

**Oracle® Communications
Diameter Signaling Router
SDS 5.0.1 Cloud Installation Guide
Release 5.0.1
E64816, Revision 01**

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ORACLE®

Oracle Communications Diameter Signaling Router SDS 5.0.1 Cloud Installation Guide

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See more information on MOS in the Appendix section.

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1.0 INTRODUCTION

1.1 Purpose and Scope

This document describes how install the Eagle XG Subscriber Data Server (SDS) product within a customer network. It makes use of the AppWorks 5.0 network installation and is intended to cover the initial network configuration steps for a SDS/Query Server NE for production use as part of the DSR 7.0.1 solution.

This document only describes the SDS product SW installation on a Virtualized solution. It does not cover hardware installation, site survey, customer network configuration, IP assignments, customer router configurations, or the configuration of any device outside of the SDS virtual machines.

1.2 References

External (*Customer Facing*):

- [1] *TEKELEC Acronym Guide*, MS005077, Latest Revision
- [2] *Diameter Signaling Router 7.0.1 Cloud Installation Guide*, E64814, Latest Revision

Internal (*ORACLE Communications Personnel Only*):

- [3] *DSR IP Network Planning for AT&T Mobility – LTE*, MS006641, Latest Revision

1.3 Acronyms

Acronym	Meaning
CSV	Comma Separated Values
DR	Disaster Recovery
IMI	Internal Management Interface
ISL	Inter-Switch-Link
NE	Network Element
NOAM	Network Operations, Administration & Maintenance
SDS	Subscriber Data Server
SOAM	Systems Operations, Administration & Maintenance
TPD	Tekelec Platform Distribution (Linux OS)
VIP	Virtual IP
XMI	External Management Interface

Table 1 - Acronyms

1.4 Assumptions

This procedure assumes the following;

- The user has reviewed the latest Customer specific DSR Network Planning document [3] and has received assigned values for all requested information related to SDS, Query Server, DP-SOAM and DP installation.
- The user has taken assigned values from the latest Customer specific DSR Network Planning document [3] and used them to compile XML files (See **Appendix A**) for each SDS and DP-SOAM site's NE prior to attempting to execute this procedure.
- The user conceptually understands DSR topology and SDS network configuration as described in the latest Customer specific DSR Network Planning document [3].
- The user has at least an intermediate skill set with command prompt activities on an Open Systems computing environment such as Linux or TPD.

1.5 XML Files (for installing NE)

The XML files compiled for installation of the each of the SDS and DP-SOAM site's NE must be maintained and accessible for use in Disaster Recovery procedures. The ORACLE Professional Services Engineer (PSE) will provide a copy of the XML files used for installation to the designated Customer Operations POC. **The customer is ultimately responsible for maintaining and providing the XML files to Oracle's Customer Service (US: 1-888-367-8552, Intl: +1-919-460-2150) if needed for use in Disaster Recovery operations.**

1.6 How to use this Document

Although this document is primarily to be used as an initial installation guide, its secondary purpose is to be used as a reference for Disaster Recovery procedures. When executing this document for either purpose, there are a few points which help to ensure that the user understands the author's intent. These points are as follows;

- 1) Before beginning a procedure, completely read the instructional text (it will appear immediately after the Section heading for each procedure) and all associated procedural WARNINGS or NOTES.
- 2) Before execution of a STEP within a procedure, completely read the left and right columns including any STEP specific WARNINGS or NOTES.

If a procedural STEP fails to execute successfully, STOP and contact Oracle's Tekelec Customer Service (US: 1-888-367-8552, Intl: +1-919-460-2150) for assistance before attempting to continue.

2.0 PRE-INSTALLATION SETUP

2.1 Installation Prerequisites

The following items/settings are required in order to perform installation:

- A laptop or desktop computer equipped as follows;
 - Administrative privileges for the OS.
 - An approved web browser (currently Internet Explorer 7.x or 8.x)

- TPD “root” user password.

2.2 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 Communications for archiving post installation.

3.0 INSTALLATION MATRIX

3.1 Installing SDS on the Customer Network

Installing the SDS product is a task which requires multiple installations of varying types. The matrix below provides a guide to the user as to which procedures are to be performed on which site types. The user should be aware that this document only covers the necessary configuration required to complete product install. Refer to the online help or contact the Oracle's Tekelec Customer Care Center for assistance with post installation configuration options.

NOTE: Although the SDS sites are fully redundant by function, we must distinguish between them during installation due to procedural changes based on the installation sequence. The user should be aware that any reference to the “SDS” site refers to the 1st installation of a SDS pair on the customer network while references to the “DR SDS” site refers to the 2nd SDS pair to be installed.

SDS Installation Matrix

Site Type								
		1	2	3	4	5	6	7
<input type="checkbox"/>	SDS	✓	✓	✓	✗	✗	✗	✗
<input type="checkbox"/>	Query Server	✓	✗	✗	✓	✗	✗	✗
<input type="checkbox"/>	DP-SOAM	✓	✗	✗	✗	✓	✓	✗
<input type="checkbox"/>	DP	✓	✗	✗	✗	✗	✗	✓

Table 2 - SDS Installation Matrix

SDS Installation: List of Procedures

In general, unless following a cross reference or otherwise instructed differently, the procedures listed here are meant to be executed in numeric order.

Procedure No :	Title :	Page No :
1	Create SDS Guests	10
2	Configuring SDS Servers A and B	12
3	OAM Pairing	23
4	Query Server Installation	34
5	OAM Installation for DP-SOAM sites (All DP-SOAM sites)	45
6	OAM Pairing for DP-SOAM sites (All DP-SOAM sites)	52
7	DP Installation (All DP-SOAM sites)	60
8	Configuring ComAgent	74

Table 3 - SDS Installation: List of Procedures

4.0 APPLICATION INSTALL

4.1 Create SDS Guests

Procedure 1: Create SDS Guests From OVA

Step	Procedure	Result
1. <input type="checkbox"/>	Cloud Client: Add SDS OVA image.	<ol style="list-style-type: none"> 1. Launch the Cloud client of your choice. 2. Add the SDS OVA image to the Cloud catalog or repository. Follow the instructions provided by the Cloud solutions manufacturer.
2. <input type="checkbox"/>	Cloud Client: Create the SDS VM, from the OVA image.	<ol style="list-style-type: none"> 1. Browse the library or repository that you placed the OVA image. 2. Deploy the OVF Image using Cloud Client or the Cloud Web Client. 3. Name the SDS NOAM VM and select the datastore.
3. <input type="checkbox"/>	Cloud Client: Configure resources for the SDS Server A VM.	<ol style="list-style-type: none"> 1. Configure the SDS NOAM VM per the Appendix C Resource Profile for the SDS NOAM using the Cloud Client or the Cloud Web Client.
4. <input type="checkbox"/>	Cloud Client: Power on SDS Server A VM.	<ol style="list-style-type: none"> 1. Use the Cloud client or Cloud web client to Power on the SDS Server A VM.
5. <input type="checkbox"/>	Cloud Client: Configure SDS Server A.	<ol style="list-style-type: none"> 1. Access the SDS SERVER A VM console via the Cloud client or Cloud web client. 2. Login as root. 3. Set the <ethX> device: 4. Note: Where ethX is the interface associated with the XMI network <pre># netAdm add --device=<ethX> --address=<IP Address in External management Network> --netmask=<Netmask> --onboot=yes --bootproto=none</pre> 5. Add the default route for ethX: <pre># netAdm add --route=default -gateway=<gateway address for the External management network> --device=<ethX></pre>
6. <input type="checkbox"/>	Verify Network connectivity.	<ol style="list-style-type: none"> 1. Ping the default gateway. <pre># ping -c3 <gateway address for the External management network></pre>
7. <input type="checkbox"/>	<ul style="list-style-type: none"> • Repeat this steps 1 - 6 for each server before continuing on to the next procedure. (e.g. Server A, Server B, Query Server, DP) 	

Procedure 1: Create SDS Guests From OVA

Step	Procedure	Result
THIS PROCEDURE HAS BEEN COMPLETED		

5.0 CONFIGURATION PROCEDURES

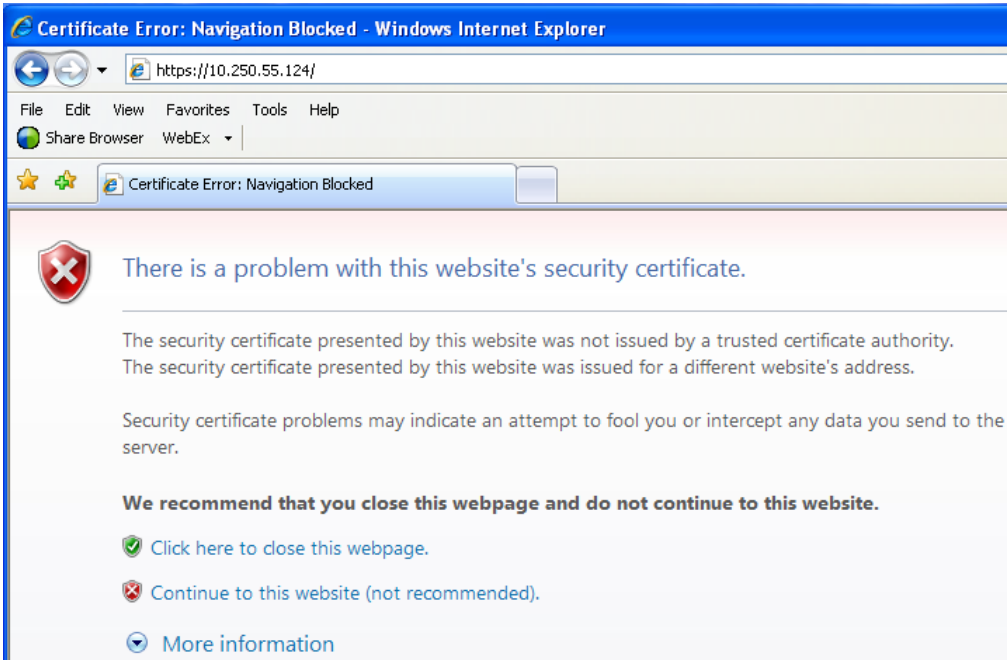
5.1 Configuring SDS Servers A and B

Assumptions:

- This procedure assumes that the SDS Network Element XML file for the Primary Provisioning SDS site has previously been created, as described in **Appendix A**.
- This procedure assumes that the Network Element XML files are the laptop's hard drive.

This procedure requires that the user connects to the SDS GUI prior to configuring the first SDS server.

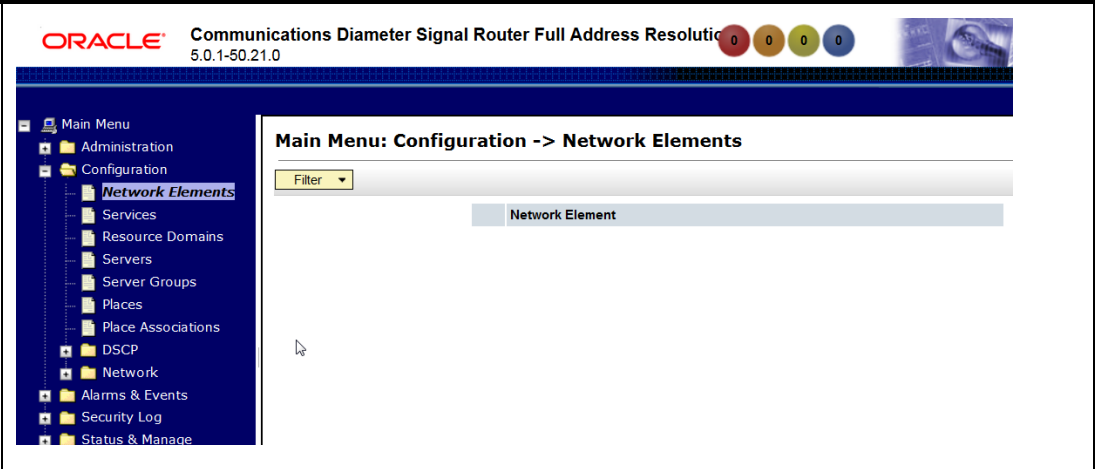
Procedure 2: Configuring SDS Servers A and B

Step	Procedure	Result
<p>1.</p> <input data-bbox="154 823 198 865" type="checkbox"/>	<p>SDS Server A:</p> <p>Launch an approved web browser and connect to the SDS SERVER A XMI IP address.</p> <p>NOTE: <i>If presented with the "security certificate" warning screen shown to the right, choose the following option:</i></p> <p>"Continue to this website (not recommended)".</p>	

Procedure 2: Configuring SDS Servers A and B

Step	Procedure	Result
<p>2.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	

Procedure 2.1 Configuring the Network Element

<p>3.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>Select...</p> <p>Main Menu</p> <p>→ Configuration</p> <p>→ Network Elements</p> <p>...as shown on the right.</p>	
---	--	--

Procedure 2.1 Configuring the Network Element

<p>4.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>From the Configuration / Network Elements screen...</p> <p>Select the “Browse” dialogue button (scroll to bottom left corner of screen).</p>	
<p>5.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>Note: This step assumes that the xml files were previously prepared, as described in Appendix A.</p> <p>1) Select the location containing the site .xml file.</p> <p>2) Select the .xml file and click the “Open” dialogue button.</p>	
<p>6.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>Select the “Upload File” dialogue button (bottom left corner of screen).</p>	

Procedure 2.1 Configuring the Network Element

7.

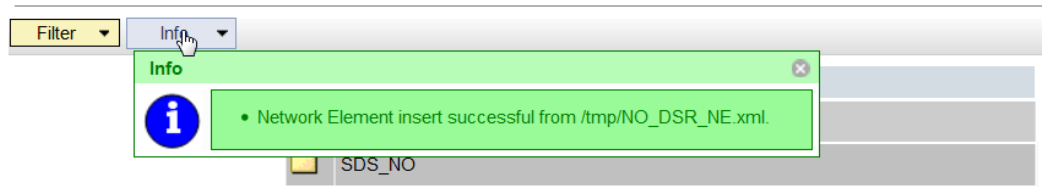


SDS Server A:

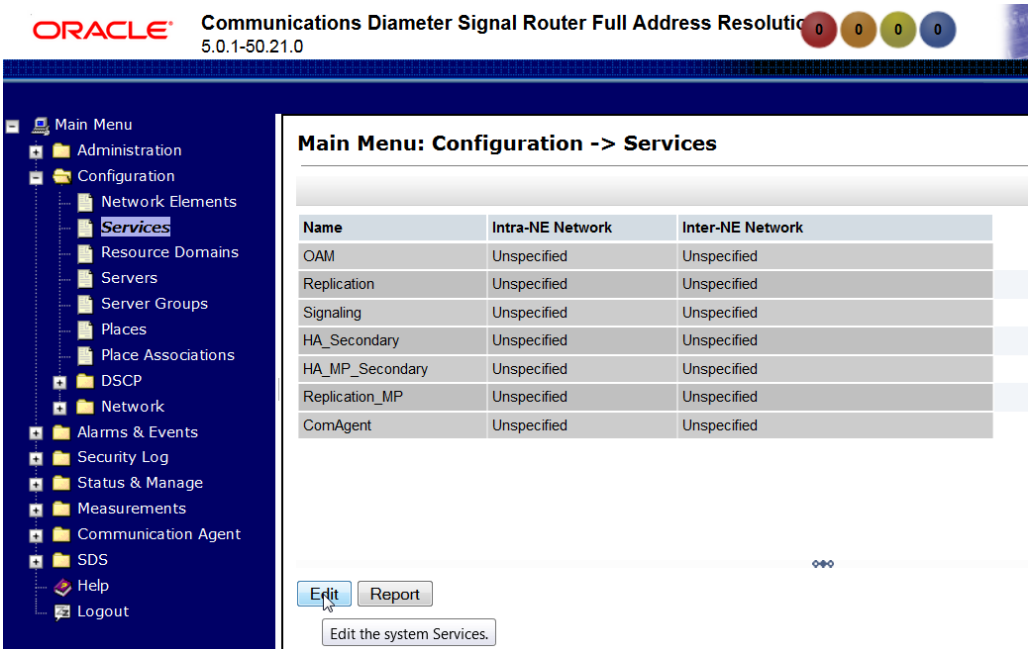
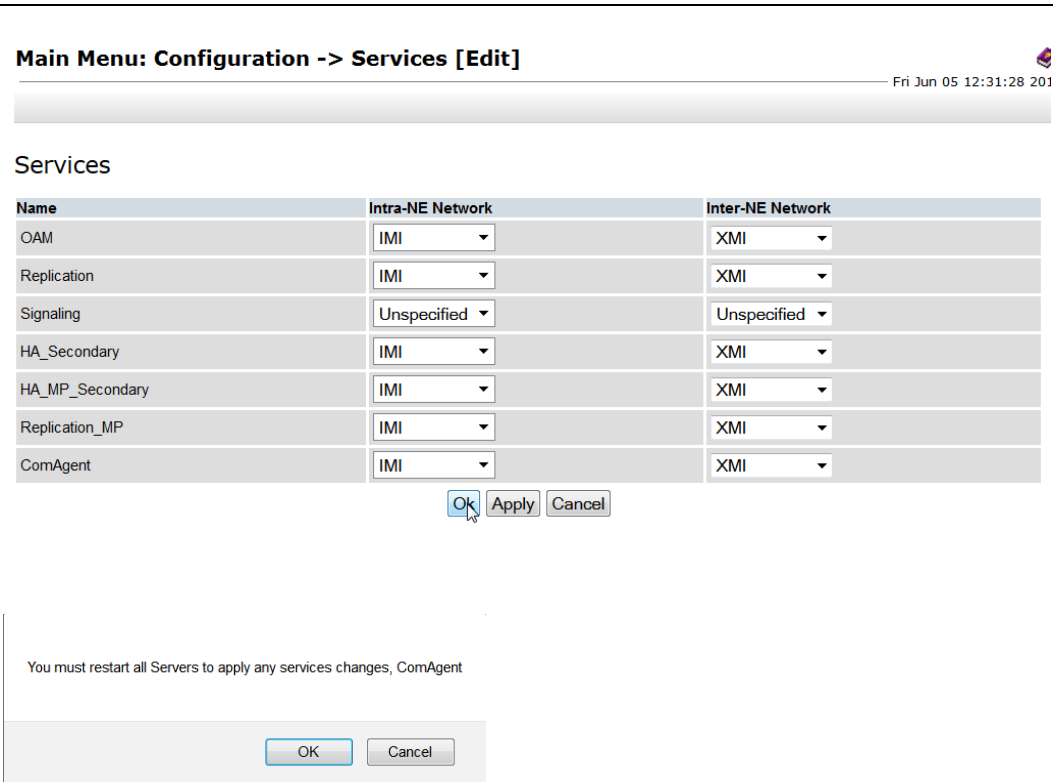
If the values in the .xml file pass validation rules, the user will receive a banner information message showing that the data has been successfully validated and committed to the DB.

NOTE: You may have to left mouse click the **“Info”** banner option in order to see the banner output.

Main Menu: Configuration -> Network Elements



Procedure 2.2 Configuring Services

<p>8.</p> <p><input type="checkbox"/></p> <p>SDS Server A: Select...</p> <p>Main Menu → Configuration → Services</p> <p>...as shown on the right.</p> <p>1) The user will be presented with the “Services” configuration screen as shown on the right.</p> <p>2) Select the “Edit” dialogue button.</p>	 <p>Main Menu: Configuration -> Services</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr><td>OAM</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>Replication</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>Signaling</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>HA_Secondary</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>HA_MP_Secondary</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>Replication_MP</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>ComAgent</td><td>Unspecified</td><td>Unspecified</td></tr> </tbody> </table> <p style="text-align: right;">Edit Report</p> <p style="text-align: center;">Edit the system Services.</p>	Name	Intra-NE Network	Inter-NE Network	OAM	Unspecified	Unspecified	Replication	Unspecified	Unspecified	Signaling	Unspecified	Unspecified	HA_Secondary	Unspecified	Unspecified	HA_MP_Secondary	Unspecified	Unspecified	Replication_MP	Unspecified	Unspecified	ComAgent	Unspecified	Unspecified
Name	Intra-NE Network	Inter-NE Network																							
OAM	Unspecified	Unspecified																							
Replication	Unspecified	Unspecified																							
Signaling	Unspecified	Unspecified																							
HA_Secondary	Unspecified	Unspecified																							
HA_MP_Secondary	Unspecified	Unspecified																							
Replication_MP	Unspecified	Unspecified																							
ComAgent	Unspecified	Unspecified																							
<p>9.</p> <p><input type="checkbox"/></p> <p>SDS Server A:</p> <p>1) With the exception of “Signaling” which is left “Unspecified”, set other services values so that all Intra-NE Network traffic is directed across IMI and all Inter-NE Network traffic is across XMI.</p> <p>2) Select the “Ok” dialogue button.</p> <p>3) Select the “Ok” popup dialogue button.</p> <p>NOTE: These are recommended names for SDS 5.0. Service names may vary according to those used in Appendix A.</p>	 <p>Main Menu: Configuration -> Services [Edit] Fri Jun 05 12:31:28 201</p> <p>Services</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr><td>OAM</td><td>IMI</td><td>XMI</td></tr> <tr><td>Replication</td><td>IMI</td><td>XMI</td></tr> <tr><td>Signaling</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>HA_Secondary</td><td>IMI</td><td>XMI</td></tr> <tr><td>HA_MP_Secondary</td><td>IMI</td><td>XMI</td></tr> <tr><td>Replication_MP</td><td>IMI</td><td>XMI</td></tr> <tr><td>ComAgent</td><td>IMI</td><td>XMI</td></tr> </tbody> </table> <p style="text-align: right;">Ok Apply Cancel</p> <p style="font-size: small; text-align: center;">You must restart all Servers to apply any services changes, ComAgent</p> <p style="text-align: center;">OK Cancel</p>	Name	Intra-NE Network	Inter-NE Network	OAM	IMI	XMI	Replication	IMI	XMI	Signaling	Unspecified	Unspecified	HA_Secondary	IMI	XMI	HA_MP_Secondary	IMI	XMI	Replication_MP	IMI	XMI	ComAgent	IMI	XMI
Name	Intra-NE Network	Inter-NE Network																							
OAM	IMI	XMI																							
Replication	IMI	XMI																							
Signaling	Unspecified	Unspecified																							
HA_Secondary	IMI	XMI																							
HA_MP_Secondary	IMI	XMI																							
Replication_MP	IMI	XMI																							
ComAgent	IMI	XMI																							

Procedure 2.2 Configuring Services

10. **SDS Server A:**
 The user will be presented with the “**Services**” configuration screen as shown on the right

Main Menu: Configuration -> Services

Name	Intra-NE Network	Inter-NE Network
OAM	IMI	XMI
Replication	IMI	XMI
Signaling	Unspecified	Unspecified
HA_Secondary	IMI	XMI
HA_MP_Secondary	IMI	XMI
Replication_MP	IMI	XMI
ComAgent	IMI	XMI

Procedure 2.3 Configuring the SDS Server

11. **Note:** This step thru the last step of this procedure need to be done for both SDS Server A and SDS Server B.

SDS Server A or B:
 Select...

Main Menu
 → **Configuration**
 → **Servers**

...as shown on the right.

Select the “**Insert**” dialogue button.

ORACLE® Communications Diameter Signal Router Full Address Reso
 5.0.1-50.21.0

Main Menu: Configuration -> Servers

Filter

Hostname	Role	System ID
----------	------	-----------

Insert a new Server and associated Interface(s).

Procedure 2.3 Configuring the SDS Server

12.



SDS Server A or B:

1) Input the assigned "hostname" for the SDS Server (A or B).

2) Select "NETWORK OAM&P" for the server "Role" from the pull-down menu.

3) Input the assigned hostname again as the "System ID" for the SDS Server (A or B).

4) Select "SDS ESXI Guest" for the Hardware Profile for the SDS from the pull-down menu.

5) Select the Network Element Name for the SDS from the pull-down menu.

NOTE: After the Network Element Name is selected, the Interfaces fields will be displayed, as seen in step 13.

6) Enter the site location.

NOTE: Location is an optional field.

Main Menu: Configuration -> Servers [Insert]

Fri Jun 05 12:47:01

Info ▾

Adding a new server

Attribute	Value	Description
Hostname	SDS-NO1 *	Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]
Role	NETWORK OAM&P ▾ *	Select the function of the server
System ID	SDS-NO1	System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]
Hardware Profile	SDS ESXI Guest ▾	Hardware profile of the server
Network Element Name	SDS_NO ▾ *	Select the network element
Location	MoVile	Location description [Default = "". Range = A 15-character string. Valid value is any text string.]

Procedure 2.3 Configuring the SDS Server

13.

SDS Server A or B:

1) Enter the XMI and IMI IP addresses for the SDS Server.

2) Set the XMI and IMI Interfaces to Ethernet interfaces associated with the XMI and IMI Virtual networks. DO NOT check the VLAN checkboxes.

3) Click the "NTP Servers:" "Add" dialogue button.

4) Enter the NTP Server IP Address for an NTP Server.

5) If you have another NTP Server IP address, repeat (1) and (2) to enter it.

6) Optionally, click the "Prefer" checkbox to prefer one NTP Server over the other.

7) Click the "Ok" dialogue button.

Interfaces:		
Network	IP Address	Interface
XMI (10.250.65.0/24)	10.250.65.117	eth0 <input type="checkbox"/> VLAN (3)
IMI (192.168.0.0/24)	192.168.0.1	eth1 <input type="checkbox"/> VLAN (4)

NTP Servers:	
NTP Server IP Address	Prefer
<input type="button" value="Add"/>	
10.250.65.115	<input checked="" type="checkbox"/>
	<input type="button" value="Remove"/>

Procedure 2.4 Applying the SDS Server Configuration File

<p>14.</p> <p><input type="checkbox"/></p>	<p>SDS Server A or B:</p> <p>1) Use the cursor to select the SDS Server entry added in Steps 11 - 13.</p> <p>The row containing the desired SDS Server should now be highlighted in GREEN.</p> <p>2) Select the “Export” dialogue button.</p>	<p>Main Menu: Configuration -> Servers</p> <p>Filter <input type="text"/></p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>SDS-NO1</td> <td>Network OAM&P</td> <td>SDS-NO1</td> <td></td> <td>SDS_NO</td> <td>MoVile</td> <td></td> <td>XMI: 10.250.65.117 IMI: 192.168.0.1</td> </tr> </tbody> </table> <p>Insert Edit Delete Export Report</p> <p>Generate file(s) that may be used to view the configuration of the selected Server(s).</p>	Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details	SDS-NO1	Network OAM&P	SDS-NO1		SDS_NO	MoVile		XMI: 10.250.65.117 IMI: 192.168.0.1
Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details											
SDS-NO1	Network OAM&P	SDS-NO1		SDS_NO	MoVile		XMI: 10.250.65.117 IMI: 192.168.0.1											
<p>15.</p> <p><input type="checkbox"/></p>	<p>SDS Server A or B:</p> <p>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.</p> <p>NOTE: <i>The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.</i></p>	<p>Example Server A:</p> <p>TKLCConfigData<hostname>.sh → will translate to →TKLCConfigData.sh</p> <pre>[root@hostname1260476099 ~]# cp /var/TKLC/db/filemgmt/TKLCConfigData.<hostname>.sh /var/tmp/TKLCConfigData.sh [root@hostname1260476099 ~]#</pre> <p>Example Server B:</p> <p>Obtain a terminal session on Server A as root. Log in as root on the Server A shell, and issue the following commands:</p> <pre>[root@sds-mrsvnc-a ~]# scp \ /var/TKLC/db/filemgmt/TKLCConfigData.<hostname>.sh \ <ipaddr>:/var/tmp/TKLCConfigData.sh</pre> <p>Note: ipaddr is the IP address of Server B associated with the xmi network.</p>																

Procedure 2.4 Applying the SDS Server Configuration File

<p>16.</p> <input type="checkbox"/>	<p>SDS Server A or B:</p> <p>After the script completes, a broadcast message will be sent to the terminal.</p> <p>NOTE: <i>The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete.</i></p>	<p>*** NO OUTPUT FOR ≈ 3-20 MINUTES ***</p> <p>Broadcast message from root (Thu Dec 1 09:41:24 2011):</p> <p>Server configuration completed successfully!</p> <p>See /var/TKLC/appw/logs/Process/install.log for details.</p> <pre>[root@hostname1260476099 ~]# tail -f \ /var/TKLC/appw/logs/Process/install.log</pre>
<p>17.</p> <input type="checkbox"/>	<p>SDS Server A or B:</p> <p>Configure the time zone.</p>	<pre>[root@hostname1260476099 ~]# set_ini_tz.pl <time zone></pre> <p>Note: The following command example uses Etc/UTC time zone. Replace, as appropriate, with the time zone you have selected for this installation. See Appendix B for a list of valid time zones.</p> <pre>[root@hostname1260476099 ~]# set_ini_tz.pl "Etc/UTC"</pre>
<p>18.</p> <input type="checkbox"/>	<p>SDS Server A or B:</p> <p>Initiate a reboot of the SDS Server.</p>	<pre>[root@hostname1260476099 ~]# init 6</pre>
<p>19.</p> <input type="checkbox"/>	<p>SDS Server A or B:</p> <p>After the server has completed reboot...</p> <p>Verify that the server console returns to a login prompt.</p>	<pre>CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64 sds-mrsvnc-a login: root Password: <root_password></pre>

Procedure 2.4 Applying the SDS Server Configuration File

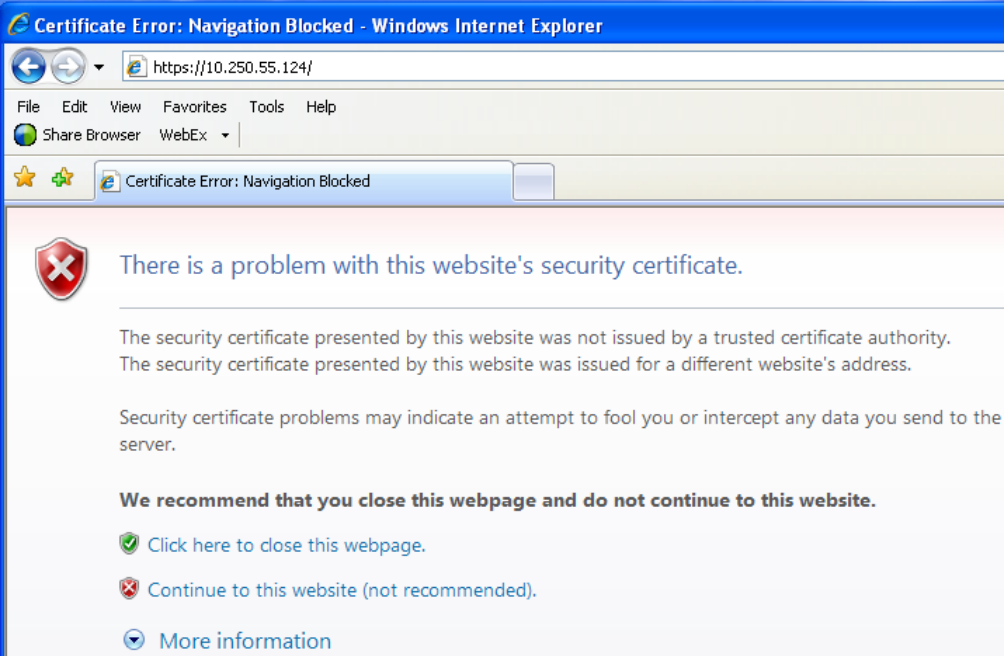

<p>20. <input type="checkbox"/></p>	<p>SDS Server A or B: Execute a “syscheck” to verify the current health of the server.</p>	<pre>[root@sds-mrsvnc-a ~]# syscheck Running modules in class system... OK Running modules in class proc... OK Running modules in class net... OK Running modules in class hardware... OK Running modules in class disk... OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log [root@sds-mrsvnc-a ~]#</pre>
<p>21. <input type="checkbox"/></p>	<p>SDS Server A or B: Exit from the command line to return the server console to the login prompt.</p>	<pre>[root@sds-mrsvnc-a ~]# exit CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64 sds-mrsvnc-a login:</pre>
<p>22. <input type="checkbox"/></p>	<ul style="list-style-type: none"> • Configure SDS Server B by repeating steps 11 - 21 of this procedure. 	

THIS PROCEDURE HAS BEEN COMPLETED

5.2 OAM Pairing

The user should be aware that during the OAM Pairing procedure, various errors may be seen at different stages of the procedure. During the execution of a step, the user is directed to ignore errors related to values other than the ones referenced by that step.

Procedure 3: Pairing the OAM Servers (1st SDS site only)

Step	Procedure	Result
<p>1.</p> <input data-bbox="154 577 203 619" type="checkbox"/>	<p>SDS Server A:</p> <p>Launch an approved web browser and connect to the XMI IP address assigned to SDS Server A using "https://"</p>	
<p>2.</p> <input data-bbox="154 1260 203 1302" type="checkbox"/>	<p>SDS Server A:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	

Procedure 3.1 Configuring the SDS Server Group

3. **SDS Server A:**
Select...

Main Menu
→ **Configuration**
→ **Server Groups**

...as shown on the right.

4. **SDS Server A:**

1) The user will be presented with the “**Server Groups**” configuration screen as shown on the right.

2) Select the “**Insert**” 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 “**Insert**” dialogue button visible.

5. **SDS Server A:**

The user will be presented with the “**Server Groups [Insert]**” screen as shown on the right.

NOTE: Leave the “**WAN Replication Connection Count**” blank (it will default to 1).

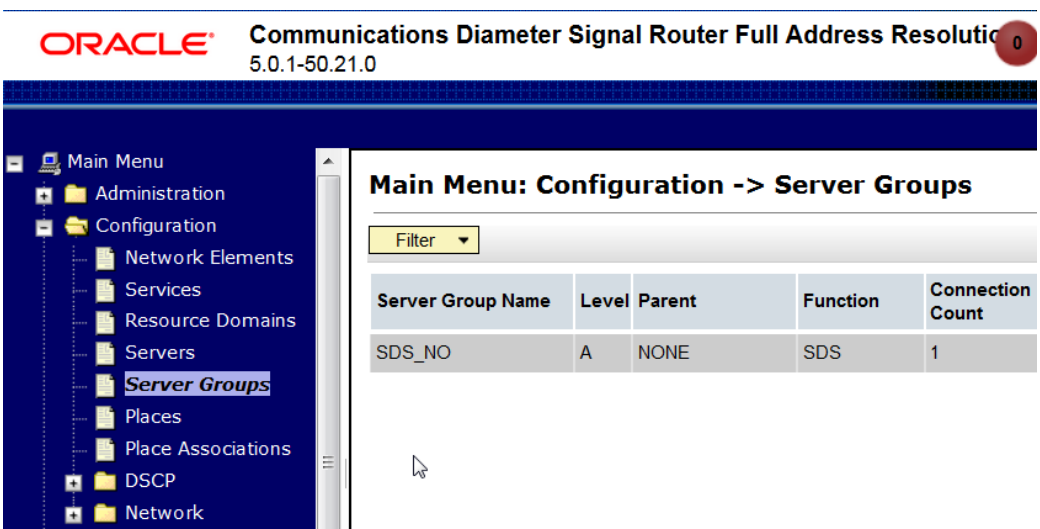
Field	Value	Description
Server Group Name	<input type="text"/>	Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]
Level	- Select Level - *	Select one of the Levels supported by the system. [Level A groups contain NOAMP and Query servers. Level B groups are optional and contain SOAM servers. Level C groups contain MP servers.]
Parent	- Select Parent - *	Select an existing Server Group or NONE
Function	- Select Function - *	Select one of the Functions supported by the system
WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]

Procedure 3: Pairing the OAM Servers (1st SDS site only)

Step	Procedure	Result																		
<p>6.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>Input the Server Group Name.</p> <p>Select "A" on the "Level" pull-down menu.</p> <p>Select "None" on the "Parent" pull-down menu.</p> <p>Select "SDS" on the "Function" pull-down menu.</p> <p>Select the "Ok" dialogue button.</p>	<p>Main Menu: Configuration -> Server Groups [Insert] Wed Jun 03 11:18:54 20</p> <p>Info ▾</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Server Group Name</td> <td>SDS_NO *</td> <td>Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]</td> </tr> <tr> <td>Level</td> <td>A *</td> <td>Select one of the Levels supported by the system. [Level A groups contain NOAMP and Query servers. Level B groups are optional and contain SOAM servers. Level C groups contain MP servers.]</td> </tr> <tr> <td>Parent</td> <td>NONE *</td> <td>Select an existing Server Group or NONE</td> </tr> <tr> <td>Function</td> <td>SDS *</td> <td>Select one of the Functions supported by the system</td> </tr> <tr> <td>WAN Replication Connection Count</td> <td>1</td> <td>Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]</td> </tr> </tbody> </table> <p>Ok Apply Cancel</p>	Field	Value	Description	Server Group Name	SDS_NO *	Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]	Level	A *	Select one of the Levels supported by the system. [Level A groups contain NOAMP and Query servers. Level B groups are optional and contain SOAM servers. Level C groups contain MP servers.]	Parent	NONE *	Select an existing Server Group or NONE	Function	SDS *	Select one of the Functions supported by the system	WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]
Field	Value	Description																		
Server Group Name	SDS_NO *	Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]																		
Level	A *	Select one of the Levels supported by the system. [Level A groups contain NOAMP and Query servers. Level B groups are optional and contain SOAM servers. Level C groups contain MP servers.]																		
Parent	NONE *	Select an existing Server Group or NONE																		
Function	SDS *	Select one of the Functions supported by the system																		
WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]																		

Procedure 3.2 Adding a Server to an OAM Server Group

7. **SDS Server A:**
 The **Server Group** entry added in **Steps 5 - 6** should now appear on the **“Server Groups”** configuration screen as shown on the right.



The screenshot shows the Oracle Communications Diameter Signal Router configuration interface. The title bar reads "ORACLE Communications Diameter Signal Router Full Address Resolution 5.0.1-50.21.0". The left sidebar contains a "Main Menu" with categories: Administration, Configuration, Network Elements, Services, Resource Domains, Servers, **Server Groups** (highlighted), Places, Place Associations, DSCP, and Network. The main content area is titled "Main Menu: Configuration -> Server Groups" and features a table with the following data:

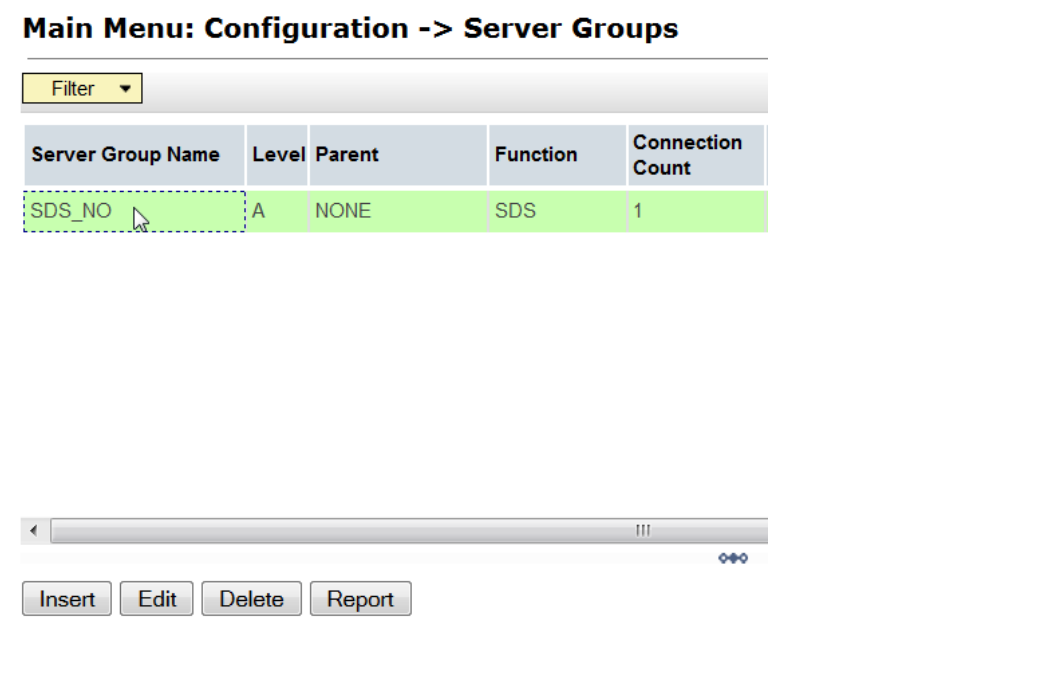
Server Group Name	Level	Parent	Function	Connection Count
SDS_NO	A	NONE	SDS	1

8. **SDS Server A:**

1) Select the **Server Group** entry added in **Steps 5 - 7**. 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.*

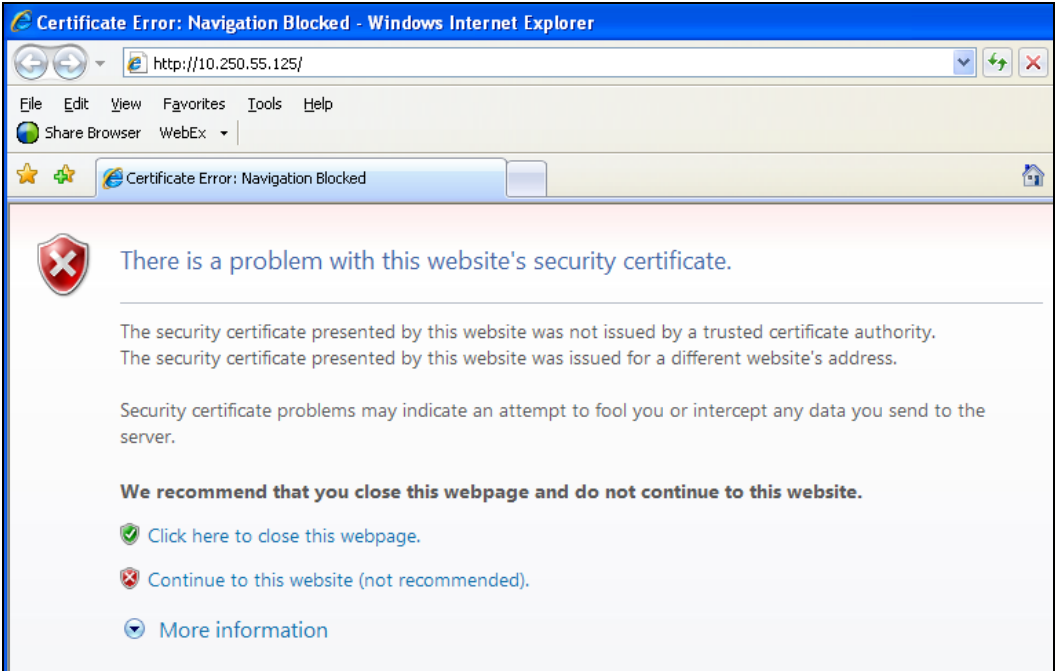



The screenshot shows the same configuration interface as in step 7, but the table entry for "SDS_NO" is highlighted in green. Below the table, a horizontal scroll bar is visible, and at the bottom of the screen, there are four buttons: "Insert", "Edit", "Delete", and "Report".

Procedure 3.2 Adding a Server to an OAM Server Group

<p>9.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>The user will be presented with the “Server Groups [Edit]” screen as shown on the right.</p> <p>1) Select the “A” server and the “B” server if configured from the list of “Servers” by clicking the check box next to their names.</p> <p>2) Select the “Apply” dialogue button.</p>	<p>Main Menu: Configuration -> Server Groups [Edit] Fri Jun 05 18:33:44</p> <p>Info ▾</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Server Group Name</td> <td>SDS_NO *</td> <td>Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]</td> </tr> <tr> <td>Level</td> <td>A ▾ *</td> <td>Select one of the Levels supported by the system</td> </tr> <tr> <td>Parent</td> <td>NONE ▾ *</td> <td>Select an existing Server Group or NONE</td> </tr> <tr> <td>Function</td> <td>SDS ▾ *</td> <td>Select one of the Functions supported by the system</td> </tr> <tr> <td>WAN Replication Connection Count</td> <td>1</td> <td>Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>SDS_NO</th> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td></td> <td>SDS-NO1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td></td> <td>SDS-NO2</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>VIP Assignment</p> <p>VIP Address Add</p> <p style="text-align: right;">Ok Apply Cancel</p>	Field	Value	Description	Server Group Name	SDS_NO *	Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]	Level	A ▾ *	Select one of the Levels supported by the system	Parent	NONE ▾ *	Select an existing Server Group or NONE	Function	SDS ▾ *	Select one of the Functions supported by the system	WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]	SDS_NO	Server	SG Inclusion	Preferred HA Role		SDS-NO1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare		SDS-NO2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
Field	Value	Description																														
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Level	A ▾ *	Select one of the Levels supported by the system																														
Parent	NONE ▾ *	Select an existing Server Group or NONE																														
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WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]																														
SDS_NO	Server	SG Inclusion	Preferred HA Role																													
	SDS-NO1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare																													
	SDS-NO2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare																													
<p>10.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>Click the “Add” dialogue button for the VIP Address.</p>	<p>VIP Assignment</p> <p>VIP Address Add</p>																														
<p>11.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>1) Input the VIP Address.</p> <p>2) Select the “Apply” dialogue button.</p>	<p>VIP Assignment</p> <p>VIP Address Add</p> <p>10.250.65.123 Remove</p> <p style="text-align: right;">Ok Apply Cancel</p>																														
<p>12.</p> <p><input type="checkbox"/></p>	<p>IMPORTANT:</p> <p>Wait at least 5 minutes before proceeding on to the next Step.</p>	<ul style="list-style-type: none"> Now that the server(s) have been paired within a Server Group they must establish a master/slave relationship for High Availability (HA). It may take several minutes for this process to be completed. Allow a minimum of 5 minutes before continuing to the next Step. 																														

Procedure 3.2 Adding a Server to an OAM Server Group

<p>13.</p> <p><input type="checkbox"/></p>	<p>SDS VIP:</p> <p>Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) assigned in STEP 11 to the SDS Server Group using "https://".</p>	
<p>14.</p> <p><input type="checkbox"/></p>	<p>SDS VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	

Procedure 3.2 Adding a Server to an OAM Server Group

15.



SDS VIP:

Select...

Main Menu

→ **Status & Manage**

→ **Server**

...as shown on the right.

1) The “**A**” and “**B**” SDS servers should now appear in the right panel.

2) Verify that the “**DB**” status shows “**Norm**” and the “**Proc**” status shows “**Man**” for both servers before proceeding to the next Step.

Main Menu: Status & Manage -> Server



Mon Jun 08 19:02:43 2015 UTC

Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
SDS_NO	SDS-NO1	Disabled	Err	Norm	Norm	Man
SDS_NO	SDS-NO2	Disabled	Warn	Norm	Norm	Man



Procedure 3.2 Adding a Server to an OAM Server Group

16.



SDS VIP:

1) Using the mouse, select **SDS Server A**. 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 **SDS Server A** stating: **Successfully restarted application**.

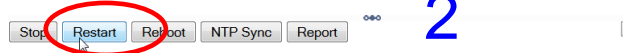
NOTE: The user may need to use the vertical scroll-bar in order to make the **Restart** dialogue button visible.

Main Menu: Status & Manage -> Server

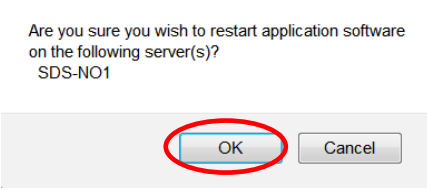
Mon Jun 08 19:

Filter	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
	SDS_NO	SDS-NO1	Disabled	Err	Norm	Norm	Man
	SDS_NO	SDS-NO2	Disabled	Warn	Norm	Norm	Man

1



2



3


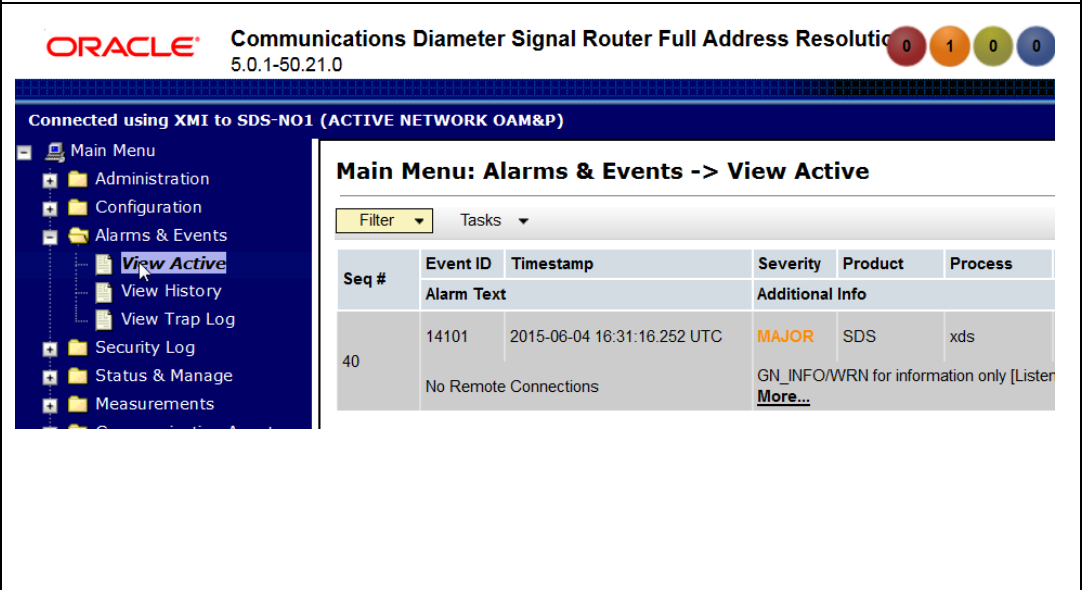
Main Menu: Status & Manage -> Server

4

Procedure 3.2 Adding a Server to an OAM Server Group

<p>17.</p> <input type="checkbox"/>	<p>SDS VIP:</p> <p>Verify that the “Appl State” now shows “Enabled” and that the “DB, Reporting Status & Proc” status columns all show “Norm” for SDS Server A before proceeding to the next Step.</p> <p>NOTE: <i>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.</i></p>	<p>Main Menu: Status & Manage -> Server Mon Jun 0</p> <p>Filter ▾</p> <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm	SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm
Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc																	
SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm																	
SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm																	
<p>18.</p> <input type="checkbox"/>	<ul style="list-style-type: none"> • Configure SDS Server B by repeating steps 16 - 17 of this procedure. 																						
<p>19.</p> <input type="checkbox"/>	<p>IMPORTANT:</p> <p>Wait at least 5 minutes before proceeding on to the next Step.</p>	<ul style="list-style-type: none"> • Now that the server(s) have been restarted they must establish a master/slave relationship for High Availability (HA). It may take several minutes for this process to be completed. • Allow a minimum of 5 minutes before continuing to the next Step. 																					

Procedure 3.3 Verifying the SDS Server Alarm status

<p>20.</p> <p><input type="checkbox"/></p>	<p>SDS VIP:</p> <p>If there is a context switch, you may be required to login again.</p> <p>Login to the GUI using the default user and password.</p>																			
<p>21.</p> <p><input type="checkbox"/></p>	<p>SDS VIP:</p> <p>Select...</p> <p>Main Menu → Alarms & Events → View Active</p> <p>...as shown on the right.</p> <p>Verify that Event ID 14101 ("No Remote Connections") is the only alarm present on the system at this time.</p>	 <table border="1"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>14101</td> <td>2015-06-04 16:31:16.252 UTC</td> <td>MAJOR</td> <td>SDS</td> <td>xds</td> </tr> <tr> <td colspan="3">No Remote Connections</td> <td colspan="3">GN_INFO/WRN for information only [Lister More...]</td> </tr> </tbody> </table>	Seq #	Event ID	Timestamp	Severity	Product	Process	40	14101	2015-06-04 16:31:16.252 UTC	MAJOR	SDS	xds	No Remote Connections			GN_INFO/WRN for information only [Lister More...]		
Seq #	Event ID	Timestamp	Severity	Product	Process															
40	14101	2015-06-04 16:31:16.252 UTC	MAJOR	SDS	xds															
No Remote Connections			GN_INFO/WRN for information only [Lister More...]																	

Procedure 3.4 Configuring SNMP for Traps from Individual Servers

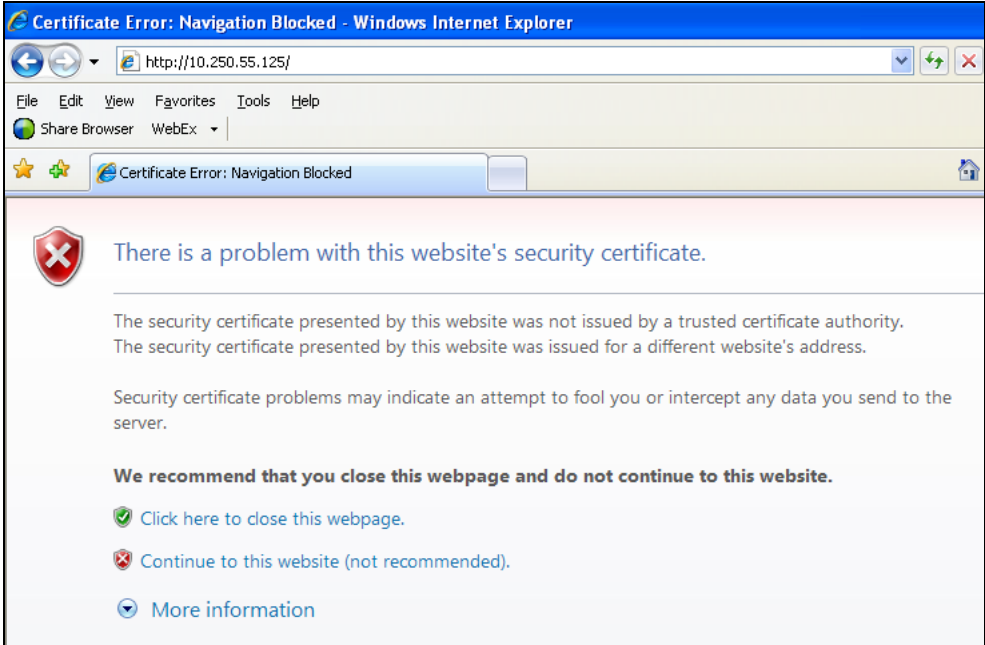

<p>22.</p> <p><input type="checkbox"/></p>	<p>SDS VIP: Select...</p> <p>Main Menu → Administration → Remote Servers → SNMP Trapping</p> <p>...as shown on the right.</p>	
<p>23.</p> <p><input type="checkbox"/></p>	<p>SDS VIP:</p> <p>1) Using the cursor, place a “check” in the check box for “Traps from Individual Servers”.</p> <p>2) Click the “Ok” dialogue button located at the bottom of the right panel.</p>	
<p>24.</p> <p><input type="checkbox"/></p>	<p>SDS VIP:</p> <p>1) Using the cursor, place a “check” in the check box for “Check to confirm”.</p> <p>2) Click the “OK” dialogue button.</p>	

THIS PROCEDURE HAS BEEN COMPLETED

5.3 Query Server Installation

The user should be aware that during the Query Server installation procedure, various errors may be seen at different stages of the procedure. During the execution of a step, the user is directed to ignore errors related to values other than the ones referenced by that step.

Procedure 4: Configuring the Query Server

Step	Procedure	Result
<p>1.</p> <input type="checkbox"/>	<p>Active SDS VIP:</p> <p>Launch an approved web browser and connect to the XMI Virtual IP address (VIP) assigned to Active SDS site using "https://"</p>	
<p>2.</p> <input type="checkbox"/>	<p>Active SDS VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	

Procedure 4.1 Configuring the Query Server

<p>3.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Select...</p> <p>Main Menu → Configuration → Servers</p> <p>...as shown on the right.</p> <p>Select the "Insert" dialogue button.</p>	<p>Main Menu: Configuration -> Servers</p> <p>Filter ▾</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> </tr> </thead> <tbody> <tr> <td>SDS-NO1</td> <td>Network OAM&P</td> <td>SDS-NO1</td> <td>SDS_NO</td> </tr> <tr> <td>SDS-NO2</td> <td>Network OAM&P</td> <td>SDS-NO2</td> <td>SDS_NO</td> </tr> </tbody> </table> <p>Insert Edit Delete Export Report</p>	Hostname	Role	System ID	Server Group	SDS-NO1	Network OAM&P	SDS-NO1	SDS_NO	SDS-NO2	Network OAM&P	SDS-NO2	SDS_NO									
Hostname	Role	System ID	Server Group																				
SDS-NO1	Network OAM&P	SDS-NO1	SDS_NO																				
SDS-NO2	Network OAM&P	SDS-NO2	SDS_NO																				
<p>4.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>1) Input the assigned "hostname" for the Query Server.</p> <p>2) Select "QUERY SERVER" for the server "Role" from the pull-down menu.</p> <p>3) Select "SDS ESXi Guest" for the Hardware Profile for the SDS from the pull-down menu.</p> <p>4) Select the Network Element Name of the SDS site where the Query Server is physically located from the list of available NEs in the pull-down menu.</p> <p>5) Enter the site location.</p> <p>NOTE: Location is an optional field.</p>	<p>Main Menu: Configuration -> Servers [Insert] — Wed Jun 03 16:16:47</p> <p>Info ▾</p> <p>Adding a new server</p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>SDS-QS1 *</td> <td>Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]</td> </tr> <tr> <td>Role</td> <td>QUERY SERVER ▾ *</td> <td>Select the function of the server</td> </tr> <tr> <td>System ID</td> <td></td> <td>System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]</td> </tr> <tr> <td>Hardware Profile</td> <td>SDS ESXi Guest ▾</td> <td>Hardware profile of the server</td> </tr> <tr> <td>Network Element Name</td> <td>SDS_NO ▾ *</td> <td>Select the network element</td> </tr> <tr> <td>Location</td> <td>MoVille</td> <td>Location description [Default = "". Range = A 15-character string. Valid value is any text string.]</td> </tr> </tbody> </table>	Attribute	Value	Description	Hostname	SDS-QS1 *	Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]	Role	QUERY SERVER ▾ *	Select the function of the server	System ID		System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]	Hardware Profile	SDS ESXi Guest ▾	Hardware profile of the server	Network Element Name	SDS_NO ▾ *	Select the network element	Location	MoVille	Location description [Default = "". Range = A 15-character string. Valid value is any text string.]
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Network Element Name	SDS_NO ▾ *	Select the network element																					
Location	MoVille	Location description [Default = "". Range = A 15-character string. Valid value is any text string.]																					

Procedure 4.1 Configuring the Query Server

5.

- 1) Enter the **IMI IP** addresses for the **Query Server**.
- 2) Set the **IMI Interfaces** to “ethX” and **DO NOT** check each the **VLAN** checkbox
- 3) Enter the **XMI IP address** for the **Query Server**.
- 4) Set the **XMI Interface** to “ethX” and **DO NOT** check the **VLAN** box.
- 5) Click the “**NTP Servers:**” “**Add**” dialogue button.
- 6) Enter the **NTP Server IP Address** for an NTP Server.
- 7) If you have another **NTP Server IP address**, repeat (1) and (2) to enter it.
- 8) Click the “**Ok**” dialogue button.

Interfaces:		
Network	IP Address	Interface
XMI (10.240.122.128/25)	10.240.122.160	eth0 <input type="checkbox"/> VLAN (3)
IMI (10.240.123.0/25)	10.240.123.29	eth1 <input type="checkbox"/> VLAN (4)

NTP Servers:	
NTP Server IP Address	Prefer
<input type="button" value="Add"/>	
10.240.122.243	<input checked="" type="checkbox"/>
	<input type="button" value="Remove"/>

Procedure 4.2 Applying the Query Server Configuration file

<p>6.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>1) Select the “Query Server” in the configuration Menu.</p> <p>2) Select the “Export” dialogue button.</p>	<p>Main Menu: Configuration -> Servers</p> <p>Filter <input type="text"/></p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> </tr> </thead> <tbody> <tr> <td>SDS-NO1</td> <td>Network OAM&P</td> <td>SDS-NO1</td> <td>SDS_NO</td> </tr> <tr> <td>SDS-NO2</td> <td>Network OAM&P</td> <td>SDS-NO2</td> <td>SDS_NO</td> </tr> <tr> <td>SDS-QS1</td> <td>Query Server</td> <td></td> <td></td> </tr> </tbody> </table> <p>Generate file(s) that may be used to view the con</p> <p> <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Export"/> <input type="button" value="Report"/> </p>	Hostname	Role	System ID	Server Group	SDS-NO1	Network OAM&P	SDS-NO1	SDS_NO	SDS-NO2	Network OAM&P	SDS-NO2	SDS_NO	SDS-QS1	Query Server		
Hostname	Role	System ID	Server Group															
SDS-NO1	Network OAM&P	SDS-NO1	SDS_NO															
SDS-NO2	Network OAM&P	SDS-NO2	SDS_NO															
SDS-QS1	Query Server																	
<p>7.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Copy the Query 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.</p> <p>NOTE: <i>The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.</i></p>	<p>Example:</p> <p>TKLCConfigData.<hostname>.sh → will translate to →TKLCConfigData.sh</p> <p>Obtain a terminal session on the Active SDS VIP as root. Log in as root on the Active SDS VIP shell, and issue the following commands:</p> <pre>[root@sds-mrsvnc-a ~]# scp \ /var/TKLC/db/filemgmt/TKLCConfiguData.<hostname>.sh \ <ipaddr>:/var/tmp/TKLCConfigData.sh</pre> <p>Note: ipaddr is the IP address of Query Server associated with the xmi network.</p>																

Procedure 4.2 Applying the Query Server Configuration file

<p>8.</p> <input type="checkbox"/>	<p>Query Server:</p> <p>Log into the Query Server as root. After the script completes, a broadcast message will be sent to the terminal.</p> <p>NOTE: <i>The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete.</i></p>	<p>*** NO OUTPUT FOR ≈ 3-20 MINUTES ***</p> <p>Broadcast message from root (Mon Dec 14 16:17:13 2009):</p> <p>Server configuration completed successfully! See /var/TKLC/appw/logs/Process/install.log for details.</p> <p>Obtain a terminal session on the Query Server as root. Log in as root on the Query Server shell, and issue the following commands:</p> <pre>[root@hostname1260476099 ~]# cat /var/TKLC/appw/logs/Process/install.log</pre>
<p>9.</p> <input type="checkbox"/>	<p>Query Server:</p> <p>Configure the time zone.</p>	<pre>[root@hostname1262121944 ~]# set_ini_tz.pl <time zone></pre> <p>Note: The following command example uses Etc/UTC time zone. Replace, as appropriate, with the time zone you have selected for this installation. See Appendix B for a list of valid time zones.</p> <pre>[root@hostname1262121944 ~]# set_ini_tz.pl "Etc/UTC"</pre>
<p>10.</p> <input type="checkbox"/>	<p>Query Server:</p> <p>Initiate a reboot of the Query Server.</p>	<pre>[root@hostname1262121944 ~]# init 6</pre>
<p>11.</p> <input type="checkbox"/>	<p>Query Server:</p> <p>After the server has completed reboot...</p> <p>Verify that the server console returns to a login prompt.</p>	<pre>CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64 qs-mrsvnc-1 login: root Password: <root_password></pre>

Procedure 4.2 Applying the Query Server Configuration file

12. <input type="checkbox"/>	Query Server: Execute a “ syscheck ” to verify the current health of the server.	<pre>[root@qs-mrsvnc-1 ~]# 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 [root@qs-mrsvnc-1 ~]#</pre>
--	---	--

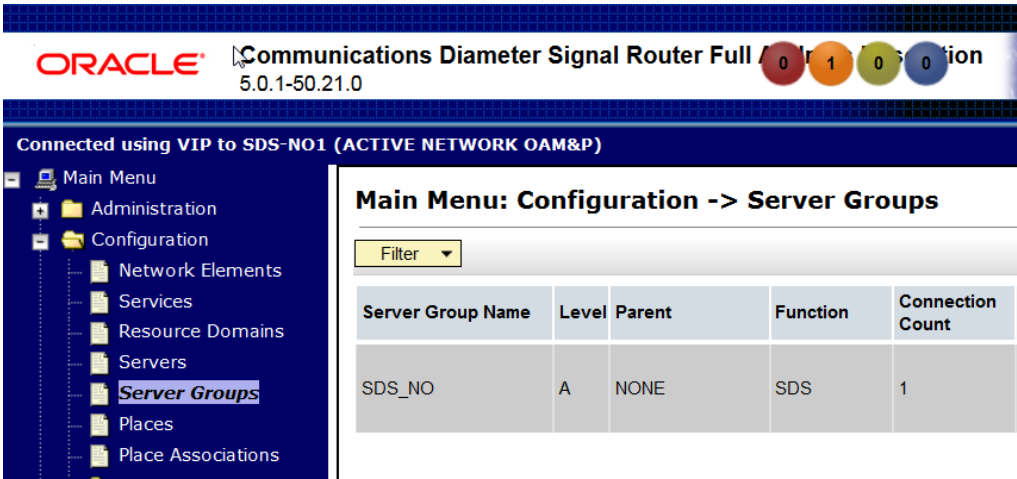
Procedure 4.3 Adding the Query Server to the SDS Server Group

13.

Active SDS VIP:
Select...

Main Menu
→ Configuration
→ Server Groups

...as shown on the right.

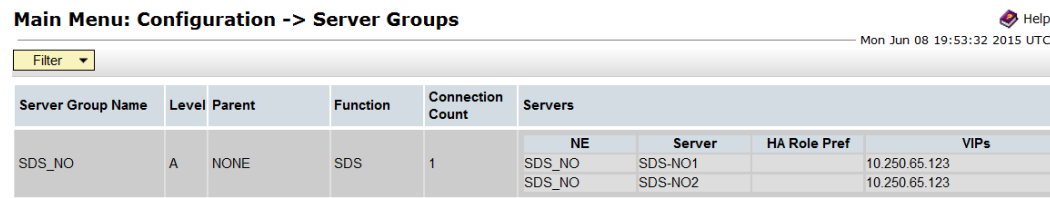


Main Menu: Configuration -> Server Groups

Server Group Name	Level	Parent	Function	Connection Count
SDS_NO	A	NONE	SDS	1

14.

Active SDS VIP:
The user will be presented with the “Configuration → Server Groups” screen as shown on the right



Main Menu: Configuration -> Server Groups

Server Group Name	Level	Parent	Function	Connection Count	Servers												
SDS_NO	A	NONE	SDS	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> <td></td> <td>10.250.65.123</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> <td></td> <td>10.250.65.123</td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs	SDS_NO	SDS-NO1		10.250.65.123	SDS_NO	SDS-NO2		10.250.65.123
NE	Server	HA Role Pref	VIPs														
SDS_NO	SDS-NO1		10.250.65.123														
SDS_NO	SDS-NO2		10.250.65.123														

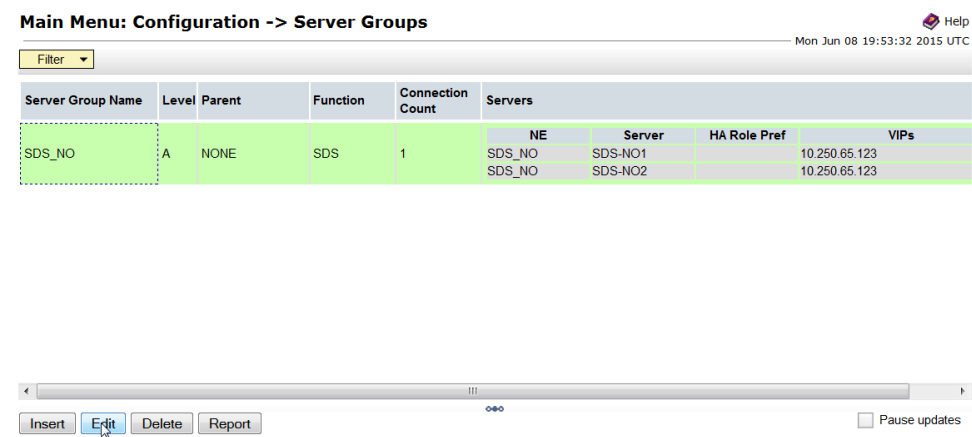
15.

Active SDS VIP:

1) Using the mouse, select the SDS Server Group associated with the Query Server being installed.

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.



Main Menu: Configuration -> Server Groups

Server Group Name	Level	Parent	Function	Connection Count	Servers												
SDS_NO	A	NONE	SDS	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> <td></td> <td>10.250.65.123</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> <td></td> <td>10.250.65.123</td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs	SDS_NO	SDS-NO1		10.250.65.123	SDS_NO	SDS-NO2		10.250.65.123
NE	Server	HA Role Pref	VIPs														
SDS_NO	SDS-NO1		10.250.65.123														
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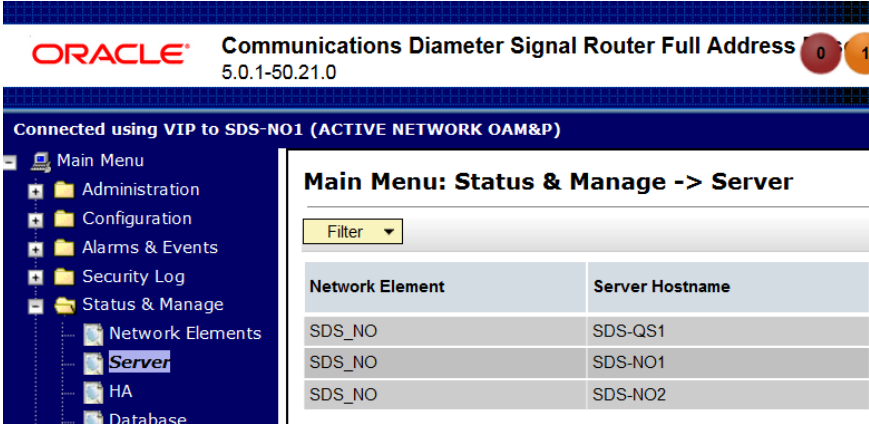
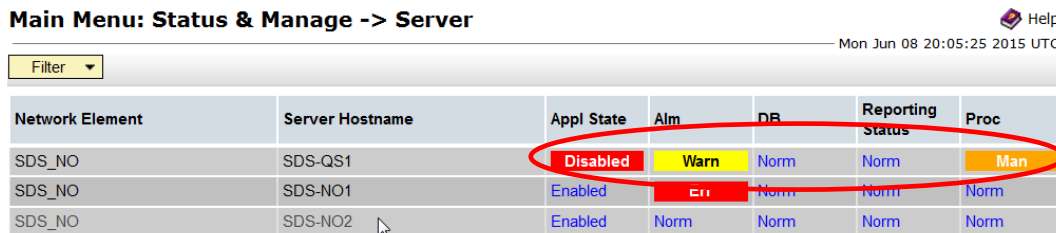
1

2

Procedure 4.3 Adding the Query Server to the SDS Server Group

<p>16.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>The user will be presented with the “Server Groups [Edit]” screen as shown on the right.</p> <p>1) Select the “Query Server” from the list of “Available Servers in Network Element” by clicking on the check box next to its name.</p> <p>2) Click the “Ok” dialogue button.</p>	<p>Main Menu: Configuration -> Server Groups [Edit] Mon Jun 08 19:55:36 2015 UT</p> <p>Info</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Server Group Name</td> <td>SDS_NO</td> <td>Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]</td> </tr> <tr> <td>Level</td> <td>A</td> <td>Select one of the Levels supported by the system</td> </tr> <tr> <td>Parent</td> <td>NONE</td> <td>Select an existing Server Group or NONE</td> </tr> <tr> <td>Function</td> <td>SDS</td> <td>Select one of the Functions supported by the system</td> </tr> <tr> <td>WAN Replication Connection Count</td> <td>1</td> <td>Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>SDS_NO</th> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>SDS-NO1</td> <td></td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>SDS-NO2</td> <td></td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>SDS-QS1</td> <td></td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>VIP Assignment</p> <table border="1"> <thead> <tr> <th>VIP Address</th> <th></th> </tr> </thead> <tbody> <tr> <td>10.250.65.123</td> <td><input type="button" value="Add"/> <input type="button" value="Remove"/></td> </tr> </tbody> </table> <p><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></p>	Field	Value	Description	Server Group Name	SDS_NO	Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]	Level	A	Select one of the Levels supported by the system	Parent	NONE	Select an existing Server Group or NONE	Function	SDS	Select one of the Functions supported by the system	WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]	SDS_NO	Server	SG Inclusion	Preferred HA Role	SDS-NO1		<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	SDS-NO2		<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	SDS-QS1		<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	VIP Address		10.250.65.123	<input type="button" value="Add"/> <input type="button" value="Remove"/>
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<p>17.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>The user should be presented with a screen as show on the right.</p>	<p>Main Menu: Configuration -> Server Groups Mon Jun 08 19:59:36 2015 UT</p> <p>Filter</p> <table border="1"> <thead> <tr> <th>Server Group Name</th> <th>Level</th> <th>Parent</th> <th>Function</th> <th>Connection Count</th> <th>Servers</th> </tr> </thead> <tbody> <tr> <td rowspan="4">SDS_NO</td> <td rowspan="4">A</td> <td rowspan="4">NONE</td> <td rowspan="4">SDS</td> <td rowspan="4">1</td> <td>NE</td> </tr> <tr> <td>Server</td> </tr> <tr> <td>HA Role Pref</td> </tr> <tr> <td>VIPs</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> <td>10.250.65.123</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> <td>10.250.65.123</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-QS1</td> <td>10.250.65.123</td> </tr> </tbody> </table>	Server Group Name	Level	Parent	Function	Connection Count	Servers	SDS_NO	A	NONE	SDS	1	NE	Server	HA Role Pref	VIPs	SDS_NO	SDS-NO1	10.250.65.123	SDS_NO	SDS-NO2	10.250.65.123	SDS_NO	SDS-QS1	10.250.65.123														
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SDS_NO	SDS-NO2	10.250.65.123																																						
SDS_NO	SDS-QS1	10.250.65.123																																						
<p>18.</p> <p><input type="checkbox"/></p>	<p>IMPORTANT:</p> <p>Wait at least 5 minutes before proceeding on to the next Step.</p>	<ul style="list-style-type: none"> Now that the Query Server has been paired within its SDS Server Group, it must establish DB replication with the Active SDS server. It may take several minutes for this process to be completed. Allow a minimum of 5 minutes before continuing to the next Step. 																																						

Procedure 4.4 Restarting the Query Server Application

<p>19.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP: Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	 <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-QS1</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> </tr> </tbody> </table>	Network Element	Server Hostname	SDS_NO	SDS-QS1	SDS_NO	SDS-NO1	SDS_NO	SDS-NO2																				
Network Element	Server Hostname																													
SDS_NO	SDS-QS1																													
SDS_NO	SDS-NO1																													
SDS_NO	SDS-NO2																													
<p>20.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Verify that the “DB and Reporting Status” status columns show “Norm” for the Query Server at this point. The “Proc” column should show “Man”.</p> <p>NOTE: <i>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.</i></p>	 <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-QS1</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	SDS_NO	SDS-QS1	Disabled	Warn	Norm	Norm	Man	SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm	SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm
Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc																								
SDS_NO	SDS-QS1	Disabled	Warn	Norm	Norm	Man																								
SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm																								
SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm																								

Procedure 4.4 Restarting the Query Server Application

21.



Active SDS VIP:

1) Using the mouse, select the **“Query Server”** hostname. 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 **“Query Server”** stating: **“Successfully restarted application”**.

NOTE: The user may need to use the vertical scroll-bar in order to make the **“Restart”** dialogue button visible.

Main Menu: Status & Manage -> Server

Help
Mon Jun 08 20:08:04 2015 UTC

Filter

Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
SDS_NO	SDS-QS1	Disabled	Warn	Norm	Norm	Man
SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm
SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm

Stop Restart Reboot NTP Sync Report Pause updates

Restart selected server(s).

1

Are you sure you wish to restart application software on the following server(s)?
SDS-QS1

OK Cancel

3

Main Menu: Status & Manage -> Server

Filter Info

Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
SDS_NO	SDS-QS1	Disabled	Warn	Norm	Norm	Man
SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm
SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm

Info • SDS-QS1: Successfully restarted application.

4

Procedure 4.4 Restarting the Query Server Application

22.



Active SDS VIP:

Verify that the “**Appl State**” now shows “**Enabled**” and that the “**Alm, DB, Reporting Status & Proc**” status columns all show “**Norm**” for the “**Query Server**”.

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.*

Main Menu: Status & Manage -> Server

Mo

Filter ▾

Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
SDS_NO	SDS-QS1	Enabled	Norm	Norm	Norm	Norm
SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm
SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm

THIS PROCEDURE HAS BEEN COMPLETED

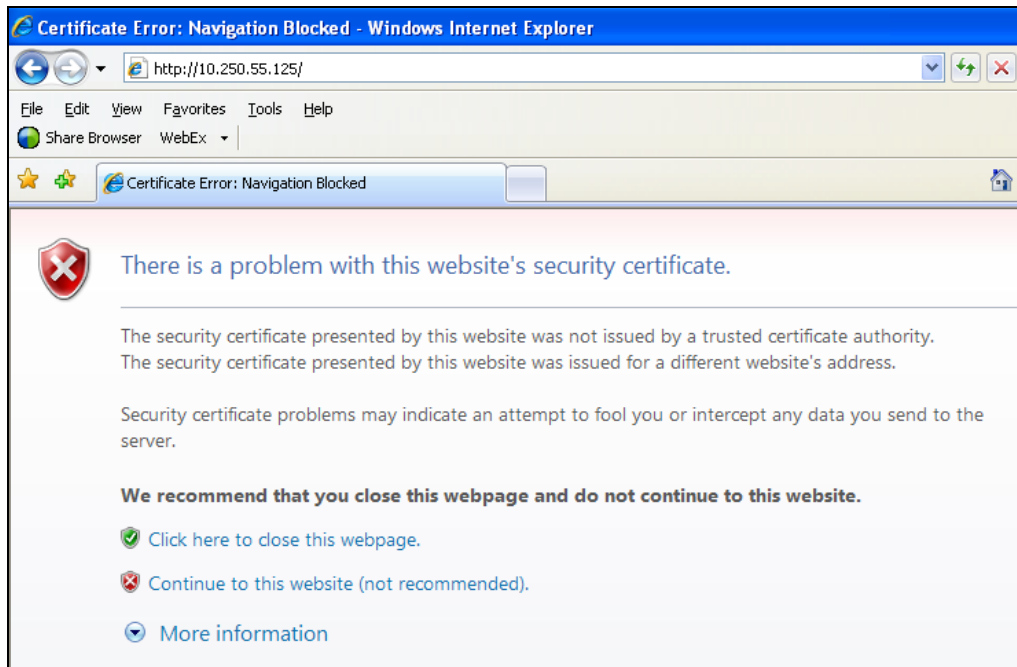
5.4 OAM Installation for DP-SOAM sites (All DP-SOAM sites)

Assumptions:

- This procedure assumes that the DP-SOAM Network Element XML file for the DP-SOAM site has previously been created, as described in **Appendix A**.
- This procedure assumes that the Network Element XML files are on the laptop's hard drive.

This procedure is for installing the DP-SOAM software on the OAM server located at each DSR Signaling Site. The DP-SOAM and DSR OAM servers run in 2 virtual machines.

This procedure assumes that the DSR 7.0.1 or later OAM has already been installed in a virtual environment, as described in as described in [2] DSR 7.0.1 Cloud Installation Guide.

Procedure 5 Configuring the Network Element (DP-SOAM)		
<p>1.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 5px 0;"></div>	<p>Active SDS VIP:</p> <p>Launch an approved web browser and connect to the XMI Virtual IP address (VIP) assigned to Active SDS site using "https://"</p>	

Procedure 5 Configuring the Network Element (DP-SOAM)

2. **Active SDS VIP:**
 The user should be presented the login screen shown on the right.

 Login to the GUI using the default user and password.

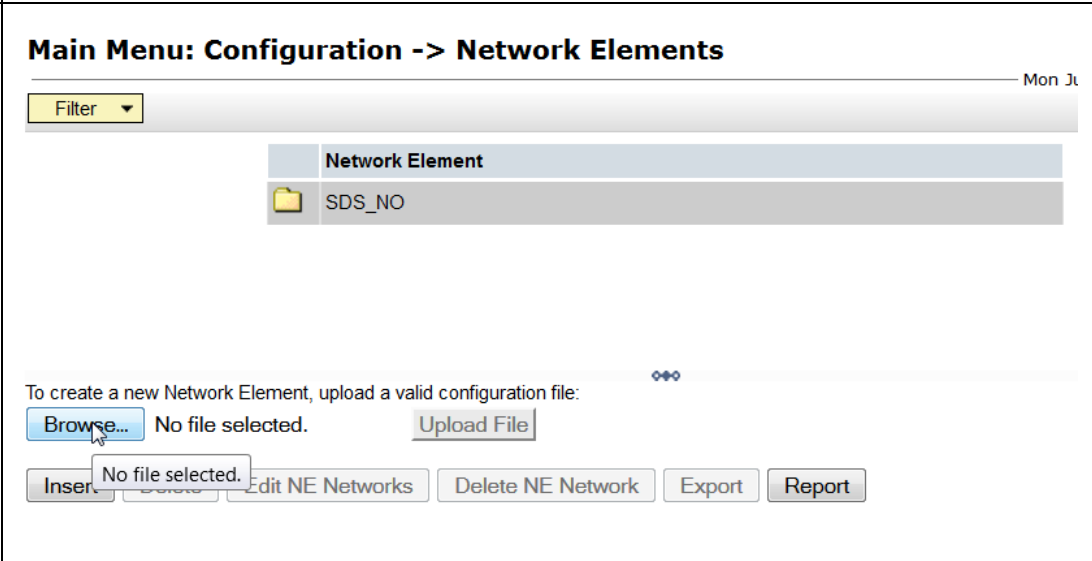


3. **Active SDS VIP:**
 Select...

Main Menu
 → Configuration
 → Network Elements

 ...as shown on the right.

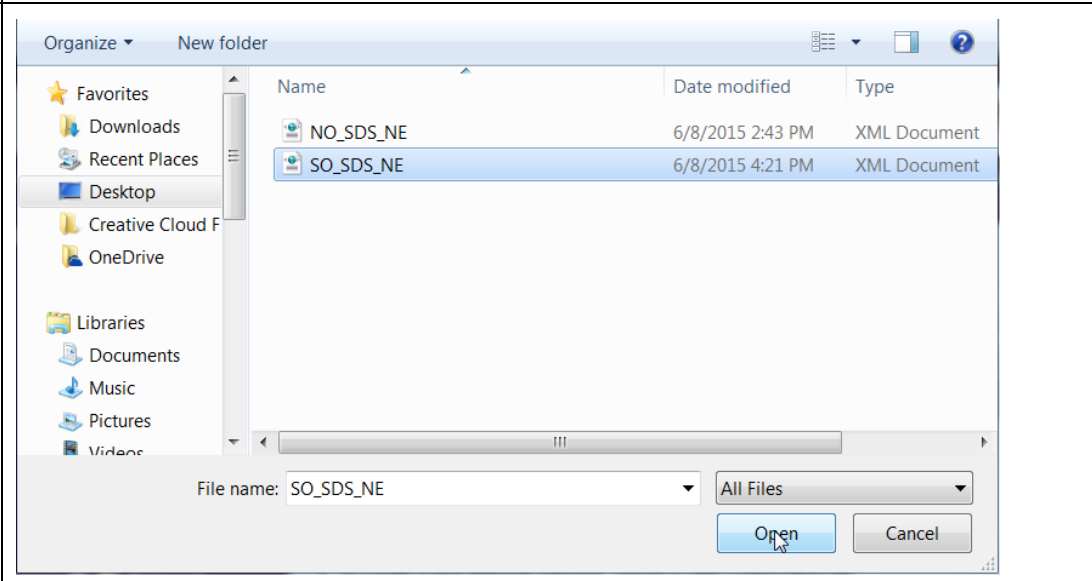
 Select the "Browse" dialogue button (scroll to bottom left corner of screen).



4. **Active SDS VIP:**
Note: This step assumes that the xml files were previously prepared, as described in **Appendix A.**

 1) Select the location containing the site .xml file.

 2) Select the .xml file and click the "Open" dialogue button.



Procedure 5 Configuring the Network Element (DP-SOAM)

<p>5.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Select the “Upload File” dialogue button (bottom left corner of screen).</p>	
<p>6.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>If the values in the .xml file pass validation rules, the user will receive a banner information message showing that the data has been successfully validated and committed to the DB.</p>	

Procedure 5.1 Configuring the SOAM Server

<p>7.</p> <p><input type="checkbox"/></p> <p>Active SDS VIP:</p> <p>Select...</p> <p>Main Menu</p> <p>→ Configuration</p> <p>→ Servers</p> <p>...as shown on the right.</p> <p>Select the “Insert” dialogue button (bottom left corner of screen).</p>	
--	--

Procedure 5.1 Configuring the SOAM Server

8.



Active SDS VIP:

- 1) Input the assigned "hostname" for OAM Server.
 - 2) Select "**SYSTEM OAM**" for the **Role** from the pull-down menu.
 - 3) Input the assigned hostname again as the "**System ID**" for the SO Server (A or B).
 - 4) Select "**SDS ESXi Guest**" for the **Hardware Profile** for the DP-SOAM from the pull-down menu.
 - 5) Select the **Network Element Name** for the SDS from the pull-down menu.
 - 6) Enter the site location.
- NOTE:** *Location is an optional field.*

Main Menu: Configuration -> Servers [Insert]

Mon Jun 08 20:27:06 2



Adding a new server

Attribute	Value	Description
Hostname	SDS-SO1 *	Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]
Role	SYSTEM OAM *	Select the function of the server
System ID	SDS-SO1	System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]
Hardware Profile	SDS ESXi Guest	Hardware profile of the server
Network Element Name	SDS_SO *	Select the network element
Location	MoVille	Location description [Default = ""]. Range = A 15-character string. Valid value is any text string.]

Procedure 5.1 Configuring the SOAM Server

9.



1) Enter the **XMI IP address** and **IMI IP address** for the **DP-SOAM Server**.

2) Set the **XMI Interface** to “ethX” and do NOT check the **VLAN** box.

3) Set the **IMI Interface** to “ethX” and do NOT check the **VLAN** box.

4) Click the “**NTP Servers:**” “**Add**” dialogue button.

5) Enter the **NTP Server IP Address** for an NTP Server.

6) If you have another **NTP Server IP address**, repeat (1) and (2) to enter it.

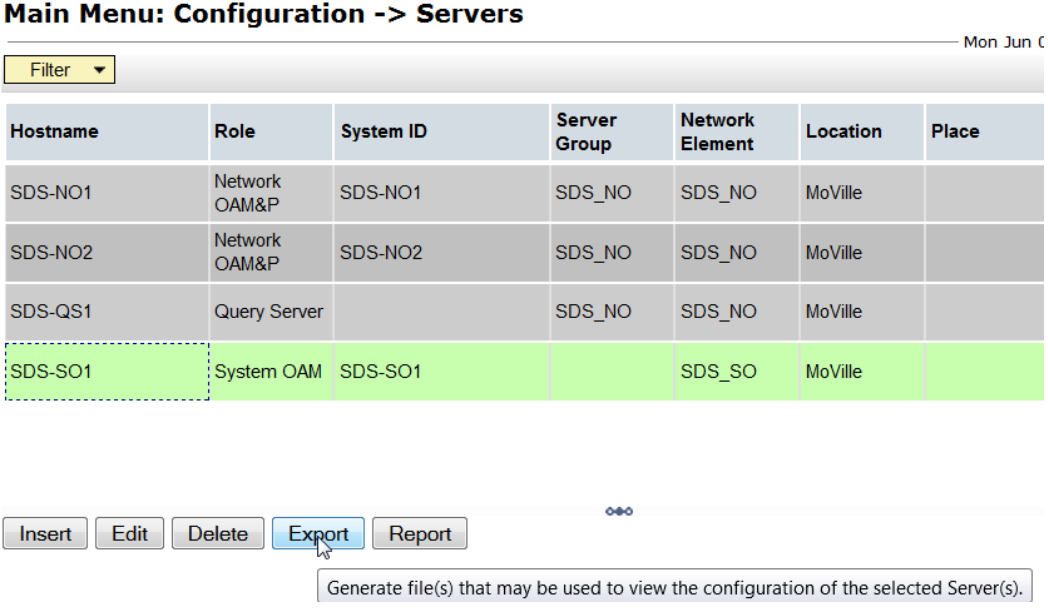
7) Optionally, click the “**Prefer**” checkbox to prefer one NTP Server over the other.

8) Click the “**Ok**” dialogue button.

Interfaces:		
Network	IP Address	Interface
XMI (10.250.65.0/24)	10.250.65.120	eth0 <input type="checkbox"/> VLAN (3)
IMI (192.168.65.0/24)	192.168.65.120	eth1 <input type="checkbox"/> VLAN (4)

NTP Servers:	
NTP Server IP Address	Prefer
<input type="button" value="Add"/>	
10.250.65.115 <input type="text"/>	<input checked="" type="checkbox"/>
	<input type="button" value="Remove"/>

Procedure 5.2 Applying the SOAM Server Configuration file

<p>10.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>1) Select the "System OAM". ...as shown on the right.</p> <p>2) Select the "Export" dialogue button (bottom left corner of screen).</p>	 <p>Main Menu: Configuration -> Servers</p> <p>Mon Jun C</p> <p>Filter ▾</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> </tr> </thead> <tbody> <tr> <td>SDS-NO1</td> <td>Network OAM&P</td> <td>SDS-NO1</td> <td>SDS_NO</td> <td>SDS_NO</td> <td>MoVille</td> <td></td> </tr> <tr> <td>SDS-NO2</td> <td>Network OAM&P</td> <td>SDS-NO2</td> <td>SDS_NO</td> <td>SDS_NO</td> <td>MoVille</td> <td></td> </tr> <tr> <td>SDS-QS1</td> <td>Query Server</td> <td></td> <td>SDS_NO</td> <td>SDS_NO</td> <td>MoVille</td> <td></td> </tr> <tr style="background-color: #90EE90;"> <td>SDS-SO1</td> <td>System OAM</td> <td>SDS-SO1</td> <td></td> <td>SDS_SO</td> <td>MoVille</td> <td></td> </tr> </tbody> </table> <p>Insert Edit Delete Export Report</p> <p>Generate file(s) that may be used to view the configuration of the selected Server(s).</p>	Hostname	Role	System ID	Server Group	Network Element	Location	Place	SDS-NO1	Network OAM&P	SDS-NO1	SDS_NO	SDS_NO	MoVille		SDS-NO2	Network OAM&P	SDS-NO2	SDS_NO	SDS_NO	MoVille		SDS-QS1	Query Server		SDS_NO	SDS_NO	MoVille		SDS-SO1	System OAM	SDS-SO1		SDS_SO	MoVille	
Hostname	Role	System ID	Server Group	Network Element	Location	Place																															
SDS-NO1	Network OAM&P	SDS-NO1	SDS_NO	SDS_NO	MoVille																																
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SDS-SO1	System OAM	SDS-SO1		SDS_SO	MoVille																																
<p>11.</p> <p><input type="checkbox"/></p>	<p>Repeat Steps 7 - 10 of this procedure for the DP-SOAM B Server.</p>																																				
<p>12.</p> <p><input type="checkbox"/></p>	<p>Active SDS Server:</p> <p>Access the server console.</p>	<ul style="list-style-type: none"> Connect to the Active SDS VIP console. 																																			
<p>13.</p> <p><input type="checkbox"/></p>	<p>Active SDS Server:</p> <p>1) Access the command prompt.</p> <p>2) Log into the OAM server as the "root" user.</p>	<pre>CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64 hostname1260476035 login: root Password: <root_password></pre>																																			
<p>14.</p> <p><input type="checkbox"/></p>	<p>Active SDS Server:</p> <p>Copy the configuration file to the "/var/tmp" directory on the remote SOAM A or B server.</p> <p>NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.</p>	<p>Example:</p> <p>TKLCConfigData<hostname>.sh → will translate to →TKLCConfigData.sh</p> <pre>[root@sds-mrsvnc-a ~]# scp \ /var/TKLC/db/filemgmt/TKLCConfiguData.<hostname>.sh \ <ipaddr>:/var/tmp/TKLCConfigData.sh</pre> <p>Note: ipaddr is the IP address of SOAM A or B associated with the xmi network.</p>																																			

Procedure 5.2 Applying the SOAM Server Configuration file

<p>15. <input type="checkbox"/></p>	<p>SOAM Server:</p> <p>After the script completes, a broadcast message will be sent to the terminal.</p> <p>NOTE: <i>The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete.</i></p>	<p>*** NO OUTPUT FOR ≈ 3-20 MINUTES ***</p> <p>Broadcast message from root (Mon Dec 14 16:17:13 2009):</p> <pre>Server configuration completed successfully! See /var/TKLC/appw/logs/Process/install.log for details.</pre> <p>Obtain a terminal session on the SOAM Server as root. Log in as root on the SOAM Server shell, and issue the following commands:</p> <pre>[root@hostname1260476099 ~]# cat /var/TKLC/appw/logs/Process/install.log</pre>
<p>16. <input type="checkbox"/></p>	<p>SOAM Server:</p> <p>Configure the time zone.</p>	<pre>[root@hostname1260476221 ~]# set_ini_tz.pl <time zone></pre> <p>Note: The following command example uses Etc/UTC time zone. Replace, as appropriate, with the time zone you have selected for this installation. See Appendix B for a list of valid time zones.</p> <pre>[root@hostname1260476221 ~]# set_ini_tz.pl "Etc/UTC"</pre>
<p>17. <input type="checkbox"/></p>	<p>SOAM Server:</p> <p>Initiate a reboot of the OAM server.</p>	<pre>[root@hostname1260476221 ~]# init 6</pre>
<p>18. <input type="checkbox"/></p>	<p>SOAM Server:</p> <p>Execute a “syscheck” to verify the current health of the server.</p>	<pre>[root@so-carync-a ~]# 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 [root@so-carync-a ~]#</pre>

19.

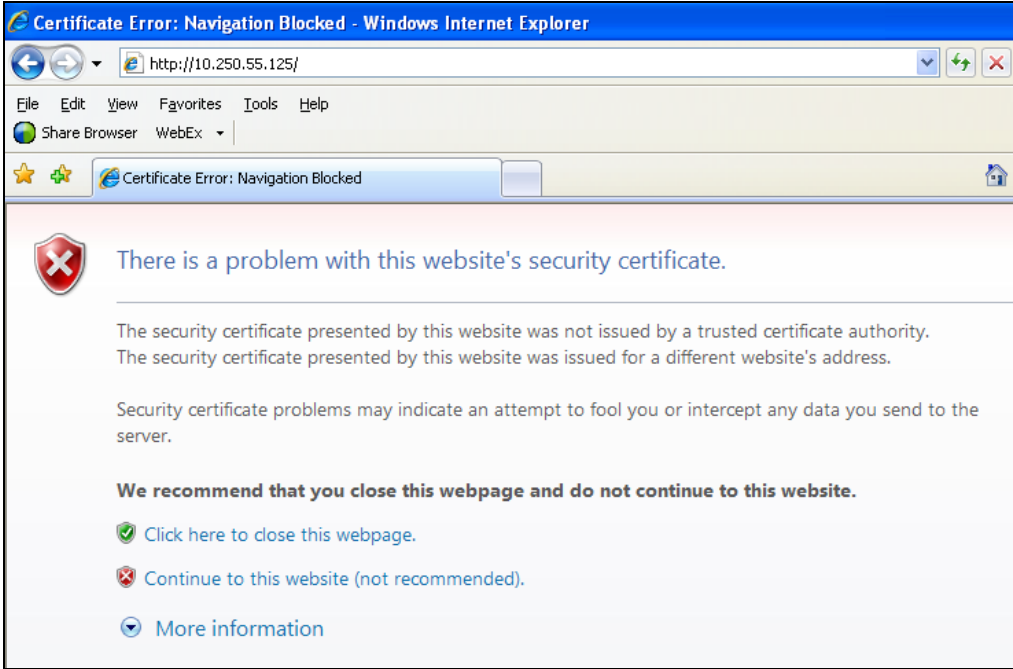

If you have just completed this procedure for the **SOAM Server A** in the enclosure then repeat **Steps 11 - 18** this procedure for **SOAM Server B**.

THIS PROCEDURE HAS BEEN COMPLETED

5.5 OAM Pairing for DP-SOAM sites (All DP-SOAM sites)

The user should be aware that during the OAM Pairing procedure, various errors may be seen at different stages of the procedure. During the execution of a step, the user is directed to ignore errors related to values other than the ones referenced by that step.

Procedure 6: Pairing the OAM Servers for DP-SOAM sites

Step	Procedure	Result
<p>1.</p> <input data-bbox="152 573 199 621" type="checkbox"/>	<p>Active SDS VIP:</p> <p>Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active SDS site using "https://"</p>	
<p>2.</p> <input data-bbox="152 1272 199 1320" type="checkbox"/>	<p>Active SDS VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	

Procedure 6.1 Configuring the SOAM Server Group (SOAM)

<p>3.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Select...</p> <p>Main Menu</p> <p>→ Configuration</p> <p>→ Server Groups</p> <p>...as shown on the right.</p>	<p>ORACLE® Communications Diameter Signal Router Full Address Res 5.0.1-50.21.0</p> <p>Connected using XMI to SDS-NO1 (ACTIVE NETWORK OAM&P)</p> <p>Main Menu: Configuration -> Server Gro</p> <table border="1"> <thead> <tr> <th>Server Group Name</th> <th>Level</th> <th>Parent</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>NO</td> <td>A</td> <td>NONE</td> <td>SDS</td> </tr> </tbody> </table>	Server Group Name	Level	Parent	Function	NO	A	NONE	SDS												
Server Group Name	Level	Parent	Function																			
NO	A	NONE	SDS																			
<p>4.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>1) The user will be presented with the “Server Groups” configuration screen as shown on the right.</p> <p>2) Select the “Insert” dialogue button from the bottom left corner of the screen.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Insert” dialogue button visible.</p>	<p>Main Menu: Configuration -> Server Groups</p> <p>Mon Jul</p> <table border="1"> <thead> <tr> <th>Server Group Name</th> <th>Level</th> <th>Parent</th> <th>Function</th> <th>Connection Count</th> <th>Servers</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>A</td> <td>NONE</td> <td>SDS</td> <td>1</td> <td> <table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-QS1</td> </tr> </tbody> </table> </td> </tr> </tbody> </table> <p>Insert Edit Delete Report</p> <p>Insert a new Server Group.</p>	Server Group Name	Level	Parent	Function	Connection Count	Servers	SDS_NO	A	NONE	SDS	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-QS1</td> </tr> </tbody> </table>	NE	Server	SDS_NO	SDS-NO1	SDS_NO	SDS-NO2	SDS_NO	SDS-QS1
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SDS_NO	SDS-NO1																					
SDS_NO	SDS-NO2																					
SDS_NO	SDS-QS1																					

Procedure 6.1 Configuring the SOAM Server Group (SOAM)

5.



Active SDS VIP:

The user will be presented with the “**Server Groups [Insert]**” screen as shown on the right.

NOTE: Leave the “**WAN Replication Connection Count**” blank (it will default to 1).

1) Input the **Server Group Name**.

2) Select “**B**” on the “**Level**” pull-down menu...

3) Select the 1st SDS Site’s server group, as entered in **Procedure 3, Step 6**, on the “**Parent**” pull-down menu...

4) Select “**SDS**” on the “**Function**” pull-down menu.

5) Select the “**Ok**” dialogue button.

Main Menu: Configuration -> Server Groups [Insert]

Mon Jun 08 21:32:34 201

Info ▾

Field	Value	Description
Server Group Name	SDS_SO *	Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]
Level	B *	Select one of the Levels supported by the system. [Level A groups contain NOAMP and Query servers. Level B groups are optional and contain SOAM servers. Level C groups contain MP servers.]
Parent	SDS_NO *	Select an existing Server Group or NONE
Function	SDS *	Select one of the Functions supported by the system
WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]

Ok Apply Cancel

Procedure 6.2 Adding a Server to the OAM Server Group (SOAM)

6.

SDS Server A:

1) Select the **Server Group** entry applied in **Step Error!** Reference source not found.. 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.

Main Menu: Configuration -> Server Groups

Filter

Server Group Name	Level	Parent	Function	Connection Count	Servers				
SDS_NO	A	NONE	SDS	1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>NE</td></tr> <tr><td>SDS_NO SDS</td></tr> <tr><td>SDS_NO SDS</td></tr> <tr><td>SDS_NO SDS</td></tr> </table>	NE	SDS_NO SDS	SDS_NO SDS	SDS_NO SDS
NE									
SDS_NO SDS									
SDS_NO SDS									
SDS_NO SDS									
SDS_SO	B	SDS_NO	SDS	1	NE				

Proceed to the form which allows the server group to be edited - VIPs and associated Servers.

7.

Active SDS VIP:

The user will be presented with the **“Server Groups [Edit]”** screen as shown on the right.

Select the **“A”** server and the **“B”** server from the list of **“Servers”** by clicking the check box next to their names.

Select the **“Apply”** dialogue button.

Main Menu: Configuration -> Server Groups [Edit] Mon Jun 08 21:35:52 20:00

Info

Field	Value	Description
Server Group Name	SDS_SO *	Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]
Level	B *	Select one of the Levels supported by the system
Parent	SDS_NO *	Select an existing Server Group or NONE
Function	SDS *	Select one of the Functions supported by the system
WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]

SDS_SO

Server	SG Inclusion	Preferred HA Role
SDS-SO1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
SDS-SO2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare

VIP Assignment

VIP Address

Procedure 6.2 Adding a Server to the OAM Server Group (SOAM)

<p>8.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Click the “Add” dialogue button for the VIP Address.</p> <p>Input the VIP Address</p> <p>Click the “Ok” dialogue button.</p>																																	
<p>9.</p> <p><input type="checkbox"/></p>	<p>SDS Server A:</p> <p>The user will be presented with the “Server Groups” configuration screen as shown on the right.</p>	<table border="1"> <thead> <tr> <th>Server Group Name</th> <th>Level</th> <th>Parent</th> <th>Function</th> <th>Connection Count</th> <th>Servers</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>A</td> <td>NONE</td> <td>SDS</td> <td>1</td> <td> <table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-QS1</td> </tr> </tbody> </table> </td> </tr> <tr> <td>SDS_SO</td> <td>B</td> <td>SDS_NO</td> <td>SDS</td> <td>1</td> <td> <table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>SDS_SO</td> <td>SDS-SO1</td> </tr> <tr> <td>SDS_SO</td> <td>SDS-SO2</td> </tr> </tbody> </table> </td> </tr> </tbody> </table>	Server Group Name	Level	Parent	Function	Connection Count	Servers	SDS_NO	A	NONE	SDS	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-QS1</td> </tr> </tbody> </table>	NE	Server	SDS_NO	SDS-NO1	SDS_NO	SDS-NO2	SDS_NO	SDS-QS1	SDS_SO	B	SDS_NO	SDS	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>SDS_SO</td> <td>SDS-SO1</td> </tr> <tr> <td>SDS_SO</td> <td>SDS-SO2</td> </tr> </tbody> </table>	NE	Server	SDS_SO	SDS-SO1	SDS_SO	SDS-SO2
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SDS_SO	SDS-SO2																																	
<p>10.</p> <p><input type="checkbox"/></p>	<p>IMPORTANT:</p> <p>Wait at least 5 minutes before proceeding on to the next Step.</p>	<ul style="list-style-type: none"> • Now that the server(s) have been paired within a Server Group they must establish a master/slave relationship for High Availability (HA). It may take several minutes for this process to be completed. • Allow a minimum of 5 minutes before continuing to the next Step. 																																

Procedure 6.3 Restarting the OAM Server Application (SOAM)

<p>11.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	<table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-QS1</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SDS_SO</td> <td>SDS-SO1</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>SDS_SO</td> <td>SDS-SO2</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	SDS_NO	SDS-QS1	Enabled	Norm	Norm	Norm	Norm	SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm	SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm	SDS_SO	SDS-SO1	Disabled	Err	Norm	Norm	Man	SDS_SO	SDS-SO2	Disabled	Warn	Norm	Norm	Man
Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc																																						
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SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm																																						
SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm																																						
SDS_SO	SDS-SO1	Disabled	Err	Norm	Norm	Man																																						
SDS_SO	SDS-SO2	Disabled	Warn	Norm	Norm	Man																																						
<p>12.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>1) The “A” and “B” DP-SOAM servers should now appear in the right panel.</p> <p>2) Verify that the “DB” status shows “Norm” and the “Proc” status shows “Man” for both servers before proceeding to the next Step.</p>	<table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>SDS_NO</td> <td>SDS-QS1</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO1</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SDS_NO</td> <td>SDS-NO2</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SDS_SO</td> <td>SDS-SO1</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>SDS_SO</td> <td>SDS-SO2</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	SDS_NO	SDS-QS1	Enabled	Norm	Norm	Norm	Norm	SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm	SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm	SDS_SO	SDS-SO1	Disabled	Err	Norm	Norm	Man	SDS_SO	SDS-SO2	Disabled	Warn	Norm	Norm	Man
Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc																																						
SDS_NO	SDS-QS1	Enabled	Norm	Norm	Norm	Norm																																						
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SDS_SO	SDS-SO1	Disabled	Err	Norm	Norm	Man																																						
SDS_SO	SDS-SO2	Disabled	Warn	Norm	Norm	Man																																						

Procedure 6.3 Restarting the OAM Server Application (SOAM)

13.



Active SDS VIP:

1) Using the mouse, select **DP-SOAM Server A**. 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 **DP-SOAM Server A** stating: **“Successfully restarted application”**.

NOTE: The user may need to use the vertical scroll-bar in order to make the **“Restart”** dialogue button visible.

Main Menu: Status & Manage -> Server



Mon Jun 08 21:42:30 2015 UTC

Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
SDS_NO	SDS-QS1	Enabled	Norm	Norm	Norm	Norm
SDS_NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm
SDS_NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm
SDS_SO	SDS-SO1	Disabled	Err	Norm	Norm	Man
SDS_SO	SDS-SO2	Disabled	Warn	Norm	Norm	Man

Pause updates

Restart selected server(s).

Are you sure you wish to restart application software on the following server(s)?
SDS-SO1

Main Menu: Status & Manage -> Server

Filter

Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
NO						

Info

- SDS-SO1: Successfully restarted application.

Procedure 6.3 Restarting the OAM Server Application (SOAM)

14.

Active SDS VIP:

Verify that the “**Appl State**” now shows “**Enabled**” and that the “**Alm, DB, Reporting Status, & Proc**” status columns all show “**Norm**” for **OAM Server A** 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.*

Main Menu: Status & Manage -> Server



Thu Jun 04 21:00:06 2015 UTC

Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm
NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm
NO	SDS-QS	Enabled	Norm	Norm	Norm	Norm
SO	SDS-SO2	Disabled	Warn	Norm	Norm	Man
SO	SDS-SO1	Enabled	Norm	Norm	Norm	Norm

15.

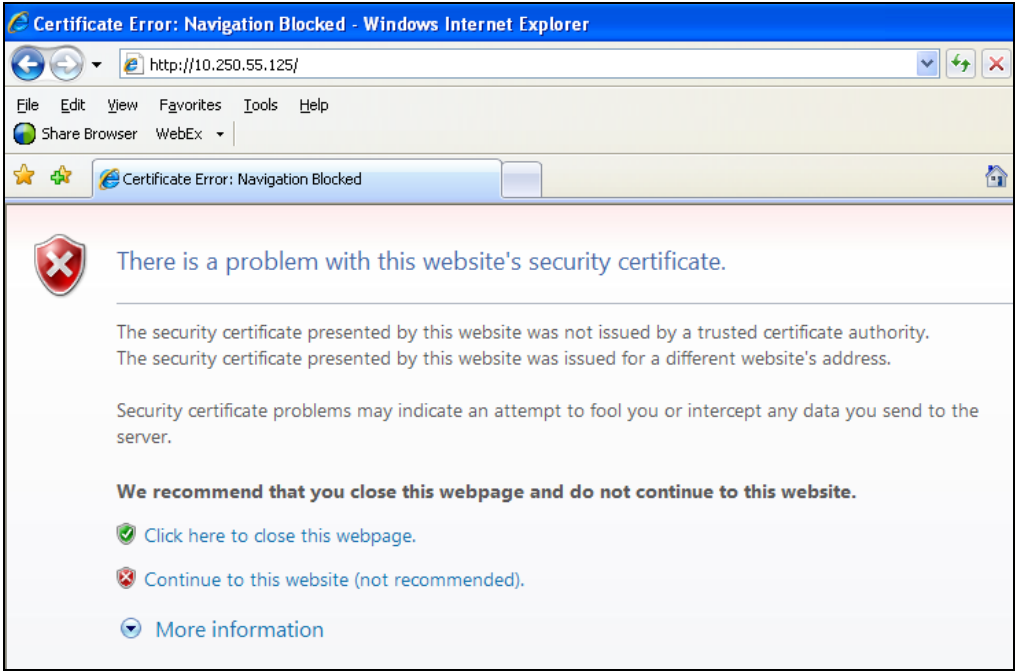
Repeat **Steps 13 - 14** of this procedure for the **DP-SOAM Server B**.

THIS PROCEDURE HAS BEEN COMPLETED

5.6 DP Installation (All DP-SOAM sites)

The user should be aware that during the Data Processor (DP) installation procedure, various errors may be seen at different stages of the procedure. During the execution of a step, the user is directed to ignore errors related to values other than the ones referenced by that step.

Procedure 7.0 Configuring the Database Processor Server (DP)	
<p>1.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 5px;"></div>	<p>Active SDS VIP:</p> <p>Launch an approved web browser and connect to the XMI Virtual IP address (VIP) assigned to Active SDS site using "https://"</p>
<p>2.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 5px;"></div>	<p>Active SDS VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>



Procedure 7.0 Configuring the Database Processor Server (DP)

3.



Active SDS VIP:

Select...

Main Menu

→ Configuration

→ Servers

...as shown on the right.

Select the "Insert" dialogue button.

ORACLE Communications Diameter Signal Router Full Address Resolution 5.0.1-50.21.0

Connected using XMI to SDS-NO1 (ACTIVE NETWORK OAM&P)

- Main Menu
 - Administration
 - Configuration
 - Network Elements
 - Services
 - Resource Domains
 - Servers
 - Server Groups
 - Places
 - Place Associations
 - DSCP
 - Network
 - Alarms & Events
 - Security Log
 - Status & Manage
 - Measurements
 - Communication Agent
 - SDS
 - Help
 - Logout

Main Menu: Configuration -> Servers

Filter

Hostname	Role	System ID
SDS-NO1	Network OAM&P	SDS-NO1
SDS-NO2	Network OAM&P	SDS-NO2
SDS-QS	Query Server	
SDS-SO1	System OAM	SDS-SO1
SDS-SO2	System OAM	SDS-SO2

Insert Edit Delete Export Report

Insert a new Server and associated Interface(s).

Procedure 7.0 Configuring the Database Processor Server (DP)

4.



Active SDS VIP:

1) Input the assigned "hostname" for the Database Processor (DP).

2) Select "MP" for the server Role from the pull-down menu.

3) Select "SDS ESXi Guest" for the Hardware Profile for the DP-SOAM from the pull-down menu.

4) Select the Network Element Name of the DP-SOAM site where the DP is physically located from the list of available NEs in the pull-down menu

5) Enter the site location.

NOTE: Location is an optional field.

Main Menu: Configuration -> Servers [Insert]

Thu Jun 04 21:29:45

Info

Adding a new server

Attribute	Value	Description
Hostname	SDS-DP1 *	Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]
Role	MP *	Select the function of the server
System ID		System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]
Hardware Profile	SDS ESXi Guest	Hardware profile of the server
Network Element Name	SO *	Select the network element
Location	MoVille	Location description [Default = "". Range = A 15-character string. Valid value is any text string.]

Procedure 7.0 Configuring the Database Processor Server (DP)

5.



1) Enter the **XMI IP address** and **IMI IP address** for the **DP-SOAM Server**.

2) Set the **XMI Interface** to “ethX” and **DO NOT** check the **VLAN** box.

3) Set the **IMI Interface** to “ethX” and **DO NOT** check the **VLAN** box.

4) Click the “**NTP Servers:**” “**Add**” dialogue button.

5) Enter the **NTP Server IP Address** for an NTP Server.

6) If you have another **NTP Server IP address**, repeat (1) and (2) to enter it.

7) Optionally, click the “**Prefer**” checkbox to prefer one NTP Server over the other.

8) Click the “**Ok**” dialogue button...

Interfaces:		
Network	IP Address	Interface
XMI (10.240.122.128/25)	10.240.122.150	eth0 <input type="checkbox"/> VLAN (3)
IMI (10.240.123.0/25)	10.240.123.30	eth1 <input type="checkbox"/> VLAN (4)

NTP Servers:

NTP Server IP Address	Prefer
<input type="text" value="10.240.122.243"/>	<input type="checkbox"/>

Procedure 7.1 Applying the Database Processor Configuration file (DP)

<p>6.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>On the “Configuration → Servers” screen, find the newly added DP server in the list.</p> <p>Note: The DP server will have a “MP” role.</p> <p>1) Using the mouse, select the newly added DP server entry. The line entry containing the server with a “MP” role should now be highlighted in GREEN.</p> <p>2) Select the “Export” dialogue button from the bottom left corner of the screen.</p>	<p>Main Menu: Configuration -> Servers</p> <p>Filter ▾</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> </tr> </thead> <tbody> <tr> <td>SDS-NO1</td> <td>Network OAM&P</td> <td>SDS-NO1</td> <td>NO</td> <td>NO</td> <td></td> <td></td> </tr> <tr> <td>SDS-NO2</td> <td>Network OAM&P</td> <td>SDS-NO2</td> <td>NO</td> <td>NO</td> <td></td> <td></td> </tr> <tr> <td>SDS-QS</td> <td>Query Server</td> <td></td> <td>NO</td> <td>NO</td> <td></td> <td></td> </tr> <tr> <td>SDS-SO1</td> <td>System OAM</td> <td>SDS-SO1</td> <td>SO</td> <td>SO</td> <td></td> <td></td> </tr> <tr> <td>SDS-SO2</td> <td>System OAM</td> <td>SDS-SO2</td> <td>SO</td> <td>SO</td> <td></td> <td></td> </tr> <tr style="background-color: #e0ffe0;"> <td>SDS-DP1</td> <td>MP</td> <td></td> <td></td> <td>SO</td> <td>MoVille</td> <td></td> </tr> </tbody> </table> <p>Insert Edit Delete Export Report</p> <p>Generate file(s) that may be used to view the configuration of the selected Server(s).</p>	Hostname	Role	System ID	Server Group	Network Element	Location	Place	SDS-NO1	Network OAM&P	SDS-NO1	NO	NO			SDS-NO2	Network OAM&P	SDS-NO2	NO	NO			SDS-QS	Query Server		NO	NO			SDS-SO1	System OAM	SDS-SO1	SO	SO			SDS-SO2	System OAM	SDS-SO2	SO	SO			SDS-DP1	MP			SO	MoVille	
Hostname	Role	System ID	Server Group	Network Element	Location	Place																																													
SDS-NO1	Network OAM&P	SDS-NO1	NO	NO																																															
SDS-NO2	Network OAM&P	SDS-NO2	NO	NO																																															
SDS-QS	Query Server		NO	NO																																															
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SDS-SO2	System OAM	SDS-SO2	SO	SO																																															
SDS-DP1	MP			SO	MoVille																																														
<p>7.</p> <p><input type="checkbox"/></p>	<ul style="list-style-type: none"> Repeat Steps 3 - 6 of this procedure for each additional DP server. 																																																		
<p>8.</p> <p><input type="checkbox"/></p>	<p>Active SDS Server:</p> <p>Access the server console.</p>	<ul style="list-style-type: none"> Connect to the Active SDS VIP console using one of the access methods described in Section Error! Reference source not found. 																																																	
<p>9.</p> <p><input type="checkbox"/></p>	<p>Active SDS Server:</p> <p>1) Access the command prompt.</p> <p>2) Log into the OAM server as the “root” user.</p>	<pre>CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64 hostname1260476035 login: root Password: <root_password></pre>																																																	
<p>10.</p> <p><input type="checkbox"/></p>	<p>Active SDS Server:</p> <p>Change directory to filemgmt</p>	<pre>[root@sds-mrsvnc-a ~]# cd /var/TKLC/db/filemgmt</pre>																																																	

Procedure 7.1 Applying the Database Processor Configuration file (DP)

<p>11. <input type="checkbox"/></p>	<p>Active SDS Server:</p> <p>Copy the SDS DP configuration file to the “/var/tmp” directory on the remote server.</p> <p>NOTE: <i>The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.</i></p>	<p>Example:</p> <p>TKLCConfigData<.hostname>.sh → will translate to →TKLCConfigData.sh</p> <pre>[root@sds-mrsvnc-a ~]# scp \ /var/TKLC/db/filemgmt/TKLCConfiguData.<hostname>.sh \ <ipaddr>:/var/tmp/TKLCConfigData.sh</pre> <p>Note: ipaddr is the IP address of DP server associated with the xmi network.</p>
<p>12. <input type="checkbox"/></p>	<p>DP Server:</p> <p>After the script completes, a broadcast message will be sent to the terminal.</p> <p>NOTE: <i>The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete.</i></p>	<p>*** NO OUTPUT FOR ≈ 3-20 MINUTES ***</p> <p>Broadcast message from root (Mon Dec 14 15:47:33 2009):</p> <pre>Server configuration completed successfully! See /var/TKLC/appw/logs/Process/install.log for details.</pre> <p>Obtain a terminal session on the DP Server as root. Log in as root on the DP Server shell, and issue the following commands:</p> <pre>[root@hostname1260476099 ~]# cat /var/TKLC/appw/logs/Process/install.log</pre>
<p>13.</p>	<p>DP Server:</p> <p>Configure the time zone.</p>	<pre>[root@hostname1260476035 ~]# set_ini_tz.pl <time zone></pre> <p>Note: The following command example uses Etc/UTC time zone. Replace, as appropriate, with the time zone you have selected for this installation. See Appendix B for a list of valid time zones.</p> <pre>[root@hostname1260476035 ~]# set_ini_tz.pl "Etc/UTC"</pre>
<p>14. <input type="checkbox"/></p>	<p>DP Server:</p> <p>Initiate a reboot of the DP.</p>	<pre>[root@hostname1260476035 ~]# init 6</pre>

Procedure 7.1 Applying the Database Processor Configuration file (DP)

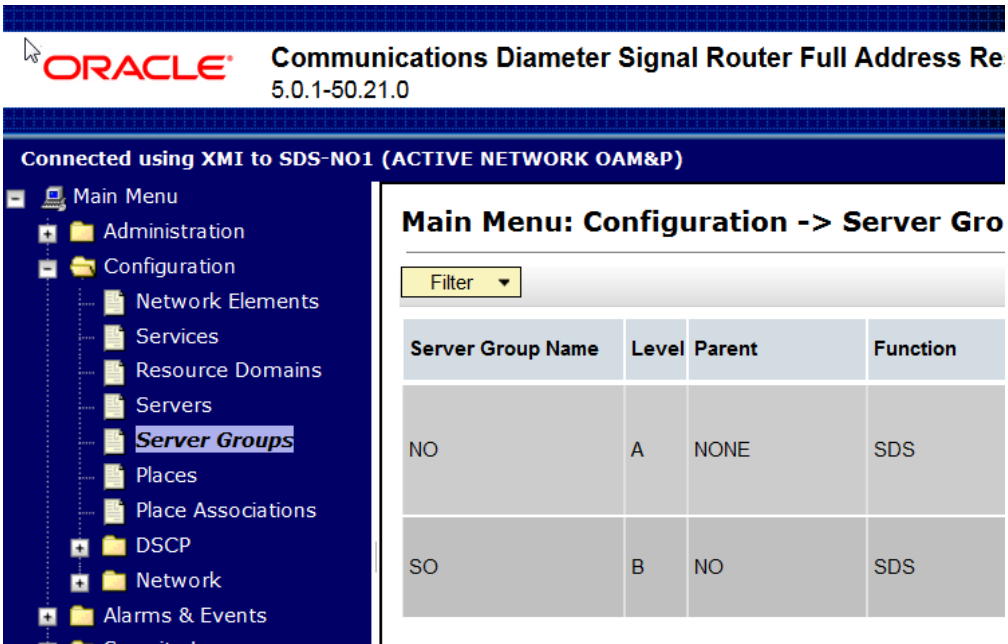
15. <input type="checkbox"/>	DP Server: Execute a “ syscheck ” to verify the current health of the server.	Obtain a terminal session on the DP Server as root. Log in as root on the DP Server shell, and issue the following commands: <pre>[root@dp-carync-1 ~]# syscheck Running modules in class hardware... 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 [root@dp-carync-1 ~]#</pre>
16. <input type="checkbox"/>	Repeat Steps 8 - 15 of this procedure for each subtending DP server.	

Procedure 7.2 Configuring the Database Processor Server Group (DP)

17. **Active SDS VIP:**
Select...

Main Menu
→ Configuration
→ *Server Groups*

...as shown on the right.



Server Group Name	Level	Parent	Function
NO	A	NONE	SDS
SO	B	NO	SDS

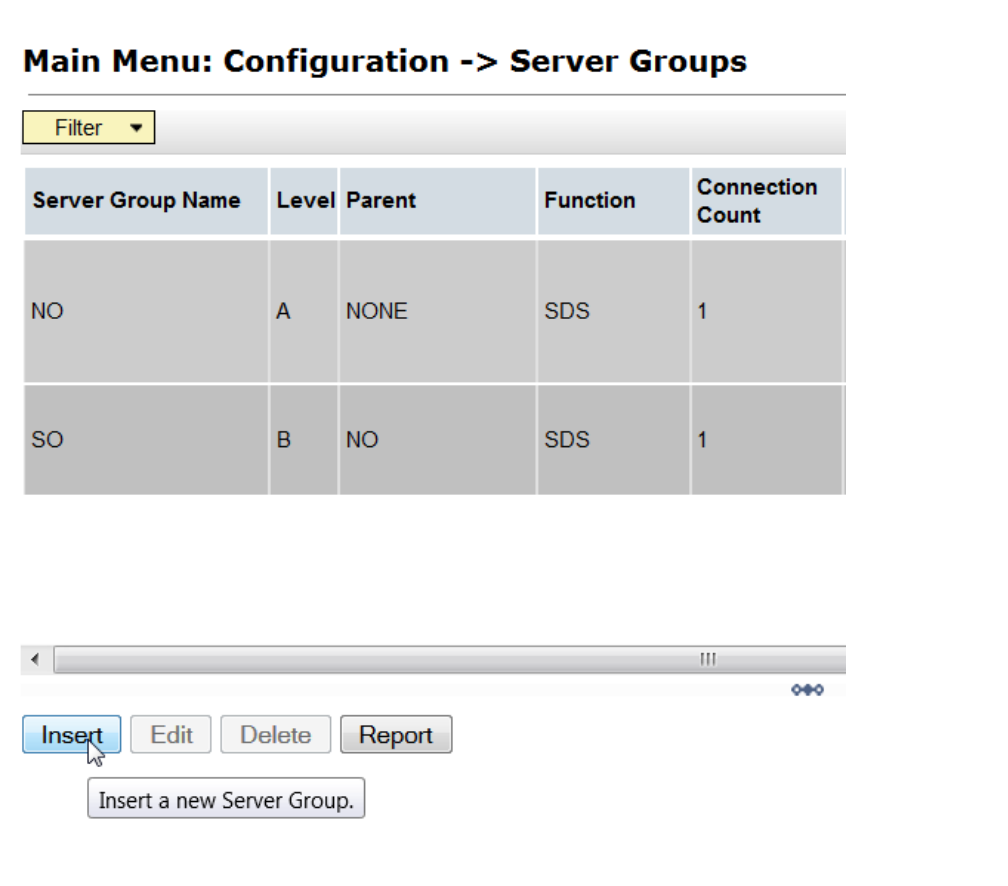
18. **Active SDS VIP:**

1) The user will be presented with the "Server Groups" configuration screen as shown on the right.

2) Select the "Insert" 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 "Insert" dialogue button visible.

Main Menu: Configuration -> Server Groups



Server Group Name	Level	Parent	Function	Connection Count
NO	A	NONE	SDS	1
SO	B	NO	SDS	1

Buttons: Insert, Edit, Delete, Report

Dialog: Insert a new Server Group.

Procedure 7.2 Configuring the Database Processor Server Group (DP)

19.



Active SDS VIP:

1) Input the **Server Group Name**.

Note: Each DP will have its own server group. Group names may be differentiated by assigning each a unique name.

2) Select **“C”** on the **“Level”** pull-down menu.

3) Select **System OAM group** on the **“Parent”** pull-down menu.

4) Select **“SDS”** on the **“Function”** pull-down menu.

NOTE: Leave the **“WAN Replication Connection Count”** blank it will default to 1.

5) Select the **“OK”** dialogue button.

Main Menu: Configuration -> Server Groups [Insert] Thu Jun 04 22:21:58 20...

Info ▾

Field	Value	Description
Server Group Name	MP *	Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]
Level	C *	Select one of the Levels supported by the system. [Level A groups contain NOAMP and Query servers. Level B groups are optional and contain SOAM servers. Level C groups contain MP servers.]
Parent	SO *	Select an existing Server Group or NONE
Function	SDS *	Select one of the Functions supported by the system
WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]

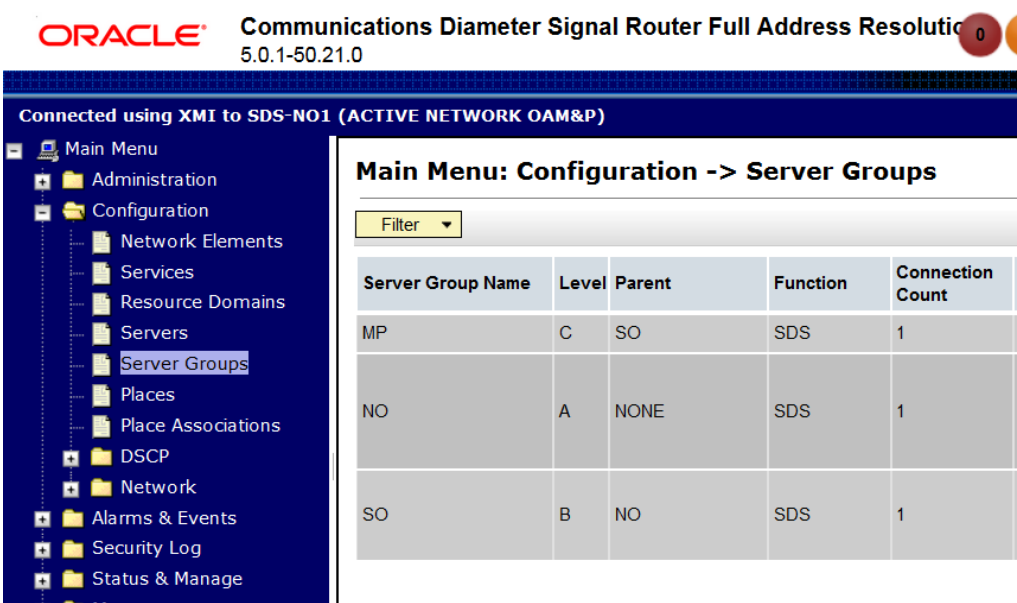
Ok Apply Cancel

Procedure 7.3 Adding the Database Processor into the DP Server Group (DP)

20.

Active SDS VIP:

The user will be presented with the “**Configuration → Server Groups**” screen as shown on the right



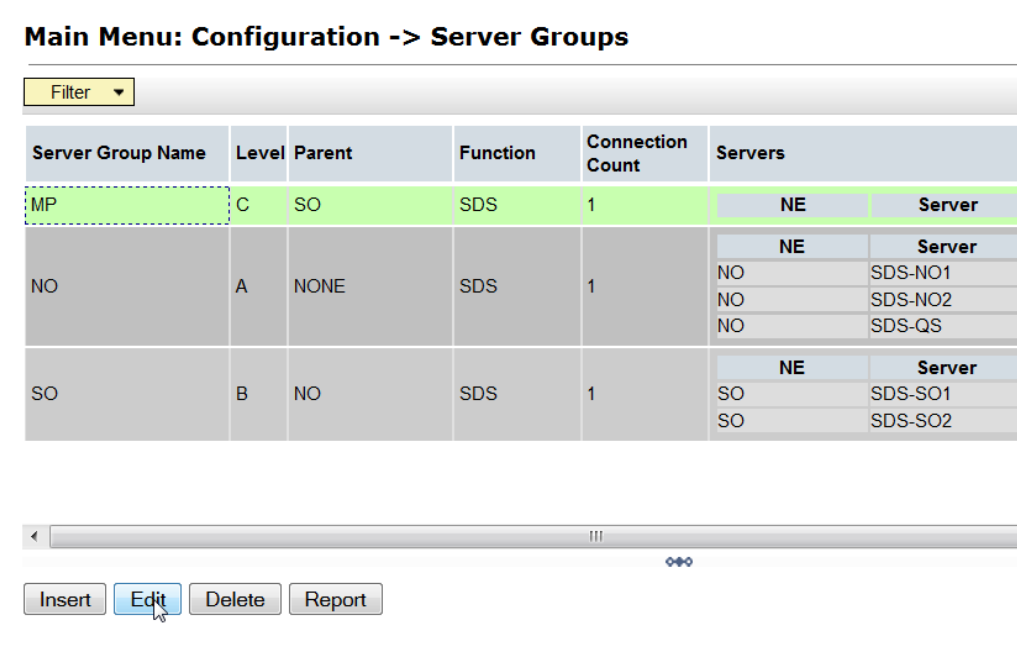
Server Group Name	Level	Parent	Function	Connection Count
MP	C	SO	SDS	1
NO	A	NONE	SDS	1
SO	B	NO	SDS	1

21.

Active SDS VIP:

1) Using the mouse, select the MP Server Group associated with the DP being installed.

2) Select the “**Edit**” dialogue button from the bottom left corner of the screen.



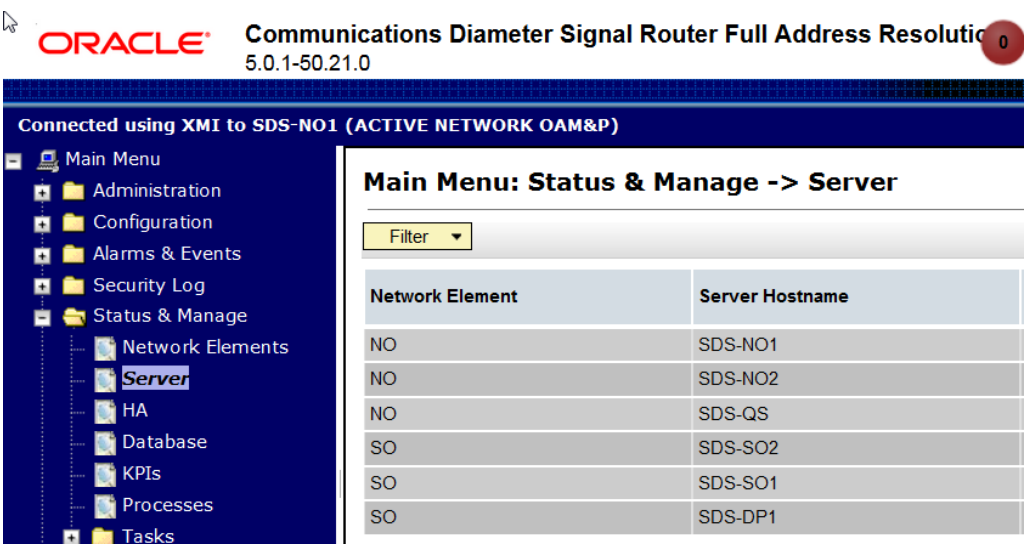
Server Group Name	Level	Parent	Function	Connection Count	Servers
MP	C	SO	SDS	1	NE Server
NO	A	NONE	SDS	1	NE Server NO SDS-NO1 NO SDS-NO2 NO SDS-QS
SO	B	NO	SDS	1	NE Server SO SDS-SO1 SO SDS-SO2

Buttons: Insert, Edit, Delete, Report

Procedure 7.3 Adding the Database Processor into the DP Server Group (DP)

<p>22.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>The user will be presented with the “Configuration → Server Groups [Edit]” screen as shown on the right</p> <p>Select the “DP” server from the list of “Servers” by clicking the check box next its name.</p> <p>Select the “Apply” dialogue button.</p>	
<p>23.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>The user should be presented with a banner information message stating “Data committed”.</p>	
<p>24.</p> <p><input type="checkbox"/></p>	<p>Repeat Steps 17 - 23 of this procedure for each subtending DP server, <i>using a unique group for each DP</i>.</p>	
<p>25.</p> <p><input type="checkbox"/></p>	<p>IMPORTANT:</p> <p>Wait at least 5 minutes before proceeding on to the next Step.</p>	<ul style="list-style-type: none"> Now that the Database Processor(s) have been placed within their respective Server Groups, each must establish DB replication with the Active DP-SOAM server at the NE. It may take several minutes for this process to be completed. Allow a minimum of 5 minutes before continuing to the next Step.

Procedure 7.4 Restarting the Database Processor Application (DP)

<p>26.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP: Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	 <p>ORACLE Communications Diameter Signal Router Full Address Resolution 5.0.1-50.21.0</p> <p>Connected using XMI to SDS-NO1 (ACTIVE NETWORK OAM&P)</p> <p>Main Menu: Status & Manage -> Server</p> <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> </tr> </thead> <tbody> <tr><td>NO</td><td>SDS-NO1</td></tr> <tr><td>NO</td><td>SDS-NO2</td></tr> <tr><td>NO</td><td>SDS-QS</td></tr> <tr><td>SO</td><td>SDS-SO2</td></tr> <tr><td>SO</td><td>SDS-SO1</td></tr> <tr><td>SO</td><td>SDS-DP1</td></tr> </tbody> </table>	Network Element	Server Hostname	NO	SDS-NO1	NO	SDS-NO2	NO	SDS-QS	SO	SDS-SO2	SO	SDS-SO1	SO	SDS-DP1																																			
Network Element	Server Hostname																																																		
NO	SDS-NO1																																																		
NO	SDS-NO2																																																		
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SO	SDS-SO2																																																		
SO	SDS-SO1																																																		
SO	SDS-DP1																																																		
<p>27.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Verify that the “DB & Reporting” status columns all show “Norm” for the DP at this point. The “Proc” column should show “Man”.</p>	<p>Main Menu: Status & Manage -> Server</p> <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>AppI State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr><td>NO</td><td>SDS-NO1</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr> <tr><td>NO</td><td>SDS-NO2</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr> <tr><td>NO</td><td>SDS-QS</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr> <tr><td>SO</td><td>SDS-SO2</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr> <tr><td>SO</td><td>SDS-SO1</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr> <tr><td>SO</td><td>SDS-DP1</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr> </tbody> </table>	Network Element	Server Hostname	AppI State	Alm	DB	Reporting Status	Proc	NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm	NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm	NO	SDS-QS	Enabled	Norm	Norm	Norm	Norm	SO	SDS-SO2	Enabled	Norm	Norm	Norm	Norm	SO	SDS-SO1	Enabled	Norm	Norm	Norm	Norm	SO	SDS-DP1	Disabled	Warn	Norm	Norm	Man
Network Element	Server Hostname	AppI State	Alm	DB	Reporting Status	Proc																																													
NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm																																													
NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm																																													
NO	SDS-QS	Enabled	Norm	Norm	Norm	Norm																																													
SO	SDS-SO2	Enabled	Norm	Norm	Norm	Norm																																													
SO	SDS-SO1	Enabled	Norm	Norm	Norm	Norm																																													
SO	SDS-DP1	Disabled	Warn	Norm	Norm	Man																																													

Procedure 7.4 Restarting the Database Processor Application (DP)

28.

Active SDS VIP:

1) Using the mouse, select the “DP” hostname. 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 “DP” stating: **“Successfully restarted application”**.

NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.

Main Menu: Status & Manage -> Server

Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm
NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm
NO	SDS-QS	Enabled	Norm	Norm	Norm	Norm
SO	SDS-SO2	Enabled	Norm	Norm	Norm	Norm
SO	SDS-SO1	Enabled	Norm	Norm	Norm	Norm
SO	SDS-DP1	Disabled	Warn	Norm	Norm	Man

Buttons: Stop, Restart, Reboot, NTP Sync, Report

Restart selected server(s).

Are you sure you wish to restart application software on the following server(s)?
SDS-DP1

Buttons: OK, Cancel

29.

Active SDS VIP:

Verify that the “Appl State” now shows “Enabled” and that the “Alm, DB, Reporting Status & Proc” status columns all show “Norm” for the “DP”.

Main Menu: Status & Manage -> Server

Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
NO	SDS-NO1	Enabled	Err	Norm	Norm	Norm
NO	SDS-NO2	Enabled	Norm	Norm	Norm	Norm
NO	SDS-QS	Enabled	Norm	Norm	Norm	Norm
SO	SDS-SO2	Enabled	Norm	Norm	Norm	Norm
SO	SDS-SO1	Enabled	Norm	Norm	Norm	Norm
SO	SDS-DP1	Enabled	Norm	Norm	Norm	Norm

30.

- Repeat **Steps 26 - 29** of this procedure for each additional **DP** server installed.

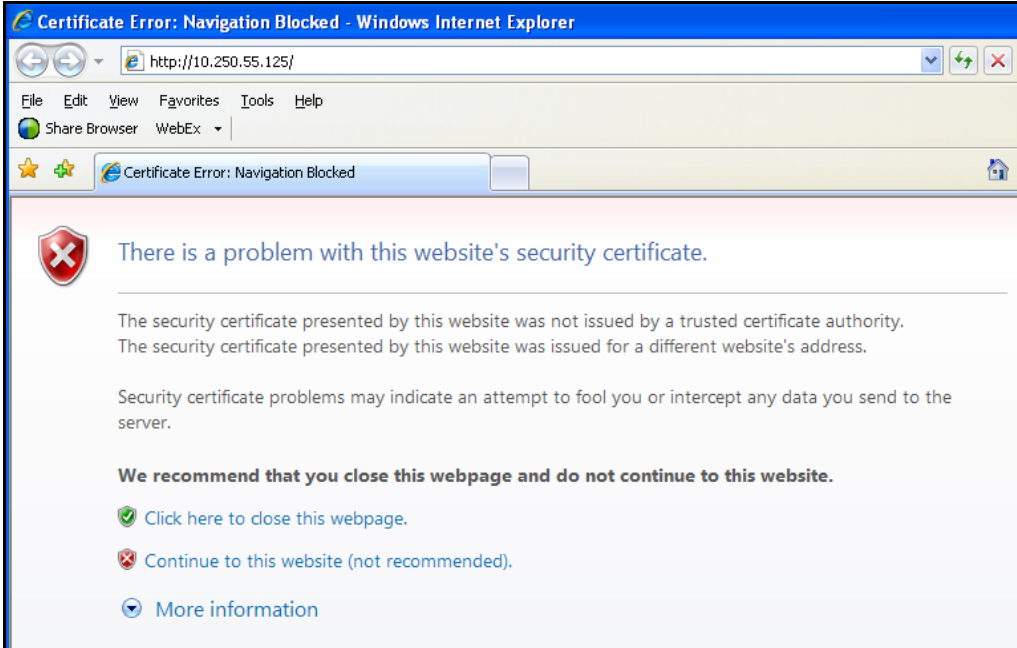

THIS PROCEDURE HAS BEEN COMPLETED

Note: After all DP servers have been installed, the user can configure the ComAgent by following steps in Section 5.7.

5.7 Configuring ComAgent

This procedure configures the ComAgent that allows the SDS Data Processor servers and the DSR Message Processor servers to communicate with each other. These steps cannot be executed until all SDS DP servers are configured.

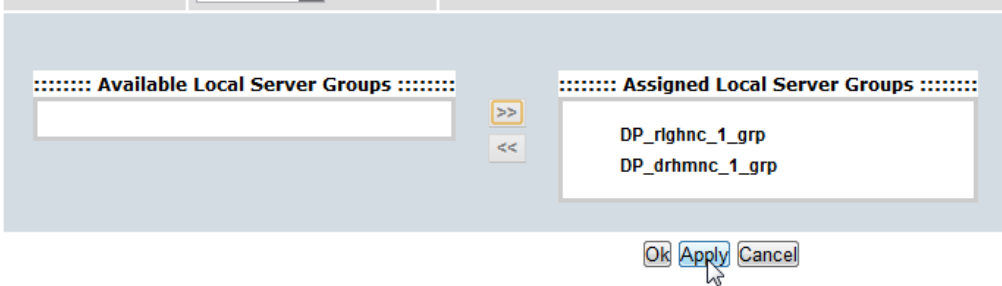
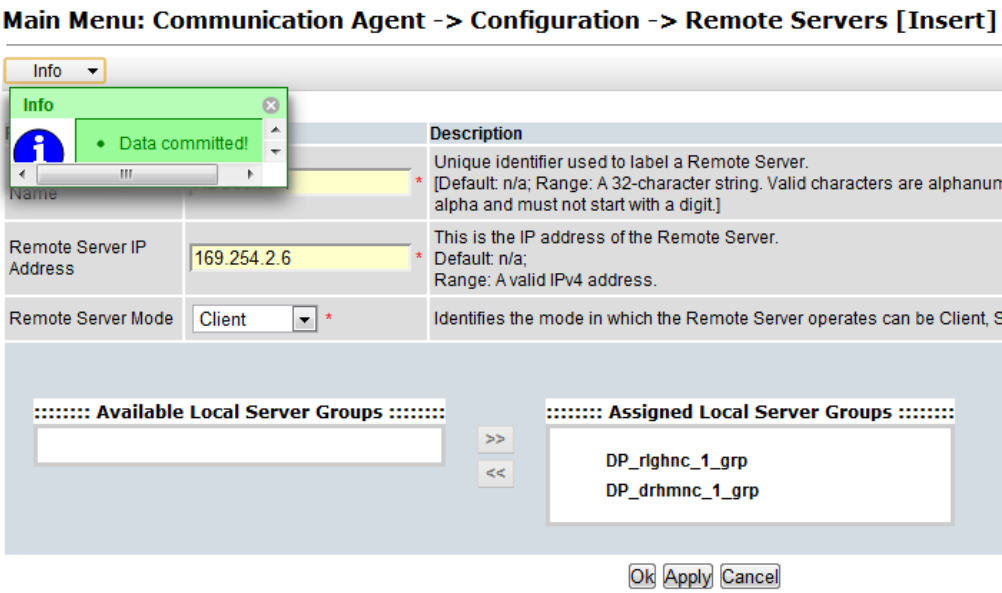
Procedure 8: Configuring comAgent (All DP-SOAM sites)

Step	Procedure	Result
<p>1.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 5px;"></div>	<p>Active SDS VIP:</p> <p>Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active SDS site using "https://"</p>	
<p>2.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 5px;"></div>	<p>Active SDS VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	

Procedure 8: Configuring comAgent (All DP-SOAM sites)

<p>3.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Select...</p> <p>Main Menu</p> <p>→ Communication Agent</p> <p>→ Configuration</p> <p>→ Remote Servers</p> <p>...as shown on the right.</p> <p>Select the "Insert" dialogue button</p>							
<p>4.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Enter the "Remote Server Name" for the DSR Message Processor server</p>	<table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Remote Server Name</td> <td>RDU08MP1 *</td> <td>Unique identifier used to label a Remote Server. [Default: n/a; Range: A 32-character string. Valid underscore. Must contain at least one alpha and</td> </tr> </tbody> </table>	Field	Value	Description	Remote Server Name	RDU08MP1 *	Unique identifier used to label a Remote Server. [Default: n/a; Range: A 32-character string. Valid underscore. Must contain at least one alpha and
Field	Value	Description						
Remote Server Name	RDU08MP1 *	Unique identifier used to label a Remote Server. [Default: n/a; Range: A 32-character string. Valid underscore. Must contain at least one alpha and						
<p>5.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Enter the "Remote Server IMI IP Address".</p>	<table border="1"> <tbody> <tr> <td>Remote Server IP Address</td> <td>169.254.2.6 *</td> <td>This is the IP address of the Remote Server. Default: n/a; Range: A valid IPv4 address.</td> </tr> </tbody> </table> <p>NOTE: This should be the IMI IP address of the MP.</p>	Remote Server IP Address	169.254.2.6 *	This is the IP address of the Remote Server. Default: n/a; Range: A valid IPv4 address.			
Remote Server IP Address	169.254.2.6 *	This is the IP address of the Remote Server. Default: n/a; Range: A valid IPv4 address.						
<p>6.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Select "Client" for the Remote Server Mode from the pull-down menu.</p>							
<p>7.</p> <p><input type="checkbox"/></p>	<p>Active SDS VIP:</p> <p>Select the Local Server Group for the SDS Data Processor server group</p>							

Procedure 8: Configuring comAgent (All DP-SOAM sites)

<p>8.</p> <input type="checkbox"/>	<p>Active SDS VIP:</p> <p>Click the “Apply” dialogue button</p>	
<p>9.</p> <input type="checkbox"/>	<p>Active SDS VIP:</p> <p>Under the “Info” banner option, the user should be presented with a message stating “Data committed”</p>	<p>Main Menu: Communication Agent -> Configuration -> Remote Servers [Insert]</p> 
<p>10.</p> <input type="checkbox"/>	<ul style="list-style-type: none"> Repeat steps 3 - 9 of this procedure for each remote MP in the same SOAM NE. 	
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>		

Appendix A. Creating an XML file for Installing SDS Network Elements

SDS Network Elements can be created by using an XML configuration file. The SDS software image (*.iso) contains two examples of XML configuration files for “NO” (Network OAM&P) and “SO” (System OAM) networks. These files are named **SDS_NO_NE.xml** and **SDS_SO_NE.xml** and are stored on the **/usr/TKLC/sds/vlan** directory. The customer is required to create individual XML files for each of their SDS Network Elements. The format for each of these XML files is identical.

Below is an example of the SDS_NO_NE.xml file. The highlighted values are values that the user must update.

NOTE: The **Description** column in this example includes comments for this document only. **Do not include** the Description column in the actual XML file used during installation.

Table 4 - SDS XML SDS Network Element Configuration File

XML File Text	Description
<?xml version="1.0"?>	
<networkelement>	
<name> sds_mrvnc </name>	Unique identifier used to label a Network Element. [Range = 1-32 character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]
<ntpserver>	
<ntpserver> 10.250.32.10 </ntpserver>	IP Address of the first NTP server. There must be at least one NTP server IP address defined.
<ntpserver> 10.250.32.51 </ntpserver>	IP Address of second NTP server, if it exists; otherwise, this line must be deleted.
</ntpserver>	
<network>	
<name>XMI</name>	Name of customer external network. Note: Do NOT change this name.
<vlanId> 3 </vlanId>	The VLAN ID to use for this VLAN. [Range = 2-4094.]
<ip> 10.250.55.0 </ip>	The network address of this VLAN [Range = A valid IP address]
<mask> 255.255.255.0 </mask>	Subnetting to apply to servers within this VLAN
<gateway> 10.250.55.1 </gateway>	The gateway router interface address associated with this network [Range = A valid IP address]
<isDefault>true</isDefault>	Indicates whether this is the network with a default gateway. [Range = true/false]
</network>	
<network>	
<name>IMI</name>	Name of customer internal network. Note: Do NOT change this name.
<vlanId> 4 </vlanId>	The VLAN ID to use for this VLAN. [Range = 2-4094.]
<ip> 169.254.100.0 </ip>	The network address of this VLAN [Range = A valid IP address]
<mask> 255.255.255.0 </mask>	Subnetting to apply to servers within this VLAN
<gateway> 169.254.100.3 </gateway>	The gateway router interface address associated with this network [Range = A valid IP address]
</network>	
</networks>	
</networkelement>	

Appendix B. List of Frequently Used Time Zones

This table lists several valid timezone strings that can be used for the time zone setting in a CSV file, or as the time zone parameter when manually setting a DSR timezone.

Table 5 - List of Selected Time Zone Values

Time Zone Value	Description	Universal Time Code (UTC) Offset
<i>Etc/UTC</i>	Coordinated Universal Time	UTC-00
<i>America/New_York</i>	Eastern Time	UTC-05
<i>America/Chicago</i>	Central Time	UTC-06
<i>America/Denver</i>	Mountain Time	UTC-07
<i>America/Phoenix</i>	Mountain Standard Time - Arizona	UTC-07
<i>America/Los_Angeles</i>	Pacific Time	UTC-08
<i>America/Anchorage</i>	Alaska Time	UTC-09
<i>Pacific/Honolulu</i>	Hawaii	UTC-10
<i>Africa/Johannesburg</i>		UTC+02
<i>America/Mexico_City</i>	Central Time - most locations	UTC-06
<i>Africa/Monrovia</i>		UTC+00
<i>Asia/Tokyo</i>		UTC+09
<i>America/Jamaica</i>		UTC-05
<i>Europe/Rome</i>		UTC+01

<i>Asia/Hong_Kong</i>		UTC+08
<i>Pacific/Guam</i>		UTC+10
<i>Europe/Athens</i>		UTC+02
<i>Europe/London</i>		UTC+00
<i>Europe/Paris</i>		UTC+01
<i>Europe/Madrid</i>	mainland	UTC+01
<i>Africa/Cairo</i>		UTC+02
<i>Europe/Copenhagen</i>		UTC+01
<i>Europe/Berlin</i>		UTC+01
<i>Europe/Prague</i>		UTC+01
<i>America/Vancouver</i>	Pacific Time - west British Columbia	UTC-08
<i>America/Edmonton</i>	Mountain Time - Alberta, east British Columbia & westSaskatchewan	UTC-07
<i>America/Toronto</i>	Eastern Time - Ontario - most locations	UTC-05
<i>America/Montreal</i>	Eastern Time - Quebec - most locations	UTC-05
<i>America/Sao_Paulo</i>	South & Southeast Brazil	UTC-03
<i>Europe/Brussels</i>		UTC+01
<i>Australia/Perth</i>	Western Australia - most locations	UTC+08

<i>Australia/Sydney</i>	New South Wales - most locations	UTC+10
<i>Asia/Seoul</i>		UTC+09
<i>Africa/Lagos</i>		UTC+01
<i>Europe/Warsaw</i>		UTC+01
<i>America/Puerto_Rico</i>		UTC-04
<i>Europe/Moscow</i>	Moscow+00 - west Russia	UTC+04
<i>Asia/Manila</i>		UTC+08
<i>Atlantic/Reykjavik</i>		UTC+00
<i>Asia/Jerusalem</i>		UTC+02

Appendix C. Resource Profile

VM Name	VM Purpose	vCPUs	RAM (GB)	Storage (GB)	Notes
SDS NOAM	Database Processor for address resolution and subscriber location functions	4	12	125	DP
SDS SOAM	Database Processor Site (node) Operation, Administration, Maintenance for address resolution and subscriber location functions	4	12	125	
DP	Subscriber Database Processor for address resolution and subscriber location functions.	4	12	125	
Query Server	Allows customers to query FABR subscriber data via a MySQL interface	4	12	125	

VM Name	OAM (XMI)	Local (IMI)	Signaling A (XSI1)	Signaling B (XSI2)	Signaling C (XSI3)	Signaling D (XSI4)	Replication (SBR Rep)
SDS NOAM	eth0	eth1					
SDS SOAM	eth0	eth1					
DP	eth0	eth1					
Query	eth0	eth1					

Note: The Ethernet interfaces define in the table are there as a guideline. Interfaces can be ordered as preferred. I.E. eth1 or eth2 could be associated with XMI if desired.