

Oracle® Communications

Diameter Signaling Router

DSR/SDS NOAM Failover

Release 8.5

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October 2020

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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 prerequisite 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 Disaster Recovery User's Guide
- [3] SDS 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:

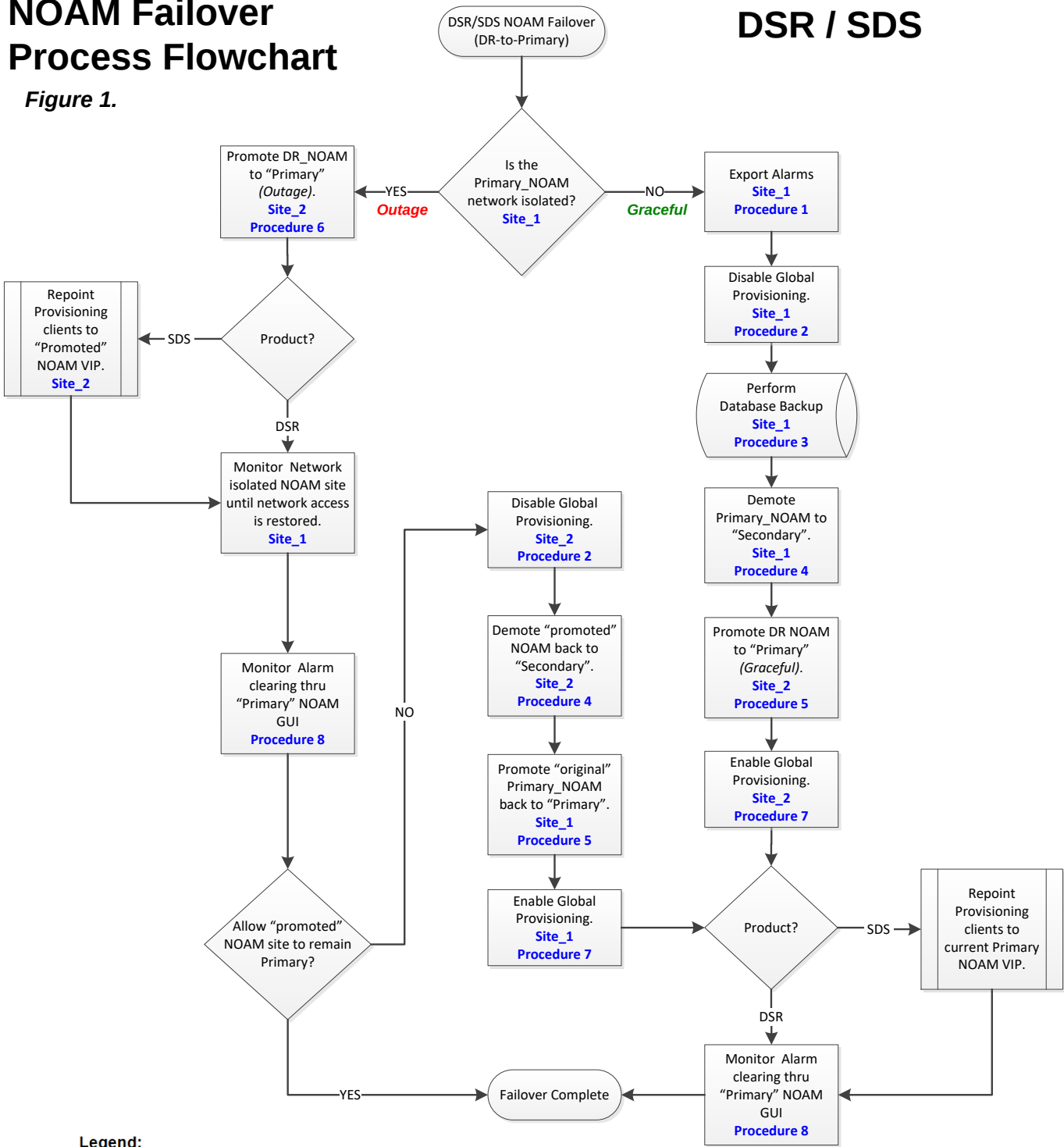
This document supports NOAM Failover for DSR/SDS 8.5 releases only (i.e. COMCOL 7.5).

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

- Executing to the flowchart, the user should execute all Procedures in this document as subroutines in a program (*i.e. always returning to the flowchart after executing a called out procedure*).
- After completing a “called out” Procedure, never continue on to the next Procedure unless directed to do so based on the logic trail followed from the flowchart in “**Figure 1**”.
- The user should understand that any NOAM NE may function as the “Primary” or the “Secondary” (*Disaster Recovery mode*). Do not confuse site names or designations with the actual functional state of the NOAM NE. Just because “DRNO” may be part of a NOAM server’s hostname does not mean that that server is currently running in Disaster Recovery mode (i.e. Secondary).
- Before starting this procedure, it is strongly suggested that the user print out **Figure 1** and write in the Primary (Site_1) and Disaster Recovery (Site_2) site names in the space provided (*see detailed description in Figure 1 Legend*).

NOAM Failover Process Flowchart

Figure 1.



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

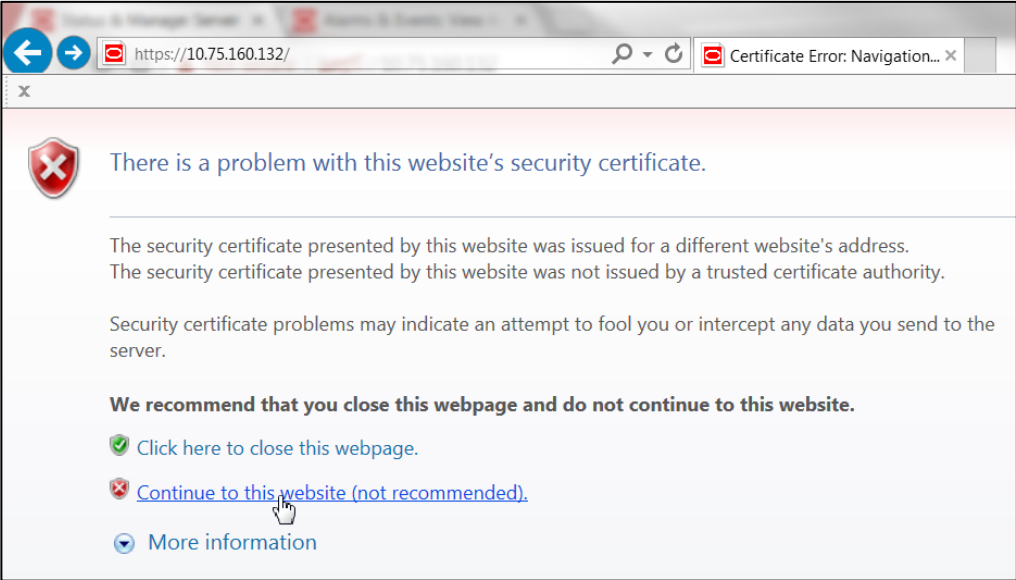
3. List of Procedures

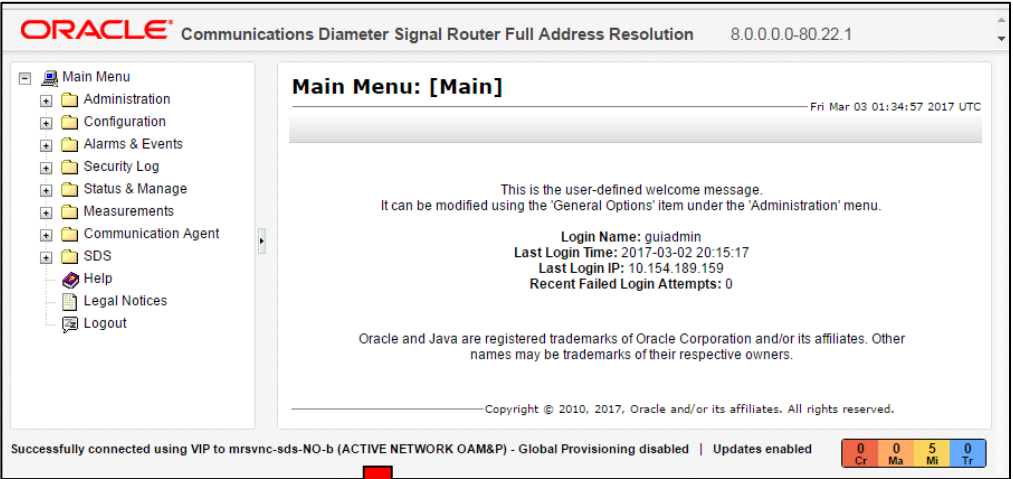
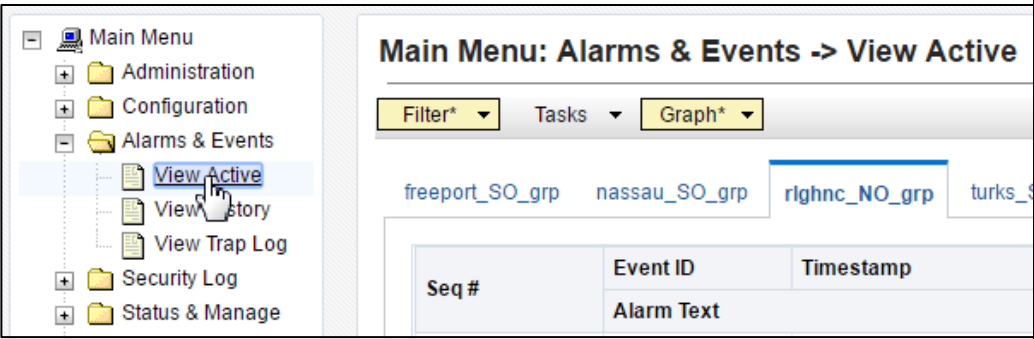
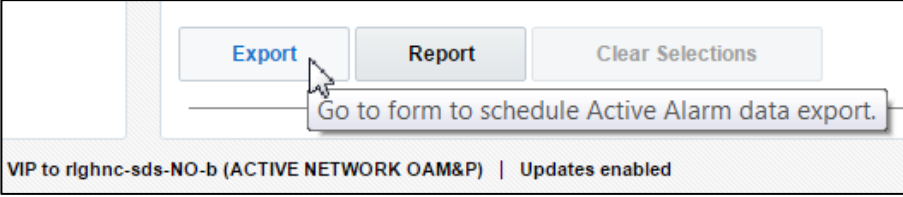
Procedure	Title	Page No.
Procedure 1	Procedure 1: Export Alarms at the Active NOAM [Site_1]	10
Procedure 2	Disable Global Provisioning / PDB Relay Verification [Site_1]	15
Procedure 3	Database Backup [Site_1]	21
Procedure 4	Demoting the Active NOAM from Primary to Secondary [Site_1]	26
Procedure 5	Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2]	33
Procedure 6	Promoting the DR NOAM from Secondary to Primary (Outage) [Site_2]	38
Procedure 7	Enable Global Provisioning [Site_2]	38
Procedure 8	Verify Alarm Status (system wide) at the Active Primary NOAM	45
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4. Pre-Failover Procedures

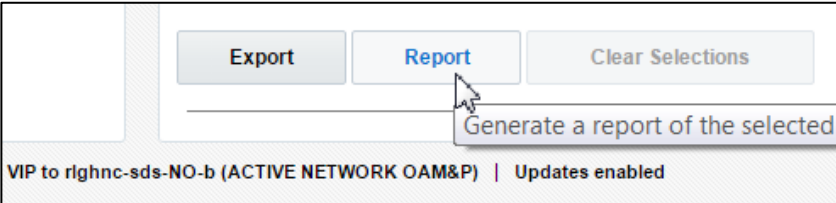
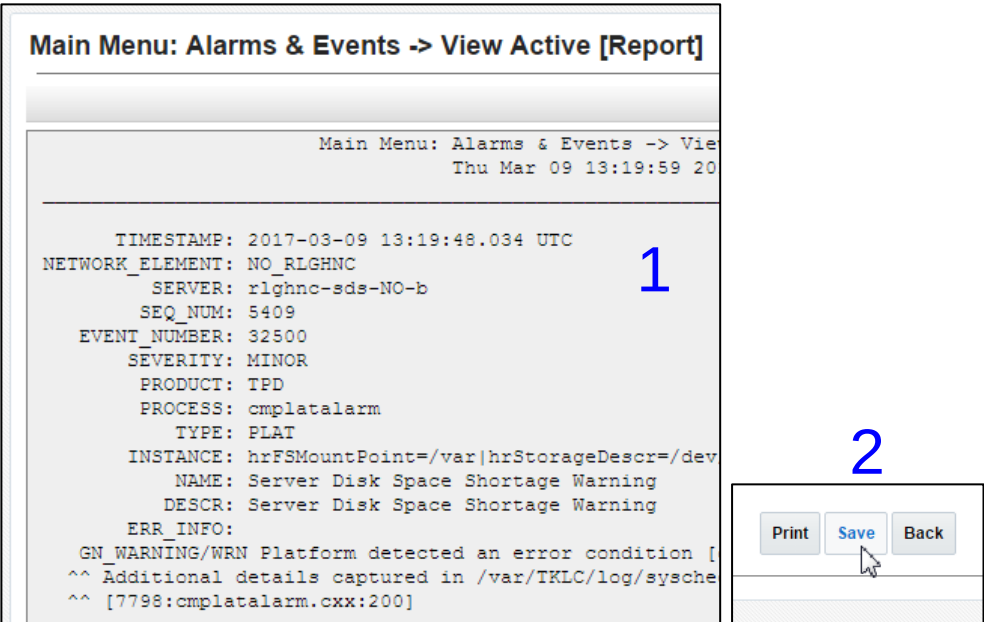
4.1 Exporting Alarms

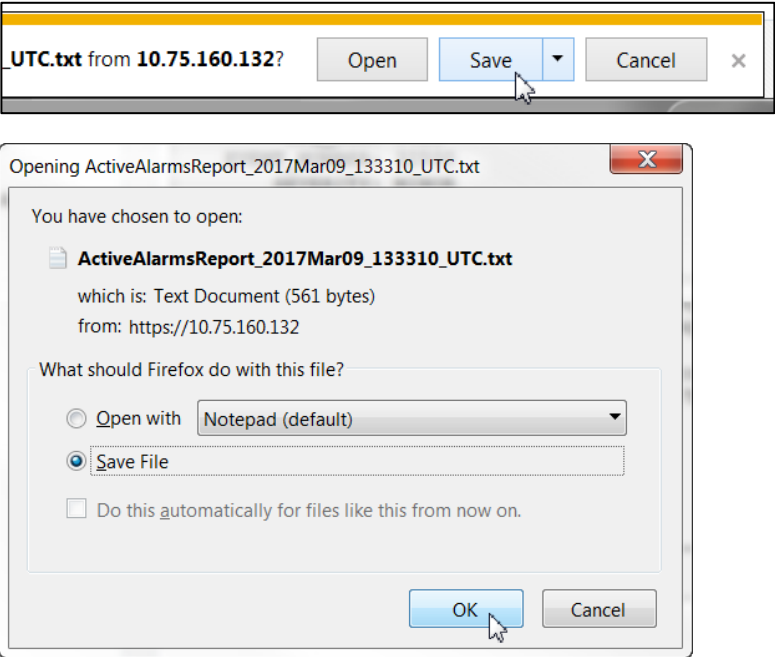
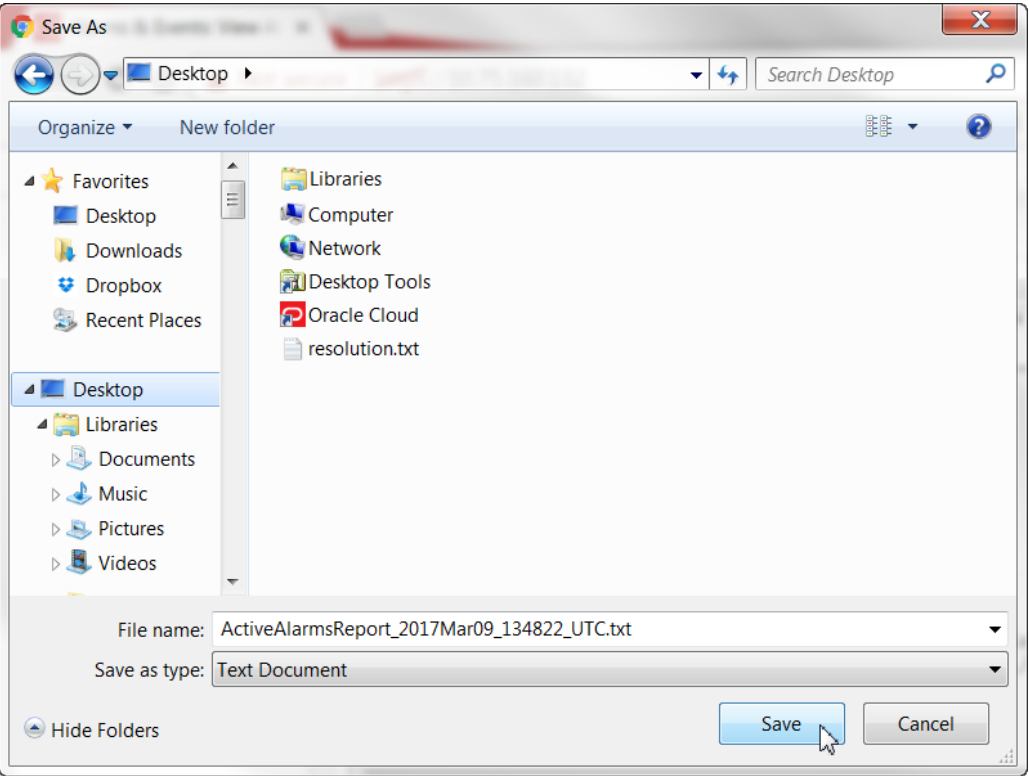
Procedure 1: Export Alarms at the Active NOAM [Site_1]

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 XML 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”.	 Successfully connected using VIP to mrsync-sds-NO-b (ACTIVE NETWORK OAM&P) - Global Provisioning disabled Updates enabled
4. ☐	Primary NOAM VIP: Select... Main Menu → Alarm & Events → View Active ...as shown on the right.	 Go to form to schedule Active Alarm data export.
5. ☐	Primary NOAM VIP: Select the “Export” dialogue button from the bottom left corner of the screen.	 Go to form to schedule Active Alarm data export.

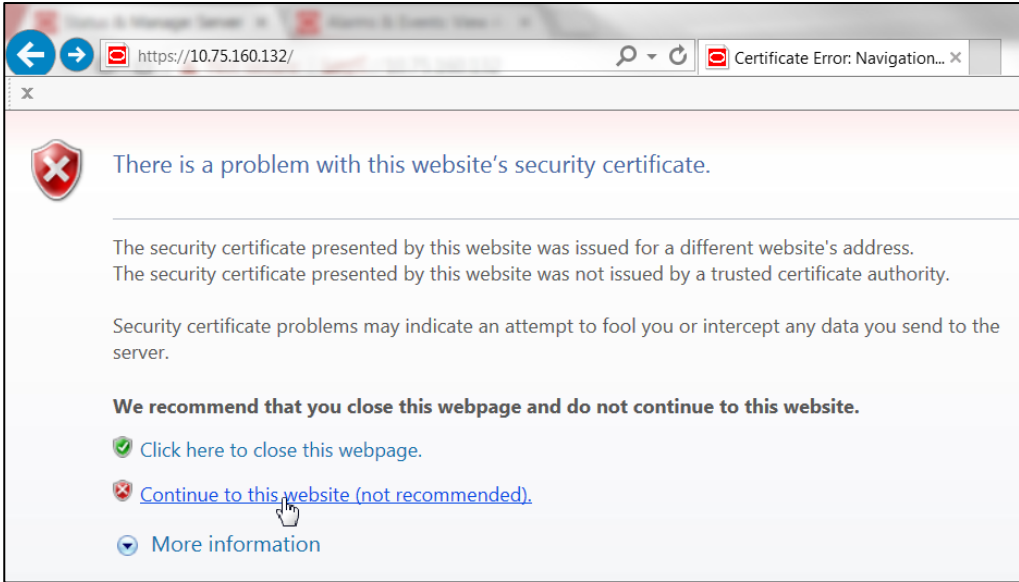
Step #	Procedure	Description																								
6. 	Primary NOAM VIP: Click the “Ok” button at the bottom of the screen.	Main Menu: Alarms & Events -> View Active [Export] <table><thead><tr><th>Attribute</th><th>Value</th><th>Description</th></tr></thead><tbody><tr><td>Export Frequency</td><td> Once Fifteen Minutes Hourly Daily Weekly </td><td>Select how often the data will be written to provisioning is enabled. [Default: Once.]</td></tr><tr><td>Task Name *</td><td>APDE Alarm Export</td><td>Periodic export task name. [Required. The must be an alpha character or a number.]</td></tr><tr><td>Description</td><td></td><td>Periodic export task description. [Optional. The last character must be an alpha chara</td></tr><tr><td>Filename Prefix</td><td></td><td>Export filename prefix. Characters to prepe</td></tr><tr><td>Minute</td><td> 0 </td><td>Select the minute of each hour when the d field displays the minute of the first transfer</td></tr><tr><td>Time of Day</td><td> 12:00 AM </td><td>Select the time of day when the data will be with AM/PM.]</td></tr><tr><td>Day of Week</td><td> Sunday Monday Tuesday Wednesday Thursday Friday Saturday </td><td>Select the day of week when the data will t</td></tr></tbody></table> Ok Cancel	Attribute	Value	Description	Export Frequency	Once Fifteen Minutes Hourly Daily Weekly	Select how often the data will be written to provisioning is enabled. [Default: Once.]	Task Name *	APDE Alarm Export	Periodic export task name. [Required. The must be an alpha character or a number.]	Description		Periodic export task description. [Optional. The last character must be an alpha chara	Filename Prefix		Export filename prefix. Characters to prepe	Minute	0	Select the minute of each hour when the d field displays the minute of the first transfer	Time of Day	12:00 AM	Select the time of day when the data will be with AM/PM.]	Day of Week	Sunday Monday Tuesday Wednesday Thursday Friday Saturday	Select the day of week when the data will t
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Time of Day	12:00 AM	Select the time of day when the data will be with AM/PM.]																								
Day of Week	Sunday Monday Tuesday Wednesday Thursday Friday Saturday	Select the day of week when the data will t																								
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.	Main Menu: Alarms & Events -> View Active Filter* Tasks Graph* freeport_S Seq # <table><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>9169</td><td>righnc-sds-NO-b</td><td>APDE Alarm Export</td><td>completed</td><td>Alarms_20170308-184416-UTC_9169.csv.gz</td><td>100%</td></tr></tbody></table>	ID	Hostname	Name	Task State	Details	Progress	9169	righnc-sds-NO-b	APDE Alarm Export	completed	Alarms_20170308-184416-UTC_9169.csv.gz	100%												
ID	Hostname	Name	Task State	Details	Progress																					
9169	righnc-sds-NO-b	APDE Alarm Export	completed	Alarms_20170308-184416-UTC_9169.csv.gz	100%																					

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: <code>Alarms_<yyyymmdd> - <hhmmss> - <TimeZone>_<Task_ID>.csv.gz</code> .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.	

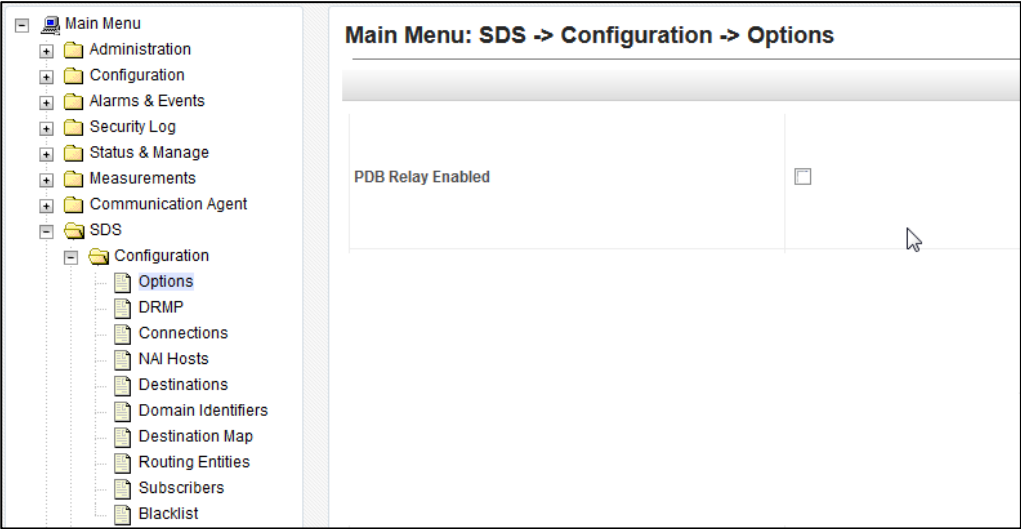
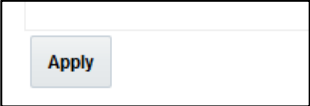
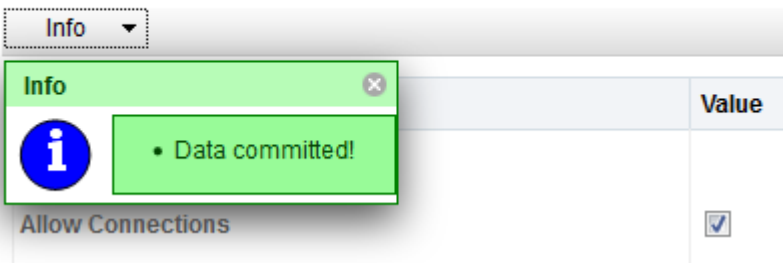
Step #	Procedure	Description
11. 	Primary NOAM VIP: Depending on the web browser, a “Save” file confirmation pop-up box may appear on the screen at this time (<i>some examples are shown to the right</i>). If so, select and click the “Save / Save File” dialogue button on the pop-up confirmation box.	
12. 	Primary NOAM VIP: Select a directory on the local disk drive to store the <i>Active “Alarms & Events” Report</i> file and click the “Save” dialogue button.	
This Procedure has been completed. Return to Figure 1 .		

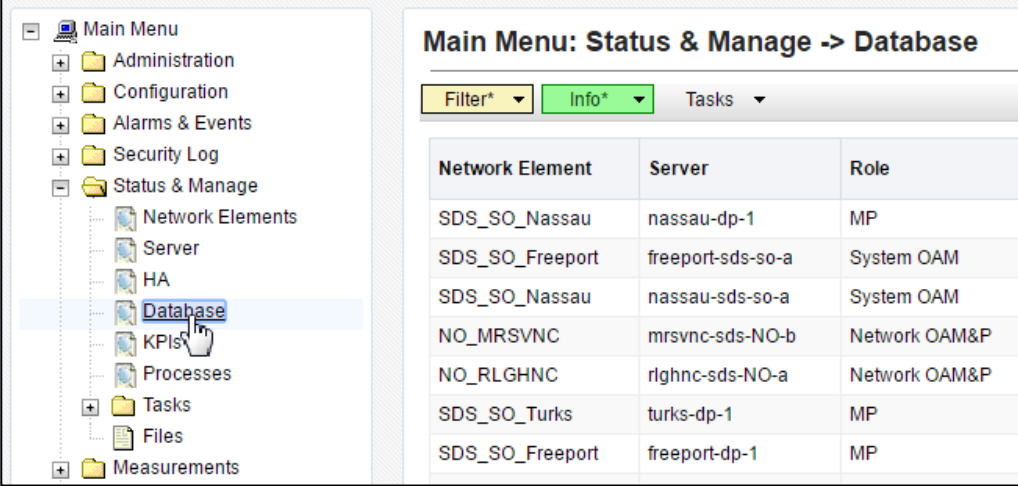
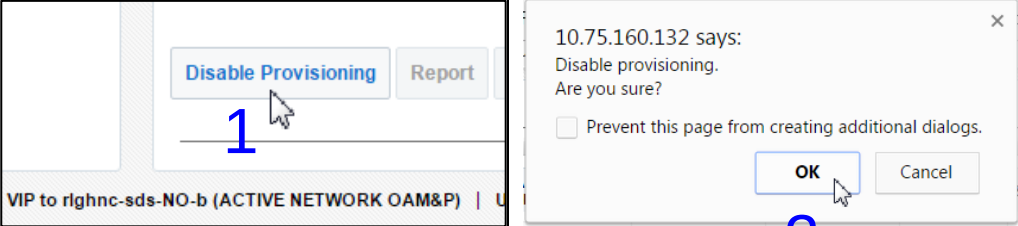
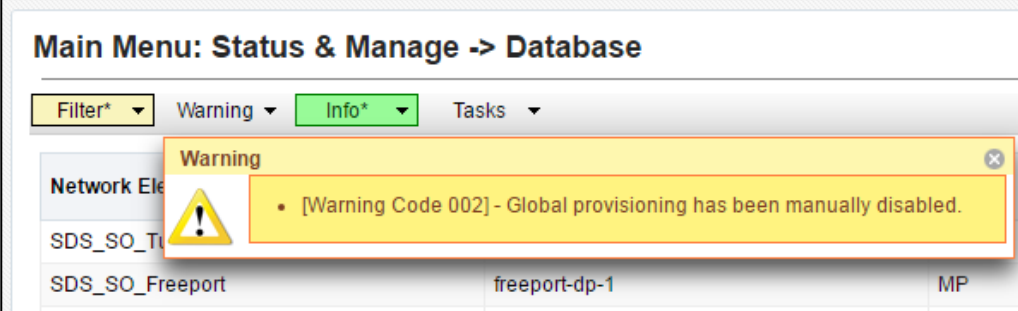
4.2 Disable Global Provisioning / PDB Relay Verification

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 XML 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”.	ORACLE® Communications Diameter Signal Router Full Address Resolution 8.0.0.0.0-80.22.1 Main Menu Administration Configuration Alarms & Events Security Log Status & Manage Measurements Communication Agent SDS Help Legal Notices Logout Main Menu: [Main] Wed Mar 01 19:03:11 2017 UTC This is the user-defined welcome message. It can be modified using the 'General Options' item under the 'Administration' menu. Login Name: guiadmin Last Login Time: 2017-03-01 17:03:04 Last Login IP: 10.75.9.98 Recent Failed Login Attempts: 0 Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2017, Oracle and/or its affiliates. All rights reserved. Successfully connected using VIP to righnc-sds-NO-b (ACTIVE NETWORK OAM&P) Updates enabled 0 Cr 0 Ma 0 Mi 0 Tr Successfully connected using VIP to righnc-sds-NO-b (ACTIVE NETWORK OAM&P) Updates enabled

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: Main Menu: SDS -> Configuration -> Options 

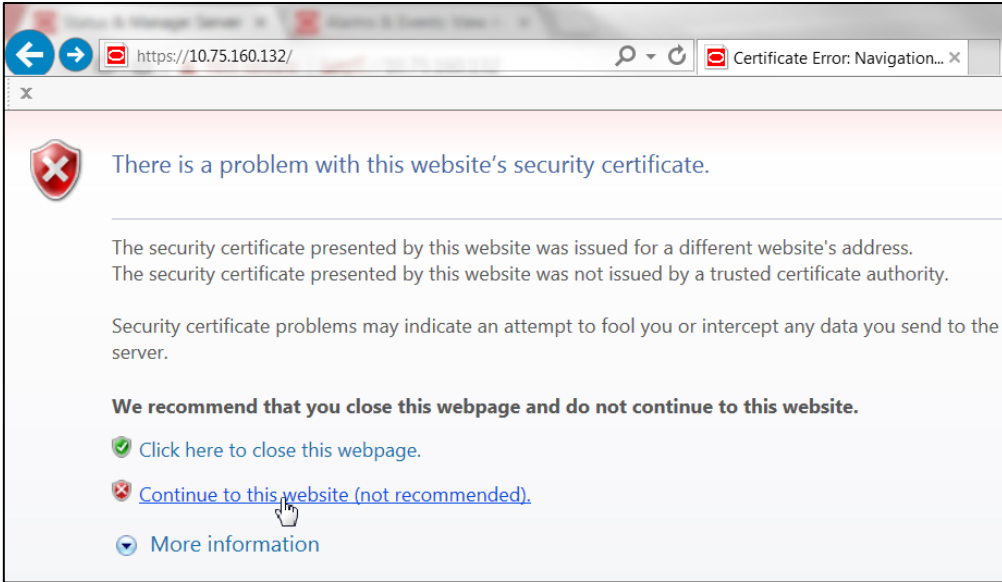
Step#	Procedure	Description																								
5. ☐	Primary NOAM VIP: Select... Main Menu → Status & Manage → Database ...as shown on the right.	 <table border="1"> <thead> <tr> <th>Network Element</th><th>Server</th><th>Role</th></tr> </thead> <tbody> <tr> <td>SDS_SO_Nassau</td><td>nassau-dp-1</td><td>MP</td></tr> <tr> <td>SDS_SO_Freepoint</td><td>freepoint-sds-so-a</td><td>System OAM</td></tr> <tr> <td>SDS_SO_Nassau</td><td>nassau-sds-so-a</td><td>System OAM</td></tr> <tr> <td>NO_MRSVNC</td><td>mrsvnc-sds-NO-b</td><td>Network OAM&P</td></tr> <tr> <td>NO_RLGHNC</td><td>rlghnc-sds-NO-a</td><td>Network OAM&P</td></tr> <tr> <td>SDS_SO_Turks</td><td>turks-dp-1</td><td>MP</td></tr> <tr> <td>SDS_SO_Freepoint</td><td>freepoint-dp-1</td><td>MP</td></tr> </tbody> </table>	Network Element	Server	Role	SDS_SO_Nassau	nassau-dp-1	MP	SDS_SO_Freepoint	freepoint-sds-so-a	System OAM	SDS_SO_Nassau	nassau-sds-so-a	System OAM	NO_MRSVNC	mrsvnc-sds-NO-b	Network OAM&P	NO_RLGHNC	rlghnc-sds-NO-a	Network OAM&P	SDS_SO_Turks	turks-dp-1	MP	SDS_SO_Freepoint	freepoint-dp-1	MP
Network Element	Server	Role																								
SDS_SO_Nassau	nassau-dp-1	MP																								
SDS_SO_Freepoint	freepoint-sds-so-a	System OAM																								
SDS_SO_Nassau	nassau-sds-so-a	System OAM																								
NO_MRSVNC	mrsvnc-sds-NO-b	Network OAM&P																								
NO_RLGHNC	rlghnc-sds-NO-a	Network OAM&P																								
SDS_SO_Turks	turks-dp-1	MP																								
SDS_SO_Freepoint	freepoint-dp-1	MP																								
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.																										

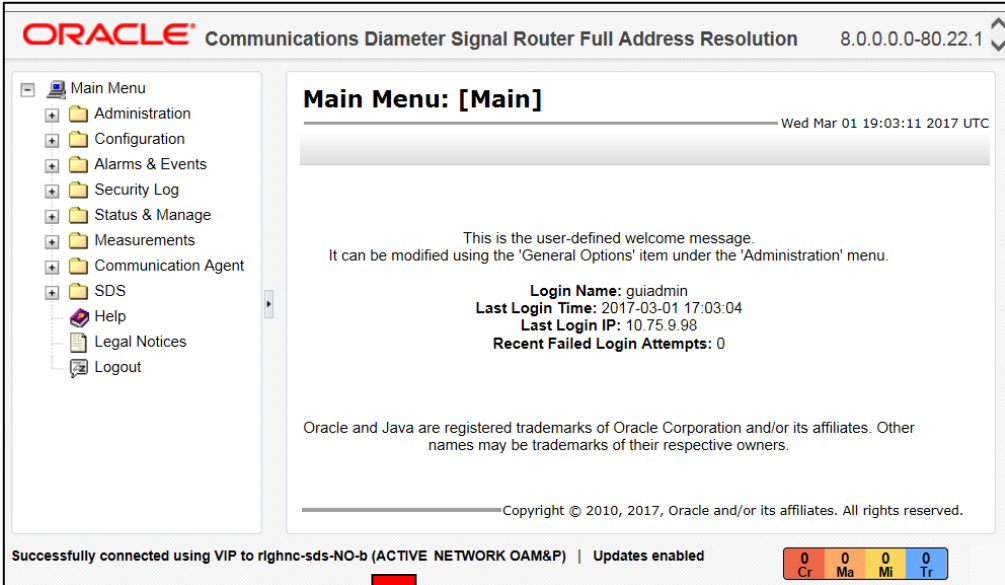
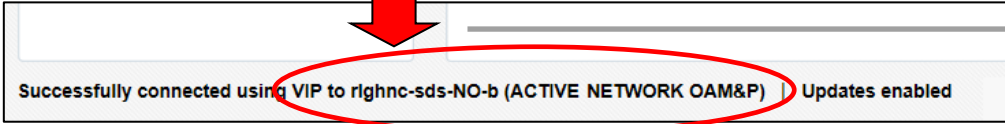
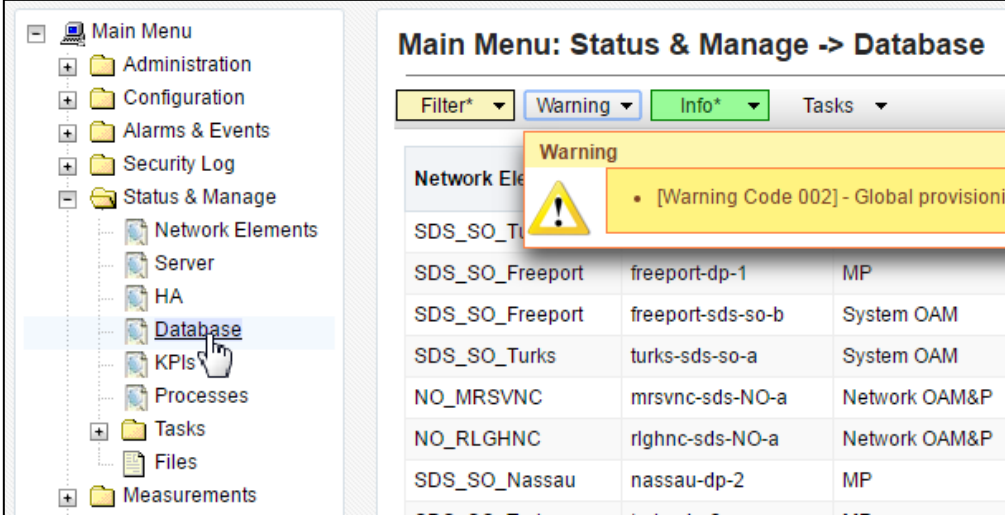
Step#	Procedure	Description
8. ☐	SDS Systems Only (Steps 8 - 15): Primary NOAM VIP: 1) Access the command prompt (CLI). 2) Log into the server as the "admusr" user. NOTE: The password will not appear on the screen as the characters are typed.	rlghnc-sds-NO-b login: admusr Password: <admusr_password>
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 0302:235736.946 [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: _____

Step#	Procedure	Description
	WAIT 30 SECONDS BEFORE EXECUTING THE NEXT STEP.	
	14. ☐ Primary NOAM VIP: Retrieve the pdbRelay timestamp again.	<pre>[admusr@righnc-sds-NO-b ~]\$ iqt -zhp -fvalue ProvOptions where "var='pdbRelayMsgLogTimeStamp'" 1524776142883 [admusr@righnc-sds-NO-b ~]\$</pre>
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

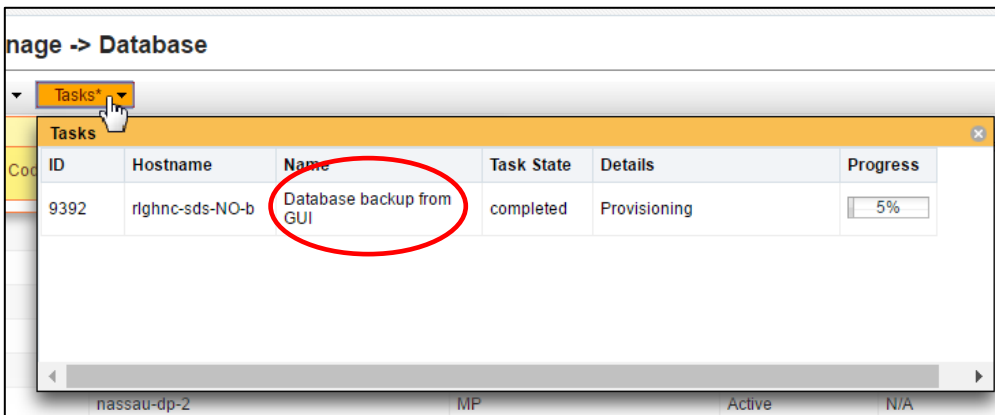
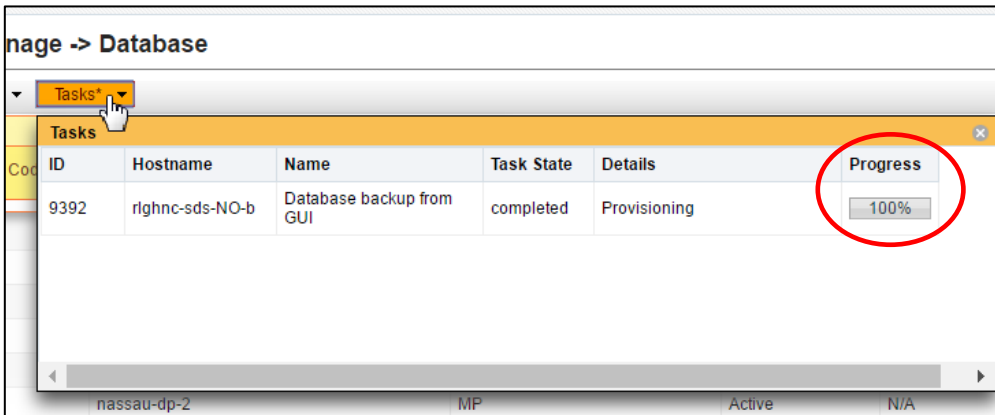
Procedure 3: Database Backup [Site_1]

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.	Main Menu: Status & Manage -> Database Filter* Warning Info* Tasks <table><thead><tr><th>Network Element</th><th>Server</th><th>Role</th><th>OAM Max HA Role</th><th>Application Max HA Role</th></tr></thead><tbody><tr><td>NO_MRSVNC</td><td>mrsvnc-sds-NO-a</td><td>Network OAM&P</td><td>Standby</td><td>N/A</td></tr><tr><td>NO_MRSVNC</td><td>mrsvnc-sds-NO-b</td><td>Network OAM&P</td><td>Active</td><td>N/A</td></tr><tr><td>NO_RLGHNC</td><td>rlghnc-sds-NO-b</td><td>Network OAM&P</td><td>Active</td><td>N/A</td></tr><tr><td>NO_RLGHNC</td><td>rlghnc-sds-NO-a</td><td>Network OAM&P</td><td>Standby</td><td>N/A</td></tr><tr><td>NO_RLGHNC</td><td>rlghnc-sds-QS</td><td>Query Server</td><td>Observer</td><td>N/A</td></tr><tr><td>SDS_SO_Freeport</td><td>freeport-dp-1</td><td>MP</td><td>Active</td><td>N/A</td></tr><tr><td>SDS_SO_Freeport</td><td>freeport-sds-so-h</td><td>System OAM</td><td>Standby</td><td>N/A</td></tr></tbody></table> Enable Provisioning Report Inhibit/Allow Replication Backup... Compare... Restore Main Menu: Status & Manage -> Database [Backup] Database Backup <table><thead><tr><th>Field</th><th>Value</th></tr></thead><tbody><tr><td colspan="2">Server: rlghnc-sds-NO-b</td></tr><tr><td>Select data for backup</td><td> ☒ Provisioning ☒ Configuration </td></tr><tr><td>Compression *</td><td> ☐ gzip ☒ bzip2 ☐ none </td></tr><tr><td>Archive Name *</td><td>Backup.sds.rlghnc-sds-NO-b.ProvisioningAndConfiguratio</td></tr><tr><td>Comment</td><td> </td></tr></tbody></table> Ok Cancel	Network Element	Server	Role	OAM Max HA Role	Application Max HA Role	NO_MRSVNC	mrsvnc-sds-NO-a	Network OAM&P	Standby	N/A	NO_MRSVNC	mrsvnc-sds-NO-b	Network OAM&P	Active	N/A	NO_RLGHNC	rlghnc-sds-NO-b	Network OAM&P	Active	N/A	NO_RLGHNC	rlghnc-sds-NO-a	Network OAM&P	Standby	N/A	NO_RLGHNC	rlghnc-sds-QS	Query Server	Observer	N/A	SDS_SO_Freeport	freeport-dp-1	MP	Active	N/A	SDS_SO_Freeport	freeport-sds-so-h	System OAM	Standby	N/A	Field	Value	Server: rlghnc-sds-NO-b		Select data for backup	☒ Provisioning ☒ Configuration	Compression *	☐ gzip ☒ bzip2 ☐ none	Archive Name *	Backup.sds.rlghnc-sds-NO-b.ProvisioningAndConfiguratio	Comment	
Network Element	Server	Role	OAM Max HA Role	Application Max HA Role																																																		
NO_MRSVNC	mrsvnc-sds-NO-a	Network OAM&P	Standby	N/A																																																		
NO_MRSVNC	mrsvnc-sds-NO-b	Network OAM&P	Active	N/A																																																		
NO_RLGHNC	rlghnc-sds-NO-b	Network OAM&P	Active	N/A																																																		
NO_RLGHNC	rlghnc-sds-NO-a	Network OAM&P	Standby	N/A																																																		
NO_RLGHNC	rlghnc-sds-QS	Query Server	Observer	N/A																																																		
SDS_SO_Freeport	freeport-dp-1	MP	Active	N/A																																																		
SDS_SO_Freeport	freeport-sds-so-h	System OAM	Standby	N/A																																																		
Field	Value																																																					
Server: rlghnc-sds-NO-b																																																						
Select data for backup	☒ Provisioning ☒ Configuration																																																					
Compression *	☐ gzip ☒ bzip2 ☐ none																																																					
Archive Name *	Backup.sds.rlghnc-sds-NO-b.ProvisioningAndConfiguratio																																																					
Comment																																																						
6. ☐	Primary NOAM VIP: The user will be presented with the Database [Backup] screen.																																																					

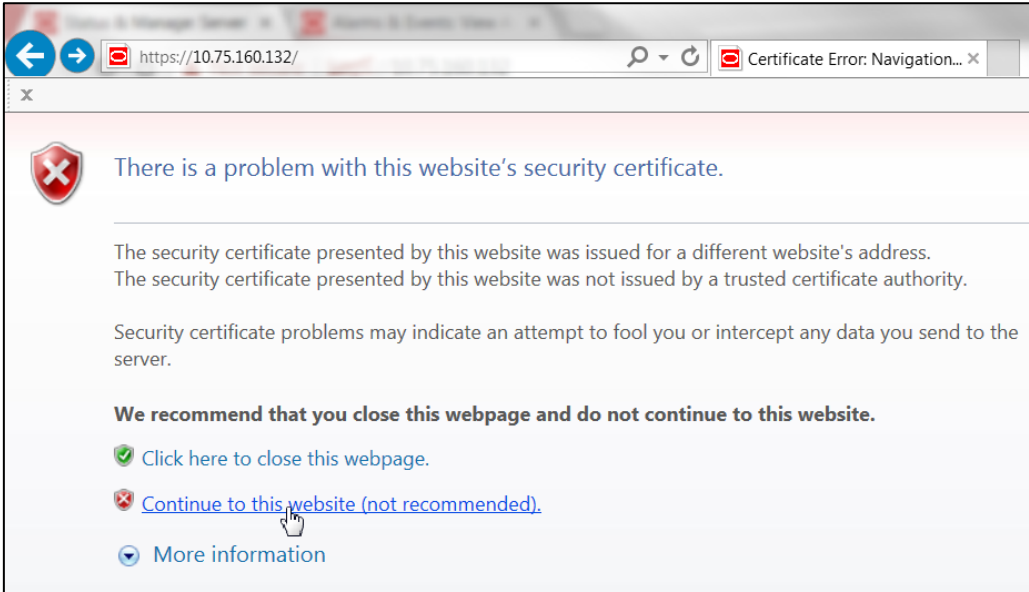
Step#	Procedure	Description														
7. 	EXECUTE THIS STEP FOR SDS SYSTEMS ONLY!!! Primary NOAM VIP: 1) Uncheck the Configuration checkbox so that only the Provisioning checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click “Ok” dialogue button.	Main Menu: Status & Manage -> Database [Backup] Info* ▼ Database Backup <table><tr><th>Field</th><th>Value</th></tr><tr><td>Server: rghnc-sds-NO-b</td><td></td></tr><tr><td>Select data for backup</td><td> ☒ Provisioning ☐ Configuration </td></tr><tr><td>Compression *</td><td> ☐ gzip ☒ bzip2 ☐ none </td></tr><tr><td>Archive Name *</td><td>Backup.sds.rghnc-sds-NO-b.Provisioning.NETWORK_O</td></tr><tr><td>Comment</td><td>Pre-Failover</td></tr><tr><td colspan="2"> Ok Cancel </td></tr></table>	Field	Value	Server: rghnc-sds-NO-b		Select data for backup	☒ Provisioning ☐ Configuration	Compression *	☐ gzip ☒ bzip2 ☐ none	Archive Name *	Backup.sds.rghnc-sds-NO-b.Provisioning.NETWORK_O	Comment	Pre-Failover	Ok Cancel	
Field	Value															
Server: rghnc-sds-NO-b																
Select data for backup	☒ Provisioning ☐ Configuration															
Compression *	☐ gzip ☒ bzip2 ☐ none															
Archive Name *	Backup.sds.rghnc-sds-NO-b.Provisioning.NETWORK_O															
Comment	Pre-Failover															
Ok Cancel																
8.	EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!!! Primary NOAM VIP: 1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click “Ok” dialogue button.	Main Menu: Status & Manage -> Database [Backup] Info* ▼ Database Backup <table><tr><th>Field</th><th>Value</th></tr><tr><td>Server: rghnc-dsr-NO-b</td><td></td></tr><tr><td>Select data for backup</td><td> ☐ Provisioning ☒ Configuration </td></tr><tr><td>Compression *</td><td> ☐ gzip ☒ bzip2 ☐ none </td></tr><tr><td>Archive Name *</td><td>Backup.dsr.rghnc-dsr-NO-b.Provisioning.NETWORK_O</td></tr><tr><td>Comment</td><td>Pre-Failover</td></tr><tr><td colspan="2"> Ok Cancel </td></tr></table>	Field	Value	Server: rghnc-dsr-NO-b		Select data for backup	☐ Provisioning ☒ Configuration	Compression *	☐ gzip ☒ bzip2 ☐ none	Archive Name *	Backup.dsr.rghnc-dsr-NO-b.Provisioning.NETWORK_O	Comment	Pre-Failover	Ok Cancel	
Field	Value															
Server: rghnc-dsr-NO-b																
Select data for backup	☐ Provisioning ☒ Configuration															
Compression *	☐ gzip ☒ bzip2 ☐ none															
Archive Name *	Backup.dsr.rghnc-dsr-NO-b.Provisioning.NETWORK_O															
Comment	Pre-Failover															
Ok Cancel																

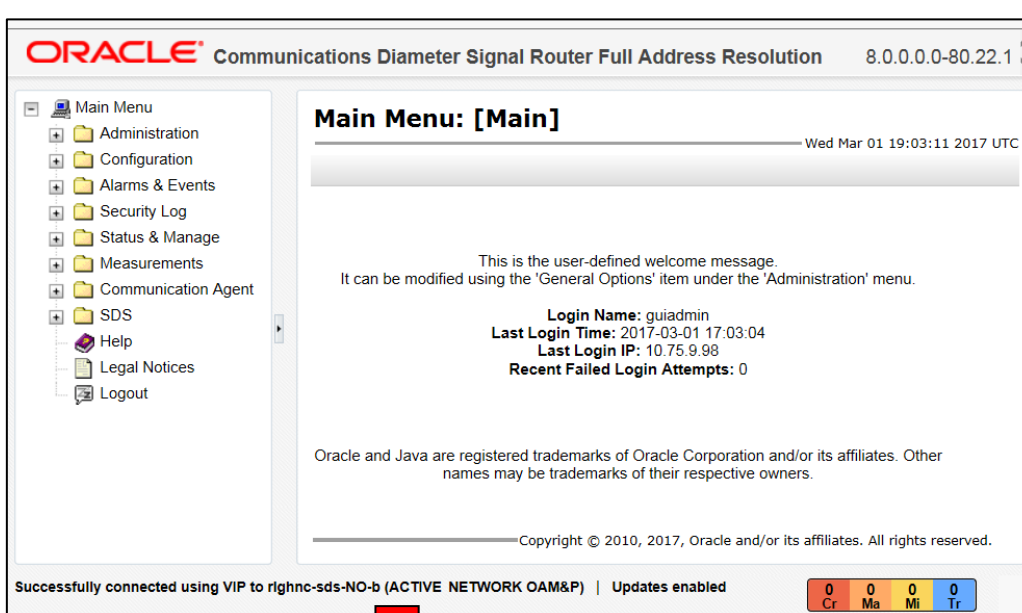
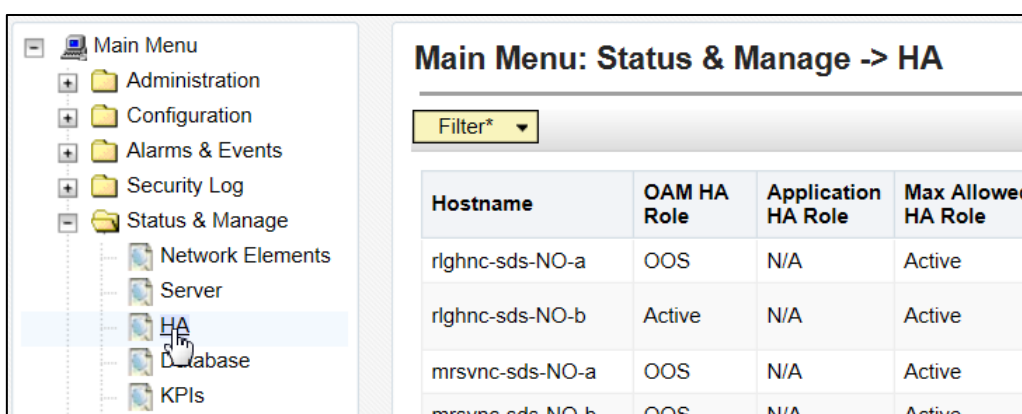
Step#	Procedure	Description												
9. 	Primary NOAM VIP: Click on the Tasks tab to verify that a new “Database backup from GUI” task has been created.	 The screenshot shows a web interface titled 'nage -> Database'. A dropdown menu labeled 'Tasks*' is open, showing a table of tasks. The table has columns: ID, Hostname, Name, Task State, Details, and Progress. One task is listed with ID 9392, Hostname righnc-sds-NO-b, Name Database backup from GUI (circled in red), Task State completed, Details Provisioning, and Progress 5%. <table><tr><th>ID</th><th>Hostname</th><th>Name</th><th>Task State</th><th>Details</th><th>Progress</th></tr><tr><td>9392</td><td>righnc-sds-NO-b</td><td>Database backup from GUI</td><td>completed</td><td>Provisioning</td><td>5%</td></tr></table>	ID	Hostname	Name	Task State	Details	Progress	9392	righnc-sds-NO-b	Database backup from GUI	completed	Provisioning	5%
ID	Hostname	Name	Task State	Details	Progress									
9392	righnc-sds-NO-b	Database backup from GUI	completed	Provisioning	5%									
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.	 The screenshot shows the same web interface as before, but the progress bar for the task 'Database backup from GUI' is now at 100% (circled in red). <table><tr><th>ID</th><th>Hostname</th><th>Name</th><th>Task State</th><th>Details</th><th>Progress</th></tr><tr><td>9392</td><td>righnc-sds-NO-b</td><td>Database backup from GUI</td><td>completed</td><td>Provisioning</td><td>100%</td></tr></table>	ID	Hostname	Name	Task State	Details	Progress	9392	righnc-sds-NO-b	Database backup from GUI	completed	Provisioning	100%
ID	Hostname	Name	Task State	Details	Progress									
9392	righnc-sds-NO-b	Database backup from GUI	completed	Provisioning	100%									
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... <u>Main Menu</u> → 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.	1 Successfully connected using VIP to rlghnc-sds-NO-b (ACTIVE NETWORK OAM&P) Updates enabled NOTE: The server <i>hostname</i> of the “ACTIVE NETWORK OAM&P” identifies the current “Primary” NOAM site (e.g. rlghnc). Main Menu: Status & Manage -> HA Filter* ▼ <table><tr><th>Hostname</th><th>OAM HA Role</th><th>Application HA Role</th><th>Max Allowed HA Role</th><th>Mate Hostname List</th><th>Network Element</th><th>Server Role</th></tr><tr><td>rlghnc-sds-NO-a</td><td>Standby</td><td>N/A</td><td>Active</td><td>rlghnc-sds-NO-b</td><td>NO_RLGHNC</td><td>Network OAM&P</td></tr><tr><td>rlghnc-sds-NO-b</td><td>Active</td><td>N/A</td><td>Active</td><td>rlghnc-sds-NO-a</td><td>NO_RLGHNC</td><td>Network OAM&P</td></tr><tr><td>mrsvnc-sds-NO-a</td><td>Standby</td><td>N/A</td><td>Active</td><td>mrsvnc-sds-NO-b</td><td>NO_MRSVNC</td><td>Network OAM&P</td></tr><tr><td>mrsvnc-sds-NO-b</td><td>Active</td><td>N/A</td><td>Active</td><td>mrsvnc-sds-NO-a</td><td>NO_MRSVNC</td><td>Network OAM&P</td></tr><tr><td>rlghnc-sds-QS</td><td>Observer</td><td>N/A</td><td>Observer</td><td>rlghnc-sds-NO-a rlghnc-sds-NO-b</td><td>NO_RLGHNC</td><td>Query Server</td></tr></table> 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
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.	Main Menu Administration Configuration Alarms & Events Security Log Status & Manage Network Elements Server HA Database KPIs Main Menu: Status & Manage -> Server Filter* <table><thead><tr><th>Server Hostname</th><th>Network Element</th><th>Appl State</th></tr></thead><tbody><tr><td>freeport-dp-1</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>freeport-dp-2</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>freeport-sds-so-a</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>freeport-sds-so-b</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr></tbody></table>	Server Hostname	Network Element	Appl State	freeport-dp-1	SDS_SO_Freeport	Enabled	freeport-dp-2	SDS_SO_Freeport	Enabled	freeport-sds-so-a	SDS_SO_Freeport	Enabled	freeport-sds-so-b	SDS_SO_Freeport	Enabled																											
Server Hostname	Network Element	Appl State																																										
freeport-dp-1	SDS_SO_Freeport	Enabled																																										
freeport-dp-2	SDS_SO_Freeport	Enabled																																										
freeport-sds-so-a	SDS_SO_Freeport	Enabled																																										
freeport-sds-so-b	SDS_SO_Freeport	Enabled																																										
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 (<i>highlight will occur</i>). 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.	Main Menu: Status & Manage -> Server Filter* <table><thead><tr><th>Server Hostname</th><th>Network Element</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Reporting Status</th><th>Proc</th></tr></thead><tbody><tr><td>nassau-sds-so-b</td><td>SDS_SO_Nassau</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>rlghnc-sds-NO-a</td><td>NO_RLGHNC</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>rlghnc-sds-NO-b</td><td>NO_RLGHNC</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>rlghnc-sds-QS</td><td>NO_RLGHNC</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>turks-dp-1</td><td>SDS_SO_Turks</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr></tbody></table> Stop Restart Reboot NTP Sync Report Message from webpage Are you sure you wish to stop application software on the following server(s)? rlghnc-sds-NO-a OK Cancel	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	Enabled	Norm	Norm	Norm	Norm	rlghnc-sds-NO-b	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm	rlghnc-sds-QS	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm	turks-dp-1	SDS_SO_Turks	Enabled	Norm	Norm	Norm	Norm
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	Enabled	Norm	Norm	Norm	Norm																																						
rlghnc-sds-NO-b	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm																																						
rlghnc-sds-QS	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm																																						
turks-dp-1	SDS_SO_Turks	Enabled	Norm	Norm	Norm	Norm																																						

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* ▼ <table><tr><th>Server Hostname</th><th>Network Element</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Reporting Status</th><th>Proc</th></tr><tr><td>nassau-sds-so-b</td><td>SDS_SO_Nassau</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>rlghnc-sds-NO-a</td><td>NO_RLGHNC</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>rlghnc-sds-NO-b</td><td>NO_RLGHNC</td><td>Enabled</td><td>Warn</td><td>Warn</td><td>Norm</td><td>Norm</td></tr><tr><td>rlghnc-sds-QS</td><td>NO_RLGHNC</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>turks-dp-1</td><td>SDS_SO_Turks</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr></table>	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
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.	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=8.5.0 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 0302:235736.946 [admusr@rlghnc-sds-NO-b ~]\$
16. ☐	Primary NOAM VIP: Verify that the current value for " myClusterRole " is " Primary ".	[admusr@rlghnc-sds-NO-b ~]\$ top.myrole myNodeId=A0907.121 myParentClusters=() myClusterRole= Primary myRecognizedPrimary=A0907 myRecognizedSecondary=A1103 [admusr@rlghnc-sds-NO-b ~]\$
17. ☐	Primary NOAM VIP: Set the value for " myClusterRole " to " Secondary ".	[admusr@rlghnc-sds-NO-b ~]\$ top.setSecondary - Using my cluster: A0907 - New Secondary Timestamp: 03/03/17 00:19:07.181 - Updating To A0907.060: rlghnc-sds-NO-a - Updating To A0907.113: 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 ~]\$

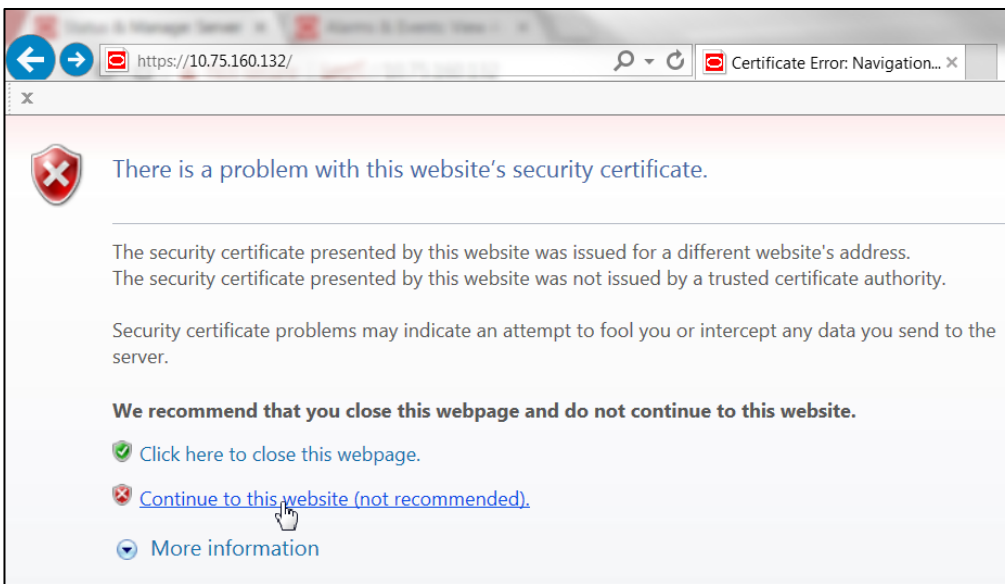
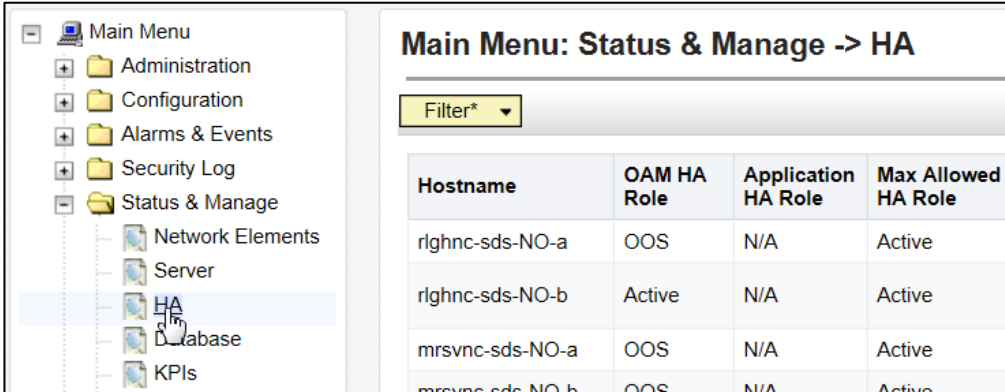
Step#	Procedure	Description
19. ☐	Primary NOAM VIP: Verify the current PID for the “apwSoapServer” process.	[admusr@rlghnc-sds-NO-b ~]\$ pl grep Server A 946215 apwSoapServer Up 03/02 23:52:31 3 !CMNOSIGCHK=1 apwSoapServer [admusr@rlghnc-sds-NO-b ~]\$
20. ☐	Primary NOAM VIP: Restart the “apwSoapServer” 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 <table><thead><tr><th>resourceId</th><th>role</th><th>node</th><th>DC</th><th>subResources</th><th>lastUpdate</th></tr></thead><tbody><tr><td>DbReplication</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.775</td></tr><tr><td>VIP</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.875</td></tr><tr><td>CacdProcessRes</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.873</td></tr><tr><td>PDBA_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.876</td></tr><tr><td>PDBAUDIT_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.875</td></tr><tr><td>PDBRELAY_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.876</td></tr><tr><td>XDS_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.878</td></tr><tr><td>IMPORT_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.876</td></tr><tr><td>EXPORT_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.877</td></tr><tr><td>DPSERVER_Process</td><td>Act/OOS</td><td>A3374.144</td><td>*</td><td>0</td><td>180711:062936.051</td></tr></tbody></table> Execute the following commands on the Active NOAM.	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
resourceId	role	node	DC	subResources	lastUpdate																																																															
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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																																																															
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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																																																															
3. ☐	DR NOAM: Verify that the current value for “myClusterRole” is “Secondary”.	[admusr@mrvnc-sds-NO-b ~]\$ top.myrole myNodeId=A1103.165 myParentClusters=() myClusterRole= Secondary myRecognizedPrimary=A1103 myRecognizedSecondary=Unknown [admusr@mrvnc-sds-NO-b ~]\$																																																																		
4. ☐	DR NOAM: Set the value for “myClusterRole” to “Primary”.	[admusr@mrvnc-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: mrvnc-sds-NO-b - Updating To A1103.223: mrvnc-sds-NO-a [admusr@mrvnc-sds-NO-b ~]\$																																																																		
5. ☐	DR NOAM: Verify that the value for “myClusterRole” is now “Primary”.	[admusr@mrvnc-sds-NO-b ~]\$ top.myrole myNodeId=A1103.165 myParentClusters=() myClusterRole= Primary myRecognizedPrimary=A1103 myRecognizedSecondary=A0907 [admusr@mrvnc-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.	 <table><tr><th>Hostname</th><th>OAM HA Role</th><th>Application HA Role</th><th>Max Allowed HA Role</th></tr><tr><td>rlghnc-sds-NO-a</td><td>OOS</td><td>N/A</td><td>Active</td></tr><tr><td>rlghnc-sds-NO-b</td><td>Active</td><td>N/A</td><td>Active</td></tr><tr><td>mrsync-sds-NO-a</td><td>OOS</td><td>N/A</td><td>Active</td></tr><tr><td>mrsync-sds-NO-b</td><td>OOS</td><td>N/A</td><td>Active</td></tr></table>	Hostname	OAM HA Role	Application HA Role	Max Allowed HA Role	rlghnc-sds-NO-a	OOS	N/A	Active	rlghnc-sds-NO-b	Active	N/A	Active	mrsync-sds-NO-a	OOS	N/A	Active	mrsync-sds-NO-b	OOS	N/A	Active
Hostname	OAM HA Role	Application HA Role	Max Allowed HA Role																			
rlghnc-sds-NO-a	OOS	N/A	Active																			
rlghnc-sds-NO-b	Active	N/A	Active																			
mrsync-sds-NO-a	OOS	N/A	Active																			
mrsync-sds-NO-b	OOS	N/A	Active																			

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.	1 Copyright © 2010, 2017, Oracle Successfully connected using VIP to mrsvnc-sds-NO-b (ACTIVE DR NETWORK OAM&P) Updates enabled NOTE: The server <i>hostname</i> of the “ACTIVE NETWORK OAM&P” identifies the current “Primary” NOAM site (e.g. mrsvnc). Main Menu: Status & Manage -> HA Filter* ▼ <table><tr><th>Hostname</th><th>OAM HA Role</th><th>Application HA Role</th><th>Max Allowed HA Role</th><th>Mate Hostname List</th><th>Network Element</th><th>Server Role</th></tr><tr><td>rlghnc-sds-NO-a</td><td>Standby</td><td>N/A</td><td>Active</td><td>rlghnc-sds-NO-b</td><td>NO_RLGHNC</td><td>Network OAM&P</td></tr><tr><td>rlghnc-sds-NO-b</td><td>Active</td><td>N/A</td><td>Active</td><td>rlghnc-sds-NO-a</td><td>NO_RLGHNC</td><td>Network OAM&P</td></tr><tr><td>mrsvnc-sds-NO-a</td><td>Standby</td><td>N/A</td><td>Active</td><td>mrsvnc-sds-NO-b</td><td>NO_MRSVNC</td><td>Network OAM&P</td></tr><tr><td>mrsvnc-sds-NO-b</td><td>Active</td><td>N/A</td><td>Active</td><td>mrsvnc-sds-NO-a</td><td>NO_MRSVNC</td><td>Network OAM&P</td></tr><tr><td>rlghnc-sds-QS</td><td>Observer</td><td>N/A</td><td>Observer</td><td>rlghnc-sds-NO-a rlghnc-sds-NO-b</td><td>NO_RLGHNC</td><td>Query Server</td></tr></table> 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
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 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.	Main Menu - Administration - Configuration - Alarms & Events - Security Log - Status & Manage - Network Elements - Server - HA - Database - KPIs Main Menu: Status & Manage -> Server Filter* ▼ <table><tr><th>Server Hostname</th><th>Network Element</th><th>Appl State</th></tr><tr><td>freeport-dp-1</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>freeport-dp-2</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>freeport-sds-so-a</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>freeport-sds-so-b</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr></table>	Server Hostname	Network Element	Appl State	freeport-dp-1	SDS_SO_Freeport	Enabled	freeport-dp-2	SDS_SO_Freeport	Enabled	freeport-sds-so-a	SDS_SO_Freeport	Enabled	freeport-sds-so-b	SDS_SO_Freeport	Enabled																											
Server Hostname	Network Element	Appl State																																										
freeport-dp-1	SDS_SO_Freeport	Enabled																																										
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freeport-sds-so-a	SDS_SO_Freeport	Enabled																																										
freeport-sds-so-b	SDS_SO_Freeport	Enabled																																										

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 (<i>highlight will occur</i>). 2) Click the “Restart” dialogue button in the bottom of the right panel. 3) Click “OK” in the pop-up confirmation dialogue box.	Main Menu: Status & Manage -> Server Fri Mar 03 03:40:11 2017 UTC Filter* Info* <table><thead><tr><th>Server Hostname</th><th>Network Element</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Reporting Status</th><th>Proc</th></tr></thead><tbody><tr><td>freeport-sds-so-b</td><td>SDS_SO_Freeport</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>mrsvnc-sds-NO-a</td><td>NO_MRSVNC</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>mrsvnc-sds-NO-b</td><td>NO_MRSVNC</td><td>Disabled</td><td>Err</td><td>Warn</td><td>Norm</td><td>Man</td></tr><tr><td>rlghnc-sds-NO-a</td><td>NO_RLGHNC</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>rlghnc-sds-NO-b</td><td>NO_RLGHNC</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>rlghnc-sds-QS</td><td>NO_RLGHNC</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr></tbody></table> Stop Restart Reboot NTP Sync Report Restart selected server(s). Copyright © 2010, 2017, Oracle and/or its affiliates. All rights reserved. Message from webpage ? Are you sure you wish to restart application software on the following server(s)? mrsvnc-sds-NO-b OK Cancel	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	freeport-sds-so-b	SDS_SO_Freeport	Enabled	Norm	Norm	Norm	Norm	mrsvnc-sds-NO-a	NO_MRSVNC	Disabled	Warn	Norm	Norm	Man	mrsvnc-sds-NO-b	NO_MRSVNC	Disabled	Err	Warn	Norm	Man	rlghnc-sds-NO-a	NO_RLGHNC	Disabled	Warn	Norm	Norm	Man	rlghnc-sds-NO-b	NO_RLGHNC	Disabled	Warn	Norm	Norm	Man	rlghnc-sds-QS	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm
Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc																																													
freeport-sds-so-b	SDS_SO_Freeport	Enabled	Norm	Norm	Norm	Norm																																													
mrsvnc-sds-NO-a	NO_MRSVNC	Disabled	Warn	Norm	Norm	Man																																													
mrsvnc-sds-NO-b	NO_MRSVNC	Disabled	Err	Warn	Norm	Man																																													
rlghnc-sds-NO-a	NO_RLGHNC	Disabled	Warn	Norm	Norm	Man																																													
rlghnc-sds-NO-b	NO_RLGHNC	Disabled	Warn	Norm	Norm	Man																																													
rlghnc-sds-QS	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm																																													
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”.	Main Menu: Status & Manage -> Server Filter* Info* <table><thead><tr><th>Server Hostname</th><th>Network Element</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Reporting Status</th><th>Proc</th></tr></thead><tbody><tr><td>mrsvnc-sds-NO-a</td><td>NO_MRSVNC</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>mrsvnc-sds-NO-b</td><td>NO_MRSVNC</td><td>Enabled</td><td>Warn</td><td>Warn</td><td>Norm</td><td>Norm</td></tr><tr><td>rlghnc-sds-NO-a</td><td>NO_RLGHNC</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>rlghnc-sds-NO-b</td><td>NO_RLGHNC</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>rlghnc-sds-QS</td><td>NO_RLGHNC</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr></tbody></table>	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	mrsvnc-sds-NO-a	NO_MRSVNC	Disabled	Warn	Norm	Norm	Man	mrsvnc-sds-NO-b	NO_MRSVNC	Enabled	Warn	Warn	Norm	Norm	rlghnc-sds-NO-a	NO_RLGHNC	Disabled	Warn	Norm	Norm	Man	rlghnc-sds-NO-b	NO_RLGHNC	Disabled	Warn	Norm	Norm	Man	rlghnc-sds-QS	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm							
Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc																																													
mrsvnc-sds-NO-a	NO_MRSVNC	Disabled	Warn	Norm	Norm	Man																																													
mrsvnc-sds-NO-b	NO_MRSVNC	Enabled	Warn	Warn	Norm	Norm																																													
rlghnc-sds-NO-a	NO_RLGHNC	Disabled	Warn	Norm	Norm	Man																																													
rlghnc-sds-NO-b	NO_RLGHNC	Disabled	Warn	Norm	Norm	Man																																													
rlghnc-sds-QS	NO_RLGHNC	Enabled	Norm	Norm	Norm	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 <i>myRecognizedPrimary</i> and the <i>myRecognizedSecondary</i> (e.g. Axxxx).	<pre>[admusr@dominica-dr-noam-b ~]\$ top.myrole myNodeId=A0568.058 myParentClusters=() myClusterRole=Primary myRecognizedPrimary=A0568 myRecognizedSecondary=A1667 [admusr@dominica-dr-noam-b ~]\$</pre>
18. ☐	New Primary NOAM VIP (former DR): Record the clusterId values for the <i>myRecognizedPrimary</i> and the <i>myRecognizedSecondary</i> in the space provided.	<pre>myRecognizedPrimary (clusterId) = _____ myRecognizedSecondary (clusterId) = _____</pre>
19. ☐	New Primary NOAM VIP (former DR): Identify which A-Level clusterId (e.g. Axxxx) is located in the "HaClusterResourceCfg" table.	<pre>[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 ~]\$</pre>
20. ☐	New Primary NOAM VIP (former DR): If the A-Level clusterId located in the "HaClusterResourceCfg" table is the <i>myRecognizedPrimary</i> value recorded in Step 18 of this procedure, delete the entry as shown to the right. Otherwise, continue to the next step.	Syntax Example: <pre>\$ irem HaClusterResourceCfg where "cluster='<myRecognizedPrimary_clusterId>'" [admusr@dominica-dr-noam-b ~]\$ irem HaClusterResourceCfg where "cluster='A0568'" === deleted 1 records === [admusr@dominica-dr-noam-b ~]\$</pre>

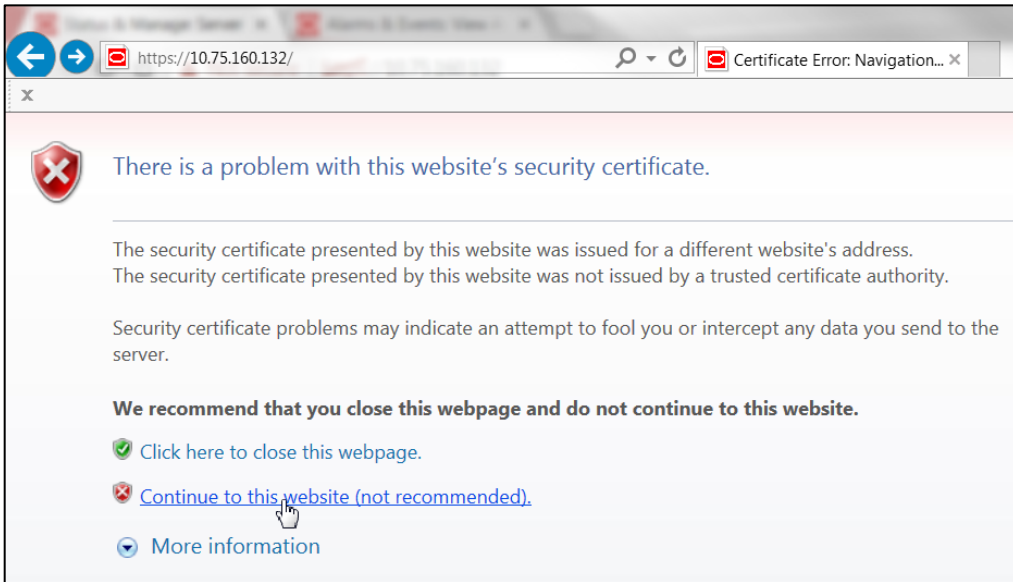
Step #	Procedure	Description
21. ☐	New Primary NOAM VIP (former DR): Add an entry to the "HaClusterResourceCfg" table for the <i>myRecognizedSecondary</i> value recorded in Step 18 of this procedure.	<u>Syntax Example:</u> \$ echo "<myRecognizedSecondary_clusterId> DSROAM_Proc Yes" iload -ha -xun -fcluster -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 <i>myRecognizedSecondary</i> 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.		

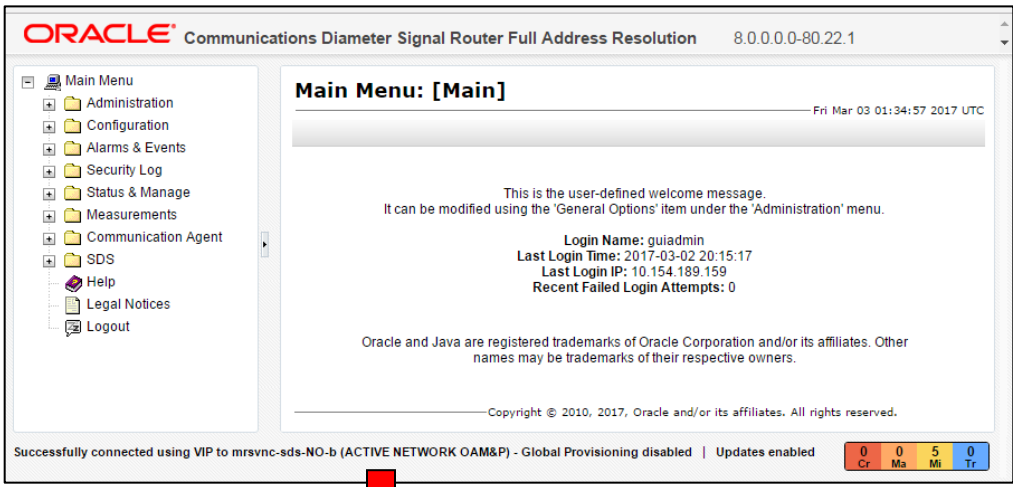
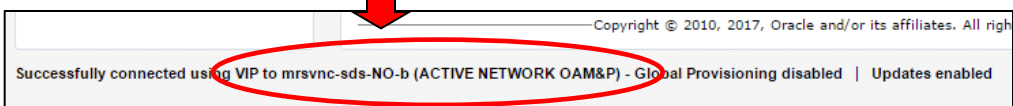
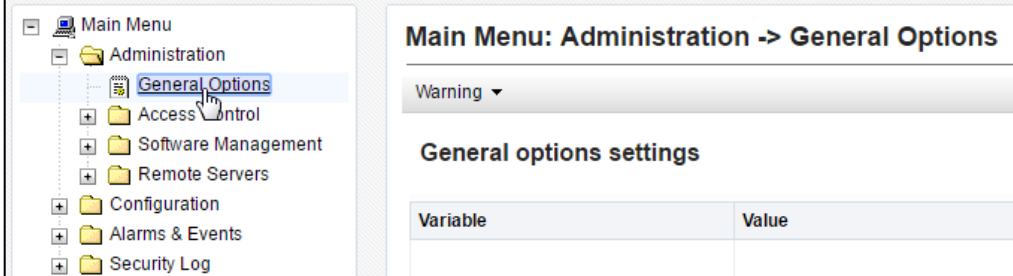
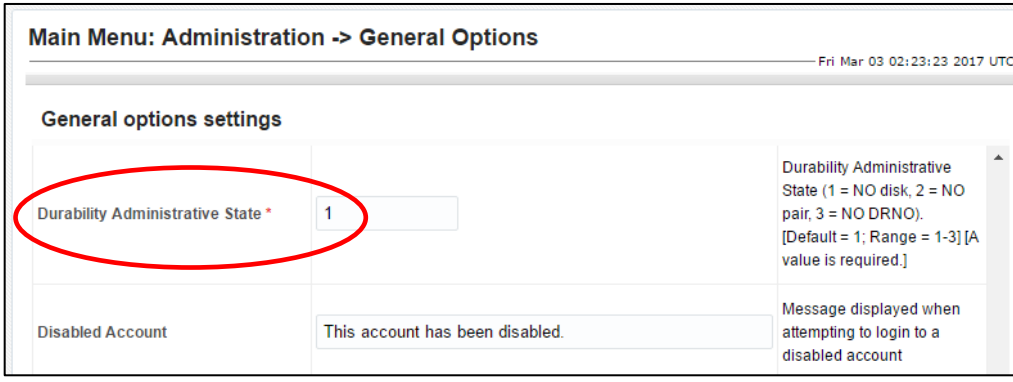
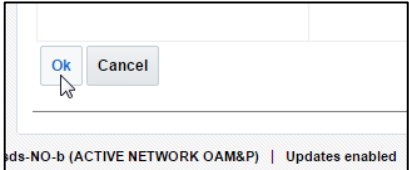
5.2.2 Promoting the DR NOAM from Secondary to Primary (Outage)

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 <table><thead><tr><th>resourceId</th><th>role</th><th>node</th><th>DC</th><th>subResources</th><th>lastUpdate</th></tr></thead><tbody><tr><td>DbReplication</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.775</td></tr><tr><td>VIP</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.875</td></tr><tr><td>CacdProcessRes</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.873</td></tr><tr><td>PDBA_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.876</td></tr><tr><td>PDBAUDIT_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.875</td></tr><tr><td>PDBRELAY_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.876</td></tr><tr><td>XDS_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.878</td></tr><tr><td>IMPORT_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.876</td></tr><tr><td>EXPORT_Process</td><td>Act/Act</td><td>A3374.144</td><td>*</td><td>0</td><td>180712:064445.877</td></tr><tr><td>DPSERVER_Process</td><td>Act/OOS</td><td>A3374.144</td><td>*</td><td>0</td><td>180711:062936.051</td></tr></tbody></table> Execute the following commands on the Active NOAM.	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
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																																																															

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: rlgnc-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: rlgnc-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: rlgnc-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: rlgnc-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: rlgnc-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: rlgnc-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 ~]\$

Step#	Procedure	Description
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 ~]\$
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.	 

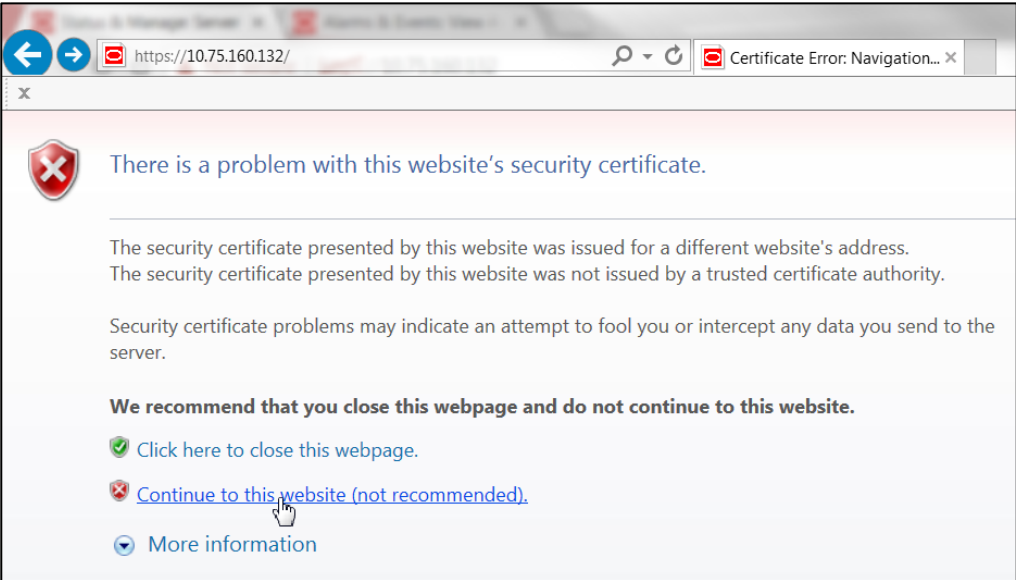
Step#	Procedure	Description																																																	
12. 	New Primary NOAM VIP (former DR): 1) Select... Main Menu → Status & Manage → Server ...as shown on the right. 2) Identify the hostname of the Primary Active NOAM server from the banner message across the bottom of the browser window.	Main Menu + Administration + Configuration + Alarms & Events + Security Log - Status & Manage Network Elements Server HA Database KPIs Processes + Tasks Files + Measurements + Communication Agent + SDS Help Legal Notices Logout Main Menu: Status & Manage -> Server Filter* <table><tr><th>Server Hostname</th><th>Network Element</th><th>Appl State</th></tr><tr><td>freeport-dp-1</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>freeport-dp-2</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>freeport-sds-so-a</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>freeport-sds-so-b</td><td>SDS_SO_Freeport</td><td>Enabled</td></tr><tr><td>mrsvnc-sds-NO-a</td><td>NO_MRSVNC</td><td>Enabled</td></tr><tr><td>mrsvnc-sds-NO-b</td><td>NO_MRSVNC</td><td>Enabled</td></tr></table> Stop Restart Reboot NTP Sync Report Successfully connected using VIP to mrsvnc-sds-NO-b (ACTIVE NETWORK OAM&P) Updates enabled	Server Hostname	Network Element	Appl State	freeport-dp-1	SDS_SO_Freeport	Enabled	freeport-dp-2	SDS_SO_Freeport	Enabled	freeport-sds-so-a	SDS_SO_Freeport	Enabled	freeport-sds-so-b	SDS_SO_Freeport	Enabled	mrsvnc-sds-NO-a	NO_MRSVNC	Enabled	mrsvnc-sds-NO-b	NO_MRSVNC	Enabled																												
Server Hostname	Network Element	Appl State																																																	
freeport-dp-1	SDS_SO_Freeport	Enabled																																																	
freeport-dp-2	SDS_SO_Freeport	Enabled																																																	
freeport-sds-so-a	SDS_SO_Freeport	Enabled																																																	
freeport-sds-so-b	SDS_SO_Freeport	Enabled																																																	
mrsvnc-sds-NO-a	NO_MRSVNC	Enabled																																																	
mrsvnc-sds-NO-b	NO_MRSVNC	Enabled																																																	
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 (<i>highlight will occur</i>). 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.	Main Menu: Status & Manage -> Server Filter* <table><tr><th>Server Hostname</th><th>Network Element</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Reporting Status</th><th>Proc</th></tr><tr><td>mrsvnc-sds-NO-a</td><td>NO_MRSVNC</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>mrsvnc-sds-NO-b</td><td>NO_MRSVNC</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>nassau-dp-1</td><td>SDS_SO_Nassau</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>nassau-dp-2</td><td>SDS_SO_Nassau</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>nassau-sds-so-a</td><td>SDS_SO_Nassau</td><td>Enabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>nassau-sds-so-b</td><td>SDS_SO_Nassau</td><td>Enabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Norm</td></tr></table> Stop Restart Reboot NTP Sync Report Restart selected server(s). Message from webpage ? Are you sure you wish to restart application software on the following server(s)? mrsvnc-sds-NO-b OK Cancel	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	mrsvnc-sds-NO-a	NO_MRSVNC	Enabled	Err	Norm	Norm	Norm	mrsvnc-sds-NO-b	NO_MRSVNC	Enabled	Err	Norm	Norm	Norm	nassau-dp-1	SDS_SO_Nassau	Enabled	Norm	Norm	Norm	Norm	nassau-dp-2	SDS_SO_Nassau	Enabled	Norm	Norm	Norm	Norm	nassau-sds-so-a	SDS_SO_Nassau	Enabled	Warn	Norm	Norm	Norm	nassau-sds-so-b	SDS_SO_Nassau	Enabled	Warn	Norm	Norm	Norm
Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc																																													
mrsvnc-sds-NO-a	NO_MRSVNC	Enabled	Err	Norm	Norm	Norm																																													
mrsvnc-sds-NO-b	NO_MRSVNC	Enabled	Err	Norm	Norm	Norm																																													
nassau-dp-1	SDS_SO_Nassau	Enabled	Norm	Norm	Norm	Norm																																													
nassau-dp-2	SDS_SO_Nassau	Enabled	Norm	Norm	Norm	Norm																																													
nassau-sds-so-a	SDS_SO_Nassau	Enabled	Warn	Norm	Norm	Norm																																													
nassau-sds-so-b	SDS_SO_Nassau	Enabled	Warn	Norm	Norm	Norm																																													

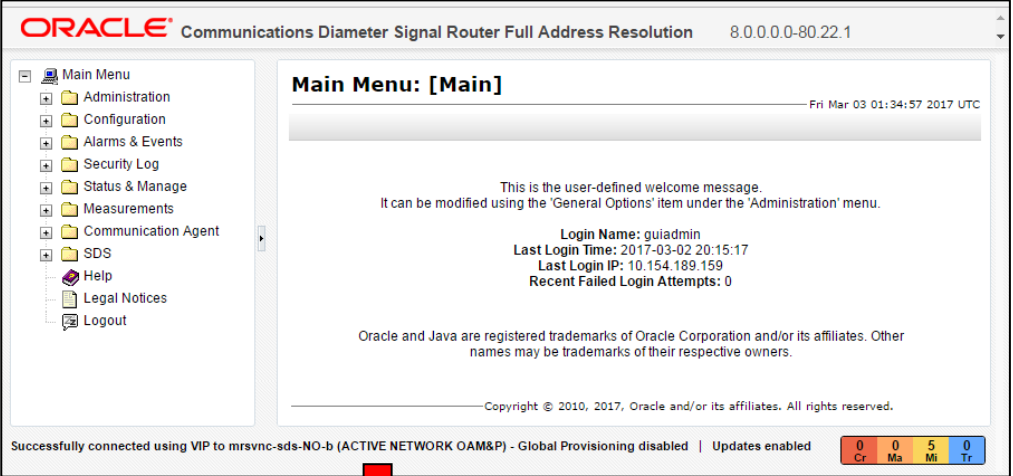
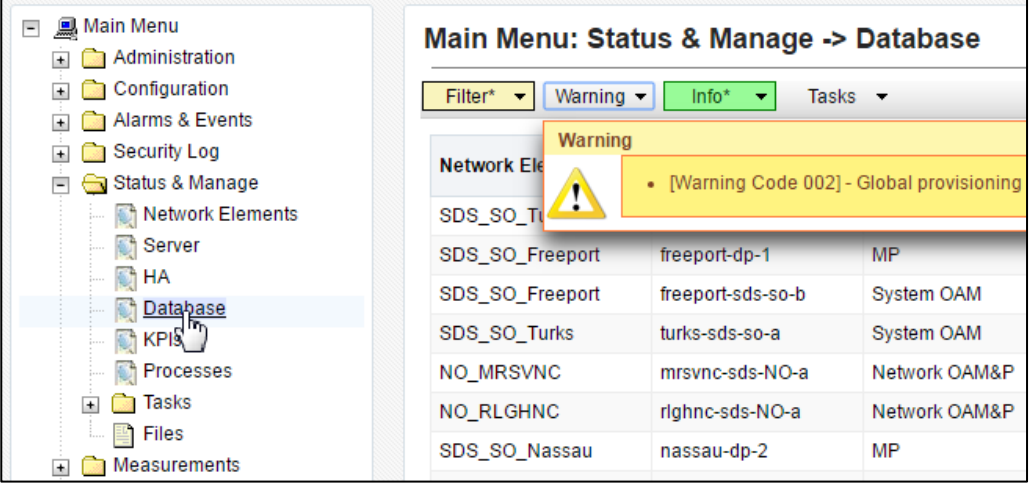
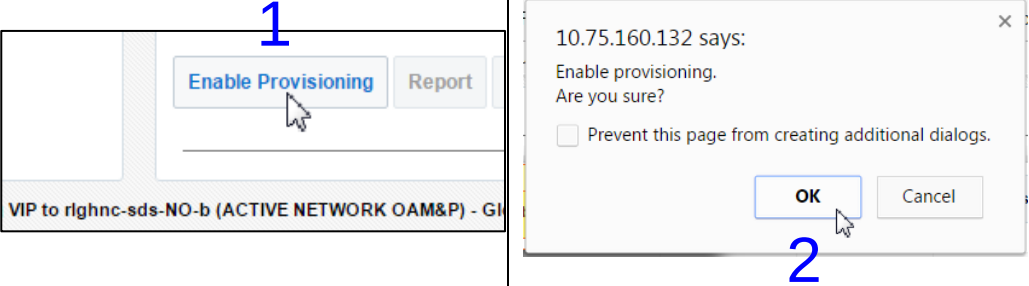
Step#	Procedure	Description
	- FOR SDS SYSTEMS, THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS. - FOR DSR SYSTEMS ONLY, CONTINUE WITH STEP 14 OF THIS PROCEDURE.	
14. ☐	DSR Systems Only (Steps 14 - 19): New Primary NOAM VIP (former DR): Identify the clusterId values for the <i>myRecognizedPrimary</i> and the <i>myRecognizedSecondary</i> (e.g. Axxxx).	<pre>[admusr@dominica-dr-noam-b ~]\$ top.myrole myNodeId=A0568.058 myParentClusters=() myClusterRole=Primary myRecognizedPrimary=A0568 myRecognizedSecondary=A1667 [admusr@dominica-dr-noam-b ~]\$</pre>
15. ☐	New Primary NOAM VIP (former DR): Record the clusterId values for the <i>myRecognizedPrimary</i> and the <i>myRecognizedSecondary</i> in the space provided.	<pre>myRecognizedPrimary (clusterId) = _____ myRecognizedSecondary (clusterId) = _____</pre>
16. ☐	New Primary NOAM VIP (former DR): Identify which A-Level clusterId (e.g. Axxxx) is located in the "HaClusterResource Cfg" table.	<pre>[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 ~]\$</pre>
17. ☐	New Primary NOAM VIP (former DR): If the A-Level clusterId located in the "HaClusterResource Cfg" table is the <i>myRecognizedPrimary</i> value recorded in Step 18 of this procedure, delete the entry as shown to the right. Otherwise, continue to the next step.	Syntax Example: <pre>\$ irem HaClusterResourceCfg where "cluster='<myRecognizedPrimary_clusterId>'" [admusr@dominica-dr-noam-b ~]\$ irem HaClusterResourceCfg where "cluster='A0568'" === deleted 1 records === [admusr@dominica-dr-noam-b ~]\$</pre>
18. ☐	New Primary NOAM VIP (former DR): Add an entry to the "HaClusterResource Cfg" table for the <i>myRecognizedSecondary</i> value recorded in Step 18 of this procedure.	Syntax Example: <pre>\$ 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 ~]\$</pre>

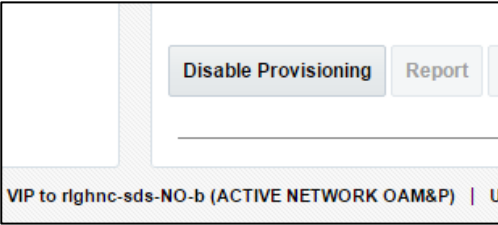
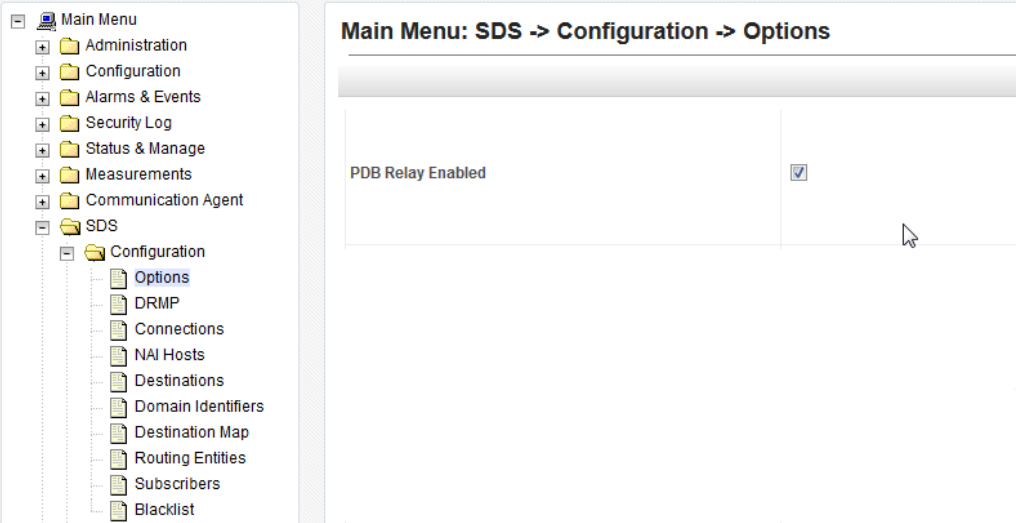
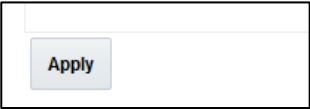
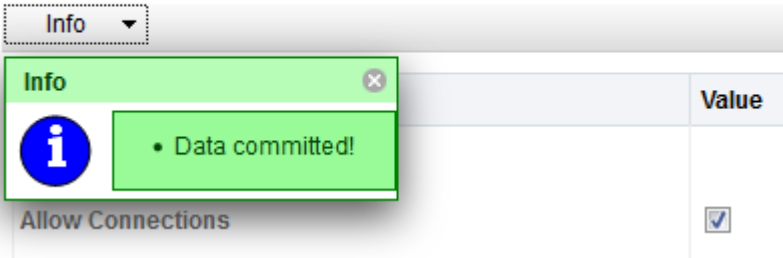
Step#	Procedure	Description
19. ☐	New Primary NOAM VIP (former DR): Verify that the "HaClusterResource Cfg" table now displays an entry for the <i>myRecognizedSecondary</i> value recorded in Step 18 of this procedure.	<pre>[admusr@dominica-dr-noam-b ~]\$ iqt -p HaClusterResourceCfg cluster resource optional 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 ~]\$</pre>
This Procedure has been completed. Return to Figure 1 .		

5.3 Enable Global Provisioning

Procedure 7: Enable Global Provisioning [Site_2]

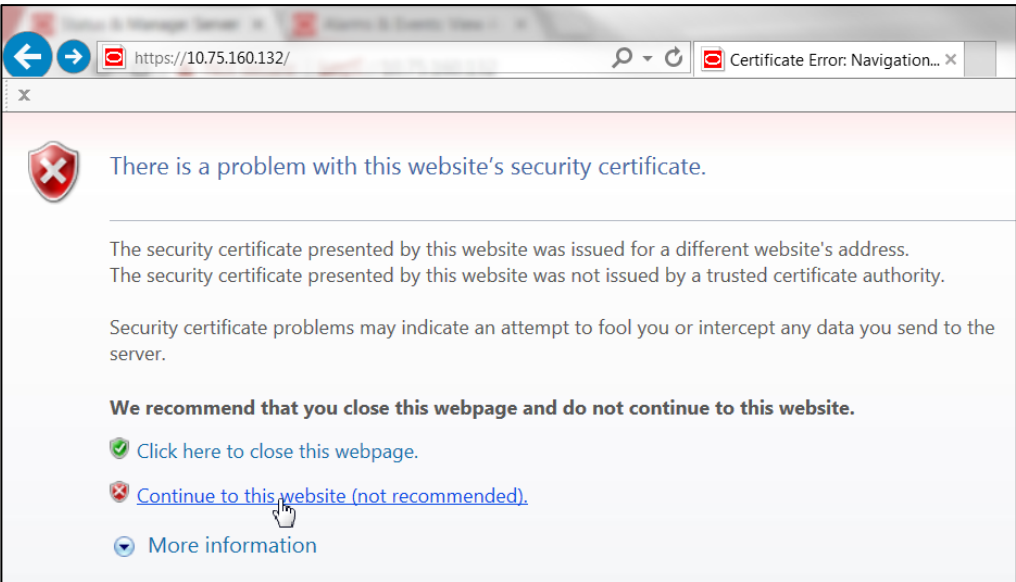
Step#	Procedure	Description
This procedure provides instructions on “Enable Global Provisioning” at the “newly promoted” Primary NOAM GUI. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. IF ANY STEP IN THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.		
1. ☐	New Primary NOAM VIP (former DR): 1) Launch an HTML5 compliant browser and connect to the XML 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.	

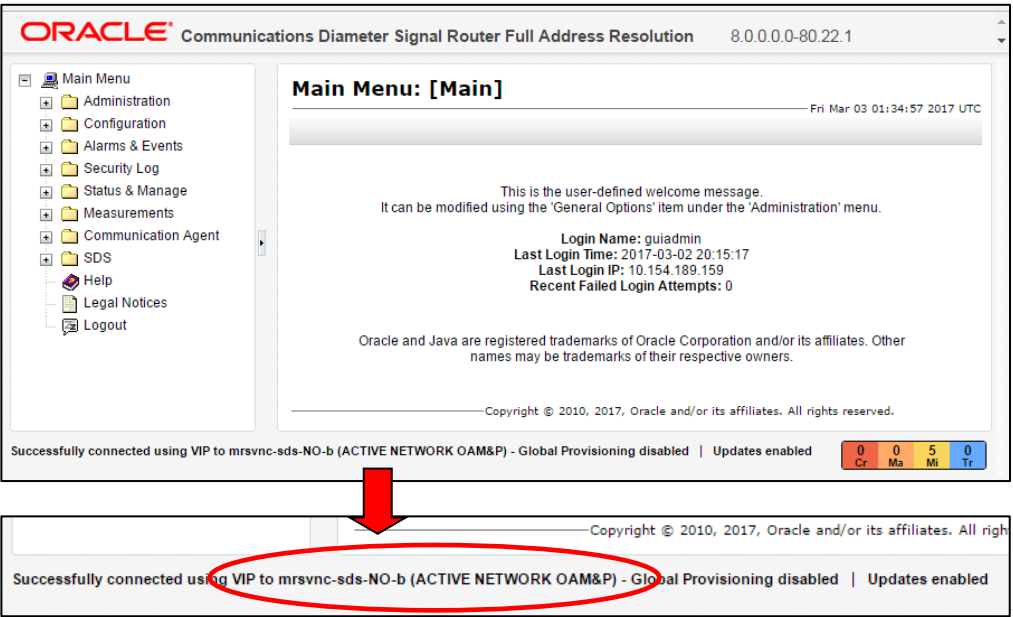
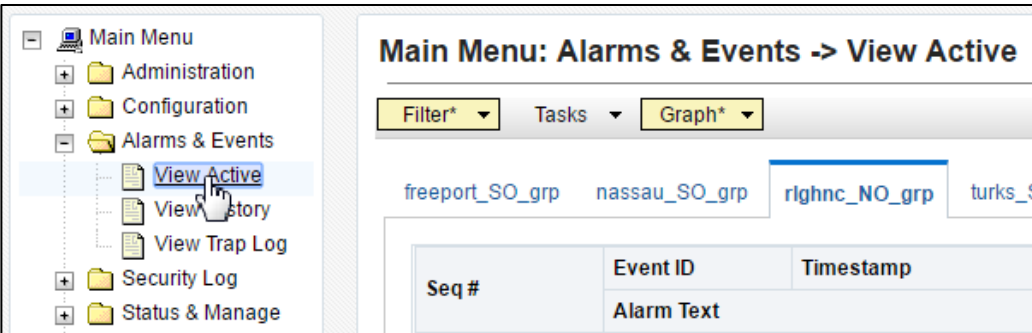
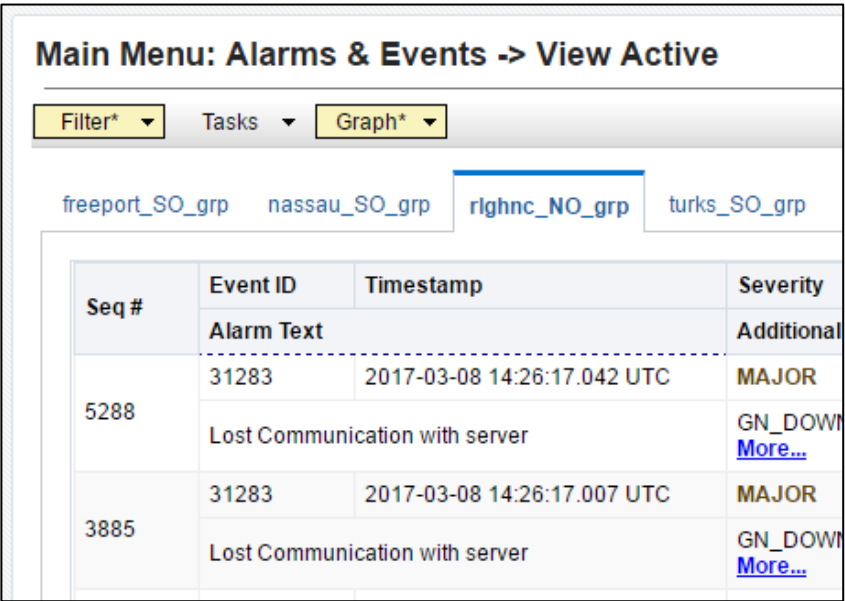
Step#	Procedure	Description
3. ☐	New Primary NOAM VIP (former DR): The user should be presented the Product Main Menu as shown on the right. Verify that the message shown across the panel bottom of the panel indicates that the browser is using the “VIP” to connect to the “ACTIVE NETWORK OAM&P”.	
4. ☐	Primary NOAM VIP: Select... Main Menu → Status & Manage → Database ...as shown on the right.	
5. ☐	Primary NOAM VIP: 1) Select the “Enable Provisioning” dialogue button located at the bottom of the right panel. 2) Click “OK” on the pop-up confirmation dialogue box.	

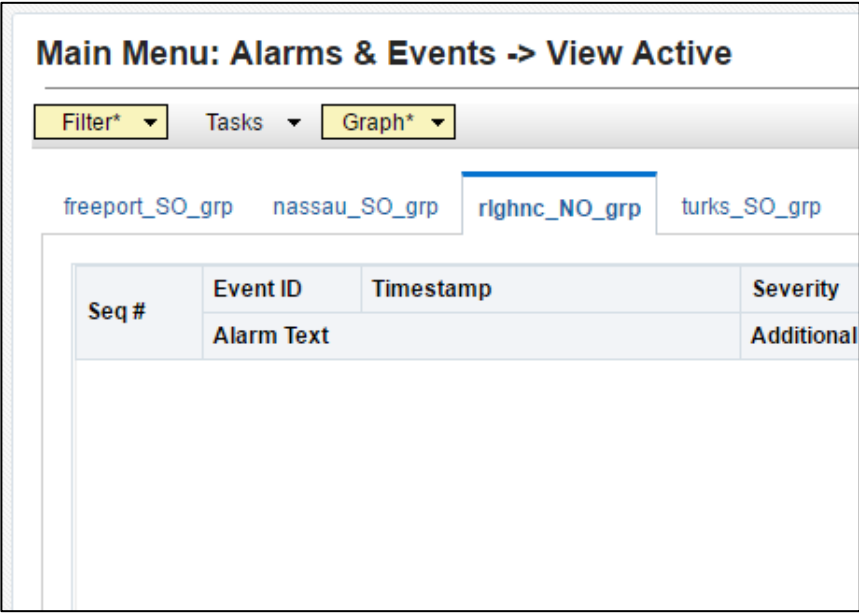
Step#	Procedure	Description
6. 	Primary NOAM VIP: Verify that the dialogue button located at the bottom of the right panel changes text to “Disable Provisioning” .	
7.	Primary NOAM VIP: Enable PDB Relay. <u>Main Menu</u> → Configurations → Options ...as shown on the right.	Go to Configurations -> Options Check the PDB Relay Enabled option box.  Click Apply.  The following confirmation message is received: Main Menu: SDS -> Configuration -> Options 
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 XML 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 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, 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.