Oracle® Communications
Diameter Signaling Router Full Address Based Resolution

SDS Software Upgrade Guide
Release 8.0

E75970 Revision 01

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ORACLE

Oracle® Communications Diameter Signaling Router Full Address Based Resolution, SDS Software Upgrade Guide

CAUTION: Use only the upgrade procedure included in the Upgrade Kit.
Before upgrading any system, please access My Oracle Support (MOS) (https://support.oracle.com) and review any Technical Service Bulletins (TSBs) that relate to this upgrade.

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. Refer to Appendix Q for instructions on accessing this site.

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.

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1. INTRODUCTION

1.1 Purpose and Scope

This document describes methods utilized and procedures executed to perform an application software upgrade on in-service SDS servers and SDS DP blades in an SDS network. The supported paths are:

- Major upgrade from SDS 5.0 or 7.x to SDS 8.0
- Minor upgrade from SDS release 80.x to a later 80.y release

The audience for this document includes Oracle customers as well as the SDS group: Global Software Delivery.

This document provides step-by-step instructions to execute any SDS 8.0 software upgrade.

The SDS software includes all Tekelec Platform Distribution (TPD) software. Any TPD upgrade necessary is included automatically as part of the SDS software upgrade. The execution of this procedure assumes that the SDS software load (ISO file, CD-ROM or other form of media) has already been delivered to the customer's premises. This includes delivery of the software load to the local workstation being used to perform this upgrade.

NOTE: The distribution of the SDS software load is outside the scope of this procedure.

The SDS 8.0 release introduces the following features:

- **SDS Auto Site Upgrade (22169766\)**

This feature will allow the user to initiate SDS auto site upgrade which excludes NOAM and SOAM level servers. SDS auto site upgrade only works for DPs.

1.2 References

[1] SDS 8.0 Initial Installation and Configuration Guide, E79531
[2] Database Management: Backup and System Restoration, UG005196
[3] SDS 8.0 Disaster Recovery Guide, E79530
[4] HP Solutions Firmware Upgrade Pack Release Notes, 795-000-2xx, v2.1.5 (or latest 2.1 version)
[5] Platform 7.2 Configuration Guide, E64363

1.3 Acronyms

Table 1 - Acronyms

Acronym	Meaning
CLI	Command Line Interface
CSV	Comma-separated Values
DP	Database Processor
DR	Disaster Recovery
GA	General Availability
GUI	Graphical User Interface
HA	High Availability
IMI	Internal Management Interface
IPM	Initial Product Manufacture
ISO	ISO 9660 file system
LA	Limited Availability
MOP	Method of Procedure
MP	Message Processing or Message Processor
NE	Network Element
NO (or NOAM)	Network OAM&P
OAM&P	Operations, Administration, Maintenance and Provisioning
SDS	Subscriber Database Server
SO (or SOAM)	System OAM
TPD	Tekelec Platform Distribution
UI	User Interface
VIP	Virtual IP
VPN	Virtual Private Network
XMI	External Management Interface
XSI	External Signaling Interface

1.4 Terminology

This section describes terminology as it is used within this document.

Table 2 - Terminology

Term	Meaning
Upgrade	The process of converting an application from its current release on a System to a newer release.
Major Upgrade	An upgrade from a current major release to a newer major release. An example of a major upgrade is: SDS 7.1 to SDS 8.0
Incremental Upgrade	An upgrade from a current build to a newer build within the same major release. An example of an incremental upgrade is: SDS 8.0.0.0.0_80.21.0 to 8.0.0.0.0_80.24.0.
Software Only Upgrade	An upgrade that does not require a Database Schema change, only the software is changed.
Single Server Upgrade	The process of converting an SDS server from its current release on a single server to a newer release.
Backout	The process of reverting a single SDS server to a prior version. This could be performed due to failure in Single Server Upgrade.
Rollback	Automatic recovery procedure that puts a server into its pre-upgrade status. This procedure occurs automatically during upgrade if there is a failure.
Source Release	Software release to upgrade from.
Target Release	Software release to upgrade to.
Upgrade Ready	State that allows for graceful upgrade of a server without degradation of service. It is a state that a server is required to be in before it can be upgraded. The state is defined by the following attributes: • Server is Forced Standby • Server is Application Disabled (Signaling servers will not process any traffic)

1.5 How to use this Document

When executing this document, there are a few key 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 the execution of a STEP within a procedure, completely read the left and right columns including any STEP specific WARNINGS or NOTES.
3) If a procedural STEP fails to execute successfully or fails to receive the desired output, **STOP** the procedure. It is recommended to contact MOS as described in Appendix Q for assistance before attempting to continue.

1.6 Executing Procedures

The user should be familiar with the structure and conventions used within this document before attempting execution. and the details below provide an example of how procedural steps might be displayed within this document.

Column 1: **Step**

- , Column 1, contains the Step number and also a checkbox if the step requires action by the user.
- Sub-steps within a given Step X are referred to as Step X.Y.
- Each checkbox should be checked-off in order to keep track of the progress during execution of the procedure.

Column 2: **Procedure**

- , column 2, contains a heading which indicates the server/IP being accessed as well as text instructions and/or notes to the user. This column may also describe the operations to be performed or observed during the step.

Column 3: **Result**

- , column 3, generally displays the results of executing the instructions (shown in column 2) to the user.
- The Result column may also display any of the following:
  - Inputs (commands or responses) required by the user.
  - Outputs which should be displayed on the terminal.
  - Illustrations or graphic figures related to the step instruction.
  - Screen captures from the product GUI related to the step instruction.

Table 3 - Sample Procedure

Procedure X: Verifying the Time in GMT

Step	Procedure	Result
1. ☐	**Active Provisioning Site VIP:** Log into the server as the "**admusr**" user.	`login: admusr` `Password: <admusr_password>`

2. ☐	**Active Provisioning Site VIP:**
	Output similar to that shown on the right will appear as the server returns to a command prompt.
		***** TRUNCATED OUTPUT *****
		`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`
		`RUNID=00`
		`$`

3. ☐	**Active Provisioning Site VIP:** Verify that the correct Date & Time are displayed in **GMT** (+/- 4 min.).	`$ date -u` `Mon Jan 26 16:34:38 UTC 2015`

Procedure X: Verifying the Time in GMT

Step	Procedure	Result
THIS PROCEDURE HAS BEEN COMPLETED		

1.7 Activity Logging

All activity while connected to the system should be logged using a convention which notates the **Customer Name**, **Site/Node** location, **Server Hostname** and the **Date**. All logs should be provided to Oracle for archiving post upgrade.

1.8 Use of Health Checks

The user may execute the **Perform Health Check** or **View Logs** steps freely or repeat as many times as desired in between procedures during the upgrade process. It is not recommended to do this in between steps within a procedure, unless there is a failure to troubleshoot.

1.9 Large Installation Support

For large systems containing multiple Signaling Network Elements, it may not be feasible to apply the software upgrade to every Network Element within a single maintenance window. However, whenever possible, Primary SDS site and DR SDS site network elements should be upgraded within the same maintenance window.

1.10 Netbackup 7.7 Support

Netbackup 7.7 requires additional disk space that is not available prior to SDS Release 8.0. Thus, the SDS must be upgraded to Release 8.0 before upgrading to Netbackup 7.7.

!! WARNING!! **UPGRADE THE SDS TO RELEASE 8.0 PRIOR TO UPGRADING TO NETBACKUP 7.7.**

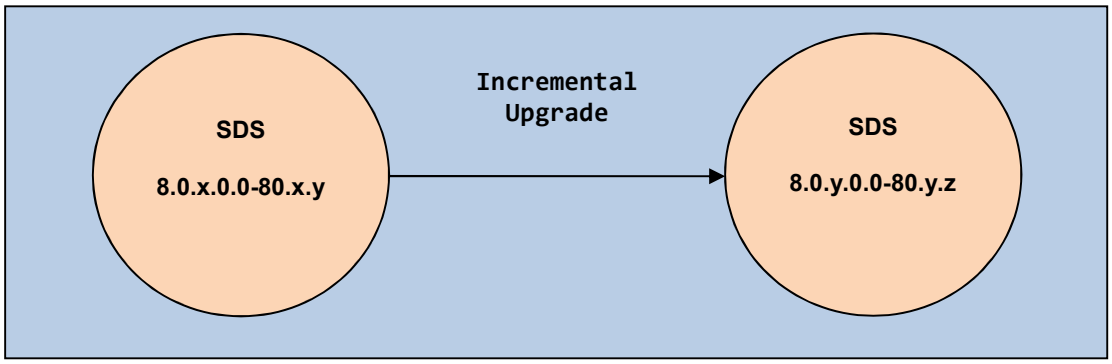
2. GENERAL DESCRIPTION

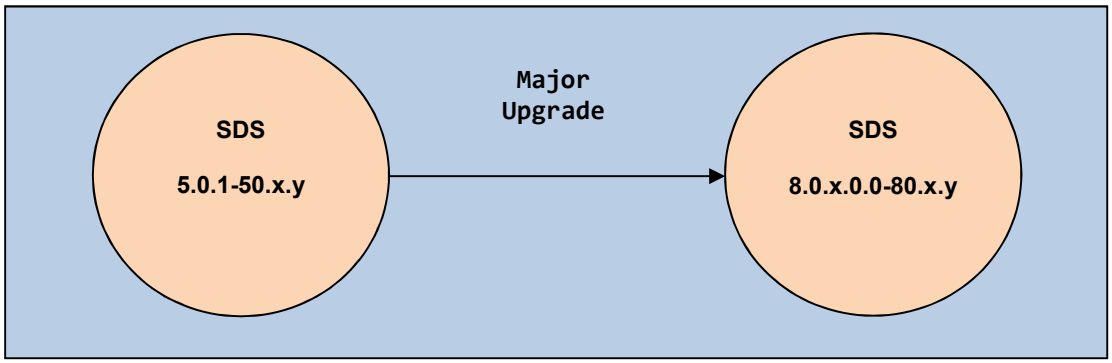
This document defines the step-by-step actions performed to execute a software upgrade of an in-service SDS from the source release to the target release.

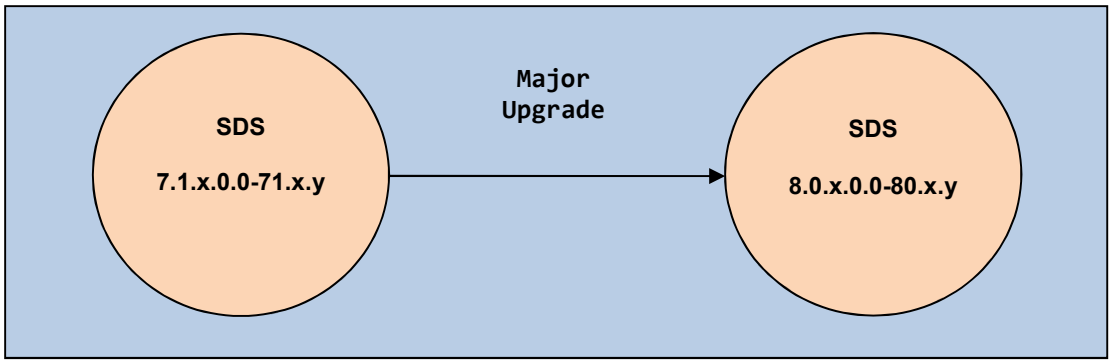
NOTE: Initial Installation is not within the scope of this upgrade document. See Initial Install doc [1] for more info.

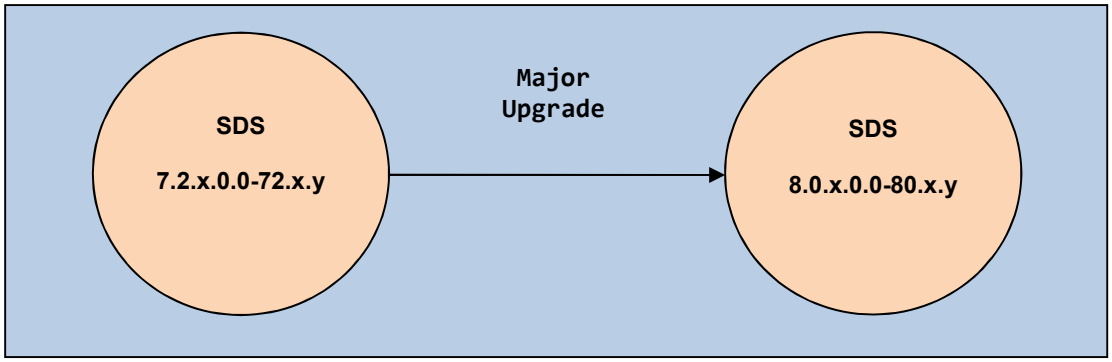
2.1 SDS 8.0 Supported Upgrade Paths

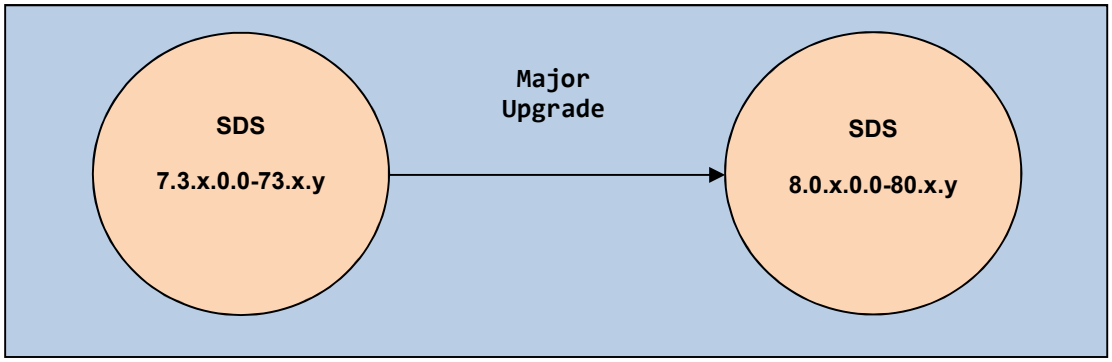
The supported SDS 8.0 upgrade paths are shown in the figures below.






SDS
7.1.x.0.0-71.x.y
Major
Upgrade
SDS
8.0.x.0.0-80.x.y


SDS
7.2.x.0.0-72.x.y
Major
Upgrade
SDS
8.0.x.0.0-80.x.y


SDS
7.3.x.0.0-73.x.y
Major
Upgrade
SDS
8.0.x.0.0-80.x.y

3. UPGRADE OVERVIEW

This section lists the required materials and information needed to execute an upgrade. It also provides a brief timing overview of the activities needed to upgrade the source release software that is installed and running on an SDS server to the target release software. The approximate time required is outlined in **Sections 3.3** through **3.7**. These tables are used to plan and estimate the time necessary to complete the upgrade.

Timing values are estimates only. They estimate the completion time of a step or group of steps for an experienced user. These tables are not to be used to execute procedures. Detailed steps for each procedure are provided in **Section 5**.

3.1 Upgrade Requirements

The following levels of access, materials and information are needed to execute an upgrade:

- Target-release ISO image file (Example: **`SDS-8.0.0.0.0_80.22.0-x86_64.iso)`**
- VPN access to the customer's network.
- GUI access to the SDS Network OAM&P VIP with administrator's privileges.
- SSH/SFTP access to the SDS Network OAM&P XMI VIP as the "admusr" user.

  NOTE: All logins into the SDS Active and DR site servers are made via the External Management (XMI) VIP unless otherwise stated.
- User logins, passwords, IP addresses and other administration information. See Section 3.1.2.
- Direct access to server IMI IP addresses from the user's local workstation is preferable in the case of a backout.

  NOTE: If direct access to the IMI IP addresses isn't available, then access to target server can be made via a tandem connection through the Active Primary SDS (i.e. an SSH connection is made to the Active Primary SDS XMI first, then from the Active Primary SDS, an 2nd SSH connection can be made to the target server's IMI IP address).

3.1.1 ISO Image File

Obtain a copy of the target release ISO image file. This file is necessary to perform the upgrade.

The SDS ISO image filename is in the following format:

Example: **`SDS-8.0.0.0.0_80.22.0-x86_64.iso`**

NOTE: *Actual number values will vary between releases.*

Prior to the execution of this upgrade procedure it is assumed that the SDS ISO image file has already been delivered to the customer's system. The delivery of the ISO image requires that the file be placed on the disk of a PC workstation with GUI access to the SDS XMI VIP. If the user performing the upgrade is at a remote location, it is assumed the ISO file is has already been transferred to the Active Primary SDS server prior to starting the upgrade procedure.

3.1.2 Logins, Passwords and Site Information

Obtain all the information requested in the following table. This ensures that the necessary administration information is available prior to an upgrade. Consider the confidential nature of the information recorded in this table. While all of the information in the table is required to complete the upgrade, there may be security policies in place that require secure disposal once the upgrade has been completed.

Table 4 - Logins, Passwords and Site Information

NE Type	**NE Name[T]**
Primary SDS Site	
DR SDS Site	
SOAM 1 Site	
SOAM 2 Site	
SOAM 3 Site	
SOAM 4 Site	
Software	**Values**
Source Release Level	
Target Release Level	
Target Release ISO file name	
Access Information	**Values**
Primary Site XMI VIP (**GUI**)	
DR Site XMI VIP	
SDS GUI Admin Username and Password	
SDS “root” user Password	
SDS “admusr” user Password	
SDS “platcfg” user Password	
Blade’s iLO Admin Username and Password	
PM&C GUI Admin Username and Password *	
PM&C user “root” Password *	
PM&C user “admusr” Password *	
PM&C user “PM&Cftpusr” Password *	
Onboard Administrator GUI Admin Username and Password	

*** Not applicable for Cloud deployments**

3.2 Upgrade Maintenance Windows

!! WARNING !! **It is recommended that SOAM NE sites containing mated Database Processors (DP) be upgraded in separate maintenance windows if at all possible.**

Table 5 - Upgrade Maintenance Windows

Maintenance Window _____ **Date:** _____ Record the names of the **Primary SDS** NE site, **DR SDS NE** site, and server's hostnames to be upgraded during Maintenance Window 1 in the space provided on the right:	**Primary SDS NE site name:** _____ ☐ **Primary SDS Active Server:** _____ ☐ **Primary SDS Standby Server:**_____ ☐ **Primary SDS Query Server:** _____ **DR SDS NE site name:** _____ ☐ **DR SDS Active Server:** _____ ☐ **DR SDS Standby Server:** _____ ☐ **DR SDS Query Server:** _____ • Check-off ☒ the associated **check box** as the upgrade is completed for each server
Maintenance Window _____ **Date:** _____ Record the name of **SOAM NE** site and its server's hostnames to be upgraded during the Maintenance Window 2 in the spaces provided on the right.	**SOAM NE site name:** _____ ☐ **Active SOAM Server:** _____ ☐ **Standby SOAM Server:** _____ ☐ **DP 1 Server**: _____ ☐ **DP 6 Server**: _____ ☐ **DP 2 Server**: _____ ☐ **DP 7 Server**: _____ ☐ **DP 3 Server**: _____ ☐ **DP 8 Server**: _____ ☐ **DP 4 Server**: _____ ☐ **DP 9 Server**: _____ ☐ **DP 5 Server**: _____ ☐ **DP 10 Server**: _____ • Check-off ☒ the associated **check box** as the upgrade is completed for each server

Maintenance Window _____ **Date:** ___________________ Record the name of **SOAM NE** site and its server's hostnames to be upgraded during the Maintenance Window 2 in the spaces provided on the right.	**SOAM NE site name: _________________________** ☐ **Active SOAM Server: _________________________** ☐ **Standby SOAM Server: _______________________** ☐ **DP 1 Server**: _________________ ☐ **DP 6 Server**: __________________ ☐ **DP 2 Server**: _________________ ☐ **DP 7 Server**: __________________ ☐ **DP 3 Server**: _________________ ☐ **DP 8 Server**: __________________ ☐ **DP 4 Server**: _________________ ☐ **DP 9 Server**: __________________ ☐ **DP 5 Server**: _________________ ☐ **DP 10 Server**: _________________ • Check-off ☒ the associated **check box** as the upgrade is completed for each server
Maintenance Window _____ **Date:** ___________________ Record the name of **SOAM NE** site and its server's hostnames to be upgraded during the Maintenance Window 2 in the spaces provided on the right.	**SOAM NE site name: _________________________** ☐ **Active SOAM Server: _________________________** ☐ **Standby SOAM Server: _______________________** ☐ **DP 1 Server**: _________________ ☐ **DP 6 Server**: __________________ ☐ **DP 2 Server**: _________________ ☐ **DP 7 Server**: __________________ ☐ **DP 3 Server**: _________________ ☐ **DP 8 Server**: __________________ ☐ **DP 4 Server**: _________________ ☐ **DP 9 Server**: __________________ ☐ **DP 5 Server**: _________________ ☐ **DP 10 Server**: _________________ • Check-off ☒ the associated **check box** as the upgrade is completed for each server
Maintenance Window _____ **Date:** ___________________ Record the name of **SOAM NE** site and its server's hostnames to be upgraded during the Maintenance Window 2 in the spaces provided on the right.	**SOAM NE site name: _________________________** ☐ **Active SOAM Server: _________________________** ☐ **Standby SOAM Server: _______________________** ☐ **DP 1 Server**: _________________ ☐ **DP 6 Server**: __________________ ☐ **DP 2 Server**: _________________ ☐ **DP 7 Server**: __________________ ☐ **DP 3 Server**: _________________ ☐ **DP 8 Server**: __________________ ☐ **DP 4 Server**: _________________ ☐ **DP 9 Server**: __________________ ☐ **DP 5 Server**: _________________ ☐ **DP 10 Server**: _________________ • Check-off ☒ the associated **check box** as the upgrade is completed for each server

NOTE: Make copies of this sheet as needed for more additional **SOAM NE** sites

3.3 Upgrade Preparation Overview

The pre-upgrade procedures shown in the following table should be executed prior to the upgrade maintenance window and may be executed outside a maintenance window if desired.

Table 6 - Upgrade Preparation Procedures

Procedure Number	Procedure Title	Elapsed Time (Hrs:Min)	
		This Step	Cumulative
1	Requirements Check	00:15	00:15
2	ISO Administration	*	*
3	Full Database Backup (PROV & COMCOL ENV for All Servers)	01:00	01:15

***NOTE:** ISO transfers to the target systems cannot be estimated since times will vary significantly depending on the number of systems and the speed of the network. The ISO transfers to the target systems should be performed prior to the scheduled maintenance window. The user should schedule the required maintenance windows accordingly.

3.4 Primary SDS site / DR SDS site Upgrade Execution Overview

The procedures shown in the following table are executed inside a maintenance window.

Table 7 - Primary SDS / DR SDS Upgrade Procedures

Procedure Number	Procedure Title	Elapsed Time (Hrs:Min)	
		This Step	Cumulative
4	Upgrade Primary SDS NOAM NE	01:00	02:15
5	Upgrade DR SDS NOAM NE	01:00	03:15

3.5 SOAM Upgrade Execution Overview

The procedures shown in the following table should be executed inside a separate maintenance window.

Table 8 - SOAM Upgrade Procedures

Procedure Number	Procedure Title	Elapsed Time (Hrs:Min)	
		This Step	Cumulative
6	Upgrade SOAM NE	01:30	01:30

3.6 Post Upgrade Execution Overview

These procedures are performed only after all sites on network have been upgraded.

Table 9 - Post Upgrade Procedures

Procedure Number	Procedure Title	Elapsed Time (Hrs:Min)	
		This Step	Cumulative
Accepting the Upgrade	Accepting the Upgrade	*	*

3.7 Recovery Procedures Overview

These procedures are customized to the specific situation encountered and therefore do not have well established timeframes.

Table 10 - Backout Procedures

Procedure Number	Procedure Title	Elapsed Time (Hrs:Min)	
		This Step	Cumulative
8	Backout of a SOAM NE	*	*
9	Backout of the DR SDS NOAM NE	*	*
10	Backout of the Primary SDS NOAM NE	*	*

4. SDS UPGRADE MATRIX

Upgrading the SDS product in the customer network is a task which requires multiple procedures of varying types. The matrix shown below provides a guide to the user as to which procedures are to be performed on which site types. As always, it is recommended to contact MOS for assistance if experiencing difficulties with the interpretation or execution of any of the procedures listed.

NOTE: Primary SDS and DR SDS sites must be upgraded in the same maintenance window.

SDS Upgrade Matrix

	Network Element Type	1	2*†	3	4*	5†	6*†	Accepting the Upgrade
☐	**Primary NOAM NE DR NOAM NE *(SDS / Query Server)***	✓	✓	✓	✓	✓	✗	✓
☐	**SOAM NE *(SOAM / DP)***	✓	✗	✗	✗	✗	✓	✓

Table 11 - SDS Upgrade Matrix

* **Appendix B *(Health Check Procedures)*** is executed before starting this procedure.
† **Appendix B *(Health Check Procedures)*** is executed after completing this procedure.

SDS Upgrade: List of Procedures

Table 12 - SDS Upgrade: List of Procedures

5. UPGRADE PREPARATION

This section provides detailed procedures to prepare a system for upgrade execution. These procedures may be executed outside of a maintenance window.

5.1 Requirements Check

This procedure verifies that all required materials needed to perform an upgrade have been collected and recorded.

Procedure 1: Requirements Check

Step	Procedure	Result
1. ☐	Verify that all upgrade requirements have been met.	• Requirements are listed in **Section 3.1**: *(Upgrade Requirements)*. Verify that all Upgrade requirements have been met.
2. ☐	Verify all administration data needed during upgrade.	• Verify that all information in **Section 3.1.2** *(Logins, Passwords and Site Information)* has been entered and is accurate.

5.2 Review Release Notes

Before starting the upgrade, review the Release Notes for the SDS 8.0 release to understand the functional differences (if any) and possible impacts to the upgrade. When upgrading SDS to the target release, the following alarms may be reported on the GUI during the period of time when the Primary SDS Site NE is at the new software level and the DR SDS Site NE is at the old software level:

- 31124: A DB replication audit command detected errors
- 31105: The DB merge process (inetmerge) is impaired by a s/w fault
- 31232: High availability server has not received a message on specified path within the configured interval
- 31283: Lost Communication with server (cmha)
- 31109: Topology Config Error (cmha)

These alarms, if present, will exist for the Active and Standby DR SDS Site servers. They should clear automatically within 5 minutes, and will cease to be raised once the DR Provisioning Site NE is upgraded to the same software level as the Primary SDS Site. To avoid seeing these alarms altogether, the upgrade of the Primary SDS Site and DR SDS Site NEs should be performed within the same maintenance window.

5.3 Perform Firmware Verification *(Upgrade Preparation)*

This section is not applicable to a software-centric upgrade.
This procedure is part of Software Upgrade Preparation and is necessary to determine the whether a firmware update is required. If [4] has been provided with the upgrade material, follow the provided instructions to verify the firmware on SDS rack mount servers and DP blades. Execute firmware upgrade procedures if required by [4]:

Appendix A.1.1

☐ Execute Section entitled "Upgrade DL360 or DL380 Server Firmware" of for SDS rack mount servers.

☐ Execute Section entitled "Upgrade Blade Server Firmware" for SDS DP blades.

5.4 Verify Shared Segments and Logical Volumes *(Major Upgrade from SDS 5.0 Only)*

If performing a **major upgrade** from **SDS 5.0.x** to **SDS 8.0,** then the user must ensure that shared segments and logical volumes on all SDS servers are in the correct state before upgrading to **SDS 8.0**.

 **STOP !**	☐ Verify Shared Segments and Logical Volumes for all servers in the **SDS** topology as specified in **Appendix G** *(Verifying Shared Segments and Logical Volumes*). Instruction in Appendix G are not valid for cloud systems.

5.5 Apply Patch 25515028

If performing a **major upgrade** from **SDS 5.0.x** to **SDS 8.0,** then user must apply this patch before proceeding with upgrade.

 **STOP !**	☐ Follow the instructions specified in **Appendix R** for applying the patch.

5.6 Perform Health Check *(Upgrade Preparation)*

This procedure is part of Software Upgrade Preparation and is used to determine the health and status of the SDS network and servers. This procedure may be executed multiple times but must also be executed at least once within the time frame of 24-36 hours prior to the start of a maintenance window.

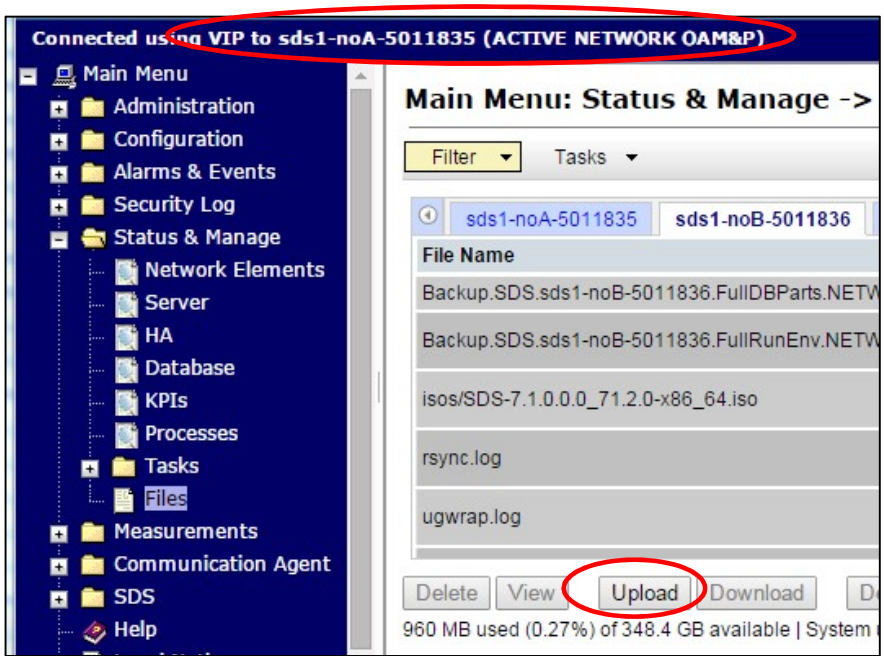
☐ Execute SDS Health Check procedures as specified in **Appendix B**.

5.7 ISO Administration

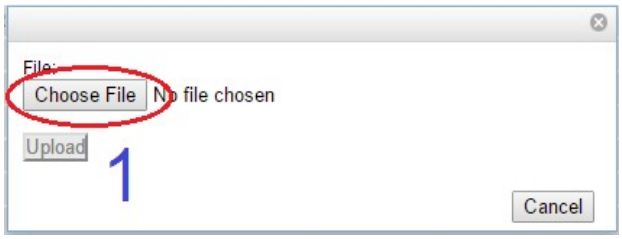
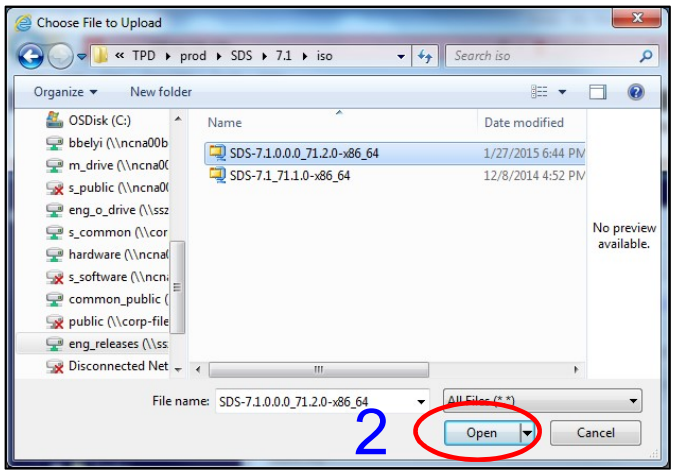
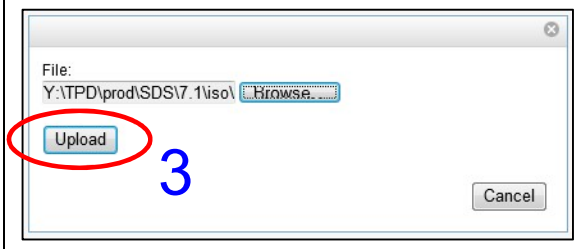
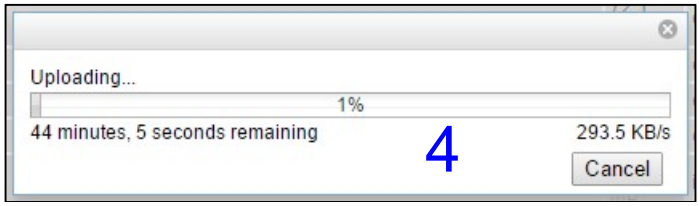
ISO transfers to the target servers may require a significant amount of time depending on the number of systems and the speed of the network. Therefore, it is highly reccommended that the ISO transfers to the target servers be completed prior to the first scheduled maintenance window.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!
• **Appendix J:** *(Adding the SDS ISO to the PM&C Software Repository)* may be executed at anytime after Procedure 2: ISO Administration) has been completed.

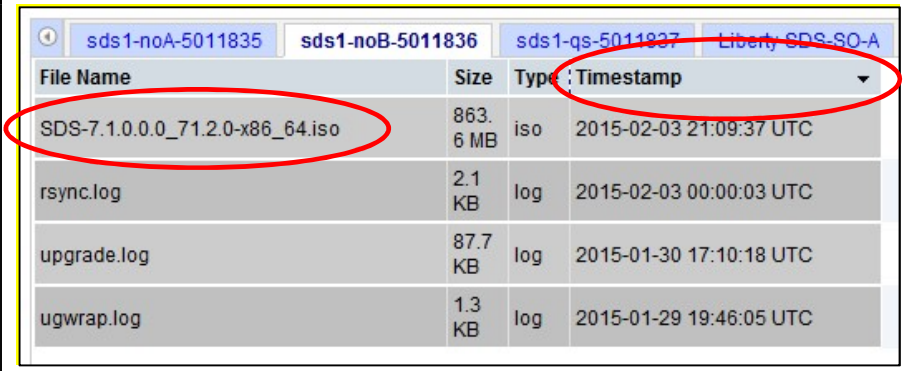
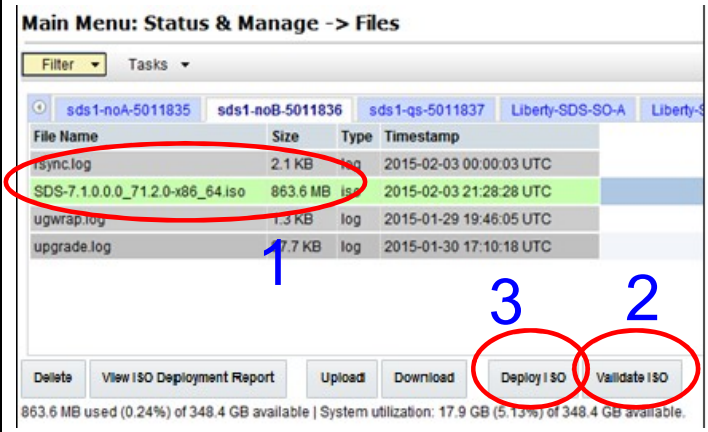
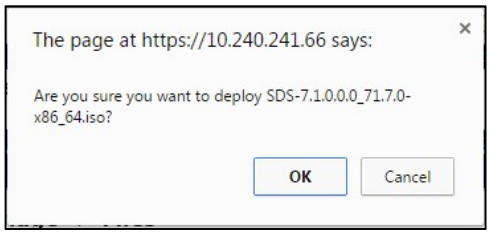
Procedure 2: ISO Administration

Step	Procedure	Result
1. ☐	Using the **VIP** address, access the **Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**
2. ☐	**Primary SDS NOAM VIP (GUI):** **1)** Select… **Main Menu** → **Status & Manage** → ***Files*** **2)** Select the hostname of the **Active** Primary SDS server from the list tabs. **3)** Click on the **"Upload"** button. **NOTE:** *The **Active Primary** SDS server will be displayed in the GUI banner as being connected to the **VIP** with a state of **ACTIVE NETWORK OAM&P**.*	

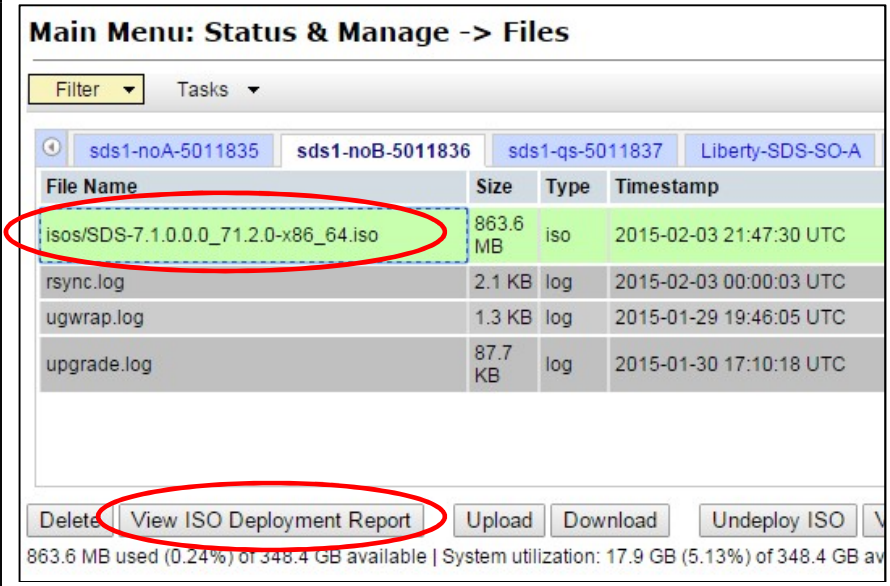
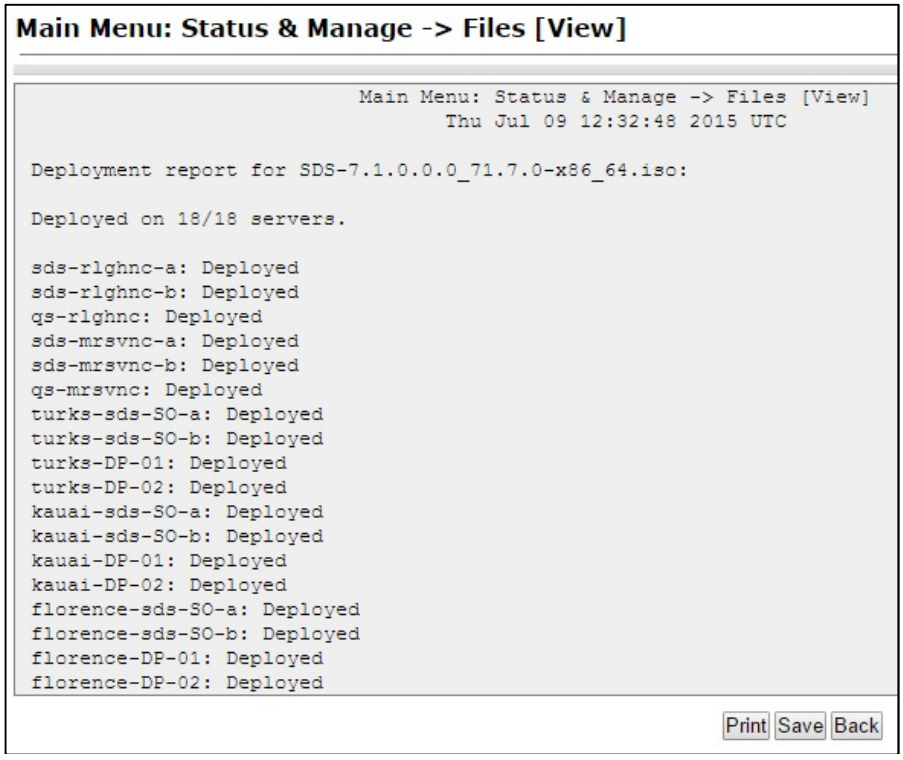
Procedure 2: ISO Administration

Step	Procedure	Result
3. ☐	**Primary SDS NOAM VIP:** **1)** Click the **"Choose File"** dialogue button **2)** Select the Drive and directory location of the ISO file for the target release. Select the ISO file and click the **"Open"** dialogue button. **3)** Click the **"Upload"** dialogue button. **4)** Monitor the upload until the file transfer completes reaches with 100%. **NOTE:** *If transfering the ISO file to the server manually (scp), the iso must be placed in the* ***/var/TKLC/db/filemgmt/*** *directory with* ***664*** *permissions and* ***awadmin:awadm*** *ownership.*	   

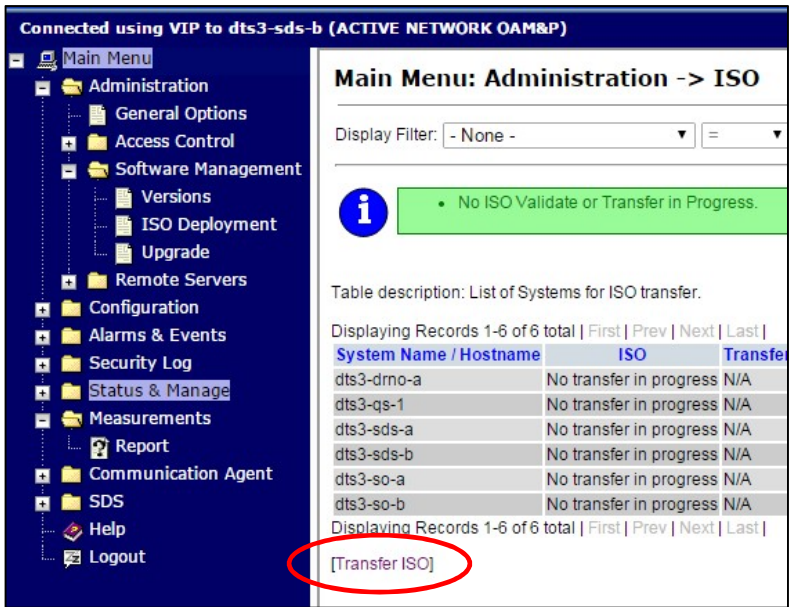
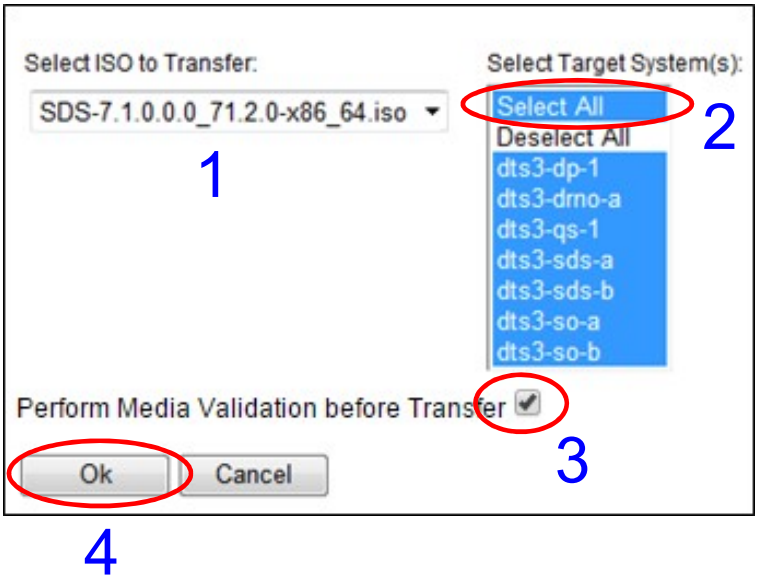
Procedure 2: ISO Administration

Step	Procedure	Result
4. ☐	**Primary SDS NOAM VIP:** In the top right side of the right panel, Click the **"Timestamp"** heading **twice** so that the arrow to the right points down *(this will bring the most recent files the top of the screen)*. The ISO file uploaded in **Step 3** of this procedure should now appear at the top most position in the **"File Name**" column.	
YIELD	• If source release is **SDS 5.0.x**, then **SKIP** to **Step 8** of this procedure. • If source release is **SDS 7.x or later**, then continue with **Step 5** of this procedure.	
5. ☐	**SDS 7.x and later** **Primary *SDS NOAM VIP:*** Deploy ISO file to all SDS servers in the entire topology. **1)** Using the cursor, select the **ISO** file uploaded in **Step 3** of this procedure. **2)** Click **'Validate ISO'** dialogue button. Wait until validation is passed. **3)** Click **'Deploy ISO'** dialogue button. **4)** Click **'OK'** to confirm the ISO deployment.	 

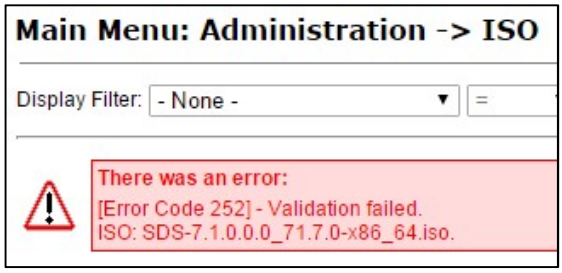
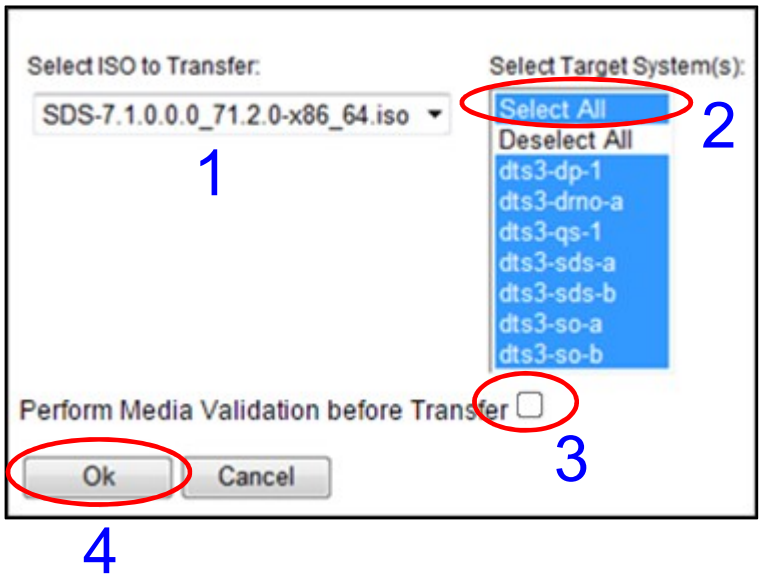
Procedure 2: ISO Administration

Step	Procedure	Result
6. ☐	**Primary SDS NOAM VIP:** Monitor the ISO deployment status. **1)** Using the cursor, select the **ISO** file uploaded in **Step 3** of this procedure. **2)** Click the **"View ISO Deployment Report"** dialogue button.	
7. ☐	**Primary SDS NOAM VIP:** The user is presented with the **ISO Deployment Report** indicating the **current status** of deployment to all servers in the topology. **Refresh** the report by clicking the **"Back"** dialogue button and repeating **Step 6** of this procedure until the **ISO** has been **"Deployed"** to all servers in the topology. **NOTE**: *This completes the ISO Administration procedures for source release **7.x and later, SKIP** the remaining steps of this procedure and exit at this time.*	
THIS PROCEDURE HAS BEEN COMPLETED ***(SDS 7.x/8.0 Source)***		

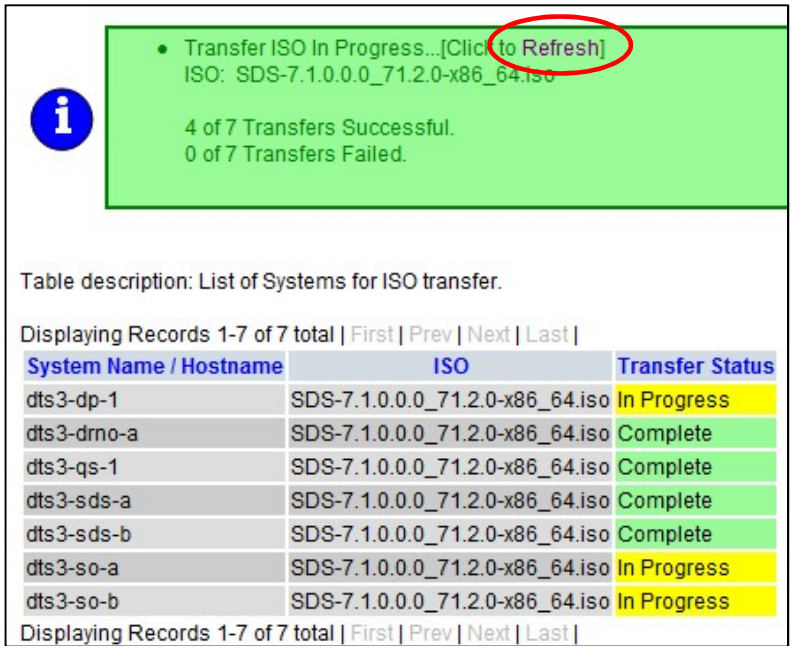
Procedure 2: ISO Administration

Step	Procedure	Result
8. ☐	**SDS 5.0 only** **Primary SDS NOAM VIP:** Upload ISO file to the **Standby** SDS server.	• Repeat **Steps 2 - 4** of this procedure to upload **ISO** file to the **"Standby" Primary SDS NOAM** server.
9. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Administration** **→Software Management** ***→ ISO Deployment*** **2)** Click on the **[Transfer ISO]** link located in the bottom left quadrant of the right panel.	
10. ☐	**Primary SDS NOAM VIP:** The user is presented with the **[Transfer ISO]** screen. **1)** Using the pull-down menu, select the **ISO** file uploaded in **Step 3** of this procedure. **2)** Click **"Select All"** or hold the **[CTRL]** key to multi-select individual servers to be upgraded. **3)** Click on the **"Perform Media Validation before transfer"** check box. **4)** Click on the **"Ok"** dialogue button.	

Procedure 2: ISO Administration

Step	Procedure	Result
11. ☐	**Primary SDS NOAM VIP:** If **"[Error Code 252] - Validation failed."** was received, then execute **Appendix H** *(Manually Performing ISO Validation)* and then continue with **Step 12.** If no error was received, **SKIP** to **Step 13**.	
12. ☐	**Primary SDS NOAM VIP:** The user is presented with the **[Transfer ISO]** screen. **1)** Using the pull-down menu, select the **ISO** file uploaded in **Step 3** of this procedure. **2)** Click **"Select All"** or hold the **[CTRL]** key to multi-select individual servers to be upgraded. **3) DO NOT** click on the **"Perform Media Validation before transfer"** check box. **4)** Click on the **"Ok"** dialogue button.	

Procedure 2: ISO Administration

Step	Procedure	Result
13. ☐	**Primary SDS NOAM VIP:** **1)** The user ispresented with the **ISO** Administration screen. **2)** The progress of the individual file transfers may be monitored by periodically clicking on the **[Click to Refresh]** link in the information banner message. **3)** Continue to monitor the file transfer progress until a **"Transfer Status"** of **"Complete"** is received for all selected servers.	

YIELD

- This procedure is required when upgrading from Release 7.1, 7.2, 7.3 or 7.4 to SDS 8.0
- Appendix O: ISO Link Correction

THIS PROCEDURE HAS BEEN COMPLETED ***(SDS 5.0 Source)***

5.8 Perform Health Check *(Post ISO Administration)*

This procedure is part of Software Upgrade Preparation and is used to determine the health and status of the entire SDS network and servers. This may be executed multiple times but must also be executed at least once within the time frame of 24-36 hours prior to the start of a maintenance window.

☐ Execute SDS Health Check procedures as specified in **Appendix B.**

5.9 Full Database Backup (PROV & COMCOL ENV for All Servers)

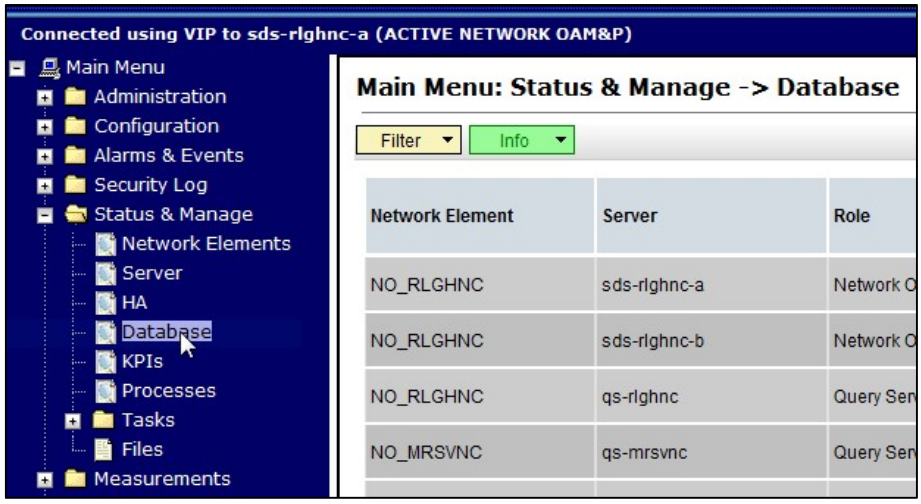
This procedure is part of Software Upgrade Preparation and is used to conduct a full backup of the COMCOL run environment on every server, to be used in the event of a backout/rollback of the new software release.

NOTE: Do not perform this procedure until the ISO Deployment is completed to all servers in the topology. Partial backout (e.g. backout of one site) may fail in the event of incomplete ISO deployment/undeployment.

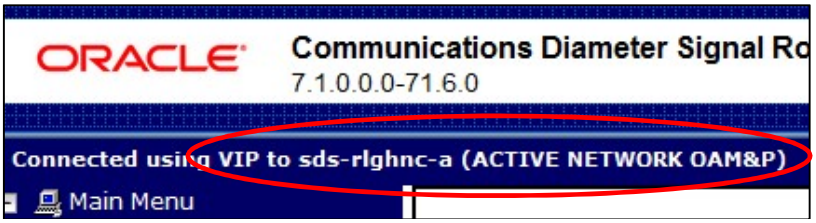
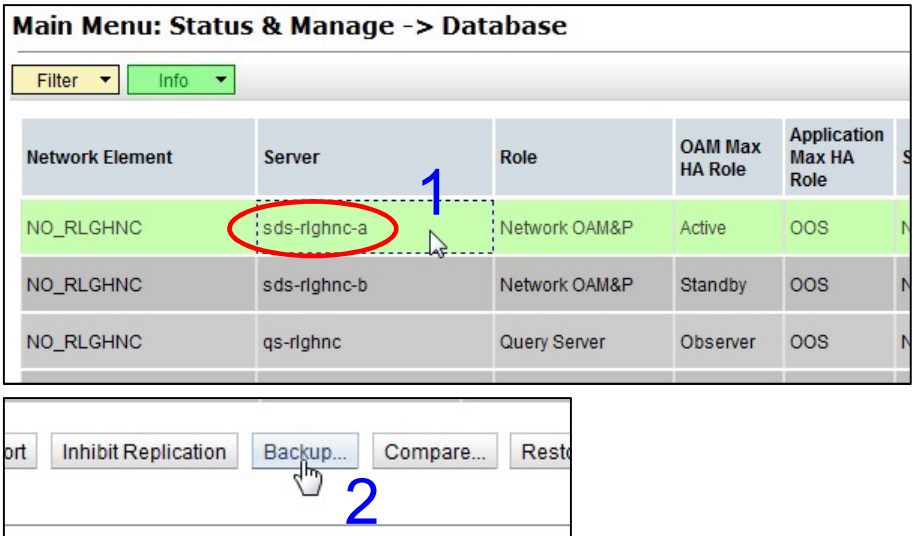
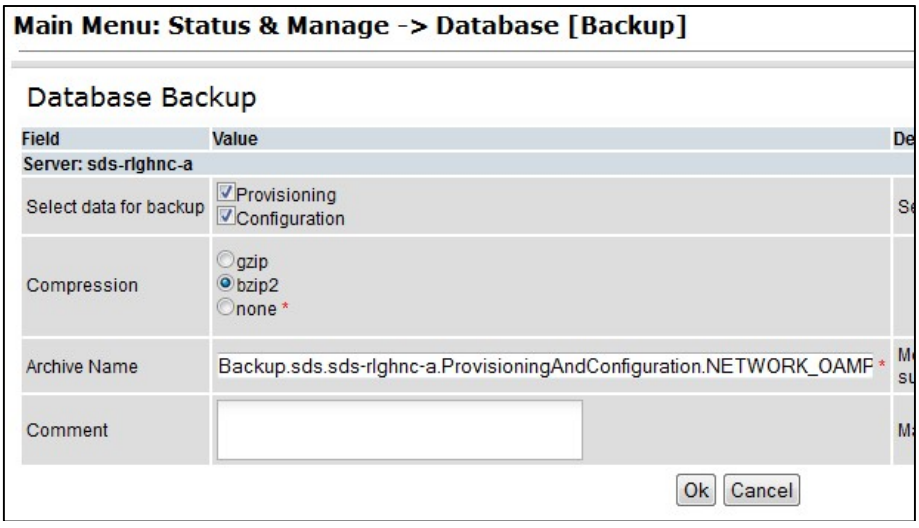
Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

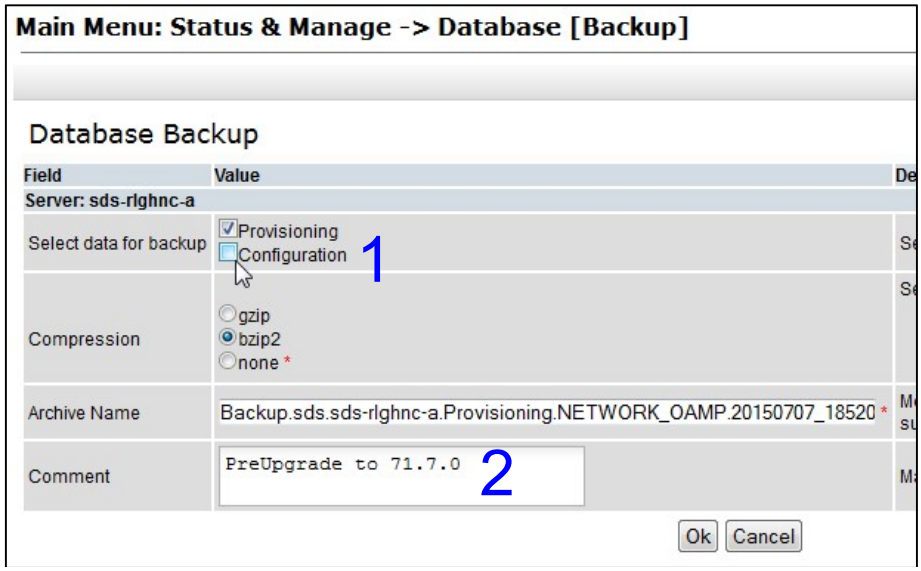
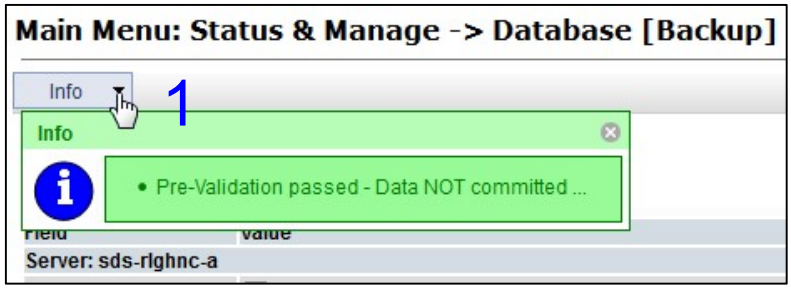
Procedure 3: Full Database Backup (PROV & COMCOL ENV for All Servers)

Step	Procedure	Result
1. ☐	Using **VIP** address, access the **Primary SDS NOAM GUI**.	• Use the **VIP** address to access the **Primary SDS NOAM GUI** as specified in **Appendix A.**
2. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ *Database*** …as shown on the right.	

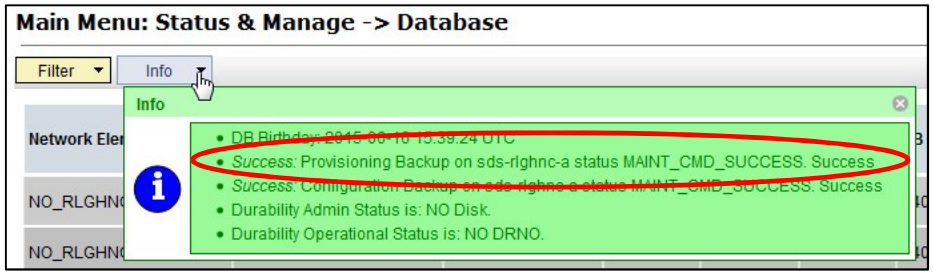
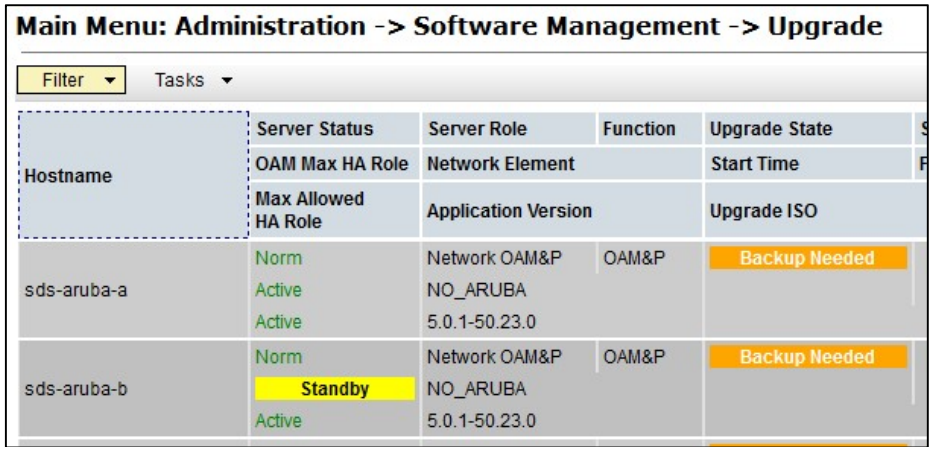
Procedure 3: Full Database Backup (PROV & COMCOL ENV for All Servers)

Step	Procedure	Result
3. ☐	**Primary SDS NOAM VIP:** Verify the name of the Primary **Active Network OAM&P** SDS server from the GUI banner.	
4. ☐	**Primary SDS NOAM VIP:** **1)** Using the cursor, select the Primary **Active Network OAM&P** SDS server on the **[Status & Manage → Database]** screen. **2)** Then click the **"Backup…"** dialogue button in the bottom of the right panel.	
5. ☐	**Primary SDS NOAM VIP:** The user will be present with the backup form.	

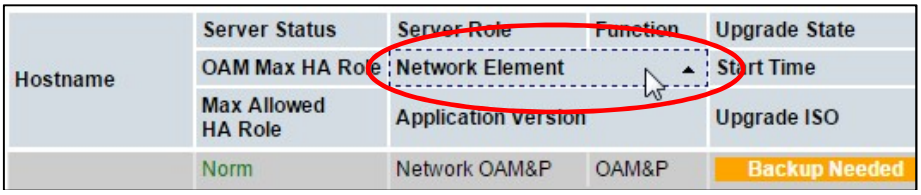
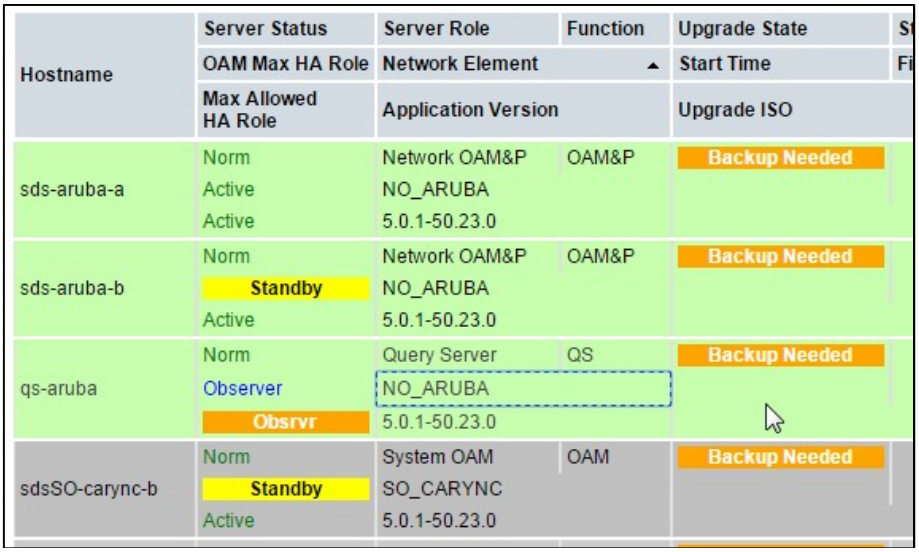
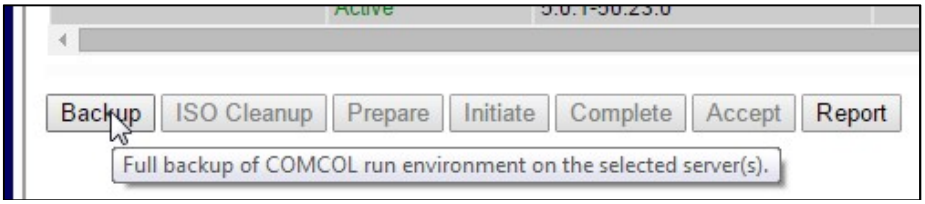
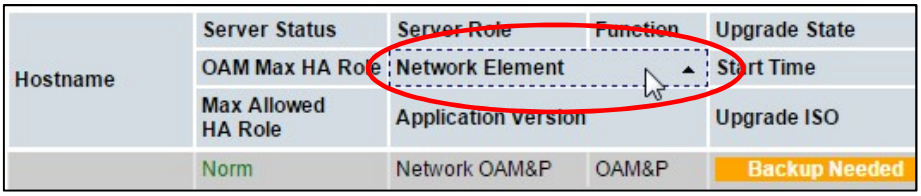
Procedure 3: Full Database Backup (PROV & COMCOL ENV for All Servers)

Step	Procedure	Result
6. ☐	**Primary SDS NOAM VIP:** **1) Uncheck** the "**Configuration**" checkbox so that only **Provisioning** data is backed up. **2)** Enter a comment *(required)* and then left click the cursor outside the comment field.	
7. ☐	**Primary SDS NOAM VIP:** **1)** Click the "**Info**" tab to verify that the changes have passed **Pre-Validation**. **2)** Click **"Ok"** dialogue button in the bottom of the right panel.	 

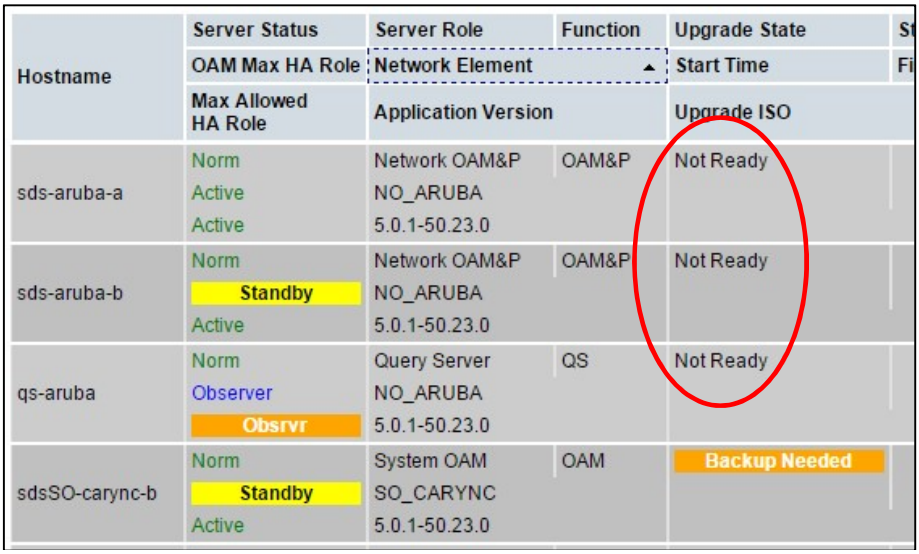
Procedure 3: Full Database Backup (PROV & COMCOL ENV for All Servers)

Step	Procedure	Result
8. ☐	**Primary SDS NOAM VIP:** **Wait for the screen to refresh** (≈ 1-2 minutes) then click the **"Info"** tab to verify that the **Provisioning Backup** shows a status of **MAINT_CMD_SUCCESS**. If a status of **MAINT_IN_PROGRESS** is received, then periodically **refresh** the Info message by reselecting… **Main Menu** **→ Status & Manage** **→ *Database*** …then click the **"Info"** tab again. **NOTE:** *This step completes the backup of the SDS Provisioning Database.* **Note:** Depending on the size of the SDS Provisioning database, the backup could take a couple of hours to complete.	
YIELD	• If source release is **SDS 7.x or later**, then **SKIP** to **Step 16** of this procedure. • If source release is **SDS 5.0**, then continue with **Step 9** of this procedure.	
9. ☐	**SDS 5.0 only** **Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Adminustration** **→ Software Management** **→ Upgrade**	

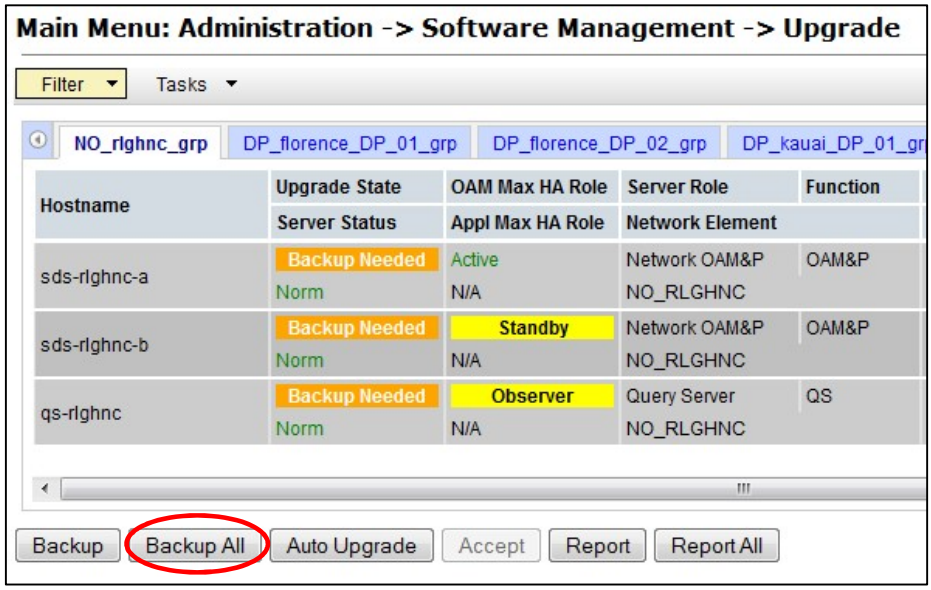
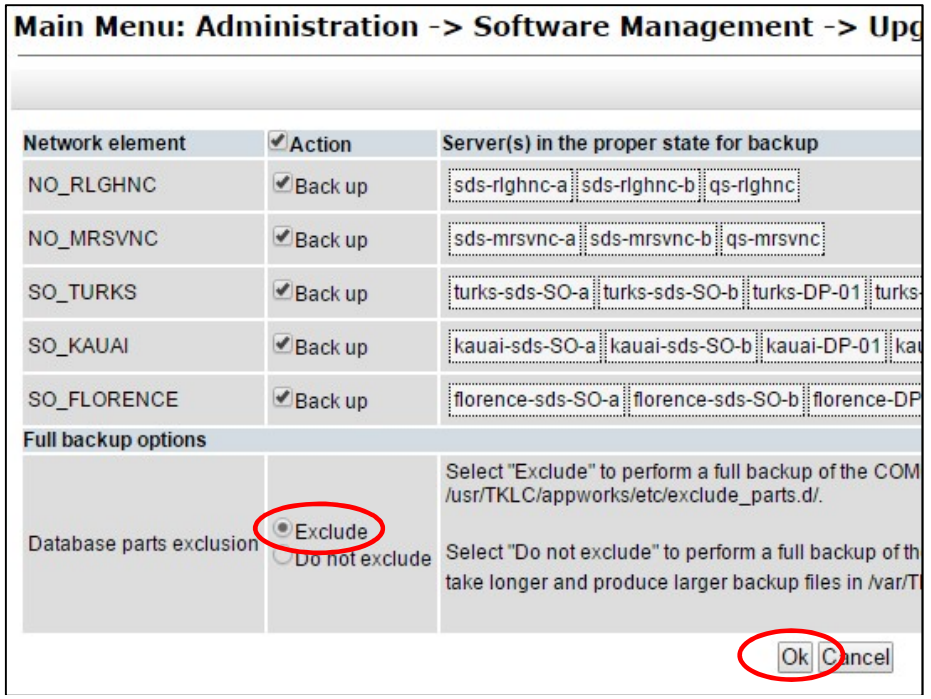
Procedure 3: Full Database Backup (PROV & COMCOL ENV for All Servers)

Step	Procedure	Result
10. ☐	**Primary SDS NOAM VIP:** Using the cursor, click the **"Network Element"** heading in the right panel to sort the servers by **NE**.	
11. ☐	**Primary SDS NOAM VIP:** **1)** While holding the **[CTRL]** key, multi-select the rows containing the **hostnames** of the servers in the **Network Element (NE)** to be upgraded. **2)** Verify that the **Upgrade State** shows **"Backup Needed"** for each server.	
12. ☐	**Primary SDS NOAM VIP:** Click the **"Backup"** dialogue button located across the bottom left of the right panel.	
13. ☐	**Primary SDS NOAM VIP:** **1) Wait for the screen to refresh** and then once again, click the **"Network Element"** heading in the right panel to sort the servers by **NE**. **2)** Use the vertical scroll bar *(if necessary)* to locate the rows containing the **hostnames** of the servers backed up in **Step 11** of this procedure.	

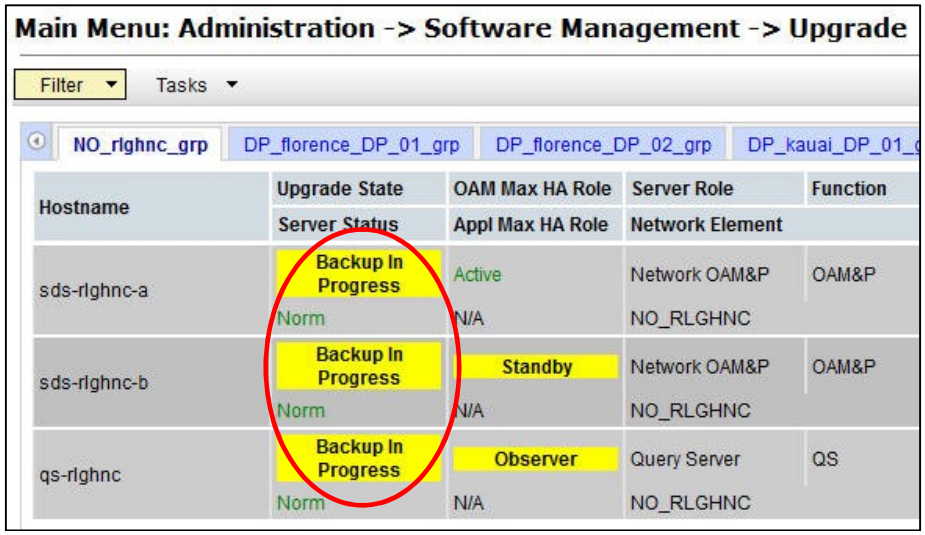
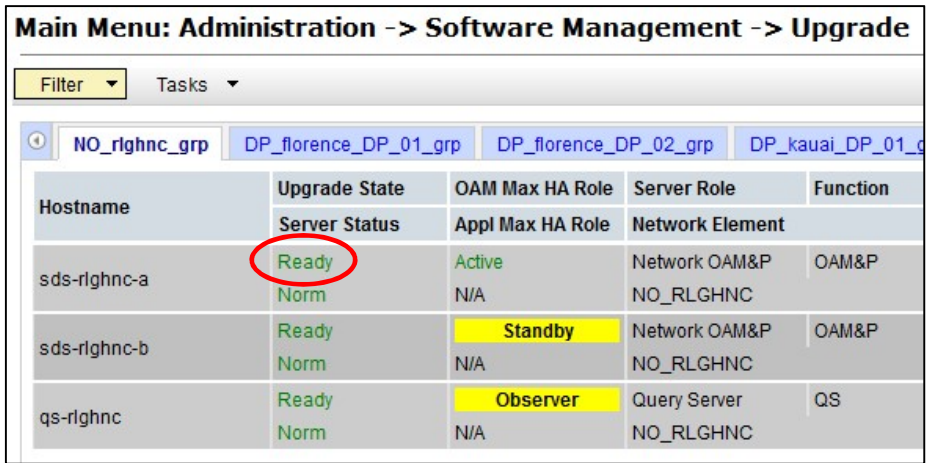
Procedure 3: Full Database Backup (PROV & COMCOL ENV for All Servers)

Step	Procedure	Result
14. ☐	**Primary SDS NOAM VIP:** The screen will auto-refresh at this point. Monitor all servers backed up in **Step 11** of this procedure until the **"Upgrade State"** changes from **"Backup Needed"** to **"Not Ready".**	
15. ☐	**Primary SDS NOAM VIP:** Execute COMCOL enviorment backups for the next NE **NOTE**: *This completes the COMCOL environment Backup procedures for source release **5.0, SKIP** the remaining steps of this procedure and exit at this time.*	• Repeat **Steps 11 - 14** of this procedure *(one Network Element at a time)*, until all servers in the topology display an **"Upgrade State"** of **"Not Ready".**
THIS PROCEDURE HAS BEEN COMPLETED ***(SDS 5.0 Source)***		

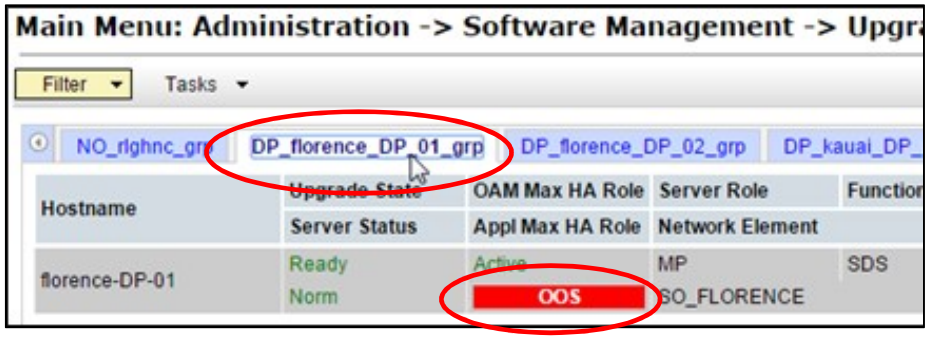
Procedure 3: Full Database Backup (PROV & COMCOL ENV for All Servers)

Step	Procedure	Result
16. ☐	**SDS 7.x and later only** **Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Adminustration** **→ Software Management** **→ *Upgrade*** The server **"Upgrade State"** will show **"Backup Needed"** at this point. **2)** In the bottom of the right panel, click the **"Backup All"** button.	
17. ☐	**Primary SDS NOAM VIP:** The user is presented with the **Upgrade [Backup All]** screen. **1)** Verify that the **"Exclude"** radio button is selected. **2)** Click **"Ok"** button to begin the backup(s). **NOTE:** *All servers in the topology which are in a state from which upgrade can be initiated will be visible on this screen (i.e. servers in "Forced Standby" or "OOS" will not present).*	

Procedure 3: Full Database Backup (PROV & COMCOL ENV for All Servers)

Step	Procedure	Result
18. ☐	**Primary SDS NOAM VIP:** The user is returned to the **Active Primary SDS** server **tab** on the **Administration → Software → Upgrade** screen where the server **"Upgrade State"** should now show **"Backup in Progress"** for all servers on that tab.	
19. ☐	**Primary SDS NOAM VIP:** The screen will auto-refresh at this point. Monitor the Backups until the server **"Upgrade State"** shows **"Ready"** for all servers on that tab. **NOTE:** *It can take up to 15 minutes for for COMCOL backup to complete.*	

Procedure 3: Full Database Backup (PROV & COMCOL ENV for All Servers)

Step	Procedure	Result
20. ☐	**Primary SDS NOAM VIP:** Click on the next **tab** to the right and monitor the Backups until the server **"Upgrade State"** shows **"Ready"** for all servers on that tab. **!! IMPORTANT !!** Starting with **SDS 7.x**, the **Appl Max HA Role** is now displayed in the **Administration → Software → Upgrade** screen. This state is expected to be **OOS** for **SDS DP** servers.	
21. ☐	**Primary SDS NOAM VIP:** Monitor the remaining tabs under the **Administration → Software → Upgrade** screen until all servers on each tab display a server **"Upgrade State"** value of **"Ready"**.	• Repeat **Step 20** of this procedure until all servers in the topology display a server **"Upgrade State"** value of **"Ready"**.
THIS PROCEDURE HAS BEEN COMPLETED ***(SDS 7.x/8.0 Source)***		

6. AUTOMATED SITE UPGRADE

With SDS 8.0, there are multiple methods available for upgrading a site. The newest and most efficient way to upgrade a site is the Automated Site Upgrade feature. As the name implies, this feature will upgrade an entire site (excluding NOAM & SOAMs) with a minimum of user interaction. SDS auto site upgrade only works for DPs.
The user is responsible for completing the pre-upgrade checks to verify upgrade readiness. Once the upgrade is initiated, the upgrade will automatically prepare the server(s), perform the upgrade, and then sequence to the next server or group of servers until all servers in the site are upgraded. The server upgrades are sequenced in a manner that preserves data integrity and processing capacity.

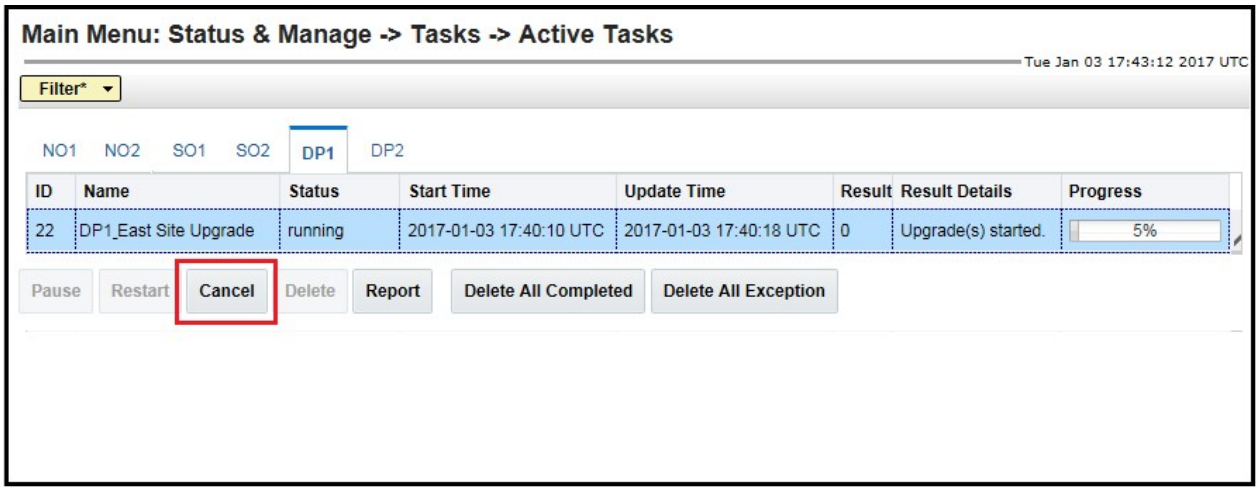
In SDS 8.0, the SOAMs will be upgraded using Automated Server Group Upgrade Appendix E, and then the DPs will be upgraded using Auto Site Upgrade.

6.1 Canceling and Restarting Auto Site Upgrade

When an Auto Site Upgrade is initiated, several tasks are created to manage the upgrade of the individual server groups as well as the servers within the server groups. These tasks can be monitored and managed via the Active Task screen (**Status & Manage > Tasks > Active Tasks**).

The main site upgrade controller task is identified by the naming convention **<site_name> Site Upgrade**. In Figure 1, the main task is task ID 22. This task is controlling the server group upgrade task (task ID 23), which in turn is controlling the server upgrade task (task ID 24).

Figure 1. Site Upgrade Active Tasks



To cancel the site upgrade, select the site upgrade task and click the **Cancel** button. A popup dialog box will request confirmation of the cancel operation. The status changes from '**running**' to '**completed**'. The **Results Details** column updates to display '**Site upgrade task cancelled by user**'. All server group upgrade tasks that are under the control of the main site upgrade task immediately transition to '**completed**' state. However the site upgrade cancellation has no effect on the individual server upgrade tasks that are in progress. These tasks will continue to completion. Figure 2 shows the Active Task screen after a site upgrade has been canceled.

Once the site upgrade task is canceled, it cannot be restarted. However, a new site upgrade can be started via the Upgrade Administration screen.

Figure 2. Canceled Site Upgrade Tasks.

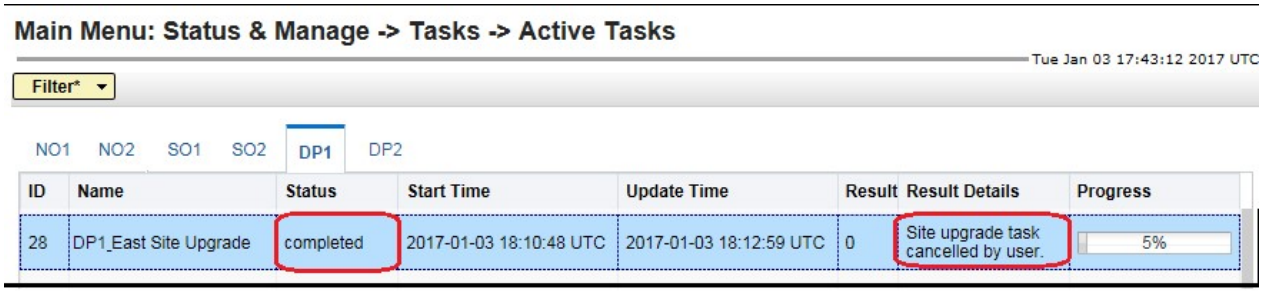
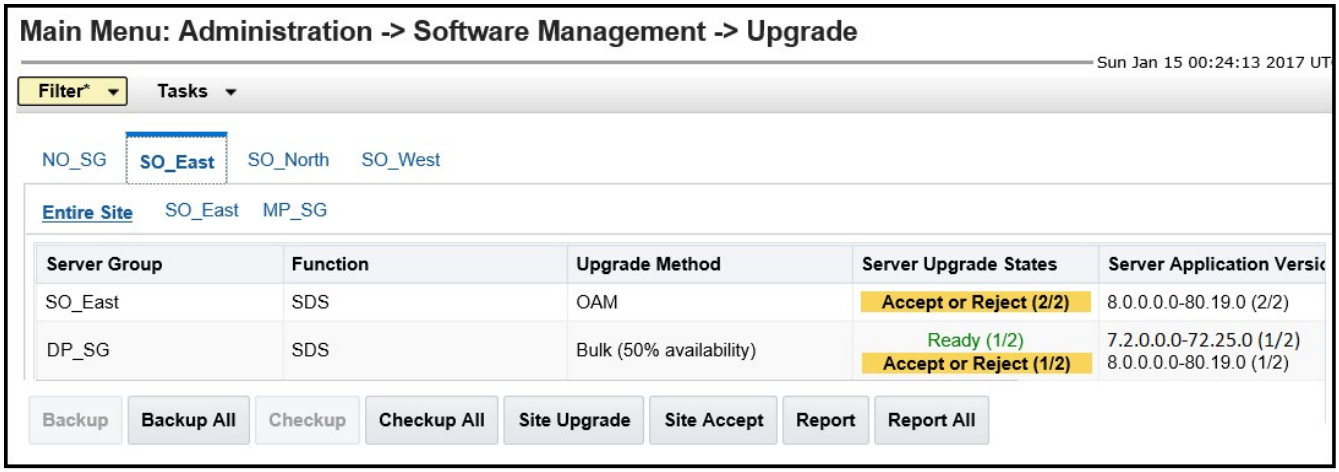


Figure 3 is representative of a site upgrade that was canceled before the site was completely upgraded. The servers that were in progress when the upgrade was canceled continued to upgrade to the target release. These servers are now in the Accept or Reject state. The servers that were pending when the upgrade was canceled are now in the Ready state, ready to be upgraded.

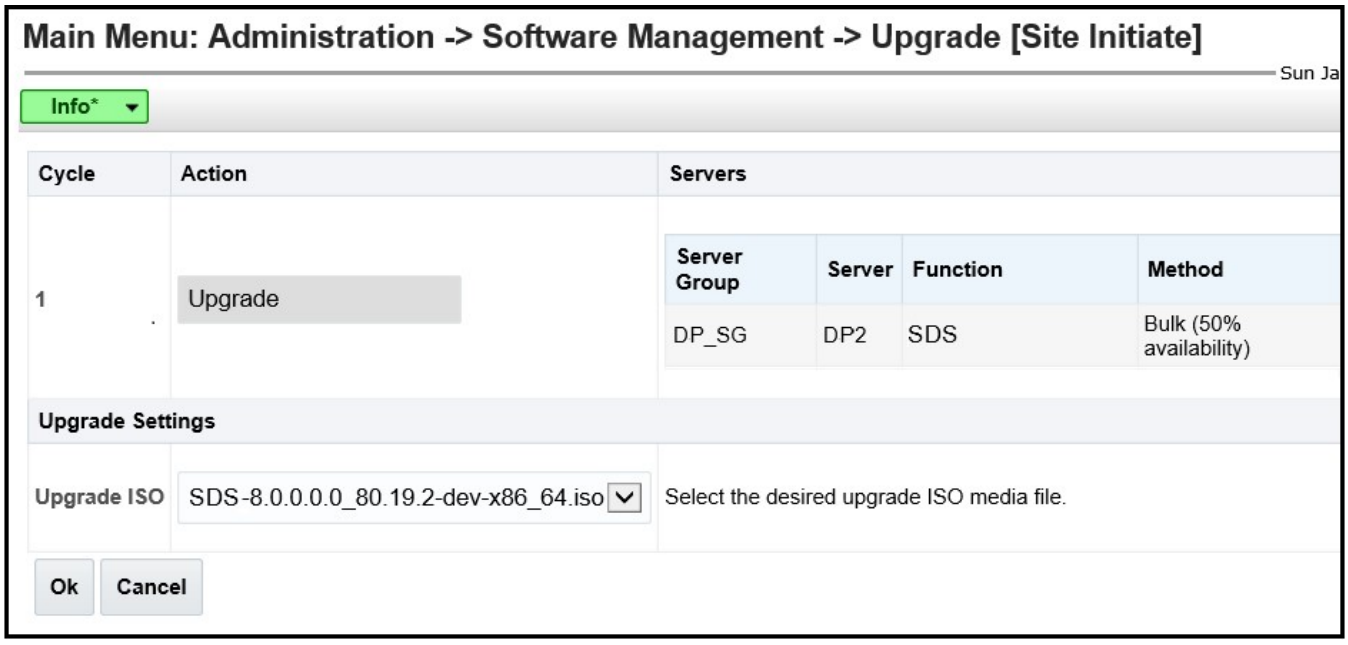
To restart the upgrade all that is required is to verify that the **Entire Site** link is selected, then click the **Site Upgrade** button. The **Upgrade [Site Initiate]** screen is displayed.

Figure 3. Partially Upgraded Site



On the **Upgrade [Site Initiate]** screen, the servers that have not yet been upgraded are grouped into the number of cycles that are required to complete the site upgrade. For the upgrade that was canceled in Figure 2, only a single cycle is needed since the availability requirements can be met by the servers that have already been upgraded. Once an ISO is selected and the **Ok** button is clicked, the site upgrade continues normally.

Figure 4. Restarting Site Upgrade.



7. AUTOMATED SERVER GROUP UPGRADE

The Automated Server Group (ASG) upgrade feature allows the user to automatically upgrade all of the servers in a server group simply by specifying a set of controlling parameters.

The purpose of ASG is to simplify and automate segments of the SDS upgrade. The SDS has long supported the ability to select multiple servers for upgrade. In doing so however, it was incumbent on the user to determine ahead of time which servers could be upgraded in parallel, considering traffic impact. If the servers were not carefully chosen, the upgrade could adversely impact system operations.

When a server group is selected for upgrade, ASG will upgrade each of the servers serially, or in parallel, or a combination of both, while enforcing minimum service availability. The number of servers in the server group that are upgraded in parallel is user selectable. The procedures in this document provide the detailed steps specifying when to use ASG, as well as the appropriate parameters that should be selected for each server group type.

ASG is the default upgrade method for NOAM and SOAM server group types associated with the SDS. DP's will use Auto Site Upgrade feature. However, there may be some instances in which the manual upgrade method is preferred. In all cases where ASG is used, procedures for a manual upgrade are also provided. **Note that in order to use ASG on a server group, no servers in that server group can be already upgraded – either by ASG or manually**.

SDS continues to support the parallel upgrade of server groups, including any combination of automated and manual upgrade methods.

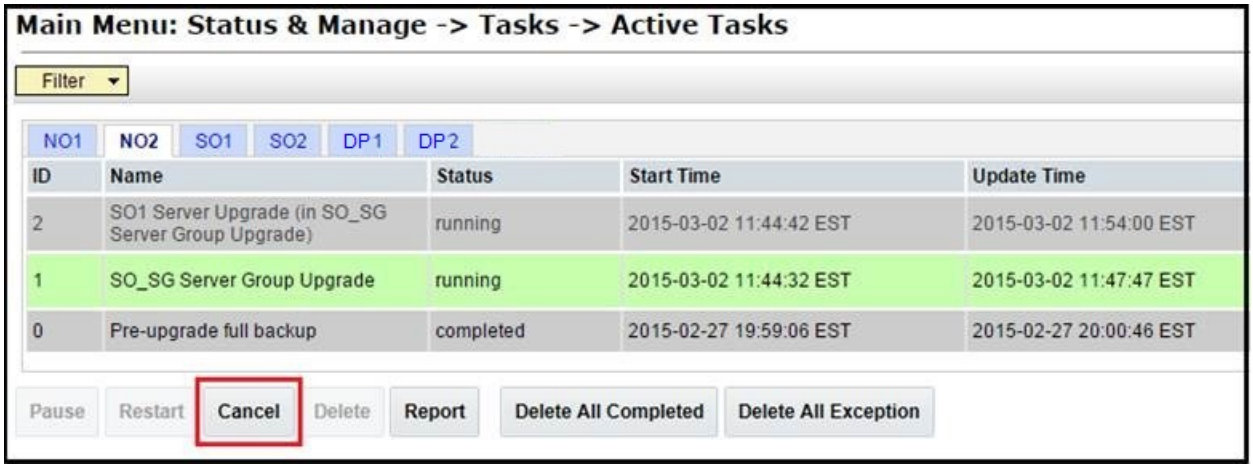
For SDS Automated Server Group (ASG) upgrade refer the steps as specified in Appendix E.

7.1 Canceling and Restarting Automated Server Group Upgrade

When a server group is upgraded using ASG, each server within that server group is automatically prepared for upgrade, upgraded to the target release, and returned to service on the target release. Once an ASG upgrade is initiated, the task responsible for controlling the sequencing of servers entering upgrade can be manually canceled from the **Status & Manage > Active Tasks** screen (Figure 5) if necessary. Once the task is canceled, it cannot be restarted. However, a new ASG task can be started via the Upgrade Administration screen.

For example, in Figure 5, task ID #1 (SO_SG Server Group Upgrade) is an ASG task, while task ID #2 is the corresponding individual server upgrade task. When the ASG task is selected (highlighted in green), the Cancel button is enabled. Canceling the ASG task affects only the ASG task. It has no effect on the individual server upgrade tasks that were started by the ASG task (i.e., task ID #2 in Figure 5). Because the ASG task is canceled, no new server upgrade will be initiated by the task.

Figure 5. Server Group Upgrade Active Tasks



In the event that a server fails upgrade, that server will automatically roll back to the previous release in preparation for backout_restore and fault isolation. Any other servers in that server group that are in the process of upgrading will continue to upgrade to completion. However, the ASG task itself will automatically be canceled and no other servers in that server group will be upgraded. Canceling the ASG task provides an opportunity for troubleshooting to correct the problem. Once the problem is corrected, the server group upgrade can be restarted by initiating a new server group upgrade on the upgrade screen.

8. PRIMARY / DR SDS NOAM UPGRADE EXECUTION

Call **My Oracle Support (MOS)** and inform them of your plans to upgrade this system prior to executing this upgrade.

Refer to Appendix Q - Accessing My Oracle Support (MOS) for information on contacting **MOS**.

Before upgrading, users must perform the system Health Check in **Appendix B.** This check ensures that the system to be upgraded is in an upgrade-ready state. Performing the system health check determines which alarms are present in the system and if upgrade can proceed with alarms.

****** WARNING *******

If there are servers in the system, which are not in a Normal state, these servers should be brought to the Normal or the Application Disabled state before the upgrade process is started. The sequence of upgrade is such that servers providing support services to other servers will be upgraded first.

****** WARNING *******

Please read the following notes on this procedure:

If a procedural STEP fails to execute successfully or fails to receive the desired output, **STOP** the procedure. It is recommended to contact **MOS** for assistance before attempting to continue.

Procedure completion times shown are estimates. Times may vary due to differences in database size, user experience, and user preparation.

Where possible, command response outputs are shown as accurately as possible. EXCEPTIONS are as follows:

- Session banner information such as time and date.
- System-specific configuration information such as hardware locations, IP addresses and hostnames.
- ANY information marked with "XXXX" or "YYYY." Where appropriate, instructions are provided to determine what output should be expected in place of "XXXX or YYYY"
- Aesthetic differences unrelated to functionality such as browser attributes: window size, colors, toolbars, and button layouts.

After completing each step and at each point where data is recorded from the screen, the technician performing the upgrade must mark the provided checkbox.

For procedures which are executed multiple times, a mark can be made below the checkbox (in the same column) for each additional iteration that the step is executed.

Retention of captured data is required as a future support reference if this procedure is executed by someone other than Oracle's Customer Care Center.

NOTE: *In order to minimize possible impacts due to database schema changes, Primary and DR SDS Network Elements must be upgraded within the same maintenance window.*

8.1 Perform Health Check *(Primary/DR NOAM Pre Upgrade)*

This procedure is part of Software Upgrade Preparation and is used to determine the health and status of the entire SDS network and servers. This may be executed multiple times but must also be executed at least once within the time frame of 24-36 hours prior to the start of a maintenance window.

☐ Execute SDS Health Check procedures as specified in **Appendix B.**

☐ Execute Increasing MAX # of open files **Appendix P.**

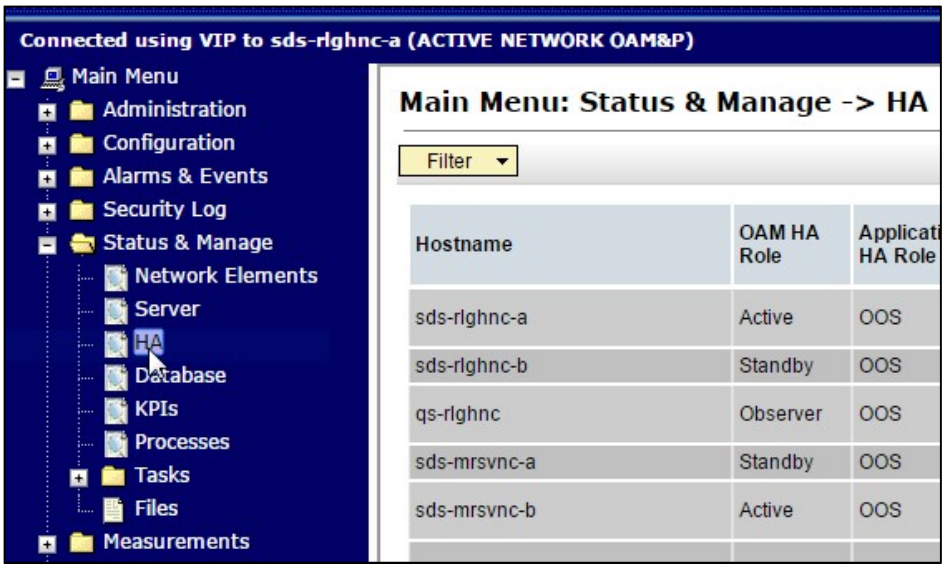
8.2 Upgrade Primary SDS NOAM NE

This procedure is used to upgrade the SDS NOAM servers.

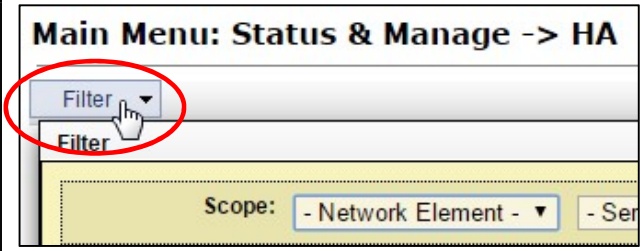
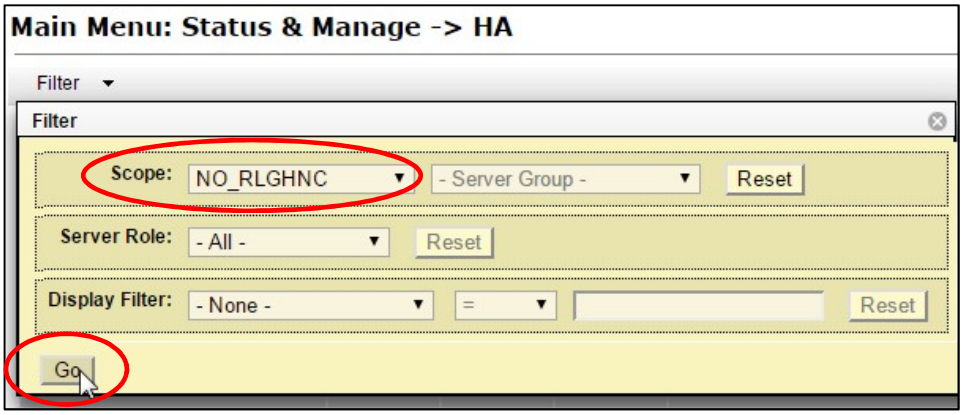
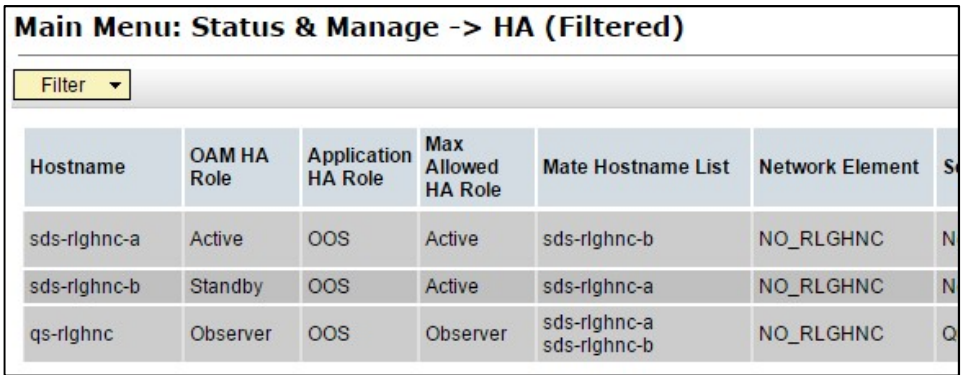
Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

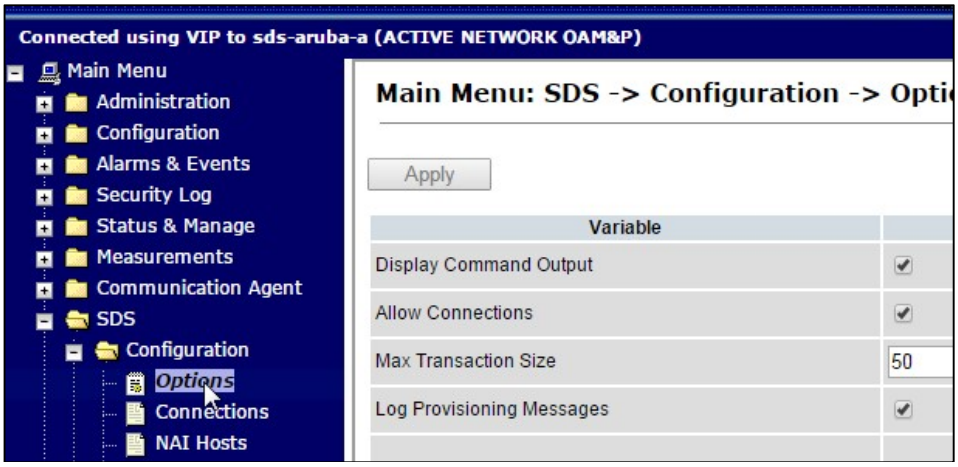
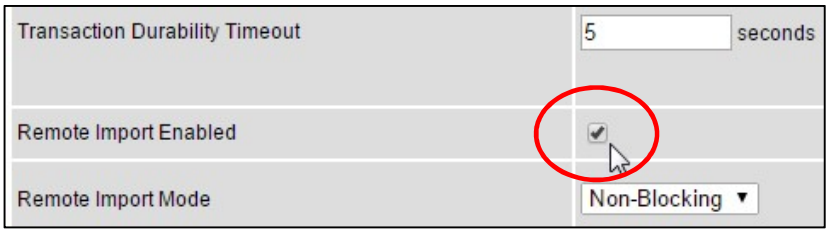
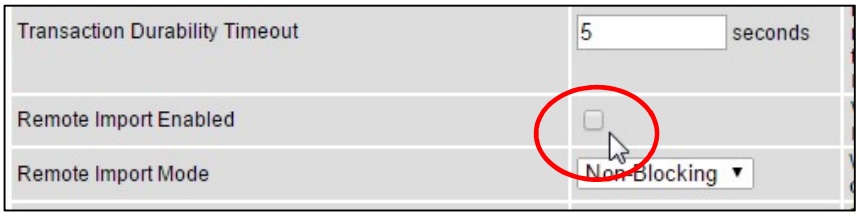
Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
1. ☐	Using **VIP** address, access the **Primary SDS NOAM** GUI.	• Using **VIP** address, access the **Primary SDS NOAM** GUI as described in **Appendix A.**
2. ☐	**Primary SDS NOAM VIP (GUI):** Select… **Main Menu** **→ Status & Manage** **→ *HA*** …as shown on the right.	
3. ☐	Record the name of the **Primary SDS NOAM NE** in the space provided.	Using the information provided in **Section 3.1.2** *(Logins, Passwords and Site Information)* record the name of the **Primary SDS NE site** in the space provided below: **Primary SDS NOAM NE: _____**

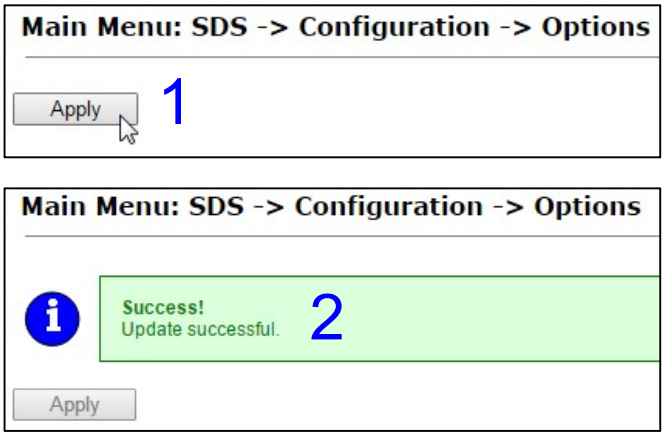
Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
4. ☐	**Primary SDS NOAM VIP:** **1)** Click the **"Filter"** tab in the top left of the right panel. **2)** Under **"Scope"** select the **Network Element** name for the **Primary SDS NOAM NE.** **2)** Click on the **"Go"** dialogue button.	 
5. ☐	**Primary SDS NOAM VIP:** The user should be presented with the list of servers associated with the **Primary SDS NOAM NE** Identify each "**Hostname"**, its **"Server Role"** and **"OAM HA Role"**.	 Hostname / OAM HA Role / Application HA Role / Max Allowed HA Role / Mate Hostname List / Network Element sds-rlghnc-a / Active / OOS / Active / sds-rlghnc-b / NO_RLGHNC sds-rlghnc-b / Standby / OOS / Active / sds-rlghnc-a / NO_RLGHNC qs-rlghnc / Observer / OOS / Observer / sds-rlghnc-a sds-rlghnc-b / NO_RLGHNC
6. ☐	**Primary SDS NOAM VIP:** Record the names of **Primary SDS NOAM NE** servers in the space provided to the right.	☐ **"Active" Primary SDS NOAM:** _____ ☐ **"Standby" Primary SDS NOAM:** _____ ☐ **Primary Query Server** *(if equipped)*: _____

Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
7. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ SDS** **→ Configuration** **→ *Options*** …as shown on the right.	
8. ☐	**Primary SDS NOAM VIP:** Locate the **"Remote Import Enabled"** checkbox and record the pre-upgrade state.	 Remote Import Enabled *(pre-upgrade state)*: ☐ CHECKED ☐ NOT CHECKED
9. ☐	**Primary SDS NOAM VIP:** If the **"Remote Import Enabled"** checkbox was checked in the previous step, **REMOVE** the check mark.	

Procedure 4: Upgrade Primary SDS NOAM NE

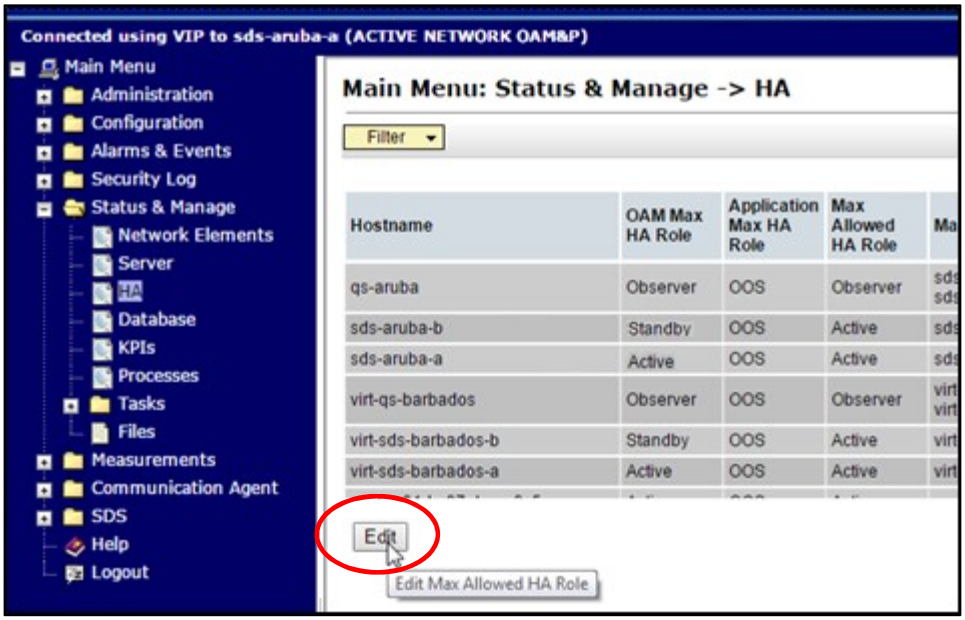
Step	Procedure	Result
10. ☐	**Primary SDS NOAM VIP:** If the **Check mark** was **REMOVED** from the **"Remote Import Enabled"** checkbox in the previous step, then execute the following: **1)** Click the **"Apply"** dialogue box in the top left of the right panel. **2)** Verify that a **"Success!"** response is received in the banner.	
	• If source release is **SDS 8.x**, **SDS 7.x**, then **SKIP** to **Step 29** of this procedure. • If source release is **SDS 5.0**, then continue with **Step 11** of this procedure.	
	**NOTE:** ***Steps 11*** *and* ***12*** *of this Procedure may be executed in parallel.*	
11. ☐	**SDS 5.0 only** **Primary SDS NOAM VIP:** Upgrade the **"Standby" Primary SDS NOAM s**erver.	• Upgrade the **"Standby" Primary SDS NOAM** server (as identified and recorded in **Step 6** of this Procedure) using **Appendix C** *(Upgrade Server Administration on SDS* 5.0*).* • In **Step 6** of this Procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **"Standby" Primary SDS NOAM** server.
12. ☐	**Primary SDS NOAM VIP:** Initiate upgrade for the **Primary SDS Query Server**	• Upgrade **Primary Query Server** (as identified and recorded in **Step 6** of this Procedure) using **Appendix C** *(Upgrade Server Administration on SDS* 5.0*).* In **Step 6** of this Procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **Primary Query Server**

13. ☐	**Primary SDS NOAM VIP (CLI):**
	Using the **VIP** address, login to the **"Active" Primary SDS NOAM** with the **admusr** account.
		`CentOS release 5.7 (Final)`
		`Kernel 2.6.18-274.7.1.e15prerel5.0.0_72.32.0 on an x86_64`
		
		`sds-rlghnc-a login: admusr`
		`Password: <admusr_password>`

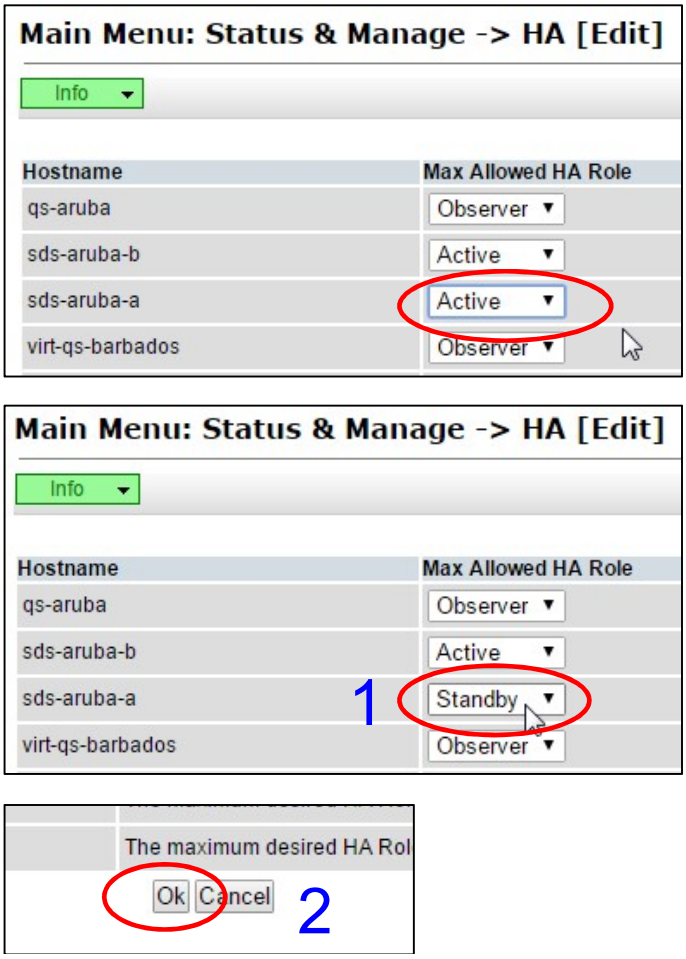
Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
14. ☐	**Primary SDS NOAM VIP:** The user will be presented with output similar to that shown to the right.	***** TRUNCATED OUTPUT ***** RELEASE=6.4 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 RUNID=00 [admusr@sds-rlghnc-a ~]$
15. ☐	**Primary SDS NOAM VIP:** Verify that the **DbReplication** status is **"Active"** to the **Standby Primary SDS NOAM** and the **Query Server** *(if equipped)* which were upgraded in **Steps 11** and **12** of this procedure.	[admusr@sds-rlghnc-a ~]$ **sudo irepstat -w** -- Policy 0 ActStb **[DbReplication]** AA To sds-rlghnc-b **Active** 0 0.25 1%R 0.05%cpu 47B/s AA To qs-rlghnc **Active** 0 0.25 1%R 0.05%cpu 56B/s AA To sds-mrsvnc-a **Active** 0 0.50 1%R 0.04%cpu 47B/s AB To kauai-sds-SO-b **Active** 0 0.50 1%R 0.04%cpu 63B/s AB To florence-sds-SO-a **Active** 0 0.51 1%R 0.03%cpu 65B/s AB To turks-sds-SO-b **Active** 0 0.50 1%R 0.04%cpu 65B/s irepstat (8 lines) (h)elp [admusr@sds-rlghnc-a ~]$
16. ☐	**Primary SDS NOAM VIP:** **!! IMPORTANT !!** ***DO NOT*** *proceed to the next step until a DbReplication status of* ***"Active"*** *is returned for the* ***Standby Primary SDS NOAM*** *and the* ***Query Server*** *(if equipped).*	• If a DbReplication status of **"Audit"** was received in the previous step, then **REPEAT Step 15** of this procedure until a status of **"Active"** is returned.
17. ☐	**Primary SDS NOAM VIP:** Exit the **CLI** for the **"Active" Primary SDS NOAM.**	[admusr@sds-rlghnc-a filemgmt]$ **exit** logout
18. ☐	Using **VIP** address, access **the Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**

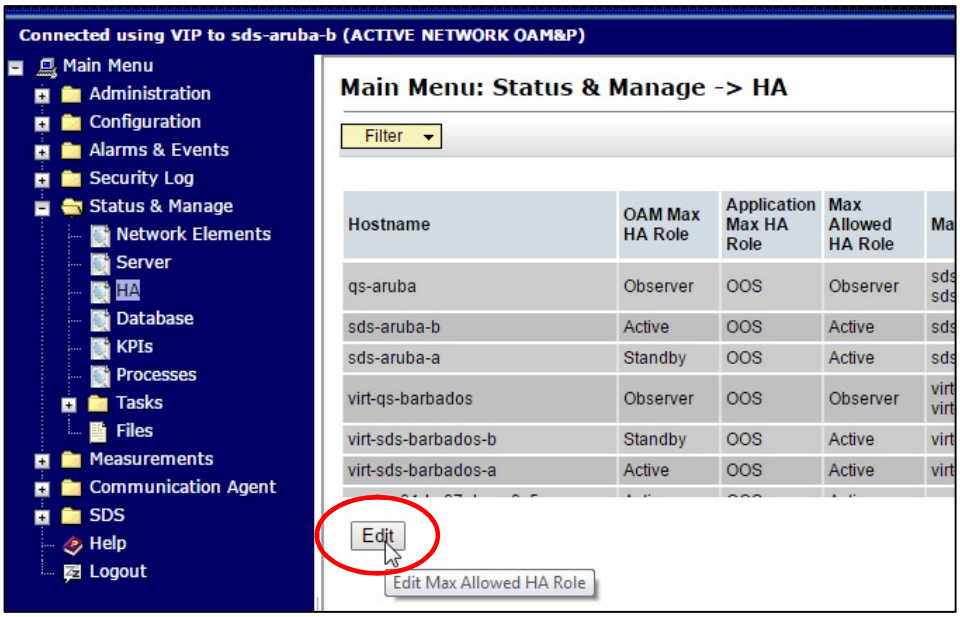
Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
19. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Status & Manage** **→ HA** …as shown on the right. **2)** Click on the "**Edit**" dialogue button.	

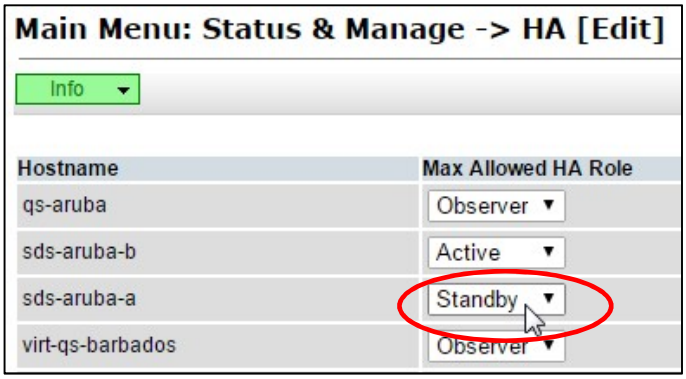
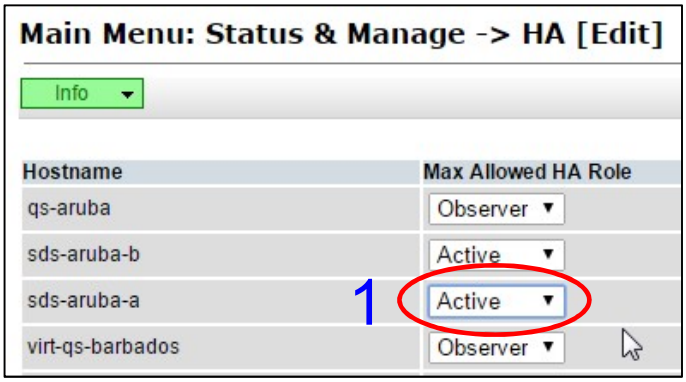
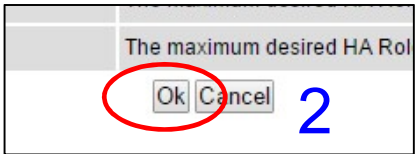
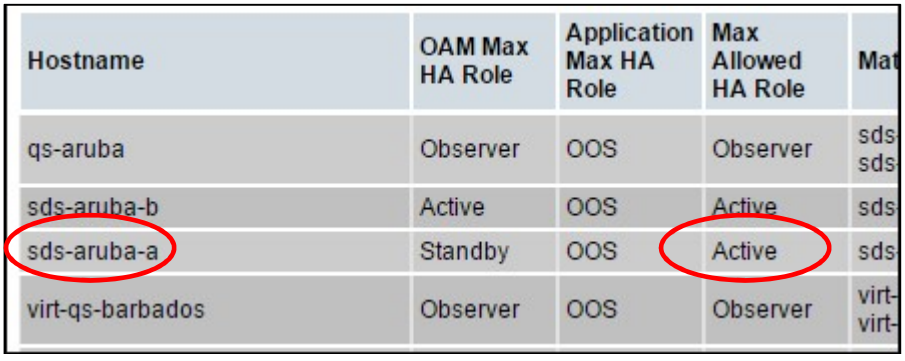
Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
20. ☐	**Primary SDS NOAM VIP:** **1)** Select the **"Active" Primary SDS NOAM** server and change a **Max Allowed HA Role** value from **"Active"** to **"Standby".** **2)** Press the "**Ok**" button. Then on the next screen,	
21. ☐	**Primary SDS NOAM VIP:** As the **"Active" Primary SDS NOAM** server is placed in the **"Prepare"** Upgrade state, an **HA Switchover** will occur.	• The user's **GUI** session will end as the **"Active" Primary SDS Server** goes through **HA Switchover** and becomes the **"Standby"** server.
22. ☐	**Primary SDS NOAM VIP:** If not automatically **logged out** of the **GUI**, use the **[Logout]** link in the top right of the browser to logout of the **SDS NOAM GUI**.	

Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
23. ☐	**Primary SDS NOAM VIP (GUI):** **Clear the browser cache.** **!! IMPORTANT !!** ***DO NOT*** *proceed to the next step until the* ***browser cache*** *has been* ***cleared****.*	JavaScript libraries, images and other objects are often modified in the upgrade. Browsers can sometimes cause GUI problems by holding on to the old objects in the built-in cache. To prevent these problems always clear the browser cache before logging into an OAM GUI which has just been upgraded: **1)** Simultaneously hold down the **[Ctrl]**, **[Shift]** and **[Delete]** keys *(most Web browsers)*. **2)** Select the appropriate object types to delete from the cache via the pop-up dialog. *(e.g.* ***"Temporary Internet Files", "Cache"*** *or* ***"Cached images and files"****, etc.).* Other browsers may label these objects differently. **3)** **Clear the cached data.**
24. ☐	Using **VIP** address, access **the Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**
25. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Status & Manage** **→ HA** …as shown on the right. **2)** Click on the "**Edit**" dialogue button.	

Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
26. ☐	**Primary SDS NOAM VIP:** **1)** Select the **"Standby" Primary SDS NOAM** server and change the **Max Allowed HA Role** value from **"Standby"** to **"Active".** **2)** Press the "**Ok**" button. Then on the next screen,	  
27. ☐	**Primary SDS NOAM VIP:** Verify that the **Max Allowed HA Role** value has been updated to **"Active"** for the **"Standby" Primary SDS NOAM** server.	
28. ☐	**Primary SDS VIP:** Initiate upgrade for the **"Active" Primary SDS NOAM** server.	• Upgrade **"Active" Primary SDS NOAM** server (as identified and recorded in Appendix E)**.** • In **Step 6** of this Procedure, check-off ☒ the associated **check box** as the upgrade is completed for the upgraded **"Active" Primary SDS NOAM** server.

Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
	• For source release **SDS 5.0**, **SKIP** to **Step 37** of this procedure.	
	**NOTE:** ***Steps 29*** *and* ***30*** *of this procedure may be executed in parallel.*	
29. ☐	**SDS 7.x and later only** **Primary SDS NOAM VIP:** Initiate upgrade for the **"Standby" Primary SDS NOAM** server.	• Upgrade **"Standby" Primary SDS NOAM** server (as identified and recorded in **Step 6** of this procedure) using Appendix E (Upgrade Server Administration on SDS 8.0). • In **Step 6** of this procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **"Standby" Primary SDS NOAM** server.
30. ☐	**Primary SDS NOAM VIP:** Initiate upgrade for the **Primary Query Server**	• Upgrade **Primary Query Server** (as identified and recorded in **Step 6** of this Procedure) using Appendix E (Upgrade Server Administration on SDS 8.0). • In **Step 6** of this Procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **Primary Query Server**

31. ☐	**Primary SDS NOAM VIP (CLI):**
	Using the **VIP** address, login to the **"Active" Primary SDS NOAM** with the **admusr** account.
		`CentOS release 5.7 (Final)`
		`Kernel 2.6.18-274.7.1.e15prerel5.0.0_72.32.0 on an x86_64`
		
		`sds-rlghnc-a login: admusr`
		`Password: <admusr_password>`

32. ☐	**Primary SDS NOAM VIP:**
	The user will be presented with output similar to that shown to the right.
		***** TRUNCATED OUTPUT *****
		`RELEASE=6.4`
		`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`
		`RUNID=00`
		`[admusr@sds-rlghnc-a ~]$`

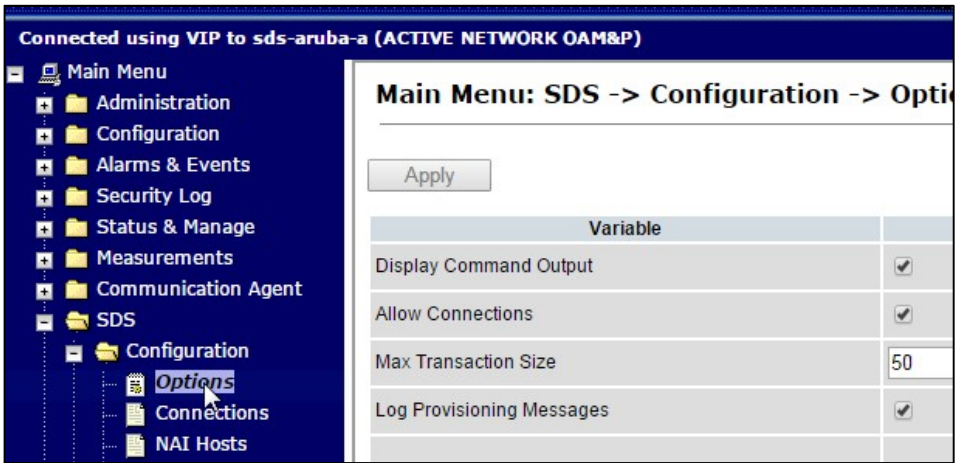
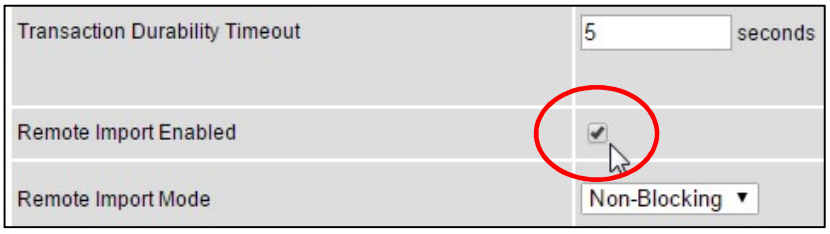
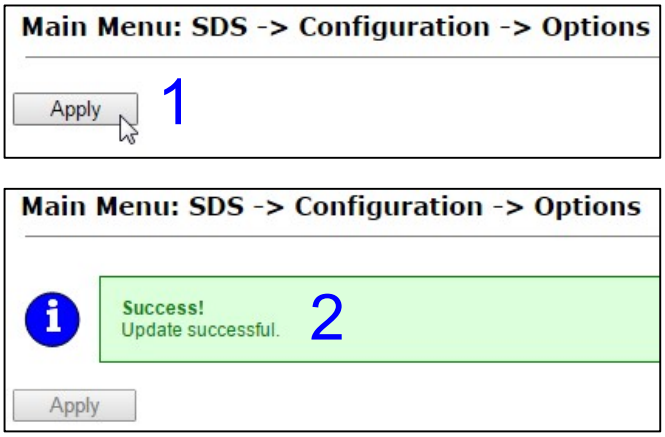
Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result

33. ☐	**Primary SDS NOAM VIP:**
	Verify that the **DbReplication** status is **"Active"** to the **Standby Primary SDS NOAM** and the **Query Server** *(if equipped)* which were upgraded in **Steps 29** and **30** of this procedure.
		`[admusr@sds-rlghnc-a ~]$ sudo irepstat -w`
		`-- Policy 0 ActStb [DbReplication]`
		`AA To sds-rlghnc-b Active 0 0.25 1%R 0.05%cpu 47B/s`
		`AA To qs-rlghnc Active 0 0.25 1%R 0.05%cpu 56B/s`
		`AA To sds-mrsvnc-a Active 0 0.50 1%R 0.04%cpu 47B/s`
		`AB To kauai-sds-SO-b Active 0 0.50 1%R 0.04%cpu 63B/s`
		`AB To florence-sds-SO-a Active 0 0.51 1%R 0.03%cpu 65B/s`
		`AB To turks-sds-SO-b Active 0 0.50 1%R 0.04%cpu 65B/s`
		`irepstat ( 8 lines) (h)elp`
		`[admusr@sds-rlghnc-a ~]$`

34. ☐	**Primary SDS NOAM VIP:** **!! IMPORTANT !!** ***DO NOT*** *proceed to the next step until a DbReplication status of* ***"Active"*** *is returned for the* ***Standby Primary SDS NOAM*** *and the* ***Query Server*** *(if equipped).*	If a DbReplication status of **"Audit"** was received in the previous step, then **REPEAT Step 33** of this procedure until a status of **"Active"** is returned.
35. ☐	**Primary SDS NOAM VIP:** Exit the **CLI** for the **"Active" Primary SDS NOAM.**	`[admusr@sds-rlghnc-a filemgmt]$ exit` `logout`
36. ☐	**Primary SDS NOAM VIP:** Initiate upgrade for the **"Active" Primary SDS NOAM** server. **!! IMPORTANT !!** *This will cause an HA activity Switchover to the mate Primary SDS NOAM server. This will occur within a few minutes of initiating the upgrade.*	• Upgrade **"Active" Primary SDS NOAM** server (as identified and recorded in **Step 6** of this Procedure) using Appendix E (Upgrade Server Administration on SDS 8.0). • In **Step 6** of this Procedure, check-off ☒ the associated **check box** as the upgrade is completed for the upgraded **"Active" Primary SDS NOAM** server.

Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
37. ☐	**Primary SDS NOAM VIP:** Re-Enable Provisioning **Remote Import** *(if applicable)*.	• If the **"Remote Import Enabled"** checkbox recorded in **Step 8** of this procedure was **CHECKED**, then continue with **Step 38** below. • If the **"Remote Import Enabled"** checkbox recorded in **Step 8** of this procedure was **NOT CHECKED**, then **Procedure 4** *(Upgrade Primary SDS NOAM NE)* has been **COMPLETED**. **SKIP** the remaining steps of this procedure and **EXIT** at this time.
38. ☐	**Primary SDS NOAM VIP (GUI):** Select… **Main Menu** **→ SDS** **→ Configuration** **→ *Options*** …as shown on the right.	
39. ☐	**Primary SDS NOAM VIP:** Locate the **"Remote Import Enabled"** checkbox and make sure that it is checked *(**ADD** the check mark if necessary)*.	
40. ☐	**Primary SDS NOAM VIP:** If the **Check mark** was **ADDED** to the **"Remote Import Enabled"** checkbox in the previous step, then execute the following: **1)** Click the **"Apply"** dialogue box in the top left of the right panel. **2)** Verify that a **"Success!"** response is received in the banner.	

Procedure 4: Upgrade Primary SDS NOAM NE

Step	Procedure	Result
THIS PROCEDURE HAS BEEN COMPLETED		

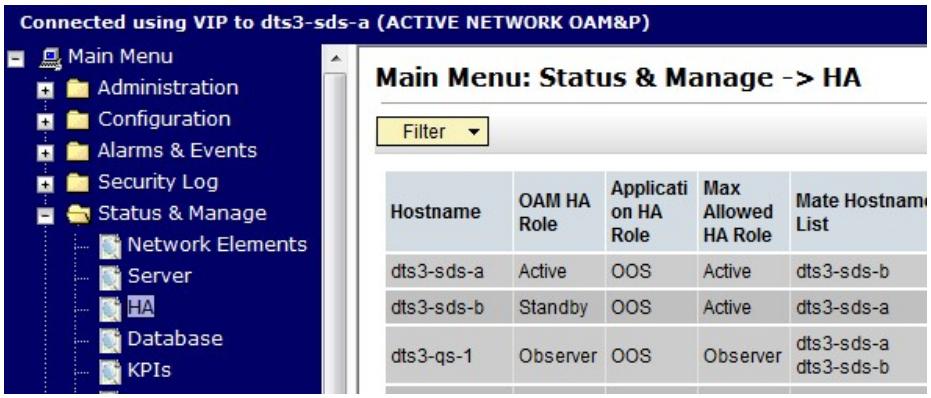
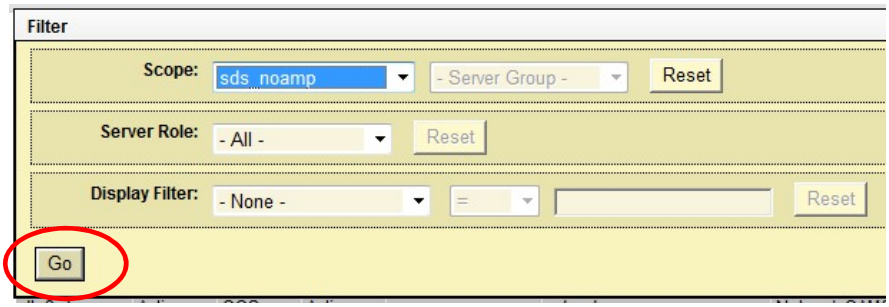
8.3 Upgrade DR SDS NOAM NE

This procedure is used to upgrade the DR SDS NOAM servers.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 5: Upgrade DR SDS NOAM NE

Step	Procedure	Result
1. ☐	Using **VIP** address, access the Primary SDS GUI.	• Using VIP address, access the Primary SDS GUI as described in Appendix A.
2. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ HA** …as shown on the right.	
3. ☐	Record the name of the **DR SDS NE site** in the space provided to the right.	Using the information provided in Section 3.1.2 (Logins, Passwords and Site Information) record the name of the **DR SDS NE site** in the space provided below: **DR SDS NE site:** _____
4. ☐	**Primary SDS NOAM VIP:** **1)** From the **"Scope"** filter pull-down, select the Network Element name for the **DR SDS NE site** **2)** Click on the **"Go"** dialogue button located on the right end of the filter bar.	

5. ☐	**Primary SDS NOAM VIP:** The user should be presented with the list of servers associated with the **DR SDS NE site** Identify each "**Server"**, its **"Server Role"** and **"OAM HA Role"**	

Hostname	OAM HA Role	Application HA Role	Max Allowed HA Role	Mate Hostname List	Network Element	Server Role
dts3-sds-a	Active	OOS	Active	dts3-sds-b	sds_noamp	Network OAM&P
dts3-sds-b	Standby	OOS	Active	dts3-sds-a	sds_noamp	Network OAM&P
dts3-qs-1	Observer	OOS	Observer	dts3-sds-a dts3-sds-b	sds_noamp	Query Server

6. ☐	**Primary SDS NOAM VIP:** Record the names of **DR SDS NE site** servers appropriately in the space provided to the right.	• Record the names of **DR SDS NE site** servers ☐ **DR SDS Active Server:** _____ ☐ **DR SDS Standby Server:** _____ ☐ **DR SDS Query Server:** _____

NOTE: ***Steps 7 and 8 of this procedure may be executed in parallel using the "Upgrade Server" option.***

7. ☐	**Primary SDS NOAM VIP:** Upgrade **DR Query Server**	• Upgrade **DR Query Server** (as identified and recorded in **Step 6** of this Procedure) using **Appendix E (**Upgrade Server Administration on SDS 8.0**).** • In **Step 6** of this Procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **DR Query Server.**
8. ☐	**Primary SDS NOAM VIP:** Upgrade **"Standby" DR SDS NOAM** server.	• Upgrade **"Standby" DR SDS NOAM** server (as identified and recorded in **Step 6** of this Procedure) using **Appendix E (**Upgrade Server Administration on SDS 8.0**).** • In **Step 6** of this Procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **"Standby" DR SDS NOAM** server**.**
9. ☐	**Primary SDS NOAM VIP:** Upgrade the **"Active" DR SDS NOAM** server. ***NOTE****: This will cause an HA activity failover to the mate DR SDS NOAM server.*	• Upgrade the **"Active" DR SDS NOAM** server (as identified and recorded in **Step 6** of this Procedure) using **Appendix E (**Upgrade Server Administration on SDS 8.0**).** • In **Step 6** of this Procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **"Active" DR SDS NOAM** server**.**

THIS PROCEDURE HAS BEEN COMPLETED

8.4 Perform Health Check *(Primary/DR NOAM Post Upgrade)*

This procedure is used to determine the health and status of the entire SDS network and servers after Primary and DR NOAM upgrade has been completed.

☐ Execute SDS Health Check procedures as specified in **Appendix B.**

9. SOAM UPGRADE EXECUTION

Call **My Oracle Support (MOS)** and inform them of your plans to upgrade this system prior to executing this upgrade.

Refer to ***Appendix Q -*** Accessing My Oracle Support (MOS) for information on contacting **MOS**.

Before upgrade, users must perform the system Health Check **Appendix B.** This check ensures that the system to be upgraded is in an upgrade-ready state. Performing the system health check determines which alarms are present in the system and if upgrade can proceed with alarms.

****** WARNING *******

If there are servers in the system, which are not in Normal state, these servers should be brought to the Normal or the Application Disabled state before the upgrade process is started. The sequence of upgrade is such that servers providing support services to other servers will be upgraded first.

****** WARNING *******

Please read the following notes on this procedure:

If a procedural STEP fails to execute successfully or fails to receive the desired output, **STOP** and contact **MOS** for assistance before attempting to continue.

Procedure completion times shown here are estimates. Times may vary due to differences in database size, user experience, and user preparation.

Where possible, command response outputs are shown as accurately as possible. EXCEPTIONS are as follows:

- Session banner information such as time and date.
- System-specific configuration information such as hardware locations, IP addresses and hostnames.
- ANY information marked with "XXXX" or "YYYY." Where appropriate, instructions are provided to determine what output should be expected in place of "XXXX or YYYY"
- Aesthetic differences unrelated to functionality such as browser attributes: window size, colors, toolbars and button layouts.

After completing each step and at each point where data is recorded from the screen, the technician performing the upgrade must mark the provided check box.

For procedures which are executed multiple times, a mark can be made below the check box (in the same column) for each additional iteration the step is executed.

Retention of Captured data is required as a future support reference if this procedure is executed by someone other than Oracle's Tekelec Customer Care Center.

NOTE: *For large systems containing multiple Signaling Network Elements, it may not be feasible to apply the software upgrade to every Network Element within a single maintenance window.*

9.1 Perform Health Check *(SOAM Pre Upgrade)*

This procedure is part of Software Upgrade Preparation and is used to determine the health and status of the entire SDS network and servers. This may be executed multiple times but must also be executed at least once within the time frame of 24-36 hours prior to the start of a maintenance window.

☐ Execute SDS Health Check procedures as specified in **Appendix B.**

9.2 Upgrade SOAM NE

The following procedure details how to upgrade SDS SOAM sites.

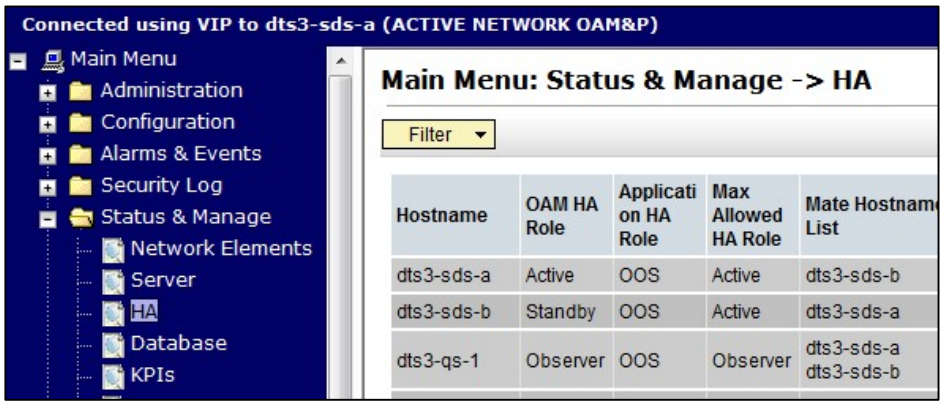
NOTE: *When upgrading an **SDS** topology, it is permissible to upgrade multiple **SOAM** sites in **parallel**.*

*However, every attempt should be made to **avoid upgrading Mated SOAM sites in the same maintenace window**.*

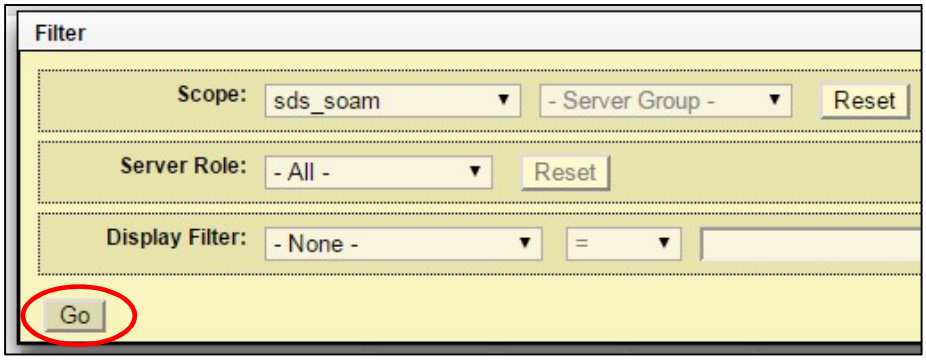
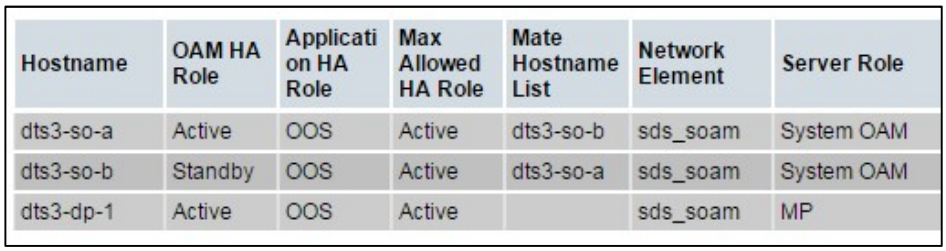
Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 6: Upgrade SOAM NE

Step	Procedure	Result
1. ☐	Using **VIP** address, access the Primary SDS GUI.	• Using VIP address, access the Primary SDS GUI as described in Appendix A.
2. ☐	Record the name of the **SOAM NE site** in the space provided to the right.	Using the information provided in Section 3.1.2 (Logins, Passwords and Site Information) record the name of the **SOAM NE site** in the space provided below: **SOAM NE site:** _____
3. ☐	**Primary SDS NOAM VIP (GUI):** Select… **Main Menu** **→ Status & Manage** **→ HA** …as shown on the right.	

Procedure 6: Upgrade SOAM NE

Step	Procedure	Result
4. ☐	**Primary SDS NOAM VIP:** **1)** From the **"Scope"** filter pull-down, select the **Network Element** name for the **SOAM NE site** **2)** Click on the **"Go"** dialogue button	
5. ☐	**Primary SDS NOAM VIP:** The user should be presented with the list of servers associated with the **SOAM NE site** Identify "**Hostname**", its **"Server Role"** and **"OAM HA Role"**	
6. ☐	**Primary SDS NOAM VIP:** Record the names of **SOAM NE site** servers in the space provided.	☐ **Active SOAM Server:** _____ ☐ **Standby SOAM Server:** _____ ☐ **DP-1 Server**: _____ ☐ **DP-6 Server**: _____ ☐ **DP-2 Server**: _____ ☐ **DP-7 Server**: _____ ☐ **DP-3 Server**: _____ ☐ **DP-8 Server**: _____ ☐ **DP-4 Server**: _____ ☐ **DP-9 Server**: _____ ☐ **DP-5 Server**: _____ ☐ **DP-10 Server**: _____

Hostname	OAM HA Role	Application HA Role	Max Allowed HA Role	Mate Hostname List	Network Element	Server Role
dts3-so-a	Active	OOS	Active	dts3-so-b	sds_soam	System OAM
dts3-so-b	Standby	OOS	Active	dts3-so-a	sds_soam	System OAM
dts3-dp-1	Active	OOS	Active		sds_soam	MP

NOTE: ***Steps 7 and 8 of this procedure must be executed serially using the "Upgrade Server" option or the user may choose Server Group "Auto Upgrade" to automate Steps 7 - 8 of this procedure.***

Procedure 6: Upgrade SOAM NE

Step	Procedure	Result
7. ☐	**Primary SDS NOAM VIP:** Upgrade the **"Standby" SOAM** server. ***NOTE**: If using the "Auto Upgrade" option, SOAM servers shall be upgraded serially (Standby then Active).*	• Upgrade the **"Standby" SOAM** server (as identified and recorded in **Step 6** of this Procedure) using **Appendix E (**Upgrade Server Administration on SDS 8.0**).** • In **Step 6** of this Procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **"Standby" SOAM** server.
8. ☐	**Primary SDS NOAM VIP:** Upgrade the **"Active" SOAM** server.	• Upgrade the **"Active" SOAM** server (as identified and recorded in **Step 6** of this Procedure) using **Appendix E (**Upgrade Server Administration on SDS 8.0**).** • In **Step 6** of this Procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **"Active" SOAM** server.
NOTE: ***Up to ½ of the installed DP servers at a SOAM site may be upgraded in parallel using the "Upgrade Server" option for each individual DP server as described in*** **Appendix E (*Upgrade Server Administration on SDS 8.0*).**		
9. ☐	**Primary SDS NOAM VIP:** Upgrade up to **½** of the installed **DP** servers in **parallel** *(e.g. 1 of 2, 2 of 4, etc.)*.	• Upgrade up to **½** of the **DP** server(s) (as identified and recorded in **Step 6** of this procedure) in **parallel** usng the **"Upgrade Server"** option for each **DP** server as described in **Appendix E (**Upgrade Server Administration on SDS 8.0**).** • In **Step 6** of this procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **DP** server(s).
10. ☐	**Primary SDS NOAM VIP:** Upgrade all remaining **DP Servers** in this **SOAM NE site.**	• Upgrade all remaining **DP Servers** (as identified and recorded in **Step 6** of this procedure) in **parallel** usng the **"Upgrade Server"** option for each **DP** server as described in **Appendix E (**Upgrade Server Administration on SDS 8.0**).** • In **Step 6** of this Procedure, check-off ☒ the associated **checkbox** as the upgrade is completed for the upgraded **DP** server(s)
THIS PROCEDURE HAS BEEN COMPLETED		

9.3 Perform Health Check *(SOAM Post Upgrade)*

This procedure is part of Software Upgrade Preparation and is used to determine the health and status of the SDS network and servers.

☐ Execute SDS Health Check procedures as specified in **Appendix B.**

10. POST UPGRADE PROCEDURES

This section contains procedures that are executed after all servers have been upgraded.

☐ To update the SOAM VM profile to support 1 billion subscribers, follow the procedures in Appendix M; otherwise skip this step.

10.1 Accepting the Upgrade

The upgrade needs either to be accepted or rejected before any subsequent upgrades may be performed in the future. Event ID: **32532** (Server Upgrade Pending Accept/Reject) will be displayed for each server until one of these two actions (**Accept** or **Reject**) is performed.

STOP !

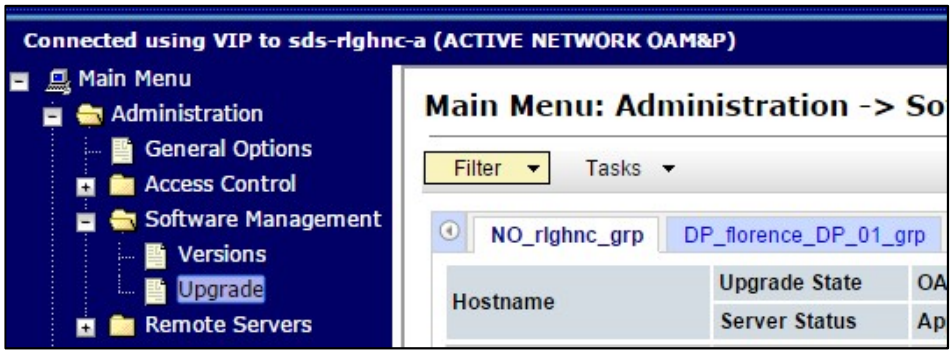
An upgrade should be **Accepted** only after all servers in the **SDS** topology have successfully completed upgrade to the target release.

The user should also be aware that **Upgrade Acceptance prevents any possibility of backout to the previous release!!!**

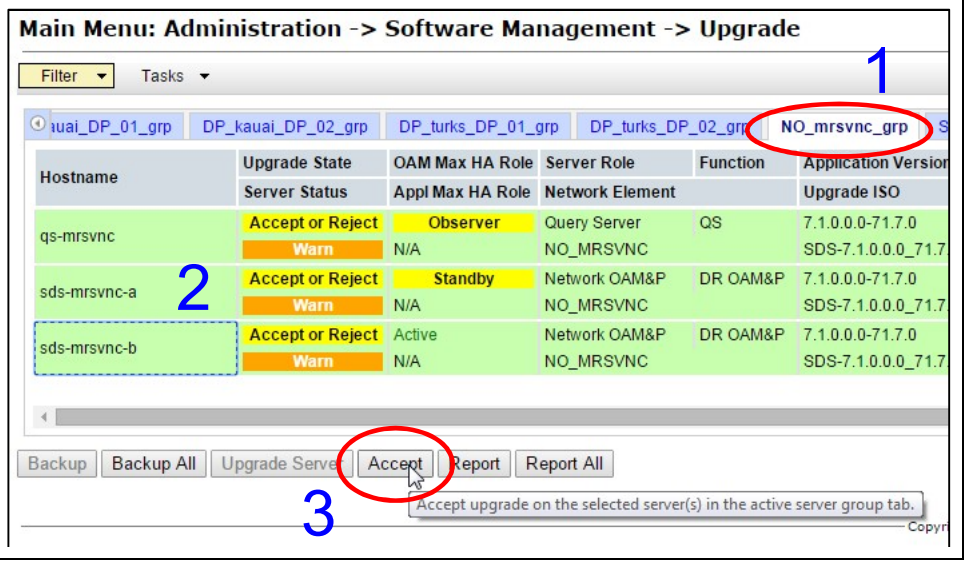
Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

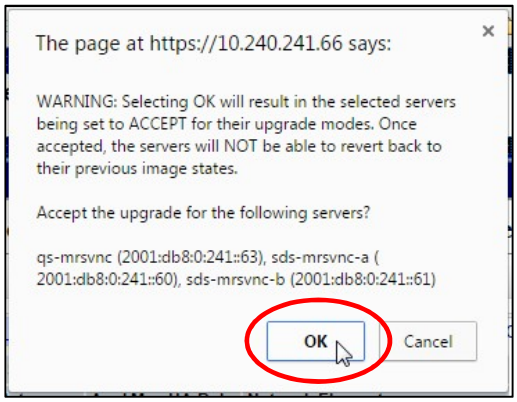
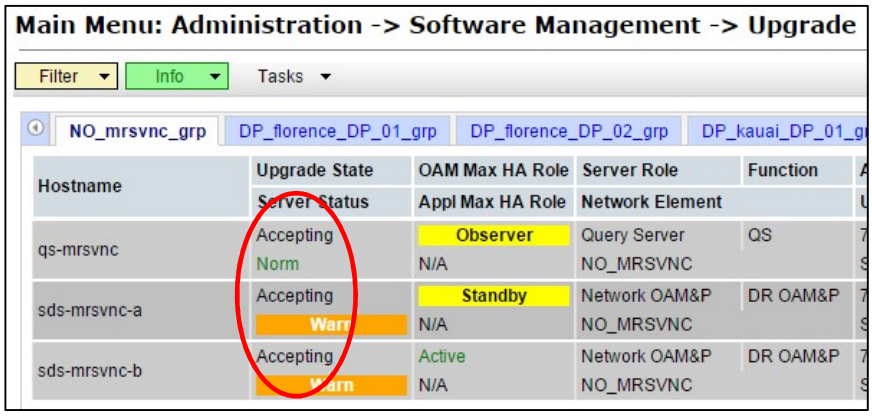
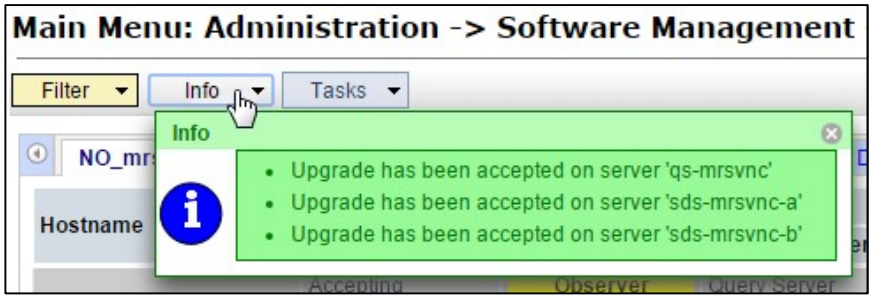
Procedure 7: Accepting the UpgradeAccepting the UpgradeAccepting the UpgradeAccepting the UpgradeAccepting the Upgrade

Step	Procedure	Result
1. ☐	Using **VIP** address, access the Primary SDS GUI.	• Using VIP address, access the Primary SDS GUI as described in Appendix A.
2. ☐	**Primary SDS NOAM VIP (GUI):** Select… **Main Menu** **→ Administration** **→Software Management** **→ Upgrade** …as shown on the right.	

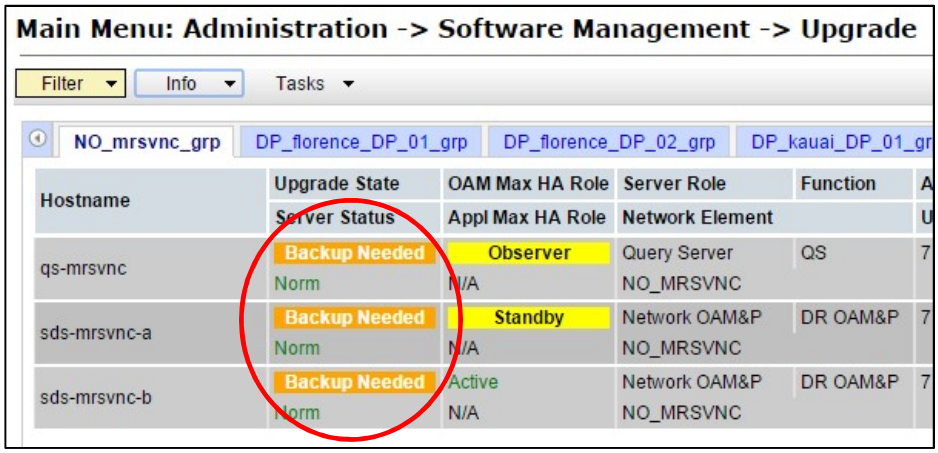
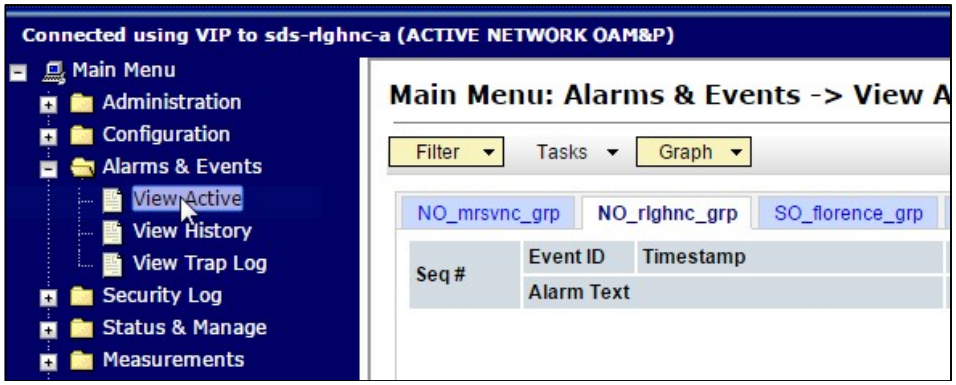
Procedure 7: Accepting the UpgradeAccepting the UpgradeAccepting the UpgradeAccepting the UpgradeAccepting the Upgrade

Step	Procedure	Result
3. ☐	**Primary SDS NOAM VIP:** **1)** Select the **Server Group** tab containing the server(s) to **"Accept"** upgrade. **2)** Hold down the **[CTRL]** key to **multi-select** the server(s) all server(s) in the Server Group. **3)** Click the "**Accept**" button.	

Procedure 7: Accepting the UpgradeAccepting the UpgradeAccepting the UpgradeAccepting the UpgradeAccepting the Upgrade

Step	Procedure	Result
4. ☐	**Primary SDS NOAM VIP:** **1)** A Click the "**OK**" dialogue button in the pop-up confirmation box. **2)** The screen will now refresh and the **"Upgrade State"** will change to **"Accepting"**. **3)** The pull-down **"Info"** message in the banner will indicate that **"Upgrade has been accepted"** on each server.	  

Procedure 7: Accepting the UpgradeAccepting the UpgradeAccepting the UpgradeAccepting the UpgradeAccepting the Upgrade

Step	Procedure	Result
5. ☐	**Primary SDS NOAM VIP:** Within a few minutes, the screen will refresh and display an **"Upgrade State"** of **"Backup Needed"**. **!! IMPORTANT !!** *The **"Backup Needed" Upgrade State** is expected to remain until the next Software Upgrade is performed.* ***DO NOT** re-run COMCOL backups except when directed to do so during the Upgrade process.*	
6. ☐	**Primary SDS NOAM VIP:** **"Accept"** Upgrade on each remaining **Server Group.**	• Repeat **Steps 3 - 5** of this procedure for each additional **Server Group** tab until Upgrade has been Accepted on all servers in the SDS topology.
7. ☐	**Primary SDS NOAM VIP:** Select… **<u>Main Menu</u>** **→ Alarms & Events** **→View Active** …as shown on the right.	
8. ☐	**Primary SDS NOAM VIP:** Verify Upgrade Acceptance.	Verify that the following Alarm is no longer present for any server in the **SDS** topology. • **Event ID (s): *32532*** *(Server Upgrade Pending Accept/Reject)*
THIS PROCEDURE HAS BEEN COMPLETED		

10.2 SOAM VM Profile Update

C-class deployments are required to update the SOAM VM profile after upgrading to SDS release 7.2 and later. The updated profile allocates additional resources required to support expanded subscriber capacity. The profile update is to be applied only after the upgrade has been accepted (Procedure 7).

The SOAM VM profile update applies only to SDS 7.2 and later

The SOAM VM profile update can be applied only after the upgrade to SDS 7.2 / 7.3 / 8.0 has been accepted.

The SOAM VM profile update does not apply to VE-DSR and Cloud deployments.

Appendix M is an independent procedure and may be executed at any time after the upgrade has been accepted. It is recommended that the customer schedule a separate Maintenance Window for implementation of the new SOAM VM profile.

☐ To update the SOAM VM profile to support 1 billion subscribers, follow the procedures in Appendix M; otherwise skip this step.

11. RECOVERY PROCEDURES

Upgrade procedure recovery issues should be directed to the Oracle's Tekelec Customer Care. Before executing any of these procedures, contact the Oracle Customer Care Center at 1-888-FOR-TKLC (1-888-367-8552); or 1-919-460-2150 (international). Persons performing the upgrade should be familiar with these documents.

Recovery procedures are covered under the Disaster Recovery Guide. Execute this section only if there is a problem and it is desired to revert back to the pre-upgrade version of the software.

 **!! WARNING !!**	• **It is recommended to contact My Oracle Support (MOS) before performing these backout procedures.** **NOTE:** *Refer to Appendix Q - Accessing My Oracle Support (MOS) for information on contacting MOS.*
 **!! WARNING !!**	• **Backout procedures will cause traffic loss!**
	**NOTE:** ***These recovery procedures are provided for the Backout of an Upgrade ONLY! (i.e. for the Backout from a failed target release to the previously installed release).*** ***Backout of an initial installation is not supported!***

11.1 Backout Setup

Identify IP addresses of all servers that need to be backed out.

1. Select **Administration** → **Software Management** → **Upgrade**
2. Based on the "Application Version" column, identify all the hostnames that need to be backed out.
3. Select **Configuration** → **Servers**
4. Identify the IMI IP addresses of all the hostnames identified in step 2. These are required to access the server when performing the backout.

The reason to execute a backout has a direct impact on any additional backout preparation that must be done. The backout procedure will cause traffic loss. Since all possible reasons cannot be predicted ahead of time, contact the Oracle's Tekelec Customer Care Center as stated in the Warning box above.

NOTE: Verify that the two backup archive files created using Procedure 8 "Full Database Backup (All Network Elements, All Servers)" are present on every server that is to be backed-out.

These archive files are located in the **/var/TKLC/db/filemgmt** directory and have different filenames from other database backup files.

The filenames will have the format:

- **Backup.<application>.<server>.FullDBParts.<role>.<date_time>.UPG.tar.bz2**
- **Backup. <application>.<server>.FullRunEnv.<role>.<date_time>.UPG.tar.bz2**

11.2 Perform Backout

The following procedures to perform a backout can only be executed once all necessary corrective setup steps have been taken to prepare for the backout. Contact the Oracle Customer Care Center as stated in the **Warning** box above to identify if all corrective setup steps have been taken.

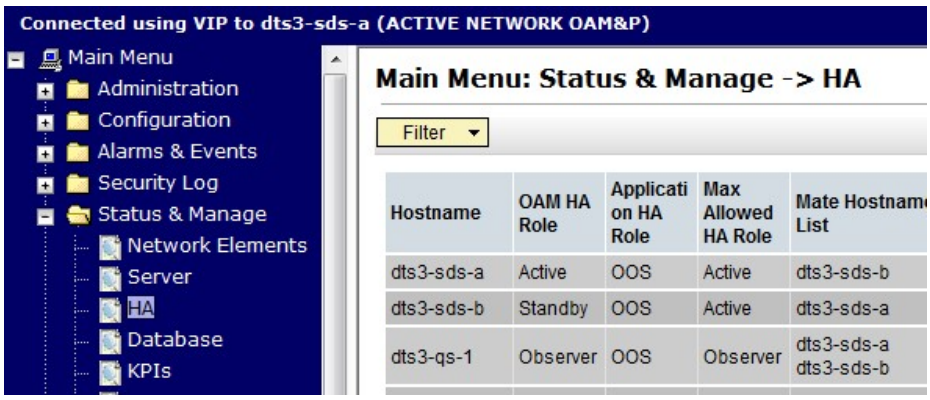
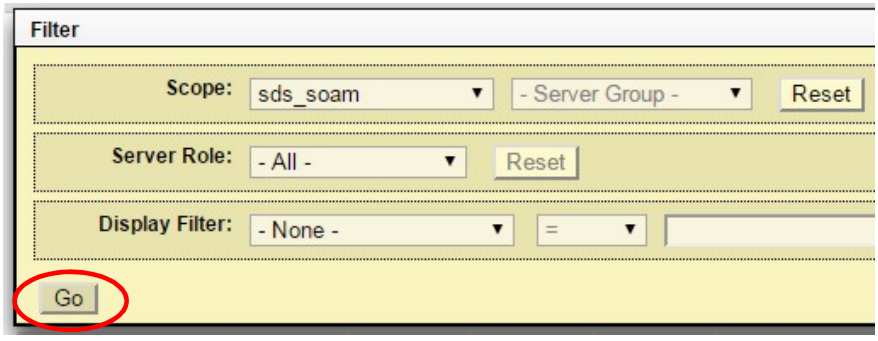
11.2.1 Backout of a SOAM NE

The following procedure details how to perform software backout for servers in the SOAM NE.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 8: Backout of a SOAM NE

Step	Procedure	Result
1. ☐	Using **VIP** address, access the Primary SDS GUI.	• Using VIP address, access the Primary SDS GUI as described in Appendix A.
2. ☐	Record the name of the **SOAM NE site**	Using the information provided in Section 3.1.2 (Logins, Passwords and Site Information) record the name of the **SOAM NE site** in the space provided below: **SOAM NE site:** _____
3. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ HA** …as shown on the right.	
4. ☐	**Primary SDS NOAM VIP:** **1)** From the **"Scope"** filter pull-down, select the Network Element name for the **SOAM NE site** **2)** Click on the **"Go"** dialogue button	

Procedure 8: Backout of a SOAM NE

<table>
<tr><th>Step</th><th>Procedure</th><th>Result</th></tr>
<tr><td>5. ☐</td><td>Primary SDS NOAM VIP:

The user should be presented with the list of servers associated with the SOAM NE site

Identify “Hostname”, its “Server Role” and “OAM HA Role”</td><td>
<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>dts3-so-a</td><td>Active</td><td>OOS</td><td>Active</td><td>dts3-so-b</td><td>sds_soam</td><td>System OAM</td></tr>
<tr><td>dts3-so-b</td><td>Standby</td><td>OOS</td><td>Active</td><td>dts3-so-a</td><td>sds_soam</td><td>System OAM</td></tr>
<tr><td>dts3-dp-1</td><td>Active</td><td>OOS</td><td>Active</td><td></td><td>sds_soam</td><td>MP</td></tr>
</table>
</td></tr>
<tr><td>6. ☐</td><td>Primary SDS NOAM VIP:

Record hostnames of SOAM NE site servers in the spaces provided to the right.</td><td>
• Record the names of SOAM NE site servers:

☐ Active SOAM Server: _____

☐ Standby SOAM Server: _____

☐ DP 1 Server: _____ ☐ DP 6 Server: _____

☐ DP 2 Server: _____ ☐ DP 7 Server: _____

☐ DP 3 Server: _____ ☐ DP 8 Server: _____

☐ DP 4 Server: _____ ☐ DP 9 Server: _____

☐ DP 5 Server: _____ ☐ DP 10 Server: _____
</td></tr>
<tr><td>7. ☐</td><td>Primary SDS NOAM VIP:

Downgrade DP 1 Server</td><td>
• Downgrade DP 1 Server (as identified and recorded in Step 6 of this Procedure) using Appendix F (Backout of a Single Server)

• In Step 6 of this Procedure, check-off ☒ the associated check box as the downgrade is completed for the backed out DP 1 Server
</td></tr>
<tr><td>8. ☐</td><td>Primary SDS NOAM VIP:

Downgrade all remaining DP Servers in this SOAM NE site</td><td>
• Downgrade all remaining DP Servers in serial or parallel (as identified and recorded in Step 6 of this Procedure) using Appendix F (Backout of a Single Server)

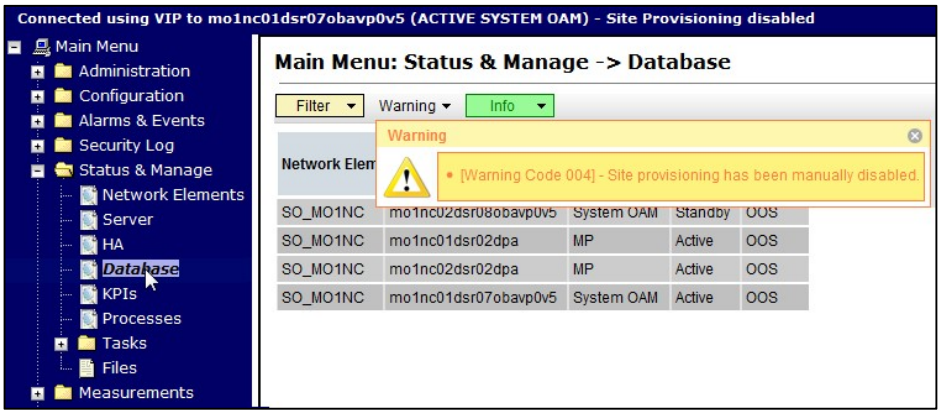
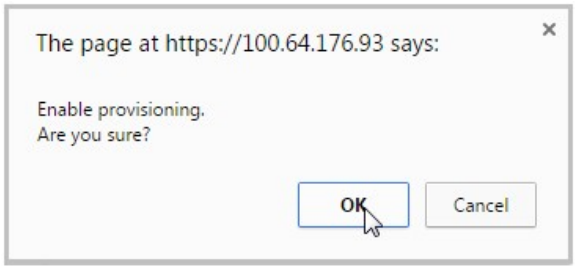
• In Step 6 of this Procedure, check-off ☒ the associated check box as the downgrade is completed for the backed out DP Server

Repeat this step until all DP servers requiring the downgrade within this SOAM NE site have been backed out.
</td></tr>
<tr><td>9. ☐</td><td>Primary SDS NOAM VIP:

Downgrade the Standby SOAM Server</td><td>
• Downgrade the Standby SOAM Server (as identified and recorded in Step 6 of this Procedure) using Appendix F (Backout of a Single Server)

• In Step 6 of this Procedure, check-off ☒ the associated check box as the downgrade is completed for the the backed out Standby SOAM Server
</td></tr>
</table>

Procedure 8: Backout of a SOAM NE

Step	Procedure	Result
		DO NOT PROCEED with the next step until Steps 7 thru 9 of this Procedure have been successfully completed.
10. ☐	**Primary SDS NOAM VIP:** Downgrade the **Active SOAM Server**	• Downgrade the **Active SOAM Server** (as identified and recorded in **Step 6** of this Procedure) using **Appendix F** (Backout of a Single Server) • In **Step 6** of this Procedure, check-off ☒ the associated **check box** as the downgrade is completed for the backed out **Active SOAM Server**
11. ☐	Using **VIP** address, access the **SOAM GUI**.	Using **VIP** address, access the **SOAM GUI** as described in **Appendix A.**
12. ☐	**SOAM VIP (GUI):** Select… **Main Menu** → **Status & Manage** → **Dstabase** …as shown on the right.	
13. ☐	**SOAM VIP:** **1)** Click the **"Enable Site Provisioning"** button in the lower left of the right panel. **2)** Click the **"OK"** button on the pop-up confirmation dialoguw box.	 

Procedure 8: Backout of a SOAM NE

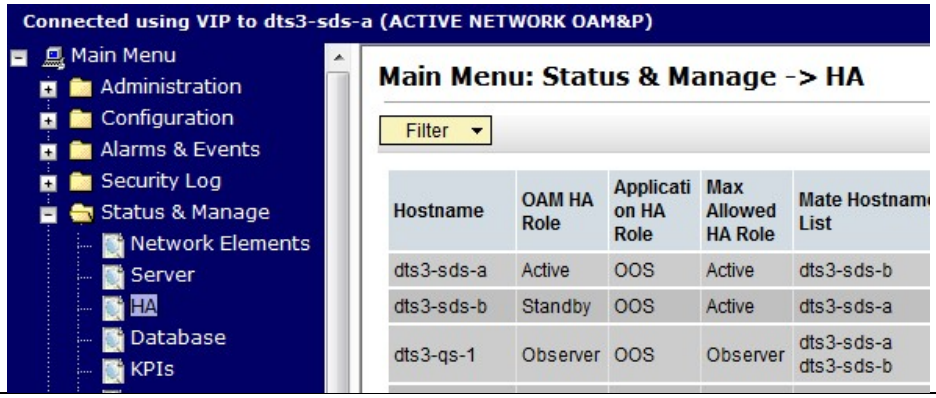
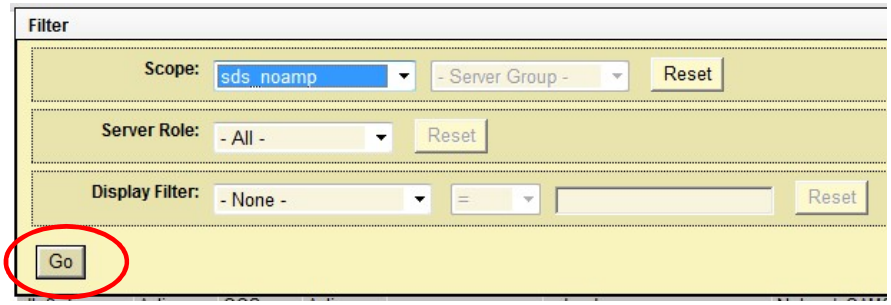
Step	Procedure	Result
14. ☐	**SOAM VIP:** Use the **[Logout]** link in the top right of the browser to logout of the **SOAM GUI**.	
15. ☐	**Primary SDS NOAM VIP (GUI):** Execute downgrade for the remaining **SOAM NE site(s)**	Repeat all above steps of this procedure for the remaining **SOAM NE site(s)** (as identified and recorded in Section 3.1.2) until all SOAM NE site(s) requiring the downgrade have been backed out.
16. ☐	Execute Health Check at this time only if no other servers require the downgrade. Otherwise, proceed with the next backout procedure	Execute **Health Check** procedures *(Post Backout)* as specified in **Appendix B,** if backout procedures have been completed for all required servers.
THIS PROCEDURE HAS BEEN COMPLETED		

11.2.2 Backout of the DR SDS NOAM NE

The following procedure details how to perform software Backout for servers in the DR SDS NOAM NE.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 9: Backout of the DR SDS NOAM NE

Step	Procedure	Result
1. ☐	Using **VIP** address, access the Primary SDS GUI.	• Using VIP address, access the Primary SDS GUI as described in Appendix A.
2. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ HA** …as shown on the right.	
3. ☐	Record the name of the **DR SDS NE site** in the space provided to the right.	Using the information provided in Section 3.1.2 (Logins, Passwords and Site Information) record the name of the **DR SDS NE site** in the space provided below: **DR SDS NE site:** _____
4. ☐	**Primary SDS NOAM VIP:** **1)** From the **"Scope"** filter pull-down, select the Network Element name for the **DR SDS NE site** **2)** Click on the **"Go"** dialogue button located on the right end of the filter bar.	

Procedure 9: Backout of the DR SDS NOAM NE

<table>
<tr><th>Step</th><th>Procedure</th><th>Result</th></tr>
<tr><td>5.
☐</td><td>Primary SDS NOAM VIP:

The user should be presented with the list of servers associated with the DR SDS NE site

Identify each “Server”, its “Server Role” and “OAM HA Role”</td><td>
<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>dts3-sds-a</td><td>Active</td><td>OOS</td><td>Active</td><td>dts3-sds-b</td><td>sds_noamp</td><td>Network OAM&P</td></tr>
<tr><td>dts3-sds-b</td><td>Standby</td><td>OOS</td><td>Active</td><td>dts3-sds-a</td><td>sds_noamp</td><td>Network OAM&P</td></tr>
<tr><td>dts3-qs-1</td><td>Observer</td><td>OOS</td><td>Observer</td><td>dts3-sds-a
dts3-sds-b</td><td>sds_noamp</td><td>Query Server</td></tr>
</table>
</td></tr>
<tr><td>6.
☐</td><td>Primary SDS NOAM VIP:

Record the names of DR SDS NE site servers appropriately in the space provided to the right.</td><td>• Record the names of DR SDS NE site servers

☐ DR SDS Active Server: _____

☐ DR SDS Standby Server: _____

☐ DR SDS Query Server: _____</td></tr>
<tr><td colspan="2">  </td><td>NOTE: Steps 7 and 8 of this Procedure may be executed in parallel.</td></tr>
<tr><td>7.
☐</td><td>Primary SDS NOAM VIP:

Downgrade DR SDS Query Server</td><td>• Downgrade DR SDS Query Server (as identified and recorded in Step 6 of this Procedure) using Appendix F (Backout of a Single Server)

• In Step 6 of this Procedure, check-off ☒ the associated check box as the downgrade is completed for the backed out DR SDS Query Server</td></tr>
<tr><td>8.
☐</td><td>Primary SDS NOAM VIP:

Downgrade DR SDS Standby Server</td><td>• Downgrade DR SDS Standby Server (as identified and recorded in Step 6 of this Procedure) using Appendix F (Backout of a Single Server)

• In Step 6 of this Procedure, check-off ☒ the associated check box as the downgrade is completed for the backed out DR SDS Standby Server</td></tr>
<tr><td colspan="2">  </td><td>DO NOT PROCEED with the next step until Steps 7 and 8 of this Procedure have been successfully completed.</td></tr>
<tr><td>9.
☐</td><td>Primary SDS NOAM VIP:

Downgrade DR SDS Active Server</td><td>• Downgrade DR SDS Active Server (as identified and recorded in Step 6 of this Procedure) using Appendix F (Backout of a Single Server)

NOTE: This will cause an HA activity failover to the mate DR SDS Server. This happens a couple minutes after initiating the upgrade.

• In Step 6 of this Procedure, check-off ☒ the associated check box as the downgrade is completed for the backed out DR SDS Active Server</td></tr>
</table>

Procedure 9: Backout of the DR SDS NOAM NE

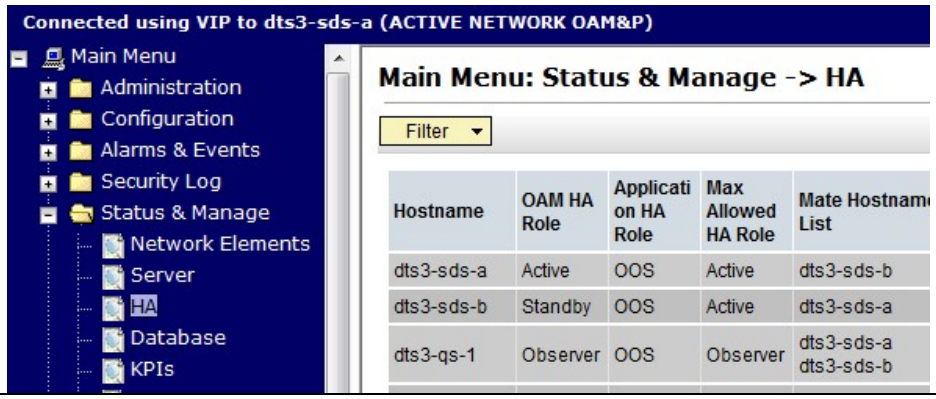
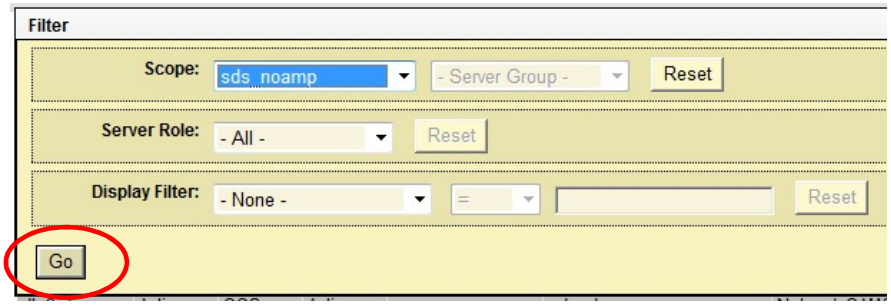
Step	Procedure	Result
10. ☐	**Active SDS VIP:** Execute Health Check at this time only if no other servers require the backout. Otherwise, proceed with the next backout.	Execute Health Check procedures (Post Backout) as specified in **Appendix B,** if downgrade procedures have been completed for all required servers.
THIS PROCEDURE HAS BEEN COMPLETED		

11.2.3 Backout of the Primary SDS NOAM NE

The following procedure details how to perform software Backout for servers in the Primary SDS NOAM NE.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 10: Backout of the Primary SDS NOAM NE

Step	Procedure	Result
1. ☐	Using **VIP** address, access the Primary SDS GUI.	• Using VIP address, access the Primary SDS GUI as described in Appendix A.
2. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ HA** …as shown on the right.	
3. ☐	Record the name of the **Primary SDS NE site** in the space provided to the right.	Using the information provided in Section 3.1.2 (Logins, Passwords and Site Information) record the name of the **DR SDS NE site** in the space provided below: **Primary SDS NE site:** _____
4. ☐	**Primary SDS NOAM VIP:** **1)** From the **"Scope"** filter pull-down, select the Network Element name for the **Primary SDS NE site** **2)** Click on the **"Go"** dialogue button located on the right end of the filter bar.	

Procedure 10: Backout of the Primary SDS NOAM NE

<table>
<tr><th>Step</th><th>Procedure</th><th>Result</th></tr>
<tr><td>5.
☐</td><td>Primary SDS NOAM VIP:

The user should be presented with the list of servers associated with the Primary SDS NE site

Identify each “Server”, its “Server Role” and “OAM HA Role”</td><td>
<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>dts3-sds-a</td><td>Active</td><td>OOS</td><td>Active</td><td>dts3-sds-b</td><td>sds_noamp</td><td>Network OAM&P</td></tr>
<tr><td>dts3-sds-b</td><td>Standby</td><td>OOS</td><td>Active</td><td>dts3-sds-a</td><td>sds_noamp</td><td>Network OAM&P</td></tr>
<tr><td>dts3-qs-1</td><td>Observer</td><td>OOS</td><td>Observer</td><td>dts3-sds-a
dts3-sds-b</td><td>sds_noamp</td><td>Query Server</td></tr>
</table>
</td></tr>
<tr><td>6.
☐</td><td>Primary SDS NOAM VIP:

Record the names of Primary SDS NE site servers appropriately in the space provided to the right.</td><td>• Record the names of Primary SDS NE site servers

☐ Primary SDS Active Server: _____

☐ Primary SDS Standby Server: _____

☐ Primary SDS Query Server: _____</td></tr>
<tr><td colspan="3">NOTE: Steps 7 and 8 of this Procedure may be executed in parallel.</td></tr>
<tr><td>7.
☐</td><td>Primary SDS NOAM VIP:

Downgrade Primary SDS Query Server</td><td>• Downgrade Primary SDS Query Server (as identified and recorded in Step 6 of this Procedure) using Appendix F (Backout of a Single Server)

• In Step 6 of this Procedure, check-off ☒ the associated check box as the downgrade is completed for the backed out Primary SDS Query Server</td></tr>
<tr><td>8.
☐</td><td>Primary SDS NOAM VIP:

Downgrade Primary SDS “Standby” Server</td><td>• Downgrade Primary SDS NOAM “Standby” Server (as identified and recorded in Step 6 of this Procedure) using Appendix F (Backout of a Single Server)

• In Step 6 of this Procedure, check-off ☒ the associated check box as the downgrade is completed for the backed out Primary SDS Standby Server</td></tr>
<tr><td>9.
☐</td><td>Primary SDS NOAM VIP (CLI):

Using the VIP address, login to the “Active” Primary SDS NOAM with the admusr account.</td><td>CentOS release 5.7 (Final)
Kernel 2.6.18-274.7.1.e15prerel5.0.0_72.32.0 on an x86_64

sds-rlghnc-b login: admusr
Password: <admusr_password></td></tr>
</table>

Procedure 10: Backout of the Primary SDS NOAM NE

Step	Procedure	Result
10. ☐	**Primary SDS NOAM VIP (CLI):** The user will be presented with output similar to that shown to the right.	***** TRUNCATED OUTPUT ***** RELEASE=6.4 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 RUNID=00 [admusr@sds-rlghnc-b ~]$
11. ☐	**Primary SDS NOAM VIP (CLI):** Verify that the **DbReplication** status is **"Active"** to the **Standby Primary SDS NOAM** and the **Query Server** *(if equipped)*.	[admusr@sds-rlghnc-b ~]$ **sudo irepstat -w** -- Policy 0 ActStb **[DbReplication]** AA To sds-rlghnc-a **Active** 0 0.25 1%R 0.05%cpu 47B/s AA To qs-rlghnc **Active** 0 0.25 1%R 0.05%cpu 56B/s AA To sds-mrsvnc-a **Active** 0 0.50 1%R 0.04%cpu 47B/s AB To kauai-sds-SO-b **Active** 0 0.50 1%R 0.04%cpu 63B/s AB To florence-sds-SO-a **Active** 0 0.51 1%R 0.03%cpu 65B/s AB To turks-sds-SO-b **Active** 0 0.50 1%R 0.04%cpu 65B/s irepstat (8 lines) (h)elp [admusr@sds-rlghnc-b ~]$
12. ☐	**Primary SDS NOAM VIP:** **!! IMPORTANT !!** ***DO NOT*** *proceed to the next step until a DbReplication status of* ***"Active"*** *is returned for the* ***Standby Primary SDS NOAM*** *and the* ***Query Server*** *(if equipped).*	If a DbReplication status of **"Audit"** was received in the previous step, then **REPEAT Step 11** of this procedure until a status of **"Active"** is returned.
13. ☐	**Primary SDS NOAM VIP:** Exit the **CLI** for the **"Active" Primary SDS NOAM.**	[admusr@sds-rlghnc-b ~]$ **exit** logout
14. ☐	**Primary SDS NOAM VIP:** Downgrade **Primary SDS "Active" Server.** **!! IMPORTANT !!** *This will cause an HA activity Switchover to the mate Primary SDS NOAM server.*	• Downgrade **Primary SDS NOAM** "**Active" Server** (as identified and recorded in **Step 6** of this Procedure) using **Appendix F** (Backout of a Single Server) • In **Step 6** of this Procedure, check-off ☒ the associated **check box** as the downgrade is completed for the backed out **Primary SDS NOAM Active Server**

Procedure 10: Backout of the Primary SDS NOAM NE

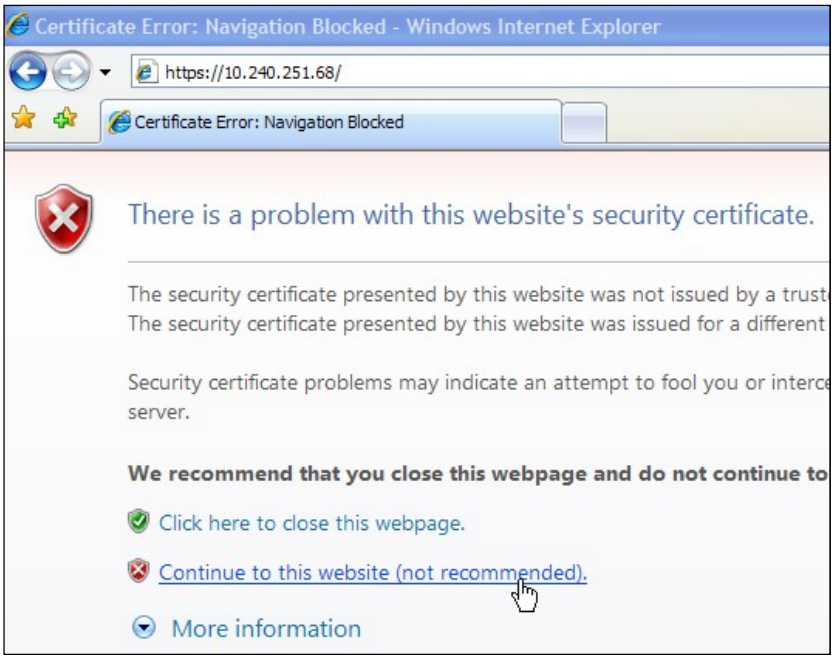
Step	Procedure	Result
15. ☐	Allow system to auto-clear temporary alarm states.	• Wait up to 10 minutes for Alarms associated with server backout to auto-clear. **!! IMPORTANT !!** • If **PDB Relay** was recorded as **"Enabled"** in **Appendix F, Step 8,** then **Event 14189** *(pdbRelay Time Lag)* may be persist for several hours post upgrade. This alarm can safely be ignored and should be **auto-clear** when the **PDBI** *(HLRR)* **queue** catches up with real-time replication.
16. ☐	Execute Health Check	Execute Health Check procedures (Post Backout) as specified in **Appendix B,** if downgrade procedures have been completed for all required servers.
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix A Accessing the OAM GUI using the VIP (NOAM / SOAM)

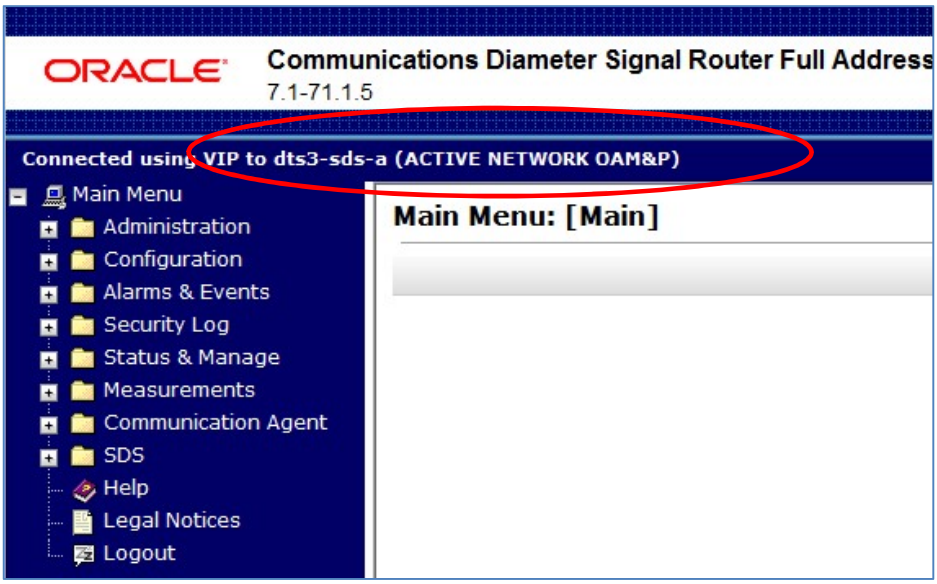
This procedure describes how to access and log into the NOAM GUI.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Appendix A: Accessing the OAM GUI using the VIP (NOAM / SOAM)

Step	Procedure	Result
1. ☐	**OAM VIP (GUI):** **1)** Launch the approved Web browser **Internet Explorer 8.0, 9.0** or **10.0** and connect to the XMI Virtual IP Address (VIP) assigned to **OAM site** (Primary SDS site or SOAM site) - see* **Not applicable for Cloud deployments** **2)** If a certificate error is received, click on the link which states… *"Continue to this website (not recommended)."*	

Appendix A: Accessing the OAM GUI using the VIP (NOAM / SOAM)

Step	Procedure	Result
2. ☐	**OAM VIP (GUI):** The user should be presented a login screen similar to the one shown on the right. Login to the GUI using the default user and password.	
3. ☐	**OAM VIP:** The user should be presented the Main Menu as shown on the right. Verify that the message shown across the top of the right panel indicates that the browser is using the **"VIP"** connected to the **Active** OAM server.	 **NOTE:** The message may show connection to either a **"NETWORK OAM&P"** or a **"SYSTEM OAM"** depending on the selected NE.
THIS PROCEDURE HAS BEEN COMPLETED		

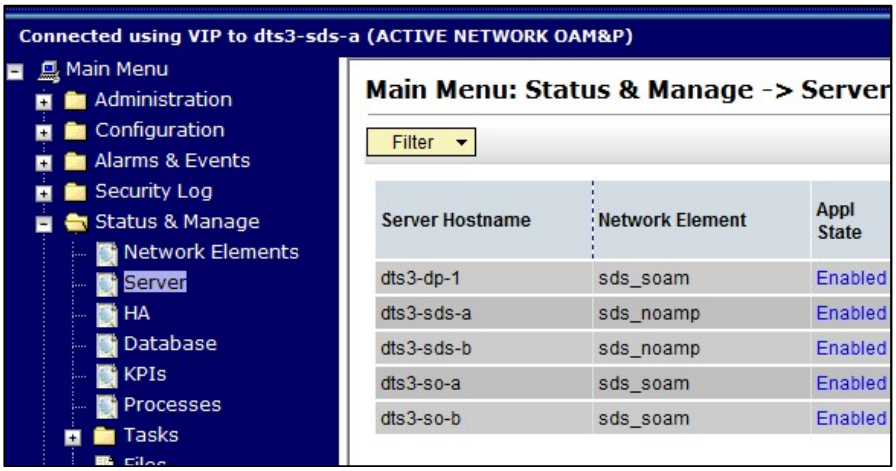
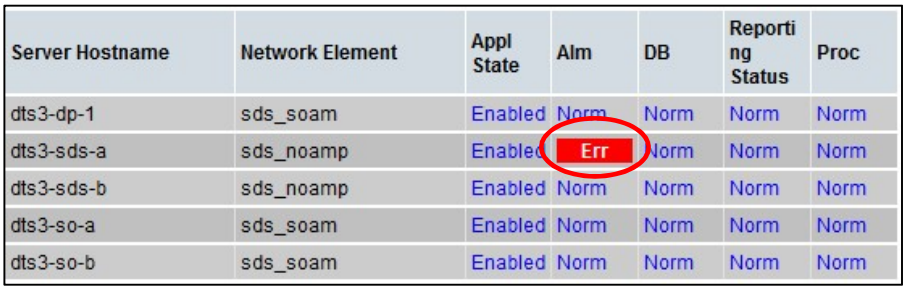
Appendix B Health Check Procedures

This procedure is part of Software Upgrade Preparation and is used to determine the health and status of the SDS network and servers.

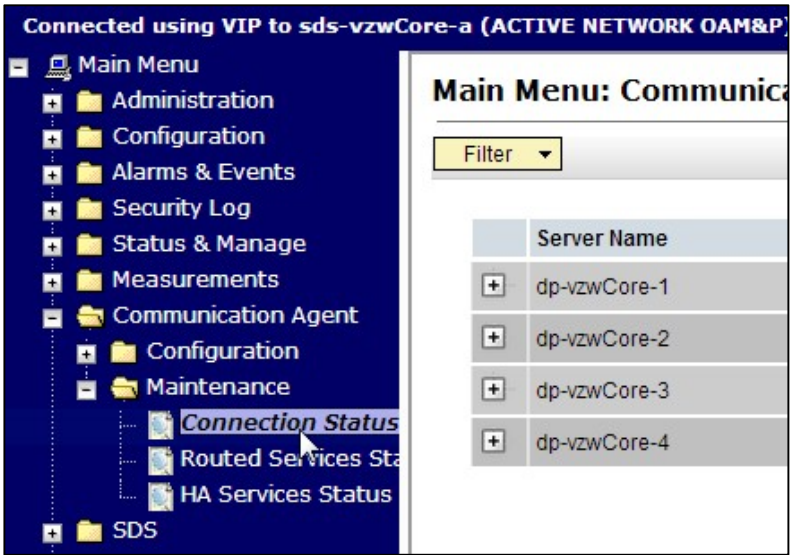
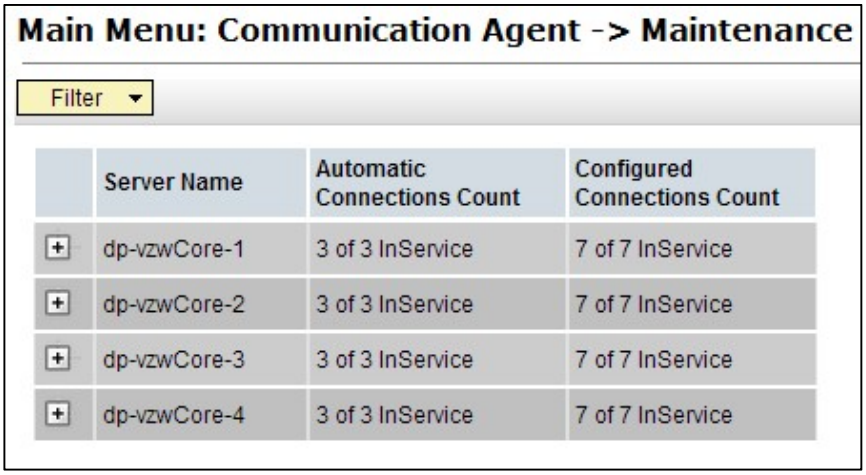
Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

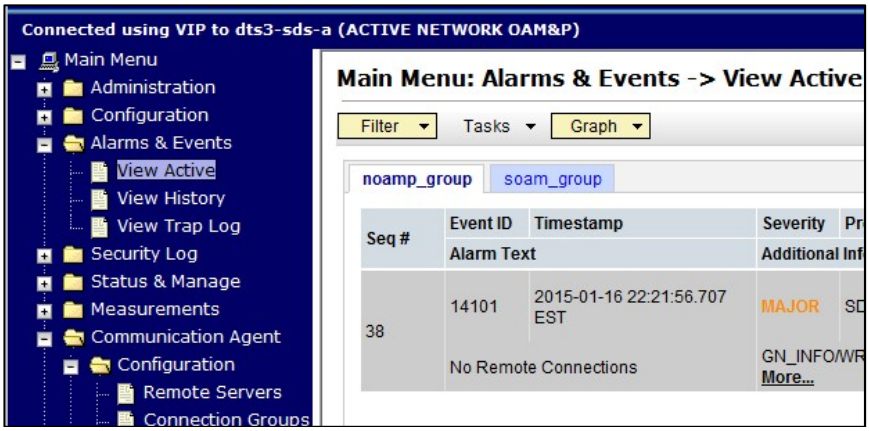
Appendix B: Health Check Procedures

Step	Procedure	Result
1. ☐	Using **VIP** address, access the Primary SDS GUI.	➢ Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A**
2. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ Server** …as shown on the right.	
3. ☐	**Primary SDS NOAM VIP:** Verify that all server statuses show **"Norm"** for Alarm (Alm), Database (DB), Reporting Status, and Processes (Proc) as shown on the right. If any other server statuses are present, they will appear in a colored box as shown on the right. **NOTE:** Other server states include **Err, Warn, Man** and **Unk**.	 **NOTE:** *Post-Upgrade, upgraded servers will have an **"Alm"** status of **"Err"** due to the following expected alarm.* • ***Event ID (s): 32532** (Server Upgrade Pending Accept/Reject)* *This alarm will remain present until the Upgrade is accepted and may be ignored at this time.*

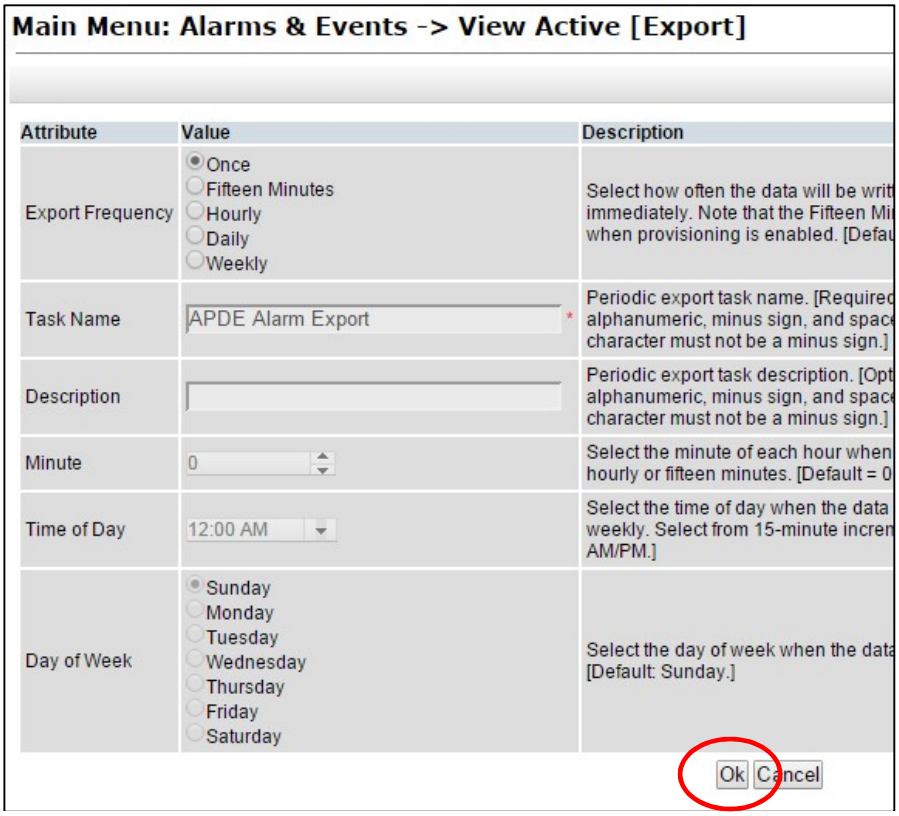
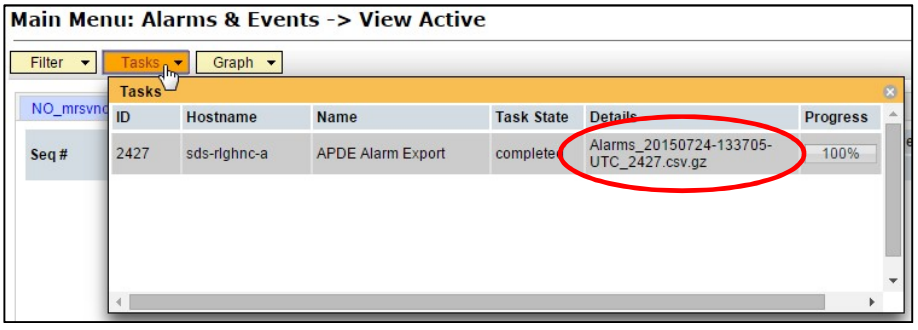
Appendix B: Health Check Procedures

Step	Procedure	Result
4. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Communication Agent** **→ Maintenance** **→ Connection Status** …as shown on the right.	
5. ☐	**Primary SDS NOAM VIP:** Verify that all **"Connection Counts"** show equivalent counts **(e.g. "n of n" InService for Automatic / "y of y" InService for Configured)** as shown to the right. **NOTE:** ***DPs*** *will show a* ***"Configured Connections Count"*** *of* ***"1 of 2 InService"*** *for Active/Standby configurations. This is normal and can be ignored.*	

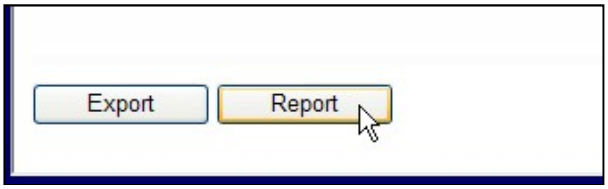
Appendix B: Health Check Procedures

Step	Procedure	Result
6. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Alarm & Events** **→ View Active** …as shown on the right.	
7. ☐	**Primary SDS NOAM VIP:** View Alarm Status in the right panel.	When viewing **Pre-Upgrade** Status: If any Alarms are present, STOP and contact **My Oracle Support (MOS)** for assistance before attempting to continue. When viewing **Post-Upgrade** Status: Active NO server may have the following expected alarms: Alarm ID = **10075** (Application processes have been manually stopped) Alarm ID = **10008** (Provisioning Manually Disabled) Servers that still have replication disabled will have the following expected alarm: Alarm ID = **31113** (Replication Manually Disabled) The following alarms may also be seen: Alarm ID = **10010** (Stateful database not yet synchronized with mate database) Alarm ID = **32532** (Server Upgrade Pending Accept/Reject)
8. ☐	**Primary SDS NOAM VIP:** Select the **"Export"** dialogue button from the bottom left corner of the screen.	

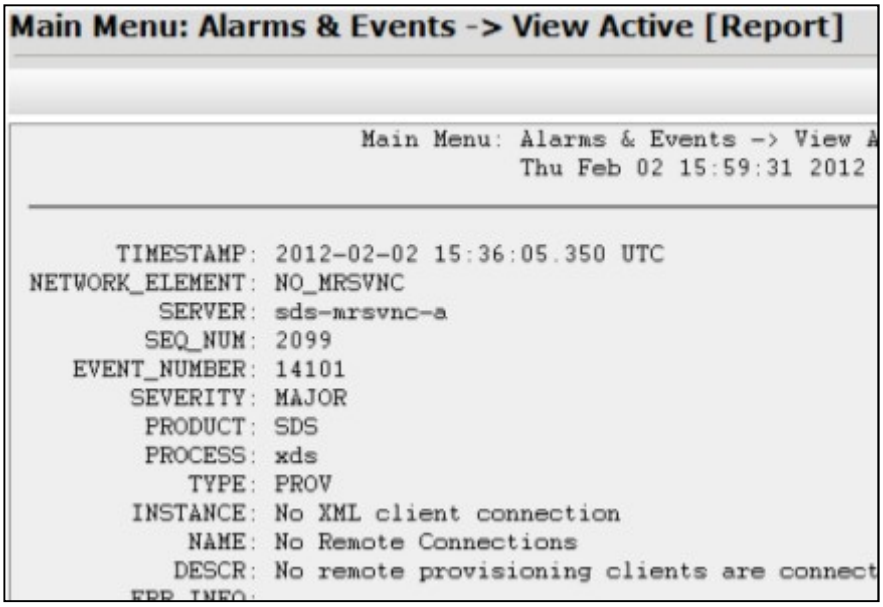
Appendix B: Health Check Procedures

Step	Procedure	Result
9. ☐	**Primary SDS NOAM VIP:** Click the **"Ok"** button at the bottom of the screen.	
10. ☐	**Primary SDS NOAM VIP:** The name of the exported Alarms CSV file will appear in the **"Tasks"** tab in the banner at the top of the right panel.	

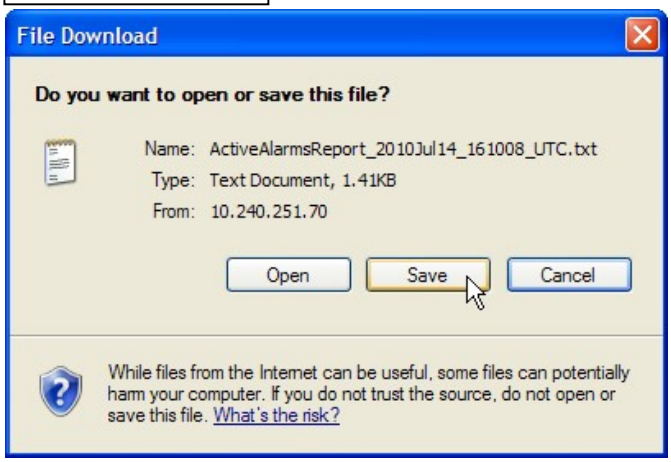
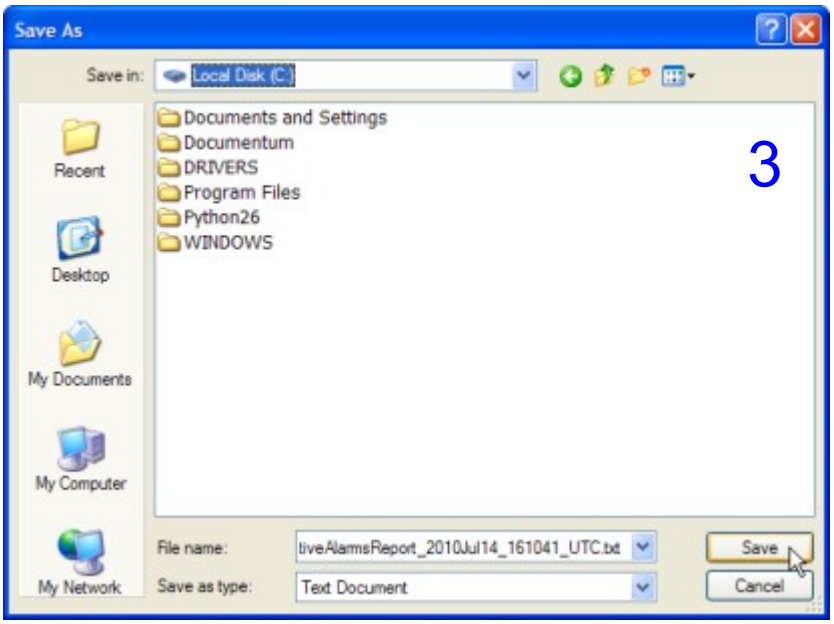
Appendix B: Health Check Procedures

Step	Procedure	Result
11. ☐	**Primary SDS NOAM VIP:** Record the filename of Alarms CSV file generated in the space provided to the right.	Example: Alarms<yyyymmdd>_<hhmmss>.csv ➢ ***Pre ISO Administration:*** Alarms _____ - _____ .csv.gz ➢ ***Post ISO Administration:*** Alarms _____ - _____ .csv.gz ➢ ***Pre Primary NOAM Upgrade (MW1):*** Alarms _____ - _____ .csv.gz ➢ ***Post DR NOAM Upgrade (MW1):*** Alarms _____ - _____ .csv.gz ➢ ***Pre SOAM Upgrade (MW2):*** Alarms _____ - _____ .csv.gz ➢ ***Post SOAM Upgrade (MW2):*** Alarms _____ - _____ .csv.gz ➢ ***Pre SOAM Upgrade (MW3):*** Alarms _____ - _____ .csv.gz ➢ ***Post SOAM Upgrade (MW3):*** Alarms _____ - _____ .csv.gz ➢ ***Pre SOAM Upgrade (MW4):*** Alarms _____ - _____ .csv.gz ➢ ***Post SOAM Upgrade (MW4):*** Alarms _____ - _____ .csv.gz ➢ ***Pre SOAM Upgrade (MW5):*** Alarms _____ - _____ .csv.gz ➢ ***Post SOAM Upgrade (MW5):*** Alarms _____ - _____ .csv.gz
12. ☐	**Primary SDS NOAM VIP:** Select the **"Report"** dialogue button from the bottom left corner of the screen.	

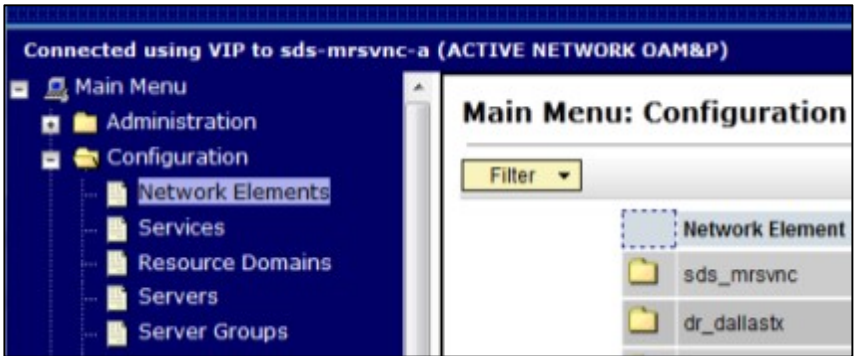
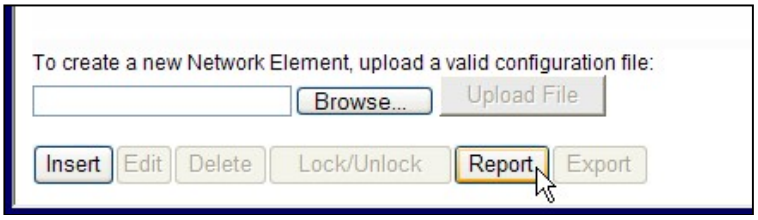
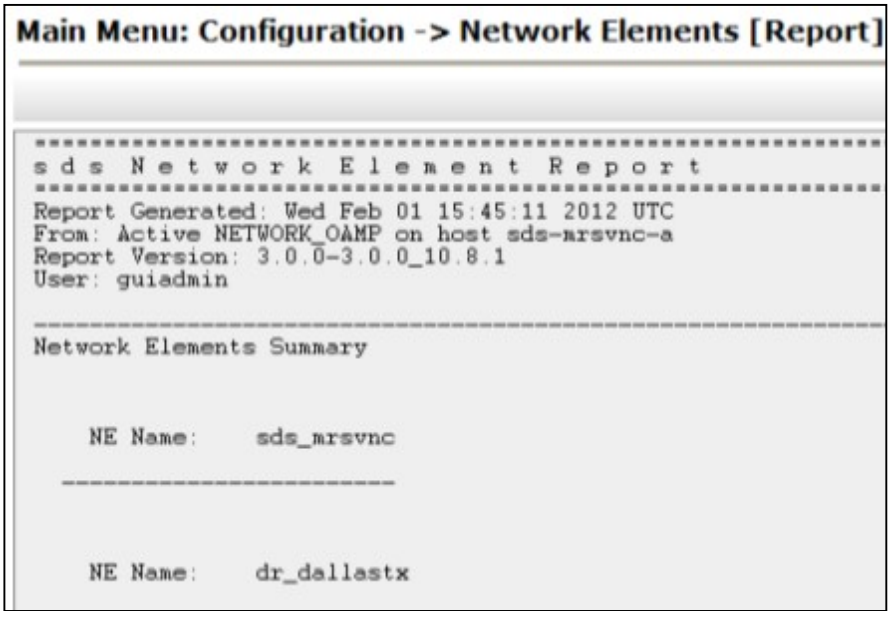
Appendix B: Health Check Procedures

Step	Procedure	Result
13. ☐	**Primary SDS NOAM VIP:** An **Active "Alarms & Events" Report** will be generated and displayed in the right panel.	

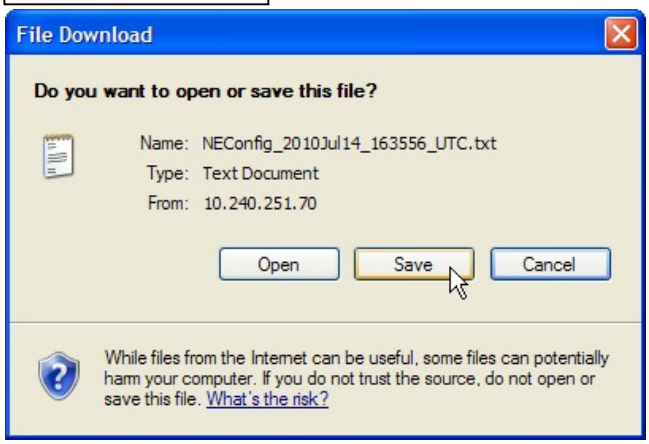
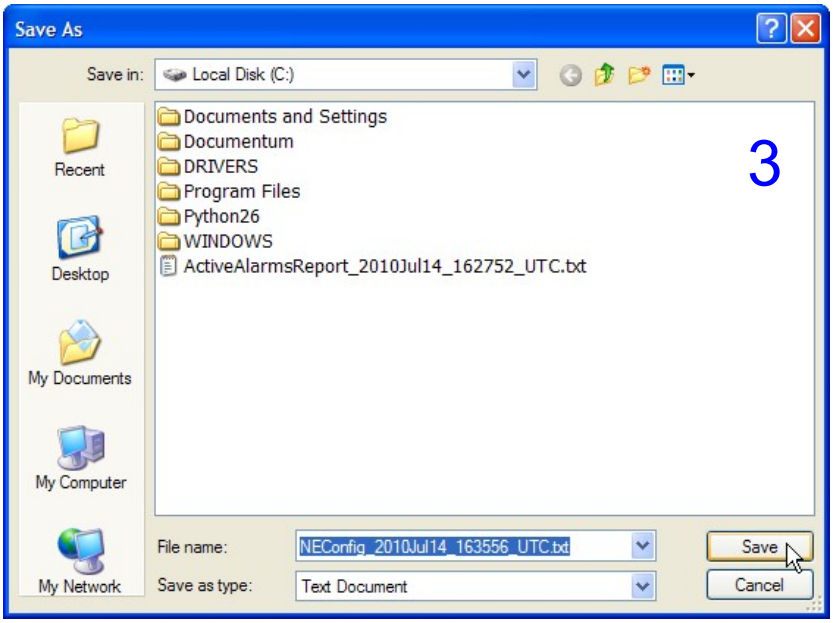
Appendix B: Health Check Procedures

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

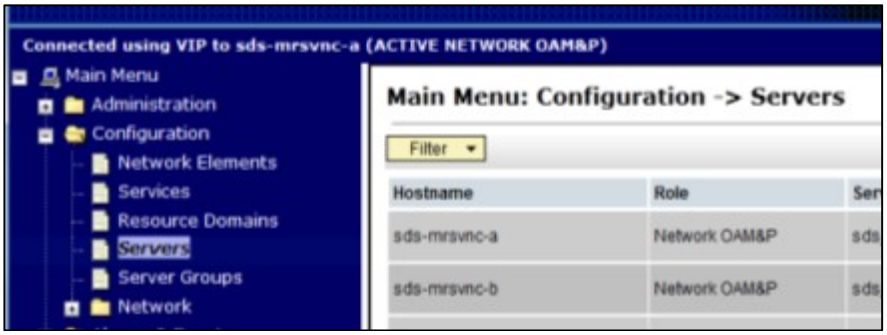
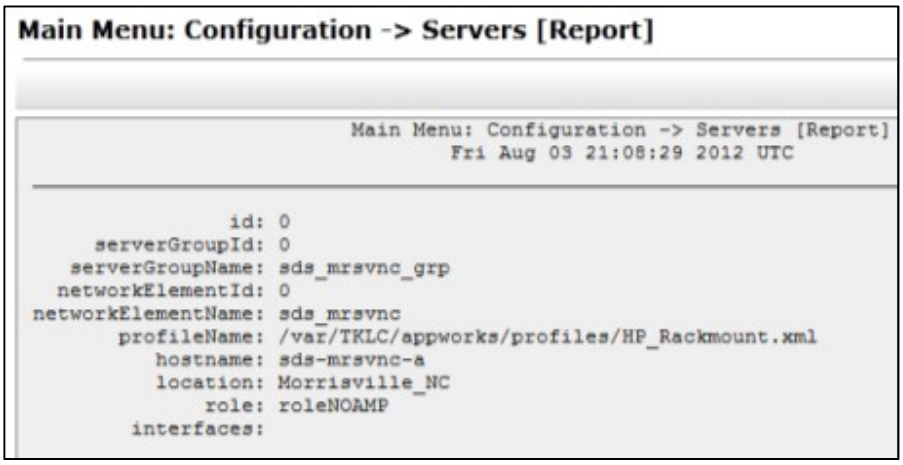
Appendix B: Health Check Procedures

Step	Procedure	Result
15. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Configuration** **→ Network Elements** …as shown on the right.	
16. ☐	**Primary SDS NOAM VIP:** Select the **"Report"** dialogue button from the bottom left corner of the screen.	
17. ☐	**Primary SDS NOAM VIP:** A **"Network Element Report"** will be generated and displayed in the right panel.	

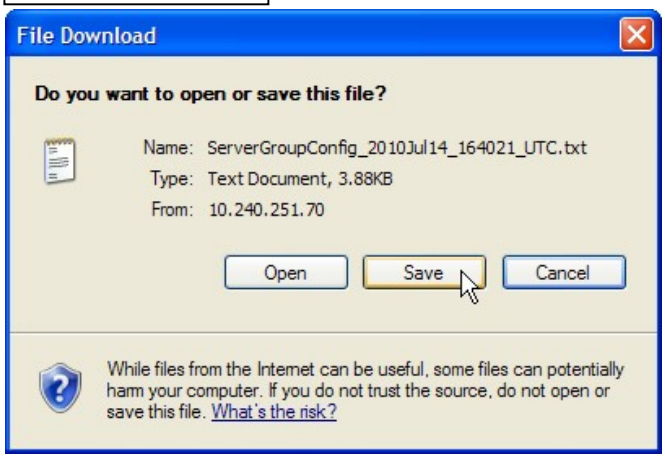
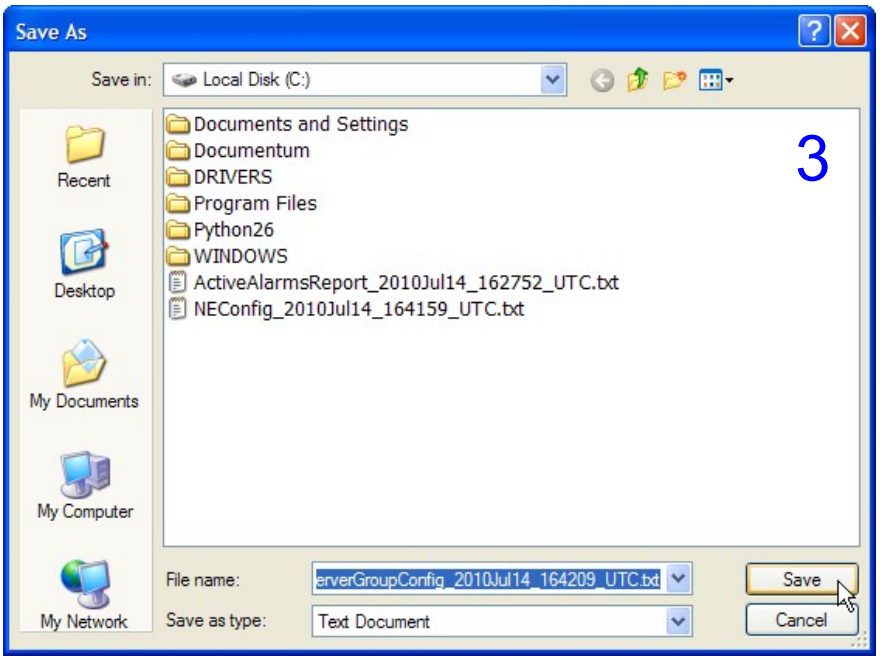
Appendix B: Health Check Procedures

Step	Procedure	Result
18. ☐	**Primary SDS NOAM VIP:** **1)** Select the **"Save"** dialogue button from the bottom/middle of the right panel. **2)** Click the **"Save"** dialogue button on the File Download pop-up box. **3)** Select a directory on the local disk drive to store the "Network Elements Report" file and click the **"Save"** dialogue button.	 1  2  3

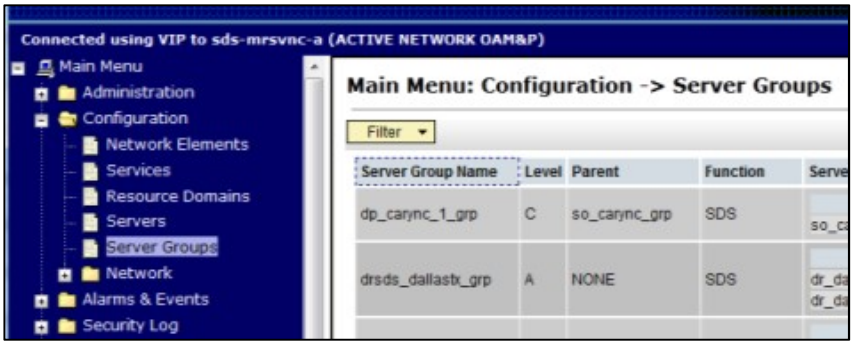
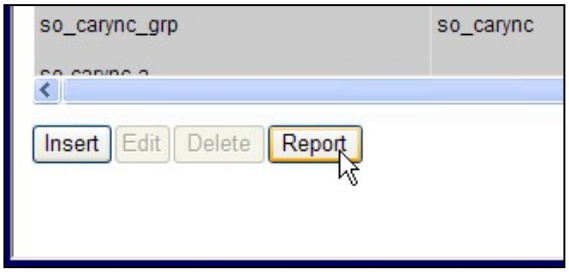
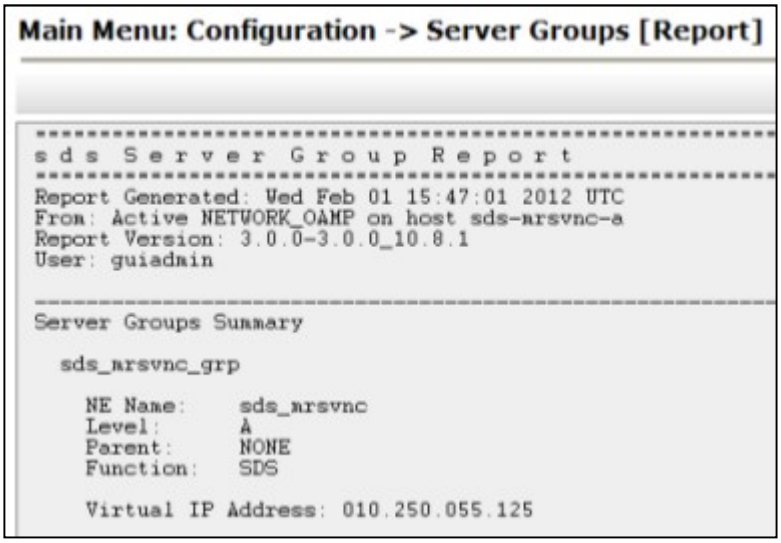
Appendix B: Health Check Procedures

Step	Procedure	Result
19. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Configuration** **→ Servers** …as shown on the right.	
20. ☐	**Primary SDS NOAM VIP:** Select the **"Report"** dialogue button from the bottom left corner of the screen.	
21. ☐	**Primary SDS NOAM VIP:** A **"Server Report"** will be generated and displayed in the right panel.	

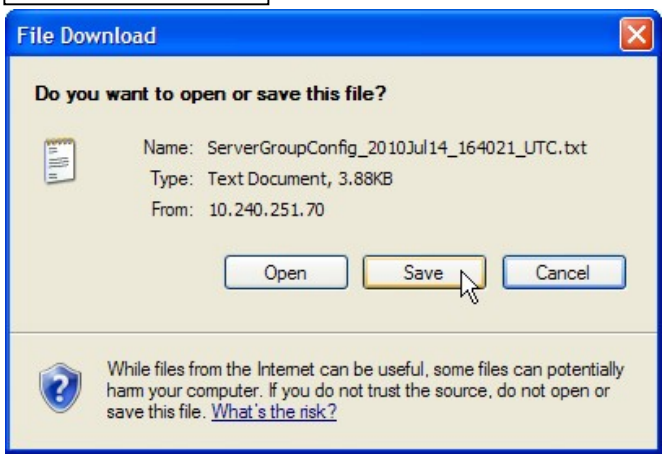
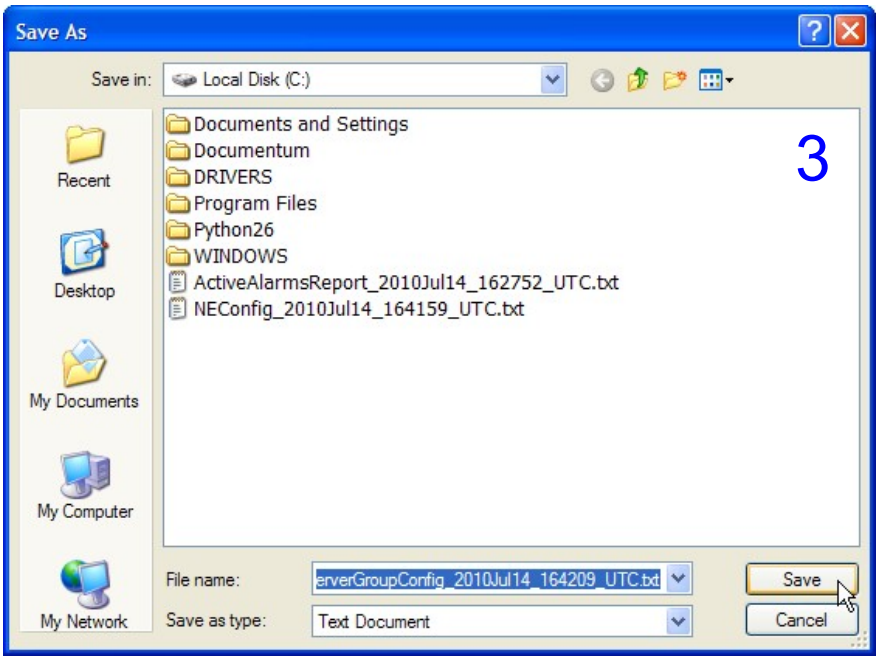
Appendix B: Health Check Procedures

Step	Procedure	Result
22. ☐	**Primary SDS NOAM VIP:** **1)** Select the **"Save"** dialogue button from the bottom/middle of the right panel. **2)** Click the **"Save"** dialogue button on the File Download pop-up box. **3)** Select a directory on the local disk drive to store the "Server Group Report" file and click the **"Save"** dialogue button.	 1  2  3

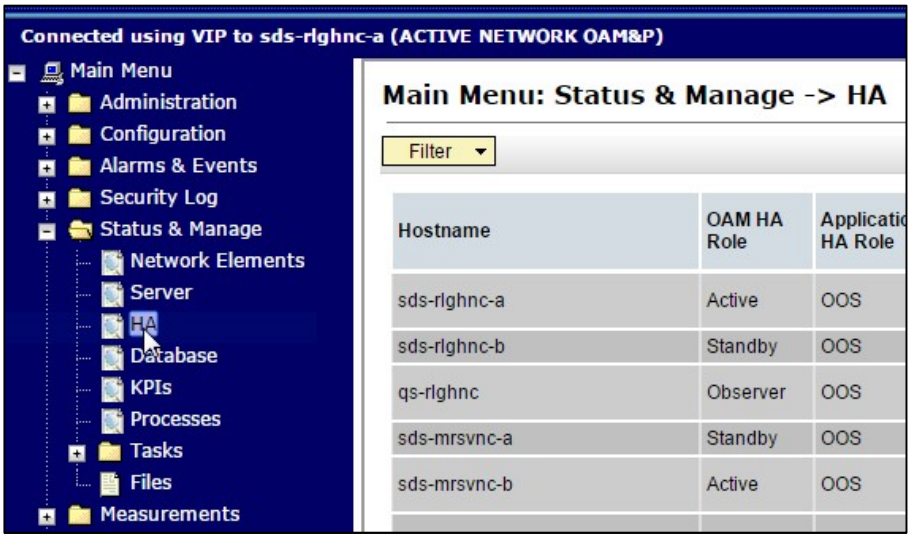
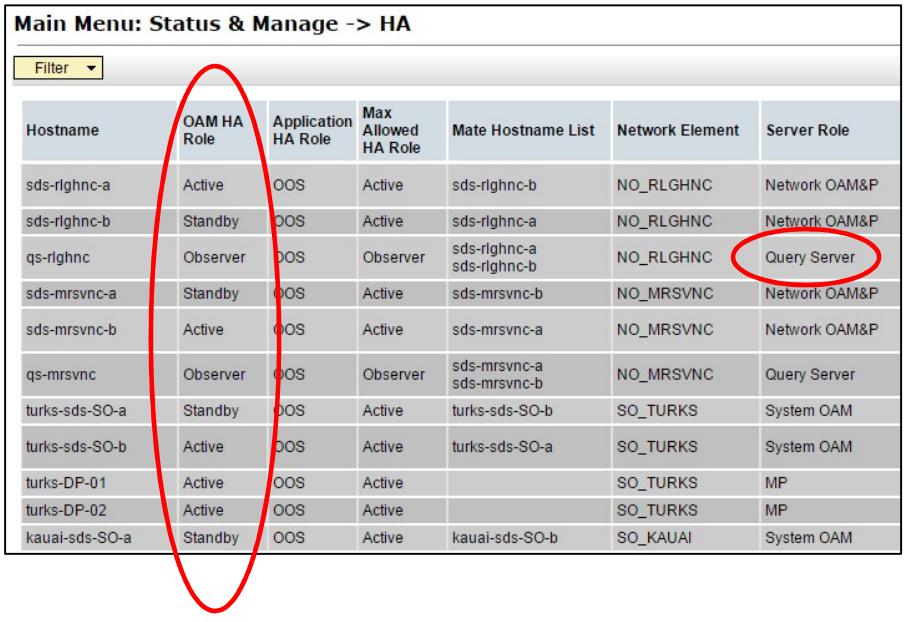
Appendix B: Health Check Procedures

Step	Procedure	Result
23. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Configuration** **→ Server Groups** …as shown on the right.	
24. ☐	**Primary SDS NOAM VIP:** Select the **"Report"** dialogue button from the bottom left corner of the screen.	
25. ☐	**Primary SDS VIP (GUI):** A **"Server Group Report"** will be generated and displayed in the right panel.	

Appendix B: Health Check Procedures

Step	Procedure	Result
26. ☐	**Primary SDS NOAM VIP:** **1)** Select the **"Save"** dialogue button from the bottom/middle of the right panel. **2)** Click the **"Save"** dialogue button on the File Download pop-up box. **3)** Select a directory on the local disk drive to store the "Server Group Report" file and click the **"Save"** dialogue button.	 1  2  3

Appendix B: Health Check Procedures

Step	Procedure	Result
27. ☐	Provide the saved files to **My Oracle Support (MOS)** for Health Check Analysis.	• If executing this procedure as a pre or post Upgrade Health Check (HC1/HC2/HC3), provide the following saved files to Oracle's Customer Care Center for proper Health Check Analysis: ○ **Active "Alarms & Events" Report** [Appendix B, Step 14] ○ **Network Elements Report** [Appendix B, Step 18] ○ **Server Report** [Appendix B, Step 22] ○ **Server Group Report** [Appendix B, Step 26]
28. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ HA** …as shown on the right.	
29. ☐	**Primary SDS NOAM VIP:** **1)** Verify that the **"OAM HA Role"** for all servers shows either **"Active"** or **"Standby"** as shown to the right. **NOTE:** An **"HA Status"** of **"Observer"** is allowed when Server Role is **"Query Server"**.	

Appendix B: Health Check Procedures

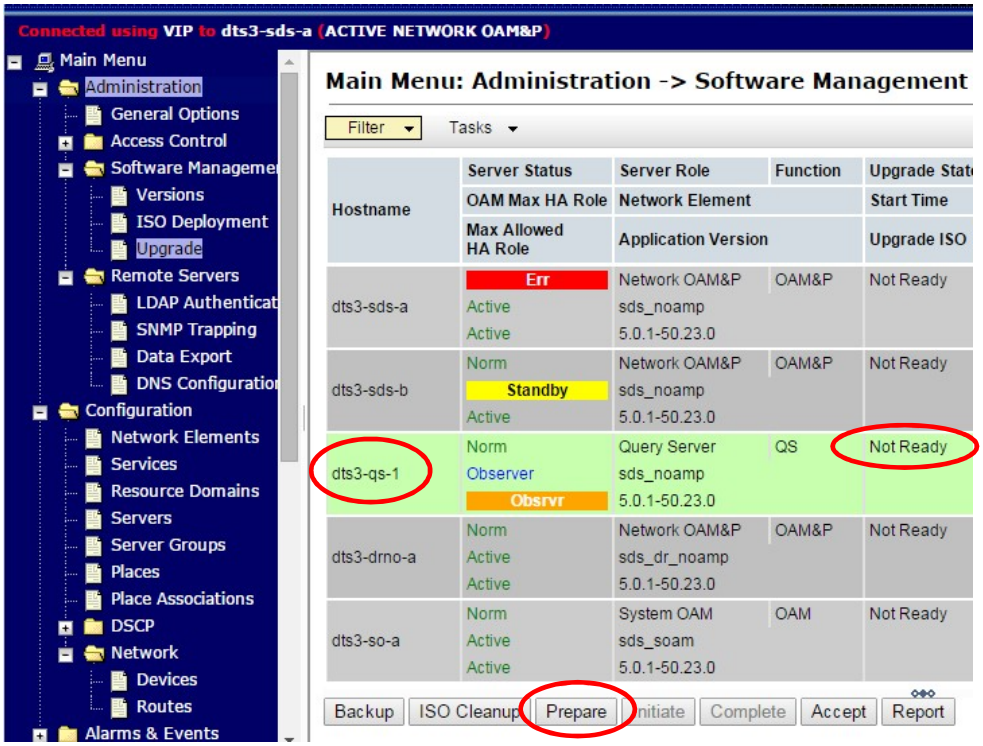
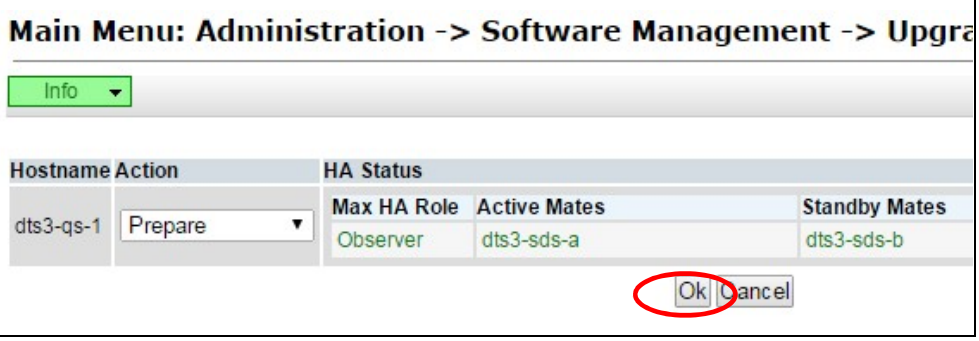
Step	Procedure	Result
30. ☐	**Primary SDS NOAM VIP:** Verify the **"OAM HA Role"** for all remaining servers on the **[Main Menu: Status & Manage → HA]** screen.	• Scroll thru each page of the **[Main Menu: Status & Manage → HA]** screen until the **"OAM HA Role"** for has been verified for all servers in the topology.
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix C Upgrade Server Administration on SDS 5.0

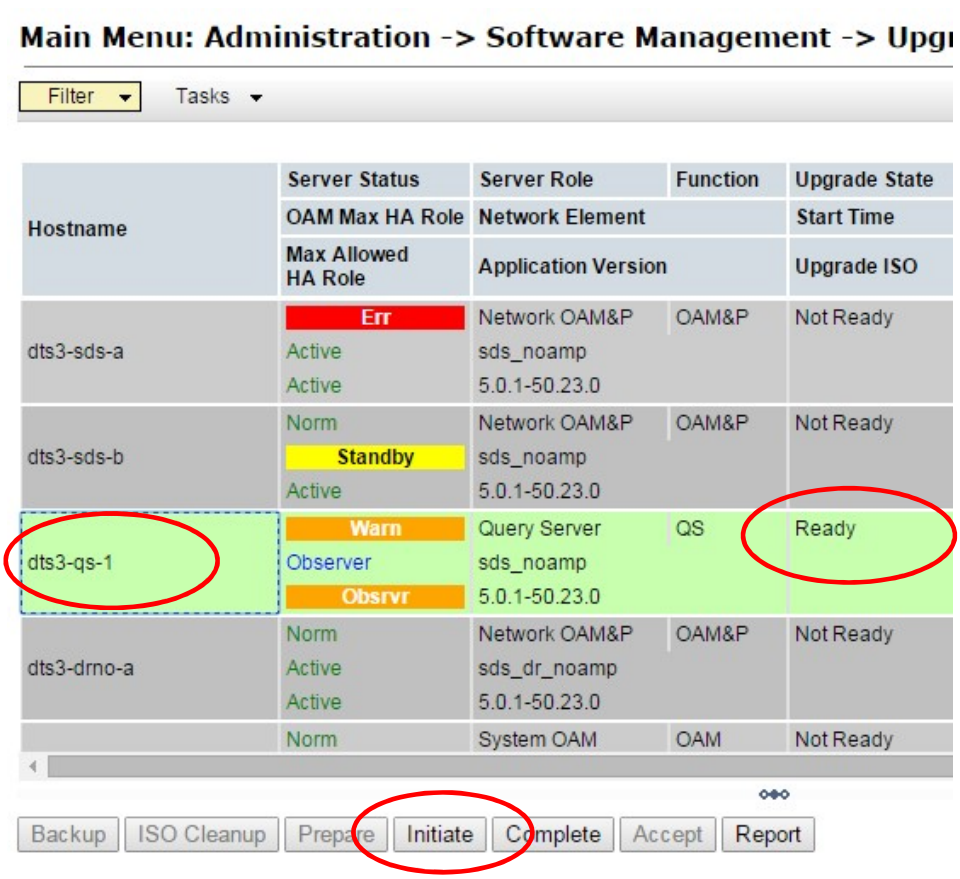
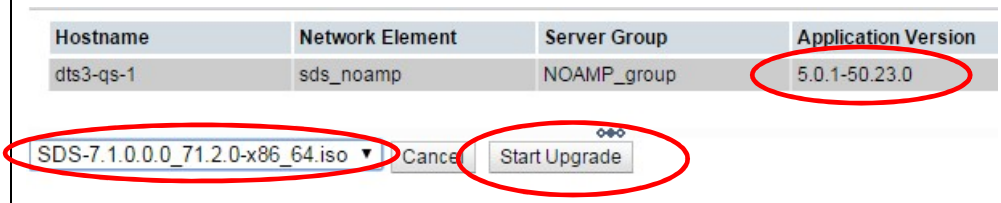
Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

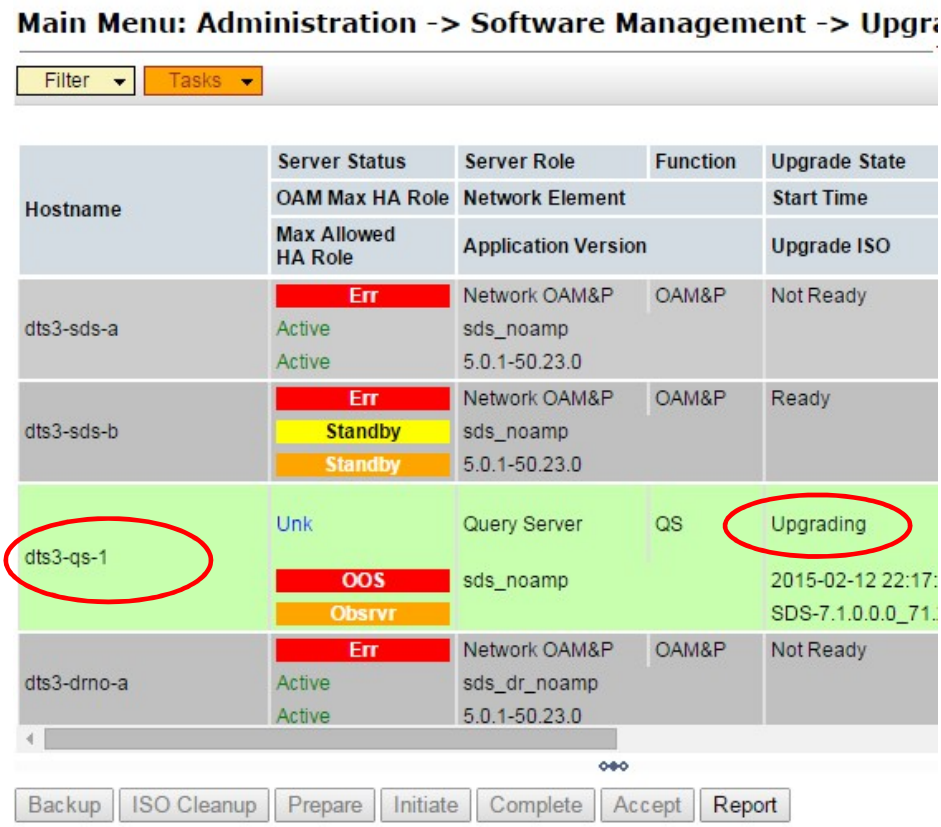
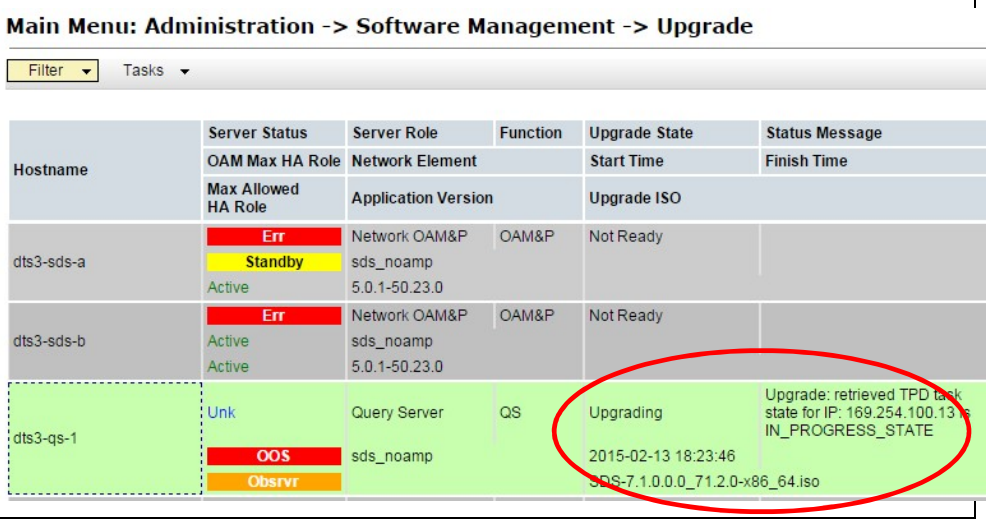
Appendix C: Upgrade Server Administration on SDS 5.0

Step	Procedure	Result
1. ☐	Using **VIP** address, access the **Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**
2. ☐	**SDS 5.0 only** **Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Administration** **→Software Management** **→ Upgrade** **2)** Using the vertical scroll bar in the right panel, scroll to the row containing the **hostname** of the server to be upgraded. **3)** Verify that the **Upgrade State** shows **"Not Ready"**. **4)** Click the **"Prepare"** dialogue button located in the bottom left of the right panel.	
3. ☐	**Primary SDS NOAM VIP:** The user should be presented with the **Upgrade [Make Ready]** screen. Click on **"Ok"** dialogue button.	

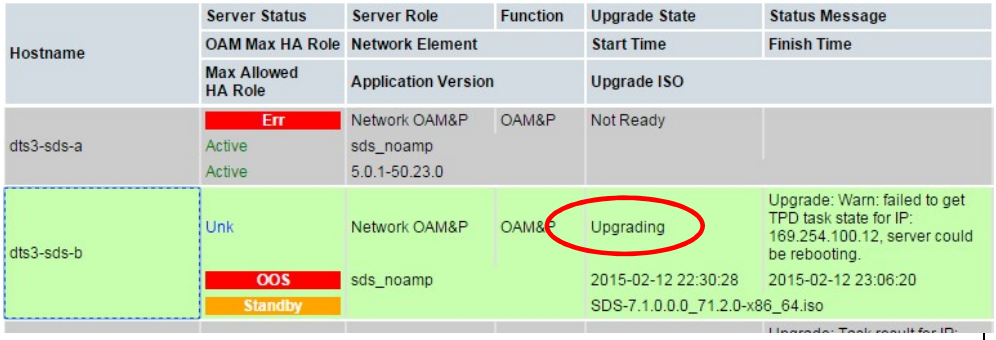
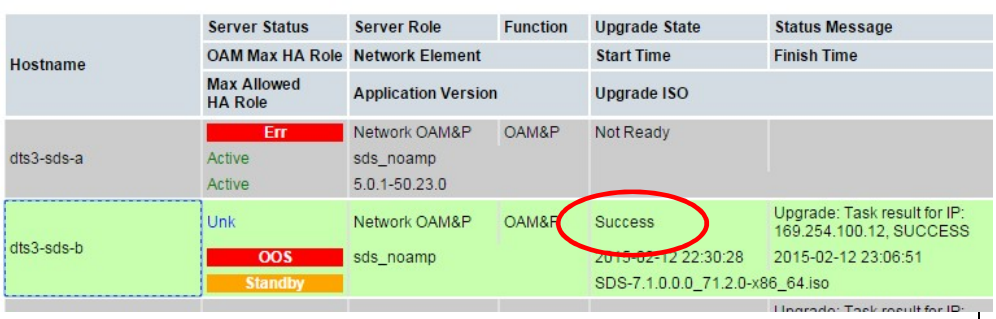
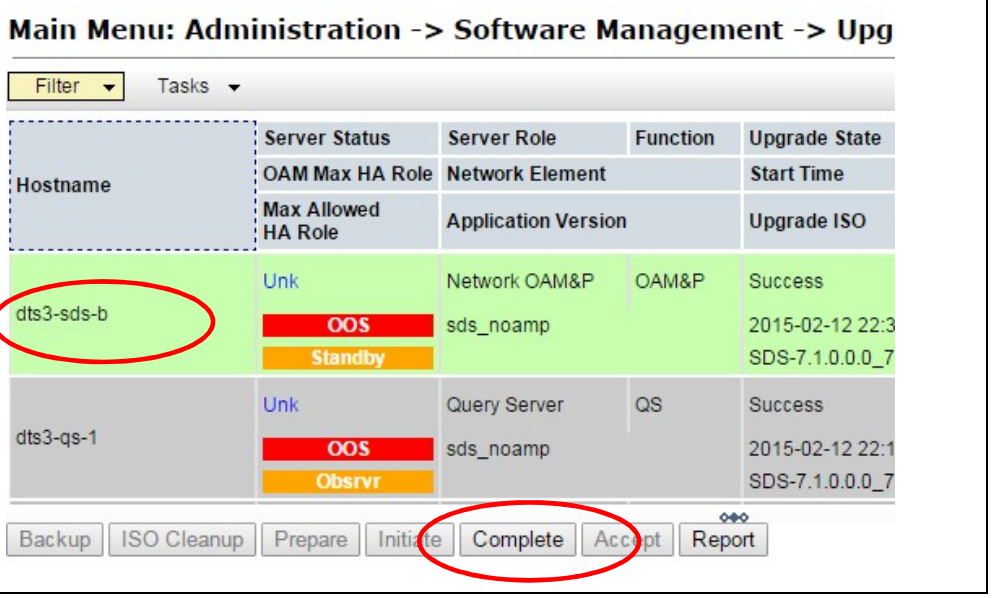
Appendix C: Upgrade Server Administration on SDS 5.0

Step	Procedure	Result
4. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Administration** **→Software Management** **→ Upgrade** **2)** Using the vertical scroll bar in the right panel, scroll to the row containing the **hostname** of the server to be upgraded. **3)** Verify that the **Upgrade State** shows **"Ready"**. **NOTE:** If the **Upgrade State** fails to show **"Ready"**, the user may need to repeat above sub-steps **3)** Click the **"Initiate"** dialogue button	
5. ☐	**Primary SDS NOAM VIP:** 1) Verify that the **Application Version** shows the **<source_release>** 2) Using the pull-down menu, select the **<target_release>** 3) Click the **"Start Upgrade"** dialogue button	

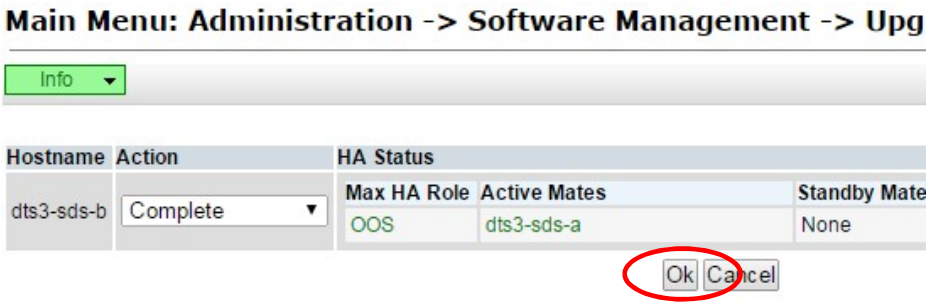
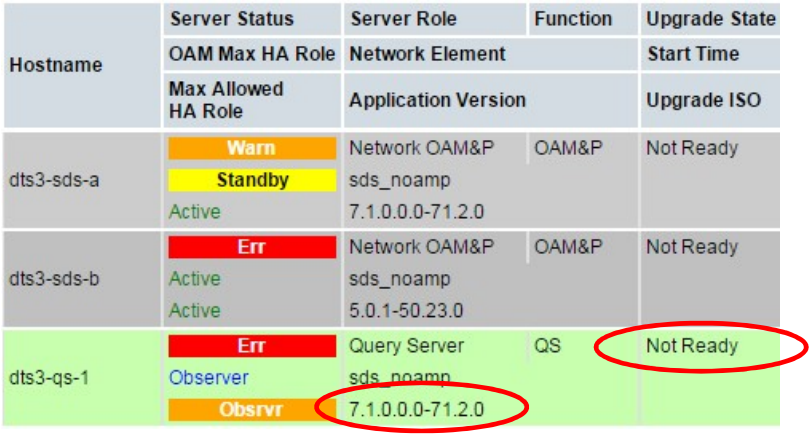
Appendix C: Upgrade Server Administration on SDS 5.0

Step	Procedure	Result
6. ☐	**Primary SDS NOAM VIP:** The user is returned to the… **Main Menu** **→ Administration** **→Software Management** **→ Upgrade** …screen as shown on the right. **1)** Scroll to the row containing the **hostname** of the server to be upgraded. **2)** Verify that the **Upgrade State** shows **"Upgrading"**.	 **NOTE:** As a result of the server undergoing upgrade, several alarms related to **"DB Replication"** (**Event IDs 31101, 31102, 31106, 31107, and 31114**) may appear and remain present until the upgrade has been completed.
7. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Administration** **→Software Management** **→ Upgrade** **2)** The **Upgrade State** field should be **Upgrading** **3)** The **Status Message** field should contain status **IN_PROGRESS_STATE**	

Appendix C: Upgrade Server Administration on SDS 5.0

Step	Procedure	Result
8. ☐	**Primary SDS NOAM VIP:** When the server initiates a post-upgrade reboot, the **Upgrade State** field should be **Upgrading**	
9. ☐	**Primary SDS 5.0 Site VIP:** After the post-upgrade reboot has been completed, the **Upgrade State** field should be **Succes**	
10. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** → **Administration** →**Software Management** → **Upgrade** **2)** Select the row containing the **hostname** of the upgraded server **3)** Click the **"Complete"** dialogue button	

Appendix C: Upgrade Server Administration on SDS 5.0

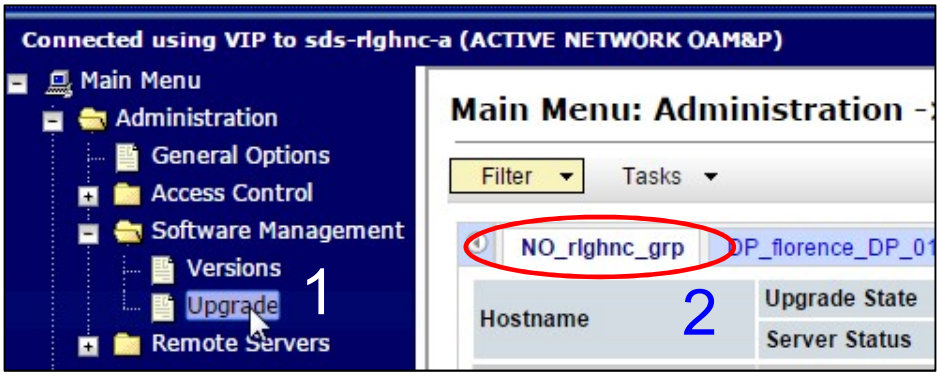
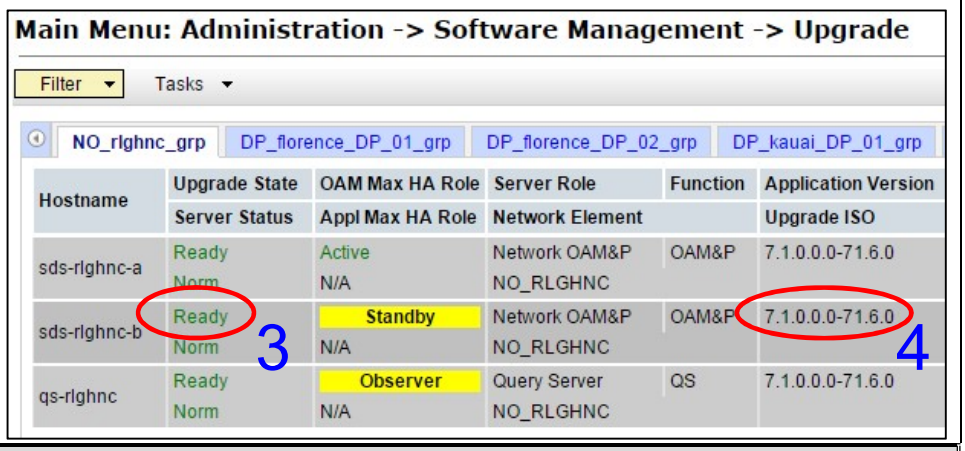
Step	Procedure	Result
11. ☐	**Primary SDS NOAM VIP:** The user presented with the **Upgrade [Complete]** screen. Click an **"Ok"** dialogue button.	
12. ☐	**Primary SDS NOAM VIP:** The user presented with the **Upgrade** screen. **1)** Verify that the **Application Version** now shows the **<target_release>**. **2)** Verify that the **Upgrade State** shows **"Not Ready"**.	
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix D Upgrade Server Administration on SDS 7.x

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

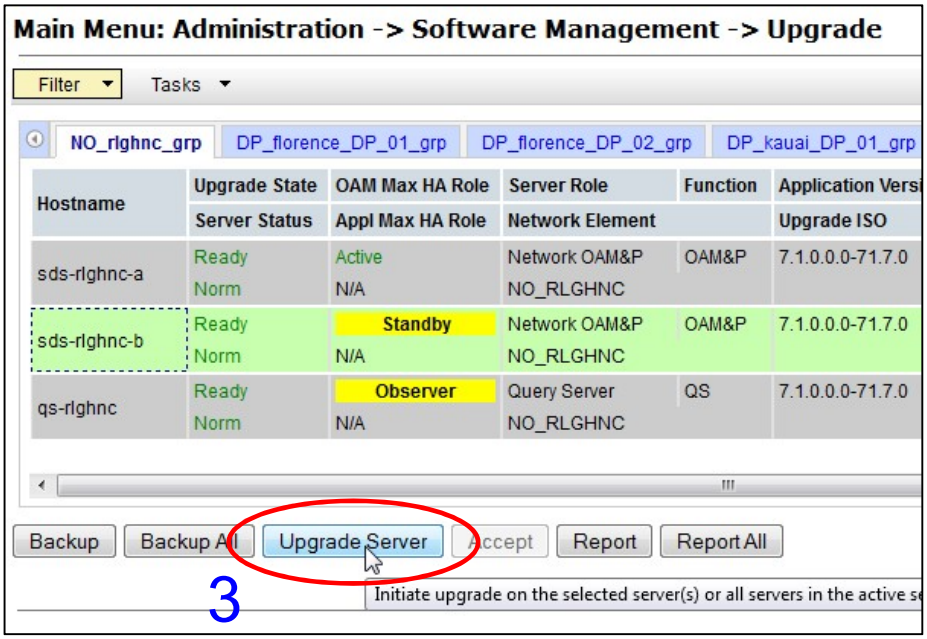
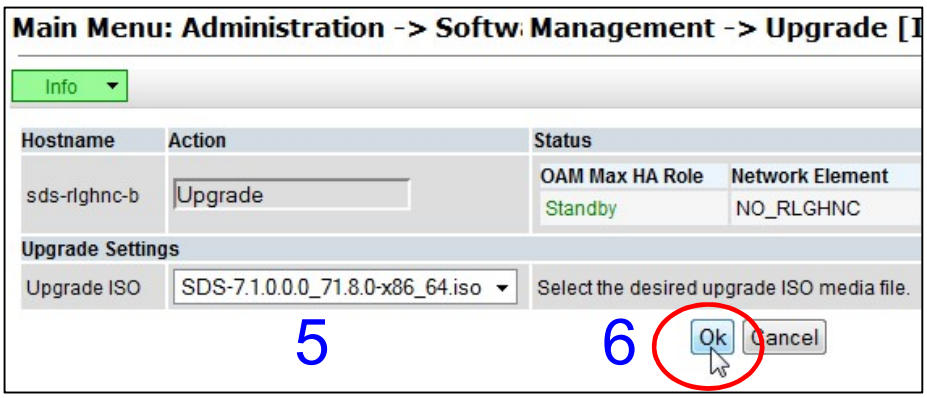
SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Appendix D: Upgrade Server Administration on SDS 7.x

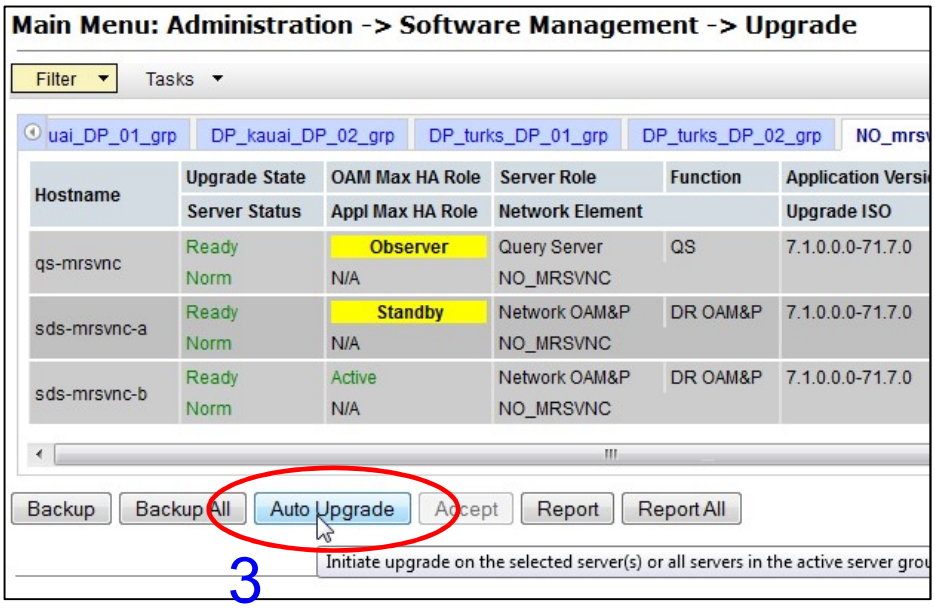
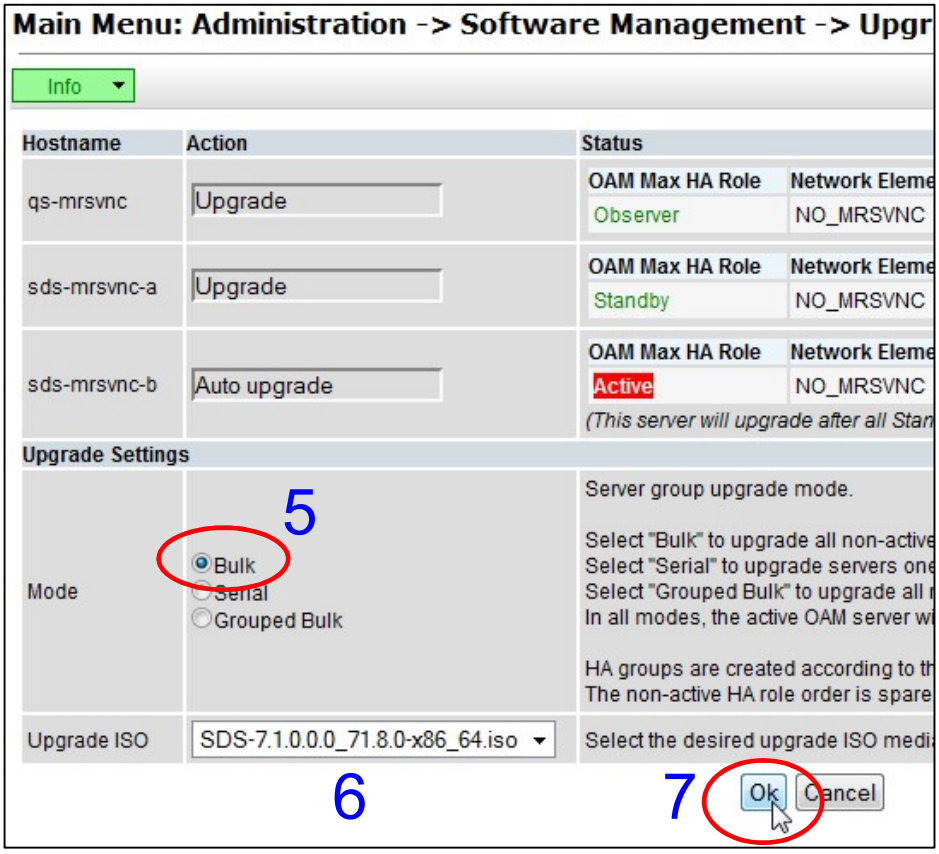
Step	Procedure	Result
1. ☐	Using **VIP** address, access **the Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**
2. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Administration** **→Software Management** **→ Upgrade** **2)** Select **Server Group** tab for the server(s) to be upgraded. **3)** Verify that the **"Upgrade State"** shows **"Ready"** for the server(s) to be upgraded. **4)** Verify the **Application Version** value for serevr(s) is the source software release version	 

- If executing **Server Group "Auto Upgrade"**, then **SKIP** to **Step 4** of this procedure.
  - *Allowed for **DR NOAM** & **SOAM** Server Groups only!*
- If executing **Single Server** *(or multi-selected)* **Upgrade**, then continue with **Step 3** of this procedure.
  - *Required for **Primary NOAM** & **DP** Server Groups.*

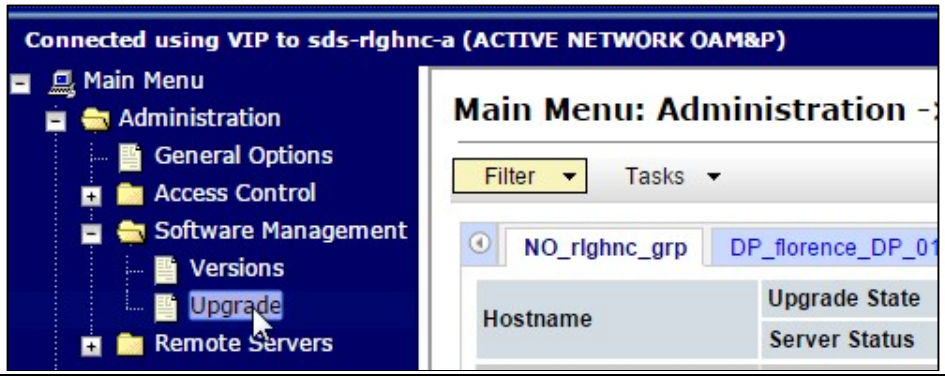
Appendix D: Upgrade Server Administration on SDS 7.x

Step	Procedure	Result
3. ☐	**Primary SDS NOAM VIP:** ***This Step:*** ***Single Server (or multi-selected) Upgrade only!*** **1)** Use the **[CTRL]** key to **multi-select** individually server(s) for upgrade. **2)** Ensure the **"Upgrade Server"** dialogue button is enabled. **3)** Click the **"Upgrade Server"** dialogue button. **4)** The user should be presented with the **Upgrade [Initiate]** screen **5)** Select the **Upgrade ISO** file to be used in the server upgrade. **6)** Click the "**Ok**" dialogue button to start rthe upgrade. **7) SKIP** to **Step 5** of this procedure. **NOTE**: *During server upgrade, multiple alarms are expected and can be safely ignored. These include but are not limited to the following:* **Event ID:** *10073, 10075, 31101, 31102, 31106, 31107, 31114 & 31283*	 

Appendix D: Upgrade Server Administration on SDS 7.x

Step	Procedure	Result
4. ☐	**Primary SDS NOAM VIP:** ***This Step:*** ***Server Group "Auto Upgrade" only!*** **!! WARNING !!** **DO NOT** use the **"Auto Upgrade"** option when upgrading the **"Primary" SDS NOAM** Server Group. **1) DO NOT** select any servers if using **Auto Upgrade** for the **Server Group**. **2)** Ensure the **"Auto Upgrade"** dialogue button is enabled. **3)** Click the **"Auto Upgrade"** dialogue button. **4)** The user should be presented with the **Upgrade [Initiate]** screen **5)** Select **"Bulk"** mode. **6)** Select the **Upgrade ISO** file to be used in the server upgrade. **7)** Click the "**Ok**" dialogue button to start rthe upgrade. **NOTE**: *When Auto Upgrade **"Bulk"** mode is selected, all non-Active servers will be upgraded first (e.g. Standby, Query Server, etc.).* **NOTE**: *During server upgrade, multiple alarms are expected and can be safely ignored. These include but are not limited to the following:* **Event ID:** *10073, 10075, 31101, 31102, 31106, 31107, 31114 & 31283*	 

Appendix D: Upgrade Server Administration on SDS 7.x

Step	Procedure	Result
YIELD	• If upgrading the formerly **"Active" Primary SDS NOAM** server (i.e., 2nd NOAM to be upgraded), then continue with **Step 5** of this procedure. • Otherwise, **SKIP** to **Step 10** of this procedure.	
5. ☐	**Primary SDS NOAM VIP:** If upgrading the **"Active" Primary SDS NOAM Server,** an **HA Switchover** will occur at this time.	• The user's **GUI** session will end as the **"Active" Primary SDS Server** goes through **HA Switchover** and becomes the **"Standby"** server.
6. ☐	**Primary SDS NOAM VIP:** Use the **[Logout]** link in the top right of the browser to logout of the **SDS NOAM GUI**.	
7. ☐	**Primary SDS NOAM VIP:** **Clear the browser cache.** **!! IMPORTANT !!** ***DO NOT** proceed to the next step until the **browser cache** has been **cleared**.*	JavaScript libraries, images and other objects are often modified in the upgrade. Browsers can sometimes cause GUI problems by holding on to the old objects in the built-in cache. To prevent these problems always clear the browser cache before logging into an OAM GUI which has just been upgraded: **1)** Simultaneously hold down the **[Ctrl]**, **[Shift]** and **[Delete]** keys *(most Web browsers)*. **2)** Select the appropriate object types to delete from the cache via the pop-up dialog. *(e.g. **"Temporary Internet Files", "Cache"** or **"Cached images and files"**, etc.)*. Other browsers may label these objects differently. **3)** **Clear the cached data.**
8. ☐	Using **VIP** address, access **the Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**
9. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** → **Administration** →**Software Management** → **Upgrade**	

Appendix D: Upgrade Server Administration on SDS 7.x

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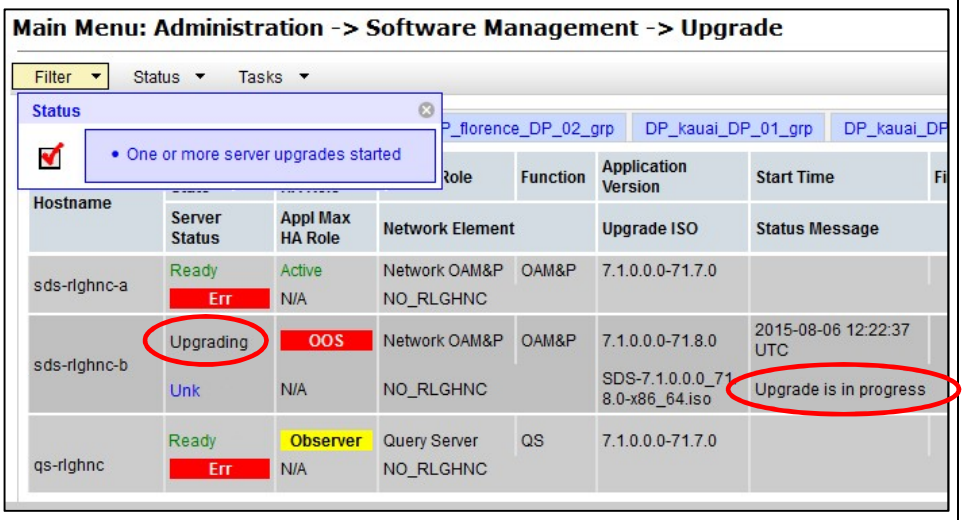
The user should now monitor the “Upgrade State” and the “Status Message” for the servers being upgraded.</td><td> 
</td></tr>
<tr><td>11.
☐</td><td>Primary SDS NOAM VIP:
As Upgrade executes for each server, the user will observe the following states.

NOTE: Some states may transition faster than the screen refresh rate and appear to skip.</td><td>
<table>
<tr><th>Sequence</th><th>Upgrade State</th><th>Status Message</th></tr>
<tr><td>1.</td><td>Pending</td><td>Pending Upgrade</td></tr>
<tr><td>2.</td><td>Preparing</td><td>Upgrade task started</td></tr>
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<tr><td>7.</td><td>Accept or Reject</td><td>Success: Server upgrade is complete</td></tr>
</table>
</td></tr>
<tr><td>12.</td><td>Primary SDS NOAM VIP:

<u>Restart the SDS Application, if necessary</u></td><td>If the Upgrade State is “Accept or Reject”, skip this step.

In the unlikely event that the SDS Application fails to restart after the upgrade, the Upgrade State will be ‘Backout Ready’, and the Status Message will display: “Server could not restart the application to complete the upgrade.”

Perform Appendix N to restore the server to full operational status, then return to this step to continue the upgrade.</td></tr>
<tr><td colspan="3"> 

!!! IMPORTANT !!!
• Unless executing parallel upgrades, DO NOT PROCEED until an “Upgrade State” of “Accept or Reject” is received.
• For only 7.2, if restoretemp directory is not created in the path “/var/TKLC/db/filemgmt” then create using following command:
$ sudo mkdir -p /var/TKLC/db/filemgmt/restoretemp
$ sudo chown awadmin:awadm /var/TKLC/db/filemgmt/restoretemp
$ sudo chmod 775 /var/TKLC/db/filemgmt/restoretemp
• If an Upgrade failure is experienced (i.e. Upgrade State = Failed), refer to Appendix K: Recovering from a Failed Upgrade</td></tr>
<tr><td>13.
☐</td><td>Primary SDS NOAM VIP:
View post-upgrade status</td><td>View post-upgrade status of the server(s):

Post-Upgrade, upgraded servers will have the following expected alarm.

• Event ID (s): 32532 (Server Upgrade Pending Accept/Reject)</td></tr>
</table>

Appendix D: Upgrade Server Administration on SDS 7.x

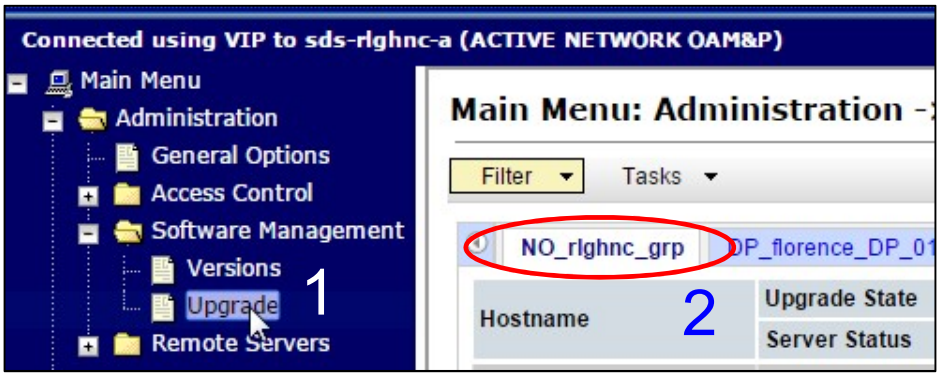
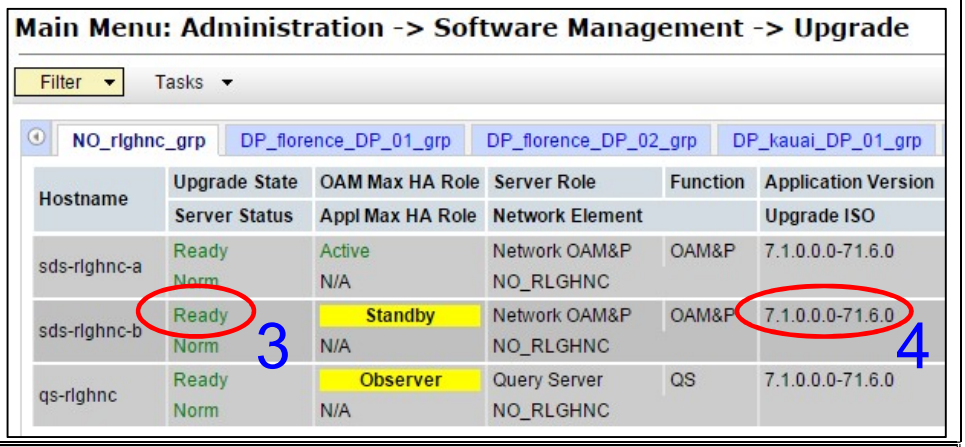
Step	Procedure	Result
14. ☐	**Return to the referring Procedure.**	• The user should now return to the **Procedure/Step** which referred to **Appendix D**: Upgrade Server Administration on SDS 7.x
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix E Upgrade Server Administration on SDS 8.0

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

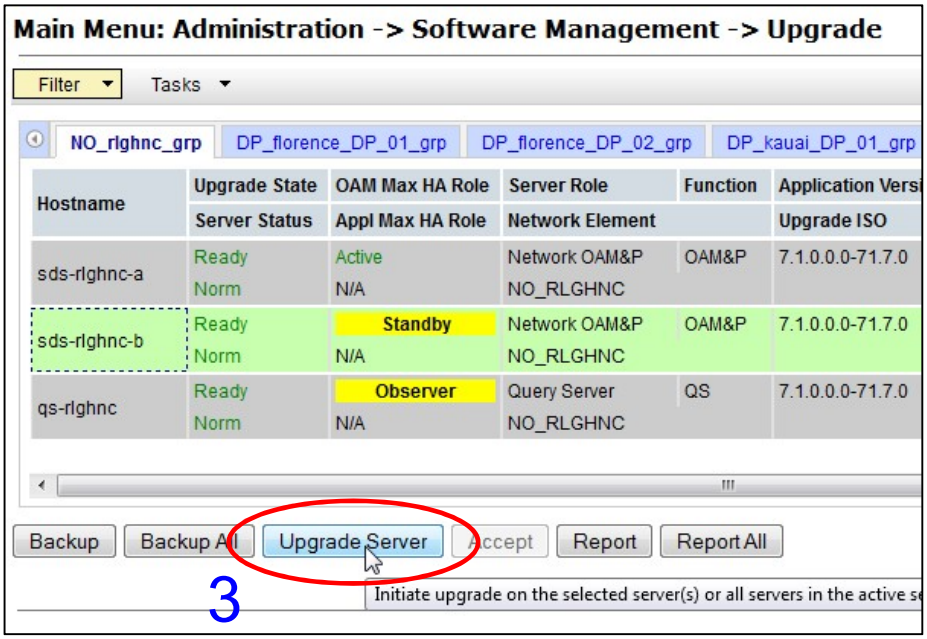
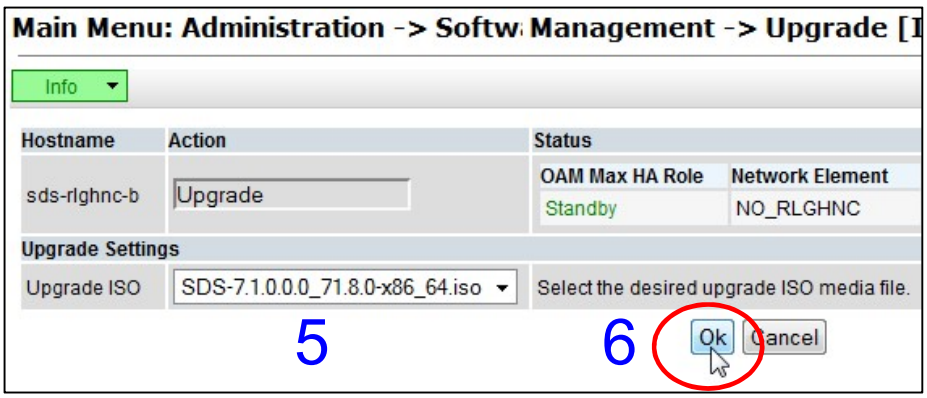
SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Appendix E: Upgrade Server Administration on SDS 8.0

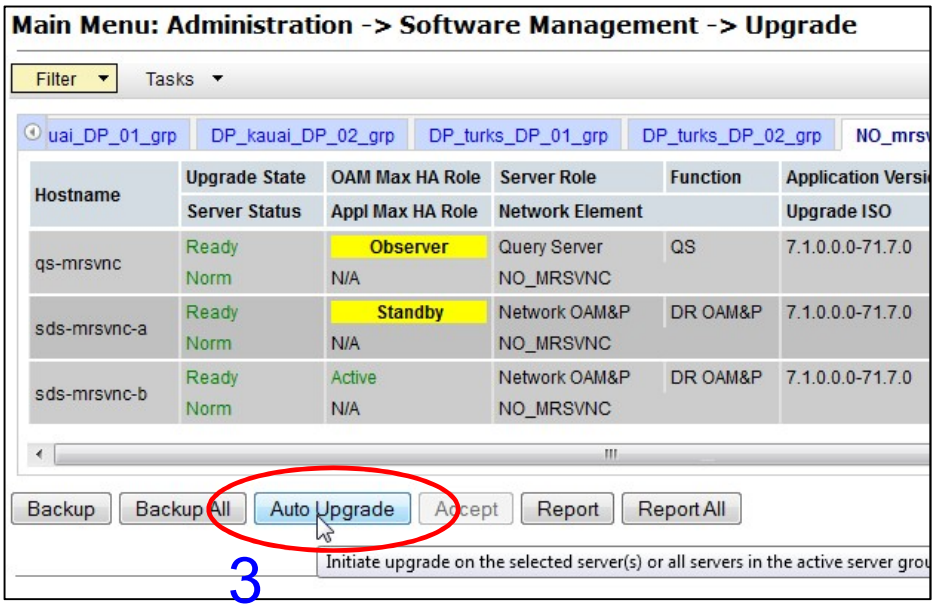
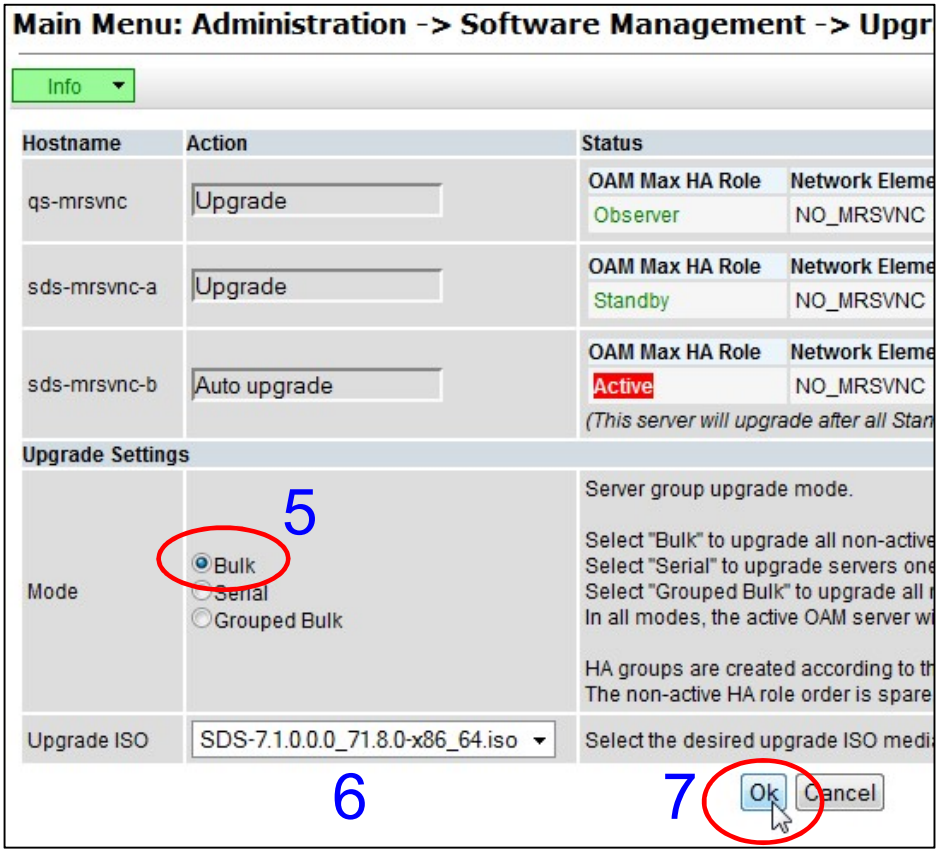
Step	Procedure	Result
1. ☐	Using **VIP** address, access **the Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**
2. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Administration** **→Software Management** **→ Upgrade** **2)** Select **Server Group** tab for the server(s) to be upgraded. **3)** Verify that the **"Upgrade State"** shows **"Ready"** for the server(s) to be upgraded. **4)** Verify the **Application Version** value for serevr(s) is the source software release version	 

- If executing **Server Group "Auto Upgrade"**, then **SKIP** to **Step 4** of this procedure.
  - *Allowed for **DR NOAM, SOAM and DP** Server Groups only!*
- If executing **Single Server** *(or multi-selected)* **Upgrade**, then continue with **Step 3** of this procedure.
  - *Required for **Primary NOAM** & **DP** Server Groups.*

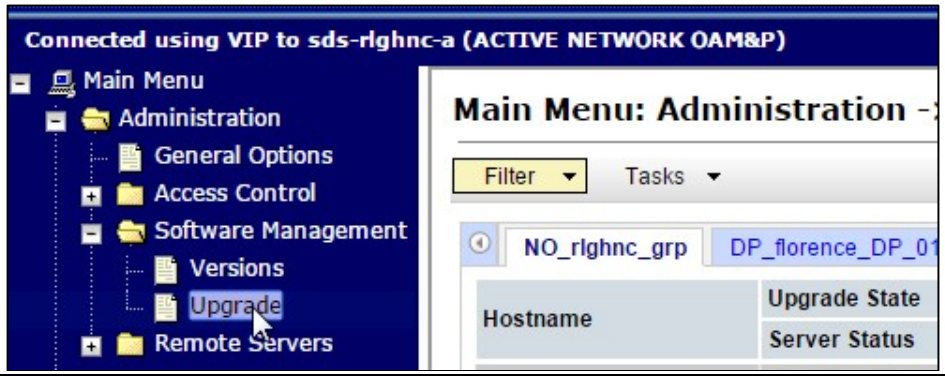
Appendix E: Upgrade Server Administration on SDS 8.0

Step	Procedure	Result
3. ☐	**Primary SDS NOAM VIP:** ***This Step:*** ***Single Server (or multi-selected) Upgrade only!*** **1)** Use the **[CTRL]** key to **multi-select** individually server(s) for upgrade. **2)** Ensure the **"Upgrade Server"** dialogue button is enabled. **3)** Click the **"Upgrade Server"** dialogue button. **4)** The user should be presented with the **Upgrade [Initiate]** screen **5)** Select the **Upgrade ISO** file to be used in the server upgrade. **6)** Click the "**Ok**" dialogue button to start rthe upgrade. **7) SKIP** to **Step 5** of this procedure. **NOTE**: *During server upgrade, multiple alarms are expected and can be safely ignored. These include but are not limited to the following:* **Event ID:** *10073, 10075, 31101, 31102, 31106, 31107, 31114 & 31283*	 

Appendix E: Upgrade Server Administration on SDS 8.0

Step	Procedure	Result
4. ☐	**Primary SDS NOAM VIP:** ***This Step:*** ***Server Group "Auto Upgrade" only!*** **!! WARNING !!** **DO NOT** use the **"Auto Upgrade"** option when upgrading the **"Primary" SDS NOAM** Server Group. **1) DO NOT** select any servers if using **Auto Upgrade** for the **Server Group**. **2)** Ensure the **"Auto Upgrade"** dialogue button is enabled. **3)** Click the **"Auto Upgrade"** dialogue button. **4)** The user should be presented with the **Upgrade [Initiate]** screen **5)** Select **"Bulk"** mode. **6)** Select the **Upgrade ISO** file to be used in the server upgrade. **7)** Click the "**Ok**" dialogue button to start rthe upgrade. **NOTE**: *When Auto Upgrade **"Bulk"** mode is selected, all non-Active servers will be upgraded first (e.g. Standby, Query Server, etc.).* **NOTE**: *During server upgrade, multiple alarms are expected and can be safely ignored. These include but are not limited to the following:* **Event ID:** *10073, 10075, 31101, 31102, 31106, 31107, 31114 & 31283*	 

Appendix E: Upgrade Server Administration on SDS 8.0

Step	Procedure	Result
YIELD	• If upgrading the formerly **"Active" Primary SDS NOAM** server (i.e., 2nd NOAM to be upgraded), then continue with **Step 5** of this procedure. • Otherwise, **SKIP** to **Step 10** of this procedure.	
5. ☐	**Primary SDS NOAM VIP:** If upgrading the **"Active" Primary SDS NOAM Server,** an **HA Switchover** will occur at this time.	• The user's **GUI** session will end as the **"Active" Primary SDS Server** goes through **HA Switchover** and becomes the **"Standby"** server.
6. ☐	**Primary SDS NOAM VIP:** Use the **[Logout]** link in the top right of the browser to logout of the **SDS NOAM GUI**.	
7. ☐	**Primary SDS NOAM VIP:** **Clear the browser cache.** **!! IMPORTANT !!** ***DO NOT** proceed to the next step until the **browser cache** has been **cleared**.*	JavaScript libraries, images and other objects are often modified in the upgrade. Browsers can sometimes cause GUI problems by holding on to the old objects in the built-in cache. To prevent these problems always clear the browser cache before logging into an OAM GUI which has just been upgraded: **4)** Simultaneously hold down the **[Ctrl]**, **[Shift]** and **[Delete]** keys *(most Web browsers)*. **5)** Select the appropriate object types to delete from the cache via the pop-up dialog. *(e.g. **"Temporary Internet Files", "Cache"** or **"Cached images and files"**, etc.)*. Other browsers may label these objects differently. **6)** **Clear the cached data.**
8. ☐	Using **VIP** address, access **the Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**
9. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** → **Administration** →**Software Management** → **Upgrade**	

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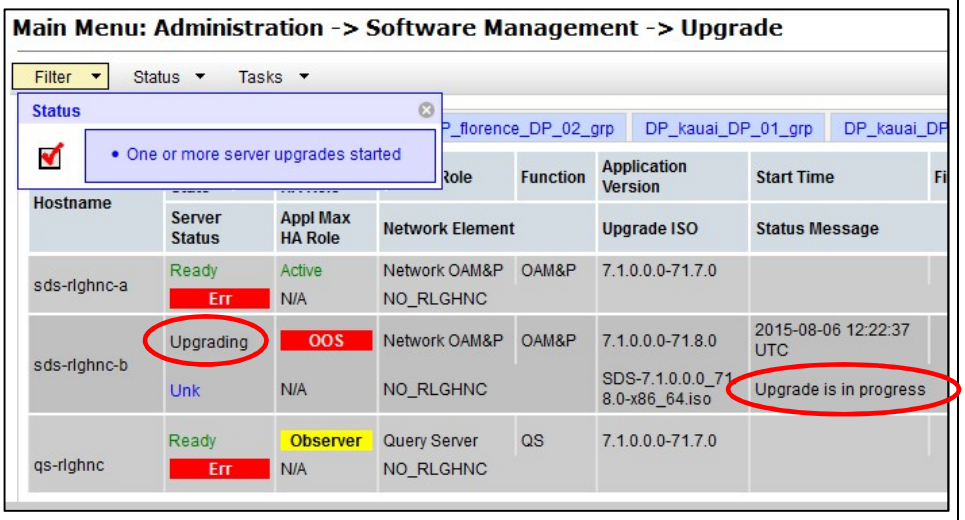
The user should now monitor the “Upgrade State” and the “Status Message” for the servers being upgraded.</td><td> 
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<u>Restart the SDS Application, if necessary</u></td><td>If the Upgrade State is “Accept or Reject”, skip this step.

In the unlikely event that the SDS Application fails to restart after the upgrade, the Upgrade State will be ‘Backout Ready’, and the Status Message will display: “Server could not restart the application to complete the upgrade.”

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Appendix E: Upgrade Server Administration on SDS 8.0

Step	Procedure	Result
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix F Backout of a Single Server

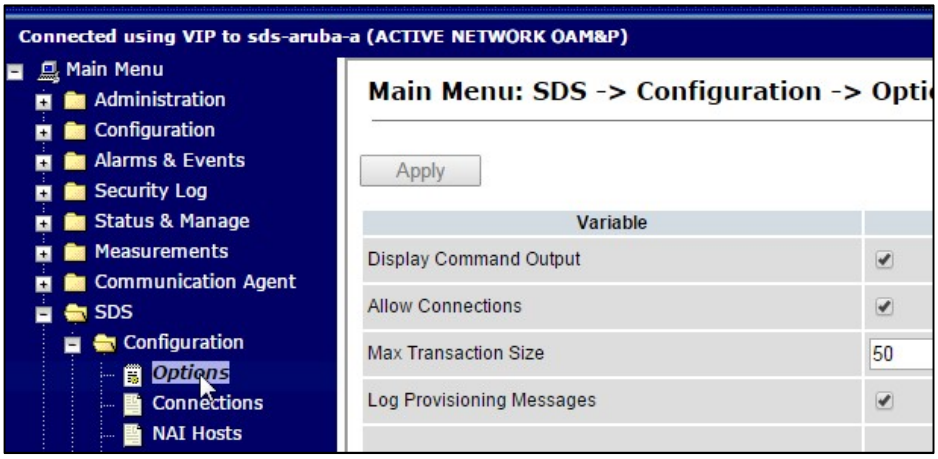
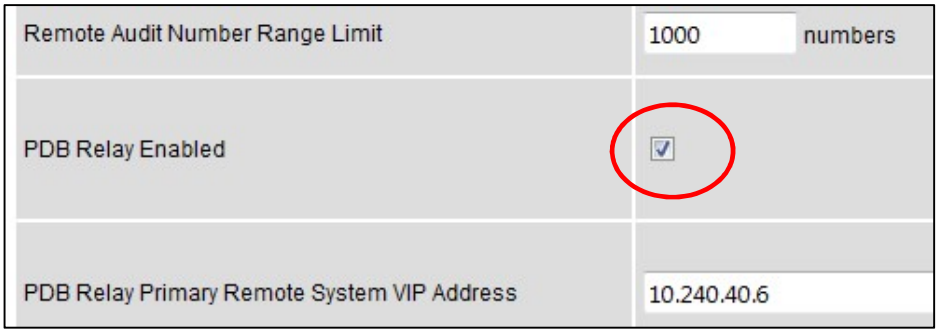
Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Appendix F: Backout of a Single Server

Step	Procedure	Result
1. ☐	**Primary SDS NOAM VIP:** Ensure that the server to be downgraded is in the **"Accept or Reject"** state.	1. Select the **[Main Menu: Administration →Software Management → Upgrade]** screen. 2. Select the **tab** containing the server(s) to be backed out. 3. Verify its Upgrade State is **"Accept or Reject"**.
2. ☐	**Primary SDS NOAM VIP:** Set the **Max Allowed HA Role** to **"Standby"**.	1. Select the **[Main Menu: Status & Manage →HA]** screen; *the HA status screen displays.* 2. Press the **"Edit"** button. 3. Select the server(s) to be backed out and choose a **Max Allowed HA Role** value of **"Standby"** *(unless it is a **Query server**, in which case the value should remain set to **Observer**)*. 4. Press the **"Ok"** button; *the HA status screen displays.* Verify that the **Max Allowed HA Role** is set to the values specified above.
YIELD	• If downgrading the **"Active" Primary SDS NOAM** server, then continue with **Step 3** of this procedure. • Otherwise, **SKIP** to **Step 13** of this procedure.	
3. ☐	**Primary SDS NOAM VIP:** If downgrading the **"Active" Primary SDS NOAM Server,** an **HA Switchover** will occur at this time.	• The user's **GUI** session will end as the **"Active" Primary SDS Server** goes through **HA Switchover** and becomes the **"Standby"** server.
4. ☐	**Primary SDS NOAM VIP:** Use the **[Logout]** link in the top right of the browser to logout of the **SDS NOAM GUI**.	

Appendix F: Backout of a Single Server

Step	Procedure	Result
5. ☐	**Primary SDS NOAM VIP:** **Clear the browser cache.** **!! IMPORTANT !!** ***DO NOT** proceed to the next step until the **browser cache** has been **cleared**.*	JavaScript libraries, images and other objects are often modified in the upgrade. Browsers can sometimes cause GUI problems by holding on to the old objects in the built-in cache. To prevent these problems always clear the browser cache before logging into an OAM GUI which has just been upgraded: **1)** Simultaneously hold down the **[Ctrl]**, **[Shift]** and **[Delete]** keys *(most Web browsers)*. **2)** Select the appropriate object types to delete from the cache via the pop-up dialog. *(e.g. **"Temporary Internet Files", "Cache"** or **"Cached images and files"**, etc.).* Other browsers may label these objects differently. **Clear the cached data.**
6. ☐	Using **VIP** address, access **the Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** again as described in **Appendix A.**
7.	**Primary SDS NOAM VIP:** Select… **Main Menu** → **SDS** → **Configuration** → ***Options*** …as shown on the right.	
8.	**Primary SDS NOAM VIP:** Locate the **"PDB Relay Enabled"** checkbox and determine if it is **CHECKED** or **NOT CHECKED**. Record the value	 **CHECKED** *(Yes/No)* **PDB Relay Enabled** _____

Appendix F: Backout of a Single Server

Step	Procedure	Result
	YIELD • If the **PDB Relay Enabled** checkbox is **NOT CHECKED,** then **SKIP** to **Step 13** of this procedure. • If the **PDB Relay Enabled** checkbox is **CHECKED, CONTINUE** with **Step 9** of this procedure.	

9. ☐	**Primary SDS NOAM VIP (CLI):**
	Using the **VIP** address, login to the **"Active" Primary SDS NOAM** with the **admusr** account.
		`CentOS release 5.7 (Final)`
		`Kernel 2.6.18-274.7.1.e15prerel5.0.0_72.32.0 on an x86_64`
		
		`sds-rlghnc-b login: admusr`
		`Password: <admusr_password>`

10.	**Primary SDS NOAM VIP:**
	The user will be presented with output similar to that shown to the right.
		***** TRUNCATED OUTPUT *****
		`RELEASE=6.4`
		`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`
		`RUNID=00`
		`[admusr@sds-rlghnc-b ~]$`

11.	**Primary SDS NOAM VIP:** Set the **pdbRelay TimeStamp"** to **"0"**.	`[admusr@sds-rlghnc-b ~]$ sudo iset -fvalue=0 ProvOptions where "var='pdbRelayMsgLogTimeStamp'"` `[admusr@sds-rlghnc-b ~]$`
12.	**Primary SDS NOAM VIP:** Exit the **CLI** for the **"Active" Primary SDS NOAM.**	`[admusr@sds-rlghnc-b ~]$ exit` `logout`
13. ☐	**Primary SDS NOAM VIP:** **Stop** the software.	1. Select the **[Main Menu: Status & Manage → Server]** screen; *the Server status screen displays.* 2. Select the serve(s)r to be backed out and press the **"Stop"** button. 3. Click **"OK"** to confirm the operation. 4. Verify that the **Appl State** updates to **"Disabled"**
14. ☐	**Primary SDS NOAM VIP:** Verify that the server(s) are **Backout Ready**.	1. Reselect the **[Main Menu: Administration →Software Management → Upgrade]** screen. 2. Reselect the tab of the server group containing the server(s) to be backed out. **NOTE:** *It might take a couple minutes for the grid to update.* If the **Primary Active SDS** is at release **7.1** or later, then verify its Upgrade State is displayed as **"Backout Ready"** If the **Primary Active SDS** is at release **5.0**, then verify its Upgrade State is displayed as **"Ready"** ***NOTE:*** *If this is the Active server in an Active-Standby pair, these steps WILL cause an HA switchover. The HA switchover is an expected outcome. Continue the steps on the new Active NOAMP.*

Appendix F: Backout of a Single Server

Step	Procedure	Result
15. ☐	**Server CLI:** **SSH** to the server(s) to be backed out.	Use an SSH client to connect to the server (ex. ssh, PuTTY): Note: Consult the software client's documentation to learn how to launch a connection. For example: `ssh <server address>` ***NOTE**: If direct access to the XMI is not available, then access the target server via a connection through the active NO. SSH to the active NO XMI first. Once logged into the NO; from there, SSH to the target server's XMI address.*
16. ☐	**Server CLI:** Login as user **"admusr"**.	`login as: admusr` `password: <enter password`

17. ☐	**Server CLI:**
	Execute the backout
		Execute the backout using the reject script:
		
		`$ sudo /var/TKLC/backout/reject`
		
		Output similar to that shown below will appear on the screen.
		Answer **"y"** to continue the backout.
		
		***** TRUNCATED OUTPUT *****
		`Executing.. /var/TKLC/backout/backout_server --check`
		`Verifying that backout is possible.`
		`Checking for stale RPM DB locks...`
		`Current platform version: 7.0.2.0.0-86.30.0`
		`Continue backout? [y/N]: y`

18. ☐	**Server CLI:** Backout proceeds followed by an **automatic reboot**.	Many informational messages will come across the terminal screen as the backout proceeds: Finally, after reject is complete, the server will automatically **reboot** and the user will be automatically logged out.
19. ☐	**Server CLI:** **SSH** to the server(s) to be backed out.	After the reboot has completed, use an SSH client to reconnect to the server (ex. ssh, PuTTY): Note: Consult the software client's documentation to learn how to launch a connection. For example: `ssh <server address>` NOTE: If direct access to the XMI is not available, then access the target server via a connection through the active NO. SSH to the active NO XMI first. Once logged into the NO; from there, SSH to the target server's XMI address.

20. ☐	**Server CLI:**
	Login as user **"admusr"**.
		These commands are performed as admusr, and it is necessary to use sudo for some of the commands.
		
		`login as: admusr`
		`password: <enter password>`

Appendix F: Backout of a Single Server

Step	Procedure	Result

21. ☐	**Server CLI:**
	Verify the Backout
		Examine the upgrade logs in the directory /var/TKLC/log/upgrade and verify that no errors were reported:
		`$ grep ERROR /var/TKLC/log/upgrade/upgrade.log`
		1. Examine the output of the above commands to determine if any errors were reported.
		Note: The following errors can be ignored:
		`DEBUG: 'iqt' command failed (is IDB running?)`
		and/or
		`1477080063::ERROR: TKLCsds-5.0.0-5.0.1_50.23.0: Failure running command '/usr/TKLC/appworks/bin/eclipseHelp reconfig'`
		`1477080521::ERROR: prod.dbdown: unknown option (-i)`
		2. If the backout was not successful because other errors were recorded in the logs, then contact Oracle Customer Care Center for further instructions.
		3. If the backout was successful (no errors or failures), then continue with the remaining steps.

Appendix F: Backout of a Single Server

Step	Procedure	Result

22. ☐	**Server CLI:**
	Restore the COMCOL Full DB/Run environment.
	
	NOTE: *The COMCOL restore process may take several minutes to complete.*
		Execute the backout_restore utility to restore the full database run environment.
		
		`$ sudo /var/tmp/backout_restore`
		
		Output similar to that shown below will appear on the screen.
		Answer **"y"** to continue the restore.
		
		***** TRUNCATED OUTPUT *****
		`This process will totally destroy the existing DB on this server. This should only be done to recover a server when an upgrade has been backed-out/rolled-back.`
		
		`Are you sure you want to proceed? (y|n): y`
		
		If the restore was successful, the following will be displayed:
		
		`Success: Full restore of COMCOL run env has completed. Return to the backout procedure document for further instruction.`
		
		If an error is encountered and reported by the utility, then work with Oracle Customer Care Center for further instructions.
		Note:
		In some incremental upgrade scenarios, the `backout_restore` file will not be found in the /var/tmp directory, resulting in the following error message:
		
		`/var/tmp/backout_restore: No such file or directory`
		
		If this message occurs, copy the file from `/usr/TKLC/appworks/sbin` to `/var/tmp` and repeat the command.

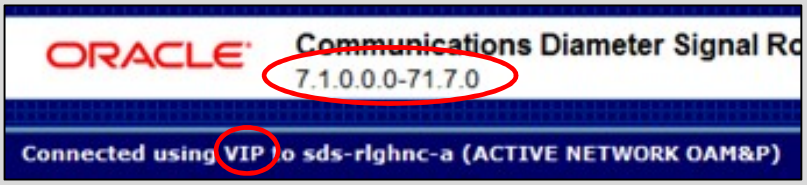
23. ☐	**Server CLI:** Reboot the server	Enter the following command to reboot the server. `$ sudo init 6` This step can take several minutes and will terminate the SSH session.
24. ☐	**Server CLI:** **SSH** to the server(s) which were backed out.	After the reboot has completed, use an SSH client to reconnect to the server (ex. ssh, PuTTY): Note: Consult the software client's documentation to learn how to launch a connection. For example: `ssh <server address>` **NOTE:** *If direct access to the XMI is not available, then access the target server(s) via an SSH connection from the active NO. SSH to the active NO XMI first, then from there, SSH to the target server's XMI address.*

25. ☐	**Server CLI:**
	Login as user **"admusr"**.
		These commands are performed as admusr, and it is necessary to use sudo for some of the commands.
		
		`login as: admusr`
		`password: <enter password>`

Appendix F: Backout of a Single Server

Step	Procedure	Result

26. ☐	**Server CLI:**
	Verify that the **"httpd"** service has restarted.
		Verify services are have restarted:
		1. If this is an NO or SO, verify httpd service is running.
		`$ sudo service httpd status`
		2. Verify expected output displays httpd is running (the process IDs are variable so the actual number value can be ignored):
		`httpd (pid xxxx) is running...`
		3. If httpd is not running, wait for a few minutes and retry the above command.
		If httpd is still not running after 3 minutes, then services have failed to restart.
		Contact Oracle Customer Care Center for further instructions.

27. ☐	**Primary SDS NOAM VIP:** Verify the server(s) **Application Version** and **Upgrade State.**	**1.** Select the **[Main Menu: Administration →Software Management → Upgrade]** screen. **2.** Select the **tab** containing the server(s) which were backed out. **3.** Verify the **Application Version** value for this server has been backed out to the source release version. **4.** Verify the **Upgrade State**. Note: Full audit between active NO and backed out server is conducted and it may take up to 10 mins before Upgrade State is moved to 'ready'
		*For **Primary Active SDS** at release **7.1 or later:*** ○ If the **Upgrade State** is **"Ready"**, **SKIP** to **Step 34** of this procedure. ○ If the **Upgrade State** is **"Not Ready"**, then proceed to **Step 28** of this procedure. *For **Primary Active SDS** at release **5.0:*** *(i.e due to backout of the entire topology)* ○ If the **Upgrade State** is **"Not Ready"**, then **SKIP** to **Step 34** of this procedure. ○ If the **Upgrade State** is **"Ready"**, then **SKIP** to **Step 31** of this procedure. **NOTE:** *The **Primary Active SDS** release can be seen on the **NOAM GUI** banner (via the **VIP**).* 
28. ☐	**Primary SDS NOAM VIP:** ***(Primary Active SDS release 7.1 or later)*** Set the **Max Allowed HA Role** to **"Active"**.	Due to backout being initiated from the command line instead of through the GUI, modify the backed out server so its **Upgrade State** moves to **Ready**. **1.** Select the **[Main Menu: Status & Manage → HA]** screen; *the HA status screen displays.* **2.** Press the **"Edit"** button. **3.** Select the backed out server(s) and choose a **Max Allowed HA Role** value of **Active** *(unless it is a **Query server**, in which case the value should remain set to **Observer**)*. **4.** Press the **"Ok"** button; *the HA status screen displays.* **5.** Verify that the **Max Allowed HA Role** is set to the values specified above.

Appendix F: Backout of a Single Server

Step	Procedure	Result
29. ☐	**Primary SDS NOAM VIP:** **Restart** the software.	1. Select **[Main Menu: Status & Manage → Server]** screen; *the Server status screen displays.* 2. If the server(s) which were backed out show an **Appl State** state of **"Enabled"**, **SKIP** to the next Step. 3. If the server(s) which were backed out show an **Appl State** state of **"Disabled"**, select the server(s) press **"Restart"** button. 4. Click **"OK"** to confirm the operation. 5. Verify that the **Appl State** updates to **"Enabled"**.
30. ☐	**Primary SDS NOAM VIP:** **Verify the Upgrade State**	1. Select **[Main Menu: Administration → Software Management →Upgrade]** screen. 2. Select the tab of the server group containing the server(s) which were backed out. 3. Verify that the **Upgrade State** is now **"Ready"** (*it may take several seconds for the grid to update)*. 4. **SKIP** to **Step 34** of this procedure.
31. ☐	**Primary SDS NOAM VIP:** ***(Primary Active SDS release 5.0)*** **Stop** the software *(if necessary).*	Due to backout being initiated from the command line instead of through the GUI, modify the **Upgrade State** of the backed out server(s) to achieve a state of **"Not Ready"**. 1. Select **[Main Menu: Status & Manage →Server]** screen; *the Server Status screen displays.* 2. If the server(s) which were backed out show an **Appl State** of **"Enabled"**, then select the server(s) and press the **Stop** button**.**
32. ☐	**Primary SDS NOAM VIP:** Verify the server(s) **Upgrade State.**	1. Select **[Main Menu: Administration → Software Management → Upgrade]** screen; *the Upgrade Administration screen displays.* 2. If the server(s) which were backed out show an **Upgrade State** is **"Not Ready"**, **SKIP** to **Step 34** of this procedure.
33. ☐	**Primary SDS NOAM VIP:** **"Complete"** the backout action *(if necessary)*.	1. If the server(s) which were backed out show an **Upgrade State** of **"Ready"** or **"Success"**, then 2. Select the server(s) which were backed out and press the **"Complete"** button. 3. The **Upgrade [Complete]** screen will appear. Leave the Action set to its default value of "Complete". 4. Click **"OK"** to confirm the action; *this will update the **Max Allowed HA Role** of the backed out server(s) to **Active**, which will cause the server **Upgrade State** to change to **Not Ready**.* The user may see the following SOAP error appear in the GUI banner. `SOAP error while clearing upgrade status of hostname=[frame10311b6] ip=[172.16.1.28]` **NOTE:** *It is safe to ignore this error message.*
34.	**Backout** has been completed.	• **Return to the referring procedure.**
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix G Verifying Shared Segments and Logical Volumes

This procedure verifies increases in database size needed by imports in SDS 5.0 and re-aligns existing partition sizes to meet the resource demands of SDS **5.0**. This script can be run for all servers at once or for one server at a time.

!!! IMPORTANT !!! This procedure is a prerequisite for **Major Upgrade** from **SDS 5.0 to SDS 8.0 only. DO NOT** execute for **7.x to 8.x** Major Upgrade or **8.x.y to 8.x.z** Incremental upgrades. Below instruction are not valid for cloud systems.

STOP !

☐ ***Before executing this procedure…***

1. It is recommended to login to the **"My Oracle Support" (MOS)** website
   See Appendix Q - Accessing My Oracle Support (MOS) if assistance is needed.
2. From the **Dashboard**, click on the **"Patches & Updates"** tab.
3. Search for **"Patch 20513402"** *(SDS 5.0 Patch for Bug 20418367)*
4. Download the patch and replace the **"/usr/TKLC/sds/bin/lv50fix"** script on the "**Active" Primary SDS NOAM** server.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Appendix G: Verifying Shared Segments and Logical Volumes

Step	Procedure	Result
1. ☐	**Primary SDS VIP (SSH):** To validate *all* servers, login to the Primary SDS Active server	• Run this command to validate ***all*** servers: # `/usr/TKLC/sds/bin/lv50fix validate all` **NOTE**: *This script produces much output and, first, verifies if all servers in the entire SDS topology are ready to have their shared segments and logical volumes resized. Then it performs those changes on all servers in the SDS topology.*

Step	Procedure	Result
2. ☐	**Primary SDS VIP (SSH):** When validating ***all*** servers, the user will see output similar to that shown to the right	**# /usr/TKLC/sds/bin/lv50fix validate all** lv50fix script is running command "validate all" saving output in "/tmp/lv50fix.log.03_04_2015.02" Verify sdsSO-carync-b, SYSTEM_OAM, using VG Size: 112352.00m ... Verified final shared segment size: 8192 matches final: 8192 Verified final lv: apw_tmp size: 10.00g matches final: 10.00g Verified final lv: filemgmt size: 28.69g matches final: 28.69g Verified final lv: logs_process size: 7.50g matches final: 7.50g Verified final lv: logs_security size: 7.50g matches final: 7.50g Verified ------- lv: netbackup_lv size: 2.00g matches initial/final: 2.00g Verified ------- lv: plat_root size: 1.00g matches initial/final: 1.00g Verified ------- lv: plat_tmp size: 1.00g matches initial/final: 1.00g Verified ------- lv: plat_usr size: 4.00g matches initial/final: 4.00g Verified ------- lv: plat_var size: 1.00g matches initial/final: 1.00g Verified ------- lv: plat_var_tklc size: 4.00g matches initial/final: 4.00g Verified final lv: run_db size: 21.50g matches final: 21.50g Verified final vg free size: 21.53g matches final: 21.53g Verified ------- /tmp/appworks_temp percent Used: 2 percent is no more than 99 percent Verified ------- /var/TKLC/db/filemgmt percent Used: 1 percent is no more than 99 percent ***** TRUNCATED OUTPUT ***** ***** TRUNCATED OUTPUT ***** Verified ------- lv: logs_security size: 10.00g matches initial/final: 10.00g Verified ------- lv: netbackup_lv size: 2.00g matches initial/final: 2.00g Verified ------- lv: plat_root size: 1.00g matches initial/final: 1.00g Verified ------- lv: plat_tmp size: 1.00g matches initial/final: 1.00g Verified ------- lv: plat_usr size: 4.00g matches initial/final: 4.00g Verified initial vg free size: 25.25g matches initial: 25.25g Verified ------- /var/TKLC/rundb percent Used: 1 percent is no more than 48 percent Hostname: dp-carync-1, MP, has already made 1 changes and ready for 3, so is ready for these changes (since it is safe to re-do them). **Validation: FAILED: 6 servers NOT ready for changes**(and also have ready for update: 0 with initial values, 5 already updated, and **3 partially done** (no harm to re-do))
3. ☐	**Primary SDS VIP (SSH):** The user should review the **"Validation:"** summary which appears at the end of the output. It is recommended to report any **FAILED:** or **"partially done"** results to **MOS** for resolution.	
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix H Manually Performing ISO Validation

NOTE: This a procedure assumes that the **ISO** file to be validated has already been uploaded to the server in question and is present in the **/var/TKLC/db/filemgmt/**, **/var/TKLC/db/filemgmt/isos/** or **/var/TKLC/upgrade/** directory.

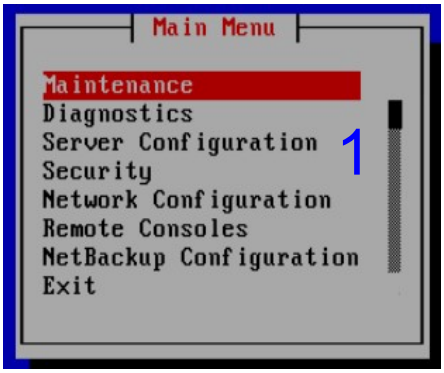
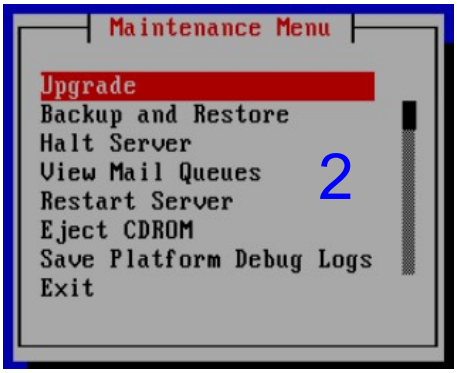
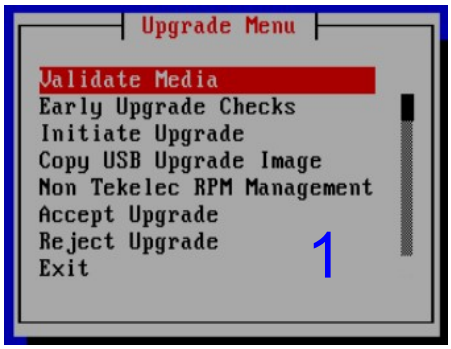
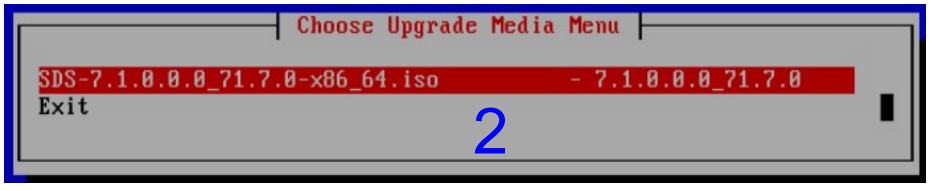
Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

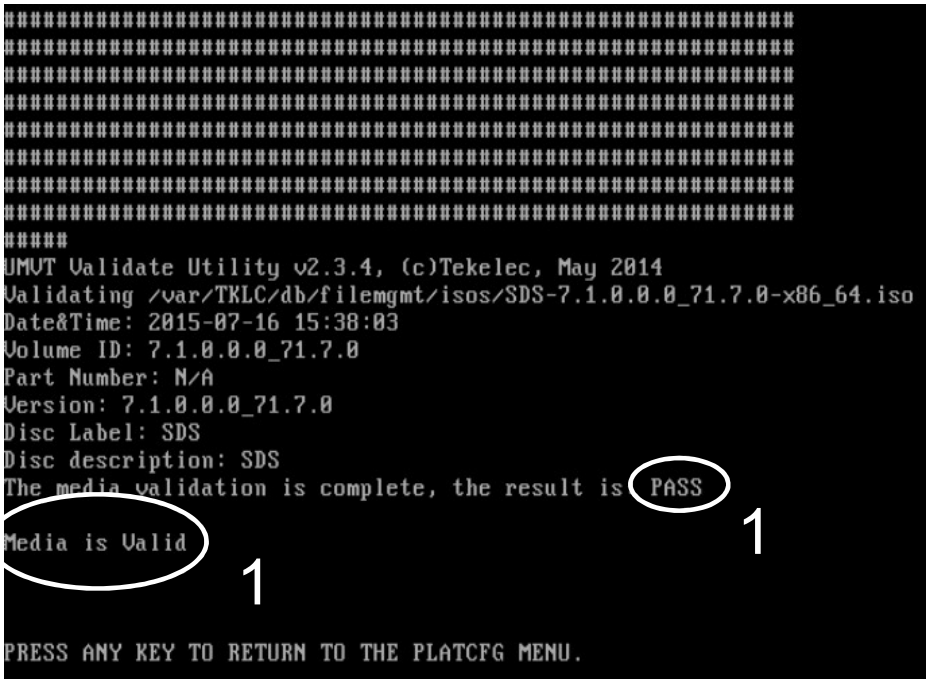
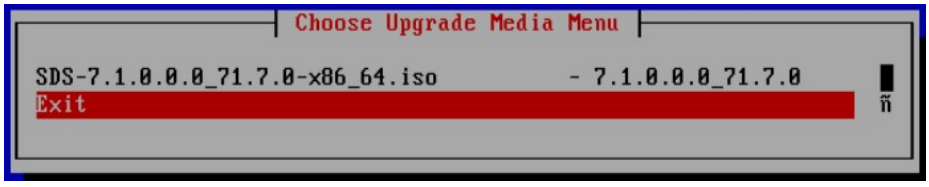
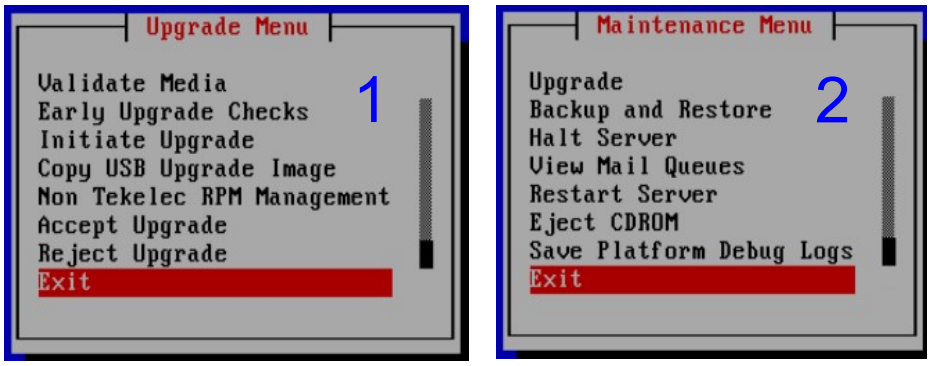
Appendix H: Manually Performing ISO Validation

Step	Procedure	Result
1. ☐	**Primary SDS NOAM VIP (CLI):** Using the **VIP** address, login to the **"Active" Primary SDS NOAM** with the **admusr** account.	CentOS release 5.7 (Final) Kernel 2.6.18-274.7.1.e15prerel5.0.0_72.32.0 on an x86_64 sds-rlghnc-a login: **admusr** Password: ***<admusr_password>***
2. ☐	**Primary SDS VIP:** The user will be presented with output similar to that shown to the right.	RELEASE=6.4 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 RUNID=00 [admusr@sds-rlghnc-a ~]$
3. ☐	**Primary SDS NOAM VIP:** Verify that the ISO file is present in the **/var/TKLC/upgrade/** directory. If the ISO file to be validated is present in the output then **SKIP** to **Step 5** of this procedure. Otherwise, continue to the next step.	[admusr@sds-rlghnc-a ~]$ **ls /var/TKLC/upgrade/** SDS-8.0.0.0.0_80.22.0-x86_64.iso [admusr@sds-rlghnc-a ~]$
4. ☐	**Primary SDS NOAM VIP:** **Copy** the ISO file to the **/var/TKLC/upgrade/** directory.	[admusr@sds-rlghnc-a ~]$ **cp -p /var/TKLC/db/filemgmt/SDS-8.0.0.0.0_80.22.0-x86_64.iso /var/TKLC/upgrade/** [admusr@sds-rlghnc-a ~]$

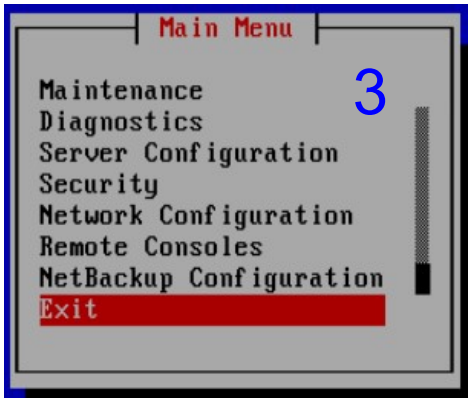
Appendix H: Manually Performing ISO Validation

Step	Procedure	Result
5. ☐	**Primary SDS NOAM VIP:** Become the **"platcfg"** user using the **"su"** command. For password information, refer to **Table 4** *(Logins, Passwords and Site Information) if necessary*.	`[admusr@sds-rlghnc-a ~]$ su - platcfg` `Password: <platcfg_password>`
6. ☐	**Primary SDS NOAM VIP:** **1)** From the **platcfg [Main Menu]**, select the **"Maintenance"** menu option and press the **[ENTER]** key. **2)** From the **platcfg [Maintenance Menu]**, select the **"Upgrade"** menu option and press the **[ENTER]** key.	 
7. ☐	**Primary SDS VIP:** **1)** From the **platcfg [Upgrade Menu]**, select the **"Validate Media"** menu option and press the **[ENTER]** key. **2)** From the **platcfg [Choose Upgrade Media Menu]**, select the target **ISO** file and press the **[ENTER]** key.	 

Appendix H: Manually Performing ISO Validation

Step	Procedure	Result
8. ☐	**Primary SDS NOAM VIP:** **1)** Verify that the **ISO** Media is **"Valid"**. **2)** Press the **[ENTER]** key to return to the **platcfg** menu.	
9. ☐	**Primary SDS NOAM VIP:** From the **platcfg [Choose Upgrade Media Menu]**, select the **"Exit"** menu option and press the **[ENTER]** key.	
10. ☐	**Primary SDS NOAM VIP:** **1)** From the **platcfg [Main Menu]**, select the **"Exit"** menu option and press the **[ENTER]** key. **2)** From the **platcfg [Maintenance Menu]**, select the **"Exit"** menu option and press the **[ENTER]** key.	

Appendix H: Manually Performing ISO Validation

Step	Procedure	Result
	3) From the **platcfg [Main Menu]**, select the **"Exit"** menu option and press the **[ENTER]** key.	
11. ☐	**Primary SDS NOAM VIP:** Exit the CLI to the Active Primary SDS NOAM.	`[admusr@sds-rlghnc-a ~]$ exit`
12. ☐	**Return to the referring Procedure.**	• The user should now return to the **Procedure/Step** which referred them to **Appendix H** *(Manually Performing ISO Validation)*.
THIS PROCEDURE HAS BEEN COMPLETED		

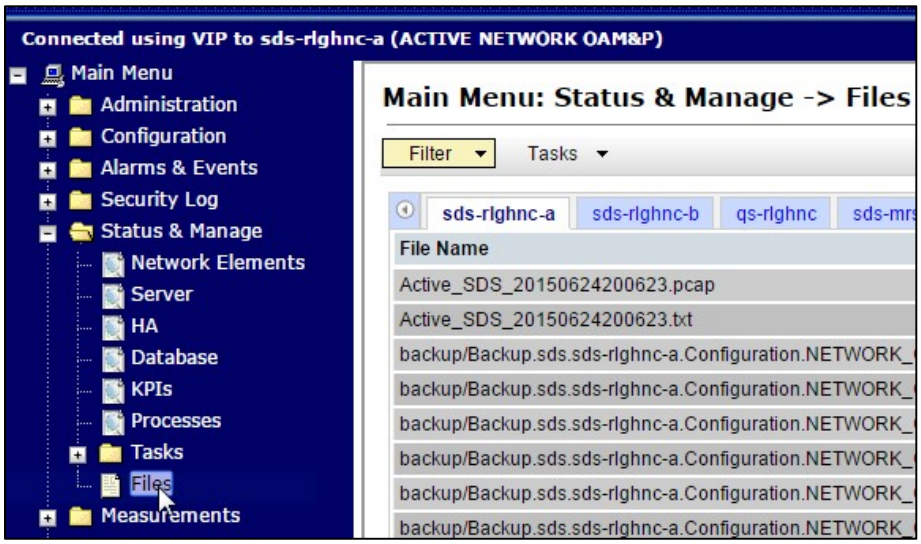
Appendix I Undeploying an ISO file (Post Upgrade Acceptance)

This procedure should only be executed post Upgrade Acceptance and removes a deployed **ISO** file from all servers in the SDS topology except the **"Active" Primary NOAM** server. At the end of the procedure the ISO will still be present in the **/var/TKLC/db/filemgmt/isos/** directory on the **"Active" Primary NOAM** server.

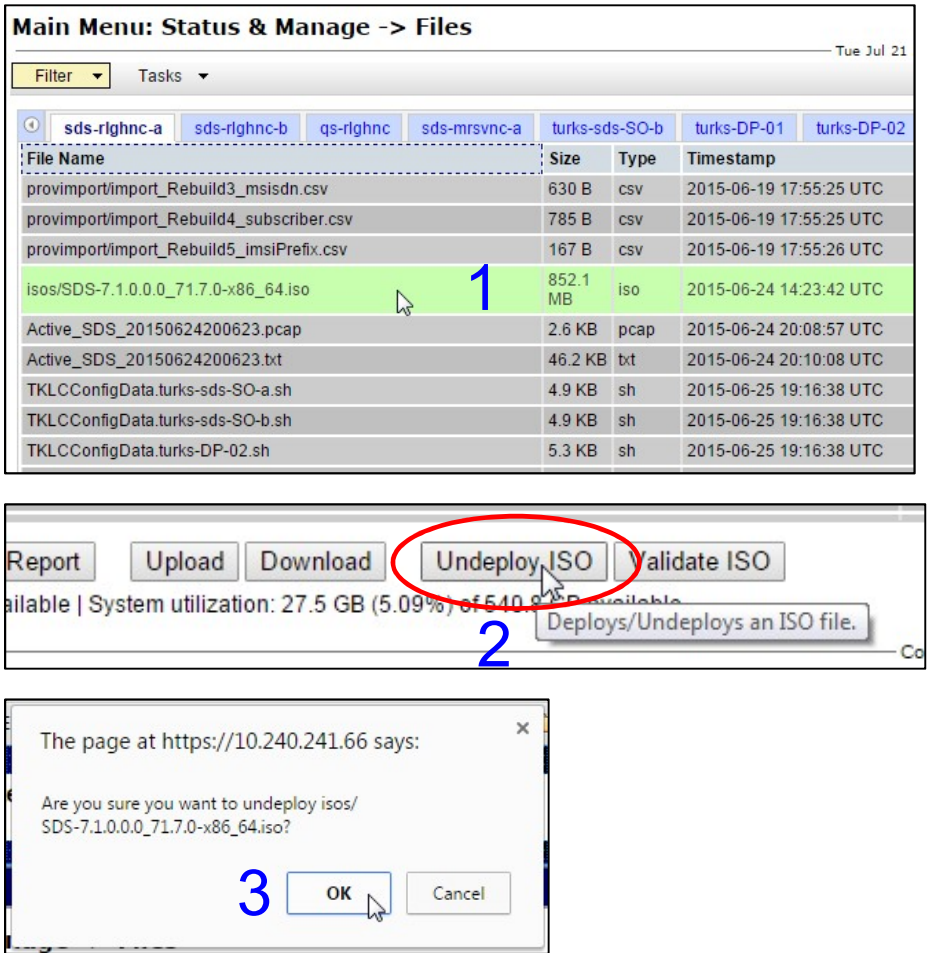
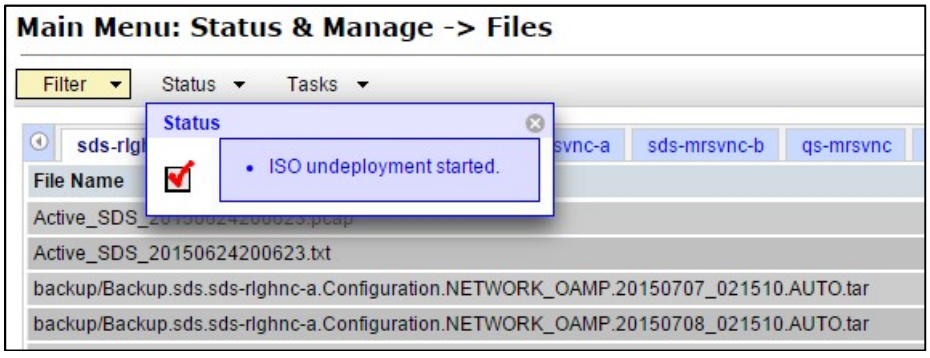
Once this procedure is completed, the file may then be manually deleted *(if desired)* from the SDS NOAM GUI (VIP) under the [Main Menu: Status & Manage → Files] screen.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

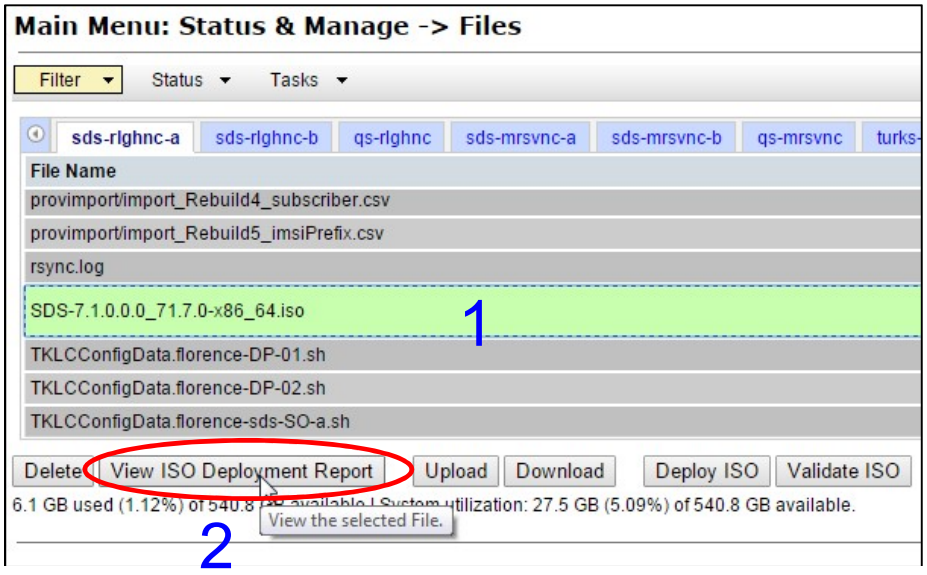
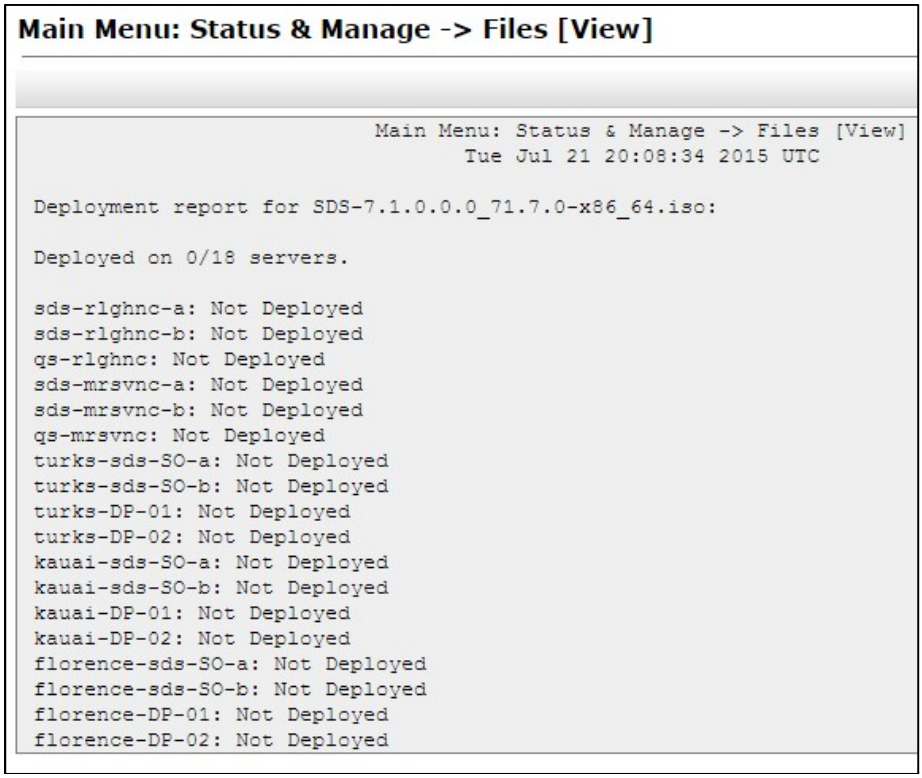
Appendix I: Undeploying an ISO file *(Post Upgrade Acceptance)*

Step	Procedure	Result
1. ☐	Using **VIP** address, access **the Primary SDS NOAM GUI**.	• Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**
2. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ Files** …as shown on the right.	

Appendix I: Undeploying an ISO file *(Post Upgrade Acceptance)*

Step	Procedure	Result
3. ☐	**Primary SDS NOAM VIP:** **1)** Select the **ISO** file for the target release. **2)** Click the **"Undeploy ISO"** dialogue button. **3)** Click **"OK"** on the confirmation pop-up window.	
4. ☐	**Primary SDS VIP:** The **"Status"** tab in the banner will display a confirmation message stating **"ISO undeployment started"**.	

Appendix I: Undeploying an ISO file *(Post Upgrade Acceptance)*

Step	Procedure	Result
5. ☐	**Primary SDS NOAM VIP:** Monitor the ISO undeployment status. **1)** Using the cursor, reselect the **ISO** file for the target release. **2)** Click the **"View ISO Deployment Report"** dialogue button.	
6. ☐	**Primary SDS NOAM VIP:** The user is presented with the **Deployment Report** indicating the **current status** of undeployment to all servers in the topology. **Refresh** the report by clicking the **"Back"** dialogue button and repeating **Step 5** of this procedure until the **ISO** shows **"Not Deployed"** to all servers in the topology.	
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix J Adding the SDS ISO to the PM&C Software Repository

STOP !

This procedure is not applicable if SDS is deployed in a Cloud environment

This procedure must be done once for each the PM&C at each DSR Signaling site that contains SDS SOAM/DP servers.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

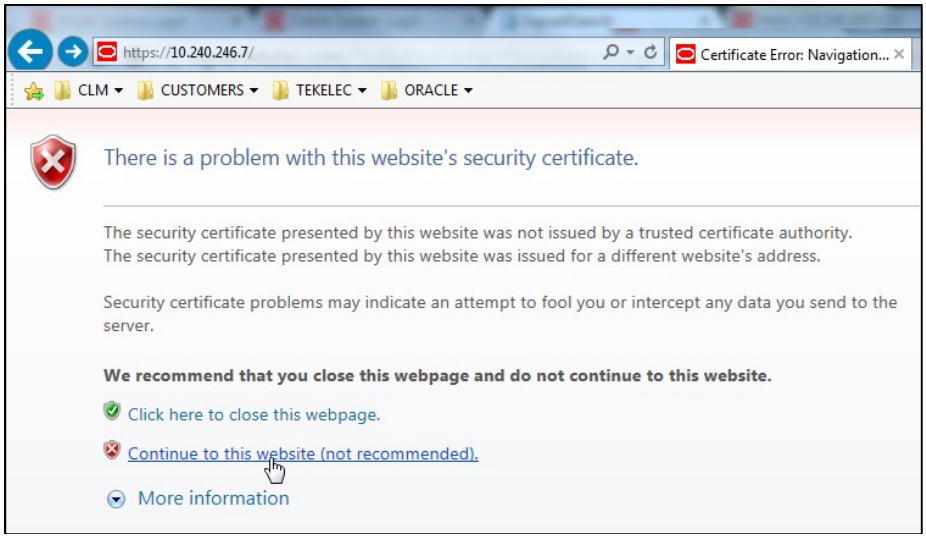
Appendix J: Adding the SDS ISO to the PM&C Software Repository

Step	Procedure	Result
1. ☐	**Primary SDS NOAM VIP:** Using the **VIP** address, login to the **"Active" Primary SDS NOAM** with the **admusr** account.	CentOS release 5.7 (Final) Kernel 2.6.18-274.7.1.e15prerel5.0.0_72.32.0 on an x86_64 sds-rlghnc-a login: **admusr** Password: ***<admusr_password>***
2. ☐	**Primary SDS NOAM VIP:** The user will be presented with output similar to that shown to the right.	***** TRUNCATED OUTPUT ***** RELEASE=6.4 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 RUNID=00 [admusr@sds-rlghnc-a ~]$
3. ☐	**Primary SDS NOAM VIP:** Access the **"filemgmt"** directory where the target ISO file was uploaded to.	[admusr@sds-rlghnc-a ~]$ **cd /var/TKLC/db/filemgmt/** [admusr@sds-rlghnc-a filemgmt]$
4. ☐	**Primary SDS NOAM VIP:** Identify the exact name of the target ISO file.	[admusr@sds-rlghnc-a filemgmt]$ **ls -l *.iso** -rw-rw-r-- 1 awadmin awadm 893536256 Jun 24 14:23 **SDS-8.0.0.0.0_80.22.0-x86_64.iso** [admusr@sds-rlghnc-a filemgmt]$

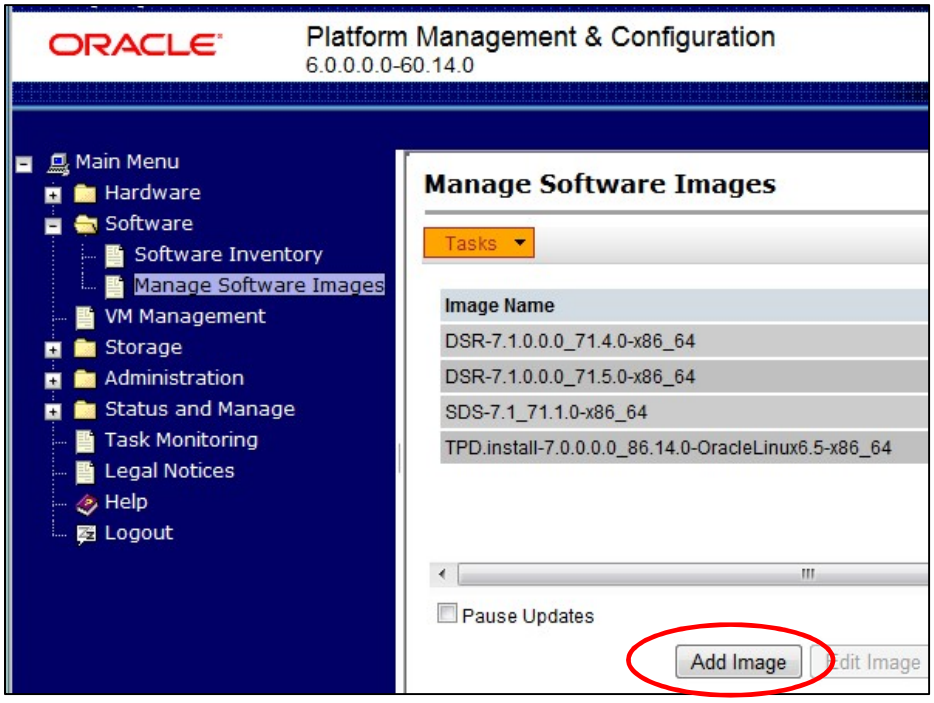
Appendix J: Adding the SDS ISO to the PM&C Software Repository

Step	Procedure	Result

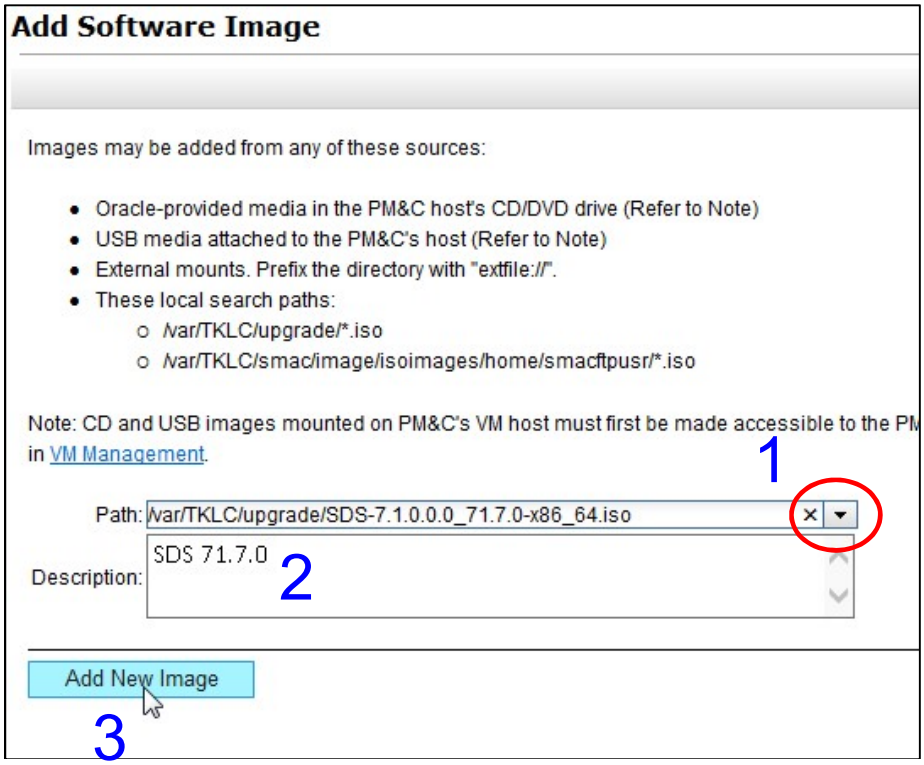
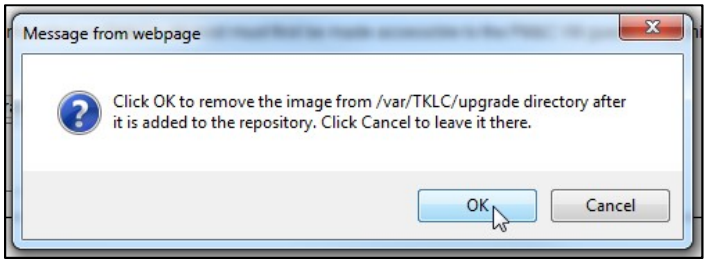
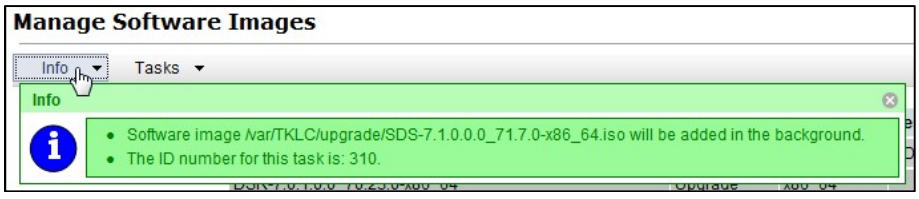
5. ☐	**Primary SDS NOAM VIP:**
	Use **Secure Copy (scp)** to copy the target ISO file to the **/var/TKLC/upgrade/** directory of the remote PM&C server as the **"admusr"** user.
		`$ scp -p SDS-8.0.0.0.0_80.22.0-x86_64.iso admusr@10.240.246.7:/var/TKLC/upgrade/`
		`FIPS integrity verification test failed.`
		`The authenticity of host '10.240.246.7 (10.240.246.7)' can't be established. RSA key fingerprint is 23:aa:7e:12:40:d6:20:d6:19:62:c0:07:9d:20:30:35.`
		`Are you sure you want to continue connecting (yes/no)? yes`
		`Warning: Permanently added '10.240.246.7' (RSA) to the list of known hosts.`
		`Password: <admusr_password>`
		`SDS-8.0.0.0.0_80.22.0-x86_64.iso 100% 852MB 11.2MB/s 01:16`
		`[admusr@sds-rlghnc-a filemgmt]$`

6. ☐	**Primary SDS NOAM VIP:** Exit the **CLI** for the **"Active" Primary SDS NOAM.**	`[admusr@sds-rlghnc-a filemgmt]$ exit` `logout`
7. ☐	**PM&C Server: (GUI):** **1)** Launch approved Web browser **Internet Explorer 8.0, 9.0** or **10.0** and connect to the Management IP Address assigned to **PM&C Server** associated with the **SDS SOAM NE.** **2)** If a certificate error is received, click on the link which states… *"Continue to this website (not recommended)."*	

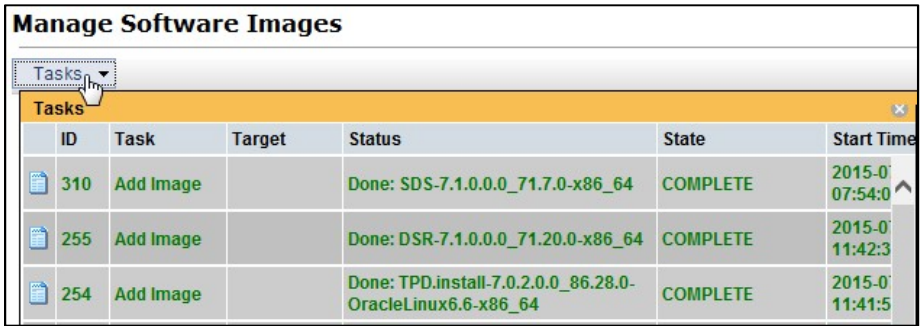
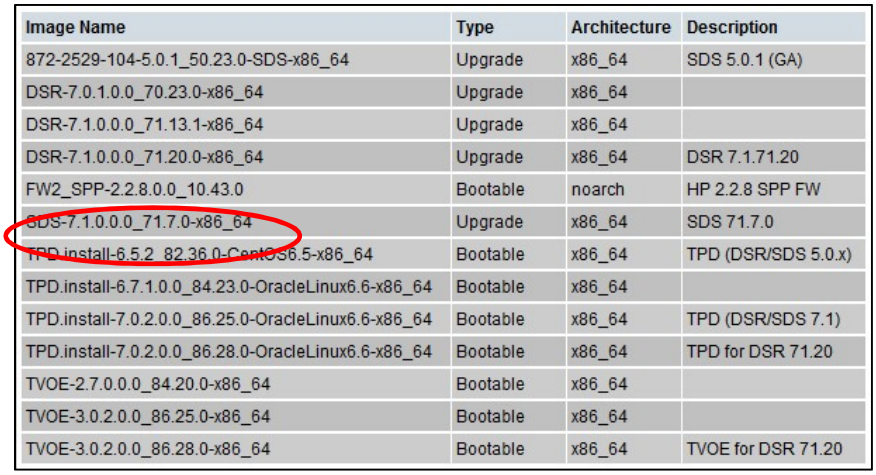
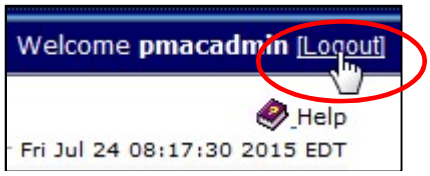
Appendix J: Adding the SDS ISO to the PM&C Software Repository

Step	Procedure	Result
8. ☐	**PM&C Server:** The user should be presented a PM&C login screen similar to the one shown on the right. Login to the GUI using the default user and password.	
9. ☐	**PM&C Server:** **1)** Select… **Main Menu** **→ Software** ***→ Manage Software Images*** …as shown on the right. **2)** Select the **"Add Image"** button	

Appendix J: Adding the SDS ISO to the PM&C Software Repository

Step	Procedure	Result
10. ☐	**PM&C Server:** **1)** Click the **"Path:"** pull-down and select the traget ISO file from the list. **2)** Input the **SDS release information** in the **"Description:"** field. **3)** Select **"Add New Image"** button.	
11. ☐	**PM&C Server:** Click **"OK"** on the pop-up confirmation box to allow the target ISO file to be deleted after it has been successfully added to the PM&C Software Repository.	
12. ☐	**PM&C Server:** An info message will be raised to show a new background task.	

Appendix J: Adding the SDS ISO to the PM&C Software Repository

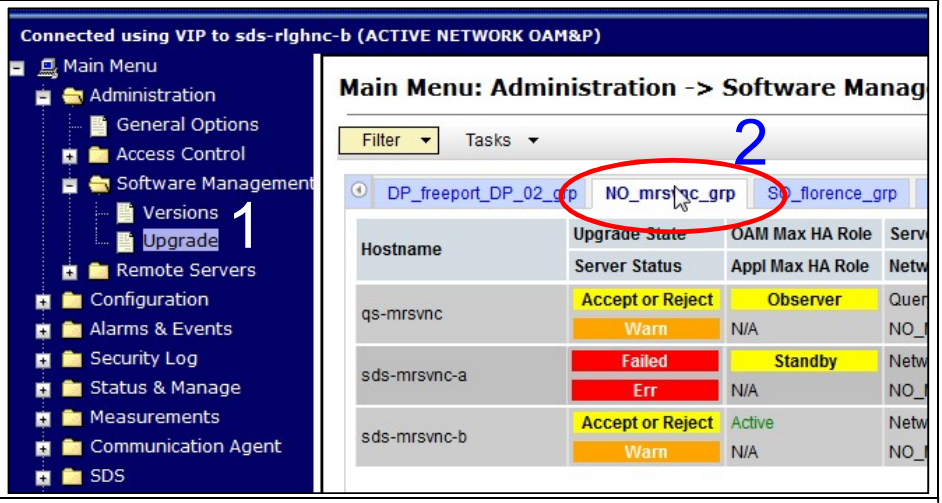
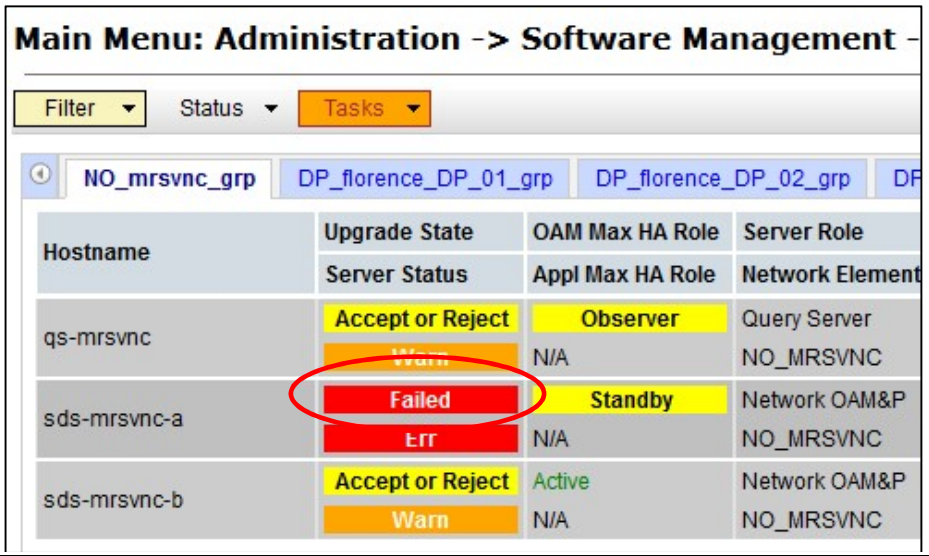
<table>
<tr><th>Step</th><th>Procedure</th><th>Result</th></tr>
<tr><td>13.
☐</td><td>PM&C Server:
The user may monitor the progress using the “Tasks” tab in the banner on the same screen.</td><td> 
</td></tr>
<tr><td>14.
☐</td><td>PM&C Server:
When the task is complete, the new software image will be displayed in the Image list.</td><td> 
</td></tr>
<tr><td>15.
☐</td><td>PM&C Server:
Click the “Logout” link on the PM&C server GUI.</td><td> 
</td></tr>
<tr><td colspan="3">THIS PROCEDURE HAS BEEN COMPLETED</td></tr>
</table>

Appendix K Recovering from a Failed Upgrade

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

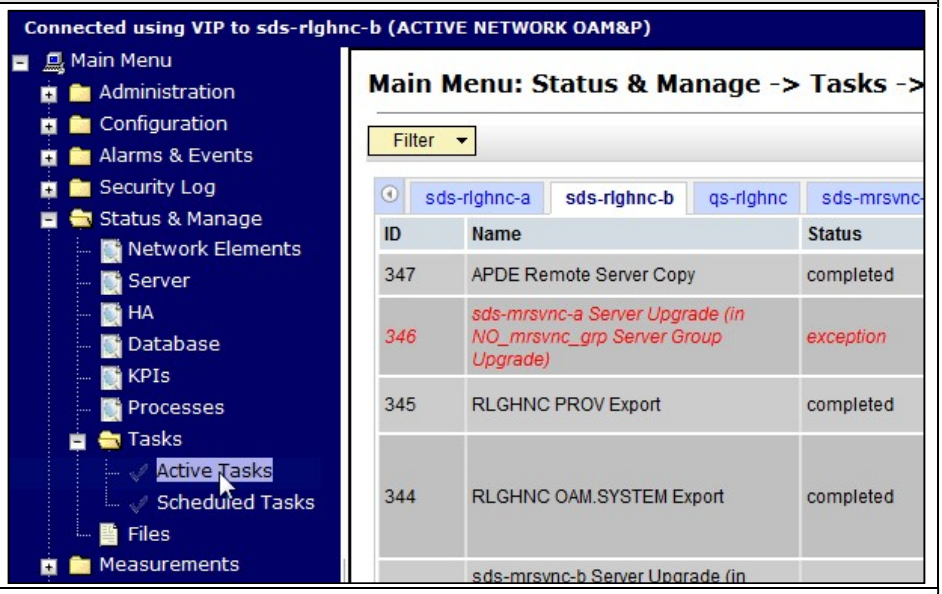
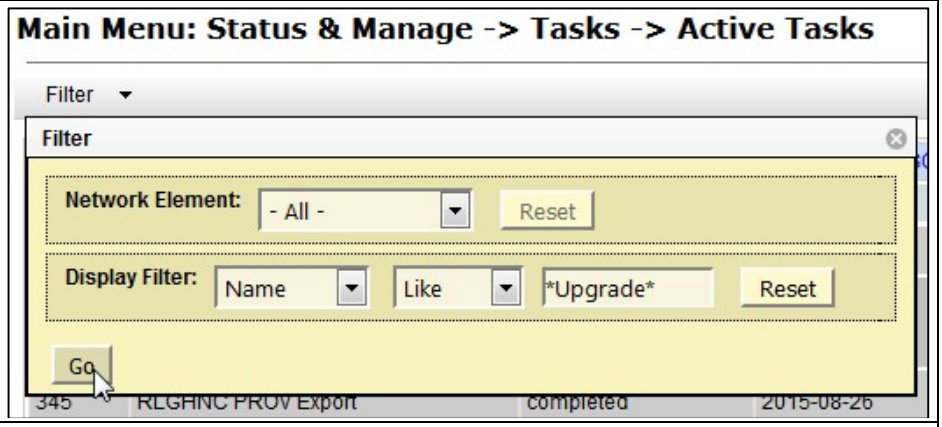
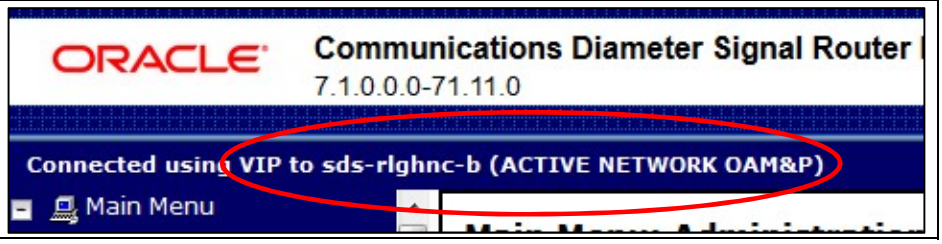
SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Appendix K: Recovering from a Failed Upgrade

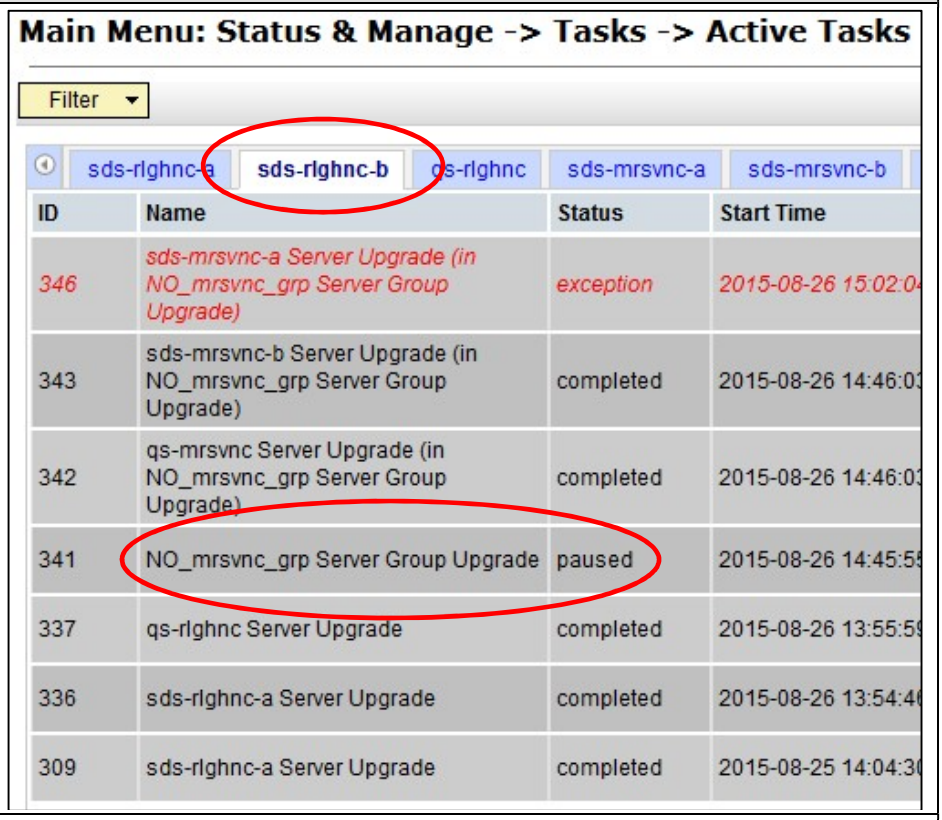
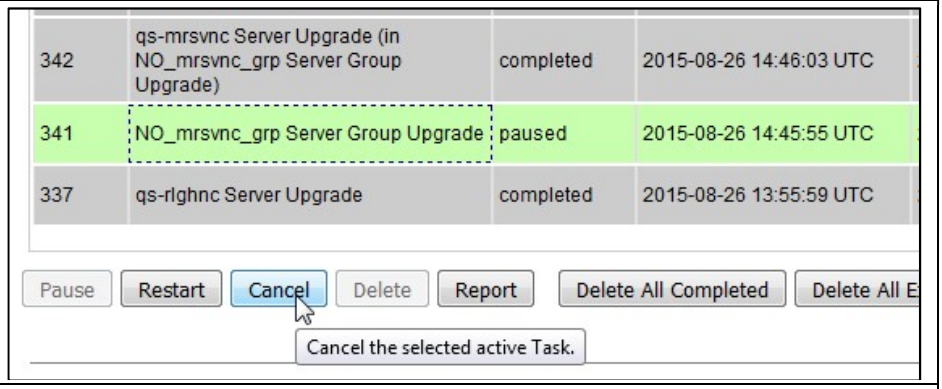
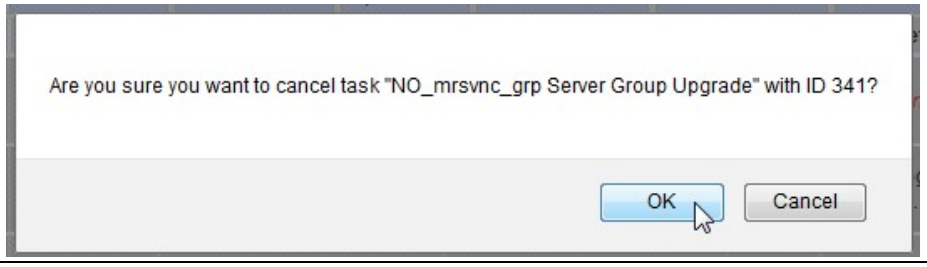
Step	Procedure	Result
1. ☐	Using **VIP** address, access the **Primary SDS NOAM GUI**.	Using **VIP** address, access the **Primary SDS NOAM GUI** as described in **Appendix A.**
2. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** → **Administration** →**Software Management** → **Upgrade** **2)** Select **Server Group** tab for the server(s) being upgraded.	
3. ☐	**Primary SDS NOAM VIP:** Verify the **"Upgrade State"** for each server undergoing SW upgrade. Identify *any Server(s) with an **"Upgrade State"** of **"Failed"**.*	

- If the **Failed Server** was upgraded using the **"Upgrade Server"** option, then **SKIP** to **Step 11** of this procedure.
- If the **Failed Server** was upgraded using the **"Auto Upgrade"** option *(i.e. Auto Server Group Upgrade)*, then **CONTINUE** to **Step 4** of this procedure.

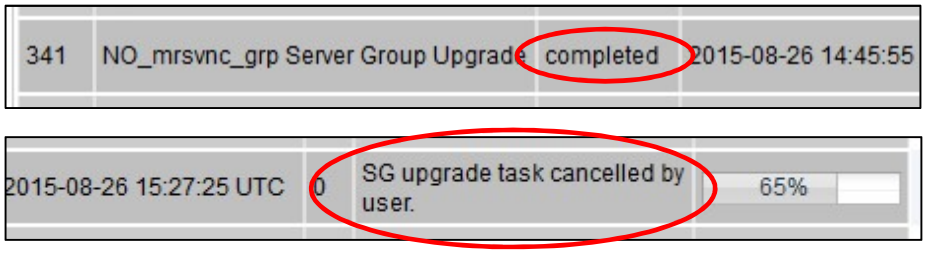
Appendix K: Recovering from a Failed Upgrade

Step	Procedure	Result
4. ☐	**Primary SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→Tasks** ***→ Active Tasks*** …as shown on the right.	
5. ☐	**Primary SDS NOAM VIP:** Filter the **"Active Tasks"** screen setting the parameters as shown. **Display Filter Values:** ***1)*** *Name* ***2)*** *Like* ***3)*** **Upgrade**	
6. ☐	**Primary SDS NOAM VIP:** Verify the **hostname** of the Primary **Active SDS NOAM** server from the GUI banner.	

Appendix K: Recovering from a Failed Upgrade

Step	Procedure	Result
7. ☐	**Primary SDS NOAM VIP:** **1)** If not auto-selected, select the **tab** displaying the **hostname** of the Primary **Active SDS NOAM** server identified in the previous step. **2)** Locate the task for the **"Server Group Upgrade"**. It will show a **Status** of **"paused"**.	
8. ☐	**Primary SDS NOAM VIP:** **1)** Select the **"Server Group Upgrade"** task with the cursor. It will become **highlighted** on the screen. **2)** Click the **"Cancel"** dialogue button to cancel the task.	
9. ☐	**Primary SDS NOAM VIP:** Click the **"OK"** button on the confirmation box.	

Appendix K: Recovering from a Failed Upgrade

Step	Procedure	Result
10. ☐	**Primary SDS NOAM VIP:** For the **"Server Group Upgrade"** task… **1)** Verify that the **Status** has changed from **"paused"** to **"completed"**. **2)** Verify that the **Result Details** column now states **"SG upgrade task cancelled by user."**	
11. ☐	**Failed Server (CLI):** Using the **XMI** address, login to the Failed Server with the **admusr** account.	CentOS release 5.7 (Final) Kernel 2.6.18-274.7.1.e15prerel5.0.0_72.32.0 on an x86_64 sds-mrsvnc-a login: **admusr** Password: ***<admusr_password>***
12. ☐	**Failed Server (CLI):** The user will be presented with output similar to that shown to the right.	***** TRUNCATED OUTPUT ***** RELEASE=6.4 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 RUNID=00 [admusr@sds-mrsvnc-a ~]$
13. ☐	**Failed Server (CLI):** Inspect the **"upgrade.log"** file to identify the reason for the failure.	[admusr@sds-mrsvnc-a ~]$ **tail /var/TKLC/log/upgrade/upgrade.log** 1439256874:: INFO: Removing '/etc/my.cnf' from RCS repository 1439256874:: INFO: Removing '/etc/pam.d/password-auth' from RCS repository 1439256874:: INFO: Removing '/etc/pam.d/system-auth' from RCS repository 1439256874:: INFO: Removing '/etc/sysconfig/network-scripts/ifcfg-eth0' from RCS repository 1439256874:: INFO: Removing '/var/lib/prelink/force' from RCS repository 1439256874::Marking task 1439256861.0 as finished. 1439256874:: 1440613685::**Early Checks failed for the next upgrade** 1440613691::**Look at earlyChecks.log for more info** 1440613691:: [admusr@sds-mrsvnc-a ~]$

Appendix K: Recovering from a Failed Upgrade

Step	Procedure	Result

14. ☐	**Failed Server (CLI):**
	If the **"earlyChecks.log"** file is identified as the source, look for the Errors contained in that file.
		`[admusr@sds-mrsvnc-a upgrade]$ grep ERROR /var/TKLC/log/upgrade/earlyChecks.log`
		
		`ERROR: There are alarms on the system!`
		`ERROR: <<<  OUTPUT  >>>`
		`ERROR:  SEQ: 15 UPTIME: 2070747 BIRTH: 1438969736 TYPE: SET ALARM:`
		`TKSPLATMI10|tpdNTPDaemonNotSynchronizedWarning|1.3.6.1.4.1.323.5.3.18.3.1.3.10|32509|Communications|Communications Subsystem Failure`
		`ERROR: <<< END OUTPUT >>>`
		`ERROR: earlyUpgradeChecks() code failed for Upgrade::EarlyPolicy::TPDEarlyChecks`
		`ERROR: Failed running earlyUpgradeChecks() code`
		`ERROR: Early Upgrade Checks Failed!`
		`[admusr@sds-mrsvnc-a upgrade]$`

	• Although outside of the scope of this document, the user is expected to use standard troubleshooting techniques to clear the alarm condition from the Failed Server. • If troubleshooting assistance is needed, it is recommended to contact MOS as described in Appendix Q - Accessing My Oracle Support (MOS). • **DO NOT PROCEED TO STEP 15 OF THIS PROCEDURE UNTIL THE ALARM CONDITION HAS BEEN CLEARED!**	
15. ☐	**Failed Server (CLI):** Use the **alarmMgr** utility to verify that all **Platform** alarms have been cleared from the system.	`[admusr@sds-mrsvnc-b ~]$ alarmMgr -alarmStatus` `[admusr@sds-mrsvnc-b ~]$`
16. ☐	**Failed Server (CLI):** Exit the **CLI** for the Failed Server.	`[admusr@sds-mrsvnc-a ~]$ exit` `logout`
17. ☐	**Primary SDS NOAM VIP (GUI):** Re-execute the Server Upgrade. **NOTE:** *Once failed, the Auto Server Group Upgrade (i.e. **Auto Upgrade**) option should not be repeated for that Server Group.*	• **Return to the referring Upgrade procedure and re-execute SW Upgrade for the Failed Server using the "Upgrade Server" option Only!**
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix L Activating Subscriber Timestamp

If the customer intends to use the Subscriber Timestamp feature, it must be activated by this procedure once the upgrade is complete and accepted. This procedure is to be executed only after a major upgrade from SDS 5.0 or 7.1 to SDS 8.0. This procedure is not necessary for an 8.0 incremental upgrade.

This procedure should be executed only after the upgrade to SDS 7.2 / 7.3 / 8.0 is Accepted.

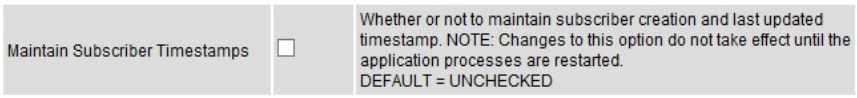
Do not execute this procedure if the Subscriber Timestamp feature will not be used.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Appendix L: Activating Subscriber Timestamp

Step	Procedure	Result
1. ☐	**Primary SDS NOAM VIP (CLI):** Using the **VIP** address, login to the **"Active" Primary SDS NOAM** with the **admusr** account.	CentOS release 5.7 (Final) Kernel 2.6.18-274.7.1.e15prerel5.0.0_72.32.0 on an x86_64 sds-rlghnc-a login: **admusr** Password: ***<admusr_password>***
2.	**Primary SDS NOAM VIP (CLI):** The user will be presented with output similar to that shown to the right.	***** TRUNCATED OUTPUT ***** RELEASE=6.4 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 RUNID=00 [admusr@sds-rlghnc-a ~]$
3.	**Primary SDS NOAM VIP (CLI):** Activate the Subscriber Timestamp feature **Note: The Subscriber Timestamp feature can be deactivated with the "deactivate" parameter if desired.**	[admusr@sds-rlghnc-a ~]$ **sdsSubscriberTimestamp activate**
4.	**Primary SDS NOAM VIP (CLI):** The user will be presented with output similar to that shown to the right.	[admusr@ sds-rlghnc-a ~]$ sdsSubscriberTimestamp activate [Fri Dec 4 00:07:25 EST 2015 :: sdsSubscriberTimestamp] Ha status is Active. Checking Cluster State. [Fri Dec 4 00:07:25 EST 2015 :: sdsSubscriberTimestamp] Ha Cluster status is Primary. [Fri Dec 4 00:07:25 EST 2015 :: sdsSubscriberTimestamp] Feature is activated successfully

5.	**Primary SDS NOAM VIP (GUI):** When it is desired to enable the timestamp feature, Select… **Main Menu** **→ SDS** **→Configuration** **→ Options** Select the **Maintain Subscriber Timestamps** checkbox.	
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix M Adding NEW SOAM Profile on Existing VM

STOP !

The procedures in this appendix can be run ONLY AFTER the SDS has been upgraded to Release 8.0, and the upgrade has been accepted

STOP !

Updating the SOAM VM Profile is an independent procedure from the SDS upgrade and should be scheduled in a separate Maintenance Window

The procedures in this appendix provide the instructions necessary to update the SOAM VM profile to support 1 billion subscribers. **This appendix applies only to systems that have been upgraded to Release 8.0. The upgrade must be accepted prior to initiating these procedures.**

The SOAM VMs are updated with the new profile using the following sequence:

1. Add the SDS 8.0 ISO to the PMAC repository (Procedure 11)
2. Remove the SOAM from the SOAM server group (Procedure 12)
3. Delete the existing SOAM VM (Procedure 13)
4. Recreate the SOAM VM with the new profile (Procedure 13)
5. Add the new SOAM VM to the SOAM server group (Procedure 14)

In order to access the 1 billion subscriber VM profile, the SDS 8.0 ISO must be available in the PMAC software repository. Procedure 11 copies the SDS 8.0 ISO from the SDS to the PMAC, and adds the image to the repository.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 11: Add SDS software images to PMAC server

Step	Procedure	Result

1.	**Active SDS VIP (CLI):**
	1) Access the command prompt.
	2) Log into the server as the "**admusr**" user.
		`login: admusr`
		`Using keyboard-interactive authentication.`
		`Password: <admusr_password>`
		
		`$`

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

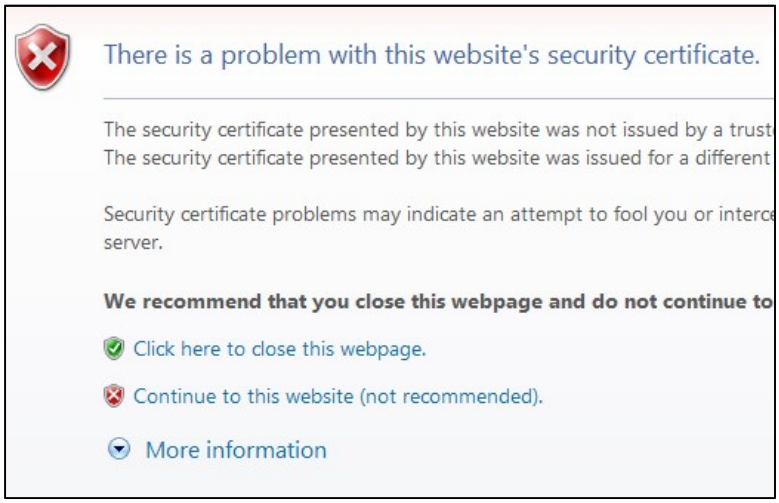
SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 11: Add SDS software images to PMAC server

Step	Procedure	Result
2.	**Active SDS VIP (CLI):** **"cd"** into the /var/TKLC/upgrade/ directory.	`$ cd /var/TKLC/upgrade/` `$`

3.	**Active SDS VIP (CLI):**
	Verify that the **SDS ISO** file is present.
		`$ ls`
		`SDS-8.0.0.0.0_80.22.0-x86_64.iso`
		`$`

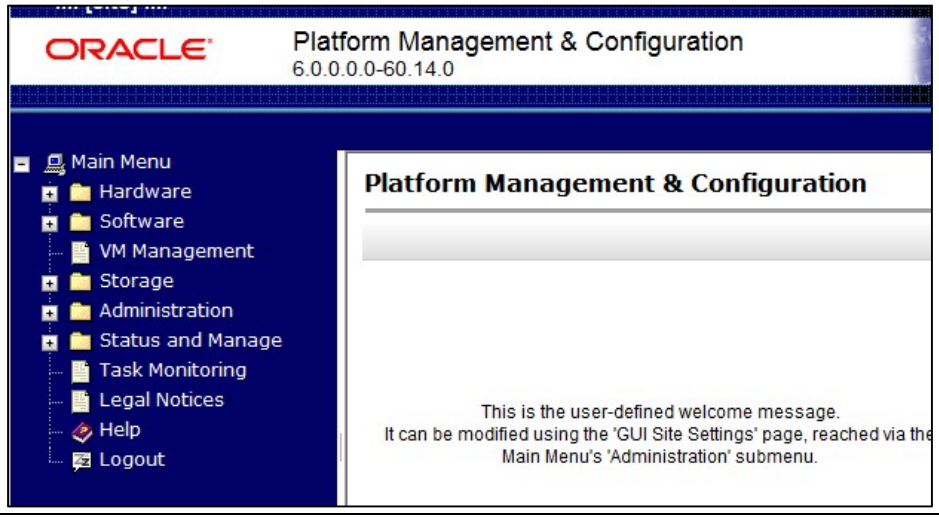
4.	**Active SDS VIP (CLI):**
	"scp" the **SDS ISO** file to the PMAC Server as shown to the right..
		`$ scp -p SDS-8.0.0.0.0_80.22.0-x86_64.iso admusr@<PMAC_Mgmt_IP_address>:/var/TKLC/upgrade/`
		`Password: <admusr_password>`
		`SDS-8.0.0.0.0_80.22.0-x86_64.iso 100% 853MB 53.3MB/s 00:16`
		`$`

5. ☐	**PMAC Server GUI:** Launch an approved web browser and connect to the **Mgmt IP Address** of the PMAC Guest server at the SOAM site. **NOTE:** *If presented with the "security certificate" warning screen shown to the right, choose the following option:* ***"Continue to this website (not recommended)".***	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

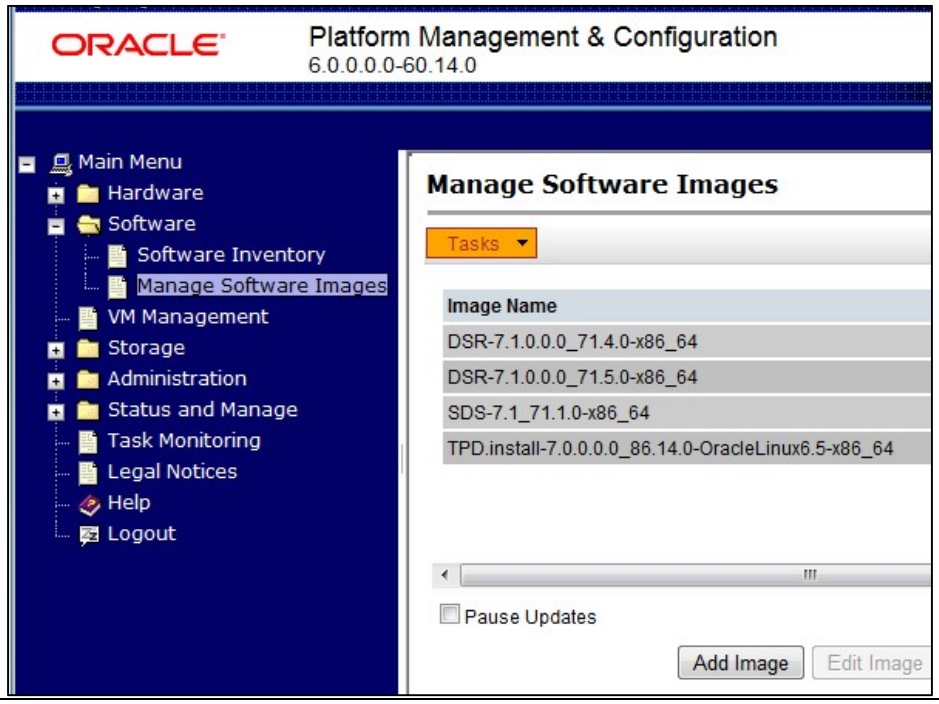
Procedure 11: Add SDS software images to PMAC server

Step	Procedure	Result
6. ☐	**PMAC Server GUI:** The user should be presented the login screen shown on the right. Login to the PMAC using the default user and password.	
7. ☐	**PMAC Server GUI:** The user should be presented the PMAC Main Menu as shown on the right.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

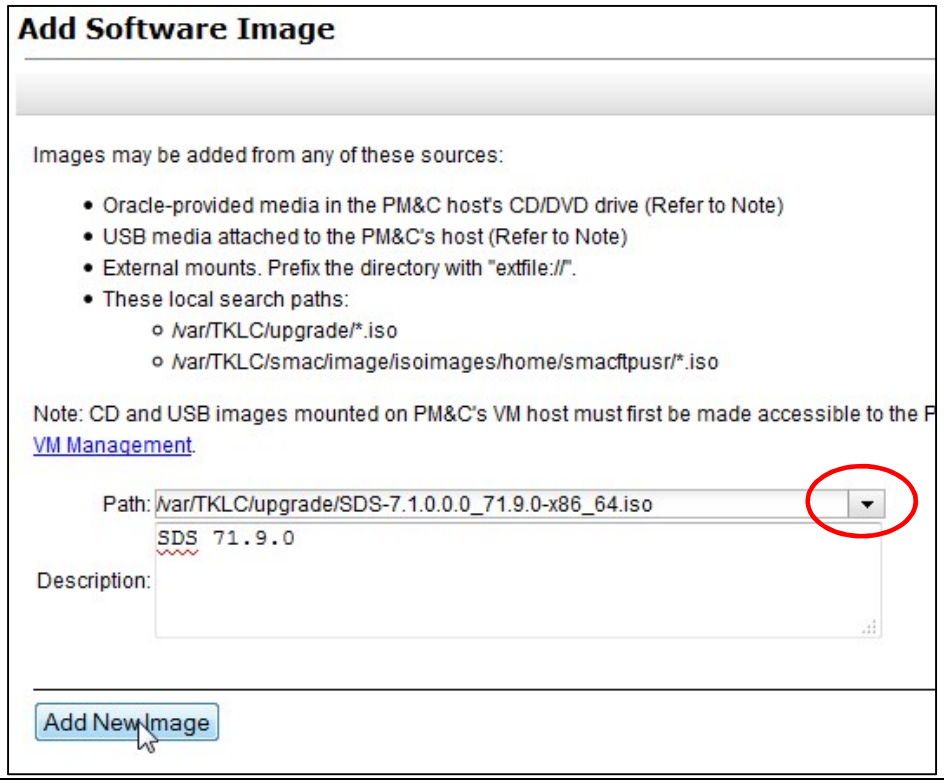
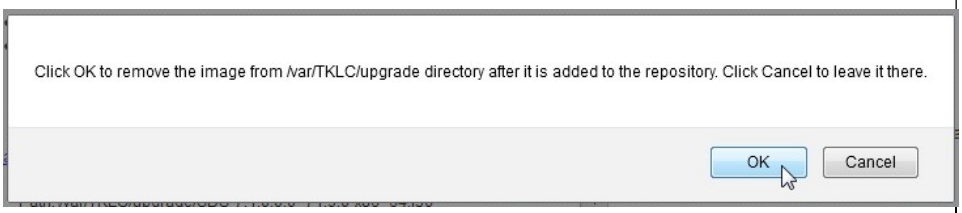
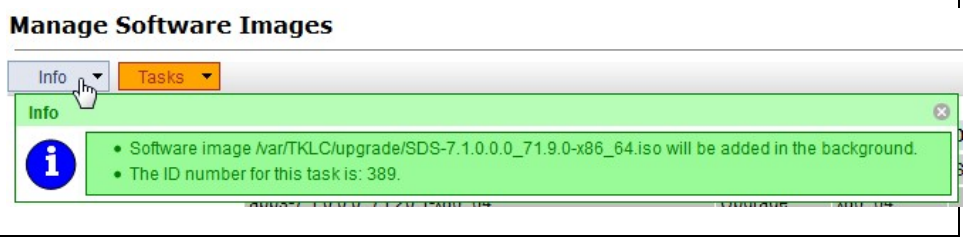
Procedure 11: Add SDS software images to PMAC server

Step	Procedure	Result
8. ☐	**PMAC Server GUI:** Select… **Main Menu** **→ Software** **→ *Manage Software Images*** …as shown on the right. **2)** Select the **"Add Image"** button	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 11: Add SDS software images to PMAC server

Step	Procedure	Result
9. ☐	**PMAC Server GUI:** • Click the **"Path:"** pull-down menu and select the **SDS ISO** file from the /var/TKLC/upgrade directory. • Use the **last 3 places** of the **SDS release number** to add a comment in the **Description** field. • Click the **"Add New Image"** dialogue button.	
10.	**PMAC Server GUI:** Click the **"OK"** button on the confirmation dialogue box to remove the source image after it has been successfully added to the SW Inventory.	
11. ☐	**PMAC Server GUI:** An info message will be raised to show a new background task.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 11: Add SDS software images to PMAC server

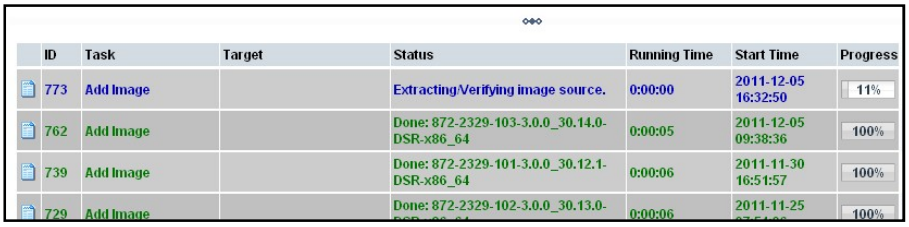
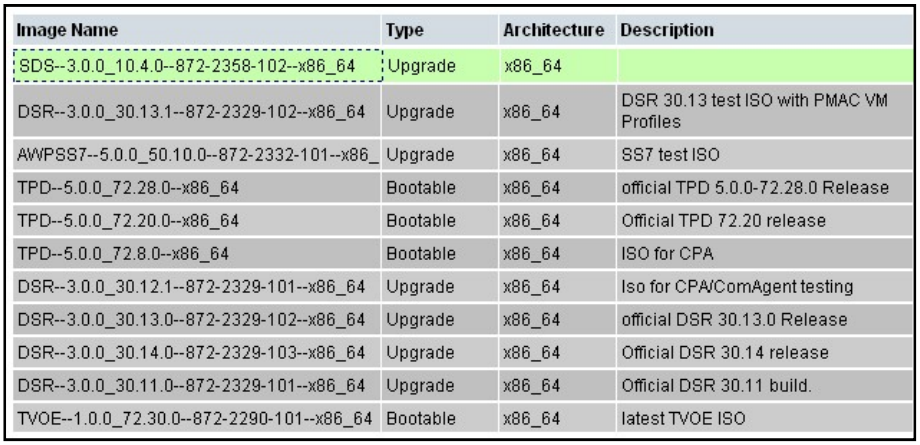
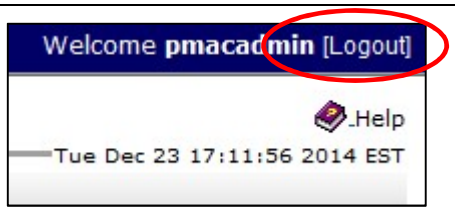
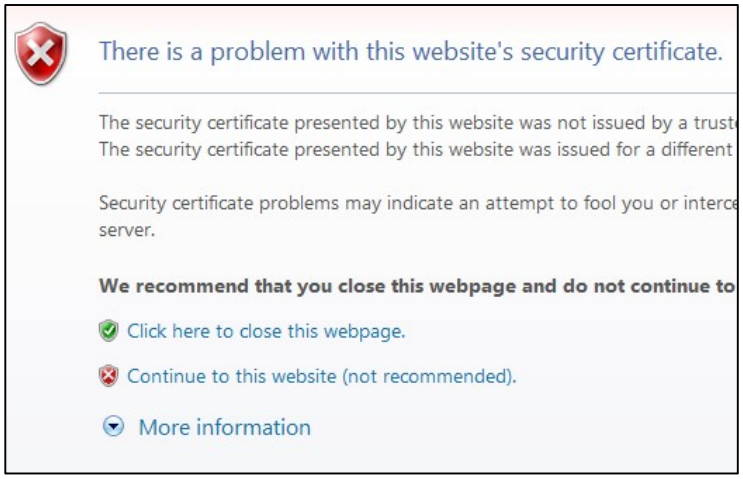
Step	Procedure	Result
12. ☐	**PMAC Server GUI:** Watch the extraction progress in the lower task list on the same page.	
13. ☐	**PMAC Server GUI:** When the extraction task is complete, a new software image will be displayed.	
14. ☐	**PMAC Server GUI:** Click the **"Logout"** link on the PMAC server GUI.	
15.	SDS Health Check	Execute SDS Health Check procedures as specified in **Appendix B**.
THIS PROCEDURE HAS BEEN COMPLETED		

Image Name	Type	Architecture	Description
SDS--3.0.0_10.4.0--872-2358-102--x86_64	Upgrade	x86_64	
DSR--3.0.0_30.13.1--872-2329-102--x86_64	Upgrade	x86_64	DSR 30.13 test ISO with PMAC VM Profiles
AWPSS7--5.0.0_50.10.0--872-2332-101--x86_	Upgrade	x86_64	SS7 test ISO
TPD--5.0.0_72.28.0--x86_64	Bootable	x86_64	official TPD 5.0.0-72.28.0 Release
TPD--5.0.0_72.20.0--x86_64	Bootable	x86_64	Official TPD 72.20 release
TPD--5.0.0_72.8.0--x86_64	Bootable	x86_64	ISO for CPA
DSR--3.0.0_30.12.1--872-2329-101--x86_64	Upgrade	x86_64	Iso for CPA/ComAgent testing
DSR--3.0.0_30.13.0--872-2329-102--x86_64	Upgrade	x86_64	official DSR 30.13.0 Release
DSR--3.0.0_30.14.0--872-2329-103--x86_64	Upgrade	x86_64	Official DSR 30.14 release
DSR--3.0.0_30.11.0--872-2329-101--x86_64	Upgrade	x86_64	Official DSR 30.11 build.
TVOE--1.0.0_72.30.0--872-2290-101--x86_64	Bootable	x86_64	latest TVOE ISO

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

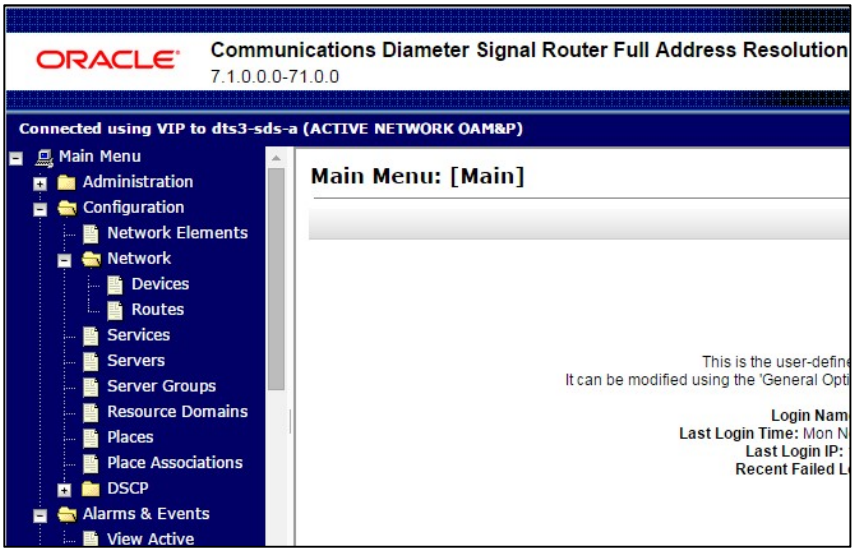
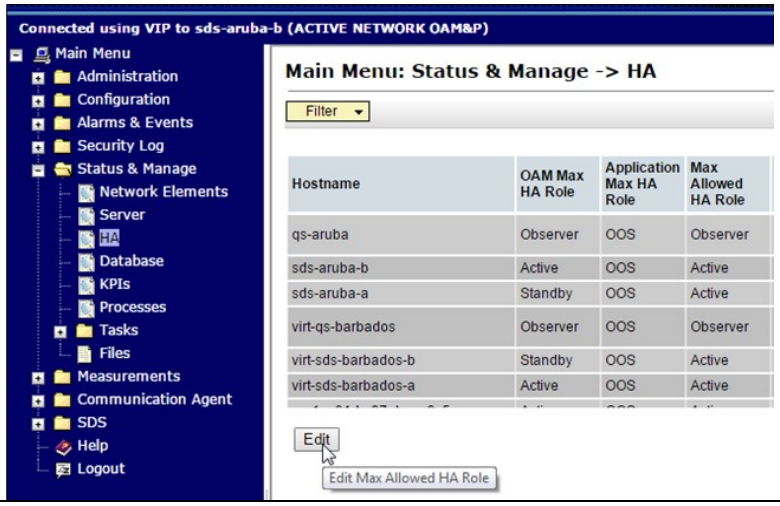
Procedure 12: Removing the SDS SOAM VM from the SOAM Server Group

Step	Procedure	Result
1. ☐	**Primary NOAM VIP:** Launch an approved web browser and connect to the NOAM VIP address **NOTE:** *If presented with the "security certificate" warning screen shown to the right, choose the following option:* ***"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 the default user and password.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 12: Removing the SDS SOAM VM from the SOAM Server Group

Step	Procedure	Result
3. ☐	**Primary NOAM VIP:** The user should be presented the NOAM Main Menu as shown on the right.	
4.	**Primary SDS NOAM VIP:** Select… **Main Menu → Status & Manage → HA** …as shown on the right. Click on the "**Edit**" dialogue button.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

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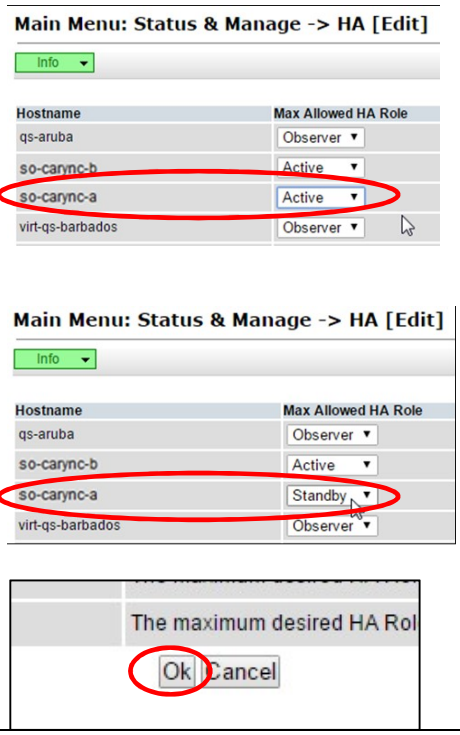
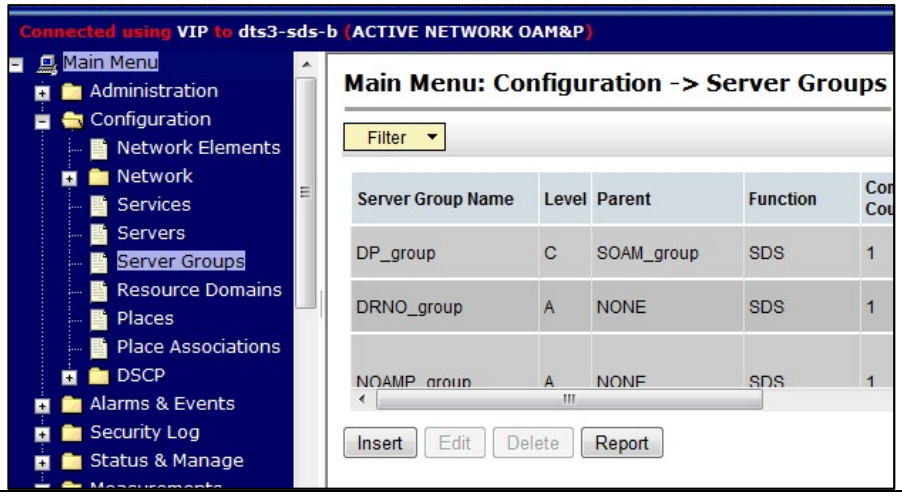
Procedure 12: Removing the SDS SOAM VM from the SOAM Server Group

Step	Procedure	Result
5.	**Primary SDS NOAM VIP:** Select the **"Active" Primary SDS SOAM** server and change a **Max Allowed HA Role** value from **"Active"** to **"Standby".** Press the "**Ok**" button. Then on the next screen	
6. ☐	**Primary NOAM VIP:** Select… **<u>Main Menu</u>** **→ Configuration** **→ *Server Groups*** …as shown on the right.	

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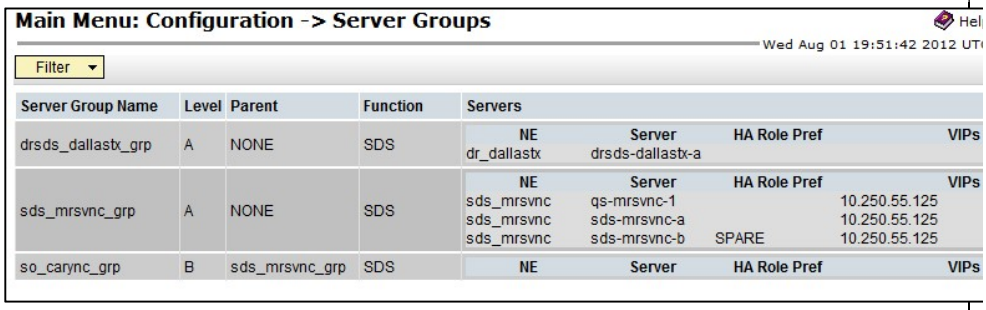
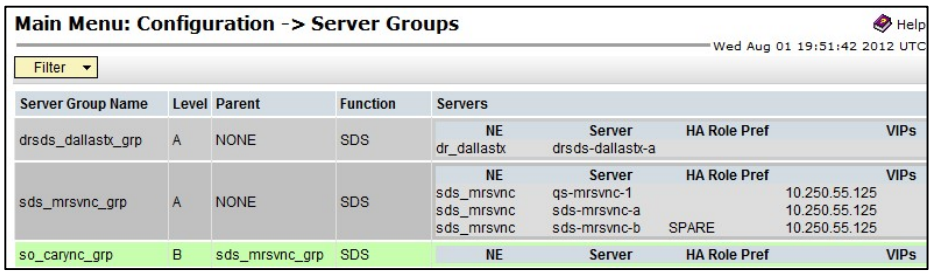
Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

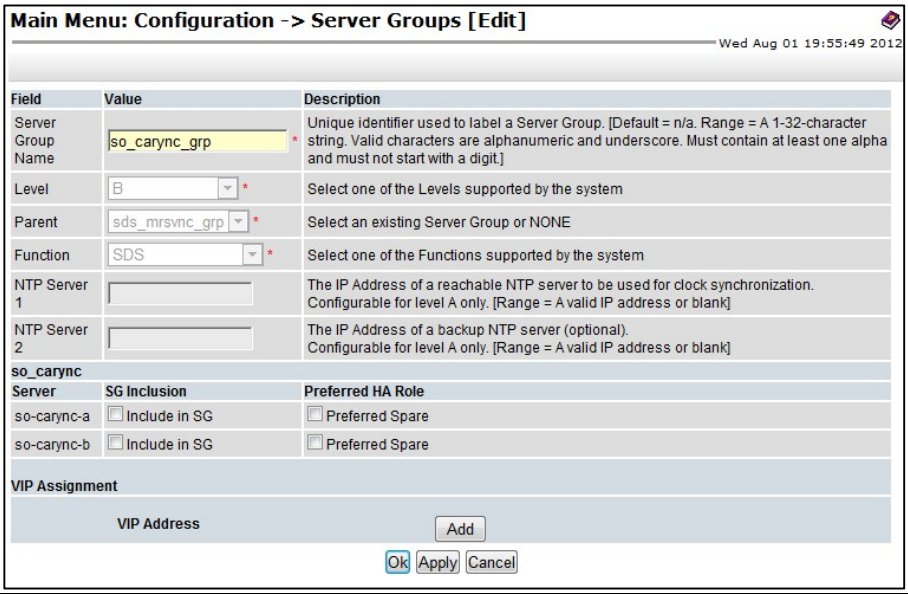
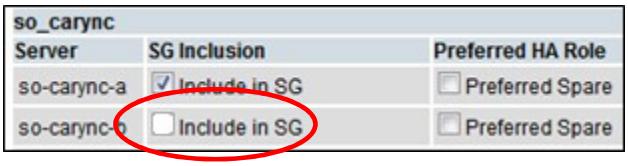
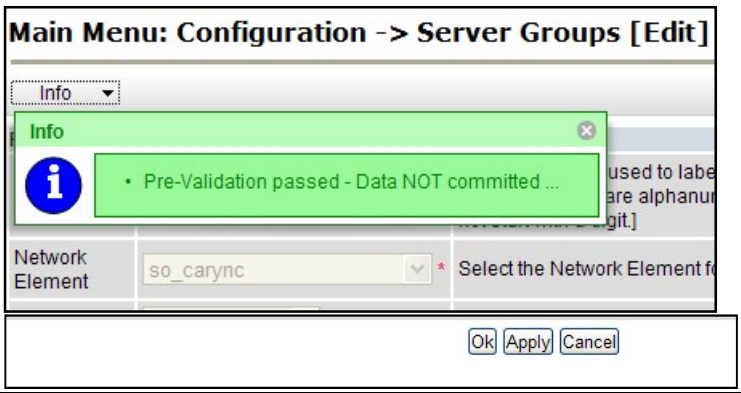
Procedure 12: Removing the SDS SOAM VM from the SOAM Server Group

Step	Procedure	Result
7. ☐	**Primary NOAM VIP:** The **Server Group** entry should be shown on the **"Server Groups"** configuration screen as shown on the right.	
8. ☐	**Primary NOAM VIP:** • Select the row containing the **Server Group** with the **SOAM server** to be converted to the **1B Subscriber profile**. The line entry should now be highlighted in **GREEN**. • Select the **"Edit"** dialogue button from the bottom left corner of the screen. **NOTE:** *The user may need to use the vertical scroll-bar in order to make the **"Edit"** dialogue button visible.*	 

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 12: Removing the SDS SOAM VM from the SOAM Server Group

Step	Procedure	Result
9. ☐	**Primary NOAM VIP:** User will be presented with the **"Server Groups [Edit]"** screen as shown on the right.	
10. ☐	**Primary NOAM VIP:** Remove the **Checkmark** from the **Check Box** to the left of the **SOAM server** name that you wish to remove from the **Server Group**.	
11. ☐	**Primary NOAM VIP:** User should be presented with a banner information message stating **"Pre-Validation passed"**. Select the **"Apply"** dialogue button.	

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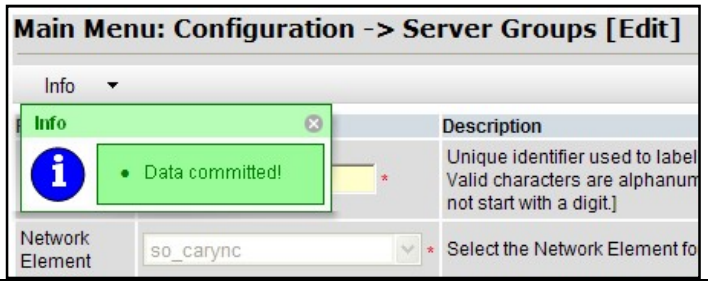
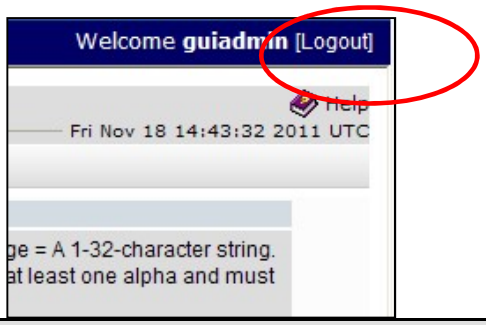
Procedure 12: Removing the SDS SOAM VM from the SOAM Server Group

Step	Procedure	Result
12. ☐	**Primary NOAM VIP:** The user should be presented with a banner information message stating **"Data committed"**.	
13. ☐	**Primary NOAM VIP:** Click the **"Logout"** link on the SDS server GUI.	
THIS PROCEDURE HAS BEEN COMPLETED		

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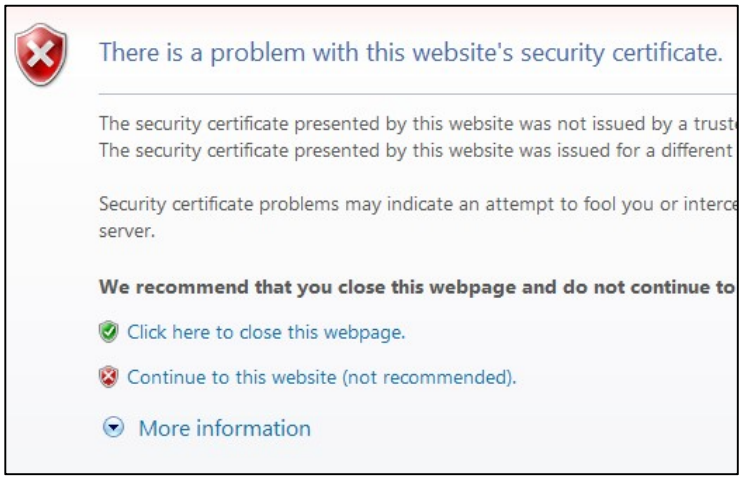
Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
1. ☐	**PMAC Server GUI:** Launch an approved web browser and connect to the PMAC GUI address **NOTE:** *If presented with the "security certificate" warning screen shown to the right, choose the following option:* ***"Continue to this website (not recommended)".***	
2. ☐	**PMAC Server GUI:** The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	

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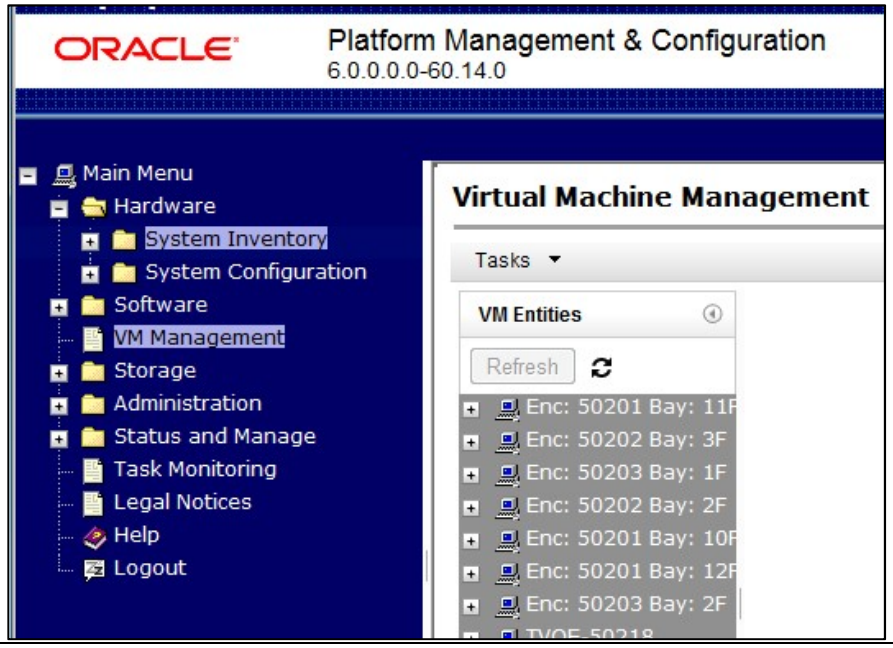
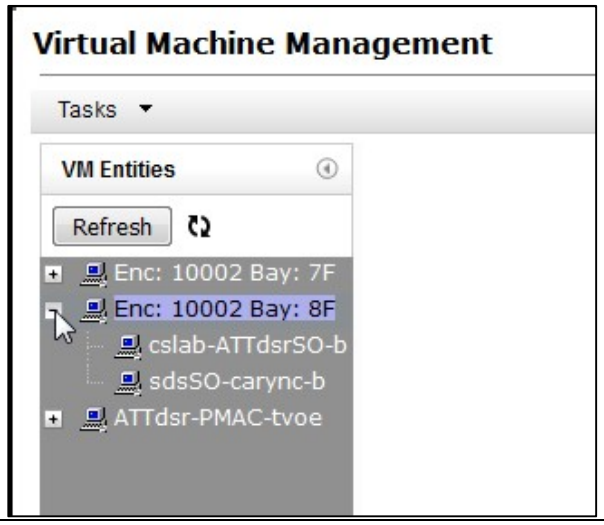
Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
3. ☐	**PMAC Server GUI:** Select … **Main Menu → VM Management** …as shown on the right.	
4. ☐	**PMAC Server GUI:** In the **VM Entities** box, click the **plus sign (+)** to expand the folder for the **OAM blade** containing the **SOAM VM** to be converted to the **1B Subscriber profile**. …as shown on the right.	

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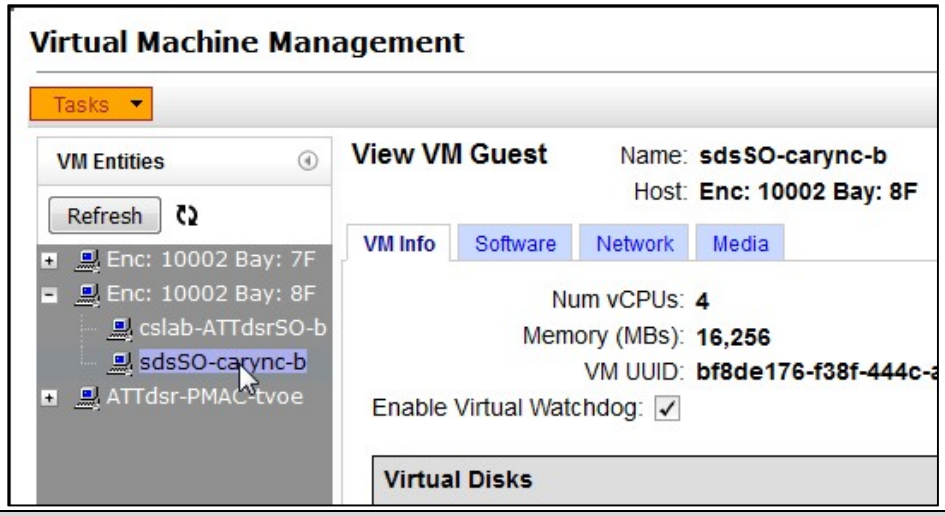
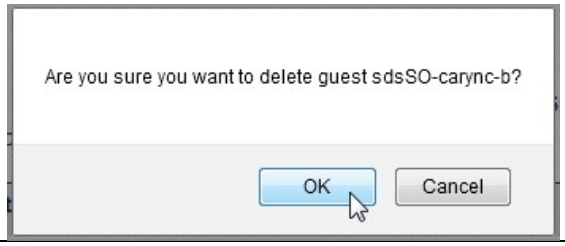
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
5. ☐	**PMAC Server GUI:** Click on the **SOAM VM** to be converted to the **1B Subscriber profile**.	
	THE USER SHOULD MAKE ALL POSSIBLE ATTEMPTS TO VERIFY THAT THE CORRECT SDS SOAM VM IS SELECTED AS THE NEXT STEP WILL DELETE THE VM FROM THE OAM BLADE. **IT IS IMPERATIVE THAT ONLY THE SDS SOAM VM REMOVED FROM THE SERVER GROUP IN Procedure 12 BE SELECTED FOR DELETION AT THIS TIME.**	
6. ☐	**PMAC Server GUI:** Click the **"Delete"** dialogue button in the bottom of the right panel. Click **"OK"** on the pop-up confirmation box.	 

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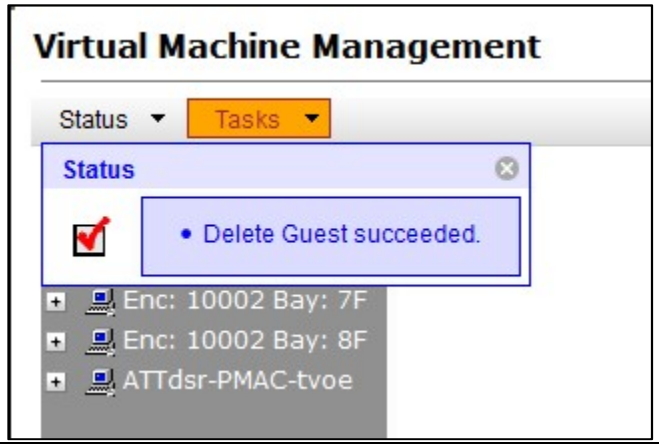
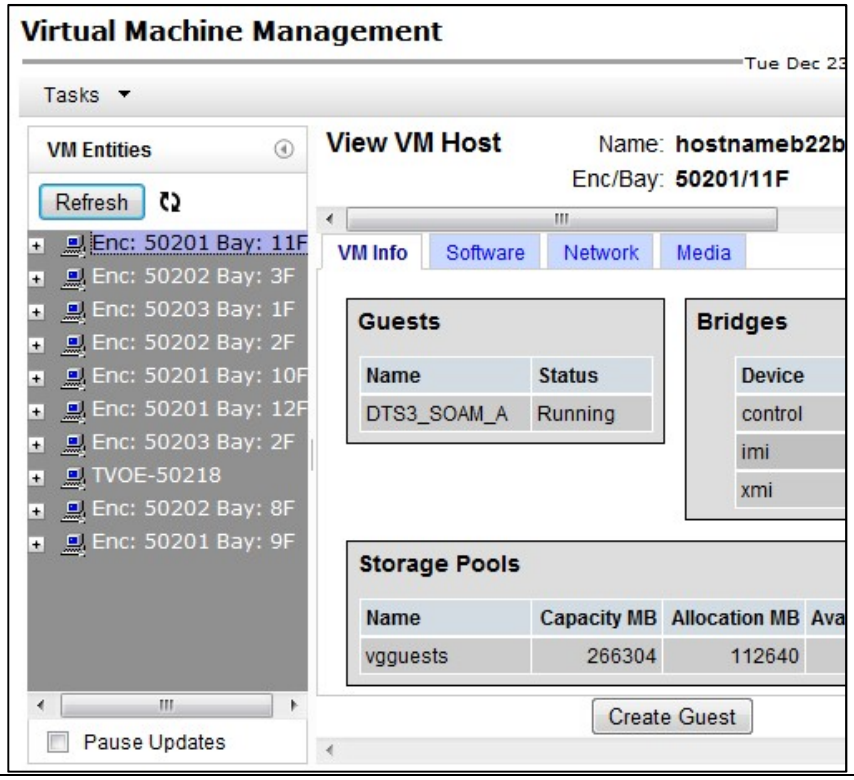
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
7. ☐	**PMAC Server GUI:** **Wait several seconds** *(up tp 1 minute)* for the deletion of the VM to complete and the screen should refresh with a **"Delete Guest succeeded."** Confirmation banner.	
8. ☐	**PMAC Server GUI:** In the **VM Entities** box, select the **OAM blade** containing the **SOAM VM** to be converted to the **1B Subscriber profile**. …as shown on the right. Click the "**Create Guest**" dialogue button	

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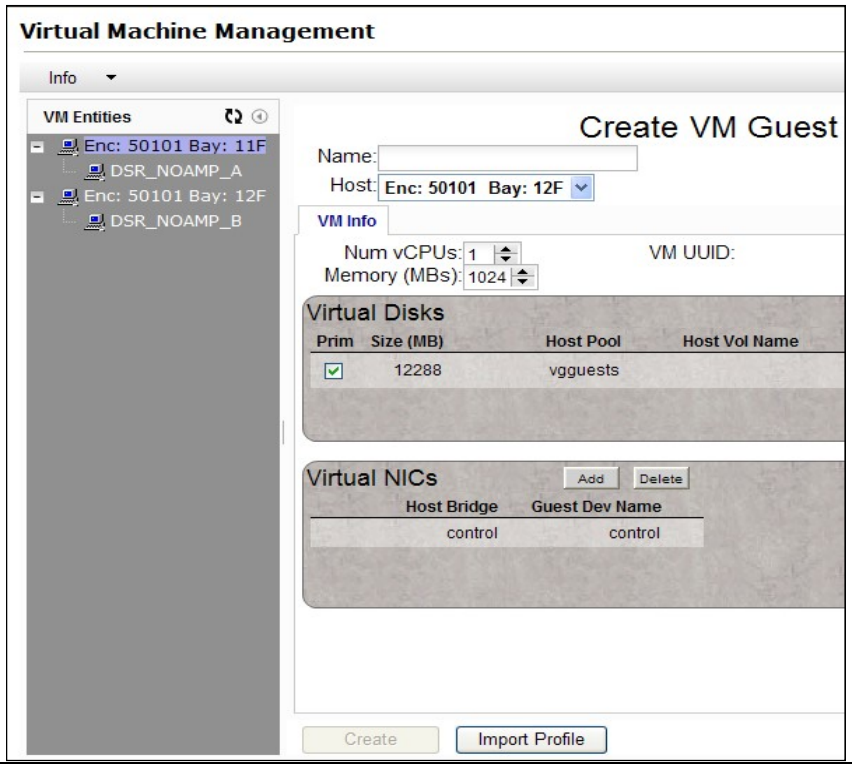
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
9. ☐	**PMAC Server GUI:** Click the "**Import Profile**" dialogue button …as shown on the right.	

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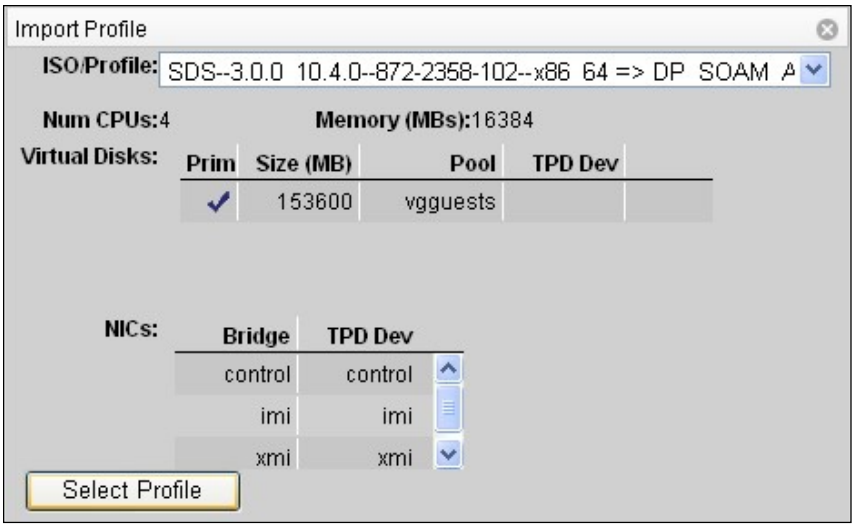
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

<table>
<tr><th>Step</th><th>Procedure</th><th>Result</th></tr>
<tr><td>10.
☐</td><td>PMAC Server GUI:
Select the desired ISO/Profile value

…as shown on the right.

Click the “Select Profile” dialogue button</td><td>From the “ISO/Profile” drop-down box, select the entry that matches depending on the hardware that your SOAM VM TVOE server is running:

<table>
<tr><th>Release</th><th>OAM Blade HW Type</th><th>ISO File</th><th>Profile</th></tr>
<tr><td>SDS 7.1</td><td>HP BL460 G6</td><td>7.1.1.0.0_xx.xx.xx-x86_64</td><td>DP_SOAM_A
DP_SOAM_B</td></tr>
<tr><td>SDS 7.1</td><td>HP BL460 Gen8/Gen9</td><td>7.1.1.0.0_xx.xx.xx-x86_64</td><td>DP_SOAM_A
DP_SOAM_B</td></tr>
<tr><td>SDS 7.2</td><td>HP BL460 G6</td><td>7.2.0.0.0_xx.xx.xx-x86_64</td><td>Not Supported</td></tr>
<tr><td>SDS 7.2</td><td>HP BL460 Gen8/Gen9</td><td>7.2.0.0.0_xx.xx.xx-x86_64</td><td>DP_SOAM_1B_RE</td></tr>
<tr><td>SDS 7.3</td><td>HP BL460 G6</td><td>7.3.0.0.0_xx.xx.xx-x86_64</td><td>Not Supported</td></tr>
<tr><td>SDS 7.3</td><td>HP BL460 Gen8/Gen9</td><td>7.3.0.0.0_xx.xx.xx-x86_64</td><td>DP_SOAM_1B_RE</td></tr>
<tr><td>SDS 8.0</td><td>HP BL460 Gen8/Gen9</td><td>8.0.0.0.0_xx.xx.xx-x86_64</td><td>DP_SOAM_1B_RE</td></tr>
</table>

 
</td></tr>
</table>

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

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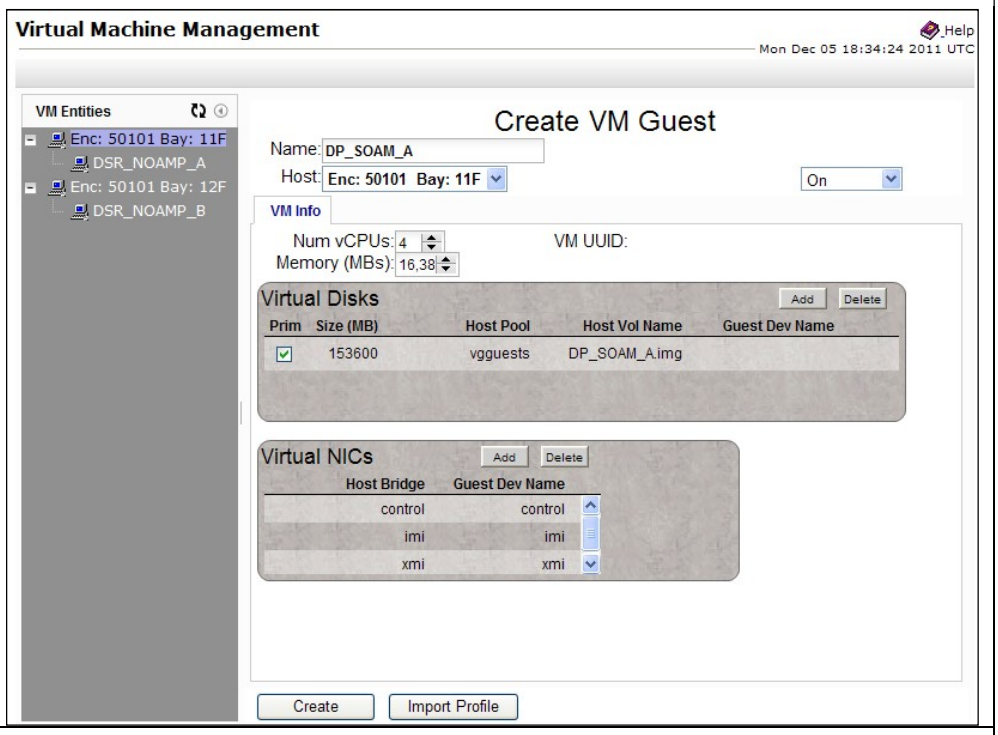
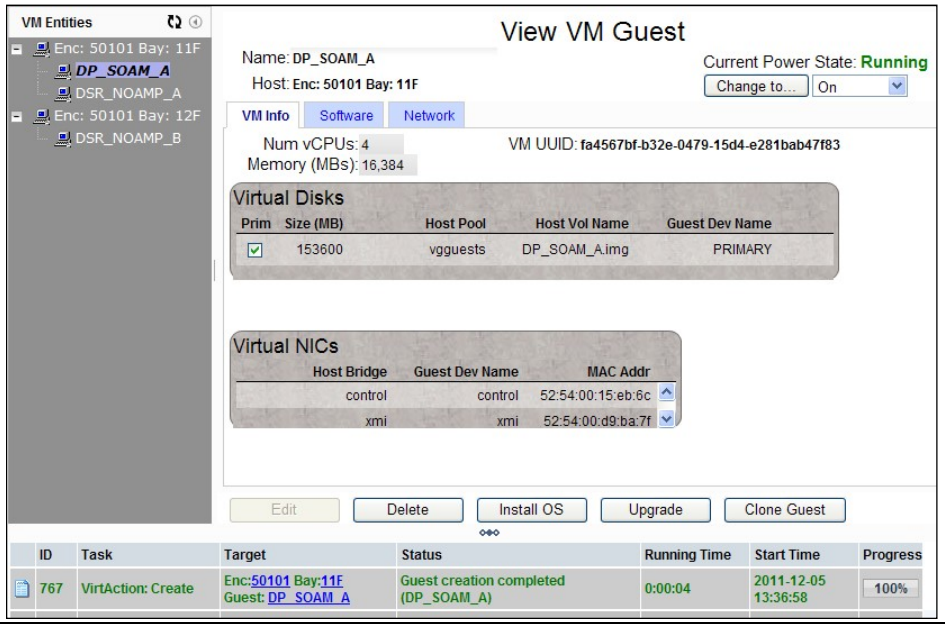
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
11. ☐	**PMAC Server GUI:** **1)** Overwrite the **Name** field with the Server host name (e.g." so-mrsvnc-a") **2)** Click the **"Create"** dialogue button **NOTE:** *If the VM Guest creation fails due to error **"Host resources are oversubscribed."**, then contact **My Oracle Support (MOS)** for assistance*	
12. ☐	**PMAC Server GUI:** Verify that task successfully completes. The user should see a screen similar to the one on the right with **Progress** value of **100%**.	

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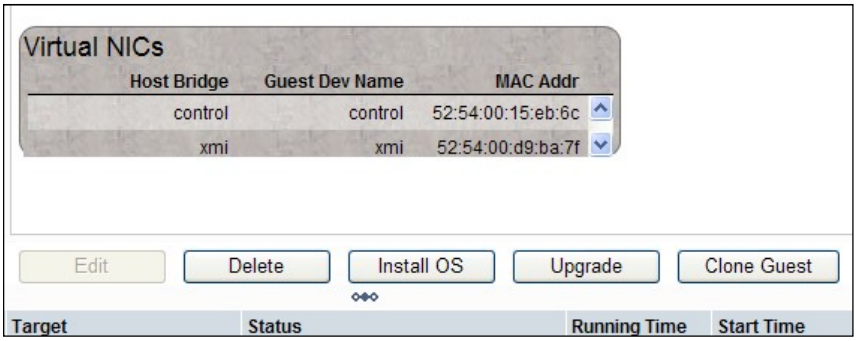
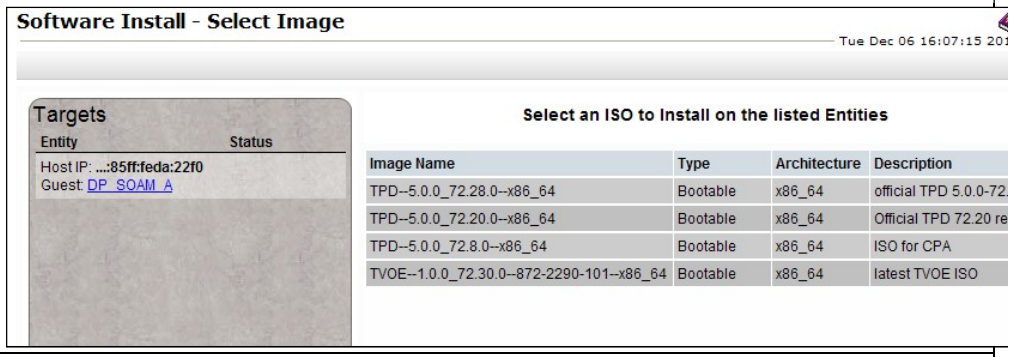
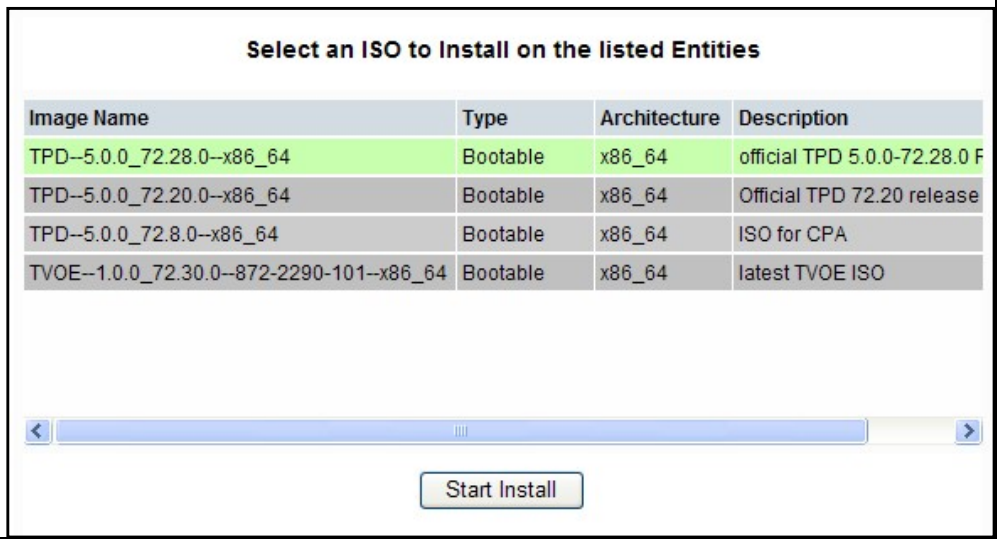
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
13. ☐	**PMAC Server GUI:** Install the operating system by clicking the **"Install OS"** dialogue button	
14. ☐	**PMAC Server GUI:** The user should see a screen similar to the one on the right.	
15. ☐	**PMAC Server GUI:** **1)** Select the desired **TPD Image** **2)** Click the **"Start Install"** dialogue button.	

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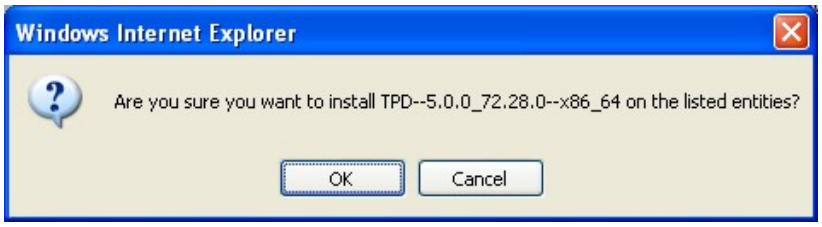
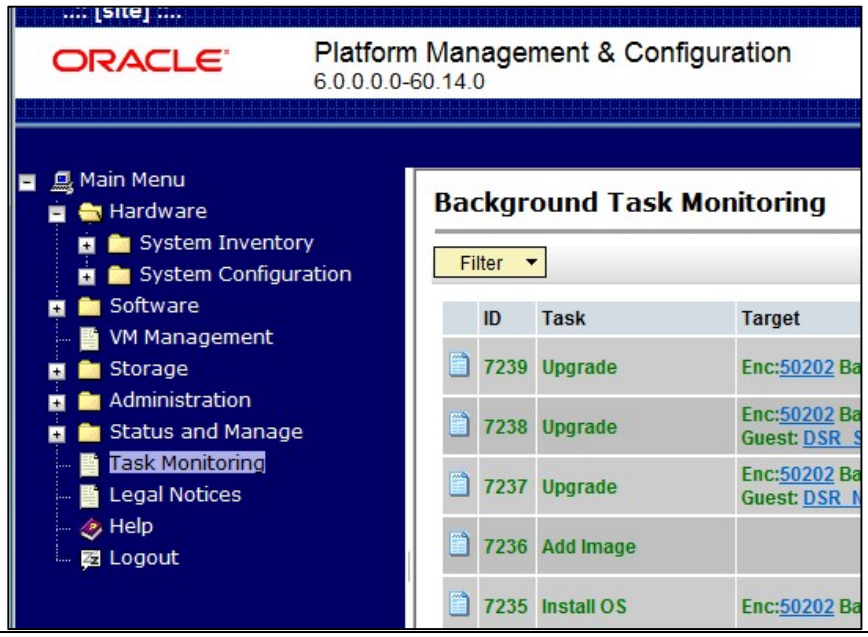
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
16. ☐	**PMAC Server GUI:** The user should be presented with an "**Are you sure you want to install**" message box as shown on the right. Click the "**OK**" dialogue button.	
17. ☐	**PMAC Server GUI:** An installation task will be started. This task takes ~11 minutes. The user can monitor this task by doing the following: Select… **<u>Main Menu</u> → Task Monitoring** Wait until you see the **Progress** value equal **100%**.	

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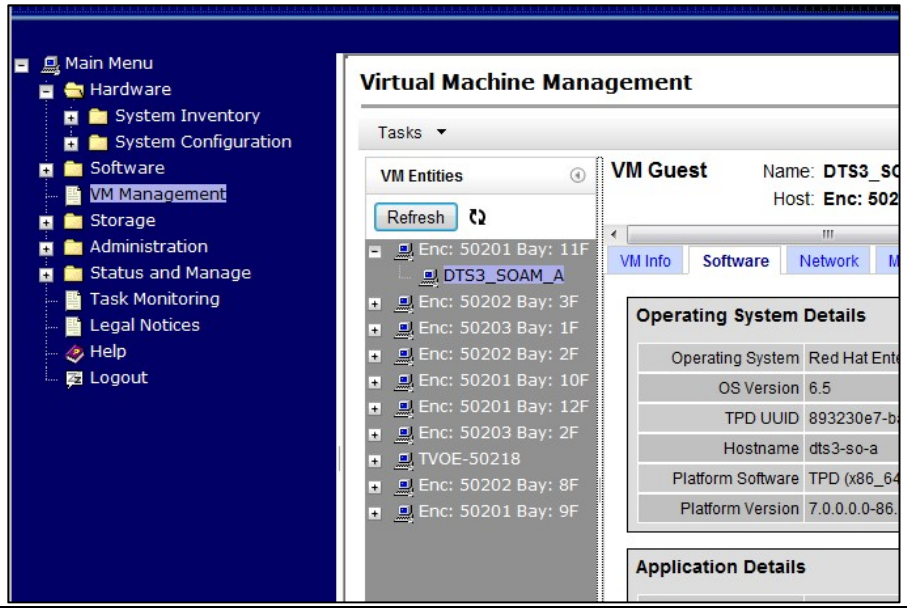
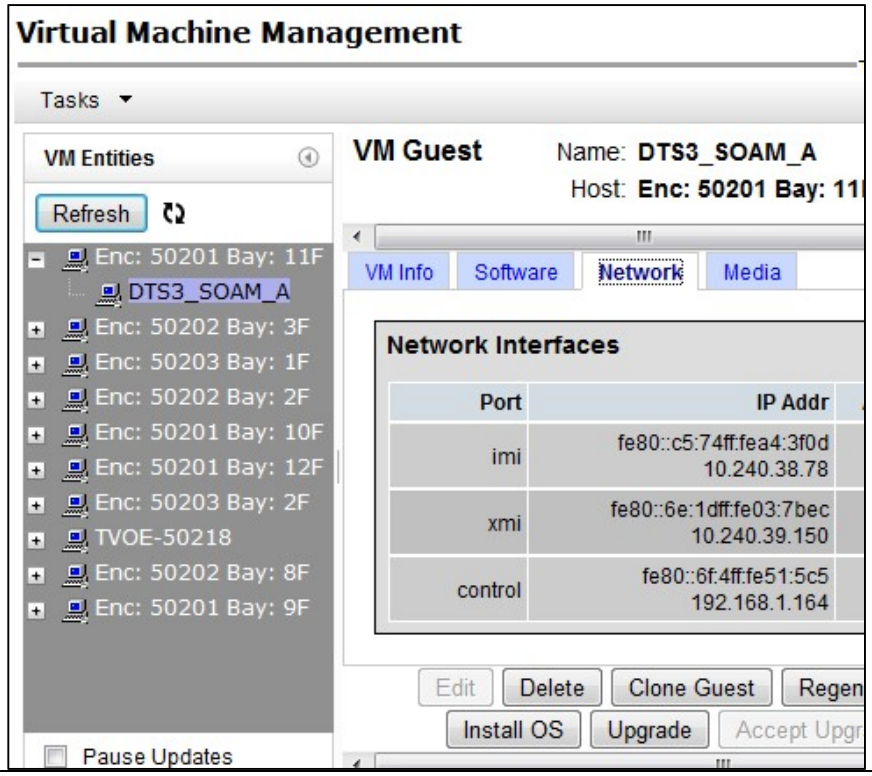
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
18. ☐	**PMAC Server GUI:** **1)** Select… **Main Menu → VM Management** **2)** Select the **"Software"** tab **3)** Verify the operating system has been installed. **4)** Verify the "**Application Details**" section is blank.	
19. ☐	**PMAC Server GUI:** **1)** Select the **"Network"** tab **2) Record** the **control IP address** for this **SOAM VM**; it will be referenced later. **3)** Select the "**Upgrade**" dialogue button	

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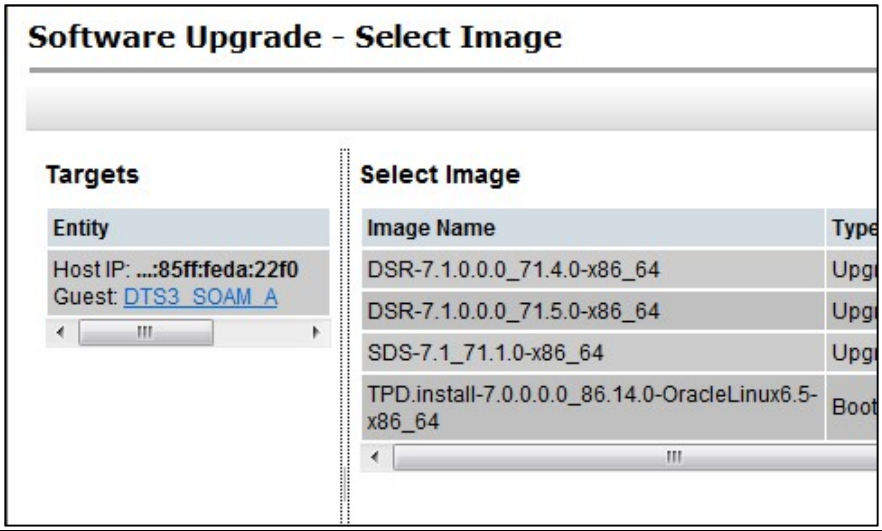
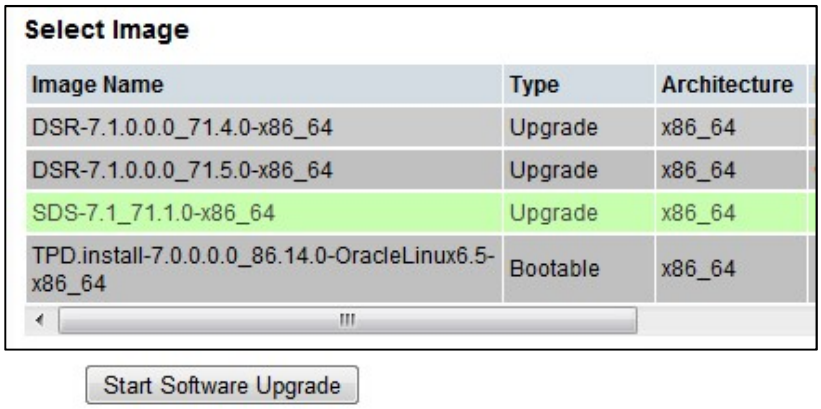
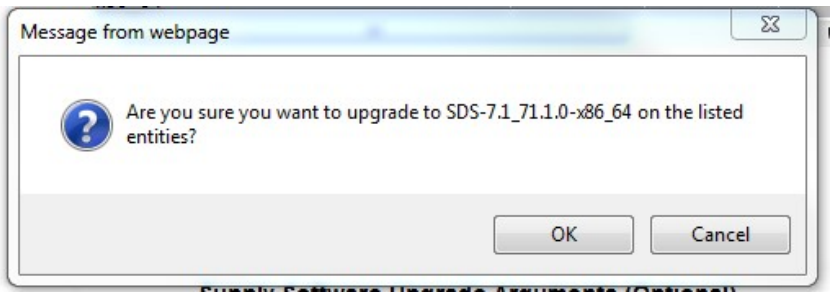
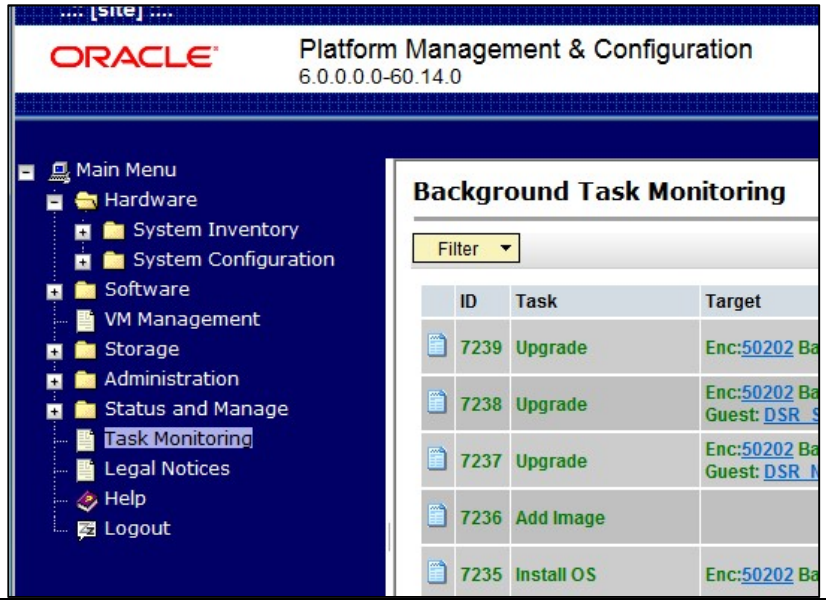
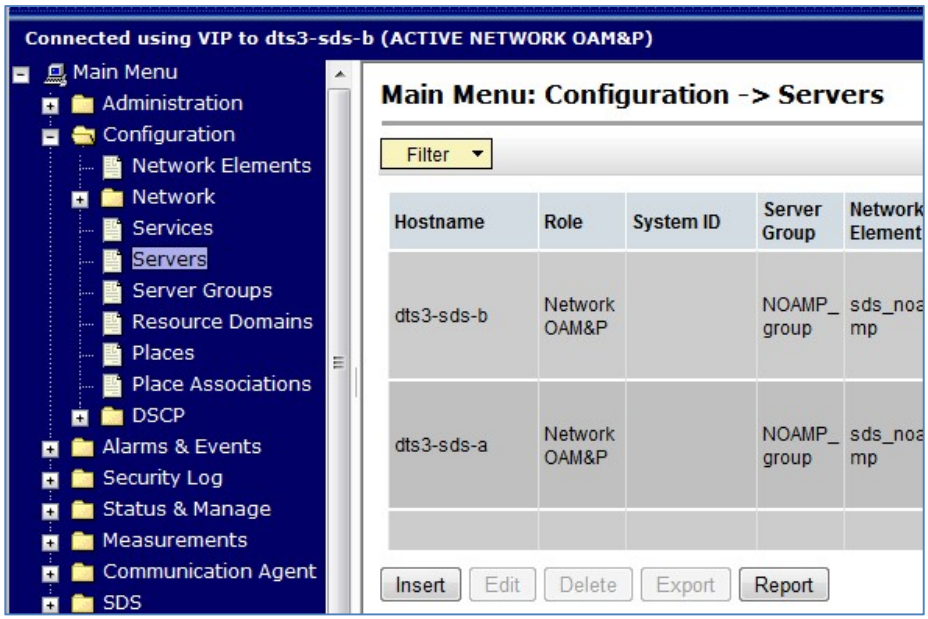
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
20. ☐	**PMAC Server GUI:** The user should be presented the Select Image screen as shown on the right	
21. ☐	**PMAC Server GUI:** **1)** Select the correct **SDS** version from the "**Image Name"** list. The line entry should now be highlighted in **GREEN**. **2)** Select the "**Start Upgrade**" dialogue button	
22. ☐	**PMAC Server GUI:** The user should be presented with an "**Are you sure you want to upgrade**" message box ....as shown on the right. Click the "**OK**" dialogue button.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

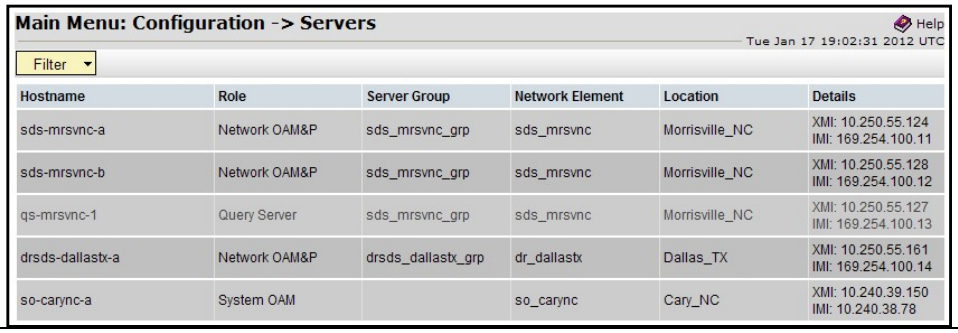
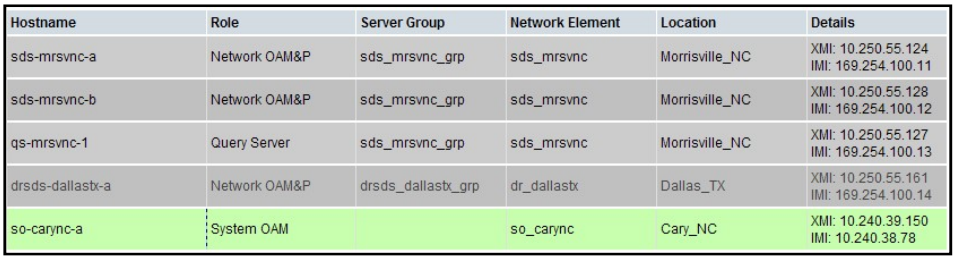
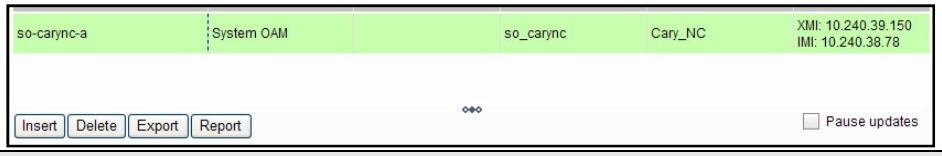
Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
23. ☐	**PMAC Server GUI:** An upgrade task will be started. This task takes ~8 minutes. The user can monitor this task by doing the following: Select… **Main Menu → Task Monitoring** Wait until you see the **Progress** value equal **100%**.	
24. ☐	**Primary SDS VIP:** **Select…** **Main Menu → Configuration → Servers** **…as shown on the right.**	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
25. ☐	**Primary SDS VIP:** On the **"Configuration →Servers"** screen, find the recreated **SOAM server** in the list.	
26. ☐	**Primary SDS VIP:** Use the cursor to select the recreated **SOAM server**. The row containing the server should now be highlighted in **GREEN**.	
27. ☐	**Primary SDS VIP:** Select the **"Export"** dialogue button from the bottom left corner of right panel.	
28. ☐	**SDS VIP CLI:** Access the **Active NOAM** server **CLI**.	• Connect to the **Active SDS NOAM CLI** via **SSH** terminal session to the **NOAM VIP** address.
29. ☐	**SDS VIP CLI:** Log into the server as the **"admusr"** user.	`login: admusr` `Password: <admusr_password>`
30. ☐	**SDS VIP CLI:** Change directory into the file management location.	`$ cd /var/TKLC/db/filemgmt` `$`

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
31. ☐	**SDS VIP CLI:** Get a directory listing and find the configuration file containing the SOAM server name as shown to the right.	**$ ls -ltr TKLCConfigData*.sh** *** TRUNCATED OUTPUT *** -rw-rw-rw- 1 root root 2208 Dec 19 16:50 TKLCConfigData.**so-carync-b**.sh **$**
32. ☐	**SDS VIP CLI:** Copy the configuration files found in the previous step to the **PMAC**.	**$ scp -p <configuration_file> admusr@<PMAC_Mgmt_IP>:/tmp/** admusr@xxx.xxx.xxx.xxx's password: ***<admusr_password>*** TKLCConfigData.so-carync-b.sh 100% 1741 1.7KB/s 00:00 **$**
33. ☐	**SDS VIP CLI:** Logout of the **Active NOAM CLI.**	**$ exit**
34. ☐	**PMAC Server CLI:** Use **SSH** to login to the **PMAC Guest VM** server as the **"admusr"** user.	login: **admusr** Password: ***<admusr_password>***
35. ☐	**PMAC Guest VM:** Copy the server configuration file to the **Control IP** for the **SDS SOAM VM**. **NOTE:** *The **Control IP** for each the SOAM VM was recorded in **Step 19** of this procedure.*	**$ scp -p /tmp/*<configuration_file>*** **admusr@*<SDS_SOAM_VM_Control_IP>*:/tmp/** admusr@xxx.xxx.xxx.xxx's password: TKLCConfigData.so-carync-a.sh 100% 1741 1.7KB/s 00:00
36. ☐	**PMAC Guest VM:** Using **SSH**, Connect to the **SOAM server CLI** from the PMAC Server Console.	**$ ssh *<SDS_SOAM_VM_Control_IP>*** admusr@xxx.xxx.xxx.xxx's password: ***<admusr_password>***

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
37. ☐	**SOAM Guest VM:** Copy the server configuration file to the **"/var/tmp"** directory on the server, making sure to rename the file by omitting the server hostname from the file name.	***Example:*** TKLCConfigData.***<server_hostname>***.sh ➔ will translate to ➔TKLCConfigData.sh **$ cp -p /tmp/TKLCConfigData.so-carync-b.sh /var/tmp/TKLCConfigData.sh** **NOTE:** *The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.*
38. ☐	**SOAM Guest VM:** After the script completes, a broadcast message will be sent to the terminal. **NOTE:** *The user should be aware that the time to complete this step varies by server and may take from 3-5 minutes to complete.*	****** NO OUTPUT FOR ≈ 3-5 MINUTES ****** Broadcast message from root (Mon Dec 14 15:47:33 2009): Server configuration completed successfully! See /var/TKLC/appw/logs/Process/install.log for details. Please remove the USB flash drive if connected and reboot the server. ***<ENTER>***
39. ☐	**SOAM Guest VM:** Accept upgrade to the Application Software.	**$ sudo /var/TKLC/backout/accept** Called with options: --accept Loading Upgrade::Backout::RPM Accepting Upgrade Setting POST_UPGRADE_ACTION to ACCEPT in upgrade info. Cleaning backout directory. Clearing Upgrade Accept/Reject alarm. Cleaning message from MOTD. Cleaning up RPM config backup files... Checking / Checking /boot Checking /tmp Checking /usr Checking /var Checking /var/TKLC Checking /tmp/appworks_temp Checking /var/TKLC/appw/logs/Process Checking /var/TKLC/appw/logs/Security Checking /var/TKLC/db/filemgmt Checking /var/TKLC/rundb Starting cleanup of RCS repository. INFO: Removing '/var/lib/prelink/force' from RCS repository INFO: Removing '/etc/my.cnf' from RCS repository

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
40. ☐	**SOAM Guest VM:** Verify that the desired **Time Zone** is currently in use.	**$ date** Mon Aug 10 19:34:51 UTC 2015
41. ☐	**SOAM Guest VM:** If the desired **Time Zone** was NOT presented in the previous step… Configure the **Time Zone**. Otherwise, **SKIP** to the next step.	***Example:*** $ sudo set_ini_tz.pl *<time_zone>* NOTE: The following command example sets the time to the "UTC" (aka GMT) time zone which is recommneded for all sites. The user may replace, as appropriate, with the customer requested time zone for this site installation. See **Appendix H** from Reference **[1]** for a list of valid time zones. **$ sudo set_ini_tz.pl "Etc/UTC"**
42. ☐	**SOAM Guest VM:** Initiate a **reboot** of the **SOAM server**.	**$ sudo init 6**
43. ☐	**SOAM Guest VM:** Output similar to that shown on the right may be observed as the server initiates a reboot.	Connection to xxx.xxx.xxx.xxx closed by remote host. Connection to xxx.xxx.xxx.xxx closed.
44. ☐	**PMAC Guest VM:** After the SOAM server has completed reboot, re-connect to the SOAM server console from the PMAC Server Console	**$ ssh *<SDS_SOAM_VM_Control_IP>*** admusr@xxx.xxx.xxx.xxx's password: ***<admusr_password>***

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result
45. ☐	**SOAM Guest VM:** **1)** Verify that the **IMI IP address** has been applied as specified. **2)** Verify that the **XMI IP address** has been applied as specified.	**$ ifconfig |grep in** control Link encap:Ethernet HWaddr 52:54:00:23:DC:32 inet addr:192.168.1.199 Bcast:192.168.1.255 Mask:255.255.255.0 imi Link encap:Ethernet HWaddr 52:54:00:33:DC:DC inet addr:10.240.38.78 Bcast:10.240.38.127 Mask:255.255.255.192 lo Link encap:Local Loopback inet addr:127.0.0.1 Mask:255.0.0.0 xmi Link encap:Ethernet HWaddr 52:54:00:63:63:BD inet addr:10.240.39.150 Bcast:10.240.39.255 Mask:255.255.255.128
46. ☐	**SOAM Guest VM:** Execute a **"syscheck"** to verify the current health of the server.	**$ sudo syscheck** Running modules in class hardware... OK Running modules in class disk... OK Running modules in class net... OK Running modules in class system... OK Running modules in class proc... OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log
47. ☐	**SOAM Guest VM:** **"ping"** the **IMI** IP address of the **mate SOAM VM Guest.**	**$ ping -c 5 10.240.38.78** PING 10.240.38.78 (10.240.38.78) 56(84) bytes of data. 64 bytes from 10.240.38.78: icmp_seq=1 ttl=64 time=0.031 ms 64 bytes from 10.240.38.78: icmp_seq=2 ttl=64 time=0.017 ms 64 bytes from 10.240.38.78: icmp_seq=3 ttl=64 time=0.031 ms 64 bytes from 10.240.38.78: icmp_seq=4 ttl=64 time=0.028 ms 64 bytes from 10.240.38.78: icmp_seq=5 ttl=64 time=0.030 ms 64 bytes from 10.240.38.78: icmp_seq=6 ttl=64 time=0.028 ms --- 10.240.38.78 ping statistics --- 6 packets transmitted, 6 received, 0% packet loss, time 5000ms rtt min/avg/max/mdev = 0.017/0.027/0.031/0.007 ms
48. ☐	**SOAM Guest VM:** **"ping"** the **XMI** IP address of the **mate SOAM VM Guest.**	**$ ping -c 5 10.240.39.150** PING 10.240.39.150 (10.240.39.150) 56(84) bytes of data. 64 bytes from 10.240.39.150: icmp_seq=1 ttl=64 time=0.024 ms 64 bytes from 10.240.39.150: icmp_seq=2 ttl=64 time=0.033 ms 64 bytes from 10.240.39.150: icmp_seq=3 ttl=64 time=0.032 ms 64 bytes from 10.240.39.150: icmp_seq=4 ttl=64 time=0.026 ms 64 bytes from 10.240.39.150: icmp_seq=5 ttl=64 time=0.027 ms 64 bytes from 10.240.39.150: icmp_seq=6 ttl=64 time=0.026 ms --- 10.240.39.150 ping statistics --- 6 packets transmitted, 6 received, 0% packet loss, time 5004ms rtt min/avg/max/mdev = 0.024/0.028/0.033/0.003 ms

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 13: Recreate the SDS SOAM VM with the 1B Subscriber profile

Step	Procedure	Result

49. ☐	**SOAM Guest VM:**
	From the SOAM Guest, **"ping"** the local **XMI Gateway** address associated with the SOAM NE.
		`$ ping -c 5 10.240.39.1`
		`PING 10.240.39.1 (10.240.39.1) 56(84) bytes of data.`
		`64 bytes from 10.240.39.1: icmp_seq=1 ttl=64 time=0.024 ms`
		`64 bytes from 10.240.39.1: icmp_seq=2 ttl=64 time=0.033 ms`
		`64 bytes from 10.240.39.1: icmp_seq=3 ttl=64 time=0.032 ms`
		`64 bytes from 10.240.39.1: icmp_seq=4 ttl=64 time=0.026 ms`
		`64 bytes from 10.240.39.1: icmp_seq=5 ttl=64 time=0.027 ms`
		`64 bytes from 10.240.39.1: icmp_seq=6 ttl=64 time=0.026 ms`
		
		`--- 10.240.39.1 ping statistics ---`
		`6 packets transmitted, 6 received, 0% packet loss, time 5004ms`
		`rtt min/avg/max/mdev = 0.024/0.028/0.033/0.003 ms`

50. ☐	**SOAM Guest VM:**
	Use the **"ntpq"** command to verify that the server has connectivity to at least one of the assigned NTP server(s).
	
	NOTE: *NTP connectivity is denoted by the presence of an asterisk (*) to the left of one of the "remote" IP* addresses.
		`$ ntpq -np`
		`remote refid st t when poll reach delay offset jitter`
		`==============================================================================`
		`+10.250.32.10 192.5.41.209 2 u 139 1024 377 2.008 1.006 1.049`
		`*10.250.32.51 192.5.41.209 2 u 979 1024 377 0.507 1.664 0.702`

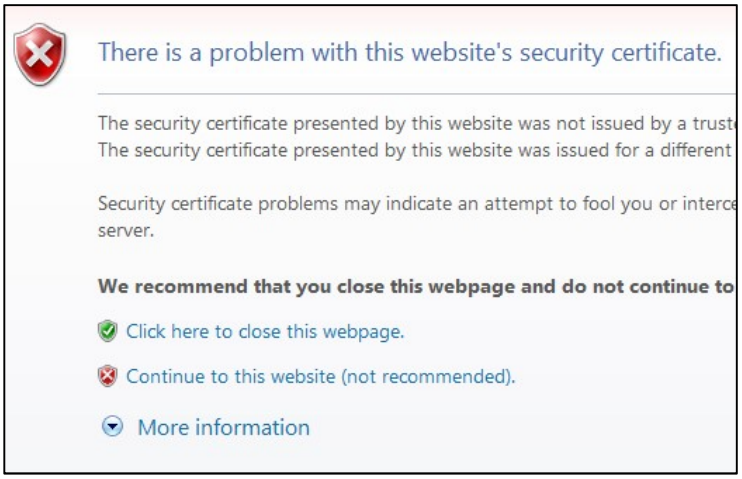
	**IF CONNECTIVITY TO THE NTP SERVER(S) CANNOT BE ESTABLISHED, STOP AND PERIODICALLY REPEAT THE PREVIOUS STEP UNTIL NTP CONNECTIVITY IS ESTABLISHED BEFORE CONTINUING TO THE NEXT STEP.**	
51. ☐	**SOAM Guest VM:** **Exit** from the SOAM command line to return the PMAC server console prompt.	`$ exit`
52. ☐	**PMAC Guest VM:** **Exit** from the PMAC server	`$ exit`
THIS PROCEDURE HAS BEEN COMPLETED		

Procedure 14 adds the newly created SOAM VM to the SOAM server group.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

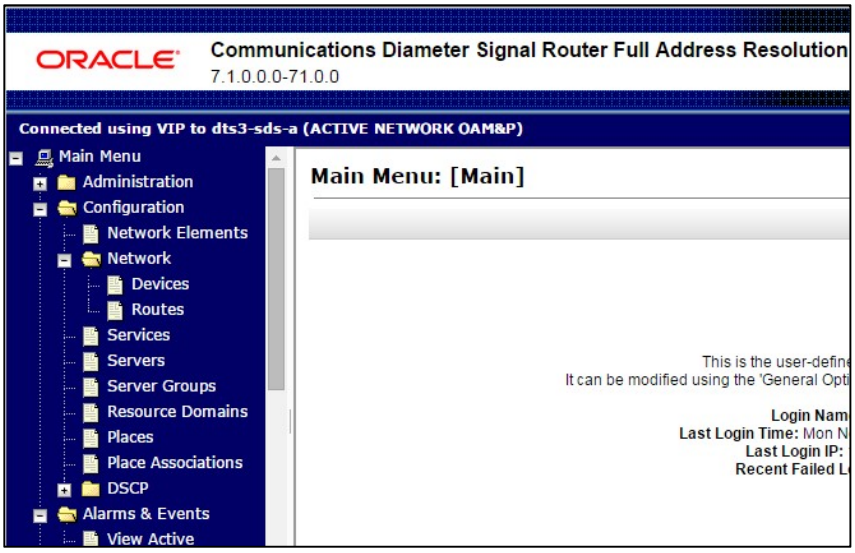
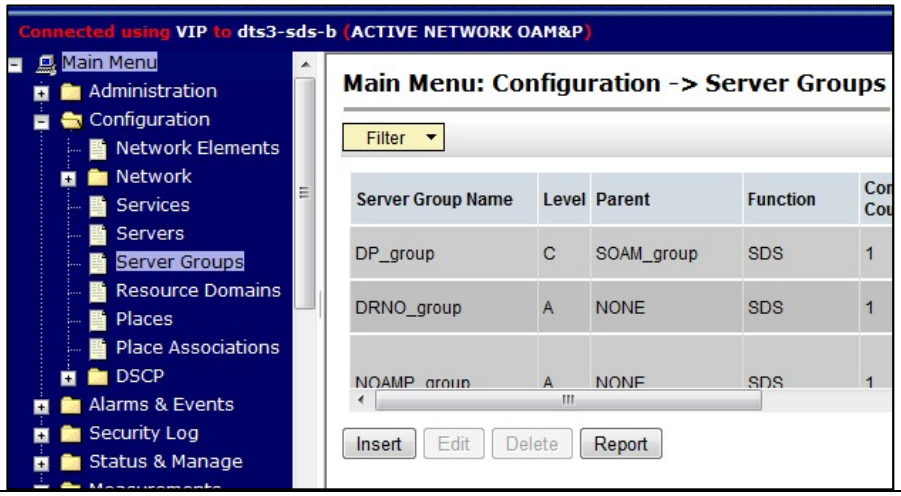
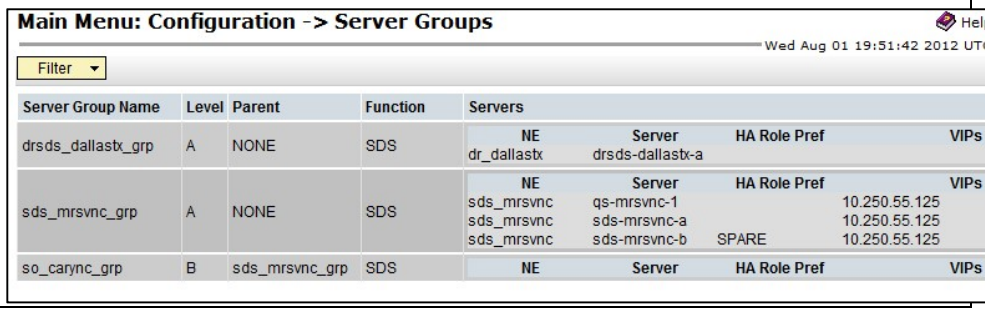
Procedure 14: Placing the SDS SOAM VM into the SOAM Server Group

Step	Procedure	Result
1. ☐	**SDS NOAM VIP:** Launch an approved web browser and connect to the SDS VIP address **NOTE:** *If presented with the "security certificate" warning screen shown to the right, choose the following option:* ***"Continue to this website (not recommended)".***	
2. ☐	**SDS NOAM VIP:** The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

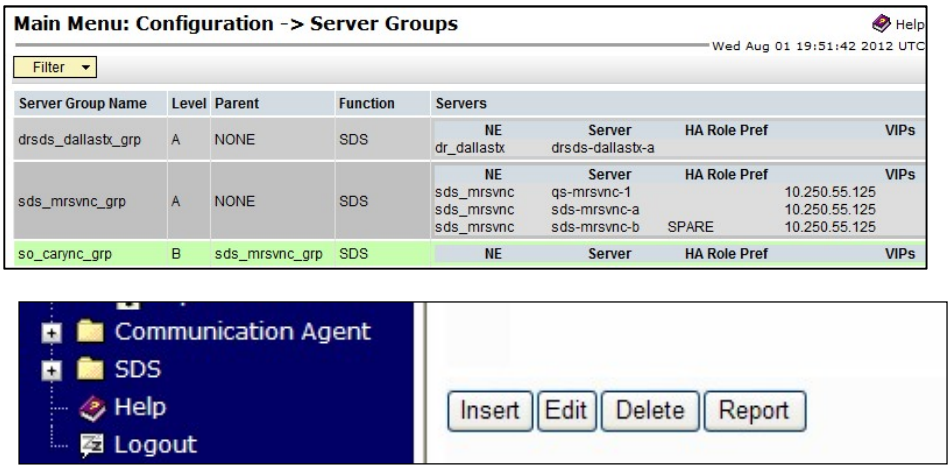
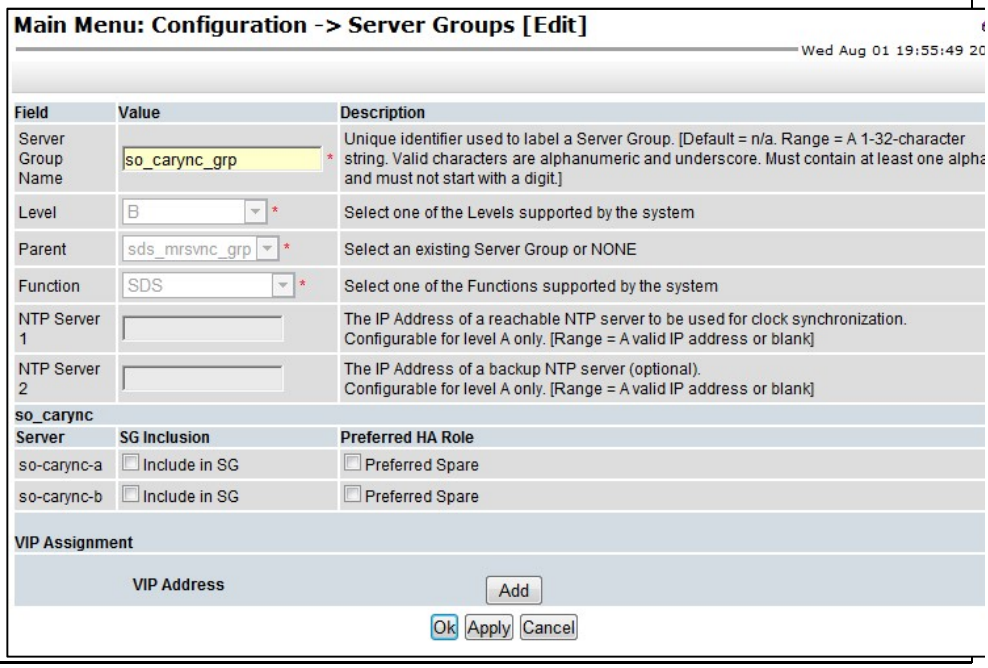
Procedure 14: Placing the SDS SOAM VM into the SOAM Server Group

Step	Procedure	Result
3. ☐	**SDS NOAM VIP:** The user should be presented the SDS Main Menu as shown on the right.	
4. ☐	**SDS NOAM VIP:** Select… **<u>Main Menu</u> → Configuration → *Server Groups*** …as shown on the right.	
5. ☐	**SDS NOAM VIP:** The **Server Group** entry should be shown on the **"Server Groups"** configuration screen as shown on the right.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

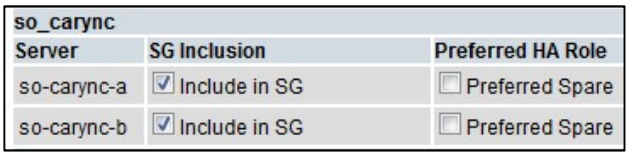
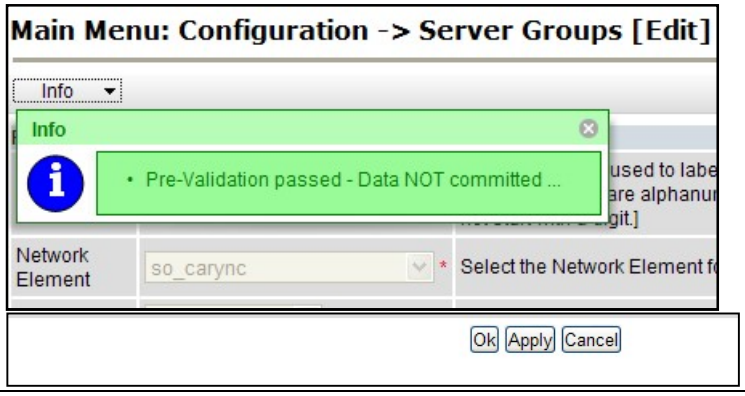
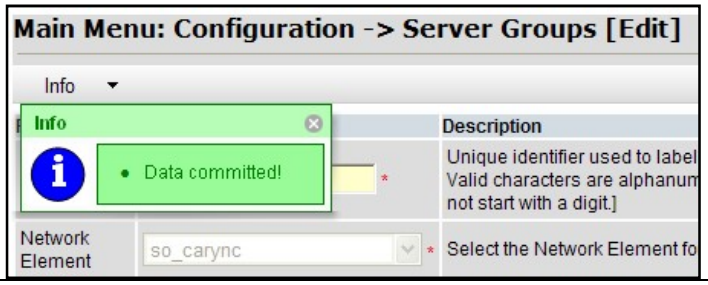
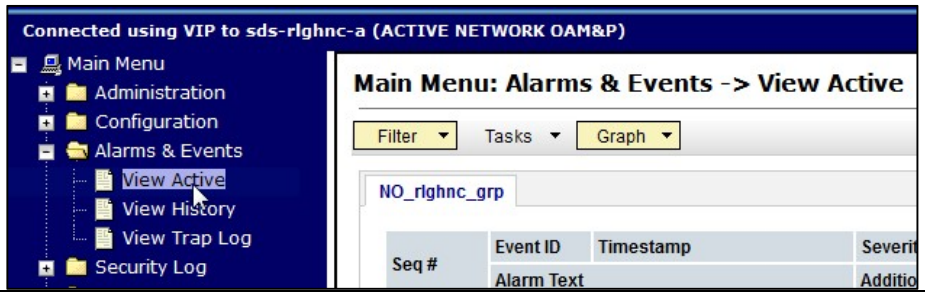
Procedure 14: Placing the SDS SOAM VM into the SOAM Server Group

Step	Procedure	Result
6. ☐	**SDS NOAM VIP:** **1)** Select the row containing the **Server Group** with the **SOAM server** which was converted to the **1B Subscriber profile**. The line entry should now be highlighted in **GREEN**. **2)** Select the **"Edit"** dialogue button from the bottom left corner of the screen. **NOTE:** *The user may need to use the vertical scroll-bar in order to make the **"Edit"** dialogue button visible.*	
7. ☐	**SDS NOAM VIP:** The user will be presented with the **"Server Groups [Edit]"** screen as shown on the right.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

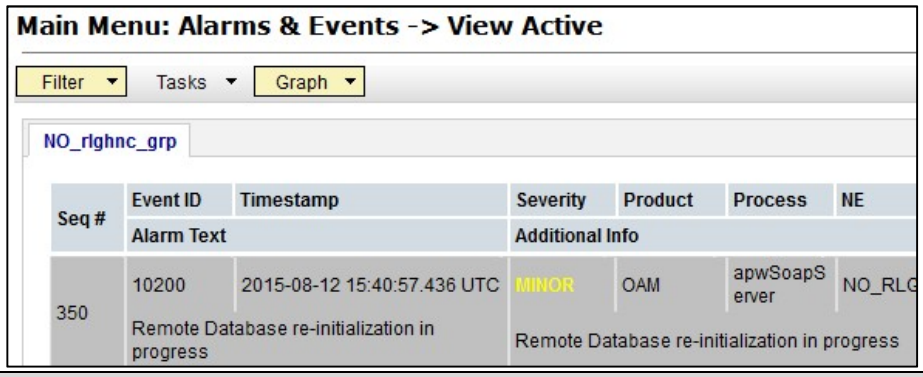
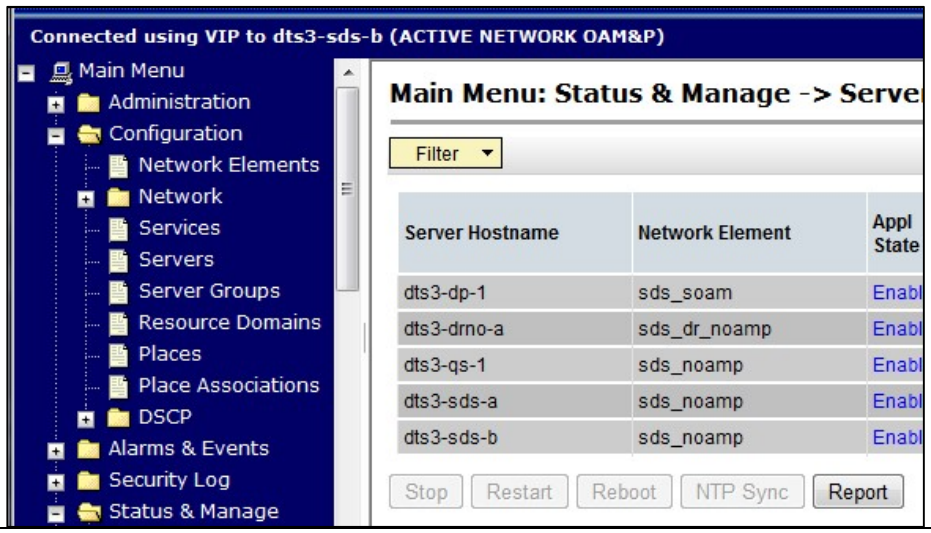
Procedure 14: Placing the SDS SOAM VM into the SOAM Server Group

Step	Procedure	Result
8. ☐	**SDS NOAM VIP:** Place a **Checkmark** in the **Check Box** to the left of the **SOAM server** name that you wish to add to the **SOAM Server Group**.	
9. ☐	**SDS NOAM VIP:** **1)** The user should be presented with a banner information message stating **"Pre-Validation passed"**. **2)** Select the **"Apply"** dialogue button.	
10. ☐	**SDS NOAM VIP:** The user should be presented with a banner information message stating **"Data committed"**.	
11. ☐	**SDS NOAM VIP:** Select… **<u>Main Menu</u>** **→ Alarms & Events** ***→ View Active*** …as shown on the right.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

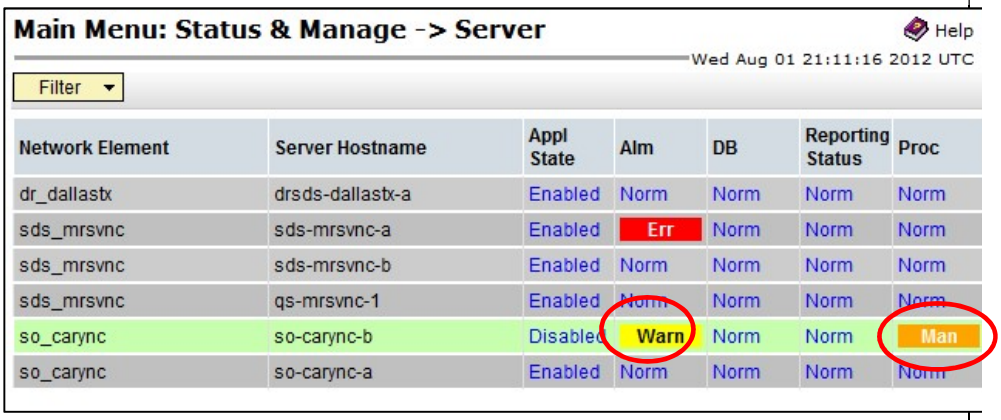
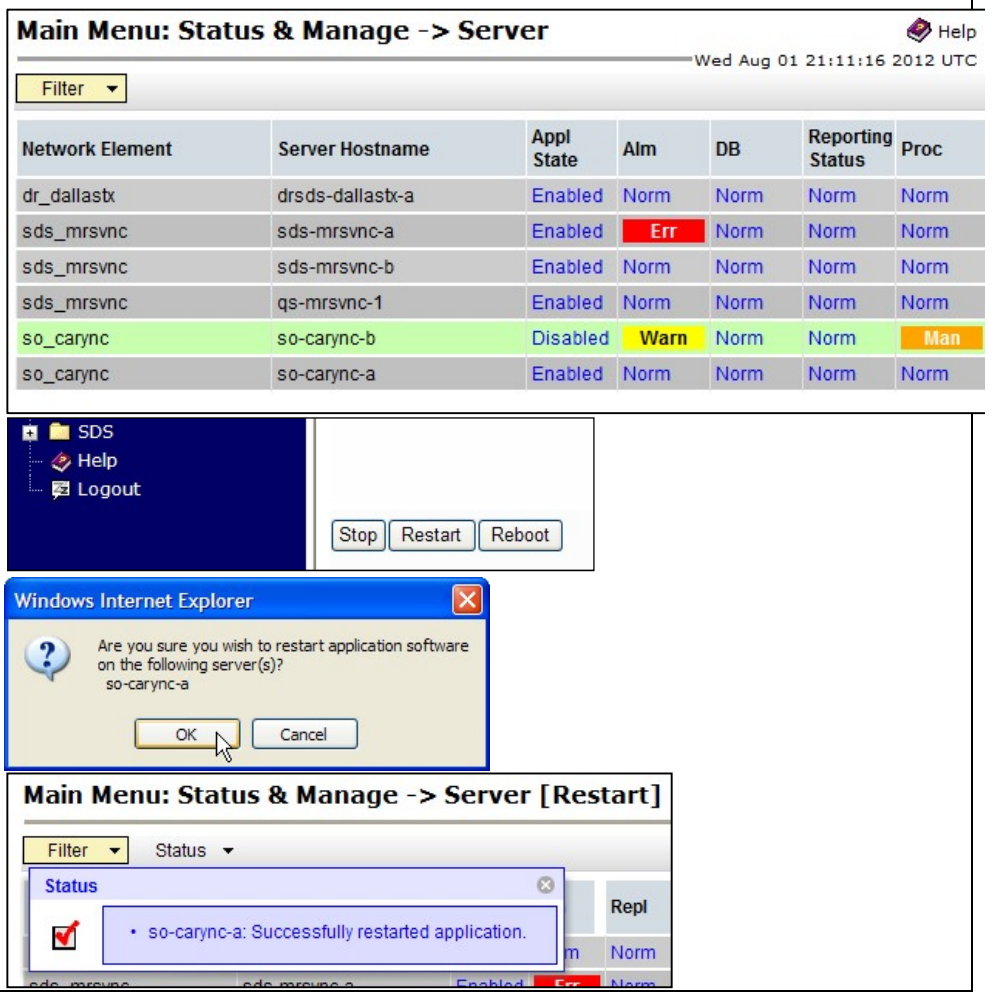
Procedure 14: Placing the SDS SOAM VM into the SOAM Server Group

Step	Procedure	Result
12. ☐	**SDS NOAM VIP:** Verify that **Event ID 10200** (*Remote Database re-initialization in progress)* alarms are present with the **SDS SOAM Server hostname** in the **"Instance"** field..	
	**MONITOR THE EVENT ID 10200 (*Remote Database re-initialization in progress)* ALARMS.** **DO NOT PROCEED TO THE NEXT STEP UNTIL THE ALARM CLEAR IS RECEIVED FOR THE SDS SOAM SERVER.**	
13. ☐	**SDS NOAM VIP:** Select… **Main Menu → Status & Manage → *Server*** …as shown on the right.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

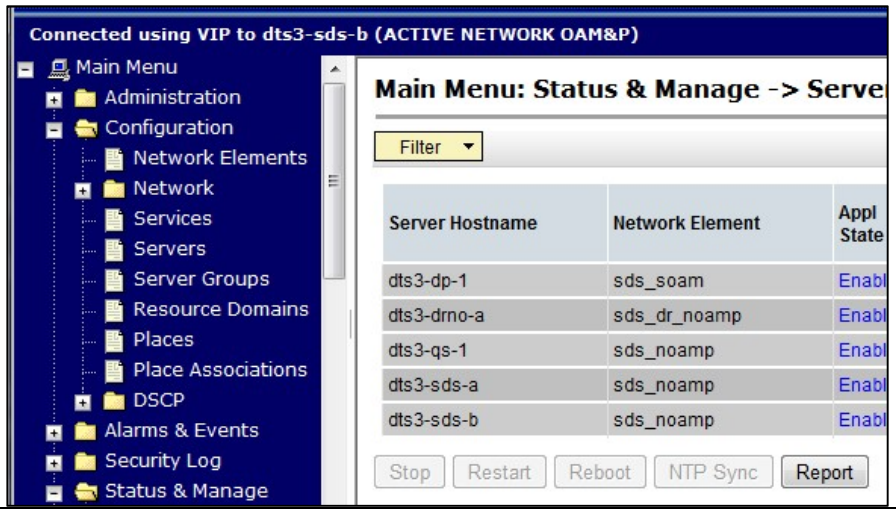
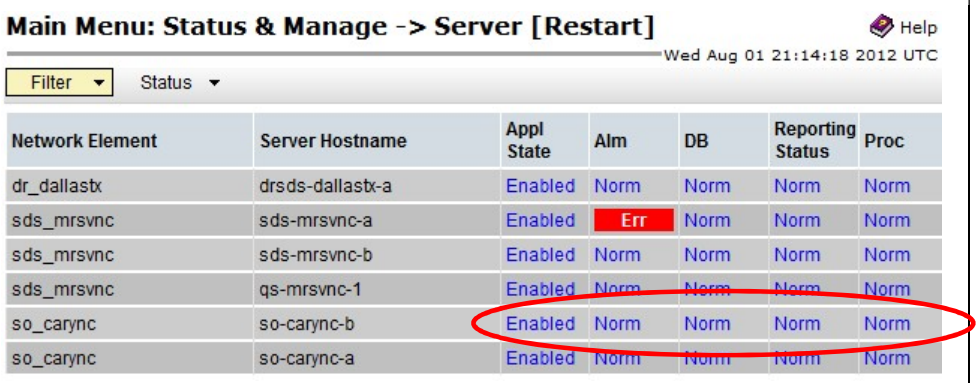
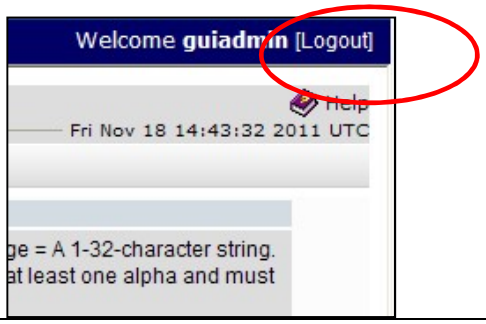
Procedure 14: Placing the SDS SOAM VM into the SOAM Server Group

Step	Procedure	Result
14. ☐	**SDS NOAM VIP:** **1)** The converted SOAM server should now appear in the right panel. **2)** Verify that the "DB" status shows "Norm" and the "Proc" status shows "Man" for the SOAM server before proceeding to the next Step.	
15. ☐	**SDS NOAM VIP:** **1)** Using the mouse, select the row containing the converted **SOAM server**. The line entry should now be highlighted in **GREEN**. **2)** Select the **"Restart"** dialogue button from the bottom left corner of the screen. **3)** Click the **"OK"** button on the confirmation dialogue box. **4)** The user should be presented with a confirmation message (in the banner area) for the **SOAM server** stating: **"Successfully restarted application"**.	

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 14: Placing the SDS SOAM VM into the SOAM Server Group

Step	Procedure	Result
16. ☐	**SDS NOAM VIP:** Select… **Main Menu** **→ Status & Manage** **→ *Server*** …as shown on the right.	
17. ☐	**SDS NOAM VIP:** Verify that the **"Appl State"** now shows **"Enabled"** and that the **"Alm, DB, Reporting Status & Proc"** status columns all show **"Norm"** for the converted **SOAM server** before proceeding to the next Step.	 **NOTE:** *If user chooses to refresh the Server status screen in advance of the default setting (15-30 sec.). This may be done by simply reselecting the **"Status & Manage → Server"** option from the Main menu on the left.*
18. ☐	**SDS NOAM VIP:** Click the **"Logout"** link on the SDS server GUI.	
19.	SDS Health Check	Execute SDS Health Check procedures as specified in **Appendix B**

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should ANY STEP IN THIS PROCEDURE FAIL, it is recommended to STOP AND Contact MOS FOR ASSISTANCE BEFORE CONTINUING!

Procedure 14: Placing the SDS SOAM VM into the SOAM Server Group

Step	Procedure	Result
THIS PROCEDURE HAS BEEN COMPLETED		

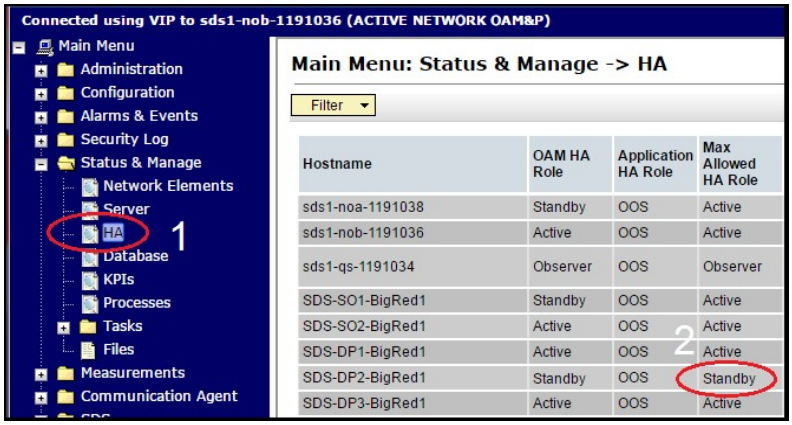
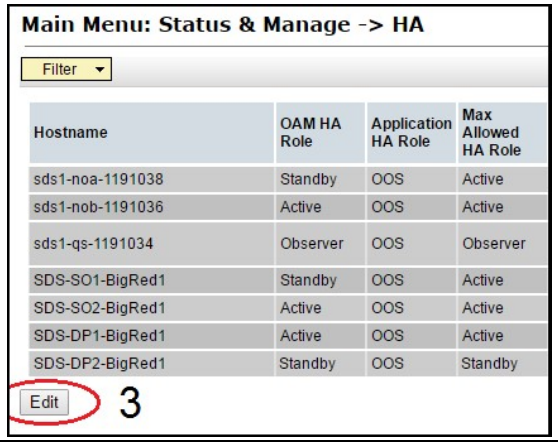
Appendix N Manual Completion of Server Upgrade

This procedure is performed to recover a server that did not properly complete an upgrade. This procedure should be performed only when directed by MOS or by another procedure within this document.

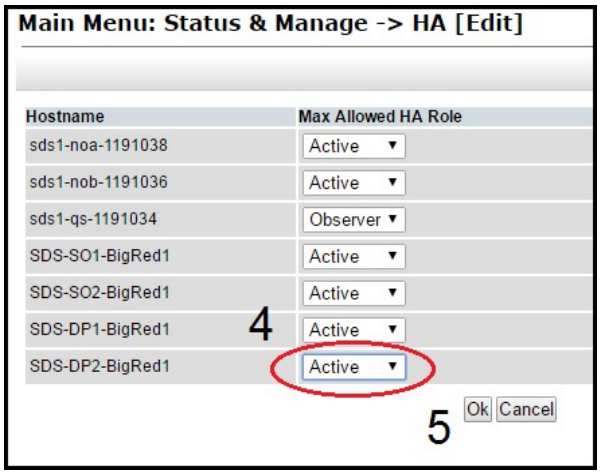
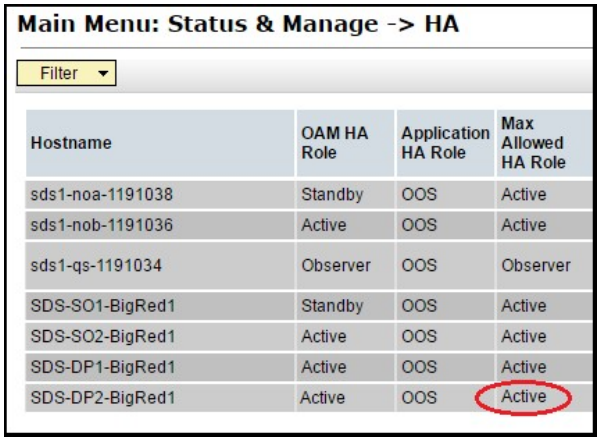
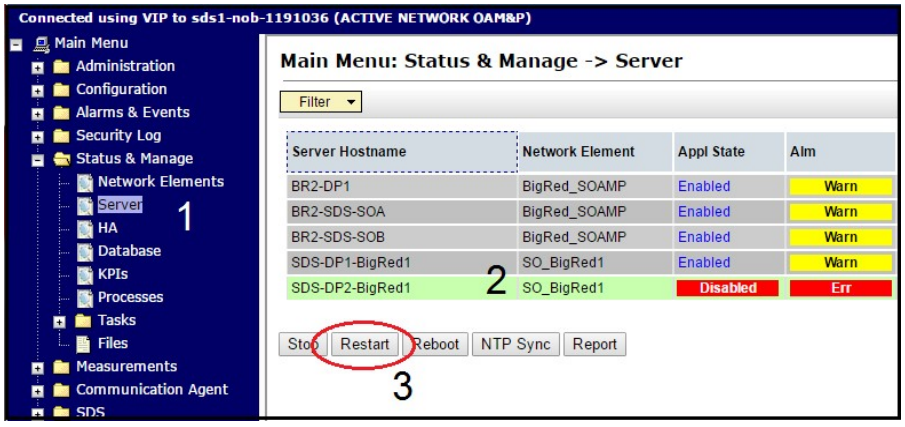
In the normal upgrade scenario, the steps in this procedure are automatically performed by the upgrade process.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

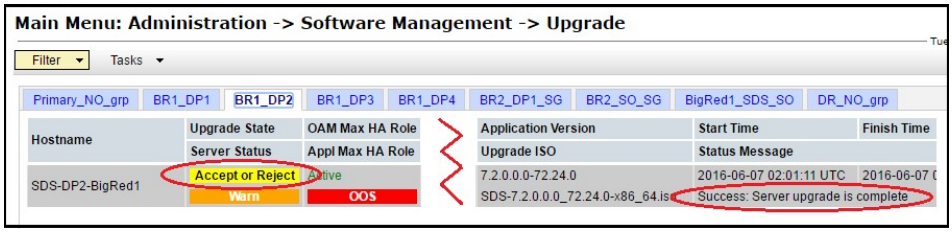
Appendix N: Manual Completion of Server Upgrade

Step	Procedure	Result
1. ☐	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Status & Manage** **→ HA** **2)** Locate the server to be completed. Verify the **Max Allowed HA Role** is 'Standby'.	
2.	**Primary SDS NOAM VIP:** **3)** Click the '**Edit**' button.	

Appendix N: Manual Completion of Server Upgrade

Step	Procedure	Result
3.	**Primary SDS NOAM VIP:** **4)** Change the **Max Allowed HA Role** picklist to '**Active**' for the server to be completed. **5)** Click '**Ok**' to commit the change.	
4.	**Primary SDS NOAM VIP:** **6)** Verify the **Max Allowed HA Role** changes to '**Active**'.	
5.	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Status & Manage** **→Server** **2)** Select the server to be completed. **3)** Click the **Restart** button to restart the application. After a few minutes, the **Appl State** will change to '**Enabled**'.	

Appendix N: Manual Completion of Server Upgrade

Step	Procedure	Result
6.	**Primary SDS NOAM VIP:** **1)** Select… **Main Menu** **→ Administration** **→Software Management** **→ Upgrade** **2)** Verify the **Upgrade State** changes to '**Accept or Reject**' and the **Status Message** changes to '**Success: Server manually completed**'.	
7.	**Return to the referring procedure.**	• Return to the **Procedure/Step** which referred to Appendix N: Manual Completion of Server Upgrade.
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix O ISO Link Correction

This procedure is required when upgrading from Release 7.1, 7.2, 7.3 or 7.4 to SDS 8.0 and later. In SDS 7.x, the ISO image management was changed to put a symlink in the /var/TKLC/upgrade directory to the actual file in the /var/TKLC/db/filemgmt directory. However, in order to support the Storage Reclamation feature used in SDS 8.0, in preparation for future Dual Image Upgrade, the symlinks to the ISO image in the /var/TKLC/db/filemgmt/isos directory must be removed and replaced with direct copies of the ISO image in the /var/TKLC/upgrade directory. This must be executed after the application ISO has been deployed but before the software upgrade in Section 7. This may be done in a maintenance window before the actual upgrade maintenance window.

This procedure is not required if the source release is 8.x

!! WARNING!! **FAILURE TO PERFORM THIS PROCEDURE MAY CAUSE THE UPGRADE TO FAIL**

ISO Link Correction

S T E P #	This procedure performs the ISO symlink correction. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Verify this procedure should be run.	Verify that this procedure should be run: 1. Is the topology of servers to be upgraded currently running SDS release 7.1, 7.2, 7.3 or 7.4? 2. Has the SDS 8.0 ISO been deployed? If "Yes" to the above questions, then proceed to step 2. If "No", this procedure is complete.
2 ☐	**Active NOAM GUI:** Undeploy all unneeded ISO images.	Use the **Undeploy ISO** button on the **Status & Manage > Files** screen to **remove all unneeded old** ISO images from the /var/TKLC/upgrade directory. Keep deployed the ISO image file being used for this upgrade. This will save space in the /var/TKLC/upgrade directory. 1. Select **Status & Manage > Files** The Files screen displays. 2. Select the ISOs to be undeployed and click the '**Undeploy ISO**' button. 3. Click "**OK**" to confirm the ISO undeployment. **This launches the ISO un-deployment to the entire topology.** This function removes the symlink in /var/TKLC/upgrade to the ISO in the isos directory. The pull-down Tasks menu message box at the top of the Files page displays the status of the undeployment for each server. In addition, an ISO Deployment report can be viewed by selecting the ISO and clicking **View ISO Deployment Report**
3 ☐	**Active NOAM CLI:** Log into the Active NOAM	Use the SSH command (on UNIX systems - or putty if running on Windows) to log into the Active NOAM: `ssh admusr@<NOAM_VIP>`
4 ☐	**Active NOAM CLI:** Mount the ISO image.	Mount the SDS 8.0 ISO image. The following example uses a SDS ISO image name as an example. Use the appropriate application ISO image name. `$ sudo mount -o loop /var/TKLC/db/filemgmt/isos/SDS-8.0.0.0.0_80.x.y-x86_64.iso /mnt/upgrade`

ISO Link Correction

5 ☐	**Active NOAM CLI:** Copy the script.	Copy the script from the mounted ISO to /var/tmp in order to use it. `$ cp /mnt/upgrade/upgrade/bin/changeLinksToFiles.php /var/tmp`
6 ☐	**Active NOAM CLI:** Unmount the ISO image.	Unmount the SDS 8.0 ISO image. `$ sudo umount /mnt/upgrade`

7 ☐	**Active NOAM CLI:**
	Verify the script is executable.
		Make the script executable.
		`$ chmod +x /var/tmp/changeLinksToFiles.php`
		`$ ls -l /var/tmp/changeLinksToFiles.php`
		`-r-x------ 1 admusr admgrp 2652 Dec 2 14:07 /var/tmp/changeLinksToFiles.php`
		In the above example, the “x” is present for admusr, indicating that the script is indeed executable for the user.

8 ☐	**Active NOAM CLI:**
	Execute the script.
		Execute the script to change the symlink into a copy of the ISO image file.
		`$ /var/tmp/changeLinksToFiles.php`
		The script will use SSH to contact all the servers in the topology and convert any link to an ISO images in /var/TKLC/upgrade into a copy of the ISO image file.
		Output similar to the following will occur for each server in the entire topology.
		`$ /var/tmp/changeLinksToFiles.php`
		`server: NO1`
		`hostname alias based on service: no1-internalimi`
		`FIPS integrity verification test failed.`
		`Warning: Permanently added 'no1-internalimi,192.168.1.11' (RSA) to the list of known hosts.`
		`found link /var/TKLC/upgrade/SDS-8.0.0.0.0_80.20.0-x86_64.iso`
		`FIPS integrity verification test failed.`
		`Warning: Permanently added 'no1-internalimi,192.168.1.11' (RSA) to the list of known hosts.`
		`Remove command succeeded! host: no1-internalimi, file: /var/TKLC/upgrade/SDS-8.0.0.0.0_80.20.0-x86_64.iso`
		`FIPS integrity verification test failed.`
		`Warning: Permanently added 'no1-internalimi,192.168.1.11' (RSA) to the list of known hosts.`
		`Copy command succeeded! host: no1-internalimi, file: /var/TKLC/upgrade/SDS-8.0.0.0.0_80.20.0-x86_64.iso`
		The following expected messages can be ignored:
		`FIPS integrity verification test failed.`
		`Warning: Permanently added '<host>-internalimi,<ip address>' (RSA) to the list of known hosts.`
		If any unexpected failure messages occur, it is recommended to contact Accessing My Oracle Support (MOS) for guidance.

THIS PROCEDURE HAS BEEN COMPLETED.		

Appendix P Increasing MAX # of open files

This procedure is required when upgrading from Release 5.x, 7.x to SDS 8.0 and later.

This is pertaining to any SDS site that has more than 1024 open files on the system.

The way to find if the system needs these 'workaround' steps is to find out how many open files are currently being read or written to. The idbsvc process is the responsible process handling all the files being merged up to the NOAM, so here is how to determine and to increase (if required) the max number of current open files.

Increasing MAX # of open files

STEP #		
	This procedure performs to find the maximum files open in SDS system and then whether workaround is required or not. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	

1 ☐	**Active NOAM :**
	
	Use the SSH command (on UNIX systems - or putty if running on Windows) to log into the Active NOAM.
	Find the process id of idbsvc:
		The idbsvc is the responsible process for handling all the files being merged up to the NOAM.
		
		`[admusr@no-nob ~]$ pl | grep -i idbsvc | grep -v provd`
		`A 4369 idbsvc Up 03/01 13:03:28 1 idbsvc -M10 -ME204 -D40 -DE820 -W1 -S2`

2 ☐	**Active NOAM :**
	
	Find out the maximum number of open files permitted in system:
		`[admusr@no-nob ~]$ sudo cat /proc/4369/limits | grep -i open`
		`Max open files 32768 32768 files`
		
		`[admusr@no-nob ~]$ ulimit -n`
		`32768`

3 ☐	**Active NOAM :**
	
	Check the number of files open on the SDS NOAM currently:
		`[admusr@no-nob ~]$ sudo lsof -p 4369 | wc -l`
		`4278`
		
		This system has over 1024 open files but its current ulimit 32768 for idbsvc is high enough during normal operation that the amount of open files 4278 does not pose a problem.

	 **!! STOP !!**	**Steps 4 to 7 are not required if current ulimit is higher than amount of open files.**
4 ☐	**Active NOAM :** Find out the provd process id:	provd process is responsible to hold the key to update ulimit with max number of open files. `[root@no-noa upgrade]# ps -ef | grep -i provd | grep -v provd`

5 ☐	**Active NOAM :**
	
	To increase ulimit back to 32678:
		Copy the script from the mounted ISO to /var/tmp in order to use it.
		
		`vim /etc/init/tpdProvd.conf`
		Add the following lines prior to the comment line which says “Start the daemon”
		`# increase open file limit`
		`limit nofile 32768 32768`

6 ☐	**Active NOAM :**
	
	Restarting the process tpdProvd.
		`root@no-noa upgrade]# sudo initctl stop tpdProvd`
		`tpdProvd stop/waiting`
		`[root@no-noa upgrade]# sudo initctl start tpdProvd`
		`tpdProvd start/running, process 186743`

Increasing MAX # of open files

7 ☐	**Active NOAM CLI:** Verify that the maximum number of open files are updated as 32768.	[root@no-noa upgrade]# ps -ef | grep -i provd tpdProvd 186743 1 1 08:38 ? 00:00:00 /usr/TKLC/plat/bin/tpdProvd [root@no-noa upgrade]# cat /proc/186743/limits | grep -i open Max open files 32768 32768 files

THIS PROCEDURE HAS BEEN COMPLETED.

Appendix Q Accessing My Oracle Support (MOS)

My Oracle Support

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

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

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

MOS is available 24 hours a day, 7 days a week, 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

Oracle Communications 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 **Oracle Help Center** 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 on your Product and then the Release Number. A list of the entire documentation set for the selected product and release appears.
5. To download a file to your location, right-click the PDF link, select **Save target as** (or similar command based on your browser), and save to a local folder.

Appendix R Apply Patch 25515028

This procedure upgrades Comcol version from either version 6.2-p221.9685 or version 6.2-p223.10605 to version 6.2-p225.12555.

!!! IMPORTANT !!! This procedure is a prerequisite for **Major Upgrade** from **SDS 5.0 to SDS 8.0 only. DO NOT** execute for **7.x to 8.x** Major Upgrade or **8.x.y to 8.x.z** Incremental upgrades.

STOP !

☐ ***Before executing this procedure…***

1. Login to the **"My Oracle Support" (MOS)** website

   See Appendix Q - Accessing My Oracle Support (MOS) if assistance is needed.
2. From the **Dashboard**, click on the **"Patches & Updates"** tab.
3. Search for **"Patch 25576541"** *(SDS 5.0 Patch for Bugs 25495816 and 25434716)*
4. Download the patch.

Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD ANY STEP IN THIS PROCEDURE FAIL, IT IS RECOMMENDED TO STOP AND CONTACT MOS FOR ASSISTANCE BEFORE CONTINUING!

Step	Procedure	Result
1. ☐	**Extract files from downloaded tar file**	Un-tar downloaded patch and look for the document "SDS_5_0_MR_PATCH_25515028.docx".

2.	**Verify md5sum**	Execute following command and verify the md5ksum of patch-25515028-sds.sh file matches.
		`$ md5sum patch-25515028-sds.sh`
		`e3c3a42f8df999cf877d345cdfdfe0bd patch-25515028-sds.sh`
		`$`

3. ☐	**Apply Patch**	Follow instruction in the document SDS_5_0_MR_PATCH_25515028.docx
THIS PROCEDURE HAS BEEN COMPLETED		

!! STOP !! **Do not proceed further until the patch is applied on all the SDS servers.**