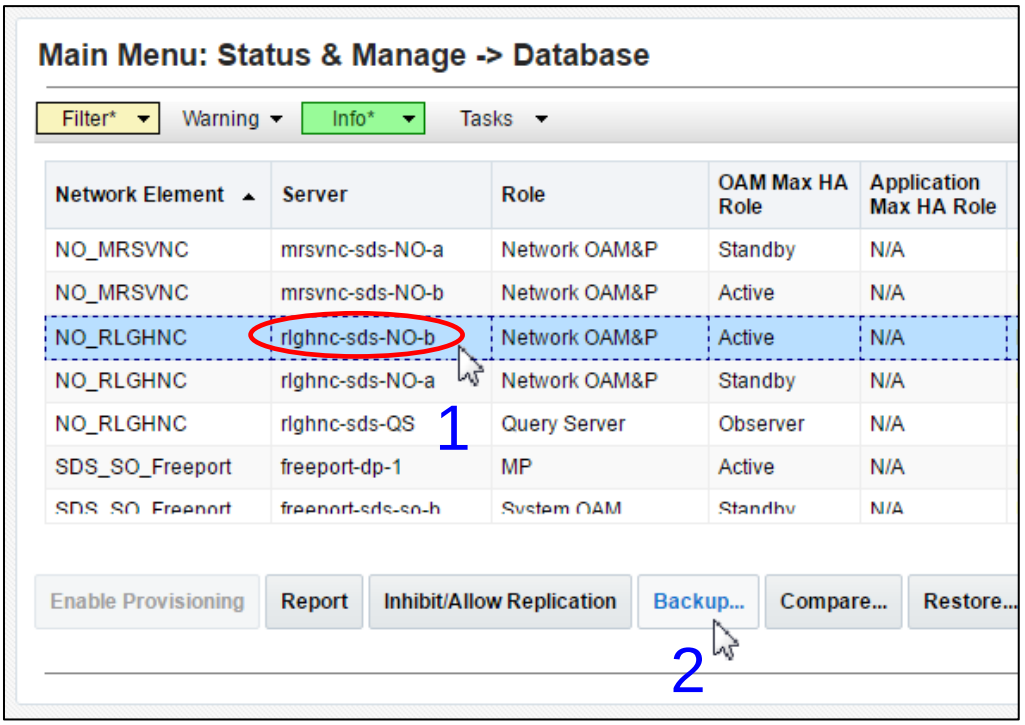
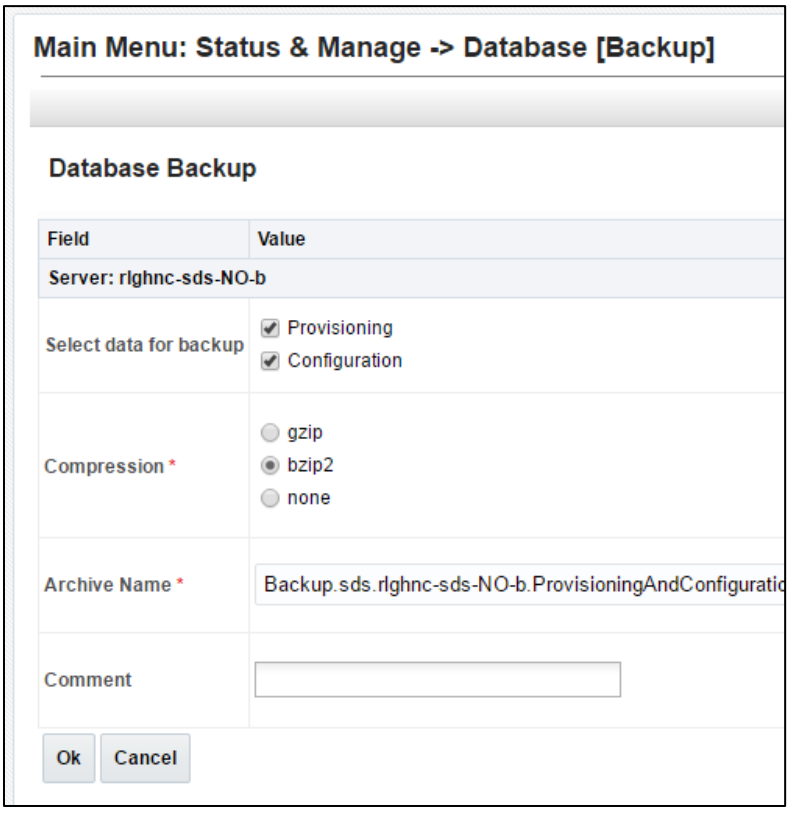
This Procedure has been completed. Return to Figure 1.

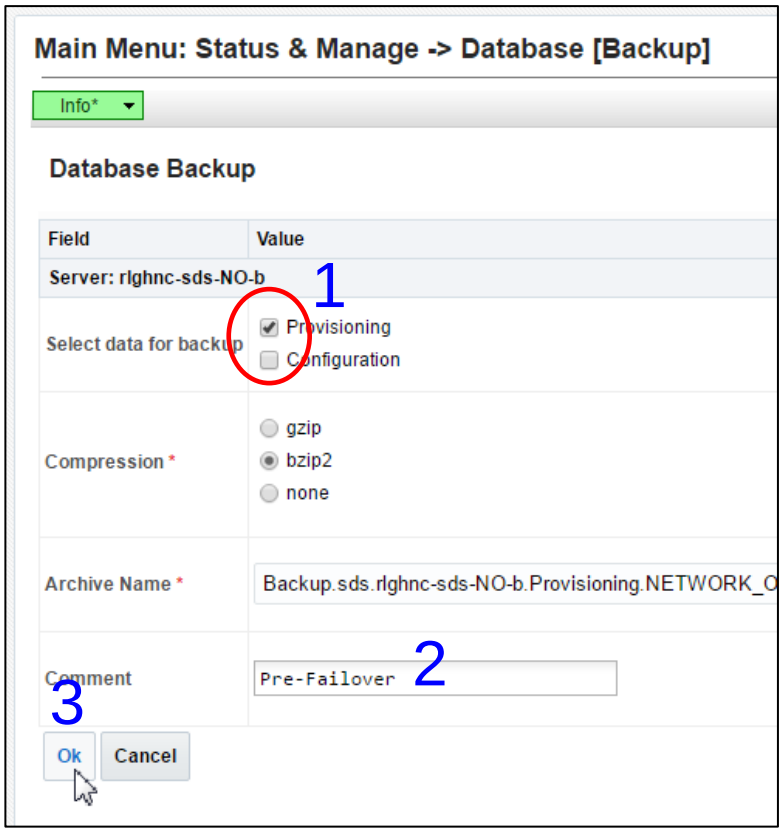
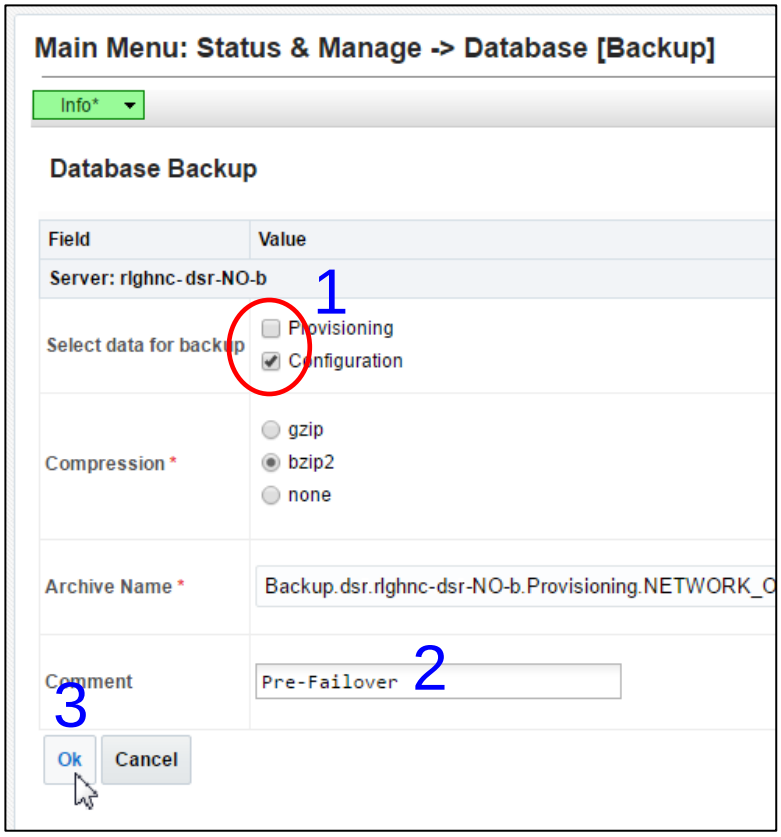
4.3 Database Backup

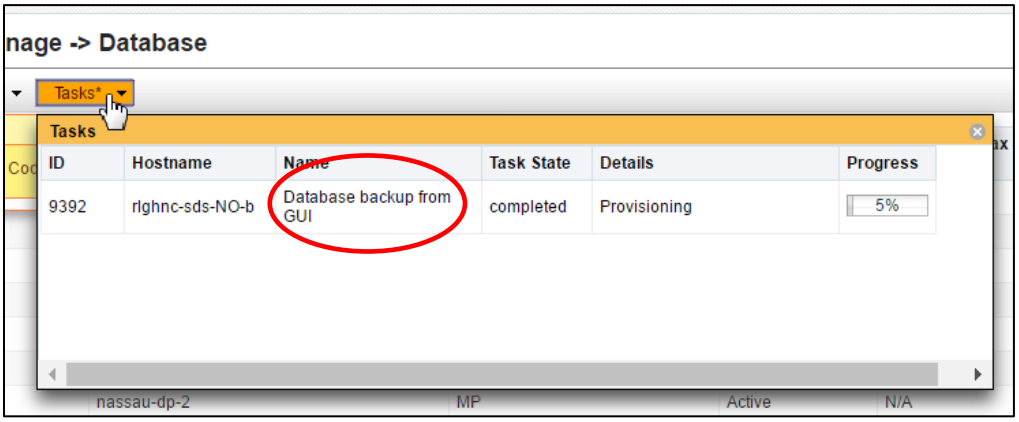
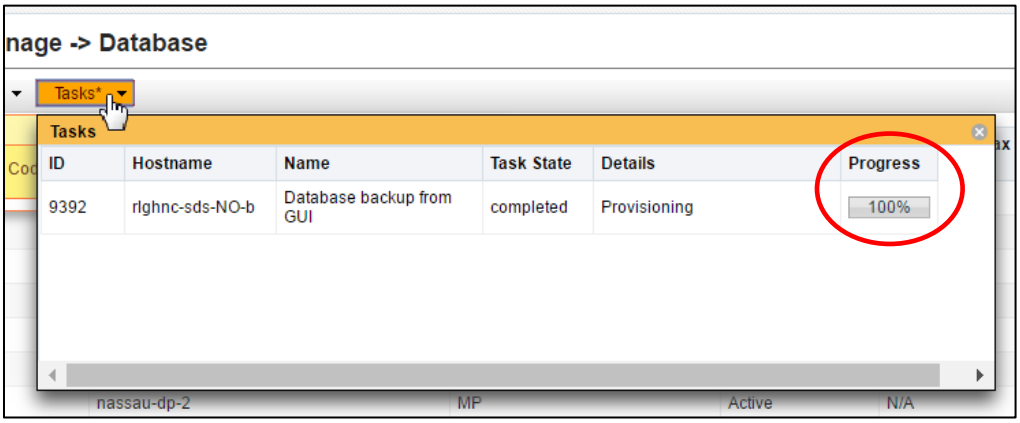
Procedure 3: Database Backup [Site_1]

Step#	Procedure	Description
This procedure provides instructions on performing database backup at the Primary Active 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.		
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.	

Step#	Procedure	Description
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 NOAM server** (hostname) on the **"ACTIVE NETWORK OAM&P"** NE.	
4. ☐	**Primary NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ *Database*** …as shown on the right.	

Step#	Procedure	Description
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.	

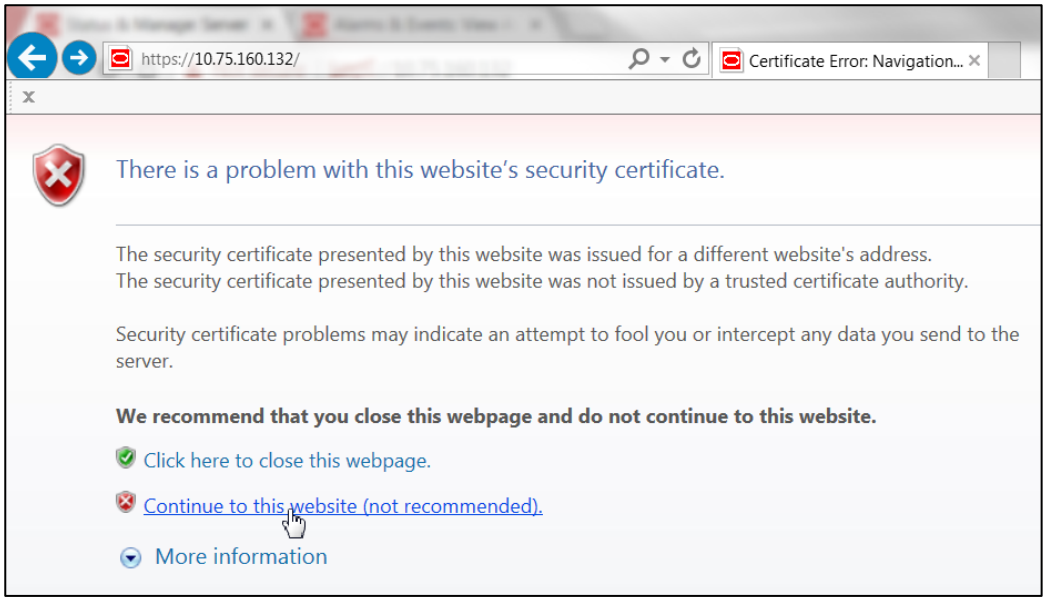
Step#	Procedure	Description
7. ☐	***EXECUTE THIS STEP FOR SDS SYSTEMS ONLY!!!*** **Primary NOAM VIP:** **1) Uncheck** the **Configuration** checkbox so that only the **Provisioning** checkbox is selected. **2)** Enter a comment to reflect the reason for the manual backup in the comment field. **3)** Click **"Ok"** dialogue button**.**	
8.	***EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!!!*** **Primary NOAM VIP:** **1) T**he **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**.**	

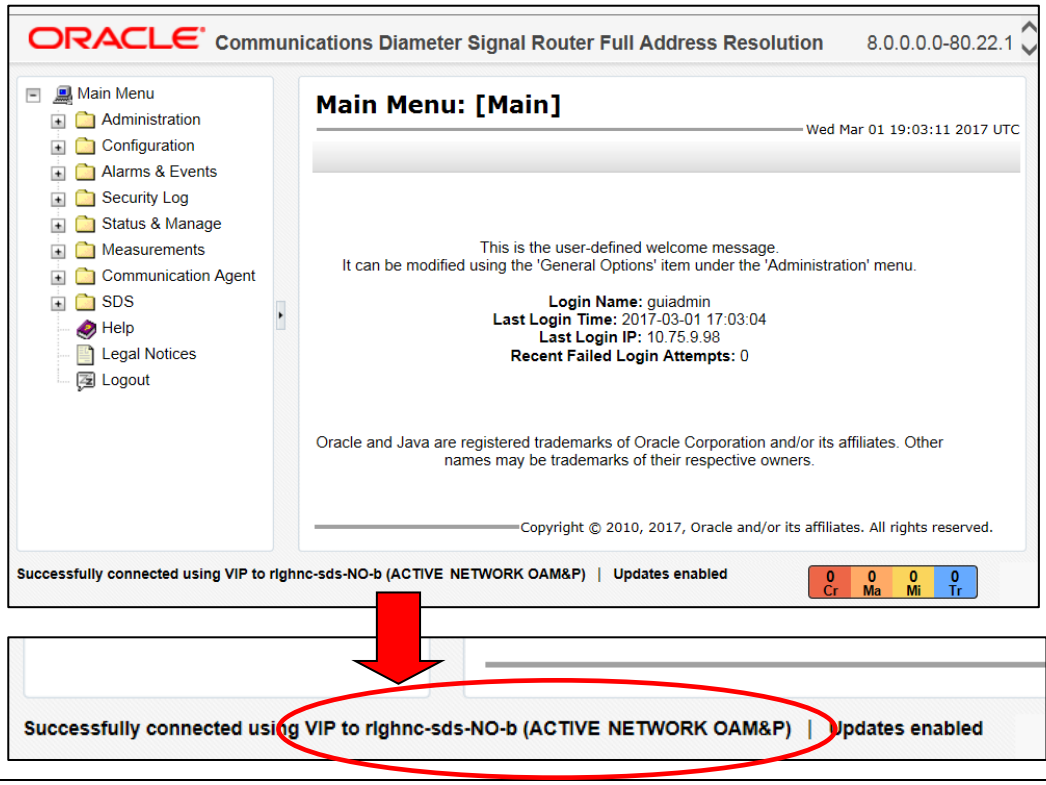
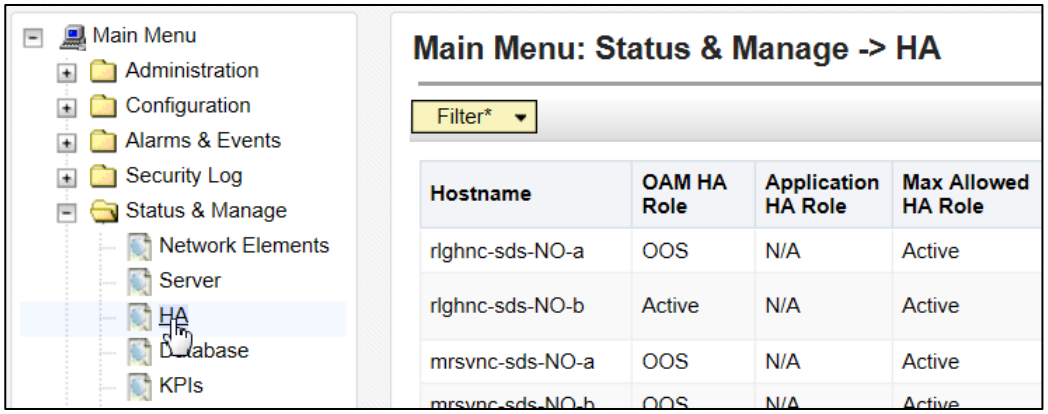
Step#	Procedure	Description
9. ☐	**Primary NOAM VIP:** **Click** on the **Tasks** tab to verify that a new **"Database backup from GUI"** task has been created.	
10. ☐	**Primary NOAM VIP:** Use the **Tasks** tab to monitor the status in the **"Progress"** column until it shows **"100%"**. **NOTE:** *Depending 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.		

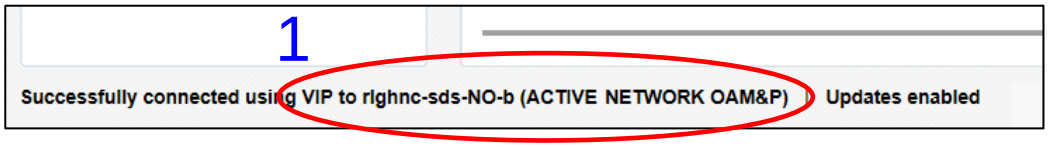
5. Failover Procedures

5.1 Demoting the Active NOAM from Primary to Secondary

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

Step#	Procedure	Description
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.		
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.	

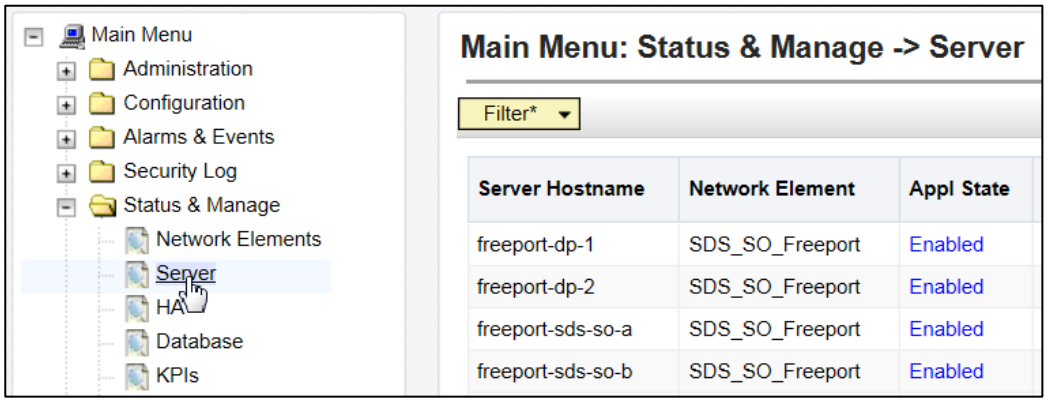
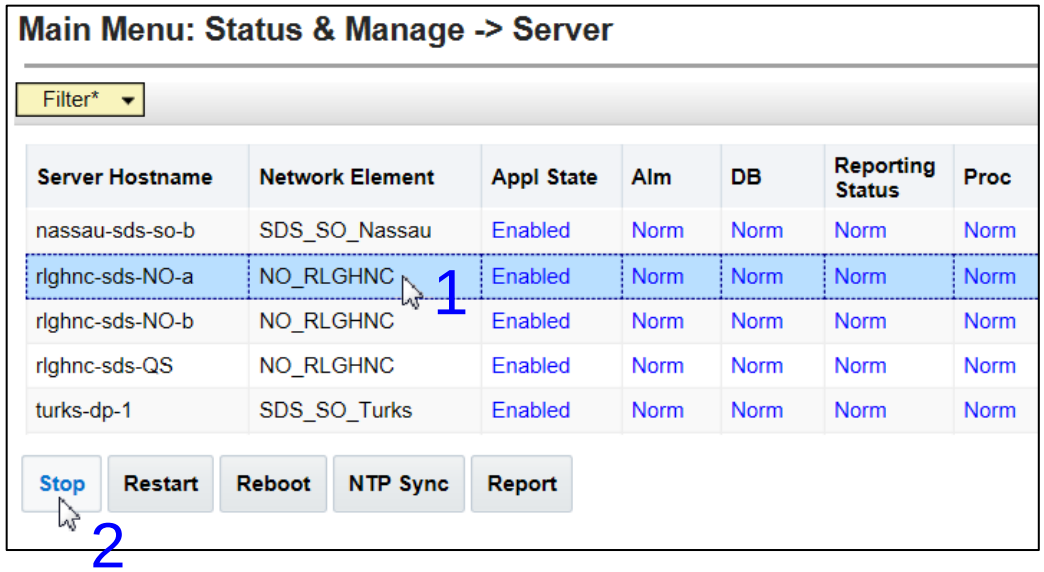
Step#	Procedure	Description
3. ☐	**Primary NOAM VIP:** The user should be presented the Product Main Menu as shown on the right. Verify that the message shown across the bottom of the panel indicates that the browser is using the **"VIP"** to connect to the **"ACTIVE NETWORK OAM&P".**	
4. ☐	**Primary NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ *HA*** …as shown on the right.	

Step#	Procedure	Description
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).* **Main Menu: Status & Manage -> HA** Filter* 2 | Hostname	OAM HA Role	Application HA Role	Max Allowed HA Role	Mate Hostname List	Network Element	Server Role
---	---	---	---	---	---	---
rlghnc-sds-NO-a	Standby	N/A	Active	rlghnc-sds-NO-b	NO_RLGHNC	Network OAM&P
rlghnc-sds-NO-b	Active	N/A	Active	rlghnc-sds-NO-a	NO_RLGHNC	Network OAM&P
mrsvnc-sds-NO-a	Standby	N/A	Active	mrsvnc-sds-NO-b	NO_MRSVNC	Network OAM&P
mrsvnc-sds-NO-b	Active	N/A	Active	mrsvnc-sds-NO-a	NO_MRSVNC	Network OAM&P
rlghnc-sds-QS	Observer	N/A	Observer	rlghnc-sds-NO-a rlghnc-sds-NO-b	NO_RLGHNC	Query Server

!!! 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.

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.	Site_1 = Primary_NOAM (Active) = _____ Site_1 = Primary_NOAM (Standby) = _____ Site_2 = DR_NOAM (Active) = _____ Site_2 = DR_NOAM (Standby) = _____

Step#	Procedure	Description
7. ☐	**Primary NOAM VIP:** Select… **Main Menu** → **Status & Manage** → ***Server*** …as shown on the right.	
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***.	 

Step#	Procedure	Description
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]****.*	**Main Menu: Status & Manage -> Server** Filter* Server Hostname / Network Element / Appl State / Alm / DB / Reporting Status / Proc nassau-sds-so-b / SDS_SO_Nassau / Enabled / Norm / Norm / Norm / Norm rlghnc-sds-NO-a / NO_RLGHNC / **Disabled** / **Warn** / Norm / Norm / **Man** rlghnc-sds-NO-b / NO_RLGHNC / Enabled / **Warn** / **Warn** / Norm / Norm rlghnc-sds-QS / NO_RLGHNC / Enabled / Norm / Norm / Norm / Norm turks-dp-1 / SDS_SO_Turks / Enabled / Norm / Norm / Norm / Norm
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.
11. ☐	**Primary NOAM VIP:** **"Stop"** the SW on the **DR NOAM *"Standby"*** Server.	Repeat **Steps 8 - 9** of this Procedure for the **DR NOAM *"Standby"*** Server.
12. ☐	**Primary NOAM VIP:** **"Stop"** the SW on the **DR NOAM *"Active"*** Server.	Repeat **Steps 8 - 9** of this Procedure for the **DR NOAM *"Active"*** Server.

Step#	Procedure	Description
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.el6prerel7.4.0.0.0_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= RELEASE=7.3.0 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds 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 0302:235:36.946 [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 A0907.113: rlghnc-sds-QS - 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 ~]$
18. ☐	**Primary NOAM VIP:** Verify that the value for **"myClusterRole"** is now **"Secondary"**.	[admusr@rlghnc-sds-NO-b ~]$ **top.myrole** myNodeId=A0907.121 myParentClusters=( ) myClusterRole=**Secondary** myRecognizedPrimary=A0907 myRecognizedSecondary=Unknown [admusr@rlghnc-sds-NO-b ~]$

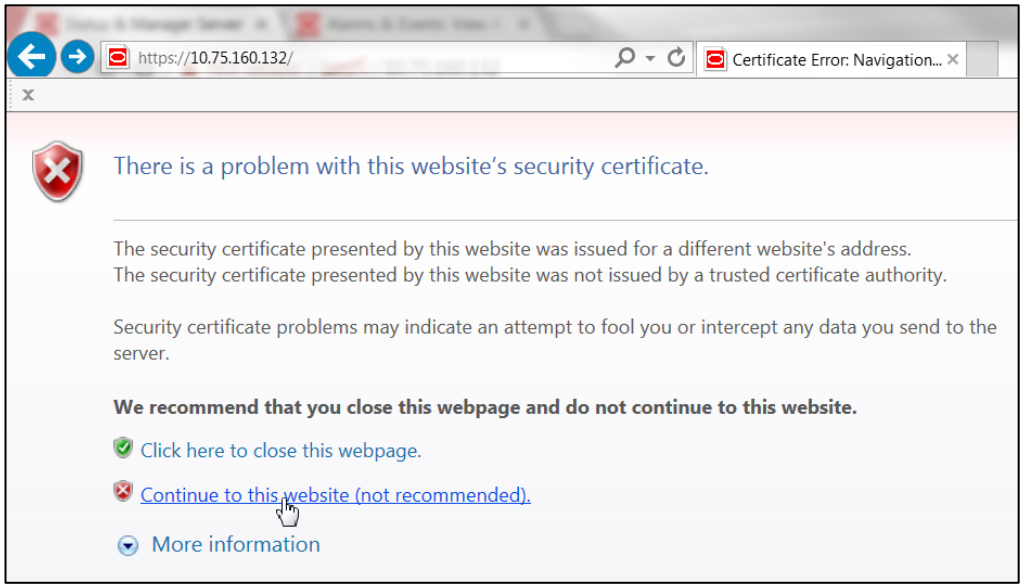
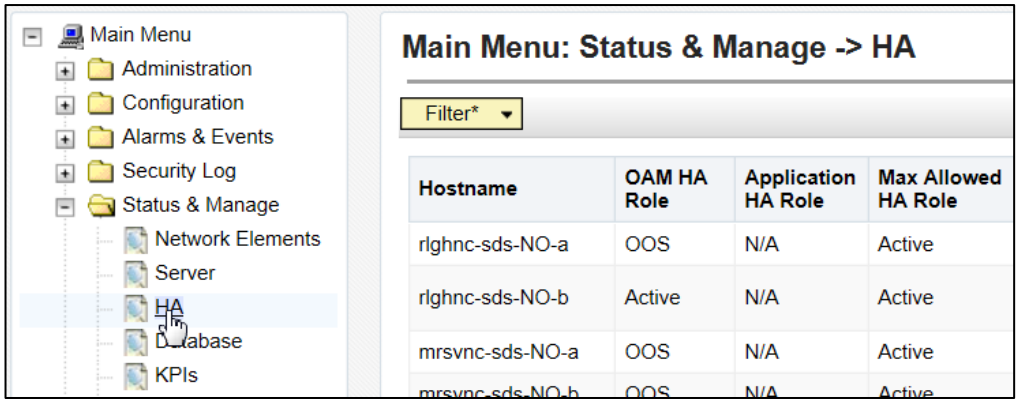
Step#	Procedure	Description
19. ☐	**Primary NOAM VIP:** Verify the current **PID** for the **"apwSoapServer"** process.	[admusr@rlghnc-sds-NO-b ~]$ **pl |grep Server** A **946215** apwSoapServer Up 03/02 23:52:31 3 !CMNOSIGCHK=1 apwSoapServer [admusr@rlghnc-sds-NO-b ~]$
20. ☐	**Primary NOAM VIP:** Restart the **"apwSoapServer"** process.	[admusr@rlghnc-sds-NO-b ~]$ **sudo pm.kill apwSoapServer** [admusr@rlghnc-sds-NO-b ~]$
21. ☐	**Primary NOAM VIP:** Verify that the **PID** for the **"apwSoapServer"** process has changed from the previous value shown in **Step 19** of this procedure.	[admusr@rlghnc-sds-NO-b ~]$ **pl |grep Server** A **951908** apwSoapServer Up 03/02 23:52:31 3 !CMNOSIGCHK=1 apwSoapServer [admusr@rlghnc-sds-NO-b ~]$
This Procedure has been completed. Return to Figure 1.		

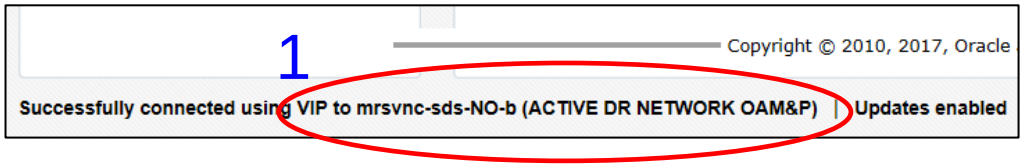
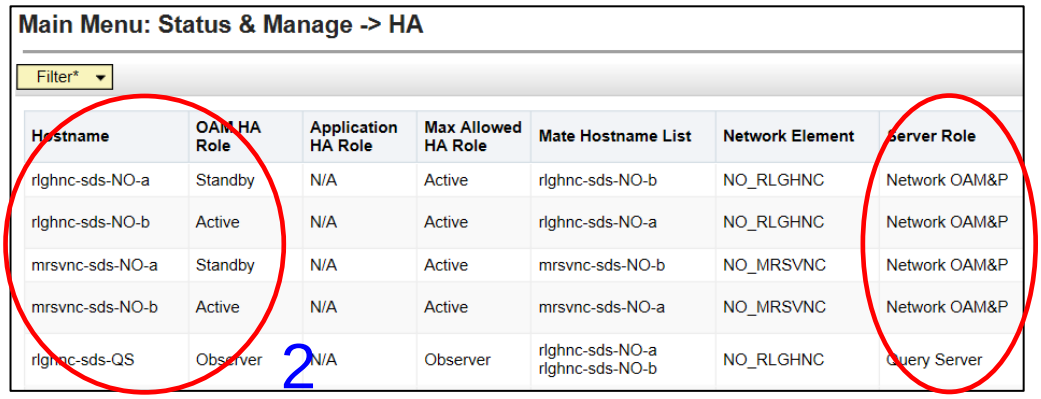
5.2 Promoting the DR NOAM from Secondary to Primary

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]

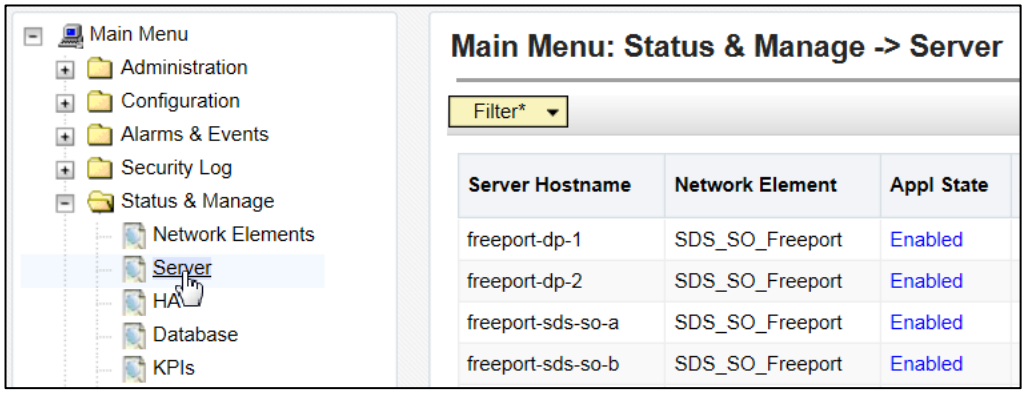
Step #	Procedure	Description
This procedure provides instructions on promoting the DR NOAM from Secondary to Primary. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. IF ANY STEP IN THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.		
1.	**DR NOAM:** **1)** Access the command prompt **(CLI)**. **2)** Log into the server as the "**admusr**" user.	Establish an SSH session to the SDS/DSR DR NOAM XMI IP address and login as admusr. msvnc-sds-NO-b login: **admusr** Password: ***<admusr_password>***
2.	**DR NOAM:** Check NOAM Status	Execute this command to find the state of the server: `$ ha.mystate` [admusr@msvnc-sds-NO-b ~]$ ha.mystate resourceId role node DC subResources lastUpdate DbReplication Act/Act A3374.144 * 0 180712:064445.775 VIP Act/Act A3374.144 * 0 180712:064445.875 CacdProcessRes Act/Act A3374.144 * 0 180712:064445.873 PDBA_Process Act/Act A3374.144 * 0 180712:064445.876 PDBAUDIT_Process Act/Act A3374.144 * 0 180712:064445.875 PDBRELAY_Process Act/Act A3374.144 * 0 180712:064445.876 XDS_Process Act/Act A3374.144 * 0 180712:064445.878 IMPORT_Process Act/Act A3374.144 * 0 180712:064445.876 EXPORT_Process Act/Act A3374.144 * 0 180712:064445.877 DPSERVER_Process Act/OOS A3374.144 * 0 180711:062936.051 Execute the following commands on the Active NOAM.
3. ☐	**DR NOAM:** Verify that the current value for **"myClusterRole"** is **"Secondary"**.	[admusr@mrsvnc-sds-NO-b ~]$ **top.myrole** myNodeId=A1103.165 myParentClusters=( ) myClusterRole=**Secondary** myRecognizedPrimary=A1103 myRecognizedSecondary=Unknown [admusr@mrsvnc-sds-NO-b ~]$
4. ☐	**DR NOAM:** Set the value for **"myClusterRole"** to **"Primary".**	[admusr@mrsvnc-sds-NO-b ~]$ **top.setPrimary** - Using my cluster: A1103 - 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 A1103.165: mrsvnc-sds-NO-b - Updating To A1103.223: mrsvnc-sds-NO-a [admusr@mrsvnc-sds-NO-b ~]$
5. ☐	**DR NOAM:** Verify that the value for **"myClusterRole"** is now **"Primary"**.	[admusr@mrsvnc-sds-NO-b ~]$ **top.myrole** myNodeId=A1103.165 myParentClusters=( ) myClusterRole=**Primary** myRecognizedPrimary=A1103 myRecognizedSecondary=A0907 [admusr@mrsvnc-sds-NO-b ~]$

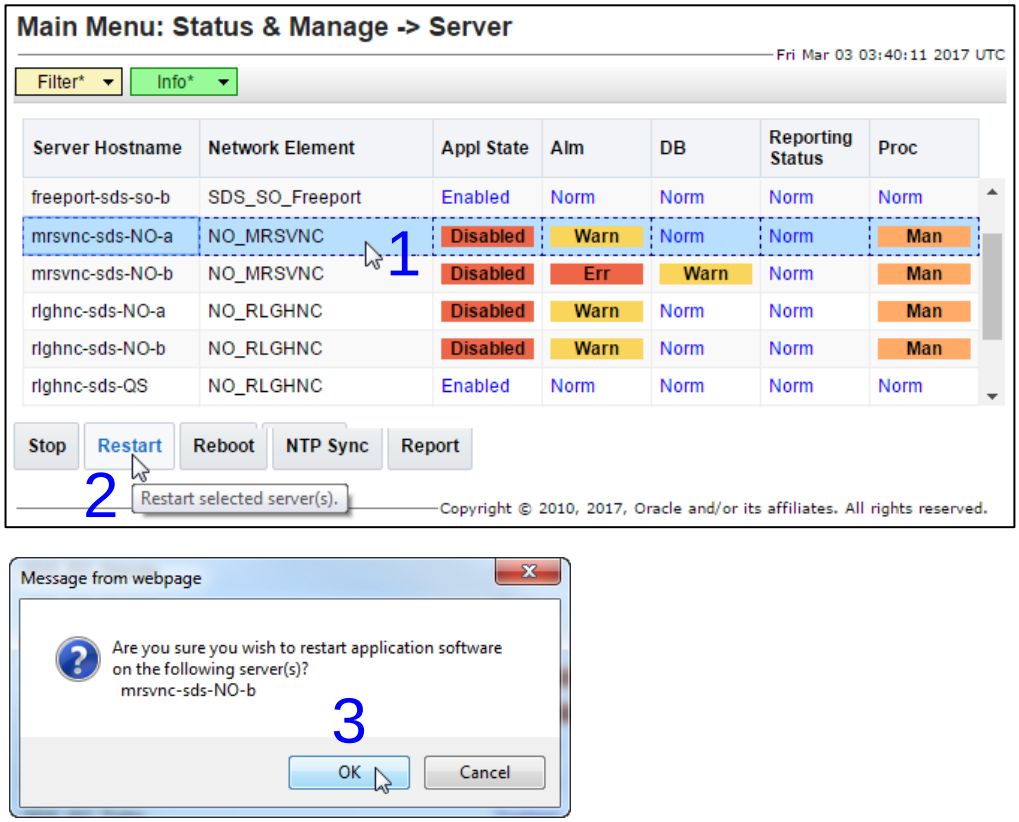
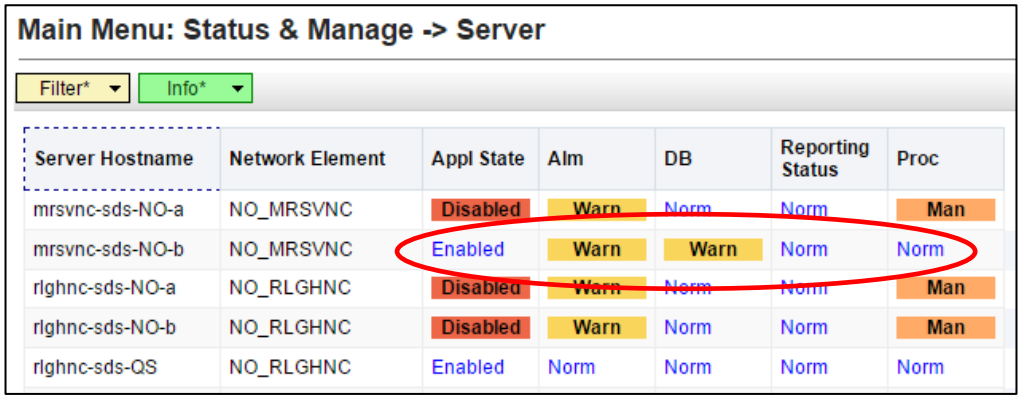
Step #	Procedure	Description
6. ☐	**New Primary NOAM VIP (former DR):** **1)** Launch an **HTML5** compliant browser and connect to the XMI Virtual IP address (VIP) assigned to **Primary Active NOAM site.** **2)** If a Certificate Error is received, click on the link which states… **"Continue to this 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.	
8. ☐	**New Primary NOAM VIP (former DR):** Select… **Main Menu** → **Status & Manage** → ***HA*** …as shown on the right.	

Step #	Procedure	Description
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) = _____
11. ☐	**New Primary NOAM VIP (former DR):** Select… **Main Menu** → **Status & Manage** → ***Server*** …as shown on the right.	

Step #	Procedure	Description
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".**	
14. ☐	**New Primary NOAM VIP (former DR):** **"Restart"** the SW on the **Primary NOAM *"Standby"*** Server.	Repeat **Steps 12 - 13** of this Procedure for the **Primary NOAM *"Standby"*** Server.
15. ☐	**New Primary NOAM VIP (former DR):** **"Restart"** the SW on the **DR NOAM *"Standby"*** Server.	Repeat **Steps 12 - 13** of this Procedure for the **DR NOAM *"Standby"*** Server.

Step #	Procedure	Description
16. ☐	**New Primary NOAM VIP (former DR):** **"Restart"** the SW on the **DR NOAM *"Active"*** Server.	Repeat **Steps 12 - 13** of this Procedure for the **DR NOAM *"Active"*** Server.



- **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.**

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 ~]$
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) = _____
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 ~]$
20. ☐	**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. Otherwise, continue to the next step.	***Syntax Example:*** $ irem HaClusterResourceCfg where "cluster='<*myRecognizedPrimary_clusterId*>'" [admusr@dominica-dr-noam-b ~]$ **irem HaClusterResourceCfg where "cluster='A0568'"** === deleted 1 records === [admusr@dominica-dr-noam-b ~]$

Step #	Procedure	Description
21. ☐	**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 ~]$ **echo "A1667|DSROAM_Proc|Yes" | iload -ha -xun -fcluster -fresource -foptional HaClusterResourceCfg** [admusr@dominica-dr-noam-b ~]$
22. ☐	**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.		

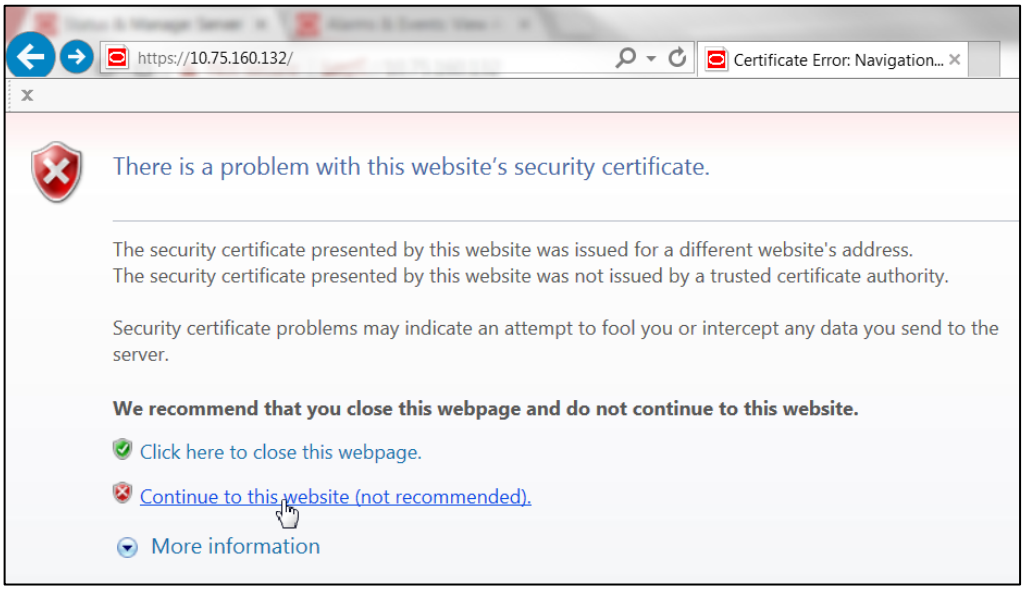
5.2.2 Promoting the DR NOAM from Secondary to Primary (Outage)

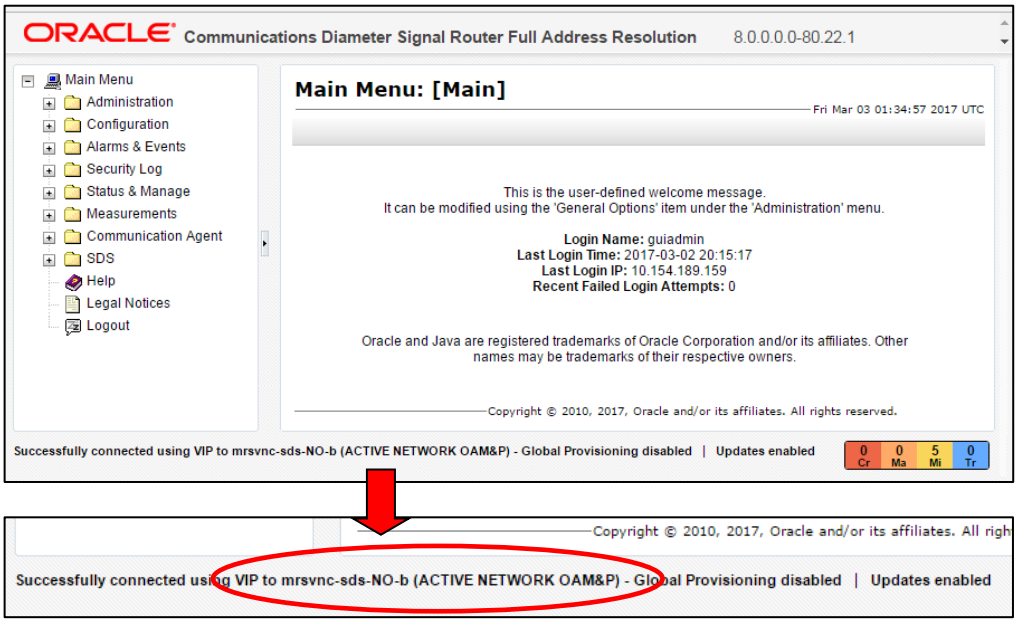
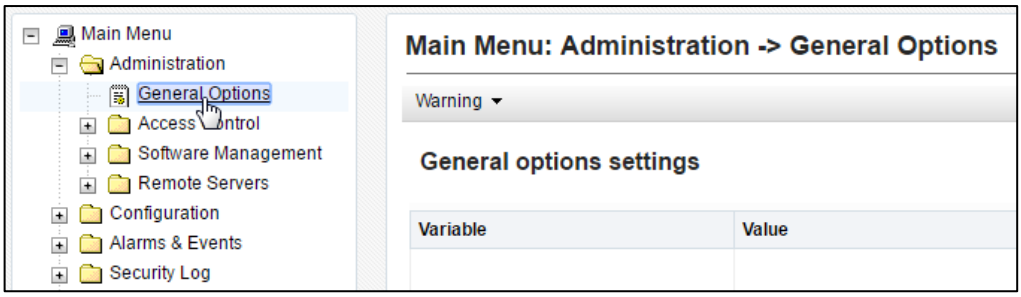
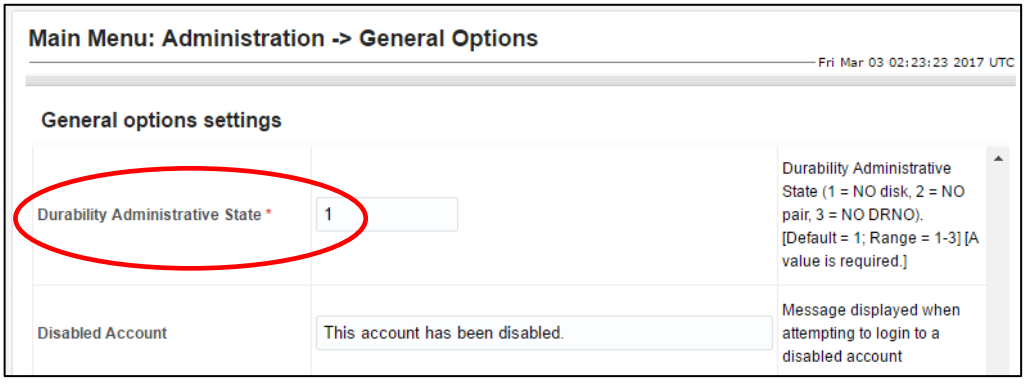
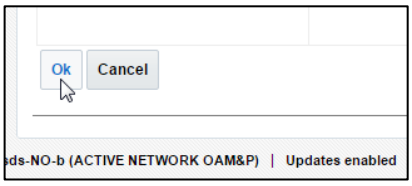
Procedure 6: Promoting the DR NOAM from Secondary to Primary *(Outage)* [Site_2]

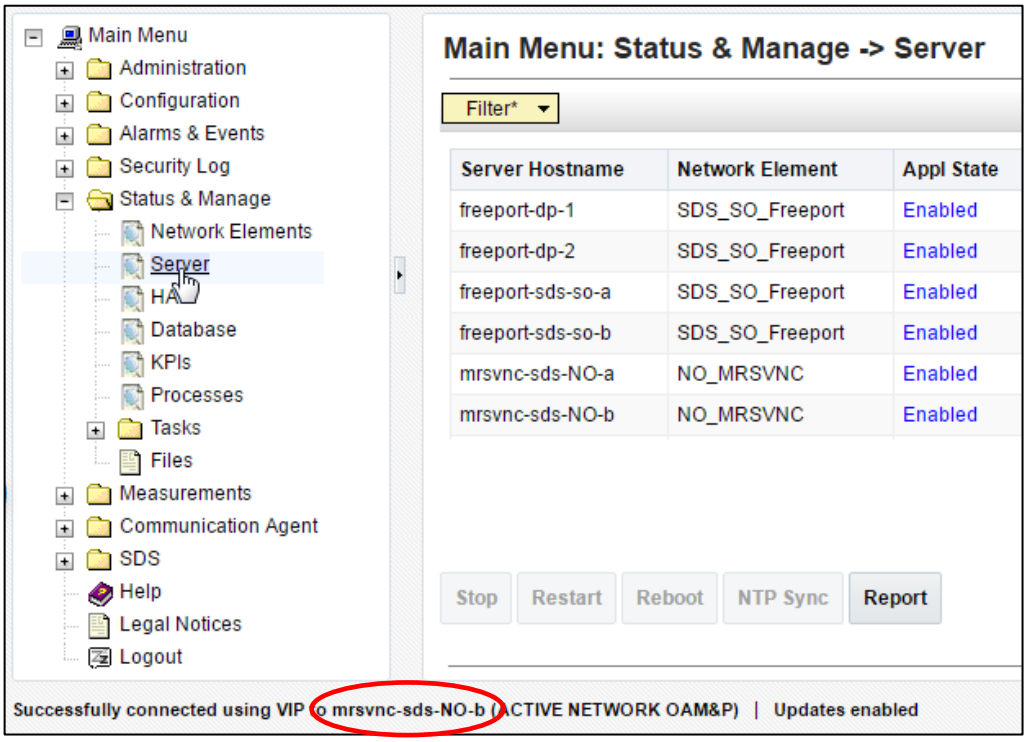
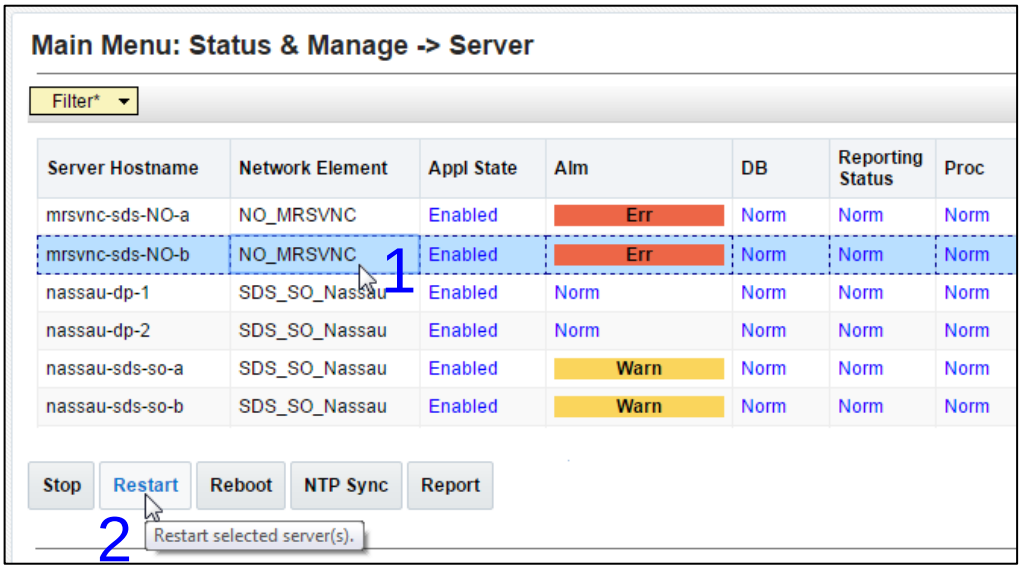
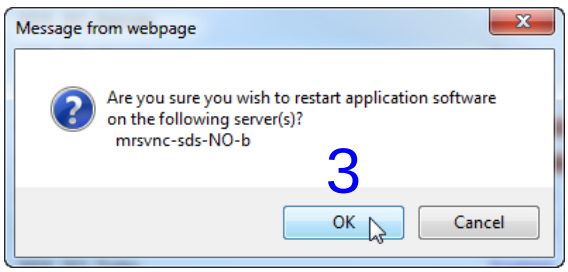
Step#	Procedure	Description
This procedure provides instructions on promoting the DR NOAM from Secondary to Primary. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. IF ANY STEP IN THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.		
1. ☐	**DR NOAM:** **1)** Access the command prompt **(CLI)**. **2)** Log into the server as the "**admusr**" user.	Establish an SSH session to the SDS/DSR DR NOAM XMI IP address and login as admusr. msvnc-sds-NO-b login: **admusr** Password: ***<admusr_password>***

2. ☐	**DR NOAM:**
	Check NOAM Status
		Execute this command to find the state of the server:
		`$ ha.mystate`
		[admusr@msvnc-sds-NO-b ~]$ ha.mystate
		`resourceId role node DC subResources lastUpdate`
		`DbReplication Act/Act A3374.144 * 0 180712:064445.775`
		`VIP Act/Act A3374.144 * 0 180712:064445.875`
		`CacdProcessRes Act/Act A3374.144 * 0 180712:064445.873`
		`PDBA_Process Act/Act A3374.144 * 0 180712:064445.876`
		`PDBAUDIT_Process Act/Act A3374.144 * 0 180712:064445.875`
		`PDBRELAY_Process Act/Act A3374.144 * 0 180712:064445.876`
		`XDS_Process Act/Act A3374.144 * 0 180712:064445.878`
		`IMPORT_Process Act/Act A3374.144 * 0 180712:064445.876`
		`EXPORT_Process Act/Act A3374.144 * 0 180712:064445.877`
		`DPSERVER_Process Act/OOS A3374.144 * 0 180711:062936.051`
		
		Execute the following commands on the Active NOAM.

Step#	Procedure	Description
3. ☐	**DR NOAM:** 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:** 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.*	[admusr@mrsvnc-sds-NO-b ~]$ **top.setSecondary A0907** - New Secondary Timestamp: 03/03/17 18:28:48.318 - Updating To A0907.060: rlghnc-sds-NO-a setSecondaryTo(A0907) 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-sds-QS setSecondaryTo(A0907) 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-sds-NO-b setSecondaryTo(A0907) 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: mrsvnc-sds-NO-b - Updating To A1103.223: mrsvnc-sds-NO-a [admusr@mrsvnc-sds-NO-b ~]$
5. ☐	**DR NOAM:** 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.*	[admusr@mrsvnc-sds-NO-b ~]$ **top.setPrimary** - Using my cluster: A1103 - New Primary Timestamp: 03/03/17 18:35:26.279 - Updating To A0907.060: rlghnc-sds-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-sds-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-sds-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: mrsvnc-sds-NO-b - Updating To A1103.223: mrsvnc-sds-NO-a [admusr@mrsvnc-sds-NO-b ~]$
6. ☐	**DR NOAM:** Verify that the value for **"myClusterRole"** is now set to **"Primary"**.	[admusr@mrsvnc-sds-NO-b ~]$ **top.myrole** myNodeId=A1103.165 myParentClusters=( ) myClusterRole=**Primary** myRecognizedPrimary=A1103 myRecognizedSecondary=A0907 [admusr@mrsvnc-sds-NO-b ~]$

Step#	Procedure	Description
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)."**	
8. ☐	**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.	

Step#	Procedure	Description
9. ☐	**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".**	
10. ☐	**New Primary NOAM VIP (former DR):** Select… **Main Menu** → **Administration** → ***General Options*** …as shown on the right.	
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.	 

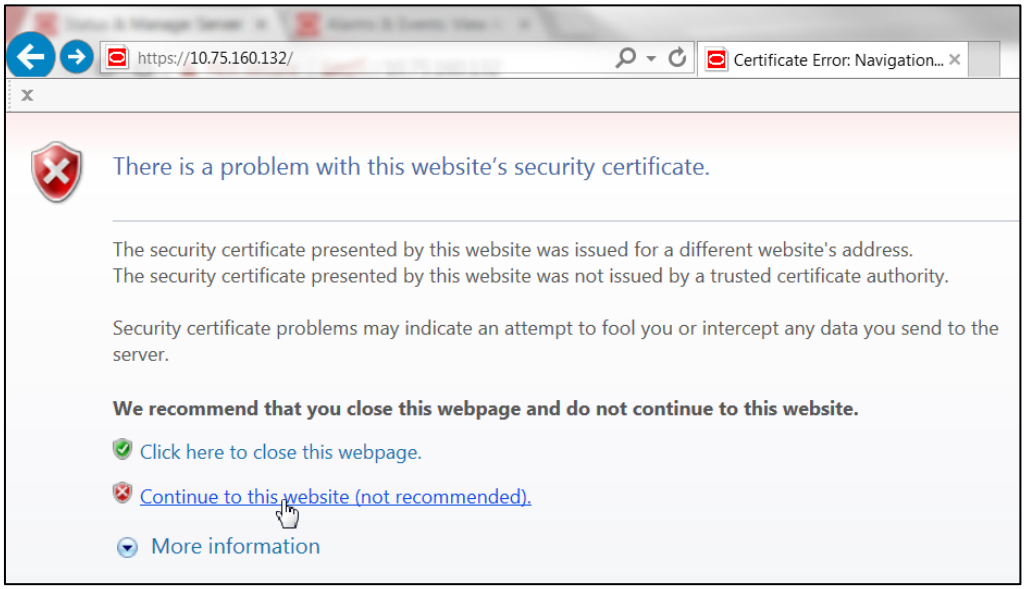
Step#	Procedure	Description
12. ☐	**New Primary NOAM VIP (former DR):** **1)** Select… **Main Menu** → **Status & Manage** → ***Server*** …as shown on the right. **2)** Identify the hostname of the **Primary Active NOAM** server from the banner message across the bottom of the browser window.	
13. ☐	**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.	 

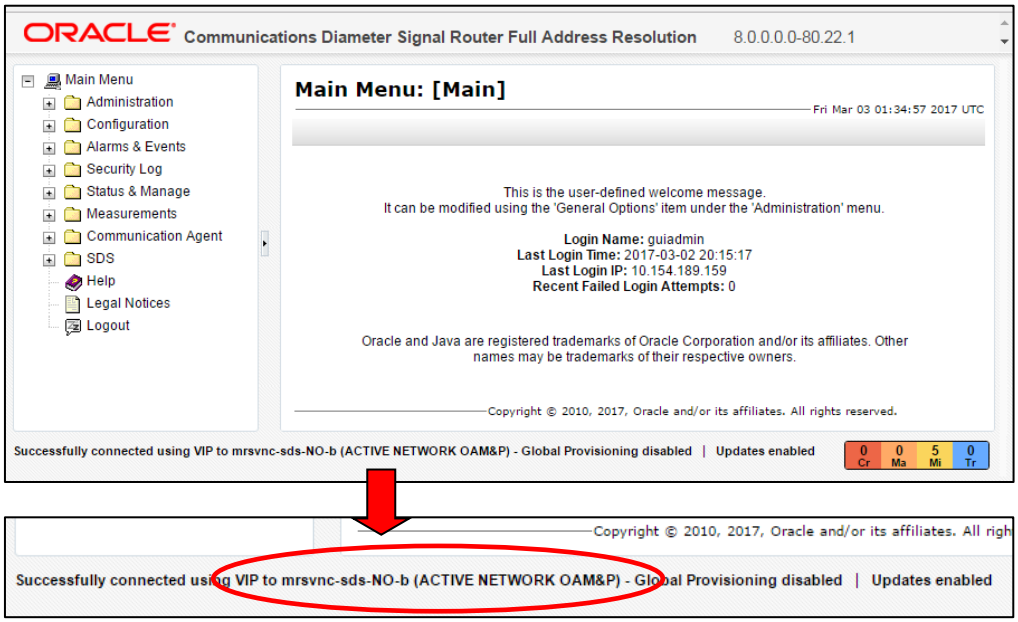
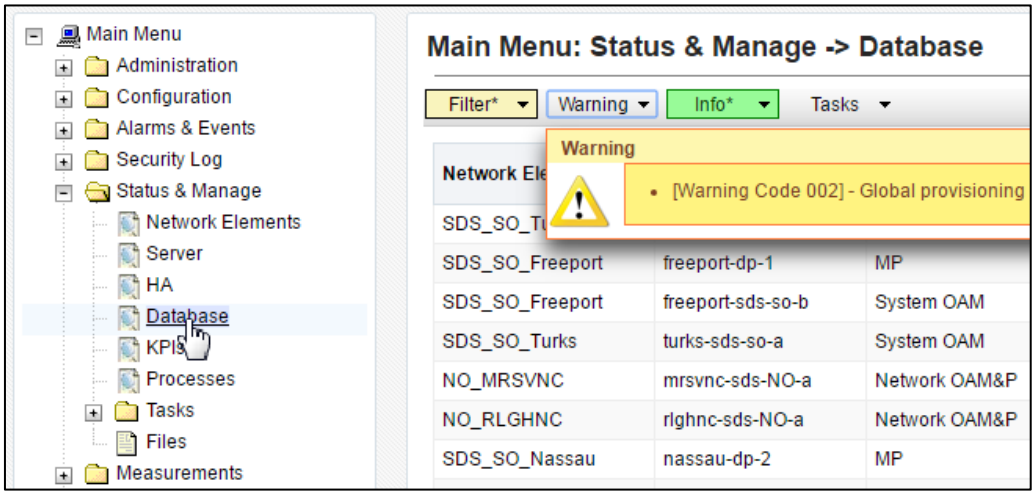
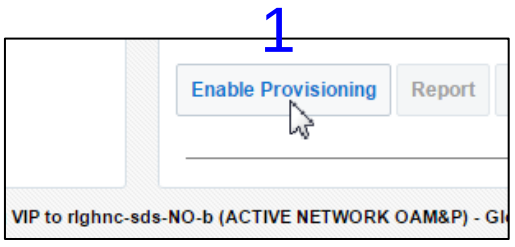
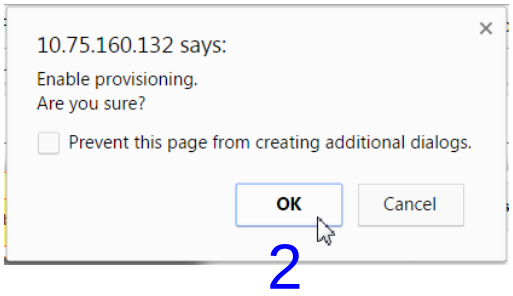
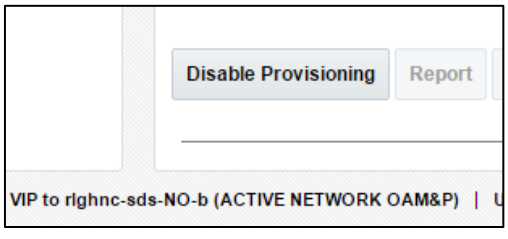
Step#	Procedure	Description
	• **FOR SDS SYSTEMS, THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS.** • **FOR DSR SYSTEMS ONLY, CONTINUE WITH STEP 14 OF THIS PROCEDURE.**	
14. ☐	***DSR Systems Only (Steps 14 - 19):*** **New Primary NOAM VIP (former DR):** Identify the **clusterId** 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) = _____
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. Otherwise, continue to the next step.	***Syntax Example:*** $ irem HaClusterResourceCfg where "cluster='<*myRecognizedPrimary_clusterId*>'" [admusr@dominica-dr-noam-b ~]$ **irem HaClusterResourceCfg where "cluster='A0568'"** === deleted 1 records === [admusr@dominica-dr-noam-b ~]$

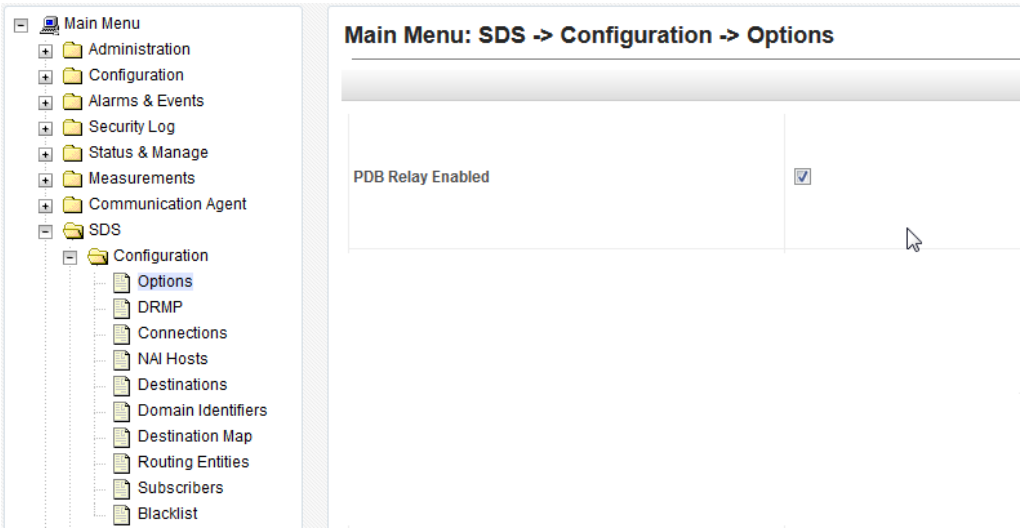
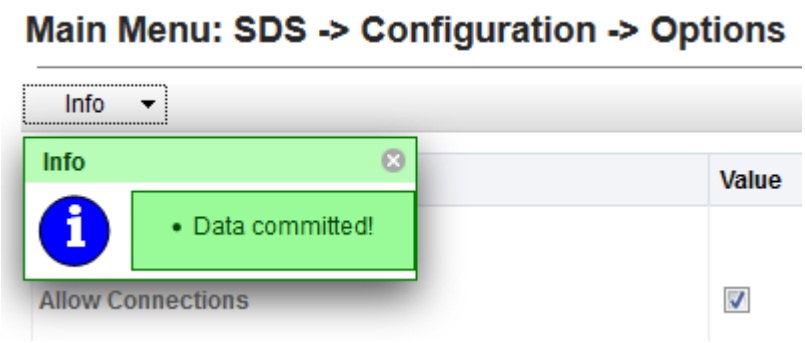
Step#	Procedure	Description
18. ☐	**New Primary NOAM VIP (former DR):** Add an entry to the "HaClusterResourceCfg" table for the *myRecognizedSecondary* value recorded in **Step 18** of this procedure.	***Syntax Example:*** $ echo "<*myRecognizedSecondary_clusterId*>|DSROAM_Proc|Yes" | iload -ha -xun -fcluster -fresource -foptional HaClusterResourceCfg [admusr@dominica-dr-noam-b ~]$ **echo "A1667|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]

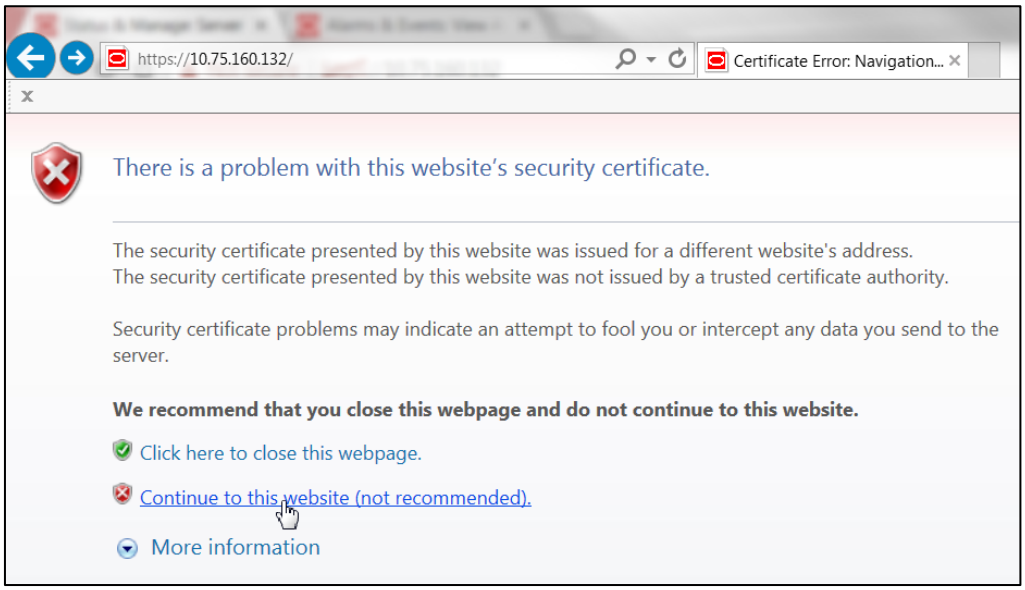
Step#	Procedure	Description
This procedure provides instructions on "Enable Global Provisioning" at the "newly promoted" Primary NOAM GUI. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. IF ANY STEP IN THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.		
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.	

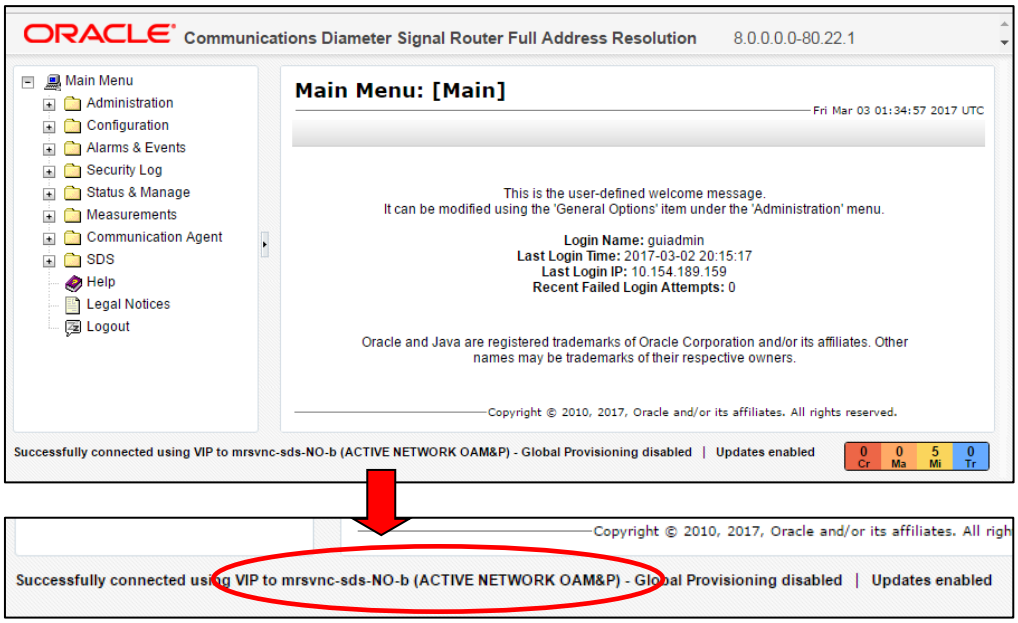
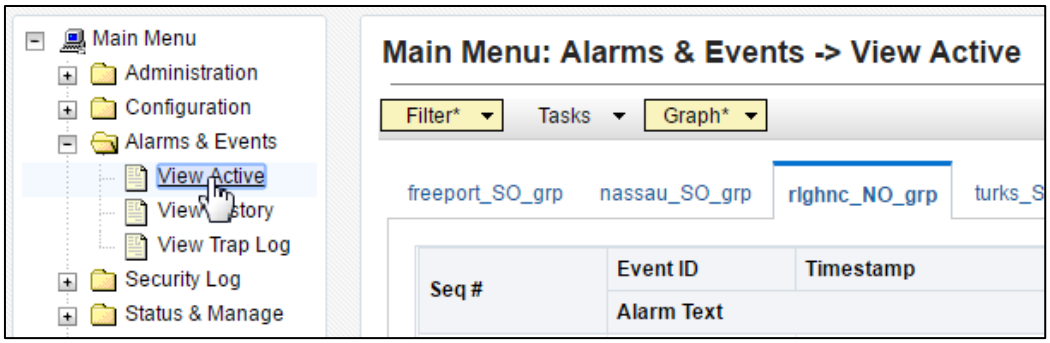
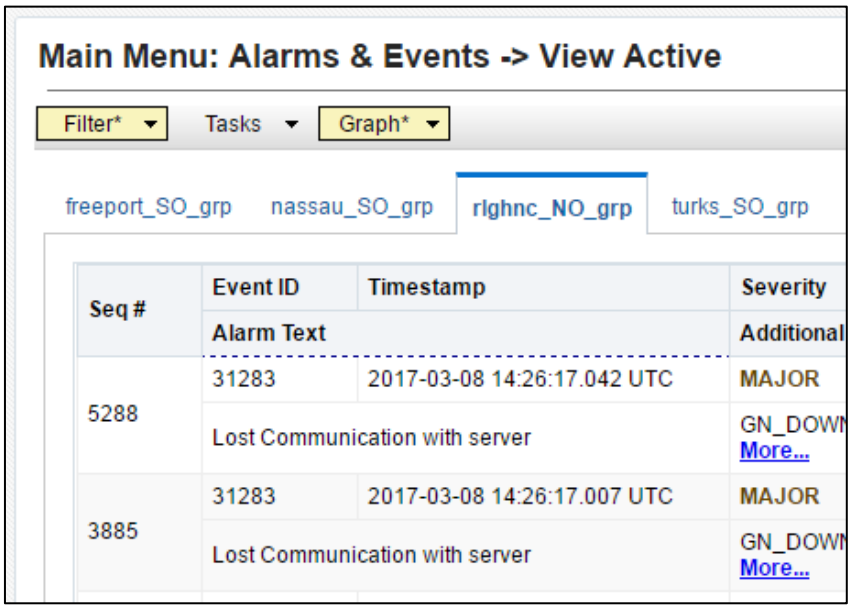
Step#	Procedure	Description
3. ☐	**New Primary NOAM VIP (former DR):** The user should be presented the Product Main Menu as shown on the right. Verify that the message shown across the bottom of the panel indicates that the browser is using the **"VIP"** to connect to the **"ACTIVE NETWORK OAM&P".**	
4. ☐	**Primary NOAM VIP:** Select… **<u>Main Menu</u>** **→ 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.	 
6. ☐	**Primary NOAM VIP:** Verify that the dialogue button located at the bottom of the right panel changes text to "**Disable Provisioning".**	

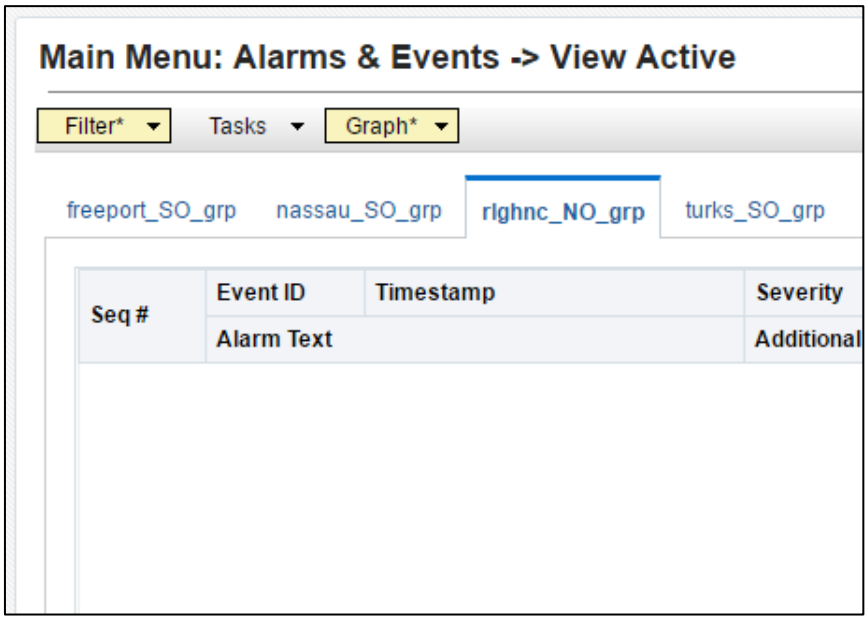
Step#	Procedure	Description
7.	**Primary NOAM VIP:** Enable PDB Relay. **Main Menu** **→ Configurations** **→ *Options*** …as shown on the right.	Go to **Configurations -> Options** Check the **PDB Relay Enabled** option box.  Click **Apply**.  The following confirmation message is received: 
This Procedure has been completed. Return to Figure 1.		

6. Verifying Alarm Status (after failover)

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

Step#	Procedure	Description
This procedure provides instructions on verifying alarms at the Primary Active 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.		
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.	

Step#	Procedure	Description
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****.*	

Step#	Procedure	Description
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 Oracle's Tekelec Customer Care Center if needed.	• Contact **My Oracle Support (MOS)** 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)**, 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. Backout Procedures

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

Step#	Procedure	Description
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.		
1. ☐	**Repeat Procedures in Figure 1.**	**The User should recognize that the Primary/Secondary NOAM states are now reversed from what they were prior to the previous execution of this procedure!!!** Insert the **Site_1** and **Site_2** names in the bottom of **Figure 1** according to the real-time state **(Primary/Secondary)** for each NOAM site and follow the Flowchart.
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.
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, 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.

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.

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.