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⚠️ CAUTION: Use only the Install procedure included in the Installation Kit.

Before installing any system, please access Oracle’s Tekelec Customer Support site and review any Technical Service Bulletins (TSBs) that relate to this installation.

Contact Oracle’s Tekelec Customer Care Center and inform them of your install plans prior to beginning this or any installation procedure.

Phone: 1-888-367-8552 or 919-460-2150 (international)
FAX: 919-460-2126
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1.0 INTRODUCTION

1.1 Purpose and Scope
This document describes how to 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 and a DP-SOAM/DP (Blade) NE for production use as part of the DSR 4.0 solution. This document includes switch configuration (Cisco 4948E-F) and validation of the initial SDS configuration.

This document only describes the SDS product SW installation on the HP DL360 Server, deployed using Cisco 4948E-F switches. 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 cabinet. Users needing familiarity with these areas of interest should refer to sources cited in Section 1.2, References.

1.2 References

External (Customer Facing):
[2] Site Survey (Domestic US AC Power), SS005955, Latest Revision
[3] Site Survey (Domestic US DC Power), SS005956, Latest Revision
[5] DSR 4.0 HP C-Class Installation, 902-2228-001, Ver 0.7

Internal (ORACLE Communications Personnel Only):
[9] DSR IP Network Planning for AT&T Mobility – LTE, MS006641, Latest Revision

1.3 Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSV</td>
<td>Comma Separated Values</td>
</tr>
<tr>
<td>DR</td>
<td>Disaster Recovery</td>
</tr>
<tr>
<td>IMI</td>
<td>Internal Management Interface</td>
</tr>
<tr>
<td>ISL</td>
<td>Inter-Switch-Link</td>
</tr>
<tr>
<td>NE</td>
<td>Network Element</td>
</tr>
<tr>
<td>NOAM</td>
<td>Network Operations, Administration &amp; Maintenance</td>
</tr>
<tr>
<td>iLO</td>
<td>HP Integrated Lights-Out</td>
</tr>
<tr>
<td>SDS</td>
<td>Subscriber Data Server</td>
</tr>
<tr>
<td>SOAM</td>
<td>Systems Operations, Administration &amp; Maintenance</td>
</tr>
<tr>
<td>TPD</td>
<td>Tekelec Platform Distribution (Linux OS)</td>
</tr>
<tr>
<td>VIP</td>
<td>Virtual IP</td>
</tr>
<tr>
<td>XMI</td>
<td>External Management Interface</td>
</tr>
</tbody>
</table>

Table 1 - Acronyms
1.4 Assumptions
This procedure assumes the following:

- The user has reviewed the latest Customer specific DSR Network Planning document [9] 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 [9] and used them to compile XML files (See Appendix F) 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 [9].

- 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 Tekelec 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 for HP DL360 based SDS HW:

- A laptop or desktop computer equipped as follows;
  - 10/100 Base-TX Ethernet Interface.
  - Administrative privileges for the OS.
  - An approved web browser (currently Internet Explorer 7.x or 8.x)

- An IEEE compliant 10/100 Base-TX Ethernet Cable, RJ-45, Straight-Through.
- USB flash drive with at least 1GB of available space.
- TPD “root” user password.

  **NOTE:** When using the iLO for SSH connectivity, supported terminal Emulations are **VT100 or higher** (i.e. VT-102, VT-220, VT-320).

2.2 Physical Connections
A connection to the VGA/Keyboard ports on the HP DL360 rear panel or a connection to the iLO is required to initiate and monitor the progress of SDS installation procedures.

![Figure 1 – HP DL360, DC (Rear Panel)](image-url)
### 2.3 Access Alternatives for Application Install

This procedure may also be executed using one of the access methods described below:

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>VGA Monitor and PS2 Keyboard.</td>
</tr>
<tr>
<td>3)</td>
<td>iLO VGA Redirection Window, IE8 (or IE9 with Document Mode “IE8 Standards”), Ethernet cable. (See Appendix A)</td>
</tr>
<tr>
<td>4)</td>
<td>iLO access via SSH, terminal program, Ethernet cable.</td>
</tr>
</tbody>
</table>

[Figure 1 – HP DL360, DC (Rear Panel)](Image)

One of the Access Methods shown to the right may be used to initiate and monitor SDS installation.

**NOTE:** Methods 3 & 4 may only be used on an HP DL360 with an iLO that has been previously configured with a statically assigned IP address. It is not intended for use with a new, out-of-the-box server.

---

### 2.4 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.

**NOTE:** Parts of this procedure will utilize a VGA Monitor (or equivalent) as the active terminal. It is understood that logging is not possible during these times. The user is only expected to provide logs for those parts of the procedures where direct terminal capture is possible (i.e. SSH, serial, etc.).
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

<table>
<thead>
<tr>
<th>Site Type</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>E.*</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DR SDS</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Query Server</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DP-SOAM</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DP</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

*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.

<table>
<thead>
<tr>
<th>Procedure No</th>
<th>Title</th>
<th>Page No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Installing the SDS Application (All SDS Sites)</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>Configuring SDS Servers A and B (1st SDS site only)</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>OAM Pairing (1st SDS site only)</td>
<td>41</td>
</tr>
<tr>
<td>4</td>
<td>Query Server Installation (All SDS sites)</td>
<td>57</td>
</tr>
<tr>
<td>5</td>
<td>OAM Installation for DR SDS site</td>
<td>77</td>
</tr>
<tr>
<td>6</td>
<td>OAM Pairing for DR SDS site</td>
<td>94</td>
</tr>
<tr>
<td>7</td>
<td>Add SDS software images to PMAC servers (All DP-SOAM sites)</td>
<td>107</td>
</tr>
<tr>
<td>8</td>
<td>OAM Installation for DP-SOAM sites (All DP-SOAM sites)</td>
<td>111</td>
</tr>
<tr>
<td>9</td>
<td>OAM Pairing for DP-SOAM sites (All DP-SOAM sites)</td>
<td>138</td>
</tr>
<tr>
<td>10</td>
<td>DP Installation (All DP-SOAM sites)</td>
<td>152</td>
</tr>
<tr>
<td>11</td>
<td>Configuring ComAgent</td>
<td>186</td>
</tr>
<tr>
<td>E.1</td>
<td>Verifying Cisco Switch Wiring (SDS sites)</td>
<td>200</td>
</tr>
<tr>
<td>E.2</td>
<td>Configure Cisco 4948E-F Aggregation Switches</td>
<td>203</td>
</tr>
<tr>
<td>E.3</td>
<td>Cisco 4948E-F IOS Upgrade (SDS sites)</td>
<td>222</td>
</tr>
<tr>
<td>E.4</td>
<td>Cisco 4948E-F Configuration Backup (SDS sites)</td>
<td>230</td>
</tr>
<tr>
<td>J</td>
<td>Disable Hyperthreading (DP Only)</td>
<td>241</td>
</tr>
</tbody>
</table>

*Table 3 - SDS Installation: List of Procedures*
4.0 APPLICATION INSTALL

4.1 Installing the SDS Application (All SDS Sites)
The user should confirm that the server has been verified through the SDS Hardware Verification Plan [4] before beginning this procedure.

Procedure 1: Installing the SDS Application

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Access the HP DL360 server’s console.</td>
<td>• Connect to the HP DL360 server’s console using one of the access methods described in Section 2.3.</td>
</tr>
</tbody>
</table>
| 2.   | 1) Access the command prompt.  
2) Log into the HP DL360 server as the “root” user. | CentOS release 5.6 (Final)  
Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64  
hostname1260476221 login: root  
Password: <root_password> |
| 3.   | Verify that the correct Date & Time are displayed in GMT (+/- 4 min.). | [root@hostname1260476221 ~]# date -u  
Wed Nov 16 14:49:17 UTC 2011  
[root@hostname1260476221 ~]# |

IF THE CORRECT DATE & TIME (IN GMT) ARE NOT SHOWN IN THE PREVIOUS STEP, THEN STOP THIS PROCEDURE AND PERFORM THE FOLLOWING STEPS:

1) Execute the steps for updating the date and time found in section entitled “HP DL360 G6 ProLiant Server: BIOS Settings and Server IPM” in 820-6641-01, RevB (or higher) [8] using the TPD 6.x.x media which shipped with the SDS cabinet.

2) Restart this procedure beginning with Section 4.1 (Installing the SDS Application).

IF THE CORRECT DATE & TIME (IN GMT) ARE SHOWN IN THE PREVIOUS STEP, THEN CONTINUE ON TO STEP 4 OF THIS PROCEDURE.

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
</tr>
</thead>
</table>
| 4.   | Verify that the TPD release is 6.x.x. | [root@hostname1260476221 ~]# getPlatRev  
6.0.0-80.21.0  
[root@hostname1260476221 ~]# |

IF THE PLATFORM REVISION SHOWN IN THE PREVIOUS STEP IS 5.x.x, THEN STOP THIS PROCEDURE AND PERFORM THE FOLLOWING STEPS:
**Procedure 1:** Installing the SDS Application

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Execute the section entitled &quot;HP DL360 G6 ProLiant Server: BIOS Settings and Server IPM&quot; in 820-6641-01, RevB (or higher) [8] using the <strong>TPD 6.x.x</strong> media which shipped with the SDS cabinet.</td>
<td></td>
</tr>
<tr>
<td>2)</td>
<td>Restart this procedure beginning with <strong>Section 4.1 (Installing the SDS Application)</strong>.</td>
<td></td>
</tr>
</tbody>
</table>

**IF THE PLATFORM REVISION SHOWN IN THE PREVIOUS STEP IS 6.x.x, THEN CONTINUE ON TO STEP 5 OF THIS PROCEDURE.**

5. Execute "syscheck" to verify the state of the server before Application install.

**NOTE:** The user should stop and resolve any errors returned from “syscheck” before continuing on to the next step.

Last Login: Wed Nov 16 14:49:17 on tty1
[root@hostname1260476221 ~]# **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@hostname1260476221 ~]#

6. Execute "verifyUpgrade" as a secondary way to verify the state of the server before Application install.

**NOTE 1:** If there are no problems, the user is returned to a command prompt.

**NOTE 2:** The user should stop and resolve any errors returned from “verifyIPM” before continuing on to the next step.

[root@hostname1260476221 ~]# **verifyUpgrade**
[root@hostname1260476221 ~]#
Procedure 1: Installing the SDS Application

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 7.   | Verify server hardware is DL360. | [root@hostname1260476221 ~]# `hardwareInfo | grep Hardware`  
Hardware ID: ProLiantDL360G6 
[root@hostname1260476221 ~]# |
| 8.   | Place the CDROM containing the SDS Application software into the server’s optical drive. | Figure 2 - HP DL360 Front Panel: Optical Drive |
| 9.   | Login to the “platcfg” utility. | [root@hostname1260476221 ~]# `su - platcfg` |
| 10.  | From the “platcfg” Main Menu… Select each option as shown on the right, pressing the <ENTER> key after each selection. | |
### Procedure 1: Installing the SDS Application

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>Verify that the Application release level shown matches the target release.</td>
<td><img src="image1.png" alt="System Busy" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image2.png" alt="Searching for upgrade media..." /></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image3.png" alt="Choose Upgrade Media Menu" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image4.png" alt="Installation Progress" /></td>
</tr>
<tr>
<td>12.</td>
<td>Output similar to that shown on the right may be observed as the Application install progresses.</td>
<td><img src="image5.png" alt="Installation Details" /></td>
</tr>
</tbody>
</table>

---

---

**DSR – 5.0 - SDS Initial Installation and Configuration Guide**

14

April 2014
## Procedure 1: Installing the SDS Application

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>Output similar to that shown on the right may be observed as the Application install progresses.</td>
<td><img src="image1.png" alt="Output" /></td>
</tr>
<tr>
<td>14.</td>
<td>Output similar to that shown on the right may be observed as the Application install progresses.</td>
<td><img src="image2.png" alt="Output" /></td>
</tr>
<tr>
<td>15.</td>
<td>Output similar to that shown on the right may be observed as the Application install progresses.</td>
<td><img src="image3.png" alt="Output" /></td>
</tr>
</tbody>
</table>
## Procedure 1: Installing the SDS Application

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>Output similar to that shown on the right may be observed at the completion of the Application install.</td>
<td><img src="image" alt="Output similar to that shown on the right may be observed at the completion of the Application install." /></td>
</tr>
<tr>
<td>17.</td>
<td>Output similar to that shown on the right may be observed as the server initiates a post-install reboot.</td>
<td><img src="image" alt="Output similar to that shown on the right may be observed as the server initiates a post-install reboot." /></td>
</tr>
</tbody>
</table>
| 18.  | After the server has completed reboot... | **CentOS release 5.6 (Final)**  
**Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64**  
hostname1260476221 login: **root**  
Password: `<root_password>` |
| 19.  | Output similar to that shown on the right will appear as the server returns to a command prompt. | *** TRUNCATED OUTPUT ***

```
|=========================================|===============================================|
| This system has been upgraded but the upgrade has not yet been accepted or rejected. Please accept or reject the upgrade soon. |
|===============================================================================================================|

VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16  
PRODPATH=  
RELEASE=5.16  
RUNID=00  
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/commagent-gui:/usr/TKLC/commagent:/usr/TKLC/sds  
PRODPATH=/opt/comcol/prod  
RUNID=00  
[root@hostname1260476221 ~]#  ```
### Procedure 1: Installing the SDS Application

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>Verify successful installation of the Application software.</td>
<td>[root@hostname1260476221 ~]# grep COMPLETE /var/TKLC/log/upgrade/upgrade.log 1321462900:: UPGRADE IS COMPLETE [root@hostname1260476221 ~]</td>
</tr>
<tr>
<td>21.</td>
<td>Verify that the Application release level shown matches the target release.</td>
<td>[root@hostname1260476221 ~]# rpm -qa</td>
</tr>
<tr>
<td>22.</td>
<td>Accept upgrade to the Application Software.</td>
<td>[root@hostname1260476221 ~]# /var/TKLC/backout/accept Called with options: --accept Loading Upgrade::Backout::RPM Accepting Upgrade Setting POST_UPGRADE_ACTION to ACCEPT in upgrade info. Cleaning backout directory. Clearing Upgrade Accept/Reject alarm. Cleaning message from MOTD. Cleaning up RPM config backup files... Checking / Checking /boot Checking /tmp Checking /usr Checking /var Checking /var/TKLC Checking /tmp/appworks_temp Checking /var/TKLC/appw/logs/Process Checking /var/TKLC/appw/logs/Security Checking /var/TKLC/db/filemgmt Checking /var/TKLC/rundb Starting cleanup of RCS repository. INFO: Removing '/var/lib/prelink/force' from RCS repository INFO: Removing '/etc/my.cnf' from RCS repository [root@hostname1260476221 ~]#</td>
</tr>
<tr>
<td>23.</td>
<td>Put the server in trusted time mode</td>
<td>[root@hostname1260476221 ~]# tw.setdate --trusted [root@hostname1260476221 ~]# prod.start [root@hostname1260476221 ~]#</td>
</tr>
<tr>
<td>24.</td>
<td>Eject the CDROM from the server’s optical drive.</td>
<td>[root@hostname1260476221 ~]# eject /dev/scd0 [root@hostname1260476221 ~]#</td>
</tr>
</tbody>
</table>
| 25. | Remove the CDROM from the server’s optical drive. | ![Figure 3 - HP DL360 Front Panel: Optical Drive](image)

---

**Figure 3** - HP DL360 Front Panel: Optical Drive
**Procedure 1:** Installing the SDS Application

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.</td>
<td>Exit from the command line to return the server console to the login prompt.</td>
<td><img src="image" alt="Command Result" /></td>
</tr>
<tr>
<td>27.</td>
<td>• Repeat this procedure for each RMS server installed in the cabinet before continuing on to the next procedure. <em>(e.g. Server A, Server B, Query Server)</em></td>
<td>THIS PROCEDURE HAS BEEN COMPLETED</td>
</tr>
</tbody>
</table>
5.0 CONFIGURATION PROCEDURES

5.1 Configuring SDS Servers A and B (1st SDS site only)

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 F.
- This procedure assumes that the Network Element XML files are either on a USB flash drive or the laptop’s hard drive. The steps are written as if the XML files are on a USB flash drive, but the files can exist on any accessible drive.

This procedure requires that the user connects to the SDS GUI prior to configuring the first SDS server. This can be done either by one of two procedures:

1. Configuring a temporary external IP address, as described in Appendix C
2. Plugging a laptop into an unused, unconfigured port on the SDS-A server using a direct-connect Ethernet cable, as described in Appendix D.
Procedure 2: Configuring SDS Servers A and B (1st SDS site only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>SDS Server A: Connect to the SDS GUI.</td>
<td>- Execute Appendix D. <em>Establishing a Local Connection for Accessing the SDS GUI</em></td>
</tr>
<tr>
<td>2.</td>
<td>SDS Server A: Launch an approved web browser and connect to the SDS Server A IP address using <a href="https://192.168.100.11">https://192.168.100.11</a>. <strong>NOTE:</strong> If presented with the &quot;security certificate&quot; warning screen shown to the right, <strong>choose the following option:</strong> &quot;Continue to this website (not recommended).&quot;</td>
<td><img src="image" alt="Certificate Error: Navigation Blocked - Windows Internet Explorer" /></td>
</tr>
<tr>
<td>3.</td>
<td>SDS Server A: The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.</td>
<td><img src="image" alt="Tekelec System Login" /></td>
</tr>
</tbody>
</table>
**Procedure 2:** Configuring SDS Servers A and B (1st SDS site only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>SDS Server A: The user should be presented the SDS Main Menu as shown on the right.</td>
<td>![Image of SDS Main Menu]</td>
</tr>
</tbody>
</table>

**Procedure 2.1 Configuring the Network Element**

5. SDS Server A: Select...
   - **Main Menu**
     - Configuration
     - Network Elements
   ...as shown on the right.

6. SDS Server A: From the Configuration / Network Elements screen...
   - Select the "Browse" dialogue button (scroll to bottom left corner of screen).
Procedure 2.1 Configuring the Network Element

7. SDS Server A:
   
   **Note**: This step assumes that the xml files were previously prepared, as described in Appendix F.

   1) Select the location containing the site .xml file.
   2) Select the .xml file and click the “Open” dialogue button.

8. SDS Server A:
   
   Select the “Upload File” dialogue button (bottom left corner of screen).

9. 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.
Procedure 2.2 Configuring Services

10. SDS Server A:

   Select…

   Main Menu
   → Configuration
   → Services

   …as shown on the right.

11. SDS Server A:

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

   2) Select the “Edit” dialogue button.
**Procedure 2.2 Configuring Services**

12. **SDS Server A:**
   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.

   2) Select the “Apply” dialogue button.

   **NOTE:** These are recommended names for SDS 5.0. Service names may vary according to those used in Appendix F.

13. **SDS Server A:**
   1) The user should now click the “Info” tab to be presented with a banner information message stating “Data committed”.

   2) Select the “Ok” dialogue button.
Procedure 2.2 Configuring Services

14. SDS Server A:
The user will be presented with the "Services" configuration screen as shown on the right.

Main Menu: Configuration -> Services

<table>
<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>

Procedure 2.3 Configuring the SDS Server

15. **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:
Select…

Main Menu
→ Configuration
→ Servers

…as shown on the right.

16. SDS Server A:
Select the “Insert” dialogue button.
Procedure 2.3 Configuring the SDS Server

17. SDS Server A:
The user is now presented with the “Adding a new server” configuration screen.

18. SDS Server A:
Input the assigned “hostname” for the SDS Server (A or B).

19. SDS Server A:
Select “NETWORK OAM&P” for the server “Role” from the pull-down menu.

20. SDS Server A:
Input the assigned hostname again as the “System ID” for the SDS Server (A or B).

21. SDS Server A:
Select “SDS HP Rack Mount” for the Hardware Profile for the SDS from the pull-down menu.
Procedure 2.3 Configuring the SDS Server

22. SDS Server A:
   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 25.

23. SDS Server A:
   Enter the site location.
   
   **NOTE:** Location is an optional field.

24. SDS Server A:
   1) Enter the MGMNT_VLAN and IMI IP addresses for the SDS Server.
   2) Set the MGMNT_VLAN and IMI Interfaces to “bond0” and check each VLAN checkbox.
   3) Enter the XMI IP address for the SDS Server.
   4) Set the XMI Interface to “bond1” and **DO NOT** check the VLAN box.

   **NOTE:** These values should be used for all SDS installations where 4948E-F Aggregations switches are deployed.
### Procedure 2.3 Configuring the SDS Server

#### 25. SDS Server A:

1. Click the “NTP Server” “Add” dialogue button.

2. Enter the NTP Server IP Address for an NTP Server.

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

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

#### 26. SDS Server A:

1. The user should be presented with a banner information message stating “Pre-Validation passed”.

2. Click the “Apply” dialogue button.
Procedure 2.3 Configuring the SDS Server

27. SDS Server A:
   If the values provided match the network ranges assigned to the SDS NE, the user will receive a banner information message showing that the data has been validated and committed to the DB.
## Procedure 2.4 Applying the SDS Server Configuration File

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 28.  | SDS Server A:  
Select…  
**Main Menu**  
→ Configuration  
→ Servers  
…as shown on the right. |
| 29.  | SDS Server A:  
The “Configuration  
→ Servers” screen  
should now show  
the newly added  
SDS Server in the  
list. |
| 30.  | SDS Server A:  
1) Use the cursor to  
select the SDS  
Server entry added  
in Steps 15 - 27.  
The row containing  
the desired SDS  
Server should now  
be highlighted in  
GREEN.  
2) Select the  
“Export” dialogue  
button. |
### Procedure 2.4 Applying the SDS Server Configuration File

<table>
<thead>
<tr>
<th>SDS Server A:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The user will receive a banner information message showing a download link for the <strong>SDS Server</strong> configuration data.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Click on the word <strong>“downloaded”</strong> to download and save the configuration file.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Note: You may be required to click the <strong>Info</strong> tab to display the Info banner shown here.</td>
</tr>
</tbody>
</table>
SDS Server A:
1) Click the “Save” dialogue button.
2) Save the SDS Server configuration file to a USB flash drive.
3) Click the “Close” dialogue button.
### Procedure 2.4 Applying the SDS Server Configuration File

33. **SDS Server A or B:**
   - Access the server console.
   - Connect to the SDS Server A or B console using one of the access methods described in Section 2.3.

34. **SDS Server A or B:**
   1. Access the command prompt.
   2. Log into the server as the "root" user.

   - CentOS release 5.6 (Final)
   - Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64
   - hostname1260476099 login: root
   - Password: <root_password>

35. **SDS Server A or B:**
   - Output similar to that shown on the right will appear as the server presents the command prompt.

   *** TRUNCATED OUTPUT ***

   ```
   VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16
   PRODPATH=
   RELEASE=5.16
   RUNID=00
   VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds
   PRODPATH=/opt/comcol/prod
   RUNID=00
   [root@hostname1260476099 ~]# 
   ```

36. **SDS Server A or B:**
   - Insert the USB flash drive containing the server configuration file into the USB port on the front panel of SDS Server.

   ![Figure 4 - HP DL360 Front Panel: USB Port](image)

37. **SDS Server A or B:**
   - Output similar to that shown on the right will appear as the USB flash drive is inserted into the SDS Server front USB port.

   ```
   [root@hostname1260476099 ~]# sd 3:0:0:0: [sdb] Assuming drive cache: write through
   sd 3:0:0:0: [sdb] Assuming drive cache: write through <ENTER>
   [root@hostname1260476099 ~]#
   ```

38. **SDS Server A or B:**
   - Verify that the USB flash drive's partition has been mounted by the OS: Search `df` for the device named in the previous step's output.

   ```
   [root@hostname1260476099 ~]# df |grep sdb
   /dev/sdb1 2003076 8 2003068 1% /media/sdb1
   [root@hostname1260476099 ~]#
   ```
### Procedure 2.4 Applying the SDS Server Configuration File

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Command Details</th>
</tr>
</thead>
</table>
| 39. | SDS Server A or B: Copy the configuration file to the SDS server. **NOTE:** This step can be skipped for SDS Server A because the file should already exist.  
**NOTE:** If Appendix C was used to create this interface, un-configure the interface before copying this file. | [root@hostname1260476099 ~]# `cp -p /media/sdb1/TKLCConfigData.sds-mrsvnc-a.sh /var/TKLC/db/filemgmt/`.  
[root@hostname1260476099 ~]# |
| 40. | SDS Server A or B: **NOTE:** If Appendix C was used to create this interface, un-configure the interface. | [root@hostname1260476099 ~]# `netAdm delete --device=eth02`.  
Interface eth02 removed  
[root@hostname1260476099 ~]# |
| 41. | SDS Server A or B: 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. **NOTE:** The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found. | Example:  
TKLCConfigData<.server_hostname>.sh → will translate to → TKLCConfigData.sh  

[root@hostname1260476099 ~]# `cp -p /var/TKLC/db/filemgmt/TKLCConfigData.sds-mrsvnc-a.sh /var/tmp/TKLCConfigData.sh`.  
[root@hostname1260476099 ~]# |
**Procedure 2.4  Applying the SDS Server Configuration File**

<table>
<thead>
<tr>
<th>Step</th>
<th>SDS Server A or B:</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>42.</td>
<td></td>
<td>*** NO OUTPUT FOR ≈ 3–20 MINUTES *** &lt;br&gt;After the script completes, a broadcast message will be sent to the terminal. &lt;br&gt;NOTE: The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete.</td>
</tr>
<tr>
<td>43.</td>
<td></td>
<td>Remove the USB flash drive from the USB port on the front panel of the server. &lt;br&gt;CAUTION: It is important that the USB flash drive be removed from the server before continuing on to the next step.</td>
</tr>
<tr>
<td>44.</td>
<td>Ignore the output shown and press the &lt;ENTER&gt; key to return to the command prompt. &lt;br&gt;Broadcast message from root (Thu Dec 1 09:41:24 2011): &lt;br&gt;Server configuration completed successfully! &lt;br&gt;See /var/TKLC/appw/logs/Process/install.log for details. &lt;br&gt;Please remove the USB flash drive if connected and reboot the server.</td>
<td></td>
</tr>
<tr>
<td>45.</td>
<td>Configure the time zone. &lt;br&gt;[root@hostname1260476099 ~]# set_ini_tz.pl &lt;time zone&gt; &lt;br&gt;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 H for a list of valid time zones.</td>
<td></td>
</tr>
<tr>
<td>46.</td>
<td>Initiate a reboot of the SDS Server. &lt;br&gt;[root@hostname1260476099 ~]# init 6</td>
<td></td>
</tr>
</tbody>
</table>
**Procedure 2.4 Applying the SDS Server Configuration File**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 47.  | SDS Server A or B:  
Wait ~9 minutes  
Output similar to that shown on the right may be observed as the server initiates a reboot. |

```
# init 6
[root@hostname1322679281 ~]# init 6
# bonding: bond0: Removing slave eth02  
bonding: bond0: Warning: the permanent HWaddr of eth02 - 90:48:E1:6F:74:56 - is still in use by bond0. Set the HWaddr of eth02 to a different address to avoid conflicts.
bonding: bond0: releasing active interface eth02  
bonding: bond0: making interface eth12 the new active one.
bonding: bond0: Removing slave eth12  
bonding: bond0: releasing active interface eth12  
10000 0000:07:00:0: eth12: changing MTU from 1500 to 1500
bonding: bond1: Removing slave eth01

*** TRUNCATED OUTPUT ***
```

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 48.  | SDS Server A or B:  
After the server has completed reboot…  
Verify that the server console returns to a login prompt. |

```
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*
```

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 49.  | SDS Server A or B:  
Output similar to that shown on the right will appear as the server access the command prompt. |

```
*** TRUNCATED OUTPUT ***
VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16
PRODPATH=/opt/comcol/prod
RUNID=00
[root@sds-mrsvnc-a ~]#  
```
## Procedure 2.4 Applying the SDS Server Configuration File

### 50. SDS Server A or B: A

1) Verify that the IMI IP address input in Step 25 has been applied to “bond0.4”.

2) Verify that the XMI IP address input in Step 25 has been applied to “bond1”.

**NOTE:** The server's XMI & IMI addresses can be verified by reviewing the server configuration through the SDS GUI.

*i.e.*

**Main Menu**

→ Configuration

→ Servers

*Scroll to line entry containing the server’s hostname.*

```bash
[root@sds-mrsvnc-a ~]# ifconfig |grep in |grep -v inet6
bond0   Link encap:Ethernet  HWaddr 98:4B:E1:6F:74:68
bond0.4 Link encap:Ethernet  HWaddr 98:4B:E1:6F:74:68
       inet addr:169.254.100.11  Bcast:169.254.100.255  Mask:255.255.255.0
bond1   Link encap:Ethernet  HWaddr 98:4B:E1:6F:74:6A
       inet addr:10.250.55.124  Bcast:10.250.55.255  Mask:255.255.255.0
eth01   Link encap:Ethernet  HWaddr 98:4B:E1:6F:74:68
eth02   Link encap:Ethernet  HWaddr 98:4B:E1:6F:74:6A
eth11   Link encap:Ethernet  HWaddr 98:4B:E1:6F:74:68
eth12   Link encap:Ethernet  HWaddr 98:4B:E1:6F:74:6A
lo      Link encap:Local Loopback
       inet addr:127.0.0.1  Mask:255.0.0.0
```

### 51. SDS Server A or B: B

Use the “ntpq” command to verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).

```bash
[root@sds-mrsvnc-a ~]# ntpq -np
+10.250.32.10 192.5.41.209  2 u  56  64 377  0.141 -2729.8 230.741
+10.250.32.51 192.5.41.209  2 u  46  64 377  0.190 -2401.9 232.170
```

---

**IF CONNECTIVITY TO THE NTP SERVER(S) CANNOT BE ESTABLISHED, STOP AND EXECUTE THE FOLLOWING STEPS:**

- Have the customer IT group provide a network path from the OAM server IP to the assigned NTP IP addresses.

**ONCE NETWORK CONNECTIVITY IS ESTABLISHED TO THE ASSIGNED NTP IP ADDRESSES, THEN RESTART THIS PROCEDURE BEGINNING WITH STEP 51**
### Procedure 2.4 Applying the SDS Server Configuration File

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 52.  | **SDS Server A or B:** Execute a "syscheck" to verify the current health of the server.  
   [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 ~]# |
| 53.  | **SDS Server A or B:** Exit from the command line to return the server console to the login prompt.  
   [root@sds-mrsvnc-a ~]# exit  
   CentOS release 5.6 (Final)  
   Kernel 2.6.18-238.19.1.el5 prerelease 0.0-72.22.0 on an x86_64  
   sds-mrsvnc-a login: |
| 54.  | • Configure SDS Server B by repeating steps 15 - 53 of this procedure. |

---

**IF 4948E-F SWITCH CONFIGURATION HAS NOT BEEN COMPLETED PRIOR TO THIS STEP, STOP AND EXECUTE THE FOLLOWING STEPS:**

1. **APPENDIX E.1**
2. **APPENDIX E.2** (Appendix E.2 references Appendix E.3 where applicable).
3. **APPENDIX E.4**
## Procedure 2.4 Applying the SDS Server Configuration File

### 55. SDS Server A:
- **From SDS Server A**
  - “ping” the IP address configured for “bond0.4” (IMI) on SDS Server B.

**NOTE:** Use the `<CTRL-C>` key combination to terminate the “ping” process after a few seconds.

```
[root@sds-mrvnc-a ~]# ping 169.254.100.12
PING 169.254.100.11 (169.254.1.12) 56(84) bytes of data.
64 bytes from 169.254.100.12: icmp_seq=1 ttl=64 time=0.018 ms
64 bytes from 169.254.100.12: icmp_seq=2 ttl=64 time=0.019 ms
64 bytes from 169.254.100.12: icmp_seq=3 ttl=64 time=0.014 ms
64 bytes from 169.254.100.12: icmp_seq=4 ttl=64 time=0.018 ms
64 bytes from 169.254.100.12: icmp_seq=5 ttl=64 time=0.009 ms
64 bytes from 169.254.100.12: icmp_seq=6 ttl=64 time=0.018 ms
<CTRL-C>
--- 169.254.100.12 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 4997ms
rtt min/avg/max/mdev = 0.009/0.016/0.019/0.003 ms
[root@sds-mrvnc-a ~]#
```

### 56. SDS Server A & B:
- **Use “ping”** to verify that the “bond” device now has connectivity to the XMI Gateway address.

**NOTE:** Use the `<CTRL-C>` key combination to terminate the “ping” process after a few seconds.

```
[root@sds-mrvnc-a ~]# ping 10.250.55.12
PING 10.250.55.124 (10.250.55.12) 56(84) bytes of data.
64 bytes from 10.250.55.124: icmp_seq=1 ttl=64 time=0.019 ms
64 bytes from 10.250.55.124: icmp_seq=2 ttl=64 time=0.007 ms
64 bytes from 10.250.55.124: icmp_seq=3 ttl=64 time=0.009 ms
64 bytes from 10.250.55.124: icmp_seq=4 ttl=64 time=0.008 ms
64 bytes from 10.250.55.124: icmp_seq=5 ttl=64 time=0.007 ms
64 bytes from 10.250.55.124: icmp_seq=6 ttl=64 time=0.008 ms
<CTRL-C>
--- 10.250.55.12 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 4995ms
rtt min/avg/max/mdev = 0.007/0.009/0.019/0.005 ms
[root@sds-mrvnc-a ~]#
```

### 57. SDS Server A:
- **Disconnect the laptop from the Server A, eth14 Ethernet port.**

### 58. switch1A:
- **Connect the laptop to Port 44 of switch1A** (bottom switch).

---

**HP DL360, DC (Rear Panel)**

![HP DL360 Rear Panel](image)

**Cisco 4948E-F Switch Ports**

![Cisco 4948E-F Switch Ports](image)
### Procedure 2.4 Applying the SDS Server Configuration File

<table>
<thead>
<tr>
<th>Procedure 2.4 Applying the SDS Server Configuration File</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>59. Laptop:</strong> Set a static IP address and netmask within the Management VLAN for the laptop's network interface card (<em>169.254.1.100 is suggested</em>).</td>
</tr>
<tr>
<td><strong>60. SDS Server A:</strong> Using SSH, login to Server A using its Management VLAN IP address <em>169.254.1.11</em></td>
</tr>
<tr>
<td>• Reference Appendix D. Steps 5-6 if assistance is needed in modifying the laptop's network configuration.</td>
</tr>
<tr>
<td><strong>61. SDS Server A:</strong> Output similar to that shown on the right will appear as the server access the command prompt.</td>
</tr>
<tr>
<td>• <strong>TRUNCATED OUTPUT</strong></td>
</tr>
<tr>
<td>VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16</td>
</tr>
<tr>
<td>PRODPATH=</td>
</tr>
<tr>
<td>RELEASE=5.16</td>
</tr>
<tr>
<td>RUNID=00</td>
</tr>
<tr>
<td>VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds</td>
</tr>
<tr>
<td>PRODPATH=/opt/comcol/prod</td>
</tr>
<tr>
<td>RUNID=00</td>
</tr>
<tr>
<td>[root@sds-mrsvnc-a ~]#</td>
</tr>
</tbody>
</table>

| **62. SDS Server A:** Using the "netAdm" utility, delete the eth14 interface. |
| [root@sds-mrsvnc-a ~]# netAdm delete --device=eth14 |
| Interface eth14 removed |
| [root@sds-mrsvnc-a ~]# |

| **63. SDS Server A:** Using the "netAdm" utility, re-add the eth14 interface. |
| [root@sds-mrsvnc-a ~]# netAdm add --device=eth14 |
| Interface eth14 added |
| [root@sds-mrsvnc-a ~]# |

**THIS PROCEDURE HAS BEEN COMPLETED**
5.2 OAM Pairing (1\textsuperscript{st} SDS site only)

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 (1\textsuperscript{st} SDS site only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 1.   | SDS Server A:  
Launch an approved web browser and connect to the XMI IP address assigned to SDS Server A using “https://” | ![Certificate Error: Navigation Blocked - Windows Internet Explorer](image1)  
There is a problem with this website’s security certificate.  
The security certificate presented by this website was not issued by a trusted certificate authority. The security certificate presented by this website was issued for a different website’s address.  
Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.  
We recommend that you close this webpage and do not continue to this website.  
Click here to close this webpage.  
Continue to this website (not recommended).  
More information |
| 2.   | SDS Server A:  
The user should be presented the login screen shown on the right.  
Login to the GUI using the default user and password. | ![Tekelec System Login](image2)  
Welcome to the Tekelec System Login.  
Unauthorized access is prohibited. This Tekelec system requires the use of Microsoft Internet Explorer 7.0 or 8.0 with support for JavaScript and cookies. |
**Procedure 3**: Pairing the OAM Servers (1st SDS site only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 3.   | **SDS Server A:**  
The user should be presented the SDS Main Menu as shown on the right. | ![SDS Main Menu](image) |

**Procedure 3.1 Configuring the SDS Server Group**

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 4.   | **SDS Server A:**  
Select…  
Main Menu  
→ Configuration  
→ Server Groups  
...as shown on the right. | ![Server Groups](image) |
Procedure 3.1 Configuring the SDS Server Group

5. 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.

6. 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).

7. SDS Server A:
   Input the Server Group Name.

8. SDS Server A:
   Select “A” on the “Level” pull-down menu.

9. SDS Server A:
   Select “None” on the “Parent” pull-down menu.
### Procedure 3.1 Configuring the SDS Server Group

#### 10. SDS Server A:
Select “SDS” on the “Function” pull-down menu.

#### 11. SDS Server A:
1. The user should be presented with a banner information message stating “Pre-Validation passed”.
2. Select the “Apply” dialogue button.

#### 12. SDS Server A:
The user should be presented with a banner information message stating “Data committed”. 
### Procedure 3.2 Adding a Server to an OAM Server Group

| 13. SDS Server A: |
| Select… |
| Main Menu | → Configuration | → Server Groups |
| …as shown on the right. |

| 14. SDS Server A: |
| The Server Group entry added in Steps 6 - 12 should now appear on the “Server Groups” configuration screen as shown on the right. |

| 15. SDS Server A: |
| 1) Select the Server Group entry added in Steps 6 - 12. 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. |
### Procedure 3.2 Adding a Server to an OAM Server Group

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 16.  | **SDS Server A:**  
The user will be presented with the “Server Groups [Edit]” screen as shown on the right. |
| 17.  | **SDS Server A:**  
Select the “A” server and the “B” server from the list of “Servers” by clicking the check box next to their names. |
| 18.  | **SDS Server A:**  
1) The user should be presented with a banner information message stating “Pre-Validation passed”.  
2) Select the “Apply” dialogue button. |
### Procedure 3.2  Adding a Server to an OAM Server Group

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 19.  | **SDS Server A:**  
The user should be presented with a banner information message stating “Data committed”. |
| 20.  | **SDS Server A:**  
Click the “Add” dialogue button for the VIP Address. |
| 21.  | **SDS Server A:**  
Input the VIP Address  

10.250.55.125 |

1. **SDS Server A:**  
1) The user should be presented with a banner information message stating “Pre-Validation passed”.  
2) Select the “Apply” dialogue button. |
| 22.  | **SDS Server A:**  
The user should be presented with a banner information message stating “Data committed”. |

---

[Image of the Main Menu: Configuration -> Server Groups [Edit] interface.]
**Procedure 3.2 Adding a Server to an OAM Server Group**

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
</tr>
</thead>
</table>
| 24.  | **SDS Server A:**  
Click the “Logout” link on the OAM A server GUI. |
| 25.  | **IMPORTANT:**  
Wait at least 5 minutes before proceeding on to the next Step.  
- 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. |
| 26.  | **SDS VIP:**  
Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) assigned in STEP 21 to the SDS Server Group using “https://”. |
Procedure 3.2  Adding a Server to an OAM Server Group

27. SDS VIP:
The user should be presented the login screen shown on the right.

Login to the GUI using the default user and password.

28. SDS VIP:
The user should be presented the SDS Main Menu as shown on the right.
### Procedure 3.2 Adding a Server to an OAM Server Group

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>29.</td>
<td>SDS VIP: &lt;br&gt; Select… &lt;br&gt; <strong>Main Menu</strong> &lt;br&gt; → Status &amp; Manage &lt;br&gt; → <strong>Server</strong> &lt;br&gt; …as shown on the right.</td>
</tr>
<tr>
<td>30.</td>
<td>SDS VIP: &lt;br&gt; 1) The “A” and “B” SDS servers should now appear in the right panel. &lt;br&gt; 2) Verify that the “DB” status shows “Norm” and the “Proc” status shows “Man” for both servers before proceeding to the next Step.</td>
</tr>
</tbody>
</table>
Procedure 3.2 Adding a Server to an OAM Server Group

31. 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.

32. SDS VIP:
   Select…
   Main Menu ➔ Status & Manage ➔ Server
   …as shown on the right.
### Procedure 3.2 Adding a Server to an OAM Server Group

**33. SDS VIP:**

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.

**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.
Procedure 3.2 Adding a Server to an OAM Server Group

34. SDS VIP:

1) Using the mouse, select SDS Server B. 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 B stating: “Successfully restarted application”.

NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.
### Procedure 3.2 Adding a Server to an OAM Server Group

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 35.  | SDS VIP: Verify that the “Appl State” now shows “Enabled” and that the “DB, Reporting Status & Proc” status columns all show “Norm” for SDS Server A and SDS Server B 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. |

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Element</td>
<td>Server Hostname</td>
</tr>
<tr>
<td>sds_mrvnc</td>
<td>sds-mrvnc-a</td>
</tr>
<tr>
<td>sds_mrvnc</td>
<td>sds-mrvnc-b</td>
</tr>
</tbody>
</table>

| 36.  | IMPORTANT: Wait at least 5 minutes before proceeding on to the next Step.  
- 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

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.</td>
<td>SDS VIP: If there is a context switch, you may be required to login again. Login to the GUI using the default user and password.</td>
</tr>
<tr>
<td>38.</td>
<td>SDS VIP: Select… Main Menu ➔ Alarms &amp; Events ➔ View Active… as shown on the right.</td>
</tr>
<tr>
<td>39.</td>
<td>SDS VIP: Verify that Event ID 14101 (&quot;No remote provisioning clients are connected&quot;) is the only alarm present on the system at this time.</td>
</tr>
</tbody>
</table>
**Procedure 3.4 Configuring SNMP for Traps from Individual Servers**

<table>
<thead>
<tr>
<th>Step</th>
<th>SDS VIP:</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.</td>
<td>Select…</td>
<td><img src="image1.png" alt="Image" /></td>
</tr>
<tr>
<td>41.</td>
<td>1) Using the cursor, place a “check” in the check box for “Traps from Individual Servers”.&lt;br&gt;2) Click the “Ok” dialogue button located at the bottom of the right panel.</td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td>42.</td>
<td>1) Using the cursor, place a “check” in the check box for “Check to confirm”.&lt;br&gt;2) Click the “OK” dialogue button.</td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
<tr>
<td>43.</td>
<td>Click the “Logout” link on the server GUI.</td>
<td><img src="image4.png" alt="Image" /></td>
</tr>
</tbody>
</table>

**THIS PROCEDURE HAS BEEN COMPLETED**
5.3  **Query Server Installation** (All SDS sites)

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 (All SDS sites)**

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Active SDS VIP:</strong> Launch an approved web browser and connect to the XMI Virtual IP address (VIP) assigned to Active SDS site using “https://”</td>
<td><img src="image" alt="Certificate Error: Navigation Blocked" /> There is a problem with this website's security certificate. The security certificate presented by this website was not issued by a trusted certificate authority. The security certificate presented by this website was issued for a different website's address. Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server. <strong>We recommend that you close this webpage and do not continue to this website.</strong> - Click here to close this webpage. - Continue to this website (not recommended). - More information</td>
</tr>
</tbody>
</table>
### Procedure 4: Configuring the Query Server (All SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 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. | ![Login Screen](image1) |
| 3.   | **Active SDS VIP:**  
The user should be presented the SDS Main Menu as shown on the right. | ![Main Menu](image2) |
Procedure 4.1 Configuring the Query Server

4. **Active SDS VIP:**
   - Select...
   - **Main Menu**
   - Configuration ➔ Servers
   - ...as shown on the right.

5. **Active SDS VIP:**
   - Select the “Insert” dialogue button.

6. **Active SDS VIP:**
   - The user is now presented with the “Adding a new server” configuration screen.

7. **Active SDS VIP:**
   - Input the assigned “hostname” for the Query Server.

8. **Active SDS VIP:**
   - Select “QUERY SERVER” for the server “Role” from the pull-down menu.
Procedure 4.1 Configuring the Query Server

9. **Active SDS VIP:**
   Select "SDS HP Rack Mount" for the Hardware Profile for the SDS from the pull-down menu.

10. **Active SDS VIP:**
    - 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.

11. **Active SDS VIP:**
    Enter the site location.
    **NOTE:** Location is an optional field.

12. **SDS Server A:**
    1) Enter the MGMT_VLAN and IMI IP addresses for the Query Server.
    2) Set the MGMT_VLAN and IMI Interfaces to "bond0" and check each VLAN checkbox.
    3) Enter the XMI IP address for the Query Server.
    4) Set the XMI Interface to "bond1" and DO NOT check the VLAN box.

<table>
<thead>
<tr>
<th>Interfaces</th>
<th>Network</th>
<th>IP Address</th>
<th>Interface</th>
<th>VLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT_VLAN (169.254.1.924)</td>
<td>169.254.1.13</td>
<td>bond0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMI (169.254.100.0/24)</td>
<td>169.254.100.13</td>
<td>bond0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SDS Server** | **MGMT_VLAN IP** | **IMI IP**
--- | --- | ---
SDS-QS (Primary) | 169.254.1.13 | 169.254.100.13
SDS-QS (DR) | 169.254.1.16 | 169.254.100.16

**NOTE:** These values should be used for all SDS installations where 4948E-F Aggregations switches are deployed.

---

**SDS TVOE Guest**

**Hardware Profile**

**Network Element Name**

**Location**

**Hardware profile of the server**

**Select the network element**

**Location description (Default = ""). Range = A 15-character string. Valid values are any text string.**
Procedure 4.1 Configuring the Query Server

13. SDS Server A:
   1) Click the “NTP Servers: “Add” dialogue button.
   2) Enter the NTP Server IP Address for an NTP Server.
   3) If you have another NTP Server IP address, repeat (1) and (2) to enter it.
   4) Optionally, click the “Prefer” checkbox to prefer one NTP Server over the other.

14. Active SDS VIP:
   1) The user should be presented with a banner information message stating “Pre-Validation passed”.
   2) Click the “Apply” dialogue button.
### Procedure 4.1 Configuring the Query Server

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td><strong>Active SDS VIP:</strong>&lt;br&gt;If the values provided match the network ranges assigned to the NE, the user will receive a banner information message showing that the data has been validated and committed to the DB.</td>
</tr>
</tbody>
</table>
**Procedure 4.2 Applying the Query Server Configuration file**

16. **Active SDS VIP:**
   Select…

   **Main Menu → Configuration → Servers**

   ...as shown on the right.

17. **Active SDS VIP:**
   The “Configuration → Servers” screen now shows the newly added Query Server in the list.

18. **Active SDS VIP:**
   Using the mouse, select the Query Server. The line entry containing the Query Server should now be highlighted in **GREEN**.

19. **Active SDS VIP:**
   Select the “Export” dialogue button.
### Procedure 4.2 Applying the Query Server Configuration file

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td><strong>Active SDS VIP:</strong>&lt;br&gt;The user will receive a banner information message showing a download link for the Query Server configuration data. Click on the word &quot;downloaded&quot; to download and save the file.</td>
</tr>
<tr>
<td>21.</td>
<td><strong>Active SDS VIP:</strong>&lt;br&gt;1) Click the &quot;Save&quot; dialogue button.&lt;br&gt;2) Save the Query Server configuration file to a USB flash drive.</td>
</tr>
<tr>
<td>22.</td>
<td><strong>Query Server:</strong>&lt;br&gt;Access the server console.&lt;br&gt;- Connect to the Query Server console using one of the access methods described in Section 2.3.</td>
</tr>
</tbody>
</table>
# Procedure 4.2 Applying the Query Server Configuration file

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.</td>
<td><strong>Query Server:</strong>&lt;br&gt;1) Access the command prompt.&lt;br&gt;2) Log into the Query Server as the “root” user.</td>
</tr>
<tr>
<td>24.</td>
<td><strong>Query Server:</strong>&lt;br&gt;Output similar to that shown on the right will appear as the server access the command prompt. <strong>TRUNCATED OUTPUT</strong>&lt;br&gt;VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16&lt;br&gt;PRODPATH= &lt;br&gt;RELEASE=5.16&lt;br&gt;RUNID=00&lt;br&gt;VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds&lt;br&gt;PRODPATH=/opt/comcol/prod&lt;br&gt;RUNID=00&lt;br&gt;[root@hostname1262121944 ~]#</td>
</tr>
<tr>
<td>25.</td>
<td><strong>Query Server:</strong>&lt;br&gt;Insert the USB flash drive containing the server configuration file into the USB port on the front panel of the Query Server.</td>
</tr>
<tr>
<td>26.</td>
<td><strong>Query Server:</strong>&lt;br&gt;Output similar to that shown on the right will appear as the USB flash drive is inserted into the SDS Server front USB port. &lt;br&gt;Press the &lt;ENTER&gt; key to return to the command prompt.&lt;br&gt;<strong>[root@hostname1260476099 ~]# sd 3:0:0:0: [sdb] Assuming drive cache: write through</strong>&lt;br&gt;sd 3:0:0:0: [sdb] Assuming drive cache: write through &lt;ENTER&gt;&lt;br&gt;[root@hostname1260476099 ~]#</td>
</tr>
<tr>
<td>27.</td>
<td><strong>Query Server:</strong>&lt;br&gt;Verify that the USB flash drive’s partition has been mounted by the OS: Search df for the device named in the previous step’s output.&lt;br&gt;**[root@hostname1260476099 ~]# df</td>
</tr>
</tbody>
</table>
| 28.  | **Query Server:**<br>Copy the configuration file to the SDS server.<br>**[root@hostname1262121944 ~]# cp –p /media/sdb1/TKLCConfigData.qs-mrsvn-1.sh /var/TKLC/db/filemgmt/.
[root@hostname1262121944 ~]#** |
## Procedure 4.2 Applying the Query Server Configuration file

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>29.</strong></td>
<td><strong>Query Server:</strong></td>
<td><strong>Example:</strong></td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td>TKLConfigData&lt;server_hostname&gt;.sh ➔ will translate to TKLConfigData.sh</td>
</tr>
<tr>
<td></td>
<td><em>NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.</em></td>
<td>[root@hostname1262121944 ~]# cp -p /var/TLKC/db/filemgmt/TKLConfigData.qs-mrsync-l.sh /var/tmp/TKLConfigData.sh [root@hostname1260476099 ~]#</td>
</tr>
<tr>
<td><strong>30.</strong></td>
<td><strong>Query Server:</strong></td>
<td><strong>/// NO OUTPUT FOR ≈ 3–20 MINUTES ///</strong></td>
</tr>
<tr>
<td></td>
<td>After the script completes, a broadcast message will be sent to the terminal.</td>
<td>Broadcast message from root (Mon Dec 14 16:17:13 2009):</td>
</tr>
<tr>
<td></td>
<td><em>NOTE: The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete.</em></td>
<td>Server configuration completed successfully! See /var/TKLC/appw/logs/Process/install.log for details.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Please remove the USB flash drive if connected and reboot the server.</td>
</tr>
<tr>
<td><strong>31.</strong></td>
<td><strong>Query Server:</strong></td>
<td><strong>Figure 4 - HP DL360 Front Panel: USB Port</strong></td>
</tr>
<tr>
<td></td>
<td>Remove the USB flash drive from the USB port on the front panel of Query Server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>CAUTION: It is important that the USB flash drive be removed from the server before continuing on to the next step.</em></td>
<td></td>
</tr>
</tbody>
</table>
Procedure 4.2 Applying the Query Server Configuration file

32. **Query Server:**
Ignore the output shown and press the <ENTER> key to return to the command prompt.

Broadcast message from root (Mon Dec 14 16:17:13 2009):

Server configuration completed successfully!
See /var/TKLC/appw/logs/Process/install.log for details.

Please remove the USB flash drive if connected and reboot the server.
<ENTER>
[root@hostname1262121944 ~]#

---

33. **Query Server:**
Configure the time zone.

[root@hostname1262121944 ~]# set_ini_tz.pl <time zone>

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 H for a list of valid time zones.

[root@hostname1262121944 ~]# set_ini_tz.pl "Etc/UTC"

---

34. **Query Server:**
Initiate a reboot of the Query Server.

[root@hostname1262121944 ~]# init 6

---

35. **Query Server:**
Output similar to that shown on the right may be observed as the server initiates a reboot.

*** TRUNCATED OUTPUT ***

Initializing USB Mass Storage driver...
lsbcore: registered new driver usb-storage
USB Mass Storage support registered.
device-mapper: udev: version 1.0.3
device-mapper: ioct1: 4.11.5-ioctl (2007-12-12) initialised: dm-devel@redhat.com
device-mapper: dm-raid45: initialized v0.25941
journald starting. Commit interval 5 seconds
EXT3-fs: mounted filesystem with ordered data mode.
SELinux: Disabled at runtime.
type=1404 audit(1323531578.858:2): selsu=0 auid=4294967295 ses=4294967295

---

36. **Query Server:**
After the server has completed reboot...

Verify that the server console returns to a login prompt.

CentOS release 5.6 (Final)
Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64

qs-mrsnvnc-l login: root
Password: <root_password>
### Procedure 4.2 Applying the Query Server Configuration file

<table>
<thead>
<tr>
<th>37.</th>
<th><strong>Query Server:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Output similar to that shown on the right will appear as the server access the command prompt.</td>
<td></td>
</tr>
</tbody>
</table>

#### TRUNCATED OUTPUT

```
VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16
PRODPATH=
RELEASE=5.16
RUNID=00
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds
PRODPATH=/opt/comcol/prod
RUNID=00
[root@qs-mrsvnc-1 ~]#
```

<table>
<thead>
<tr>
<th>38.</th>
<th><strong>Query Server:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Verify that the IMI IP address input in Step 12 has been applied to “bond0.4”.</td>
<td></td>
</tr>
<tr>
<td>2) Verify that the XMI IP address input in Step 12 has been applied to “bond1”.</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** The server’s XMI & IMI addresses can be verified by reviewing the server configuration through the SDS GUI.

*i.e.*

Main Menu

→ Configuration

→ Servers

Scroll to line entry containing the server’s hostname.

```
[root@qs-mrsvnc-1 ~]# ifconfig | grep in | grep -v inet6
bond0 Link encap:Ethernet HWaddr 98:4B:E1:74:16:34
bond0.4 Link encap:Ethernet HWaddr 98:4B:E1:74:16:34
  inet addr:169.254.100.13 Bcast:169.254.100.255 Mask:255.255.255.0
bond1 Link encap:Ethernet HWaddr 98:4B:E1:74:16:34
  inet addr:10.250.55.127 Bcast:10.250.55.255 Mask:255.255.255.0
eth01 Link encap:Ethernet HWaddr 98:4B:E1:74:16:34
eth02 Link encap:Ethernet HWaddr 98:4B:E1:74:16:36
eth11 Link encap:Ethernet HWaddr 98:4B:E1:74:16:34
eth12 Link encap:Ethernet HWaddr 98:4B:E1:74:16:36
lo Link encap:Local Loopback
  inet addr:127.0.0.1 Mask:255.0.0.0
[root@qs-mrsvnc-1 ~]#
```

<table>
<thead>
<tr>
<th>39.</th>
<th><strong>Query Server:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Use “ping” to verify that the “bond0.4” device now has connectivity to the IMI Gateway address associated with the NE.</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Use the `<CTRL-C>` key combination to terminate the “ping” process after a few seconds.

```
[root@qs-mrsvnc-1 ~]# ping 169.254.100.13
PING 169.254.100.13 (169.254.100.13) 56(84) bytes of data.
64 bytes from 169.254.100.13: icmp_seq=1 ttl=64 time=0.021 ms
64 bytes from 169.254.100.13: icmp_seq=2 ttl=64 time=0.019 ms
64 bytes from 169.254.100.13: icmp_seq=3 ttl=64 time=0.006 ms
64 bytes from 169.254.100.13: icmp_seq=4 ttl=64 time=0.019 ms
64 bytes from 169.254.100.13: icmp_seq=5 ttl=64 time=0.006 ms
```

--- 169.254.100.13 ping statistics ---

5 packets transmitted, 5 received, 0% packet loss, time 3999ms
rtt min/avg/max/mdev = 0.006/0.014/0.021/0.007 ms

[root@qs-mrsvnc-1 ~]#
Procedure 4.2  Applying the Query Server Configuration file

40. Query Server:
Use “ping” to verify that the “bond1” device now has connectivity to the XMI Gateway address associated with the NE.

NOTE: Use the <CTRL-C> key combination to terminate the “ping” process after a few seconds.

[root@qs-mrsvnc-1 ~]# ping 10.250.55.127
PING 10.250.55.127 (10.250.55.127) 56(84) bytes of data.
64 bytes from 10.250.55.127: icmp_seq=1 ttl=64 time=0.018 ms
64 bytes from 10.250.55.127: icmp_seq=2 ttl=64 time=0.016 ms
64 bytes from 10.250.55.127: icmp_seq=3 ttl=64 time=0.013 ms
64 bytes from 10.250.55.127: icmp_seq=4 ttl=64 time=0.016 ms
64 bytes from 10.250.55.127: icmp_seq=5 ttl=64 time=0.011 ms
CTRL-C
--- 10.250.55.127 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 3999ms
rtt min/avg/max/mdev = 0.011/0.014/0.018/0.005 ms

41. Query Server:
Use the “ntpq” command to verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).

[root@qs-mrsvnc-1 ~]# ntpq -np
remote       refid      st t when poll reach delay offset  jitter
+10.250.32.10 192.5.41.209 2 u  184  256  175  0.220   46.852  35.598
*10.250.32.51 192.5.41.209 2 u  181  256  377  0.176    7.130  22.192

IF CONNECTIVITY TO THE NTP SERVER(S) CANNOT BE ESTABLISHED, STOP AND EXECUTE THE FOLLOWING STEPS:

- Have the customer IT group provide a network path from the OAM server IP to the assigned NTP IP addresses.

ONCE NETWORK CONNECTIVITY IS ESTABLISHED TO THE ASSIGNED NTP IP ADDRESSES, THEN RESTART THIS PROCEDURE BEGINNING WITH STEP 41

42. Query Server:
Execute a “syscheck” to verify the current health of the server.

[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 ~]#
### Procedure 4.2 Applying the Query Server Configuration file

| Query Server: | [root@qs-mrsvnc-1 ~]# **exit**  
logout  

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: |
### Procedure 4.3 Adding the Query Server to the SDS Server Group

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>44.</td>
<td>Active SDS VIP: Select… <strong>Main Menu → Configuration → Server Groups</strong> …as shown on the right.</td>
</tr>
<tr>
<td>45.</td>
<td><strong>Active SDS VIP:</strong> The user will be presented with the “Configuration → Server Groups” screen as shown on the right.</td>
</tr>
</tbody>
</table>
| 46.  | **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.
Procedure 4.3 Adding the Query Server to the SDS Server Group

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

48. **Active SDS VIP:**
Select the “Query Server” from the list of “Available Servers in Network Element” by clicking on the check box next to its name.

49. **Active SDS VIP:**
Click the “Apply” dialogue button from the bottom of the screen.

50. **Active SDS VIP:**
The user should be presented with a banner information message stating “Data committed”.

---

**Main Menu: Configuration -> Server Groups [Edit]**

- **Server Group Name:** sds_mrsync grp
- **Unique identifier used to label a Server Group.**
- **Description:** 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:**
- Select one of the Functions supported by the system.

- **NTP Server 1:** 10.250.32.19
- **The IP Address of a reachable NTP server to be used for clock synchronization. Configurable for level A only.**

- **NTP Server 2:** 10.250.32.51
- **Optional.**

- **sds_mrsync:**
  - **SG Inclusion:** Include in SG
  - **Preferred HA Role:** Preferred Spare

- **sds-mrsync-a**
  - **SG Inclusion:** Include in SG
  - **Preferred HA Role:** Preferred Spare

- **sds-mrsync-b**
  - **SG Inclusion:** Include in SG
  - **Preferred HA Role:** Preferred Spare

- **qs-mrsync-1**
  - **SG Inclusion:** Include in SG
  - **Preferred HA Role:** Preferred Spare

**VIP Assignment**

- **VIP Address:** 10.250.55.125
- **Add**
- **Remove**

**VIP Address**

- **VIP Address:** 10.250.55.125
- **Add**
- **Remove**

**Main Menu: Configuration -> Server Groups [Edit]**

- **Info:**
  - **Data committed**

- **Network Element:** sds_mrsync
- **Select the Network Element for this Server Group.”
### Procedure 4.3 Adding the Query Server to the SDS Server Group

<table>
<thead>
<tr>
<th>51.</th>
<th>IMPORTANT:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wait at least 5 minutes before proceeding on to the next Step.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Allow a minimum of 5 minutes before continuing to the next Step.</td>
</tr>
</tbody>
</table>
**Procedure 4.4 Restarting the Query Server Application**

### 52.

**Active SDS VIP:**
- Select...

**Main Menu**
- Status & Manage
- Server

...as shown on the right.

### 53.

**Active SDS VIP:**
- Verify that the "DB and Reporting Status" status columns show "Norm" for the Query Server at this point. The "Proc" column should show "Man".

**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.
Procedure 4.4 Restarting the Query Server Application

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.
Procedure 4.4 Restarting the Query Server Application

55. 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.

56. Active SDS VIP:
Click the “Logout” link on the SDS server GUI.

THIS PROCEDURE HAS BEEN COMPLETED
## 5.4 OAM Installation for DR SDS site

### Assumptions:
- This procedure assumes that the SDS Network Element XML file for the Disaster Recovery SDS Provisioning site has previously been created, as described in Appendix F.
- This procedure assumes that the Network Element XML files are either on a USB flash drive or the laptop’s hard drive. The steps are written as if the XML files are on a USB flash drive, but the files can exist on any accessible drive.

### Procedure 5: Configuring an OAM Server for DR SDS site

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Active SDS VIP:</strong> Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active SDS site using “https://”</td>
<td><img src="image.png" alt="Certificate Error: Navigation Blocked - Windows Internet Explorer" /></td>
</tr>
</tbody>
</table>

Note: The screenshot shows a certificate error message indicating a problem with the website’s security certificate. The recommended actions are to close the webpage and not continue to this website.
### Procedure 5: Configuring an OAM Server for DR SDS site

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 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. | ![Login to GUI](image1.png) |
| 3.   | **Active SDS VIP:**  
The user should be presented the SDS Main Menu as shown on the right. | ![SDS Main Menu](image2.png) |
Procedure 5.1 Configuring the Network Element (DR SDS)

4. Active SDS VIP:
   Select…
   
   **Main Menu**
   → Configuration
   → Network Elements
   
   …as shown on the right.

5. Active SDS VIP:
   From the Configuration / Network Elements screen…
   
   Select the "Browse" dialogue button (scroll to bottom left corner of screen).

6. Active SDS VIP:
   **Note**: This step assumes that the xml files were previously prepared, as described in Appendix F.
   
   1) Select the location containing the site .xml file.
   
   2) Select the .xml file and click the "Open" dialogue button.

7. Active SDS VIP:
   Select the "Upload File" dialogue button (bottom left corner of screen).
**Procedure 5.1 Configuring the Network Element (DR SDS)**

8. **Active SDS VIP:**
   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.

   ![Network Element validation successful](image)

**Procedure 5.2 Configuring the OAM Server (DR SDS)**

9. **Active SDS VIP:**
   Select...
   
   ![Main Menu](image)

   Main Menu
   → Configuration
   → Servers
   ...as shown on the right.

10. **Active SDS VIP:**
    Select the “Insert” dialogue button (bottom left corner of screen).
    ![Servers Insert](image)
11. **Active SDS VIP:**
The user is now presented with the “Adding a new server” configuration screen.

12. **Active SDS VIP:**
Input the assigned “hostname” for OAM Server.

13. **Active SDS VIP:**
Select “NETWORK OAM&P” for the server “Role” from the pull-down menu.

14. **Active SDS VIP:**
Input the assigned hostname again as the “System ID” for the SDS DR Server (A or B).

15. **Active SDS VIP:**
Select “SDS HP Rack Mount” for the Hardware Profile for the SDS from the pull-down menu.
**Procedure 5.2 Configuring the OAM Server (DR SDS)**

16. **Active SDS VIP:**
   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 18**.

17. **Active SDS VIP:**
   Enter the site location.

   **NOTE:** Location is an optional field.

18. **SDS Server A:**
   1) Enter the MGMNT_VLAN and IMI IP addresses for the SDS Server.

   2) Set the MGMNT_VLAN and IMI Interfaces to "bond0" and check each VLAN checkbox.

   3) Enter the XMI IP address for the SDS Server.

   4) Set the XMI Interface to "bond1" and DO NOT check the VLAN box.

---

**Table: MGMNT_VLAN and IMI Interface Settings**

<table>
<thead>
<tr>
<th>SDS Server</th>
<th>MGMNT_VLAN_IP</th>
<th>IMI IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS-A (DR)</td>
<td>169.254.1.14</td>
<td>169.254.100.14</td>
</tr>
<tr>
<td>SDS-B (DR)</td>
<td>169.254.1.15</td>
<td>169.254.100.15</td>
</tr>
</tbody>
</table>

**NOTE:** These values should be used for all SDS installations where 4948E-F Aggregations switches are deployed.
Procedure 5.2 Configuring the OAM Server (DR SDS)

19. SDS Server A:
1) Click the “NTP Servers: “Add” dialogue button.

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

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

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

20. Active SDS VIP:
1) The user should be presented with a banner information message stating “Pre-Validation passed”.

2) Click the “Apply” dialogue button.
<table>
<thead>
<tr>
<th>Procedure 5.2 Configuring the OAM Server (DR SDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>21. Active SDS VIP:</strong> If the values provided match the network ranges assigned to the NE, the user will receive a banner information message showing that the data has been validated and committed to the DB.</td>
</tr>
</tbody>
</table>

![Main Menu: Configuration -> Servers [Insert]](image)
Procedure 5.3 Applying the OAM Server Configuration file (DR SDS)

22. Active SDS VIP:
Select…

Main Menu
→ Configuration
→ Servers

…as shown on the right.

23. Active SDS VIP:
On the “Configuration → Servers” screen, find the newly added OAM server in the list.

24. Active SDS VIP:
Use the cursor to select the new OAM server entry added in the Steps 11 - 21.

The row containing the server should now be highlighted.

25. Active SDS VIP:
Select the “Export” dialogue button (bottom left corner of screen).
### Procedure 5.3 Applying the OAM Server Configuration file (DR SDS)

<table>
<thead>
<tr>
<th>26.</th>
<th>Active SDS VIP:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The user will receive a banner information message showing a download link for the Server configuration data.</td>
</tr>
<tr>
<td></td>
<td>Click on the word “downloaded” to download and save the OAM server configuration file.</td>
</tr>
</tbody>
</table>
**Procedure 5.3 Applying the OAM Server Configuration file (DR SDS)**

27. **Active SDS VIP:**
   1) Click the “Save” dialogue button.
   2) Save the OAM server configuration file to a USB flash drive.
   3) Click the “Close” dialogue button

   ![Save As Dialogue Box]

   ![File Download Dialogue Box]

   ![Download Complete Dialogue Box]

28. **OAM Server:**
   - Connect to the OAM Server console using one of the access methods described in *Section 2.3.*
<table>
<thead>
<tr>
<th>Procedure 5.3 Applying the OAM Server Configuration file (DR SDS)</th>
</tr>
</thead>
</table>
| **29.** OAM Server:  
1) Access the command prompt.  
2) Log into the OAM server as the "root" user. |
| 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> |

*** TRUNCATED OUTPUT ***

**30.** OAM Server:  
Output similar to that shown on the right will appear as the server access the command prompt.

```
*** TRUNCATED OUTPUT ***

VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16  
PRODPATH=  
RELEASE=5.16  
RUNID=00  
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds  
PRODPATH=/opt/comcol/prod  
RUNID=00  
[root@hostname1260476035 ~]# |
```

**31.** OAM Server:  
Insert the USB flash drive containing the server configuration file into the USB port on the front panel of the server.

Figure 4 - HP DL360 Front Panel: USB Port

```
32. OAM Server:  
Output similar to that shown on the right will appear as the USB flash drive is inserted into the SDS Server front USB port.  
Press the <ENTER> key to return to the command prompt.  
[root@hostname1260476099 ~]# sd 3:0:0:0: [sdb] Assuming drive cache: write through  
sd 3:0:0:0: [sdb] Assuming drive cache: write through <ENTER>  
[root@hostname1260476099 ~]# |
```

**33.** OAM Server:  
Verify that the USB flash drive's partition has been mounted by the OS: Search df for the device named in the previous step's output.

```
33. OAM Server:  
Verify that the USB flash drive's partition has been mounted by the OS: Search df for the device named in the previous step's output.  
[root@hostname1260476099 ~]# df |grep sdb  
/dev/sdb1  2003076 8 2003068 1% /media/sdb1  
[root@hostname1260476099 ~]# |
```
### Procedure 5.3 Applying the OAM Server Configuration file (DR SDS)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Command Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.</td>
<td>OAM Server: Copy the configuration file to the SDS server with the server name as shown in red.</td>
<td></td>
</tr>
</tbody>
</table>

```
[root@hostname1260476035 ~]# cp -p /media/sdb1/TKLCConfigData.drsds-dallastx-a.sh /var/TKLC/db/filemgmt/.  
[root@hostname1260476035 ~]#
```

| 35.  | OAM Server: Copy the server configuration file to the “/var/tmp” directory on the server, making sure to rename the file by omitting the server hostname from the file name. | **Example:**

```
TKLCConfigData<.server_hostname>.sh ➔ will translate to ➔ TKLCConfigData.sh
```

```
[root@hostname1260476035 ~]# cp -p /var/TKLC/db/filemgmt/TKLCConfigData.drsds-dallastx-a.sh /var/tmp/TKLCConfigData.sh  
[root@hostname1260476035 ~]#
```

| 36.  | OAM Server: After the script completes, a broadcast message will be sent to the terminal. | **NO OUTPUT FOR ≈ 3–20 MINUTES**

```
Broadcast message from root (Mon Dec 14 15:47:33 2009):
Server configuration completed successfully!
See /var/TKLC/appw/logs/Process/install.log for details.
Please remove the USB flash drive if connected and reboot the server.

<ENTER>
```

```
[root@hostname1260476099 ~]#
```

| 37.  | OAM Server: Remove the USB flash drive from the USB port on the front panel of OAM server. | **CAUTION:** It is important that the USB flash drive be removed from the server before continuing on to the next step. |

```
Figure 4 - HP DL360 Front Panel: USB Port
```
### Procedure 5.3 Applying the OAM Server Configuration file (DR SDS)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Command/Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.</td>
<td>OAM Server: Configure the time zone.</td>
<td>[root@hostname1260476099 ~]# set.ini.tz.pl &lt;time zone&gt;</td>
</tr>
<tr>
<td></td>
<td>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 H for a list of valid time zones.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>[root@hostname1260476099 ~]# set.ini.tz.pl &quot;Etc/UTC&quot;</td>
</tr>
<tr>
<td>39.</td>
<td>OAM Server: Initiate a reboot of the OAM server.</td>
<td>[root@hostname1260476035 ~]# init 6</td>
</tr>
<tr>
<td>40.</td>
<td>OAM Server: Wait ~9 minutes Output similar to that shown on the right may be observed as the server initiates a reboot.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*** TRUNCATED OUTPUT ***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initializing USB Mass Storage driver...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ush.core: registered new driver usb-storage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USB Mass Storage support registered.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>device-mapper: udevinit: version 1.8.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>device-mapper: iactl: 4.11.5-iactl (2007-12-12) initialised: <a href="mailto:dm-devel@redhat.com">dm-devel@redhat.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>device-mapper: dm-raid45: initialized v0.25941</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k.journald starting. Commit interval 5 seconds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXT3-fs: mounted filesystem with ordered data mode.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SELinux: Disabled at runtime.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type=1401 audit(132751643.512:2): selinux=0 auid=4294967295 ses=4294967295</td>
</tr>
<tr>
<td>41.</td>
<td>OAM Server: After the server has completed reboot...</td>
<td>CentOS release 5.6 (Final)</td>
</tr>
<tr>
<td></td>
<td>Verify that the server console returns to a login prompt.</td>
<td>Kernel 2.6.18-238.19.1.el5prerele5.0.0_72.22.0 on an x86_64</td>
</tr>
<tr>
<td></td>
<td></td>
<td>drrsd-dallastx-a login: root</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Password: &lt;root_password&gt;</td>
</tr>
</tbody>
</table>
## Procedure 5.3 Applying the OAM Server Configuration file (DR SDS)

### 42. OAM Server:

- Output similar to that shown on the right will appear as the server accesses the command prompt.

#### *** TRUNCATED OUTPUT ***

```
VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16
PRODPATH=
RELEASE=5.16
RUNID=00

VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds
PRODPATH=/opt/comcol/prod
RUNID=00
```

### 43. OAM Server:

1) **Verify that the IMI IP address input in Step 18 has been applied to “bond0.4”**.

2) **Verify that the XMI IP address input in Step 18 has been applied to “bond1”**.

**NOTE:** The server’s XMI & IMI addresses can be verified by reviewing the server configuration through the SDS GUI.

- i.e. `Main Menu → Configuration → Servers`
- Scroll to line entry containing the server’s hostname.

```
[root@drsd-dallastx-a ~]# ifconfig | grep in | grep -v inet6
bond0  Link encap:Ethernet  HWaddr 98:4B:E1:74:15:2C
bond0.4 Link encap:Ethernet  HWaddr 98:4B:E1:74:15:2C
    inet addr:169.254.100.14  Bcast:169.254.100.255  Mask:255.255.255.0
bond1  Link encap:Ethernet  HWaddr 98:4B:E1:74:15:2E
    inet addr:10.250.55.161  Bcast:10.250.55.255  Mask:255.255.255.0
eth01  Link encap:Ethernet  HWaddr 98:4B:E1:74:15:2C
eth02  Link encap:Ethernet  HWaddr 98:4B:E1:74:15:2E
eth11  Link encap:Ethernet  HWaddr 98:4B:E1:74:15:2C
eth12  Link encap:Ethernet  HWaddr 98:4B:E1:74:15:2E
lo    Link encap:Local Loopback
    inet addr:127.0.0.1  Mask:255.0.0.0
```

### 44. SDS Server B:

- Use the “ntpq” command to verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).

```
[root@drsd-dallastx-a ~]# ntpq -np
remote  refid  st t when poll reach delay  offset  jitter
+10.250.32.10 192.5.41.209   2 u 59  64 377  0.142  -2468.3  99.875
+10.250.32.51 192.5.41.209   2 u 58  64 377  0.124  -2528.2 128.432
```

---

**DSR – 5.0 - SDS Initial Installation and Configuration Guide**

April 2014
IF CONNECTIVITY TO THE NTP SERVER(S) CANNOT BE ESTABLISHED, STOP AND EXECUTE THE FOLLOWING STEPS:

1) Contact the customer to verify that the IP addresses for the NTP server(s) are correct.

2) Have the customer IT group provide a network path from the OAM server IP to the assigned NTP IP addresses.

ONCE NETWORK CONNECTIVITY IS ESTABLISHED TO THE ASSIGNED NTP IP ADDRESSES, THEN RESTART THIS PROCEDURE BEGINNING WITH STEP 43.

<table>
<thead>
<tr>
<th>Procedure 5.3 Applying the OAM Server Configuration file (DR SDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>45. OAM Server:</strong> Execute a “syscheck” to verify the current health of the server.</td>
</tr>
<tr>
<td>[root@drsdss-dallastx-a ~]# syscheck</td>
</tr>
<tr>
<td>Running modules in class hardware... OK</td>
</tr>
<tr>
<td>Running modules in class disk... OK</td>
</tr>
<tr>
<td>Running modules in class net... OK</td>
</tr>
<tr>
<td>Running modules in class system... OK</td>
</tr>
<tr>
<td>Running modules in class proc... OK</td>
</tr>
<tr>
<td>LOG LOCATION: /var/TKLC/log/syscheck/fail_log</td>
</tr>
<tr>
<td>[root@drsdss-dallastx-a ~]#</td>
</tr>
</tbody>
</table>

| 46. OAM Server: Exit from the command line to return the server console to the login prompt. |
| [root@drsdss-dallastx-a ~]# exit                           |
| logout                                                        |
| CentOS release 5.6 (Final)                                   |
| Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64  |
| root@drsdss-dallastx-a login:                               |

47. **Configure DR SDS Server B by repeating steps 9 - 46 of this procedure.**
**IF 4948E-F SWITCH CONFIGURATION HAS NOT BEEN COMPLETED PRIOR TO THIS STEP, STOP AND EXECUTE THE FOLLOWING STEPS:**

1) APPENDIX E.1  
2) APPENDIX E.2 (Appendix E.2 references Appendix E.3 where applicable).  
3) APPENDIX E.4

---

**Procedure 5.3 Applying the OAM Server Configuration file (DR SDS)**

**48.** DR SDS Server A:  
From SDS Server A “ping” the IP address configured for “bond0.4” (IMI) on SDS Server B.  

**NOTE:** Use the `<CTRL-C>` key combination to terminate the “ping” process after a few seconds.

<table>
<thead>
<tr>
<th>Command Line</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[root@drsds-dallastx-a ~]# ping 169.254.100.15</td>
<td>PING 169.254.100.14 (169.254.100.15) 56(84) bytes of data.</td>
</tr>
<tr>
<td>64 bytes from 169.254.100.15: icmp_seq=1 ttl=64 time=0.021 ms</td>
<td></td>
</tr>
<tr>
<td>64 bytes from 169.254.100.15: icmp_seq=2 ttl=64 time=0.011 ms</td>
<td></td>
</tr>
<tr>
<td>64 bytes from 169.254.100.15: icmp_seq=3 ttl=64 time=0.020 ms</td>
<td></td>
</tr>
<tr>
<td>64 bytes from 169.254.100.15: icmp_seq=4 ttl=64 time=0.011 ms</td>
<td></td>
</tr>
<tr>
<td>64 bytes from 169.254.100.15: icmp_seq=5 ttl=64 time=0.023 ms</td>
<td>&lt;CTRL-C&gt;</td>
</tr>
<tr>
<td>--- 169.254.100.15 ping statistics ---</td>
<td>5 packets transmitted, 5 received, 0% packet loss, time 3999ms</td>
</tr>
<tr>
<td>rtt min/avg/max/mdev = 0.011/0.017/0.023/0.005 ms</td>
<td>[root@drsds-dallastx-a ~]#</td>
</tr>
</tbody>
</table>

---

**49.** DR SDS Server(s): A & B  
Use “ping” to verify that the “bond1” device now has connectivity to the XMI Gateway address.  

**NOTE:** Use the `<CTRL-C>` key combination to terminate the “ping” process after a few seconds.

<table>
<thead>
<tr>
<th>Command Line</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[root@so-carync-a ~]# ping 10.250.55.161</td>
<td>PING 10.250.55.161 (10.250.55.161) 56(84) bytes of data.</td>
</tr>
<tr>
<td>64 bytes from 10.250.55.161: icmp_seq=1 ttl=64 time=0.021 ms</td>
<td></td>
</tr>
<tr>
<td>64 bytes from 10.250.55.161: icmp_seq=2 ttl=64 time=0.017 ms</td>
<td></td>
</tr>
<tr>
<td>64 bytes from 10.250.55.161: icmp_seq=3 ttl=64 time=0.017 ms</td>
<td></td>
</tr>
<tr>
<td>64 bytes from 10.250.55.161: icmp_seq=4 ttl=64 time=0.022 ms</td>
<td></td>
</tr>
<tr>
<td>64 bytes from 10.250.55.161: icmp_seq=5 ttl=64 time=0.012 ms</td>
<td>&lt;CTRL-C&gt;</td>
</tr>
<tr>
<td>--- 10.250.55.161 ping statistics ---</td>
<td>5 packets transmitted, 5 received, 0% packet loss, time 3999ms</td>
</tr>
<tr>
<td>rtt min/avg/max/mdev = 0.012/0.017/0.022/0.006 ms</td>
<td>[root@drsds-dallastx-a ~]#</td>
</tr>
</tbody>
</table>

---

**THIS PROCEDURE HAS BEEN COMPLETED**
5.5 OAM Pairing for DR SDS site

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 DR SDS site

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 1.   | Active SDS VIP:  
Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active SDS site using "https:" | ![Certificate Error](image)  
There is a problem with this website's security certificate.  
The security certificate presented by this website was not issued by a trusted certificate authority.  
The security certificate presented by this website was issued for a different website's address.  
Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.  
We recommend that you close this webpage and do not continue to this website.  
* Click here to close this webpage.  
* Continue to this website (not recommended).  
* More information |
| 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. | ![Login Screen](image)  
Tekelec System Login  
Log In  
Enter your username and password to log in  
Username: guiadmin  
Password: ********  
* Change password  
Log In  
Welcome to the Tekelec System Login.  
Unauthorized access is prohibited. This Tekelec system requires the use of Microsoft Internet Explorer 7.0 or 8.0 with support for JavaScript and cookies. |
**Procedure 6: Pairing the OAM Servers for DR SDS site**

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 3.   | **Active SDS VIP:**  
The user should be presented the SDS Main Menu as shown on the right. | ![SDS Main Menu](image) |

**Procedure 6.1 Configuring the OAM Server Group (DR SDS)**

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 4.   | **Active SDS VIP:**  
Select…  
Main Menu → Configuration → Server Groups …as shown on the right. | ![Server Groups](image) |
**Procedure 6.1 Configuring the OAM Server Group (DR SDS)**

5. **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.

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

7. **Active SDS VIP:**
   
   Input the Server Group Name.

8. **Active SDS VIP:**
   
   Select “A” on the “Level” pull-down menu.

9. **Active SDS VIP:**
   
   Select Parent “NONE” on the pull-down menu.
### Procedure 6.1 Configuring the OAM Server Group (DR SDS)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 10.  | **Active SDS VIP:**  
Select “SDS” on the “Function” pull-down menu. |
| 11.  | **Active SDS VIP:**  
1) The user should be presented with a banner information message stating “Pre-Validation passed”.  
2) Select the “Apply” dialogue button. |
| 12.  | **Active SDS VIP:**  
The user should be presented with a banner information message stating “Data committed”. |
### Procedure 6.2 Adding a Server to the OAM Server Group (DR SDS)

#### 13. Active SDS VIP:
- Select...
- **Main Menu** → Configuration → **Server Groups**
- ...as shown on the right.

#### 14. Active SDS VIP:
- The **Server Group** entry should be shown on the “Server Groups” configuration screen as shown on the right.

#### 15. SDS Server A:
1. Select the **Server Group** entry applied in **Step 12**. 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.
Procedure 6.2 Adding a Server to the OAM Server Group (DR SDS)

16. Active SDS VIP:
The user will be presented with the “Server Groups [Edit]” screen as shown on the right.

17. Active SDS VIP:
Select the “A” server and the “B” server from the list of “Servers” by clicking the check box next to their names.

18. SDS Server A:
1) The user should be presented with a banner information message stating “Pre-Validation passed”.
2) Select the “Apply” dialogue button.
### Procedure 6.2 Adding a Server to the OAM Server Group (DR SDS)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| 19.  | SDS Server A:  
The user should be presented with a banner information message stating “Data committed”. |
|      | | **Main Menu: Configuration -&gt; Server Groups [Edit]** |
|      | | ![Banner message](image) |
|      | | **Description** |
|      | | Unique identifier used to label a Server Group. Valid characters are alphanumeric and underlined. |
|      | | **Network Element** dr_dallastx  
|      | | ![Select Network Element](image) |
| 20.  | Active SDS VIP:  
Click the “Add” dialogue button for the VIP Address. |
|      | | ![VIP Address](image) |
| 21.  | Active SDS VIP:  
Input the VIP Address |
|      | | ![VIP Address](image) |
|      | | **VIP Address** 10.250.55.163  
|      | | ![Add button](image)  
|      | | ![Remove button](image) |
| 22.  | SDS Server A:  
1) The user should be presented with a banner information message stating “Pre-Validation passed”.  
2) Select the “Apply” dialogue button. |
|      | | **Main Menu: Configuration -&gt; Server Groups [Edit]** |
|      | | ![Banner message](image) |
|      | | **Description** |
|      | | Pre-Validation passed - Data NOT committed... |
|      | | **Network Element** dr_dallastx  
|      | | ![Select Network Element](image) |
|      | | **VIP Address** 10.250.55.163  
|      | | ![Add button](image)  
|      | | ![Remove button](image) |
| 23.  | SDS Server A:  
The user should be presented with a banner information message stating “Data committed”. |
|      | | **Main Menu: Configuration -&gt; Server Groups [Edit]** |
|      | | ![Banner message](image) |
|      | | **Description** |
|      | | Unique identifier used to label a Server Group. Valid characters are alphanumeric and underlined. |
|      | | **Network Element** dr_dallastx  
<p>|      | | <img src="image" alt="Select Network Element" /> |</p>
<table>
<thead>
<tr>
<th>Procedure 6.2 Adding a Server to the OAM Server Group (DR SDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>24.</strong> IMPORTANT: Wait at least 5 minutes before proceeding on to the next Step.</td>
</tr>
<tr>
<td>- 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.</td>
</tr>
<tr>
<td>- Allow a minimum of 5 minutes before continuing to the next Step.</td>
</tr>
</tbody>
</table>
**Procedure 6.3 Restarting the OAM Server Application (DR SDS)**

25. **Active SDS VIP:**
   - Select…
   - **Main Menu**
   - → Status & Manage
   - → Server
   - ...as shown on the right.

26. **Active SDS VIP:**
   1) The “A” and “B” DR 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.
Procedure 6.3 Restarting the OAM Server Application (DR SDS)

27. 

Active SDS VIP:

1) Using the mouse, select DR OAM 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 DR OAM 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.

Windows Internet Explorer

Are you sure you wish to restart application software on the following server(s)?
drds-dallasx-a

OK Cancel

Main Menu: Status & Manage -> Server [Restart]

<table>
<thead>
<tr>
<th>Filter</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Status

- drds-dallasx-a: Successfully restarted application.

sds_mrsync  sds-mrsync-a  Enabled  Err
sds_mrsync  sds-mrsync-b  Enabled  Norm

Procedure 6.3 Restarting the OAM Server Application (DR SDS)

28. Active SDS VIP:
Select…

Main Menu
→ Status & Manage
→ Server

…as shown on the right.

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 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.
Procedure 6.3 Restarting the OAM Server Application (DR SDS)

30. Active SDS VIP:

1) Using the mouse, select DR OAM Server B. 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 DR OAM Server B stating: “Successfully restarted application”.

NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.
### Procedure 6.3 Restarting the OAM Server Application (DR SDS)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.</td>
<td><strong>Active SDS VIP:</strong>&lt;br&gt;Verify that the “Appl State” now shows “Enabled” and that the “Alm, DB, Reporting Status &amp; Proc” status columns all show “Norm” for OAM Server A and OAM Server B before proceeding to the next Step.&lt;br&gt;&lt;br&gt;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 &amp; Manage ➔ Server” option from the Main menu on the left.</td>
</tr>
</tbody>
</table>

**Main Menu: Status & Manage ➔ Server**

<table>
<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>dr_dallasx</td>
<td>drcds-dallasx-b</td>
<td>Enabled</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>dr_dallasx</td>
<td>drcds-dallasx-a</td>
<td>Enabled</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>sds_mrsync</td>
<td>sds-mrsync-b</td>
<td>Enabled</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>sds_mrsync</td>
<td>sds-mrsync-a</td>
<td>Enabled</td>
<td>Err</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>so_carync</td>
<td>so-carync-a</td>
<td>Enabled</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>so_carync</td>
<td>so-carync-b</td>
<td>Enabled</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>so_carync</td>
<td>dp-carync-1</td>
<td>Enabled</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
<td>Norm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.</td>
<td><strong>Active SDS VIP:</strong>&lt;br&gt;Add the Query Server for the DR SDS Server&lt;br&gt;&lt;br&gt;• Repeat all steps listed in Procedure 4 except use the DR SDS site’s NE and Server Group instead of the Primary (1st SDS) site’s NE and Server Group.</td>
</tr>
</tbody>
</table>

**THIS PROCEDURE HAS BEEN COMPLETED**
5.6 Add SDS software images to PMAC servers (All DP-SOAM sites)

This procedure must be done once for each DSR signaling site, which is also an SDS DP-SOAM site. This procedure assumes that the PMAC server has already been installed, as described in [5].

Procedure 7: Add SDS software images to PMAC servers for DSR signaling sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>PMAC Server:</strong> Launch an approved web browser and connect to the XMI IP Address of the PMAC server at the DP-SOAM site using &quot;https:&quot;</td>
<td><img src="image" alt="Certificate Error: Navigation Blocked" /></td>
</tr>
</tbody>
</table>
Procedure 7: Add SDS software images to PMAC servers for DSR signaling sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. PMAC Server:</td>
<td>The user should be presented the login screen shown on the right.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Login to the PMAC using the default user and password.</td>
<td></td>
</tr>
<tr>
<td>3. PMAC Server:</td>
<td>Place the CDROM containing the SDS Application software into the server’s optical drive.</td>
<td></td>
</tr>
<tr>
<td>4. PMAC Server:</td>
<td>Select…</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Main Menu ➔ Software ➔ Manage Software Images</td>
<td></td>
</tr>
<tr>
<td></td>
<td>…as shown on the right.</td>
<td></td>
</tr>
</tbody>
</table>

```
Figure 5 - HP DL360 Front Panel: Optical Drive
```

```
Tekelec System Login

Log In
Enter your username and password to log in

Username: superuser
Password: ************

Session was logged out at 9:49:45 pm.

[Log In]
```

Unauthorized access is prohibited. This Tekelec system requires the use of Microsoft® Internet Explorer 7.0 or 8.0 with support for JavaScript and cookies.

Tekelec and logo are registered service marks of Tekelec, Inc. 
Copyright © 2011 Tekelec, Inc. All Rights Reserved.
### Procedure 7: Add SDS software images to PMAC servers for DSR signaling sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td><strong>PMAC Server:</strong> Select… <strong>Main Menu</strong> → <strong>Software</strong> → <strong>Manage Software Images</strong> Select the “Add Image” button</td>
<td><img src="image" alt="Manage Software Images" /></td>
</tr>
<tr>
<td>6.</td>
<td><strong>PMAC Server:</strong> Click the “Path:” drop box and select… device://dev/scd0 …from the list.</td>
<td><img src="image" alt="Add Software Image" /></td>
</tr>
<tr>
<td>7.</td>
<td><strong>PMAC Server:</strong> Select “Add New Image” button</td>
<td><img src="image" alt="Add New Image" /></td>
</tr>
</tbody>
</table>
Procedure 7: Add SDS software images to PMAC servers for DSR signaling sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>PMAC Server:</td>
<td>An info message will be raised to show a new background task.</td>
</tr>
<tr>
<td>9.</td>
<td>PMAC Server:</td>
<td>Watch the extraction progress in the lower task list on the same page.</td>
</tr>
<tr>
<td>10.</td>
<td>PMAC Server:</td>
<td>When the extraction task is complete, a new software image will be displayed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image-url" alt="Image of software image" /></td>
</tr>
<tr>
<td>11.</td>
<td></td>
<td>Remove the CDROM from the server's optical drive.</td>
</tr>
<tr>
<td>12.</td>
<td>PMAC Server:</td>
<td>Click the “Logout” link on the PMAC server GUI.</td>
</tr>
</tbody>
</table>

Figure 6 - HP DL360 Front Panel: Optical Drive

THIS PROCEDURE HAS BEEN COMPLETED
5.7 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 F.
- This procedure assumes that the Network Element XML files are either on a USB flash drive or the laptop’s hard drive. The steps are written as if the XML files are on a USB flash drive, but the files can exist on any accessible drive.

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

This procedure assumes that the DSR 4.0 or later OAM has already been installed in a virtual environment on the server blade, as described in DSR 4.0 HP C-Class Installation, 902-2228-001, Ver 0.7 (or higher) [5]. This assumption also implies that the PMAC server has been installed and that TVOE has been installed in the OAM server blades.

This procedure also assumes that the SDS software image has already been added to the PMAC server, as described in section 5.6.
Procedure 8: Configuring an OAM Server for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 1.   | PMAC Server:  
Launch an approved web browser and connect to the **XMI IP Address** of the PMAC server at the DP-SOAM site using "https://" | ![Certificate Error](image1)  
There is a problem with this website's security certificate.  
The security certificate presented by this website was not issued by a trust  
The security certificate presented by this website was issued for a different  
Security certificate problems may indicate an attempt to fool you into contacting  
We recommend that you close this webpage and do not continue to  
- Click here to close this webpage.  
- Continue to this website (not recommended).  
- More information |
| 2.   | PMAC Server:  
The user should be presented the login screen shown on the right.  
Login to the GUI using the default user and password. | ![Tekelec System Login](image2)  
**Log In**  
Enter your username and password to log in  
Session was logged out at 2:55:32 pm.  
Username: pmacadmin  
Password: **********  
[Log In] (button) |
### Procedure 8: Configuring an OAM Server for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>PMAC Server: The user should be presented the PMAC Main Menu as shown on the right.</td>
<td>![PMAC Main Menu Image]</td>
</tr>
</tbody>
</table>

4. PMAC Server: Select desired OAM server blade...

   **Main Menu**
   - Hardware
   - System Inventory
   - <Enclosure>
   - <Server Blade>

   ...as shown on the right.  
   ![System Inventory Image]
Procedure 8: Configuring an OAM Server for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 5.   | PMAC Server: Select the Software tab.  
       ...as shown on the right.  
       Verify that TVOE application has been installed. | |

**IF TVOE WAS NOT INSTALLED ON THE BLADE SERVER, STOP AND EXECUTE THE FOLLOWING STEPS:**

1) Verify that the enclosure and bay number are correct.

2) Contact DSR Installation Engineer to confirm location of OAM blade and status of TVOE installation.

3) Restart this procedure.

**IF THE TVOE APPLICATION WAS ALREADY INSTALLED, THEN CONTINUE ON TO THE NEXT STEP IN THIS PROCEDURE.**
**Procedure 8: Configuring an OAM Server for DP-SOAM sites**

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 6.   | PMAC Server:  
Select …  
Main Menu → VM Management  
…as shown on the right. | ![Diagram](image1.png)  
Platform Management & Configuration  
PMAC Server:  
Select …  
Main Menu → VM Management  
…as shown on the right. |
| 7.   | PMAC Server:  
1) In the VM Entities box, select the desired server  
…as shown on the right.  
2) Click the “Create Guest” dialogue button | ![Diagram](image2.png)  
PMAC Server:  
1) In the VM Entities box, select the desired server  
…as shown on the right.  
2) Click the “Create Guest” dialogue button |
### Procedure 8: Configuring an OAM Server for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>PMAC Server: &lt;br&gt;Click the &quot;Import Profile&quot; dialogue button &lt;br&gt;...as shown on the right.</td>
<td><img src="image" alt="Virtual Machine Management UI" /></td>
</tr>
</tbody>
</table>

![Create VM Guest](image)

**Virtual Machine Management**

**Info**

**VM Entities**

- Enc: 50101 Bay: 11F
- Enc: 50101 Bay: 12F
- DSR_NOAMP_A
- DSR_NOAMP_B

**Create VM Guest**

- **Name:**
- **Host:** Enc: 50101 Bay: 12F

**VM Info**

- Num vCPUs: 1
- Memory (MBs): 1024
- VM UUID:

**Virtual Disks**

- Prim: 12200
- Size (MB): vgguesta

**Virtual NICs**

- Host Bridge: control
- Guest Dev Name: control
### Procedure 8: Configuring an OAM Server for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 9.   | **PMAC Server:**  
  1) Select the desired ISO/Profile value ...as shown on the right.  
  2) Click the “Select Profile” dialogue button | ![Image of OAM Server configuration](image) |
| 10.  | **PMAC Server:**  
  1) Overwrite the Name field with the Server host name (e.g. “so-mrsync-a”)  
  2) Click the “Create” dialogue button | ![Image of VM Guest configuration](image) |
### Procedure 8: Configuring an OAM Server for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>PMAC Server: Verify that task successfully completes. The user should see a screen similar to the one on the right with <strong>Progress</strong> value of 100%.</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>PMAC Server: Install the operating system by clicking the “<strong>Install OS</strong>” dialogue button</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>PMAC Server: The user should see a screen similar to the one on the right.</td>
<td></td>
</tr>
</tbody>
</table>
### Procedure 8: Configuring an OAM Server for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 14.  | PMAC Server:  
1) Select the desired TPD image  
2) Click the “Start Install” dialogue button. | ![Select an ISO to Install on the listed Entities](image) |
| 15.  | PMAC Server:  
The user should be presented with an “Are you sure you want to install” message box  
...as shown on the right.  
Click the "OK" dialogue button. | ![Windows Internet Explorer](image) |
| 16.  | PMAC Server:  
An installation task will be started. This task takes ~11 minutes. The user can monitor this task by doing the following:  
Select...  
**Main Menu**  
→ **Task Monitoring**  

Wait until you see the **Progress** value equal 100% | ![Background Task Monitoring](image) |
**Procedure 8: Configuring an OAM Server for DP-SOAM sites**

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 17.  | PMAC Server:  
1) Select…

**Main Menu**

→ VM Management

2) Select the “Software” tab

3) Verify the operating system has been installed.

4) Verify the “Application Details” section is blank. |  |
| 18.  | PMAC Server:  
1) Select the “Network” tab

2) Make note of the control IP address for this OAM; it will be referenced later.

3) Select the “Upgrade” dialogue button |  |
| 19.  | PMAC Server:  
The user should be presented the Select Image screen as shown on the right |  |
**Procedure 8: Configuring an OAM Server for DP-SOAM sites**

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 20.  | PMAC Server:  
1) Select the correct SDS version from the "Image Name" list. The line entry should now be highlighted in **GREEN**.  
2) Select the "Start Upgrade" dialogue button | |
| 21.  | PMAC Server:  
The user should be presented with an 'Are you sure you want to upgrade' message box  
....as shown on the right.  
Click the "OK" dialogue button. | |
| 22.  | PMAC Server:  
An upgrade task will be started. This task takes ~8 minutes. The user can monitor this task by doing the following:  
Select…  
**Main Menu**  
→ **Task Monitoring**  
Wait until you see the **Progress** value equal 100% | |
| 23.  | Repeat **Steps 4 - 23** of this procedure for the **DP-SOAM B Server**. | |
Procedure 8: Configuring an OAM Server for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.</td>
<td>PMAC Server: Click the “Logout” link on the PMAC server GUI.</td>
<td>![Image of PMAC server GUI]</td>
</tr>
<tr>
<td>25.</td>
<td>Active SDS VIP: Launch an approved web browser and connect to the XMI Virtual IP address (VIP) assigned to Active SDS site using “https://”</td>
<td>![Image of certificate error]</td>
</tr>
</tbody>
</table>

Procedure 8.1 Configuring the Network Element (DP-SOAM)

25. Active SDS VIP:
   - Launch an approved web browser and connect to the XMI Virtual IP address (VIP) assigned to Active SDS site using “https://”
## Procedure 8.1 Configuring the Network Element (DP-SOAM)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 26.  | **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.  

![Tekelec System Login](image1)  
Unauthorized access is prohibited. This Tekelec system requires the use of Microsoft Internet Explorer 7.0 or 8.0 with support for JavaScript and cookies.  

| 27.  | **Active SDS VIP:**  
The user should be presented the SDS Main Menu as shown on the right.  

![SDS Main Menu](image2)  
This is the user-defined welcome message. It can be modified using the Options tab under the Administration menu.  

| 28.  | **Active SDS VIP:**  
Select…  
Main Menu  
→ Configuration  
→ Network Elements  
…as shown on the right.  

![Network Elements](image3)
### Procedure 8.1 Configuring the Network Element (DP-SOAM)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| **29.** | **Active SDS VIP:**  
From the Configuration / Network Elements screen...  
Select the “Browse” dialogue button (scroll to bottom left corner of screen). |
| **30.** | **Active SDS VIP:**  
Note: This step assumes that the xml files were previously prepared, as described in Appendix F.  
1) Select the location containing the site.xml file.  
2) Select the .xml file and click the “Open” dialogue button. |
| **31.** | **Active SDS VIP:**  
Select the “Upload File” dialogue button (bottom left corner of screen). |
**Procedure 8.1 Configuring the Network Element (DP-SOAM)**

32. **Active SDS VIP:**

   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.

**Procedure 8.2 Configuring the SOAM Server**

33. **Active SDS VIP:**

   Select...

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

   ...as shown on the right.

34. **Active SDS VIP:**

   Select the “Insert” dialogue button (bottom left corner of screen).
### Procedure 8.2 Configuring the SOAM Server

35. **Active SDS VIP:**
The user is now presented with the "Adding a new server" configuration screen.

36. **Active SDS VIP:**
Input the assigned "hostname" for OAM Server.

37. **Active SDS VIP:**
Select "SYSTEM OAM" for the Role from the pull-down menu.

38. **Active SDS VIP:**
Input the assigned hostname again as the "System ID" for the SO Server (A or B).

39. **Active SDS VIP:**
Select "SDS TVOE Guest" for the Hardware Profile for the DP-SOAM from the pull-down menu.
### Procedure 8.2 Configuring the SOAM Server

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.</td>
<td><strong>Active SDS VIP:</strong> &lt;br&gt; Select the <strong>Network Element Name</strong> for the SDS from the pull-down menu. &lt;br&gt; <strong>NOTE:</strong> After the <strong>Network Element Name</strong> is selected, the <strong>Interfaces fields</strong> will be displayed, as seen in <strong>Step 42</strong>.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Network Element Name" /> <img src="image" alt="Location" /></td>
</tr>
<tr>
<td>41.</td>
<td><strong>Active SDS VIP:</strong> &lt;br&gt; Enter the site location. &lt;br&gt; <strong>NOTE:</strong> Location is an optional field.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Location" /></td>
</tr>
<tr>
<td>42.</td>
<td><strong>Active SDS VIP:</strong> &lt;br&gt; 1) Enter the XMI IP address and IMI IP address for the DP-SOAM Server. &lt;br&gt; 2) Set the XMI Interface to &quot;xmi&quot; and do NOT check the VLAN box. &lt;br&gt; 3) Set the IMI Interface to &quot;imi&quot; and do NOT check the VLAN box.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Interfaces" /></td>
</tr>
</tbody>
</table>
## Procedure 8.2 Configuring the SOAM Server

### Active SDS VIP:

1. Click the "NTP Servers: "Add" dialogue button.

2. Enter the NTP Server IP Address for an NTP Server.

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

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

### Active SDS VIP:

1. The user should be presented with a banner information message stating “Pre-Validation passed”.

2. Click the “Apply” dialogue button.
Active SDS VIP:

If the values provided match the network ranges assigned to the NE, the user will receive a banner information message showing that the data has been validated and committed to the DB.
## Procedure 8.3 Applying the SOAM Server Configuration file

### 46. Active SDS VIP:
Select…

Main Menu ➔ Configuration ➔ Servers

...as shown on the right.

### 47. Active SDS VIP:
On the “Configuration ➔ Servers” screen, find the newly added System OAM server in the list.

### 48. Active SDS VIP:
Use the cursor to select the new DP-SOAM server entry added in the Step 36.

The row containing the server should now be highlighted.

### 49. Active SDS VIP:
Select the “Export” dialogue button (bottom left corner of screen).

### 50. Repeat Steps 33- 49 of this procedure for the DP-SOAM B Server.
### Procedure 8.3 Applying the SOAM Server Configuration file

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 51.  | **Active SDS VIP:**  
Click the “Logout” link on the SDS server GUI. |
| 52.  | **Active SDS Server:**  
Access the server console.  
- Connect to the **Active SDS VIP** console using one of the access methods described in Section 2.3. |
| 53.  | **Active SDS Server:**  
1) Access the command prompt.  
2) Log into the OAM server as the "root" user.  
CentOS release 5.6 (Final)  
Kernel 2.6.18-238.19.1.el5prerele5.0.0_72.22.0 on an x86_64  
hostname1260476035 login: root  
Password: <root_password> |
| 54.  | **Active SDS Server:**  
Output similar to that shown on the right will appear as the server access the command prompt.  
*** TRUNCATED OUTPUT ***  
VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16  
PRODPATH=  
RELEASE=5.16  
RUNID=00  
VPATH=/var/TKLC/db/filemgmt:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds  
PRODPATH=/opt/comcol/prod  
RUNID=00  
[root@hostname1260476035 ~]# |
| 55.  | **Active SDS Server:**  
Change directory into the file management space.  
[root@hostname1260476035 ~]# cd /var/TKLC/db/filemgmt |
| 56.  | **Active SDS Server:**  
Get a directory listing and find the configuration files with the OAM server A and B name as shown in red.  
Note: These should appear toward the bottom of the listing.  
*** TRUNCATED OUTPUT ***  
-rw-rw-r- 1 root root 2208 Dec 19 16:37 TKLConfigData.so-carync-a.sh  
-rw-rw-r- 1 root root 2208 Dec 19 16:50 TKLConfigData.so-carync-b.sh |
## Procedure 8.3 Applying the SOAM Server Configuration file

### 57. Active SDS Server:
Copy the configuration files found in the previous step to the PMAC.

```bash
[root@hostname1260476035 ~]# scp -p <configuration_file-a> <configuration_file-b> root@<PMAC_IP>:/tmp

root@10.240.39.4's password:
TKLCConfigData.so-carync-a.sh                      100% 1741 1.7KB/s 00:00
TKLCConfigData.so-carync-b.sh                      100% 1741 1.7KB/s 00:00
[root@sdsmrsvnc-a filemgmt]#
```

### 58. PMAC Server:
Access the server console.

- Connect to the PMAC Server console using one of the access methods described in Section 2.3.

### 59. PMAC Server:
Copy the server configuration file to the Control IP for the SOAM.

Note: The Control IP for each OAM is obtained in Step 18 of this procedure.

```bash
[root@pmac ~]# scp -p /tmp/<configuration_file> root@192.168.1.199:/var/TKLC/db/filemgmt

root@192.168.1.199's password:
TKLCConfigData.so-carync-a.sh                      100% 1741 1.7KB/s 00:00
[root@pmac ~]#
```

### 60. PMAC Server:
Connect to the SOAM server console from the PMAC Server Console.

```bash
[root@pmac ~]# ssh <OAM_Control_IP>
root@192.168.1.199's password: <root_password>
```

### 61. SOAM Server:
Output similar to that shown on the right will appear as the server accesses the command prompt.

```plaintext
*** TRUNCATED OUTPUT ***

VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16
PRODPATH=
RELEASE=5.16
RUNID=00
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds
PRODPATH=/opt/comcol/prod
RUNID=00
[root@hostname1326744539 ~]#
```
## Procedure 8.3 Applying the SOAM Server Configuration file

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 62.  | **SOAM Server:**  
Copy the server configuration file to the “/var/tmp” directory on the server, making sure to rename the file by omitting the server hostname (shown in red) from the file name.  

**Example:**  
TKLCCfgData.<server_hostname>.sh ➔ will translate to ➔ TKLCCfgData.sh  

```bash  
[root@so-carync-a -]# cp -p /var/TKLC/db/filemgmt/TKLCCfgData.so-carync-a.sh /var/tmp/TKLCCfgData.sh  
```

**NOTE:** The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found. |
| 63.  | **SOAM Server:**  
After the script completes, a broadcast message will be sent to the terminal.  

**NOTE:** The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete.  

*** NO OUTPUT FOR ≈ 3-20 MINUTES ***  
Broadcast message from root (Mon Dec 14 15:47:33 2009):  

Server configuration completed successfully!  
See /var/TKLC/appw/logs/Process/install.log for details.  

Please remove the USB flash drive if connected and reboot the server.  

<ENTER>
64. **Accept upgrade to the Application Software.**

   ```
   [root@hostname1260476221 ~]# /var/TKLC/backout/accept
   Called with options: --accept
   Loading Upgrade::Backout::RPM
   Accepting Upgrade
   Setting POST_UPGRADE_ACTION to ACCEPT in upgrade info.
   Cleaning backout directory.
   Cleaning Upgrade Accept/Reject alarm.
   Cleaning message from MOTD.
   Cleaning up RPM config backup files...
   Checking /
   Checking /boot
   Checking /tmp
   Checking /usr
   Checking /var
   Checking /var/TKLC
   Checking /tmp/appworks_temp
   Checking /var/TKLC/appw/logs/Process
   Checking /var/TKLC/appw/logs/Security
   Checking /var/TKLC/db/filemgmt
   Checking /var/TKLC/rundb
   Starting cleanup of RCS repository.
   INFO: Removing '/var/lib/prelink/force' from RCS repository
   INFO: Removing '/etc/my.cnf' from RCS repository
   [root@hostname1260476221 ~]#
   ```

65. **SOAM Server:**

   **Configure the time zone.**

   ```
   [root@hostname1260476221 ~]# set_ini_tz.pl <time zone>
   ```

   **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 H for a list of valid time zones.

   ```
   [root@hostname1260476221 ~]# set_ini_tz.pl "Etc/UTC"
   ```

66. **SOAM Server:**

   **Initiate a reboot of the OAM server.**

   ```
   [root@hostname1260476221 ~]# init 6
   ```

67. **SOAM Server:**

   **Output similar to that shown on the right may be observed as the server initiates a reboot.**

   ```
   [root@hostname1260476221 ~]# Connection to 192.168.1.199 closed by remote host.
   Connection to 192.168.1.199 closed.
   [root@pmac ~]#
   ```
### Procedure 8.3  Applying the SOAM Server Configuration file

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>68. PMAC Server:</td>
<td>After the DP-SOAM server has completed reboot... Re-connect to the DP-SOAM server console from the PMAC Server Console</td>
</tr>
<tr>
<td>69. SOAM Server:</td>
<td>Output similar to that shown on the right will appear as the server access the command prompt.</td>
</tr>
</tbody>
</table>
| 70. SOAM Server: | 1) Verify that the IMI IP address input in Step 42 has been applied to “bond0.4”.  
2) Verify that the XMI IP address input in Step 42 has been applied to “bond1”.  

**NOTE:** The server's XMI & IMI addresses can be verified by reviewing the server configuration through the SDS GUI.  
i.e.  
Main Menu → Configuration → Servers  
Scroll to line entry containing the server's hostname. |

```
[root@pmac ~]# ssh <OAM_Control_IP>
root@192.168.1.199's password: <root_password>
```

```
*** TRUNCATED OUTPUT ***

VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16
PRODPATH=
RELEASE=5.16
RUNID=00
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds
PRODPATH=/opt/comcol/prod
RUNID=00
[root@so-carync-a ~]#
```

```
[root@so-carync-a ~]# ifconfig |grep in |grep -v inet6
control Link encap:Ethernet HWaddr 52:54:00:23:DC:32
    imi  Link encap:Ethernet HWaddr 52:54:00:33:DC:DC
    inet addr:10.240.38.78 Bcast:10.240.38.127 Mask:255.255.255.192
    lo   Link encap:Local Loopback
    inet addr:127.0.0.1 Mask:255.0.0.0
    xmi  Link encap:Ethernet HWaddr 52:54:00:63:63:BD
[root@so-carync-a ~]#
```
### Procedure 8.3 Applying the SOAM Server Configuration file

#### Step 71. SOAM Server:
Use the "ping" command to verify connectivity to the IMI Gateway address (switch1A) associated with the NE.

**NOTE:** Use the `<CTRL-C>` key combination to terminate the "ping" process after a few seconds.

```
[root@s-carync-a ~]# ping 10.240.39.150
PING 10.240.39.150 (10.240.39.150) 56(84) bytes of data.
64 bytes from 10.240.39.150: icmp_seq=1 ttl=64 time=0.024 ms
64 bytes from 10.240.39.150: icmp_seq=2 ttl=64 time=0.033 ms
64 bytes from 10.240.39.150: icmp_seq=3 ttl=64 time=0.032 ms
64 bytes from 10.240.39.150: icmp_seq=4 ttl=64 time=0.026 ms
64 bytes from 10.240.39.150: icmp_seq=5 ttl=64 time=0.027 ms
64 bytes from 10.240.39.150: icmp_seq=6 ttl=64 time=0.026 ms<CTRL-C>
--- 10.240.39.150 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5004ms
rtt min/avg/max/mdev = 0.024/0.028/0.033/0.003 ms
```

#### Step 72. SOAM Server:
Use the "ping" command to verify connectivity to the XMI Gateway address associated with the NE.

**NOTE:** Use the `<CTRL-C>` key combination to terminate the "ping" process after a few seconds.

```
[root@s-carync-a ~]# ping 10.240.38.78
PING 10.240.38.78 (10.240.38.78) 56(84) bytes of data.
64 bytes from 10.240.38.78: icmp_seq=1 ttl=64 time=0.031 ms
64 bytes from 10.240.38.78: icmp_seq=2 ttl=64 time=0.017 ms
64 bytes from 10.240.38.78: icmp_seq=3 ttl=64 time=0.031 ms
64 bytes from 10.240.38.78: icmp_seq=4 ttl=64 time=0.028 ms
64 bytes from 10.240.38.78: icmp_seq=5 ttl=64 time=0.030 ms
64 bytes from 10.240.38.78: icmp_seq=6 ttl=64 time=0.028 ms<CTRL-C>
--- 10.240.38.78 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5000ms
rtt min/avg/max/mdev = 0.017/0.027/0.031/0.007 ms
```

#### Step 73. SOAM Server:
Use the "ntpq" command to verify connectivity to the assigned Primary and Secondary NTP server(s).

```
[root@s-carync-a ~]# ntpq -np
remote refid st t when poll reach delay offset jitter
+10.250.32.10 192.5.41.209 2 u 139 1024 377 2.008 1.006 1.049
+10.250.32.51 192.5.41.209 2 u 979 1024 377 0.507 1.664 0.702
```

**IF CONNECTIVITY TO THE NTP SERVER(S) CANNOT BE ESTABLISHED, STOP AND EXECUTE THE FOLLOWING STEPS:**

1) Contact the customer to verify that the IP addresses for the NTP server(s) are correct.

2) Have the customer IT group provide a network path from the OAM server IP to the assigned NTP IP addresses.

**ONCE NETWORK CONNECTIVITY IS ESTABLISHED TO THE ASSIGNED NTP IP ADDRESSES, THEN RESTART THIS PROCEDURE BEGINNING WITH STEP 73.**
## Procedure 8.3 Applying the SOAM Server Configuration file

<table>
<thead>
<tr>
<th>Step</th>
<th>SOAM Server:</th>
<th>PMAC Server:</th>
</tr>
</thead>
<tbody>
<tr>
<td>74.</td>
<td>Execute a “syscheck” to verify the current health of the server.</td>
<td>Exit from the PMAC server</td>
</tr>
</tbody>
</table>

```
[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 ~]#
```

<table>
<thead>
<tr>
<th>Step</th>
<th>SOAM Server:</th>
<th>PMAC Server:</th>
</tr>
</thead>
<tbody>
<tr>
<td>75.</td>
<td>Exit from the DP-SOAM command line to return the PMAC server console prompt.</td>
<td>Exit from the PMAC server</td>
</tr>
</tbody>
</table>

```
[root@so-carync-a ~]# exit
Connection to 192.168.1.199 closed.
[root@pmac ~]#
```

<table>
<thead>
<tr>
<th>Step</th>
<th>SOAM Server:</th>
<th>PMAC Server:</th>
</tr>
</thead>
<tbody>
<tr>
<td>76.</td>
<td>If you have just completed this procedure for the SOAM Server A in the enclosure then repeat Steps 33 - 75 this procedure for SOAM Server B.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step</th>
<th>SOAM Server:</th>
<th>PMAC Server:</th>
</tr>
</thead>
<tbody>
<tr>
<td>77.</td>
<td>Exit from the PMAC server</td>
<td></td>
</tr>
</tbody>
</table>

```
[root@pmac ~]# exit
```

**THIS PROCEDURE HAS BEEN COMPLETED**
5.8 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 9: Pairing the OAM Servers for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Active SDS VIP:</strong>  &lt;br&gt; Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active SDS site using &quot;https:&quot;</td>
<td>![Certificate Error Image]</td>
</tr>
<tr>
<td></td>
<td><strong>Active SDS VIP:</strong>  &lt;br&gt; The user should be presented the login screen shown on the right.  &lt;br&gt; Login to the GUI using the default user and password.</td>
<td>![Login Screen Image]</td>
</tr>
</tbody>
</table>
### Procedure 9: Pairing the OAM Servers for DP-SOAM sites

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td><strong>Active SDS VIP:</strong> The user should be presented the SDS Main Menu as shown on the right.</td>
<td><img src="image.png" alt="SDS Main Menu" /></td>
</tr>
</tbody>
</table>

#### Procedure 9.1 Configuring the SOAM Server Group (SOAM)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td><strong>Active SDS VIP:</strong> Select… <strong>Main Menu</strong> → <strong>Configuration</strong> → <strong>Server Groups</strong>… as shown on the right.</td>
<td><img src="image.png" alt="Server Groups" /></td>
</tr>
</tbody>
</table>
**Procedure 9.1 Configuring the SOAM Server Group (SOAM)**

5. **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.

6. **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).

7. **Active SDS VIP:**
   Input the **Server Group Name**.

8. **Active SDS VIP:**
   Select “B” on the “Level” pull-down menu...

9. **Active SDS VIP:**
   Select the 1st SDS Site’s server group, as entered in Procedure 6, Step 7, on the “Parent” pull-down menu...
Procedure 9.1 Configuring the SOAM Server Group (SOAM)

11. **Active SDS VIP:**
   Select “SDS” on the “Function” pull-down menu.

12. **Active SDS VIP:**
   1) The user should be presented with a banner information message stating “Pre-Validation passed”.
   2) Select the “Apply” dialogue button.

13. **Active SDS VIP:**
    The user should be presented with a banner information message stating “Data committed”.
Procedure 9.2 Adding a Server to the OAM Server Group (SOAM)

14. **Active SDS VIP:**
   Select...

   **Main Menu**
   → Configuration
   → Server Groups

   ...as shown on the right.

15. **Active SDS VIP:**
   The Server Group entry should be shown on the “Server Groups” configuration screen as shown on the right.

16. **SDS Server A:**
   1) Select the Server Group entry applied in Step 13. 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.
## Procedure 9.2 Adding a Server to the OAM Server Group (SOAM)

### 17. Active SDS VIP:
The user will be presented with the “Server Groups [Edit]” screen as shown on the right.

### 18. Active SDS VIP:
Select the “A” server and the “B” server from the list of “Servers” by clicking the check box next to their names.

### 19. SDS Server A:
1) The user should be presented with a banner information message stating “Pre-Validation passed”.

2) Select the “Apply” dialogue button.
### Procedure 9.2 Adding a Server to the OAM Server Group (SOAM)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>20.</strong> SDS Server A:</td>
<td>The user should be presented with a banner information message stating “Data committed”.</td>
</tr>
<tr>
<td><strong>21.</strong> Active SDS VIP:</td>
<td>Click the “Add” dialogue button for the VIP Address.</td>
</tr>
</tbody>
</table>
| **22.** Active SDS VIP: | Input the VIP Address  
10.240.39.152 |
| **23.** Active SDS VIP: | Click the “Apply” dialogue button. |
| **24.** SDS Server A: | 1) The user should be presented with a banner information message stating “Pre-Validation passed”.  
2) Select the “Apply” dialogue button. |
## Procedure 9.2 Adding a Server to the OAM Server Group (SOAM)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 25.  | **SDS Server A:**  
The user should be presented with a banner information message stating “Data committed”. |
| 26.  | **IMPORTANT:**  
Wait at least 5 minutes before proceeding on to the next Step.  
- 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 9.3 Restarting the OAM Server Application (SOAM)

27. Active SDS VIP:
   Select…
   Main Menu
   → Status & Manage
   → Server
   …as shown on the right.

28. Active SDS VIP:
   1) The “A” and “B” DP-SOAM 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.
**Procedure 9.3 Restarting the OAM Server Application (SOAM)**

29. **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.
### Procedure 9.3 Restarting the OAM Server Application (SOAM)

#### 30. Active SDS VIP:
Select…

Main Menu
→ Status & Manage
→ Server

...as shown on the right.

#### 31. 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.
Procedure 9.3  Restarting the OAM Server Application (SOAM)

Active SDS VIP:
1) Using the mouse, select DP-SOAM Server B. 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 B stating: “Successfully restarted application”.

NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.
Procedure 9.3 Restarting the OAM Server Application (SOAM)

33. Active SDS VIP:
   Select…
   Main Menu
   → Status & Manage
   → Server
   ...as shown on the right.

34. Active SDS VIP:
   Verify that the “AppState” now shows “Enabled” and that the “Alm, DB, Reporting Status & Proc” status columns all show “Norm” for OAM Server A and OAM Server B 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.
<table>
<thead>
<tr>
<th>Procedure 9.3 Restarting the OAM Server Application (SOAM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35. Active SDS VIP: Click the “Logout” link on the SDS server GUI.</td>
</tr>
</tbody>
</table>

**THIS PROCEDURE HAS BEEN COMPLETED**
5.9 **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.

---

**Make sure you run Appendix J (Disable Hyperthreading (DP Only)) on each DP.**

---

Procedure 10: Installing a Data Processor (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 1.   | PMAC Server: Launch an approved web browser and connect to the XMI IP Address of the PMAC server at the DP-SOAM site using “https://” | ![Certificate Error: Navigation Blocked - Windows Internet Explorer](image)  
There is a problem with this website’s security certificate.  
The security certificate presented by this website was not issued by a trust. The security certificate presented by this website was issued for a different server.

We recommend that you close this webpage and do not continue to:  
- Click here to close this webpage.
- Continue to this website (not recommended).
- More information |
**Procedure 10:** Installing a Data Processor (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 2.   | **PMAC Server:** | The user should be presented the login screen shown on the right.  
Login to the GUI using the default user and password. |
|      | **PMAC Server:** | The user should be presented the PMAC Main Menu as shown on the right... |
**Procedure 10:** Installing a Data Processor (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 4.   | PMAC Server: Select desired server blade... | ![Image of PMAC Server interface](image1)

Main Menu
- Hardware
- System Inventory
- <Enclosure>
- <Server Blade>

...as shown on the right.

| 5.   | PMAC Server: Select “Software” tab. | ![Image of PMAC Server interface (Software tab)](image2) |

...as shown on the right.
**Procedure 10: Installing a Data Processor (All DP-SOAM sites)**

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 6.   | PMAC Server:  
Install the operating system by clicking the “Install OS” dialogue button | ![Enclosure 50101 - Bay 7F](image) |
| 7.   | PMAC Server:  
1) Select the desired TPD Image  
2) Click the “Start Install” dialogue button | ![Software Install - Select Image](image) |
### Procedure 10: Installing a Data Processor (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>PMAC Server: &lt;br&gt;The user should be presented with an “Are you sure you want to install” message box &lt;br&gt;...as shown on the right. &lt;br&gt;Click the “OK” dialogue button</td>
<td><img src="https://example.com/image1.png" alt="Image" /> &lt;br&gt;The page at <a href="https://10.240.39.4">https://10.240.39.4</a> says: &lt;br&gt;Are you sure you want to install TPD--5.0.0_72.28.0--x86_64 on the listed entities? &lt;br&gt;OK Cancel</td>
</tr>
<tr>
<td>9.</td>
<td>PMAC Server: &lt;br&gt;Note the task number assigned to TPD install. This number will be used to track its progress. &lt;br&gt;This task takes ~25 minutes.</td>
<td><img src="https://example.com/image2.png" alt="Image" /> &lt;br&gt;Software Install - Select Image &lt;br&gt;Targets &lt;br&gt;Entity Status &lt;br&gt;Enc 50101 Bay 6P Task 793 &lt;br&gt;Image Name &lt;br&gt;TPD--5.0.0_72.28.0--x86_64 &lt;br&gt;TPD--5.0.0_72.20.0--x86_64 &lt;br&gt;TPD--5.0.0_72.8.0--x86_64 &lt;br&gt;TVPE--1.0.0_72.30.0--872-2279-101--x86_64</td>
</tr>
<tr>
<td>10.</td>
<td>Repeat this procedure for each additional DP Server.</td>
<td><img src="https://example.com/image4.png" alt="Image" /> &lt;br&gt;Main Menu → Task Monitoring</td>
</tr>
</tbody>
</table>
Procedure 10: Installing a Data Processor (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>PMAC Server:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wait until &quot;Install OS&quot; tasks show 100% under the Progress column.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.... then proceed to the next step.</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>PMAC Server:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select...</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Main Menu</td>
<td></td>
</tr>
<tr>
<td></td>
<td>→ Hardware</td>
<td></td>
</tr>
<tr>
<td></td>
<td>→ System Inventory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>→ &lt;Enclosure&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>→ &lt;Server Blade&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>...as shown on the right.</td>
<td></td>
</tr>
</tbody>
</table>

...[site 502.18]...

Platform Management & Configuration
4.0.0_40.11.

Enclosure 50101 - Bay 7F

Entity Summary
- Entity Type: Server Blade
- Enclosure: 50101
- Bay 7F
- Hot-Swap State: Active

Board Area
- Mfg Date Time: N/A
- Manufacturer: Tekelec
- Product Name: 643785-B21
- Part Number: USE1300FX
- Serial Number: File Id

ID | Task | Target | Status | Running Time | Start Time | Progress |
---|------|--------|--------|--------------|------------|----------|
793 | Install OS | Enc:50101 Bay:IE | Done: TPD-5,6,7,2,20,8-x86_64 | 0:24:45 | 2011-12-08 16:28:38 | 100% |
792 | Install OS | Enc:50101 Bay:IT | Done: TPD-5,6,7,2,20,8-x86_64 | 0:25:08 | 2011-12-08 16:29:44 | 100% |
791 | Backup PMAC | PMAC Backup successful | 0:00:39 | 2011-12-08 05:09:01 | 100% |
790 | Upgrade | Host IP: 10.10.59588935288 Guest: 500 SOAM A | Success | 0:06:24 | 2011-12-07 12:24:53 | 100% |
789 | Install OS | Host IP: 59588935288 Guest: 500 SOAM B | Done: TPD-5,6,7,2,20,8-x86_64 | 0:12:00 | 2011-12-07 15:59:27 | 100% |
788 | Verification Create | Enc:50101 Bay:IE | Guest creation completed (DP-SOAM B) | 0:00:35 | 2011-12-07 16:57:55 | 100% |
**Procedure 10:** Installing a Data Processor (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td><strong>PMAC Server:</strong></td>
<td>Enclosure 50101 - Bay 7F</td>
</tr>
<tr>
<td></td>
<td>Select the “Software” tab.</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td><strong>PMAC Server:</strong></td>
<td>Enclosure 50101 - Bay 7F</td>
</tr>
<tr>
<td></td>
<td>1) Verify the correct TPD is shown.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Verify “Application Details” are blank.</td>
<td></td>
</tr>
</tbody>
</table>
### Procedure 10: Installing a Data Processor (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 16.  | **PMAC Server:**  
1) Select the "Network" tab.  
2) Make note of the control IP address for this DP, called "bond0"; it will be referenced later  
3) Select the "Upgrade" button. | ![Networking Details for hostname 1326745072](image) |
| 17.  | **PMAC Server:**  
1) Select the correct SDS version from the "Image Name" list. The line entry should now be highlighted in GREEN.  
2) Select the "Start Upgrade" dialogue button | ![Software Upgrade - Select Image](image) |
### Procedure 10: Installing a Data Processor (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.</td>
<td>PMAC Server:</td>
<td>The user should be presented with an &quot;Are you sure you want to upgrade&quot; message box as shown on the right. Click the &quot;OK&quot; dialogue button.</td>
</tr>
<tr>
<td>19.</td>
<td>PMAC Server:</td>
<td>Note the task number assigned to TPD install. This number will be used to track its progress. This task takes ~21 minutes.</td>
</tr>
<tr>
<td>20.</td>
<td>Repeat Steps 11 - 19 of this procedure for each subtending DP servers installed in the same DP-SOAM enclosure.</td>
<td></td>
</tr>
</tbody>
</table>
**Procedure 10:** Installing a Data Processor (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.</td>
<td>PMAC Server: Select…  &lt;br&gt; <strong>Main Menu</strong> → <strong>Task Monitoring</strong>  &lt;br&gt; …as shown on the right.</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>PMAC Server:  &lt;br&gt; Wait until “Upgrade” tasks show 100% under the <strong>Progress</strong> column.  &lt;br&gt; … then proceed to the next step.</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>PMAC Server:  &lt;br&gt; Click the “Logout” link on the PMAC server GUI.</td>
<td></td>
</tr>
</tbody>
</table>
Procedure 10.1 Configuring the Database Processor Server (DP)

24. **Active SDS VIP:**
   Launch an approved web browser and connect to the XMI Virtual IP address (VIP) assigned to Active SDS site using “https://”

25. **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.
Procedure 10.1 Configuring the Database Processor Server (DP)

26. **Active SDS VIP:**
The user should be presented the SDS Main Menu as shown on the right.

27. **Active SDS VIP:**
Select…

**Main Menu**

→ Configuration

→ **Servers**

…as shown on the right.

28. **Active SDS VIP:**
Select the “Insert” dialogue button.

29. **Active SDS VIP:**
The user is now presented with the “Adding a new server” configuration screen.
### Procedure 10.1 Configuring the Database Processor Server (DP)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 30.  | **Active SDS VIP:**

Input the assigned “hostname” for the Database Processor (DP).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name</td>
<td>dp-carync-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique name for the server. (Default = n/a. Range = A-Z, character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Role</th>
<th>Select the function of the server</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hardware Profile</th>
<th>Select the hardware profile of the server</th>
</tr>
</thead>
<tbody>
<tr>
<td>NETWORK OAM &amp; SYSTEM OAM V1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Network Element Name</th>
<th>Select the network element</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP QUERY SERVER</td>
<td></td>
</tr>
</tbody>
</table>

31. **Active SDS VIP:**

Select “MP” for the server **Role** from the pull-down menu.

32. **Active SDS VIP:**

Select “SDS HP c-Class Blade V2” for the **Hardware Profile** for the DP-SOAM from the pull-down menu.

<table>
<thead>
<tr>
<th>Hardware Profile</th>
<th>Select the hardware profile of the server</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS TVOE Guest</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Network Element Name</th>
<th>Select the network element</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS HP c-Class Blade V2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Location description [Default = “”. Range string. ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** After the Network Element Name is selected, the Interfaces fields will be displayed, as seen in **Step 35.**

33. **Active SDS VIP:**

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.

**NOTE:** After the Network Element Name is selected, the Interfaces fields will be displayed, as seen in **Step 35.**

<table>
<thead>
<tr>
<th>Network Element Name</th>
<th>Select the network element</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Unassigned -</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Location description [Default = “”. Range string. ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>dr_dallastx</td>
<td></td>
</tr>
</tbody>
</table>

34. **Active SDS VIP:**

Enter the site location.

**NOTE:** Location is an optional field.
Procedure 10.1 Configuring the Database Processor Server (DP)

35. Active SDS VIP:

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

2) Set the XMI Interface to "bond1" and do NOT check the VLAN box.

3) Set the IMI Interface to "bond0" and check the VLAN box.

36. Active SDS VIP:

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

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

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

4) Optionally, click the "Prefer" checkbox to prefer one NTP Server over the other.
**Procedure 10.1 Configuring the Database Processor Server (DP)**

37. **Active SDS VIP:**

1) The user should be presented with a banner information message stating “Pre-Validation passed”.

2) Click the “Apply” dialogue button...

38. **Active SDS VIP:**

If the values provided match the network ranges assigned to the NE, the user will receive a banner information message showing that the data has been validated and committed to the DB.
**Procedure 10.2 Applying the Database Processor Configuration file (DP)**

39. **Active SDS VIP:**
   - Select...

   **Main Menu**
   - Configuration
   - Servers

   ...as shown on the right.

40. **Active SDS VIP:**
   - On the “Configuration ➔ Servers” screen, find the newly added DP server in the list.

   **Note:** The DP server will have a “MP” role.
Procedure 10.2 Applying the Database Processor Configuration file (DP)

41. **Active SDS VIP:**
   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**.
   2) Select the “Export” dialogue button from the bottom left corner of the screen.

42. **Active SDS VIP:**
   The user will receive a banner information message showing a download link for the “MP” configuration data.
   Click on the word “downloaded” to download and save the file.
Procedure 10.2 Applying the Database Processor Configuration file (DP)

43. **Active SDS VIP:**
   1) Click the “Save” dialogue button.
   2) Save the DP server configuration file to a USB flash drive.
   3) Click the “Close” dialogue button.

44. Repeat this procedure for each additional DP Server.

- Repeat Steps 27 - 43 of this procedure for each additional DP server installed in the DP-SOAM cabinet.
### Procedure 10.2 Applying the Database Processor Configuration file (DP)

<table>
<thead>
<tr>
<th>Step</th>
<th>Active SDS VIP:</th>
</tr>
</thead>
<tbody>
<tr>
<td>45.</td>
<td>Click the “Logout” link on the SDS server GUI.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step</th>
<th>Active SDS Server:</th>
</tr>
</thead>
<tbody>
<tr>
<td>46.</td>
<td>Access the server console.</td>
</tr>
<tr>
<td>47.</td>
<td>Connect to the Active SDS VIP console using one of the access methods described in Section 2.3.</td>
</tr>
</tbody>
</table>

- **Active SDS Server:**
  1) Access the command prompt.
  2) Log into the OAM server as the "root" user.

### Environment Details
- CentOS release 5.6 (Final)
- Kernel 2.6.18-238.19.1.el5prere15.0.0-72.22.0 on an x86_64
- hostname: hostname1260476035
- login: root
- Password: root_password

### Command Outputs

#### 48. Active SDS Server:
- **Output similar to that shown on the right will appear as the server access the command prompt.**

```
[output truncated]
```

#### 49. Active SDS Server:
- **Change directory to filemgmt**

```
[root@sds-mrsvnc-a ~]# cd /var/TKLC/db/filemgmt
```

#### 50. Active SDS Server:
- **Attain directory listing. Look for the configuration file(s) that have just been generated for the DP(s). This should appear toward the bottom of the output.**

```
[root@sds-mrsvnc-a filemgmt]# ls -ltr
```

**TRUNCATED OUTPUT**
- `-rw-rw-r-` 1 root root 2042 Dec 20 10:54 TKLCConfigData.dp-carync-1.sh
- `-rw-rw-r-` 1 root root 2042 Dec 20 10:57 TKLCConfigData.dp-carync-2.sh
## Procedure 10.2 Applying the Database Processor Configuration file (DP)

### 51. Active SDS Server:
Use `scp` to copy the file(s) to the PMAC server.

```bash
[root@sds-mrsvn-c-a filemgmt]# scp -p <configuration_file-1> <configuration_file-2> root@<PMAC_IP>:/tmp
root@10.240.39.4's password:
TKLCConfigData.dp-carync-1.sh 100% 1757  1.7KB/s  00:00
TKLCConfigData.dp-carync-2.sh 100% 1757  1.7KB/s  00:00
[root@sds-mrsvn-c-a filemgmt]#
```

### 52. PMAC Server:
Access the server console.

- Connect to the PMAC Server console using one of the access methods described in Section 2.3.

```bash
[root@hostname1260476035 ~]# scp -p /tmp/ <configuration_file> root@<DP_Control_IP>:/var/TKLC/db/filemgmt
root@192.168.1.226's password:
TKLCConfigData.dp-carync-1.sh 100% 1757  1.7KB/s  00:00
[root@pmac ~]#
```

### 53. PMAC Server:
Copy the server configuration file to the Control IP for the DP.

**Note:** The Control IP for each DP is obtained in Step 16 of this procedure.

```bash
[root@hostname1260476035 ~]# scp -p /tmp/ <configuration_file> root@<DP_Control_IP>:/var/TKLC/db/filemgmt
root@192.168.1.226's password:
TKLCConfigData.dp-carync-1.sh 100% 1757  1.7KB/s  00:00
[root@pmac ~]#
```

### 54. PMAC Server:
Connect to the DP server console from the PMAC Server Console.

```bash
[root@pmac ~]# ssh <DP_Control_IP>
root@192.168.1.226's password: <root_password>
```

### 55. DP Server:
Output similar to that shown on the right will appear as the server access the command prompt.

```
*** TRUNCATED OUTPUT ***
VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16
PRODPATH=
RELEASE=5.16
RUNID=00
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds
PRODPATH=/opt/comcol/prod
RUNID=00
[root@hostname1260476035 ~]#
```
<table>
<thead>
<tr>
<th>Procedure 10.2 Applying the Database Processor Configuration file (DP)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>56. DP Server:</strong></td>
</tr>
<tr>
<td>Copy the SDS DP configuration file to the “/var/tmp” directory on the server, making sure to rename the file by omitting the server hostname (shown in red) from the file name.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
</tr>
<tr>
<td>TKLCCfgConfigData.&lt;server_hostname&gt;.sh ➞ will translate to ➞ TKLCCfgConfigData.sh</td>
</tr>
<tr>
<td>[root@hostname1260476035 ~]# cp -p /var/TKLC/db/filemgmt/TKLCCfgConfigData.dp-carync-1.sh /var/tmp/TKLCCfgConfigData.sh</td>
</tr>
<tr>
<td><strong>NOTE:</strong> The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.</td>
</tr>
</tbody>
</table>

| **57. DP Server:**  |
| After the script completes, a broadcast message will be sent to the terminal. |
| **NOTE:** The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete. |
| ***** NO OUTPUT FOR ≈ 3–20 MINUTES ***** |
| Broadcast message from root (Mon Dec 14 15:47:33 2009): |
| Server configuration completed successfully!  |
| See /var/TKLC/appw/logs/Process/install.log for details.  |
| Please remove the USB flash drive if connected and reboot the server.  |
| <ENTER> |
### Procedure 10.2 Applying the Database Processor Configuration file (DP)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>58.</td>
<td>Accept upgrade to the Application Software.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[root@hostname1260476035 ~]# /var/TKLC/backout/accept</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Called with options: --accept</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loading Upgrade::Backout::RPM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accepting Upgrade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Setting POST_UPGRADE_ACTION to ACCEPT in upgrade info.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cleaning backout directory.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clearing Upgrade Accept/Reject alarm.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cleaning message from MOTD.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cleaning up RPM config backup files...</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /boot</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /tmp</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /usr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /var</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /var/TKLC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /tmp/appworks_temp</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /var/TKLC/appw/logs/Process</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /var/TKLC/appw/logs/Security</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /var/TKLC/db/filemgmt</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking /var/TKLC/rundb</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Starting cleanup of RCS repository.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INFO: Removing '/var/lib/prelink/force' from RCS repository</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INFO: Removing '/etc/my.cnf' from RCS repository</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[root@hostname1260476035 ~]#</td>
<td></td>
</tr>
<tr>
<td>59.</td>
<td>DP Server: Configure the time zone.</td>
<td>[root@hostname1260476035 ~]# set_ini_tz.pl &lt;time zone&gt;</td>
</tr>
<tr>
<td></td>
<td>Note: The following command example uses Etc/UTC time zone. Replace, as</td>
<td></td>
</tr>
<tr>
<td></td>
<td>appropriate, with the time zone you have selected for this installation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>See Appendix H for a list of valid time zones.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[root@hostname1260476035 ~]# set_ini_tz.pl &quot;Etc/UTC&quot;</td>
<td></td>
</tr>
<tr>
<td>60.</td>
<td>DP Server: Initiate a reboot of the DP.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[root@hostname1260476035 ~]# init 6</td>
<td></td>
</tr>
<tr>
<td>61.</td>
<td>DP Server: Output similar to that shown on the right may be observed as</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the server initiates a reboot.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[root@hostname1260476035 ~]# Connection to 192.168.1.226 closed by remote</td>
<td></td>
</tr>
<tr>
<td></td>
<td>host. Connection to 192.168.1.226 closed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[root@pmac ~]#</td>
<td></td>
</tr>
<tr>
<td>62.</td>
<td>PMAC Server: After the DP server has completed reboot...</td>
<td>[root@pmac ~]# ssh &lt;DP_Control_IP&gt;</td>
</tr>
<tr>
<td></td>
<td>Re-connect to the DP server console from the PMAC Server Console</td>
<td>root@192.168.1.226's password: &lt;root_password&gt;</td>
</tr>
</tbody>
</table>
### Procedure 10.2 Applying the Database Processor Configuration file (DP)

**63.**

DP Server:

After the server has completed reboot...

Verify that the server console returns to a login prompt.

### TRUNCATED OUTPUT ###

```text
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/exhr
PRODPATH=/opt/TKLCcomcol/cm5.13/prod
RUNID=00
```

WARNING: There are not any servers to send notifications to. The subsys lock will be created.

Tasks started: Sun Dec 13 17:21:03 2009

LOG FILE: /var/TKLC/log/TaskMgr/completeTasks.log

SysmgmtDB database tables exist

CentOS release 5.6 (Final)

Kernel 2.6.18-238.19.1.el5prerel5.0.0_72.20.0 on an x86_64
dp-carync-1 login: root
Password: <root_password>

**64.**

DP Server:

1) Verify that the XMI IP address input in Step 35 has been applied to “bond1”.

2) Verify that the IMI IP address input in Step 35 has been applied to “bond0.4”.

NOTE: Exact bond configuration may vary for custom network implementations.

```text
[root@dp-carync-1 ~]# ifconfig |grep in |grep -v inet6
bond0  Link encap:Ethernet  HWaddr B4:99:BA:AC:BD:64
bond0.4 Link encap:Ethernet  HWaddr B4:99:BA:AC:BD:64
       inet addr:10.240.38.82 Bcast:10.240.38.127 Mask:255.255.255.192
bond1  Link encap:Ethernet  HWaddr B4:99:BA:AC:BD:64
eth01  Link encap:Ethernet  HWaddr B4:99:BA:AC:BD:64
eth02  Link encap:Ethernet  HWaddr B4:99:BA:AC:BD:64
lo     Link encap:Local Loopback
       inet addr:127.0.0.1  Mask:255.0.0.0
[root@dp-carync-1 ~]# ping 10.240.39.154
PING 10.240.39.154 (10.240.39.154) 56(84) bytes of data.
64 bytes from 10.240.39.154: icmp_seq=1 ttl=64 time=0.034 ms
64 bytes from 10.240.39.154: icmp_seq=2 ttl=64 time=0.018 ms
64 bytes from 10.240.39.154: icmp_seq=3 ttl=64 time=0.019 ms
64 bytes from 10.240.39.154: icmp_seq=4 ttl=64 time=0.018 ms
64 bytes from 10.240.39.154: icmp_seq=5 ttl=64 time=0.021 ms
64 bytes from 10.240.39.154: icmp_seq=6 ttl=64 time=0.019 ms<CTRL-C>
--- 10.240.39.154 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5000ms
rtt min/avg/max/mdev = 0.018/0.021/0.034/0.007 ms
[root@dp-carync-1 ~]#
```

**65.**

DP Server:

Use “ping” to verify that the “bond1” device now has connectivity to the XMI Gateway address associated with the NE.

NOTE: Use the <CTRL-C> key combination to terminate the “ping” process after a few seconds.

```text
[root@dp-carync-1 ~]# ping 10.240.39.154
PING 10.240.39.154 (10.240.39.154) 56(84) bytes of data.
64 bytes from 10.240.39.154: icmp_seq=1 ttl=64 time=0.034 ms
64 bytes from 10.240.39.154: icmp_seq=2 ttl=64 time=0.018 ms
64 bytes from 10.240.39.154: icmp_seq=3 ttl=64 time=0.019 ms
64 bytes from 10.240.39.154: icmp_seq=4 ttl=64 time=0.018 ms
64 bytes from 10.240.39.154: icmp_seq=5 ttl=64 time=0.021 ms
64 bytes from 10.240.39.154: icmp_seq=6 ttl=64 time=0.019 ms<CTRL-C>
--- 10.240.39.154 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5000ms
rtt min/avg/max/mdev = 0.018/0.021/0.034/0.007 ms
[root@dp-carync-1 ~]#
```
## Procedure 10.2 Applying the Database Processor Configuration file (DP)

### 66. DP Server:

Use "ping" to verify that the "bond0.4" device now has connectivity to the IMI Gateway address associated with the NE.

**NOTE:** Use the `<CTRL-C>` key combination to terminate the "ping" process after a few seconds.

```bash
[root@dp-carync-1 ~]# ping 10.240.38.82
PING 10.240.38.82 (10.240.38.82) 56(84) bytes of data.
64 bytes from 10.240.38.82: icmp_seq=1 ttl=64 time=0.038 ms
64 bytes from 10.240.38.82: icmp_seq=2 ttl=64 time=0.020 ms
64 bytes from 10.240.38.82: icmp_seq=3 ttl=64 time=0.019 ms
64 bytes from 10.240.38.82: icmp_seq=4 ttl=64 time=0.021 ms
64 bytes from 10.240.38.82: icmp_seq=5 ttl=64 time=0.018 ms
64 bytes from 10.240.38.82: icmp_seq=6 ttl=64 time=0.024 ms
```

--- 10.240.38.82 ping statistics ---

6 packets transmitted, 6 received, 0% packet loss, time 5000ms

```
rtt min/avg/max/mdev = 0.018/0.023/0.038/0.007 ms
[root@dp-carync-1 ~]#
```

### 67. DP Server:

Use the "ntpq" command to verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).

```bash
[root@dp-carync-1 ~]# ntpq -np
```

```
remote    refid       st t    when poll reach   delay  offset  jitter
*10.250.32.10 192.5.41.209 2 u     15   64 377   0.238   4.384   1.405
+10.250.32.51 192.5.41.209 2 u     21   64 377   0.263   3.749   1.358
[root@dp-carync-1 ~]#
```

---

**IF CONNECTIVITY TO THE NTP SERVER(S) CANNOT BE ESTABLISHED, STOP AND EXECUTE THE FOLLOWING STEPS:**

1) Contact the customer to verify that the IP addresses for the NTP server(s) are correct.

2) Have the customer IT group provide a network path from the OAM server IP to the assigned NTP IP addresses.

**ONCE NETWORK CONNECTIVITY IS ESTABLISHED TO THE ASSIGNED NTP IP ADDRESSES, THEN RESTART THIS PROCEDURE BEGINNING WITH STEP 67.**
<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 68. | **DP Server:** Execute a “syscheck” to verify the current health of the server.  

[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 ~]# |
| 69. | **DP Server:** Exit from the command line to return the server console to the login prompt.  

[root@dp-carync-1 ~]# `exit`  
Connection to 192.168.1.199 closed.  
[root@pmac ~]# |
| 70. | **Repeate Steps 53 - 69 of this procedure for each subtending DP server installed in the same DP-SOAM enclosure.** |
| 71. | **PMAC Server:** Exit from the PMAC server.  

[root@pmac ~]# `exit` |
### Procedure 10.3 Configuring the Database Processor Server Group (DP)

#### Step 72

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

**Main Menu**
- Configuration
- Server Groups

...as shown on the right.

#### Step 73

**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.

#### Step 74

**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).
Procedure 10.3 Configuring the Database Processor Server Group (DP)

75. **Active SDS VIP:**
   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.*

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Group Name</td>
<td>dp_carync_1_grp</td>
<td>Unique identifier used to label a Server Group. Valid characters are alphanumeric and must not start with a digit.</td>
</tr>
</tbody>
</table>

76. **Active SDS VIP:**
   Select “C” on the “Level” pull-down menu.

77. **Active SDS VIP:**
   Select **System OAM Group** on the “Parent” pull-down menu.

78. **Active SDS VIP:**
   Select **SDS** on the “Function” pull-down menu.

79. **Active SDS VIP:**
   1) The user should be presented with a banner information message stating “Pre-Validation passed”.
   2) Select the “Apply” dialogue button.

**Main Menu: Configuration -> Server Groups [Insert]**

1. Pre-Validation passed - Data NOT committed...

2. Select one of the Levels supported by the system.
Procedure 10.3 Configuring the Database Processor Server Group (DP)

80. Active SDS VIP:
The user should be presented with a banner information message stating “Data committed”.

![Main Menu: Configuration -> Server Groups [Insert]](image)
Procedure 10.4 Adding the Database Processor into the DP Server Group (DP)

81. Active SDS VIP:
Select…

Main Menu
→ Configuration
→ Server Groups

…as shown on the right.

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

83. 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.
### Procedure 10.4 Adding the Database Processor into the DP Server Group (DP)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>84.</td>
<td><strong>Active SDS VIP:</strong> The user will be presented with the “Configuration → Server Groups [Edit]” screen as shown on the right.</td>
</tr>
</tbody>
</table>

![Main Menu: Configuration -> Server Groups [Edit]](image)

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Group Name</td>
<td>dp_carync_1 grp</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>C</td>
<td>Select one of the Levels supported by the system.</td>
</tr>
<tr>
<td>Parent</td>
<td>dp_carync_grp</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>NTP Server 1</td>
<td></td>
<td>The IP Address of a reachable NTP server to be used for clock synchronization. Configurable for level A only. [Range = A valid IP address or blank]</td>
</tr>
<tr>
<td>NTP Server 2</td>
<td></td>
<td>The IP Address of a backup NTP server (optional). Configurable for level A only. [Range = A valid IP address or blank]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>so_carync</th>
<th>Server SG Inclusion</th>
<th>Preferred HA Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>dp_carync-1</td>
<td>Include in SG</td>
<td>Preferred Spare</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VIP Assignment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>VIP Address</td>
<td>Add</td>
</tr>
</tbody>
</table>

| 85.  | **Active SDS VIP:** Select the “DP” server from the list of “Servers” by clicking the check box next its name. |

<table>
<thead>
<tr>
<th>86.</th>
<th><strong>Active SDS VIP:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>The user should be presented with a banner information message stating “Pre-Validation passed”.</td>
</tr>
<tr>
<td>2)</td>
<td>Select the “Apply” dialogue button.</td>
</tr>
</tbody>
</table>
### Procedure 10.4 Adding the Database Processor into the DP Server Group (DP)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>87.</td>
<td><strong>Active SDS VIP:</strong>&lt;br&gt;The user should be presented with a banner information message stating “Data committed”.</td>
</tr>
<tr>
<td>88.</td>
<td>Repeat Steps 72 - 87 of this procedure for each subtending DP server installed in the same DP-SOAM enclosure, <em>using a unique group for each DP</em>.</td>
</tr>
</tbody>
</table>
| 89.  | **IMPORTANT:**<br>Wait at least 5 minutes before proceeding on to the next Step.  
- 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 10.5 Restarting the Database Processor Application (DP)

90. **Active SDS VIP:**
- Select…

**Main Menu**
- Status & Manage
- *Server*

…as shown on the right.

91. **Active SDS VIP:**
- Verify that the “DB & Reporting” status columns all show “Norm” for the DP at this point. The “Proc” column should show “Man”.

---

**Main Menu: Status & Manage -> Server**

<table>
<thead>
<tr>
<th>Network Element</th>
<th>Server Hostname</th>
<th>Appl State</th>
<th>Alm</th>
<th>DB</th>
<th>DB Reporting Status</th>
<th>Proc</th>
</tr>
</thead>
<tbody>
<tr>
<td>dr_dallasx</td>
<td>drsd-dallasx-a</td>
<td>Enabled</td>
<td></td>
<td></td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>sds_mrsync</td>
<td>sds-mrsync-a</td>
<td>Enabled</td>
<td></td>
<td></td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>sds_mrsync</td>
<td>sds-mrsync-b</td>
<td>Enabled</td>
<td></td>
<td></td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>sds_mrsync</td>
<td>qa-mrsync-1</td>
<td>Enabled</td>
<td></td>
<td></td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>so_canync</td>
<td>so-canync-b</td>
<td>Enabled</td>
<td></td>
<td></td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>so_canync</td>
<td>so-canync-a</td>
<td>Enabled</td>
<td></td>
<td></td>
<td>Norm</td>
<td>Norm</td>
</tr>
<tr>
<td>so_canync</td>
<td>dp-canync-1</td>
<td>Disabled</td>
<td></td>
<td></td>
<td>Warn</td>
<td>Man</td>
</tr>
</tbody>
</table>
### Procedure 10.5 Restarting the Database Processor Application (DP)

**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.
**Procedure 10.5 Restarting the Database Processor Application (DP)**

93. Active SDS VIP:
Select…

Main Menu
→ Status & Manage
→ Server

...as shown on the right.

94. 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”.

95. Repeat this procedure for each additional DP Server.

- Repeat Steps 90 - 94 of this procedure for each additional DP server installed in the DP-SOAM cabinet.

**THIS PROCEDURE HAS BEEN COMPLETED**

Note: After all DP servers have been installed, the user can configure the ComAgent by following steps in Appendix F.
### 5.10 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 11:** Configuring comAgent (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Active SDS VIP: Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active SDS site using “https://”</td>
<td><img src="image1" alt="Certificate Error" /> There is a problem with this website's security certificate. The security certificate presented by this website was not issued by a trusted certificate authority. The security certificate presented by this website was issued for a different website's address. Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server. We recommend that you close this webpage and do not continue to this website. Click here to close this webpage. Continue to this website (not recommended). More information</td>
</tr>
<tr>
<td>2.</td>
<td>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.</td>
<td><img src="image2" alt="Tekelec System Login" /> Log In Enter your username and password to log in Username: guiadmin Password: •••••••• Change password Log In Welcome to the Tekelec System Login. Unauthorized access is prohibited. This Tekelec system requires the use of Microsoft Internet Explorer 7.0 or 8.0 with support for JavaScript and cookies.</td>
</tr>
</tbody>
</table>
Procedure 11: Configuring comAgent (All DP-SOAM sites)

3. **Active SDS VIP:**
The user should be presented the SDS Main Menu as shown on the right.

4. **Active SDS VIP:**
Select…

   *Main Menu*
   - Communication Agent
   - Configuration
   - Remote Servers

…as shown on the right.

5. **Active SDS VIP:**
Select the “Insert” dialogue button

6. **Active SDS VIP:**
Enter the “Remote Server Name” for the DSR Message Processor server

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Server Name</td>
<td>RDJ08MP1</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>
**Procedure 11:** Configuring comAgent (All DP-SOAM sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| 7.   | **Active SDS VIP:**
|      | Enter the "Remote Server IMI IP Address". |
|      | **NOTE:** This should be the IMI IP address of the MP blade. |
| 8.   | **Active SDS VIP:**
|      | Select "Client" for the Remote Server Mode from the pull-down menu. |
| 9.   | **Active SDS VIP:**
|      | Select the **Local Server Group** for the SDS Data Processor server group |
| 10.  | **Active SDS VIP:**
|      | Click the “Apply” dialogue button |
Procedure 11: Configuring comAgent (All DP-SOAM sites)

11. **Active SDS VIP:**
   Under the “Info” banner option, the user should be presented with a message stating “Data committed”

12. • Repeat steps 5 - 11 of this procedure for each remote MP in the same SOAM NE.

   **THIS PROCEDURE HAS BEEN COMPLETED**
# Appendix A. Accessing the iLO VGA Redirection Window

## Appendix A: Accessing the iLO VGA Redirection Window

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Launch an approved web browser and connect to the iLO interface</td>
<td><img src="https://example.com/image1.png" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> Always use https:// for iLO GUI access.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>The web browser will display a warning message regarding the Security Certificate.</td>
<td><img src="https://example.com/image2.png" alt="Image" /></td>
</tr>
<tr>
<td>3.</td>
<td>Select the option to &quot;Continue to the website (not recommended)&quot;</td>
<td><img src="https://example.com/image3.png" alt="Image" /></td>
</tr>
</tbody>
</table>
Appendix A: Accessing the iLO VGA Redirection Window

4. Login to the iLO console as "admin"

5. The admin GUI is displayed.

Select the "Remote Console" tab in the upper left corner of the GUI.

6. The Remote Console Information GUI is displayed.

Click on the "Integrated Remote Console" option.
Appendix A: Accessing the iLO VGA Redirection Window

7. The iLO Console window is displayed.

NOTE: The console window resembles an MS-DOS window but DOES NOT have a scroll-back buffer.

THIS PROCEDURE HAS BEEN COMPLETED
## Appendix B: HP DL360 BIOS Settings

### Step 1: Insert TPD Media into the server under test.
- Open the CD/DVD media drive in the server to be tested. Insert the TPD media into the optical drive. The KVM should be connected and the screen for the server to be tested ready.

### Step 2: Access the Server BIOS
- Reboot the server. This can be achieved by pressing and holding the power button until the server turns off, then after approximately 5-10 seconds press the power button to enable power.

As soon as you see **F9=Setup** in the lower left corner of the screen, press **[F9]** to access the BIOS setup screen. You may be required to press **[F9]** 2-3 times. The F9=Setup will change to F9 Pressed once it is accepted. See example below.

### Expected Result:
- ROM-Based Setup Utility is accessed and the ROM-Based Setup Utility menu will be displayed.
### Appendix B: HP DL360 BIOS Settings

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.</strong></td>
<td><strong>Set DL360 Server CMOS Clock</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Scroll to Date and Time and press [ENTER]</strong></td>
</tr>
<tr>
<td></td>
<td>Set the date and time and press [ENTER].</td>
</tr>
<tr>
<td><img src="image" alt="Image of BIOS Setup Utility" /></td>
<td>Expected Result: Correct Time &amp; Date is set.</td>
</tr>
</tbody>
</table>

| **4.** | **Configure iLO serial port settings** |
|   | The serial ports on HP DL360 G6 rack mount servers need to be configured so the serial port used by the BIOS and TPD are connected to the “VSP” on the iLO. This will allow the remote administration of the servers without the need for external terminal servers. If this configuration has not been completed correctly and the server rebooted, the syscheck “syscheck -v hardware serial” test will fail. |
|   | **Select System Options** option and press [ENTER]. |
|   | **Select Serial Port Options** option and press [ENTER]. |
|   | **Change Embedded Serial Port** to COM2 and press [ENTER]. |
|   | **Change Virtual Serial Port** to COM1 and press [ENTER]. |
|   | Press <ESC> two times |
### Appendix B: HP DL360 BIOS Settings

| 5. | Configure Power Management Options settings | **The Power Management Options on HP DL360 G6 rack mount servers used in SDM need to be configured for optimum SDM software performance.**  
Select Power Management Options **option and press** [ENTER].  
Select HP Power Profile **option and press** [ENTER].  
Change it to **Maximum Performance and press** [ENTER].  
Press <ESC> two times |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>Save Configuration and Exit</td>
<td><strong>Press [F10] to save the configuration and exit. The server will reboot.</strong></td>
</tr>
</tbody>
</table>

**Expected Result:**  
Settings are saved and server reboots.

**THIS PROCEDURE HAS BEEN COMPLETED**

**NOTE:** *These settings are current as of ORACLE Communications Document 820-6641-01, Revision B. (Manufacturing Acceptance Test Plan, Subscriber Data Management Rack Mount Servers)* [4]. Please refer to the latest revision for current values.
**Appendix C. Creating Temporary External IP Address for Accessing SDS GUI**

This procedure creates a temporary external IP address that will be used for accessing the SDS GUI prior to configuring the first SDS server. This procedure assumes that the user has access to the ILO and can access an external (XMI) network at the customer site.

**Appendix C: Creating Temporary External IP Address for Accessing SDS GUI**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1. | Log onto the SDS Server A ILO as indicated in Appendix A.  
**NOTE:** Output similar to that shown on the right will appear.  
CentOS release 5.6 (Final)  
Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64  
hostname1260476221 login: root  
Password: `<root_password>` |
| 2. | Delete bond0  
[root@hostname1260476221 ~]# netAdm delete --device=bond0  
Interface eth01 was updated.  
Interface eth02 was updated.  
Interface bond0 was removed |
| 3. | Add XMI IP address to the first SDS server (SDS-A) and have it use interface eth02  
[root@hostname1260476221 ~]# netAdm set --device=eth02 --onboot=yes --netmask=255.255.255.0 --address=<XMI_IP_Address_for_SDS_A>  
Interface eth02 was updated.  
Interface eth02 updated  
[root@hostname1260476221 ~]# |
| 4. | Add route to the default gateway for the first SDS site  
[root@hostname1260476221 ~]# netAdm add --device=eth02 --route=default --gateway=<XMI_IP_Address_for_default_gateway>  
Route to eth02 added  
[root@hostname1260476221 ~]# |
| 5. | Wait a few minutes and then ping the default gateway to ensure connectivity.  
[root@hostname1260476221 ~]# ping <XMI_IP_Address_for_default_gateway>  
[root@hostname1260476221 ~]# |
| 6. | Log off the ILO  
[root@hostname1260476221 ~]# exit  
CentOS release 5.6 (Final)  
Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64  
[root@hostname1260476221 ~] login: |
| 7. | Important NOTE: This interface must be un-configured  
**NOTE:** If this method is used, then the `eth02` interface must be un-configured in Step 41 of Procedure 2 in Section 5.1, “Configuring SDS Servers A and B (1st SDS site only)” |

**THIS PROCEDURE HAS BEEN COMPLETED**
Appendix D. Establishing a Local Connection for Accessing the SDS GUI

This procedure contains steps to connect a laptop to the SDS-A server via a directly cabled Ethernet connection and setting the IP address of the laptop. This procedure enables the user to use the laptop for accessing the SDS GUI prior to configuring the first SDS server.

### Appendix D: Establishing a Local Connection for Accessing SDS GUI

<table>
<thead>
<tr>
<th>Step</th>
<th>In this procedure you will configure a temporary external IP Address for SDS Server A for the 1st SDS site. The user will use this IP Address in a web browser to access the GUI to configure the first SDS server.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Access the SDS-A server’s console. Connect to the SDS-A server’s console using one of the access methods described in Section 2.3.</td>
</tr>
</tbody>
</table>
| 2.   | 1) Access the command prompt.  
   2) Log into the SDS-A server as the “root” user.                                                                                                                                                  |
|      | CentOS release 5.6 (Final)  
   Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64  
   hostname1260476221 login: root  
   Password: <root_password>                                                                                                                  |
| 3.   | Configure static IP 192.168.100.11 on the eth14 port of the SDS-A server.                                                                                                                         |
|      | [root@hostname1260476221 ~]# netAdm set --device=eth14 --address=192.168.100.11 --netmask=255.255.255.0 --onboot=yes  
   [root@hostname1260476221 ~]#                                                                                                               |
| 4.   | 1) Plug in one end of the Ethernet cable (straight-thru) into the back of SDS-A server ETH14 (top left port).                                                                                         |
|      | 2) Plug the other end of the Ethernet cable into the laptop’s Ethernet jack.                                                                                                                         |
### Appendix D: Establishing a Local Connection for Accessing SDS GUI

#### 5. Access the laptop network interface card’s TCP/IP “Properties” screen.

**NOTE:** For this step follow the instruction specific to the laptop’s OS (XP, Vista or Win 7).

**Windows XP**
- Go to Control Panel
- Double-click on Network Connections
- Right-click the wired Ethernet Interface icon and select “Properties”
- Select “Internet Protocol (TCP/IP)” and select “Properties”

**Windows Vista / Win 7**
- Go to Control Panel.
- Double-click on Network and Sharing Center
- Select Manage Network Connections (left menu)
- Right-click the wired Ethernet Interface icon and select “Properties”
- Select “Internet Protocol Version 4 (TCP/IPv4)”

---

#### 6. 1) Set the IP address and netmask of the laptop’s network interface card to an IP address within the same network subnet as the statically assigned IP address used in Step 3 of this procedure (192.168.100.100 is suggested) and click “OK”.

2) Click “Close” from the network interface card’s main “Properties” screen.

---

**THIS PROCEDURE HAS BEEN COMPLETED**

- The user can now launch an approved web browser on this laptop and connect to [https://192.168.100.11](https://192.168.100.11) to access the SDS GUI using a temporary IP address.
Appendix E. Configure Cisco 4948E-F Aggregation Switches

These switch configuration procedures require that the SDS hardware (servers and switches) are installed in a frame as indicated in the below picture:

![Frame Layout Diagram](image)

**Figure 7** – SDS Frame Layout
### Appendix E.1: Verifying Cisco Switch Wiring (SDS sites)

#### Step 1.
Set/Verify the following cable configuration at the Cisco 4948E-F switches:

1) Verify that the ISL from... switch1A, Port 1 to switch1B, Port 1 is CONNECTED.

2) Verify that the ISL from... switch1A, Port 2 to switch1B, Port 2 is CONNECTED.

3) Verify that the ISL from... switch1A, Port 3 to switch1B, Port 3 is CONNECTED.

4) Verify that the ISL from... switch1A, Port 4 to switch1B, Port 4 is CONNECTED.

---

#### Figure 8 - Cisco 4948E-F Switches
## Appendix E.1: Verifying Cisco Switch Wiring (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Verify that <strong>server1A</strong> and <strong>server1B</strong> have the MB Serial interface connected to the <strong>Console Port</strong> on the correct switch face.</td>
<td><strong>Figure 9</strong> - Cisco 4948E-F switches: <strong>Switch Console Port</strong></td>
</tr>
<tr>
<td></td>
<td>1) Verify that <strong>switch1A</strong>, <strong>Console Port</strong> to <strong>server1A</strong>, <strong>Serial Port</strong> is <strong>CONNECTED</strong> using Cable 830-1229-xx.</td>
<td><strong>Figure 10</strong> - HP DL360 Rear Panel: <strong>Serial Port</strong></td>
</tr>
<tr>
<td></td>
<td>2) Verify that <strong>switch1B</strong>, <strong>Console Port</strong> to <strong>server1B</strong>, <strong>Serial Port</strong> is <strong>CONNECTED</strong> using Cable 830-1229-xx.</td>
<td></td>
</tr>
</tbody>
</table>
3. Verify that all servers have correct connectivity to switches.

1) Verify Ethernet cabling from… switch1A, Port 5 to server1A, NIC2 is CONNECTED.

2) Verify Ethernet cabling from… switch1B, Port 5 to server1A, ETH 4 is CONNECTED.

3) Verify Ethernet cabling from… switch1A, Port 6 to server1B, NIC2 is CONNECTED.

4) Verify Ethernet cabling from… switch1B, Port 6 to server1B, ETH 4 is CONNECTED.

5) Verify Ethernet cabling from… switch1A, Port 7 to server1C, NIC2 is CONNECTED.

6) Verify Ethernet cabling from… switch1B, Port 7 to server1C, ETH 4 is CONNECTED.

Figure 11 - Cisco 4948E-F switches: switch1A Console Port

Figure 1 - HP DL360, DC (Rear Panel)

THIS PROCEDURE HAS BEEN COMPLETED
## E.2 Configure Cisco 4948E-F Aggregation Switches

Steps within this procedure may refer to variable data indicated by text within "<>". Refer to this table for the proper value to insert depending on your system type.

**CAUTION!!** All netConfig commands must be typed *exactly* as they are shown here! Input is case sensitive, there is no input validation, and some terminal clients will inject bad characters if you backspace! Use **Ctrl-C** to exit netConfig if you make a mistake on any field and re-run that command.

### Variable management server Serial Port (DL360)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;switch1A_serial_port&gt;</td>
<td>server1A</td>
</tr>
<tr>
<td></td>
<td>ttyS4</td>
</tr>
<tr>
<td>&lt;switch1B_serial_port&gt;</td>
<td>server1A</td>
</tr>
<tr>
<td></td>
<td>ttyS5</td>
</tr>
</tbody>
</table>

### Variable Cisco WS-C4948E-F

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;IOS_image_file&gt;</td>
<td>Fill in the appropriate value from [6]: __________________________</td>
</tr>
</tbody>
</table>

### Variable Value

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;switch_platform_username&gt;</td>
<td>Contact Oracle’s Tekelec Customer Support.</td>
</tr>
<tr>
<td>&lt;switch_platform_password&gt;</td>
<td>Contact Oracle’s Tekelec Customer Support.</td>
</tr>
<tr>
<td>&lt;switch_console_password&gt;</td>
<td>Contact Oracle’s Tekelec Customer Support.</td>
</tr>
<tr>
<td>&lt;switch_enable_password&gt;</td>
<td>Contact Oracle’s Tekelec Customer Support.</td>
</tr>
<tr>
<td>&lt;server1A_mgmtVLAN_ip_address &gt;</td>
<td><em>Primary SDS</em>: 169.254.1.11  <em>DR SDS</em>: 169.254.1.14</td>
</tr>
<tr>
<td>&lt;management_server1B_mgmtVLAN_ip_address&gt;</td>
<td><em>Primary SDS</em>: 169.254.1.12  <em>DR SDS</em>: 169.254.1.15</td>
</tr>
<tr>
<td>&lt;switch_mgmtVLAN_id&gt;</td>
<td>2</td>
</tr>
<tr>
<td>&lt;switch1A_mgmtVLAN_ip_address&gt;</td>
<td>169.254.1.1</td>
</tr>
<tr>
<td>&lt;netmask&gt;</td>
<td>255.255.255.0</td>
</tr>
<tr>
<td>&lt;switch1B_mgmtVLAN_ip_address&gt;</td>
<td>169.254.1.2</td>
</tr>
<tr>
<td>&lt;management_server_mgmtInterface&gt;</td>
<td>bond0.2</td>
</tr>
<tr>
<td>&lt;server1A_iLO_ip&gt;</td>
<td>(See Site Survey)[2][3]</td>
</tr>
<tr>
<td></td>
<td>__________________________</td>
</tr>
<tr>
<td>&lt;management_server1B_iLO_ip&gt;</td>
<td>(See Site Survey) [2][3]</td>
</tr>
<tr>
<td></td>
<td>__________________________</td>
</tr>
</tbody>
</table>

### Ethernet Interface DL360

<table>
<thead>
<tr>
<th>Ethernet Interface</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;ethernet_interface_1&gt;</td>
<td>bond0.2 (eth01, eth11)</td>
</tr>
<tr>
<td>&lt;ethernet_interface_2&gt;</td>
<td>bond0.4 (eth01, eth11)</td>
</tr>
<tr>
<td>Variable</td>
<td>Value</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td><code>&lt;placfg_password&gt;</code></td>
<td>Contact Oracle’s Tekelec Customer Support</td>
</tr>
<tr>
<td><code>&lt;management_server_mgmtInterface&gt;</code></td>
<td>bond0.2</td>
</tr>
<tr>
<td><code>&lt;switch_backup_user&gt;</code></td>
<td>Contact Oracle’s Tekelec Customer Support.</td>
</tr>
<tr>
<td><code>&lt;switch_backup_user_password&gt;</code></td>
<td>Contact Oracle’s Tekelec Customer Support.</td>
</tr>
</tbody>
</table>

**Note:** The onboard administrators are not available during the configuration of Cisco 4948E-F switches.

**Note:** Uplinks, if present, must be disconnected from the customer network prior to executing this procedure. One of the steps in this procedure will instruct when to reconnect these uplink cables. Refer to Section E.1 for determining which cables are used for customer uplink.

**Needed Material:**

- HP Misc. Firmware DVD
- Application specific documentation (documentation that referred to this procedure)
- Switch A and B initialization xml files and SDS switch configuration xml file in an application ISO on an application CD.
- Application ISO’s with netConfig and its required RPMs.

**Note:** If a procedural STEP fails to execute successfully, STOP and contact the Customer Care Center by referring to the Customer Care Center section of this document.
### Appendix E.2: Configuring Cisco 4948E-F switches (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>server1A:</strong> Access the server1A console.</td>
<td>• Connect to the server1A console using one of the access methods described in Section 2.3.</td>
</tr>
<tr>
<td>2.</td>
<td><strong>server1A:</strong>&lt;br&gt;1) Access the command prompt.&lt;br&gt;2) Log into the HP DL360 server as the &quot;root&quot; user.</td>
<td>CentOS release 5.6 (Final)&lt;br&gt;Kernel 2.6.18-238.19.1.el5pre15.0.0_72.20.0 on an x86_64&lt;br&gt;hostname1260476221 login: root&lt;br&gt;Password: &lt;root_password&gt;</td>
</tr>
</tbody>
</table>
| 3.   | **server1A:** Output similar to that shown on the right will appear as the server access the command prompt. | *** TRUNCATED OUTPUT ***

```
VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16
PRODPATH=
RELEASE=5.16
RUNID=00
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds
PRODPATH=/opt/comcol/prod
RUNID=00
[root@hostname1260476221 ~]#
```

| 4.   | **server1A:** Verify the switch1A initialization file exists<br>Verify the switch1B initialization file exists<br>Verify the switch configuration file exists | # ls -l /usr/TKLC/plat/etc/switch/xml/switch1A_SDS_4948E_E-F_init.xml <br># ls -l /usr/TKLC/plat/etc/switch/xml/switch1B_SDS_4948E_E-F_init.xml <br># ls -l /usr/TKLC/plat/etc/switch/xml/switch_SDS_4948E_E-F_configure.xml<br>If any file does not exist, contact Customer Care Center for assistance. |
### Appendix E.2: Configuring Cisco 4948E-F switches (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. server1A:</td>
<td>Verify quad-serial port mappings <em>(quad-dongle S1 = ttyS4, quad-dongle S2 = ttyS5)</em></td>
<td></td>
</tr>
</tbody>
</table>

```bash
# setserial -g /dev/ttyS{1..12}
/dev/ttyS1, UART: 16550A, Port: 0x02f8, IRQ: 3
/dev/ttyS2, UART: unknown, Port: 0x03e8, IRQ: 4
/dev/ttyS3, UART: unknown, Port: 0x02e8, IRQ: 3
/dev/ttyS4, UART: 16950/954, Port: 0x0000, IRQ: 24
/dev/ttyS5, UART: 16950/954, Port: 0x0000, IRQ: 24
/dev/ttyS6, UART: 16950/954, Port: 0x0000, IRQ: 24
/dev/ttyS7, UART: 16950/954, Port: 0x0000, IRQ: 24
/dev/ttyS8, UART: unknown, Port: 0x0000, IRQ: 0
/dev/ttyS9, UART: unknown, Port: 0x0000, IRQ: 0
/dev/ttyS10, UART: unknown, Port: 0x0000, IRQ: 0
/dev/ttyS11, UART: unknown, Port: 0x0000, IRQ: 0
/dev/ttyS12, UART: unknown, Port: 0x0000, IRQ: 0
```

Output should match the example shown above; if not, contact Customer Care Center for assistance.

| 6. server1A: | Setup conserver serial access for switch1A | 

```bash
# conserverAdm --addConsole --name=switch1A_console --device=/dev/ttyS4
```

You should be returned to the command line prompt. If so continue to the next step; if not, contact Customer Care Center for assistance.

| 7. server1A: | Add repository for console information | 

```bash
# netConfig --repo addService name=switch1A_consvc
Service type? (tftp, ssh, conserver, oa) conserver
Service host? 169.254.1.11
Enter an option name (q to cancel): user
Enter a value for user: platcfg
Enter an option name(q to cancel): password
Enter a value for password: <platcfg_password>
Verify password: <platcfg_password>
Enter an option name(q to cancel): q
Add service for switch1A_consvc successful
```

| 8. server1A: | Verify you have entered the information correctly | 

```bash
# netConfig --repo showService name=switch1A_consvc
Service Name: switch1A_consvc
    Type: conserver
    Host: 169.254.1.11
    Options:
        password: D8396824B3B2B9EE
        user: platcfg
```


### Appendix E.2: Configuring Cisco 4948E-F switches (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 9.    | **server1A:** Setup conserver serial access for switch1B | ```
# conserverAdm --addConsole --name=switch1B_console --device=/dev/ttyS5
```
| 10.   | **server1A:** Add repository for switch1B console service | ```
# netConfig --repo addService name=switch1B_consvc
Service type? (tftp, ssh, conserver, oa) conserver
Service host? `169.254.1.11`
Enter an option name (q to cancel): `user`
Enter a value for user: `platcfg`
Enter an option name(q to cancel): `password`
Enter a value for password: `<platcfg_password>`
Verify password: `<platcfg_password>`
Enter an option name(q to cancel): `q`
Add service for console_service successful
```
| 11.   | **server1A:** Verify you have entered the information correctly | ```
# netConfig --repo showService name=switch1B_consvc
Service Name: switch1B_consvc
    Type: conserver
    Host: 169.254.1.11
    Options:
        password: D8396824B3B2B9EE
        user: platcfg
```
| 12.   | **server1A:** Add repository for TFTP service | ```
# netConfig --repo addService name=tftp_service
Service type? (tftp, ssh, conserver, oa) tftp
Service host? `169.254.1.11`
Enter an option name (q to cancel): `dir`
Enter a value for user: `/var/lib/tftpboot/`
Enter an option name(q to cancel): `q`
Add service for tftp_service successful
```
| 13.   | **server1A:** Verify you have entered the information correctly | ```
# netConfig --repo showService name=tftp_service
Service Name: tftp_service
    Type: tftp
    Host: 169.254.1.11
    Options:
        dir: /var/lib/tftpboot/
```
### Appendix E.2: Configuring Cisco 4948E-F switches (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td>server1A: Add repository for SSH service</td>
<td>Add repository for SSH service successful</td>
</tr>
<tr>
<td></td>
<td>server1A: Verify you have entered the information correctly</td>
<td>Verify password: &lt;switch_backup_user_password&gt;</td>
</tr>
<tr>
<td>16.</td>
<td>server1A: Add repository for switch1A</td>
<td>Device named switch1A successfully added.</td>
</tr>
</tbody>
</table>
### Appendix E.2: Configuring Cisco 4948E-F switches (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 17.  | server1A: | # netConfig --repo listDevices  
|      | Verify you have entered the information correctly | Devices:  
|      |          | Device: switch1A  
|      |          |   Vendor: Cisco  
|      |          |   Model: 4948E-F  
|      |          |   Access: Network: 169.254.1.1  
|      |          |   Access: OOB:  
|      |          |     Service: switch1A_consvc  
|      |          |     Console: switch1A_console  
|      |          |   Init Protocol Configured  
|      |          |   Live Protocol Configured  
|      |          | Device: switch1B  
|      |          |   Vendor: Cisco  
|      |          |   Model: 4948E-F  
|      |          |   Access: Network: 169.254.1.2  
|      |          |   Access: OOB:  
|      |          |     Service: switch1B_consvc  
|      |          |     Console: switch1B_console  
|      |          |   Init Protocol Configured  
|      |          |   Live Protocol Configured  |
| 18.  | server1A: | # netConfig --repo addDevice name=switch1B --reuseCredentials  
|      | Add repository for switch1B | Device Vendor? Cisco  
|      |          | Device Model? 4948E-F  
|      |          | Should the init oob adapter be added (y/n)? y  
|      |          | Adding consoleInit protocol for switch1B using oob...  
|      |          | What is the name of the service used for OOB access? switch1B_consvc  
|      |          | What is the name of the console for OOB access? switch1B_console  
|      |          | What is the device console password? <switch_console_password>  
|      |          | What is the platform access username? platcfg  
|      |          | What is the platform user password? <platcfg_password>  
|      |          | Verify password: <platcfg_password>  
|      |          | What is the device privileged mode password? <switch_enable_password>  
|      |          | Verify password: <switch_enable_password>  
|      |          | Should the live network adapter be added (y/n)? y  
|      |          | Adding cli protocol for switch1A using network...  
|      |          | What is the address used for network device access? 169.254.1.2  
|      |          | Should the live oob adapter be added (y/n)? y  
|      |          | Adding cli protocol for switch1B using oob...  
|      |          | OOB device access already set: switch1B_consvc  
|      |          | Device named switch1B successfully added.  |
# Appendix E.2: Configuring Cisco 4948E-F switches (SDS sites)

## Step 19.

**server1A:**
Verify you have entered the information correctly

```
# netConfig --repo listDevices
```

<table>
<thead>
<tr>
<th>Device: switch1A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor: Cisco</td>
</tr>
<tr>
<td>Model: 4948E-F</td>
</tr>
<tr>
<td>Access: Network: 169.254.1.1</td>
</tr>
<tr>
<td>Access: OOB:</td>
</tr>
<tr>
<td>Service: switch1A_consvc</td>
</tr>
<tr>
<td>Console: switch1A_console</td>
</tr>
<tr>
<td>Init Protocol Configured</td>
</tr>
<tr>
<td>Live Protocol Configured</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Device: switch1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor: Cisco</td>
</tr>
<tr>
<td>Model: 4948E-F</td>
</tr>
<tr>
<td>Access: Network: 169.254.1.2</td>
</tr>
<tr>
<td>Access: OOB:</td>
</tr>
<tr>
<td>Service: switch1B_consvc</td>
</tr>
<tr>
<td>Console: switch1A_console</td>
</tr>
<tr>
<td>Init Protocol Configured</td>
</tr>
<tr>
<td>Live Protocol Configured</td>
</tr>
</tbody>
</table>

```
```

## Step 20.

**server1A:**
Log in to switch1A

```
Example:
console -M <server1A_mgmtVLAN_ip_address> -l platcfg switch1A_console

#/usr/bin/console -M 169.254.1.11 -l platcfg switch1A_console
```

Enter platcfg@pmac5000101's password: <platcfg_password>
[Enter `^Ec?' for help]
Press <Enter>

## Step 21.

**switch1A:**
Note the image version for comparison in a following step.

```
Switch> show version | include image
```

System image file is "bootflash:cat4500-ipbasek9-mz.122-54.WO.bin"

Note the image version for comparison in a following step.
IF THE SWITCH A (4948E-F) IOS DOES NOT DISPLAY THE CORRECT VERSION IN THE ABOVE STEP, THEN STOP AND EXECUTE THE FOLLOWING STEPS:

1) Appendix E.3 Cisco 4948E-F IOS Upgrade (SDS sites)
2) Return to this Procedure and continue with the following Step. Beginning with Step 40.

NOTE: For each switch, compare the IOS version from previous steps with the IOS version specified in the Firmware Upgrade Pack Release Notes [5] for the switch model being used.

If the version from previous steps is equal or greater than the version from the release notes and has "k9" in the name, denoting support for crypto, then continue with the next step, there is no upgrade necessary for this switch.

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.</td>
<td>Switch1A:</td>
<td>Execute &quot;show bootflash&quot; to verify that only the correct bootflash is present.</td>
</tr>
</tbody>
</table>
|      |           | Switch> show bootflash
-#- -length-- -----date/time------ path
l 25771102 Nov 29 2011 08:53:46 cat4500e-entservicesk9-mz.122-54.XO.bin
9507256 bytes available (33210368 bytes used)
Note the image version for comparison in a following step |
| 23.  | Switch1A: | Reset switch back to factory defaults by deleting the VLANs. |
|      |           | Switch>en
Password: Switch#write erase
Erasing the nvram filesystem will remove all configuration files!
Continue? [confirm] <ENTER>
[OK]
Erase of nvram: complete
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#no vlan 2-1024
%Default VLAN 1002 may not be deleted.
%Default VLAN 1003 may not be deleted.
%Default VLAN 1004 may not be deleted.
%Default VLAN 1005 may not be deleted.
Switch(config)#config-register 0x2101
Switch(config)#end
Switch#*Jan 26 12:53:31.675: %SYS-5-CONFIG_I: Configured from console by console
Switch# |
| 24.  | Switch1A: | Reload the switch. |
|      |           | Switch#reload
System configuration has been modified. Save? [yes/no]: no
Proceed with reload? [confirm] <ENTER> |
<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.</td>
<td>Switch1A:</td>
<td>Monitor the switch reboot until it returns to a login prompt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cisco WS-C4948E-F (MPC8548) processor (revision 5) with 1048576K bytes of memory.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Processor board ID CAT1529S91B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MPC8548 CPU at 1GHz, Cisco Catalyst 4948E-F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Last reset from Reload</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Virtual Ethernet interface</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48 Gigabit Ethernet interfaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Ten Gigabit Ethernet interfaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>511K bytes of non-volatile configuration memory.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Press RETURN to get started! &lt;ENTER&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch&gt;</td>
</tr>
<tr>
<td>26.</td>
<td>Switch1A:</td>
<td>Enter &quot;enable&quot; mode.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch#enable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch#</td>
</tr>
<tr>
<td>27.</td>
<td>Switch1A:</td>
<td>Verify that you see the correct IOS version listed in the bootflash.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch#dir bootflash:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Directory of bootflash:/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 -rw- 25771102 Jan 31 2012 07:45:56 +00:00 cat4500e-entservicesk9-mz.122-54.XO.bin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>128282624 bytes total (72122368 bytes free)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch#</td>
</tr>
<tr>
<td>28.</td>
<td>Switch1A:</td>
<td>Close connection to switch.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch#quit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch con0 is now available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Press RETURN to get started.</td>
</tr>
<tr>
<td>29.</td>
<td>Switch1A:</td>
<td>Note the image version for comparison in a following step.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exit from console by typing CTRL+E+c+. (combination control character and ‘c’ character, followed by sequence ‘c’ character, then ‘period’ character) and you will be returned to the server prompt.</td>
</tr>
<tr>
<td>30.</td>
<td>server1A:</td>
<td>Log in to switch1B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example: console -M &lt;server1A_mgmtVLAN_ip_address&gt; -l platcfg switch1B_console</td>
</tr>
<tr>
<td></td>
<td></td>
<td># /usr/bin/console -M 169.254.1.11 -l platcfg switch1B_console</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enter platcfg@pmac5000101's password: &lt;platcfg_password&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Enter `^Ec?' for help]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Press &lt;Enter&gt;</td>
</tr>
<tr>
<td>31.</td>
<td>Switch1B:</td>
<td>Note the image version for comparison in a following step.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch&gt; show version</td>
</tr>
<tr>
<td></td>
<td></td>
<td>System image file is &quot;bootflash:cat4500e-entservicesk9-mz.122-54.XO.bin&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note the image version for comparison in a following step.</td>
</tr>
</tbody>
</table>
IF THE SWITCH1B IOS DOES NOT DISPLAY THE CORRECT VERSION IN THE ABOVE STEP, THEN STOP AND EXECUTE THE FOLLOWING STEPS:

1) Appendix E.3 Cisco 4948E-F IOS Upgrade (SDS sites); Beginning with Step 25.

2) Return to this Procedure and continue with the following Step.

NOTE: For each switch, compare the IOS version from previous steps with the IOS version specified in the Firmware Upgrade Pack Release Notes [5] for the switch model being used.

If the version from previous steps is equal or greater than the version from the release notes and has "k9" in the name, denoting support for crypto, then continue with the next step, there is no upgrade necessary for this switch.

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.</td>
<td>Switch1B: Execute “show bootflash” to verify that only the correct bootflash is present.</td>
<td>Switch&gt; show bootflash -#- --length-- -----date/time------ path 1 25771102 Nov 29 2011 09:04:04 cat4500e-entservicesk9-mz.122-54.XO.bin 95072256 bytes available (33210368 bytes used) Note the image version for comparison in a following step</td>
</tr>
<tr>
<td>33.</td>
<td>Switch1B: Reset switch back to factory defaults by deleting the VLANs.</td>
<td>Switch&gt;en Password: Switch#write erase Erasing the nvram filesystem will remove all configuration files! Continue? [confirm] &lt;ENTER&gt; [OK] Erase of nvram: complete Switch#*Jan 26 12:53:06.547: %SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram &lt;ENTER&gt; Switch#config t Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#no vlan 2-1024 %Default VLAN 1002 may not be deleted. %Default VLAN 1003 may not be deleted. %Default VLAN 1004 may not be deleted. %Default VLAN 1005 may not be deleted. Switch(config)#config-register 0x2101 Switch(config)#end Switch#*Jan 26 12:53:31.675: %SYS-5-CONFIG_I: Configured from console by console Switch#</td>
</tr>
<tr>
<td>34.</td>
<td>Switch1B: Reload the switch.</td>
<td>Switch#reload System configuration has been modified. Save? [yes/no]: no Proceed with reload? [confirm] &lt;ENTER&gt;</td>
</tr>
<tr>
<td>Step</td>
<td>Procedure</td>
<td>Result</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>35.</td>
<td><strong>Switch1B:</strong></td>
<td>Monitor the switch reboot until it returns to a login prompt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cisco WS-C4948E-F (MPC8548) processor (revision 5) with 1048576K bytes of memory.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Processor board ID CAT1529S91B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MPC8548 CPU at 1GHz, Cisco Catalyst 4948E-F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Last reset from Reload</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Virtual Ethernet interface</td>
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<td></td>
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<td></td>
<td>4 Ten Gigabit Ethernet interfaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>511K bytes of non-volatile configuration memory.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Press RETURN to get started! &lt;ENTER&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch&gt;</td>
</tr>
<tr>
<td>36.</td>
<td><strong>Switch1B:</strong></td>
<td>Enter &quot;enable&quot; mode.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch# enable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch#</td>
</tr>
<tr>
<td>37.</td>
<td><strong>Switch1B:</strong></td>
<td>Verify that you see the correct IOS version listed in the bootflash.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch# dir bootflash:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Directory of bootflash:/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 -rw- 25771102 Jan 31 2012 07:45:56 +00:00 cat4500e-entservicesk9-mz.122-54.XO.bin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>128282624 bytes total (72122368 bytes free)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch#</td>
</tr>
<tr>
<td>38.</td>
<td><strong>Switch1B:</strong></td>
<td>Close connection to switch.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch# quit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch con0 is now available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Press RETURN to get started.</td>
</tr>
<tr>
<td>39.</td>
<td><strong>Switch1B:</strong></td>
<td>Exit from console by typing CTRL+E+c+. (combination control character and ‘e’ character, followed by sequence ‘c’ character, then ‘period’ character) and you will be returned to the server prompt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note the image version for comparison in a following step.</td>
</tr>
<tr>
<td>40.</td>
<td><strong>server1A:</strong></td>
<td>Initialize switch 1A</td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>netConfig --file=/usr/TKLC/plat/etc/switch/xml/switch1A_SDS_4948E_E-F_init.xml</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Processing file: /usr/TKLC/plat/etc/switch/xml/switch1A_SDS_4948E-F_init.xml</td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>netConfig --file=/usr/TKLC/plat/etc/switch/xml/switch1A_SDS_4948E_E-F_init.xml</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note: This step takes about 2-3 minutes to complete</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact Customer Care Center.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A successful completion of netConfig will return the user to the prompt.</td>
</tr>
<tr>
<td>Step</td>
<td>Procedure</td>
<td>Result</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
<td>--------</td>
</tr>
</tbody>
</table>
| 41.  | **server1A:** Initialize switch 1B | # netConfig --file=/usr/TKLC/plat/etc/switch/xml/switch1B_SDS_4948E_E-F_init.xml  
Processing file: /usr/TKLC/plat/etc/switch/xml/switch1B_SDS_4948E-F_init.xml  
#  
Note: This step takes about 2-3 minutes to complete  
Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact Customer Care Center.  
A successful completion of netConfig will return the user to the prompt. |
| 42.  | **server1A:** Ping switch 1A's SVI (router interface) addresses to verify switch initialization.  
**Note:** VIP addresses are not yet available. | # ping -c 15 169.254.1.1  
PING 169.254.1.1 (169.254.1.1) 56(84) bytes of data.  
64 bytes from 169.254.1.1: icmp_seq=1 ttl=255 time=3.09 ms  
64 bytes from 169.254.1.1: icmp_seq=2 ttl=255 time=0.409 ms  
64 bytes from 169.254.1.1: icmp_seq=3 ttl=255 time=0.417 ms  
64 bytes from 169.254.1.1: icmp_seq=4 ttl=255 time=0.418 ms  
64 bytes from 169.254.1.1: icmp_seq=5 ttl=255 time=0.419 ms  
64 bytes from 169.254.1.1: icmp_seq=6 ttl=255 time=0.419 ms  
64 bytes from 169.254.1.1: icmp_seq=7 ttl=255 time=0.429 ms  
64 bytes from 169.254.1.1: icmp_seq=8 ttl=255 time=0.423 ms  
64 bytes from 169.254.1.1: icmp_seq=9 ttl=255 time=0.381 ms  
64 bytes from 169.254.1.1: icmp_seq=10 ttl=255 time=0.416 ms  
64 bytes from 169.254.1.1: icmp_seq=11 ttl=255 time=0.381 ms  
64 bytes from 169.254.1.1: icmp_seq=12 ttl=255 time=0.426 ms  
64 bytes from 169.254.1.1: icmp_seq=13 ttl=255 time=0.420 ms  
64 bytes from 169.254.1.1: icmp_seq=14 ttl=255 time=0.415 ms  
64 bytes from 169.254.1.1: icmp_seq=15 ttl=255 time=0.419 ms  
--- 169.254.1.1 ping statistics ---  
15 packets transmitted, 15 received, 0% packet loss, time 14006ms  
rtt min/avg/max/mdev = 0.381/0.592/3.097/0.669 ms # |
<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>43.</td>
<td>server1A: Ping switch 1B's SVI (router interface) addresses to verify switch initialization.</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** VIP addresses are not yet available.<br><br>```bash
# ping -c 15 169.254.1.2
PING 169.254.1.2 (169.254.1.2) 56(84) bytes of data.
From 169.254.1.11 icmp_seq=2 Destination Host Unreachable
From 169.254.1.11 icmp_seq=3 Destination Host Unreachable
From 169.254.1.11 icmp_seq=4 Destination Host Unreachable
From 169.254.1.11 icmp_seq=6 Destination Host Unreachable
From 169.254.1.11 icmp_seq=7 Destination Host Unreachable
From 169.254.1.11 icmp_seq=8 Destination Host Unreachable
From 169.254.1.11 icmp_seq=9 Destination Host Unreachable
64 bytes from 169.254.1.2: icmp_seq=9 ttl=255 time=2.76 ms
64 bytes from 169.254.1.2: icmp_seq=10 ttl=255 time=0.397 ms
64 bytes from 169.254.1.2: icmp_seq=11 ttl=255 time=0.448 ms
64 bytes from 169.254.1.2: icmp_seq=12 ttl=255 time=0.382 ms
64 bytes from 169.254.1.2: icmp_seq=13 ttl=255 time=0.426 ms
64 bytes from 169.254.1.2: icmp_seq=14 ttl=255 time=0.378 ms
64 bytes from 169.254.1.2: icmp_seq=15 ttl=255 time=0.431 ms
--- 169.254.1.2 ping statistics ---
15 packets transmitted, 7 received, +6 errors, 53% packet loss, time 14003ms
rtt min/avg/max/mdev = 0.378/0.747/2.769/0.825 ms, pipe 3

! WARNING !: The user needs to verify that the above ping is successful before continuing on to the next step. If the ping continues to receive “Destination Host Unreachable”, then stop this procedure and contact the Customer Care Center. |

| 44.  | server1A: Configure both switches |  

```bash
# netConfig --file=/usr/TKLC/plat/etc/switch/xml/switch_SDS_4948E_E-F_configure.xml
Processing file: /usr/TKLC/plat/etc/switch/xml/switch_SDS_4948E-F_configure.xml
#
```

**Note:** This step takes about 2-3 minutes to complete.

- Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact Customer Care Center.
- A successful completion of netConfig will return the user to the prompt.
<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>45.</td>
<td><strong>server1A:</strong> Undo the temporary changes.</td>
<td># <code>tpdProvd --client --noxml --ns=Xinetd stopXinetdService service tftp</code>&lt;br&gt;Login on Remote: <code>platcfg</code>&lt;br&gt;Password of platcfg: <code>&lt;platcfg_password&gt;</code></td>
</tr>
<tr>
<td>46.</td>
<td><strong>server1A:</strong> Verify the switch is using the correct IOS image per platform version.</td>
<td># <code>netConfig --device=switch1A listFirmware</code>&lt;br&gt;Image: <code>cat4500e-entservicesk9-mz.122-54.XO.bin</code>&lt;br&gt;# <code>netConfig --device=switch1B listFirmware</code>&lt;br&gt;Image: <code>cat4500e-entservicesk9-mz.122-54.XO.bin</code></td>
</tr>
</tbody>
</table>
| 47. | **server1A:** Execute the `service network restart` to restore server1A networking to original state. | # `service network restart`<br>Shutting down interface bond0.2: Removed VLAN -:bond0.2:-  
[ OK ]<br>Shutting down interface bond0.4: Removed VLAN -:bond0.4:-  
[ OK ]<br>Shutting down interface bond0:  [ OK ]<br>Shutting down interface bond1:  [ OK ]<br>Shutting down loopback interface:  [ OK ]<br>Bringing up loopback interface:  [ OK ]<br>Setting 802.1Q VLAN parameters: Set name-type for VLAN subsystem. Should be visible in `/proc/net/vlan/config`  
[ OK ]<br>Bringing up interface bond0: RTNETLINK answers: No such device  
[ OK ]<br>Bringing up interface bond1:  [ OK ]<br>Bringing up interface bond0.2: Added VLAN with VID == 2 to IF -:bond0:-  
[ OK ]<br>Bringing up interface bond0.4: Added VLAN with VID == 4 to IF -:bond0:-  
[ OK ]<br>#
<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 48.  | server1A: | # ping -c 5 169.254.1.1  
PING 169.254.1.1 (169.254.1.1) 56(84) bytes of data.  
64 bytes from 169.254.1.1: icmp_seq=1 ttl=255 time=0.430 ms  
64 bytes from 169.254.1.1: icmp_seq=2 ttl=255 time=0.426 ms  
64 bytes from 169.254.1.1: icmp_seq=3 ttl=255 time=0.427 ms  
64 bytes from 169.254.1.1: icmp_seq=4 ttl=255 time=0.426 ms  
64 bytes from 169.254.1.1: icmp_seq=5 ttl=255 time=0.431 ms  
--- 169.254.1.1 ping statistics ---  
5 packets transmitted, 5 received, 0% packet loss, time 4003ms  
rtt min/avg/max/mdev = 0.426/0.428/0.431/0.002 ms |
| 49.  | server1A: | # ping -c 5 169.254.1.2  
PING 169.254.1.2 (169.254.1.2) 56(84) bytes of data.  
64 bytes from 169.254.1.2: icmp_seq=1 ttl=255 time=0.401 ms  
64 bytes from 169.254.1.2: icmp_seq=2 ttl=255 time=0.394 ms  
64 bytes from 169.254.1.2: icmp_seq=3 ttl=255 time=0.407 ms  
64 bytes from 169.254.1.2: icmp_seq=4 ttl=255 time=0.393 ms  
64 bytes from 169.254.1.2: icmp_seq=5 ttl=255 time=0.401 ms  
--- 169.254.1.2 ping statistics ---  
5 packets transmitted, 5 received, 0% packet loss, time 3999ms  
rtt min/avg/max/mdev = 0.393/0.399/0.407/0.013 ms |
| 50.  | server1A: | # ssh platcfg@169.154.1.1  
The authenticity of host '169.254.1.1 (169.254.1.1)' can't be established.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '169.254.1.1' (RSA) to the list of known hosts.  
Password: <switch_platform_password> |
<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>51.</td>
<td>server1A: Close SSH connection to switch 1A.</td>
<td># quit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Connection to 169.254.1.1 closed.</td>
</tr>
<tr>
<td>52.</td>
<td>server1A: Verify SSH capability from server 1A to switch 1B</td>
<td># ssh platcfg@169.154.1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The authenticity of host '169.254.1.2 (169.254.1.2)' can't be established.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Are you sure you want to continue connecting (yes/no)? yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Warning: Permanently added '169.254.1.2' (RSA) to the list of known hosts.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Password: &lt;switch_platform_password&gt;</td>
</tr>
<tr>
<td>53.</td>
<td>server1A: Close SSH connection to switch 1A.</td>
<td># quit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Connection to 169.254.1.2 closed.</td>
</tr>
<tr>
<td>54.</td>
<td>server1B: Execute the &quot;service network restart&quot; to restore server1B</td>
<td># service network restart</td>
</tr>
<tr>
<td></td>
<td>networking to original state.</td>
<td>Shutting down interface bond0.2: Removed VLAN -:bond0.2:- [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shutting down interface bond0.4: Removed VLAN -:bond0.4:- [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shutting down interface bond0: [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shutting down interface bond1: [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shutting down loopback interface: [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bringing up loopback interface: [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Setting 802.1Q VLAN parameters: Set name-type for VLAN subsystem. Should be visible in /proc/net/vlan/config [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bringing up interface bond0: RTNETLINK answers: No such device [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bringing up interface bond1: [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bringing up interface bond0.2: Added VLAN with VID == 2 to IF -:bond0:- [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bringing up interface bond0.4: Added VLAN with VID == 4 to IF -:bond0:- [ OK ]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#</td>
</tr>
<tr>
<td>Step</td>
<td>Procedure</td>
<td>Result</td>
</tr>
<tr>
<td>------</td>
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<td>--------</td>
</tr>
<tr>
<td>55.</td>
<td><strong>server1B:</strong> Ping switch 1A's SVI (router interface) addresses to verify switch configuration. &lt;br&gt;<strong>Note:</strong> VIP addresses are not yet available.</td>
<td># <strong>ping</strong> -c 5 169.254.1.1 &lt;br&gt;PING 169.254.1.1 (169.254.1.1) 56(84) bytes of data. &lt;br&gt;64 bytes from 169.254.1.1: icmp_seq=1 ttl=255 time=0.430 ms &lt;br&gt;64 bytes from 169.254.1.1: icmp_seq=2 ttl=255 time=0.426 ms &lt;br&gt;64 bytes from 169.254.1.1: icmp_seq=3 ttl=255 time=0.427 ms &lt;br&gt;64 bytes from 169.254.1.1: icmp_seq=4 ttl=255 time=0.426 ms &lt;br&gt;64 bytes from 169.254.1.1: icmp_seq=5 ttl=255 time=0.431 ms &lt;br&gt;--- 169.254.1.1 ping statistics --- &lt;br&gt;5 packets transmitted, 5 received, 0% packet loss, time 4003ms &lt;br&gt;rtt min/avg/max/mdev = 0.426/0.428/0.431/0.002 ms</td>
</tr>
<tr>
<td>56.</td>
<td><strong>server1B:</strong> Ping switch 1B's SVI (router interface) addresses to verify switch configuration. &lt;br&gt;<strong>Note:</strong> VIP addresses are not yet available</td>
<td># <strong>ping</strong> -c 5 169.254.1.2 &lt;br&gt;PING 169.254.1.2 (169.254.1.2) 56(84) bytes of data. &lt;br&gt;64 bytes from 169.254.1.2: icmp_seq=1 ttl=255 time=0.401 ms &lt;br&gt;64 bytes from 169.254.1.2: icmp_seq=2 ttl=255 time=0.394 ms &lt;br&gt;64 bytes from 169.254.1.2: icmp_seq=3 ttl=255 time=0.407 ms &lt;br&gt;64 bytes from 169.254.1.2: icmp_seq=4 ttl=255 time=0.393 ms &lt;br&gt;64 bytes from 169.254.1.2: icmp_seq=5 ttl=255 time=0.401 ms &lt;br&gt;--- 169.254.1.2 ping statistics --- &lt;br&gt;5 packets transmitted, 5 received, 0% packet loss, time 3999ms &lt;br&gt;rtt min/avg/max/mdev = 0.393/0.399/0.407/0.013 ms</td>
</tr>
<tr>
<td>57.</td>
<td><strong>server1B:</strong> Verify SSH capability from server 1B to switch 1A.</td>
<td># <strong>ssh</strong> platcfg@169.154.1.1 &lt;br&gt;The authenticity of host '169.254.1.1 (169.254.1.1)' can't be established. &lt;br&gt;RSA key fingerprint is fd:83:32:34:3f:06:2f:12:e0:ea:e2:73:e2:cl:1e:6e. &lt;br&gt;Are you sure you want to continue connecting (yes/no)? yes &lt;br&gt;Warning: Permanently added '169.254.1.1' (RSA) to the list of known hosts. &lt;br&gt;Password: &lt;switch_platform_password&gt;</td>
</tr>
<tr>
<td>Step</td>
<td>Procedure</td>
<td>Result</td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
<td>--------</td>
</tr>
</tbody>
</table>
| 58. | server1B: Close SSH connection to switch 1A. | # `quit`  
Connection to 169.254.1.1 closed. |
| 59. | server1B: Verify SSH capability from server 1B to switch 1B | # `ssh platcfg@169.154.1.2`  
The authenticity of host '169.254.1.2 (169.254.1.2)' can't be established.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '169.254.1.2' (RSA) to the list of known hosts.  
Password: <switch_platform_password> |
| 60. | server1B: Close SSH connection to switch 1B. | # `quit`  
Connection to 169.254.1.2 closed. |
| 61. | server1A: Run Appendix E.4 to backup switch configuration. | |
| 62. | server1A: Exit from the command line to return the server console to the login prompt. | # `exit`  
logout  
CentOS release 5.6 (Final)  
Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64  
hostname1260476221 login: |

THIS PROCEDURE HAS BEEN COMPLETED
### Appendix E.3: Cisco 4948E-F IOS Upgrade (SDS sites)

#### Step 1
**server1A:**
Access the server1A console.

- **Result:**
  - Connect to the server1A console using one of the access methods described in Section 2.3.

#### Step 2
**server1A:**
1) Access the command prompt.
2) Log into the HP DL360 server as the “root” user.

- **Result:**
  - CentOS release 5.6 (Final)
  - Kernel 2.6.18-238.19.1.el5prere15.0.0_72.20.0 on an x86_64
  - hostname1260476221 login: root
  - Password: `<root_password>`

#### Step 3
**server1A:**
Output similar to that shown on the right will appear as the server access the command prompt.

- **Result:**
  - ***TRUNCATED OUTPUT***
  - VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16
  - PRODPATH=
  - RELEASE=5.16
  - RUNID=00
  - VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds
  - PRODPATH=/opt/comcol/prod
  - RUNID=00
  - [root@hostname1260476221 ~]#

#### Step 4
**server1A:**
Verify IOS images on the system

- **Result:**
  - `ls /var/lib/tftpboot/`
  - `<IOS_image_file>`
  - If the correct IOS version is displayed, skip forward to Step 7.

#### Step 5
**server1A:**
Place the HP Misc Firmware DVD containing the correct version of the 4948E-F IOS into server1A’s optical drive.

- **Result:**
  - [Figure 12 - HP DL360 Front Panel: Optical Drive](#)

#### Step 6
**server1A:**
Copy IOS image onto the system

- **Result:**
  - `mount /dev/scd0 /media/cdrom`
  - `cp /media/cdrom/files/<New_IOS_image_file> /var/lib/tftpboot/`
  - `chmod 644 /var/lib/tftpboot/<New_IOS_image_file>`
  - `umount /media/cdrom`
### Appendix E.3: Cisco 4948E-F IOS Upgrade (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 7.   | server1A: Prepare the system for IOS transfer. | # tpdProvd --client --noxml --ns=Xinetd startXinetdService service tftp  
Login on Remote: `platcfg`  
Password of `platcfg`: `<platcfg_password>`
| 8.   | server1A: Verify the current bonded interface configuration. | # ifconfig |grep bond  
bond0 Link encap:Ethernet HWaddr 98:4B:E1:6E:87:6C  
bond0.2 Link encap:Ethernet HWaddr 98:4B:E1:6E:87:6C  
bond0.4 Link encap:Ethernet HWaddr 98:4B:E1:6E:87:6C  
bond1 Link encap:Ethernet HWaddr 98:4B:E1:6E:87:6C
|     | Execute one of the following options: | - If `bond0` & `bond0.2` are both present, skip to Step 10.  
- If only `bond0` is present, continue with the following step. |
| 9.   | server1A: Create the bond0.2 and add interfaces eth01 & eth11 to it. | # netAdm delete --device=bond0  
# netAdm add --device=bond0 --onboot=yes --type=Bonding --mode=active-backup --miimon=100 --bootproto=none  
# netAdm set --device=eth01 --bootproto=none --type=Ethernet --master=bond0 --slave=yes --onboot=yes  
# netAdm set --device=eth11 --bootproto=none --type=Ethernet --master=bond0 --slave=yes --onboot=yes  
Add the `<server1A_mgmtVLAN_IP_address>` to bond0.2  
# netAdm add --device=bond0.2 --address=169.254.1.11 --netmask=255.255.255.0 --onboot=yes |
| 10.  | server1A: Disable the bond0.2 interface to switch1B and verify the bond0.2 IP address. | On server1A ensure that the interface connected to switch1A is the only interface available and obtain the IP address of `<server1A_mgmtVLAN_Interface>` by performing the following commands:  
# ifdown eth11  
# ifup eth01  
# ifconfig bond0.2  
bond0.2 Link encap:Ethernet HWaddr 98:4B:E1:6E:87:6C  
inet addr:169.254.1.11 Bcast:169.254.1.255 Mask:255.255.255.0  
inetc addr: fe80::9a4b:e1ff:fe6e:876c/64 Scope:Link  
UP BROADCAST RUNNING MASTER MULTICAST MTU:1500 Metric:1  
RX packets:99384 errors:0 dropped:0 overruns:0 frame:0  
TX packets:105440 errors:0 dropped:0 overruns:0 carrier:0  
collisions:0 txqueuelen:0  
RX bytes:4603240 (4.3 MiB) TX bytes:55536818 (52.9 MiB) |

The command output should contain the IP address of the `<server1A_mgmtVLAN_ip_address>`.
### Appendix E.3: Cisco 4948E-F IOS Upgrade (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 11.  | **server1A:** Connect to switch1A console | `console -M <server1A_mgmtVLAN_ip_address> -l platcfg switch1A_console`<br>`#/usr/bin/console -M 169.254.1.11 -l platcfg switch1A_console`
Enter platcfg@pmac500101's password: `<platcfg_password>`
[Enter `^Ec?' for help]<br>Press `<Enter>` |
| 12.  | **switch1A:** Enter enable mode | Switch> `enable`<br>Switch# |
| 13.  | **switch1A:** Configure switch port with this sequence of commands | Switch# `conf t`<br>Switch(config)# `vlan 2`<br>Switch(config)# `int vlan 2`<br>Switch(config-if)# `ip address 169.254.1.1 255.255.255.0`<br>Switch(config-if)# `no shut`<br>Switch(config-if)# `int gil/5`<br>Switch(config-if)# `switchport mode trunk`<br>Switch(config-if)# `spanning-tree portfast trunk`<br>Switch(config-if)# `end` |
| 14.  | **switch1A:** Test connectivity | ping `<server1A_mgmtVLAN_ip_address>`
Switch# `ping 169.254.1.11`<br>Type escape sequence to abort.<br>Sending 5, 100-byte ICMP Echos to `<server1A_mgmtVLAN_ip_address>`, timeout is 2 seconds:<br>!!!!!
Success rate is 100 percent (5/5), round trip  min/avg/max = 1/1/4 ms

If ping is not 100% successful the first time, repeat the ping. If unsuccessful again, double check that the procedure was completed correctly by repeating all steps up to this point. If after repeating those steps, ping is still unsuccessful, contact Customer Care Center. |
| 15.  | **switch1A:** Upload IOS image to switch | Switch# `copy tftp: bootflash:`<br>Address or name of remote host []? `<server1A_mgmtVLAN_ip_address>`
Source filename []? `<New_IOS_image_file>`
Destination filename [`<New_IOS_image_file>`]? `<ENTER>`
Press `<Enter>` here, you do NOT want to change the filename

Accessing tftp://<server1A_mgmtVLAN_ip_address>/<IOS_image_file>...<br>Loading `<IOS_image_file>` from `<server1A_mgmtVLAN_ip_address>` (via Vlan2): !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! [OK - 45606 bytes]
45606 bytes copied in 3.240 secs (140759 bytes/sec) |
## Appendix E.3: Cisco 4948E-F IOS Upgrade (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 16.  | switch1A: Locate old IOS image to be removed | Switch# `dir bootflash:`  
1 -rwx 17779888 May 11 2011 02:25:23 -05:00 cat4500-entservicesk9-mz.122-54.WO.bin  
2 -rwx 17779888 May 11 2011 02:25:23 -05:00 cat4500-ipbasek9-mz.122-54.WO.bin  
60817408 bytes total (43037392 bytes free)  
Here, you should note which IOS you uploaded, and the one which was already on the switch. Note the one that was already on the switch, this will be the one to delete, as notated by the variable `<OLD_IOS_image>`|
| 17.  | switch1A: Remove old IOS image | Switch# `delete /force /recursive bootflash:<OLD_IOS_image>`  
Switch# |
| 18.  | switch1A: Locate old IOS image to be removed | Switch# `dir bootflash:`  
1 -rwx 17779888 May 11 2011 02:25:23 -05:00 cat4500-entservicesk9-mz.122-54.WO.bin  
60817408 bytes total (43037392 bytes free)  
Here, you should see only the IOS version you uploaded. |
| 19.  | Switch1A: Reset switch back to factory defaults by deleting the VLANs. | Switch# `write erase`  
Erasing the nvram filesystem will remove all configuration files!  
Continue? [confirm] `<ENTER>`  
[OK]  
Erase of nvram: complete  
Switch#  
*Jan 26 12:53:06.547: %SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram  
Switch# `config t`  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)# `no vlan 2-1024`  
%Default VLAN 1002 may not be deleted.  
%Default VLAN 1003 may not be deleted.  
%Default VLAN 1004 may not be deleted.  
%Default VLAN 1005 may not be deleted.  
Switch(config)# `config-register 0x2101`  
Switch(config)# `end`  
Switch#  
*Jan 26 12:53:31.675: %SYS-5-CONFIG_I: Configured from console by console  
Switch# |
| 20.  | switch1A: Reload the switch | Switch# `reload`  
System configuration has been modified. Save? [yes/no]: no  
Proceed with reload? [confirm] `<ENTER>`  

!WARNING!: It is extremely important to answer “no” to the above “Save?” option.
<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 21. | switch1A: | After the reload, enter enable mode.  
     |           | Switch> **enable**  
     |           | Switch# |
| 22. | switch1A: | Wait until the switch is reloaded, then confirm the correct IOS image.  
     |           | Switch> **show version | include image**  
     |           | System image file is "bootflash:cat4500-entservicesk9-mz.122-54.WO.bin"  
     |           | Switch>  
     |           | Here, you should see only the IOS version you uploaded. If the IOS version is not at the correct version, stop here and contact Customer Care Center. |
| 23. | switch1A: | Locate old IOS image to be removed.  
     |           | Switch# **dir bootflash:**  
     |           | Directory of bootflash:/  
     |           | 1 -rw 17779888 May 11 2011 02:25:23 -05:00 cat4500-entservicesk9-mz.122-54.WO.bin  
     |           | 60817408 bytes total (43037392 bytes free)  
     |           | Switch>  
     |           | Here, you should see only the IOS version you uploaded. |
| 24. | switch1A: | Exit the switch1A console session.  
     |           | Switch# `<CTRL-e>`<c><c>  
     |           | **Hot Key sequence:** Ctrl-E, C, period |
| 25. | server1A: | Disable the bond0.2 interface to switch1A.  
     |           | On server1A ensure that the interface of the server connected to switch1B is the only interface up and obtain the IP address of `<server1A_mgmtInterface>` by performing the following commands:  
     |           | `# ifup eth11`  
     |           | `# ifdown eth01`  
     |           | The command output should contain the IP address of the variable `<server1A_mgmtVLAN_ip_address>`. |
| 26. | server1A: | Connect to switch1B console  
     |           | console `-M <server1A_mgmtVLAN_ip_address> -l platcfg switch1B_console`  
     |           | `#/usr/bin/console -M 169.254.1.11 -l platcfg switch1B_console`  
     |           | Enter platcfg@pmac5000101's password: `<platcfg_password>`  
     |           | [Enter `^Ec?' for help]  
     |           | Press `<Enter>`. |
## Appendix E.3: Cisco 4948E-F IOS Upgrade (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 28.  | **switch1B:** Configure switch port with this sequence of commands  | Switch# `conf t`  
Switch(config)# `vlan 2`  
Switch(config)# `int vlan 2`  
Switch(config-if)# `ip address 169.254.1.2 255.255.255.0`  
Switch(config-if)# `no shut`  
Switch(config-if)# `int g11/5`  
Switch(config-if)# `switchport mode trunk`  
Switch(config-if)# `spanning-tree portfast trunk`  
Switch(config-if)# `end` |
| 29.  | **switch1B:** Test connectivity  | `ping <management_server1A_mgmtVLAN_ip_address>`  
Switch# `ping 169.254.1.11`  
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to `<server1A_mgmtVLAN_ip_address>`, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round trip min/avg/max = 1/1/4 ms |
| 30.  | **switch1B:** Upload IOS image to switch  | Switch# `copy tftp: bootflash:`  
Address or name of remote host []? `<management_server1A_mgmtVLAN_ip_address>`  
Source filename []? `<New_IOS_image_file>`  
Destination filename `[<New_IOS_image_file>]`? `<ENTER>`  
Press <Enter> here, you do NOT want to change the filename  
Accessing tftp://<management_server1B_mgmtVLAN_ip_address>/<IOS_image_file>...  
Loading `<IOS_image_file>` from `<server1A_mgmtVLAN_ip_address>` (via Vlan2): !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!  
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! [OK – 45606 bytes]  
45606 bytes copied in 3.240 secs (140759 bytes/sec) |
### Appendix E.3: Cisco 4948E-F IOS Upgrade (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 31.  | switch1B: Locate old IOS image to be removed                               | Switch# `dir bootflash:`  
1 -rw 17779888 May 11 2011 02:25:23 -05:00 cat4500-entservicesk9-mz.122-54.WO.bin  
2 -rw 17779888 May 11 2011 02:25:23 -05:00 cat4500-ipbasek9-mz.122-54.WO.bin  
60817408 bytes total (43037392 bytes free)  
Here, you should note which IOS you uploaded, and the one which was already on the switch. Note the one that was already on the switch, this will be the one to delete, as notated by the variable `<OLD_IOS_image>` |
| 32.  | switch1B: Remove old IOS image                                             | Switch# `delete /force /recursive bootflash:<OLD_IOS_image>`  
Switch#                                                                                                                                 |
| 33.  | switch1B: Locate old IOS image to be removed                               | Switch# `dir bootflash:`  
1 -rw 17779888 May 11 2011 02:25:23 -05:00 cat4500-entservicesk9-mz.122-54.WO.bin  
60817408 bytes total (43037392 bytes free)  
Here, you should see only the IOS version you uploaded. |
| 34.  | Switch1B: Reset switch back to factory defaults by deleting the VLANs.    | Switch# `write erase`  
Erasing the nvram filesystem will remove all configuration files!  
Continue? [confirm] <ENTER>  
[OK]  
Erase of nvram: complete  
Switch#  
*Jan 26 12:53:06.547: %SYS-7-NV BLOCK INIT: Initialized the geometry of nvram  
Switch# `config t`  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)# `no vlan 2-1024`  
%Default VLAN 1002 may not be deleted.  
%Default VLAN 1003 may not be deleted.  
%Default VLAN 1004 may not be deleted.  
%Default VLAN 1005 may not be deleted.  
Switch(config)# `config-register 0x2101`  
Switch(config)# `end`  
Switch#  
*Jan 26 12:53:31.675: %SYS-5-CONFIG_I: Configured from console by console  
Switch# |
| 35.  | switch1B: Reload the switch                                               | Switch# `reload`  
Proceed with reload? [confirm] <ENTER>  
System config modified. save? <y> |
| 36.  | switch1B: Wait until the switch is reloaded, then confirm the correct IOS image | Switch> `show version | include image`  
System image file is "bootflash:cat4500-entservicesk9-mz.122-54.WO.bin"  
Switch> |
### Appendix E.3: Cisco 4948E-F IOS Upgrade (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 37.  | switch1B: Enter enable mode | Switch> **enable**  
Switch# |
| 38.  | switch1B: Locate old IOS image to be removed | Switch# **dir bootflash:**  
Directory of bootflash:/  
1 -rwx 17779888 May 11 2011 02:25:23 -05:00 cat4500-entservicesk9-mz.122-54.WO.bin  
60817408 bytes total (43037392 bytes free)  
Here, you should see only the IOS version you uploaded. |
| 39.  | switch1A: Exit the switch1A console session. | Switch# **<CTRL-e><c><.>**  
**Hot Key sequence:** Ctrl-E, C, period |
| 40.  | server1A: Re-enable the bond0.2 interface to switch1A. | On server1A ensure that the both bond0.2 interfaces are up:  
`# ifup eth11`  
`# ifup eth01` |
| 41.  | server1A: Stop the “ftp” service. | `# tpdProvd --client --noxml --ns=Xinetd stopXinetdService service tftp`  
Login on Remote: **platcfg**  
Password of platcfg: `<platcfg_password>` |

**THIS PROCEDURE HAS BEEN COMPLETED**
### Appendix E.4: Cisco 4948E-F Backup (SDS sites)

**E.4 Casino 4948E-F Configuration Backup (SDS sites)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;switch_backup_user&gt;</td>
<td>(also needed in switch configuration procedure)</td>
</tr>
<tr>
<td>&lt;switch_backup_user_password&gt;</td>
<td>(also needed in switch configuration procedure)</td>
</tr>
<tr>
<td>&lt;switch_name&gt;</td>
<td>hostname of the switch</td>
</tr>
<tr>
<td>&lt;switch_backup_directory&gt;</td>
<td>/usr/TKLC/plat/etc/switch/backup</td>
</tr>
</tbody>
</table>

#### Variable and Value Table

<table>
<thead>
<tr>
<th><strong>Variable</strong></th>
<th><strong>Value</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;switch_backup_user&gt;</td>
<td>(also needed in switch configuration procedure)</td>
</tr>
<tr>
<td>&lt;switch_backup_user_password&gt;</td>
<td>(also needed in switch configuration procedure)</td>
</tr>
<tr>
<td>&lt;switch_name&gt;</td>
<td>hostname of the switch</td>
</tr>
<tr>
<td>&lt;switch_backup_directory&gt;</td>
<td>/usr/TKLC/plat/etc/switch/backup</td>
</tr>
</tbody>
</table>

### Appendix E.4: Cisco 4948E-F Backup (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>server1A:</strong> Access the server1A console.</td>
<td>• Connect to the <strong>server1A</strong> console using one of the access methods described in Section 2.3.</td>
</tr>
</tbody>
</table>
| 2.   | **server1A:** 1) Access the command prompt. 2) Log into the HP DL360 server as the “root” user. | CentOS release 5.6 (Final)  
Kernel 2.6.18-238.19.1.el5 prerel15.0.0_72.20.0 on an x86_64  
hostname1260476221 login: root  
Password: <root_password>  
*** TRUNCATED OUTPUT ***  
VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16  
PRODPATH=  
RELEASE=5.16  
RUNID=00  
VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds  
PRODPATH=/opt/comcol/prod  
RUNID=00  
[root@hostname1260476221 ~]#  
| 3.   | **server1A:** Output similar to that shown on the right will appear as the server access the command prompt. |  
| 4.   | **server1A:** Verify connectivity | # netConfig --device=<switch_name> getHostname  
Hostname: switch1A  
#  
**Note:** The value beside "Hostname:" should be the same as the <switch_name> variable. |
### Appendix E.4: Cisco 4948E-F Backup (SDS sites)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 5.   | **server1A:** Verify SSH service | `# netConfig --repo showService name=ssh_service`  
Service Name: ssh_service  
Type: ssh  
Host: 10.250.62.85  
Options:  
password: C20F7D639AE7E7  
user: root  
# |
| 6.   | **server1A:** Change directory to root user | `# cd` |
| 7.   | **server1A:** Run backup command | `# netConfig --device=<switch_name> backupConfiguration service=ssh_service filename=<switch_name>-backup` |
| 8.   | **server1A:** Verify backup and inspect its contents to ensure they reflect the configured values | `# ls <switch_name>-backup*`  
`# cat <switch_name>-backup` |
| 9.   | **server1A:** Repeat steps 4 - 8 for switch1B. | |
| 10.  | **server1A:** Copy the switch1A backup files to the permanent backup storage directory | `# scp -p <switch1A_name>-backup* 169.254.1.12:/<switch_backup_directory>/` |
| 11.  | **server1A:** Copy the switch1B backup files to the permanent backup storage directory | `# scp -p <switch1B_name>-backup* 169.254.1.12:/<switch_backup_directory>/` |
| 12.  | **server1A:** Move the switch1A backup files to the permanent backup storage directory | `# mv *<switch1A_name>-backup* <switch_backup_directory>/` |
| 13.  | **server1A:** Move the switch1B backup files to the permanent backup storage directory | `# mv *<switch1B_name>-backup* <switch_backup_directory>/` |

**THIS PROCEDURE HAS BEEN COMPLETED**
Appendix F. 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**

<table>
<thead>
<tr>
<th>XML File Text</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;networkelement&gt;</code></td>
<td></td>
</tr>
<tr>
<td><code>&lt;name&gt;sds_mrsvnc&lt;/name&gt;</code></td>
<td>Unique identifier used to label a Network Element.</td>
</tr>
<tr>
<td></td>
<td>[Range = 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><code>&lt;ntpservers&gt;</code></td>
<td></td>
</tr>
<tr>
<td><code>&lt;ntpserver&gt;10.250.32.10&lt;/ntpserver&gt;</code></td>
<td>IP Address of the first NTP server. There must be at least one NTP server IP address defined.</td>
</tr>
<tr>
<td><code>&lt;ntpserver&gt;10.250.32.51&lt;/ntpserver&gt;</code></td>
<td>IP Address of second NTP server, if it exists; otherwise, this line must be deleted.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><code>&lt;network&gt;</code></td>
<td></td>
</tr>
<tr>
<td><code>&lt;name&gt;XMI&lt;/name&gt;</code></td>
<td>Name of customer external network.</td>
</tr>
<tr>
<td></td>
<td>[Note: Do NOT change this name.]</td>
</tr>
<tr>
<td><code>&lt;vlanId&gt;3&lt;/vlanId&gt;</code></td>
<td>The VLAN ID to use for this VLAN.</td>
</tr>
<tr>
<td></td>
<td>[Range = 2-4094.]</td>
</tr>
<tr>
<td><code>&lt;ip&gt;10.250.55.0&lt;/ip&gt;</code></td>
<td>The network address of this VLAN</td>
</tr>
<tr>
<td></td>
<td>[Range = A valid IP address]</td>
</tr>
<tr>
<td><code>&lt;mask&gt;255.255.255.0&lt;/mask&gt;</code></td>
<td>Subnetting to apply to servers within this VLAN</td>
</tr>
<tr>
<td><code>&lt;gateway&gt;10.250.55.1&lt;/gateway&gt;</code></td>
<td>The gateway router interface address associated with this network</td>
</tr>
<tr>
<td></td>
<td>[Range = A valid IP address]</td>
</tr>
<tr>
<td><code>&lt;isDefault&gt;true&lt;/isDefault&gt;</code></td>
<td>Indicates whether this is the network with a default gateway.</td>
</tr>
<tr>
<td></td>
<td>[Range = true/false]</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><code>&lt;network&gt;</code></td>
<td></td>
</tr>
<tr>
<td><code>&lt;name&gt;IMI&lt;/name&gt;</code></td>
<td>Name of customer internal network.</td>
</tr>
<tr>
<td></td>
<td>[Note: Do NOT change this name.]</td>
</tr>
<tr>
<td><code>&lt;vlanId&gt;4&lt;/vlanId&gt;</code></td>
<td>The VLAN ID to use for this VLAN.</td>
</tr>
<tr>
<td></td>
<td>[Range = 2-4094.]</td>
</tr>
<tr>
<td><code>&lt;ip&gt;169.254.100.0&lt;/ip&gt;</code></td>
<td>The network address of this VLAN</td>
</tr>
<tr>
<td></td>
<td>[Range = A valid IP address]</td>
</tr>
<tr>
<td><code>&lt;mask&gt;255.255.255.0&lt;/mask&gt;</code></td>
<td>Subnetting to apply to servers within this VLAN</td>
</tr>
<tr>
<td><code>&lt;gateway&gt;169.254.100.3&lt;/gateway&gt;</code></td>
<td>The gateway router interface address associated with this network</td>
</tr>
<tr>
<td></td>
<td>[Range = A valid IP address]</td>
</tr>
</tbody>
</table>
### Appendix G. Optional Configuring Procedures

This section contains procedures for configuration of additional services to Appworks-based application servers.

**Appendix G: NetBackup Client Installation**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Install NetBackup Client Software</strong>&lt;br&gt;Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. <strong>NOTE</strong>: If installing Netbackup client software, it must be installed and configured on all SDS servers (NOAM and DR servers only).&lt;br&gt;Execute Section 3.11.5 Application NetBackup Client Procedures of reference [7] to complete this step.</td>
</tr>
</tbody>
</table>

Location of the bpstart_notify and bpend_notify scripts is required for the execution of this procedure. For Appworks based applications the scripts are located as follows:<br>/usr/TKLC/appworks/sbin/bpstart_notify<br>/usr/TKLC/appworks/sbin/bpend_notify

IF THIS PROCEDURE FAILS, CONTACT ORACLE'S TEKELEC CUSTOMER SUPPORT AND ASK FOR ASSISTANCE.
Appendix H. 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 blade timezone. For an exhaustive list of ALL timezones, log onto the PMAC server console and view the text file: `/usr/share/zoneinfo/zone.tab`

Table 5 - List of Selected Time Zone Values

<table>
<thead>
<tr>
<th>Time Zone Value</th>
<th>Description</th>
<th>Universal Time Code (UTC) Offset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etc/UTC</td>
<td>Coordinated Universal Time</td>
<td>UTC-00</td>
</tr>
<tr>
<td>America/New_York</td>
<td>Eastern Time</td>
<td>UTC-05</td>
</tr>
<tr>
<td>America/Chicago</td>
<td>Central Time</td>
<td>UTC-06</td>
</tr>
<tr>
<td>America/Denver</td>
<td>Mountain Time</td>
<td>UTC-07</td>
</tr>
<tr>
<td>America/Phoenix</td>
<td>Mountain Standard Time - Arizona</td>
<td>UTC-07</td>
</tr>
<tr>
<td>America/Los_Angeles</td>
<td>Pacific Time</td>
<td>UTC-08</td>
</tr>
<tr>
<td>America/Anchorage</td>
<td>Alaska Time</td>
<td>UTC-09</td>
</tr>
<tr>
<td>Pacific/Honolulu</td>
<td>Hawaii</td>
<td>UTC-10</td>
</tr>
<tr>
<td>Africa/Johannesburg</td>
<td></td>
<td>UTC+02</td>
</tr>
<tr>
<td>America/Mexico_City</td>
<td>Central Time - most locations</td>
<td>UTC-06</td>
</tr>
<tr>
<td>Africa/Monrovia</td>
<td></td>
<td>UTC+00</td>
</tr>
<tr>
<td>Asia/Tokyo</td>
<td></td>
<td>UTC+09</td>
</tr>
<tr>
<td>America/Jamaica</td>
<td></td>
<td>UTC-05</td>
</tr>
<tr>
<td>Europe/Rome</td>
<td></td>
<td>UTC+01</td>
</tr>
<tr>
<td>Time Zone</td>
<td>Description</td>
<td>UTC Offset</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Asia/Hong_Kong</td>
<td></td>
<td>UTC+08</td>
</tr>
<tr>
<td>Pacific/Guam</td>
<td></td>
<td>UTC+10</td>
</tr>
<tr>
<td>Europe/Athens</td>
<td></td>
<td>UTC+02</td>
</tr>
<tr>
<td>Europe/London</td>
<td></td>
<td>UTC+00</td>
</tr>
<tr>
<td>Europe/Paris</td>
<td></td>
<td>UTC+01</td>
</tr>
<tr>
<td>Europe/Madrid</td>
<td>mainland</td>
<td>UTC+01</td>
</tr>
<tr>
<td>Africa/Cairo</td>
<td></td>
<td>UTC+02</td>
</tr>
<tr>
<td>Europe/Copenhagen</td>
<td></td>
<td>UTC+01</td>
</tr>
<tr>
<td>Europe/Berlin</td>
<td></td>
<td>UTC+01</td>
</tr>
<tr>
<td>Europe/Prague</td>
<td></td>
<td>UTC+01</td>
</tr>
<tr>
<td>America/Vancouver</td>
<td>Pacific Time - west British Columbia</td>
<td>UTC-08</td>
</tr>
<tr>
<td>America/Edmonton</td>
<td>Mountain Time - Alberta, east British Columbia &amp; westSaskatchewan</td>
<td>UTC-07</td>
</tr>
<tr>
<td>America/Toronto</td>
<td>Eastern Time - Ontario - most locations</td>
<td>UTC-05</td>
</tr>
<tr>
<td>America/Montreal</td>
<td>Eastern Time - Quebec - most locations</td>
<td>UTC-05</td>
</tr>
<tr>
<td>America/Sao_Paulo</td>
<td>South &amp; Southeast Brazil</td>
<td>UTC-03</td>
</tr>
<tr>
<td>Europe/Brussels</td>
<td></td>
<td>UTC+01</td>
</tr>
<tr>
<td>Australia/Perth</td>
<td>Western Australia - most locations</td>
<td>UTC+08</td>
</tr>
<tr>
<td>Timezone</td>
<td>Description</td>
<td>UTC Offset</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Australia/Sydney</td>
<td>New South Wales - most locations</td>
<td>UTC+10</td>
</tr>
<tr>
<td>Asia/Seoul</td>
<td></td>
<td>UTC+09</td>
</tr>
<tr>
<td>Africa/Lagos</td>
<td></td>
<td>UTC+01</td>
</tr>
<tr>
<td>Europe/Warsaw</td>
<td></td>
<td>UTC+01</td>
</tr>
<tr>
<td>America/Puerto_Rico</td>
<td></td>
<td>UTC-04</td>
</tr>
<tr>
<td>Europe/Moscow</td>
<td>Moscow+00 - west Russia</td>
<td>UTC+04</td>
</tr>
<tr>
<td>Asia/Manila</td>
<td></td>
<td>UTC+08</td>
</tr>
<tr>
<td>Atlantic/Reykjavik</td>
<td></td>
<td>UTC+00</td>
</tr>
<tr>
<td>Asia/Jerusalem</td>
<td></td>
<td>UTC+02</td>
</tr>
</tbody>
</table>
## Appendix I. Accepting Installation through SDS NOAM GUI

This section will accept an application installation through SDS NOAM GUI.

### Appendix I: Accepting Installation through SDS NOAM GUI

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Active SDS VIP:</strong> Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active SDS site using “https://”</td>
<td><img src="image1.png" alt="Certificate Error: Navigation Blocked - Windows Internet Explorer" /> There is a problem with this website's security certificate. The security certificate presented by this website was not issued by a trusted certificate authority. The security certificate presented by this website was issued for a different website’s address. Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server. We recommend that you close this webpage and do not continue to this website. Click here to close this webpage. Continue to this website (not recommended). More information</td>
</tr>
<tr>
<td>2.</td>
<td><strong>Active SDS VIP:</strong> The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.</td>
<td><img src="image2.png" alt="Tekelec System Login" /> Log In Enter your username and password to log in Username: guadmin Password: ******** Welcome to the Tekelec System Login. Unauthorized access is prohibited. This Tekelec system requires the use of Microsoft Internet Explorer 7.0 or 8.0 with support for JavaScript and cookies.</td>
</tr>
</tbody>
</table>
### Appendix I: Accepting Installation through SDS NOAM GUI

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td><strong>Active SDS VIP:</strong>&lt;br&gt;The user should be presented the SDS Main Menu as shown on the right.</td>
<td>![Image of SDS Main Menu]</td>
</tr>
<tr>
<td>4.</td>
<td><strong>EXECUTE THIS STEP FOR SDS 4.x SYSTEMS ONLY!!!</strong>&lt;br&gt;Active SDS VIP:&lt;br&gt;Select…&lt;br&gt;<strong>Main Menu</strong>&lt;br&gt;→ <strong>Administration</strong>&lt;br&gt;→ <strong>Upgrade</strong>…as shown on the right.</td>
<td>![Image of SDS Administration Upgrade]</td>
</tr>
<tr>
<td>5.</td>
<td><strong>EXECUTE THIS STEP FOR SDS 4.x SYSTEMS ONLY!!!</strong>&lt;br&gt;Active SDS VIP:&lt;br&gt;Using the cursor <strong>left-click</strong>, select the row containing the Server(s) for which you would like to “Accept” upgrade.  &lt;br&gt;&lt;br&gt;<strong>NOTE:</strong> Multi-select is available by holding down the “CTRL” key while using the cursor to <strong>left-click</strong> multiple rows.</td>
<td>![Image of SDS Administration Upgrade with Table]</td>
</tr>
</tbody>
</table>
### Appendix I: Accepting Installation through SDS NOA GUI

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 6.   | EXECUTE THIS STEP FOR SDS 4.x SYSTEMS ONLY!!!  
Active SDS VIP:  
Using the cursor left-click, select the “Accept Upgrade” dialogue button. | ![Image of Accept Upgrade dialogue box] |
| 7.   | EXECUTE THIS STEP FOR SDS 4.x SYSTEMS ONLY!!!  
Active SDS VIP:  
The user is presented with a dialogue box stating that the “Accept Upgrade” action is irreversible and locks the Server on the current software release (i.e. Backout to the previous release is no longer allowed).  
If the user wishes to continue, use the cursor left-click to select the “OK” dialogue button. | ![Image of Accept Upgrade dialogue box with OK button highlighted] |
| 8.   | EXECUTE THIS STEP FOR SDS 5.x SYSTEMS ONLY!!!  
Active SDS VIP:  
Select…  
Main Menu  
→ Administration  
→ Software Management  
→ Upgrade  
…as shown on the right. | ![Image of Main Menu with Software Management and Upgrade highlighted] |
## Appendix I: Accepting Installation through SDS NOA GUI

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 9.   | EXECUTE THIS STEP FOR SDS 5.x SYSTEMS ONLY!!! | **Active SDS VIP:**  
Using the cursor left-click, select the row containing the Server(s) for which you would like to “Accept” upgrade.  
**NOTE:** Multi-select is available by holding down the “CTRL” key while using the cursor to left-click multiple rows. |
| 10.  | EXECUTE THIS STEP FOR SDS 5.x SYSTEMS ONLY!!! | **Active SDS VIP:**  
Using the cursor left-click, select the “Accept” dialogue button. |
| 11.  | EXECUTE THIS STEP FOR SDS 5.x SYSTEMS ONLY!!! | **Active SDS VIP:**  
The user is presented with a dialogue box stating that the “Accept Upgrade” action is irreversible and locks the Server on the current software release (i.e. Backout to the previous release is no longer allowed).  
If the user wishes to continue, use the cursor left-click to select the “OK” dialogue button. |

**THIS PROCEDURE HAS BEEN COMPLETED**
## Appendix J. Disable Hyperthreading (DP Only)

### Appendix J: Disable Hyperthreading (DP Only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 1.   | DP Server XMI IP (SSH): | CentOS release 4.6 (Final)  
                    Kernel 2.6.18-128.4.1.el5prere14.0.0_70.32.0 on an x86_64  
                    dp-carync-2 login: root  
                    Password: `<root_password>` |
|      | 1) *Using an SSH client such as putty*, access the command prompt via the server's *XMI IP address*.  
      | 2) Log into the server as the "root" user.  
      | **NOTE:** The *XMI IP address* may be viewed by locating the server hostname in the SDS GUI under... |
|      | **Main Menu**  
      | → **Configuration**  
      | → **Servers** |
| 2.   | DP Server XMI IP (SSH): | *** **TRUNCATED OUTPUT** ***  
                    VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpss7  
                    PRODPATH=/opt/TKLCComcol/cm5.13/prod  
                    RUNID=00  
                    VPATH=/opt/TKLCComcol/runcm5.13:/opt/TKLCComcol/cm5.13  
                    PRODPATH=  
                    RELEASE=5.13  
                    RUNID=00  
                    VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpss7:/usr/TKLC/exhr  
                    PRODPATH=/opt/TKLCComcol/cm5.13/prod  
                    RUNID=0  
                    [root@dp-carync-2 ~]# |
## Appendix J: Disable Hyperthreading (DP Only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
</table>
| 3.   | **DP Server XMI IP (SSH):** Execute the "hpasmcli" command shown to determine the hyperthreading status for the DP blade. | ![root@dp-carync-2 ~]# hpasmcli -s "show ht"
Processor hyper-threading is currently enabled. |

**NOTE:** Output returned may state "enabled" or "disabled".

4. | - If output from Step 3 shows that hyperthreading is currently "enabled", then proceed to Step Error! Reference source not found. and continue.
- If output from Step 3 shows that hyperthreading is currently "disabled", then STOP and restart Appendix J for the next installed DP blade.

5. | Launch the Internet Explorer web browser and connect to the DP-iLO GUI interface.  
**NOTE:** Always use https:// for iLO GUI access.  
**!!! WARNING !!!**  
*Verify the DP-iLO IP address before proceeding. The user must login using the DP-iLO IP address only.*
### Appendix J: Disable Hyperthreading (DP Only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>The web browser will display a warning message regarding the Security Certificate.</td>
<td><img src="image1.png" alt="Certificate Error" /></td>
</tr>
<tr>
<td>7.</td>
<td>Select the option to &quot;Continue to the website (not recommended)&quot;.</td>
<td><img src="image2.png" alt="Continue Option" /></td>
</tr>
<tr>
<td>8.</td>
<td>Login to the iLO console as &quot;root&quot; and enter the configured password.</td>
<td><img src="image3.png" alt="Login Screen" /></td>
</tr>
</tbody>
</table>
### Appendix J: Disable Hyperthreading (DP Only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td>The admin GUI is displayed. Select the “Remote Console” tab in the upper left corner of the GUI.</td>
<td><img src="image1.png" alt="Image" /></td>
</tr>
<tr>
<td>10.</td>
<td>The Remote Console Information GUI is displayed Click on the “Remote Console” menu option</td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
</tbody>
</table>
### Appendix J: Disable Hyperthreading (DP Only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>Under the “Integrated Remote Console” section in the top of the right panel, click on the “Launch” dialogue button.</td>
<td><img src="image" alt="Integrated Remote Console" /></td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> Answer “Yes/OK” to any pop-up windows that might appear.</td>
<td><img src="image" alt="Integrated Remote Console" /></td>
</tr>
<tr>
<td>12.</td>
<td>The iLO Console window is displayed.</td>
<td><img src="image" alt="iLO Console" /></td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> The console window resembles an MS-DOS window but DOES NOT have a scroll-back buffer.</td>
<td><img src="image" alt="iLO Console" /></td>
</tr>
</tbody>
</table>
### Appendix J: Disable Hyperthreading (DP Only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>Reboot the server. This can be achieved by logging in as the &quot;root&quot; user and executing...</td>
<td><img src="image_url" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td># init 6 &lt;ENTER&gt; ...at the command prompt.</td>
<td><img src="image_url" alt="Image" /></td>
</tr>
</tbody>
</table>

**NOTE:** It is normal for the Remote Console window to stay blank for up to **3 minutes** before initial output appears.
### Appendix J: Disable Hyperthreading (DP Only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td>Access the Server BIOS</td>
<td>Reboot the server. This can be achieved by pressing and holding the power button until the server turns off, then after approximately 5-10 seconds press the power button to enable power.</td>
</tr>
<tr>
<td></td>
<td>NOTE: It is normal for a period of 2 minutes or more to occur between pressing the F9 key and entering the Blade BIOS screen.</td>
<td>As soon as you see <strong>F9=Setup</strong> in the lower left corner of the screen, press <strong>[F9]</strong> to access the BIOS setup screen. You may be required to press [F9] 2-3 times. The F9=Setup will change to F9 Pressed once it is accepted. See example below.</td>
</tr>
</tbody>
</table>

![BIOS Screen](image.png)

**Expected Result:**
ROM-Based Setup Utility is accessed and the ROM-Based Setup Utility menu will be displayed.
### Appendix J: Disable Hyperthreading (DP Only)

<table>
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<tr>
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<tbody>
<tr>
<td>15.</td>
<td>Select System Options</td>
<td>Scroll to System Options and press [ENTER]</td>
</tr>
</tbody>
</table>

![Image of System Options menu](image_url)
## Appendix J: Disable Hyperthreading (DP Only)

<table>
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<tr>
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<tbody>
<tr>
<td>16.</td>
<td>Select Processor Options</td>
<td>Select Processor Options option and press [ENTER]</td>
</tr>
</tbody>
</table>

![Image of the BIOS screen showing Processor Options]
### Appendix J: Disable Hyperthreading (DP Only)

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<tbody>
<tr>
<td>17.</td>
<td>Select Hyperthreading Options</td>
<td><strong>Select Intel® Hyperthreading Options option and press [ENTER].</strong></td>
</tr>
</tbody>
</table>

![Image of a computer screen showing the BIOS interface with the Hyperthreading Options enabled.](image-url)
### Appendix J: Disable Hyperthreading (DP Only)

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<tbody>
<tr>
<td>18.</td>
<td>Set hyperthreading to Disabled.</td>
<td><strong>Select</strong> <em>Disabled</em> option and press [ENTER].</td>
</tr>
</tbody>
</table>

![Image of BIOS setup screen](image)
## Appendix J: Disable Hyperthreading (DP Only)

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<tbody>
<tr>
<td>19.</td>
<td>Save Configuration and Exit.</td>
<td>Press [F10] to save the configuration and exit. The server will reboot. <strong>NOTE:</strong> It is normal for the Remote Console window to stay blank for up to 3 minutes before initial output appears.</td>
</tr>
</tbody>
</table>

**Expected Result:**
Settings are saved and server reboots.

| 20.  | Continue to monitor the server boot process until the screen returns to the login prompt. | ![Server boot process](image) |

---

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### Appendix J: Disable Hyperthreading (DP Only)

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<tr>
<td>21.</td>
<td>Close the Remote Console window.</td>
<td><img src="Image" alt="Close the Remote Console window" /></td>
</tr>
<tr>
<td>22.</td>
<td><strong>DP Server XMI IP (SSH):</strong>&lt;br&gt;1) Access the command prompt via the server’s XMI IP&lt;br&gt;2) Log into the server as the “root” user.</td>
<td>CentOS release 4.6 (Final)&lt;br&gt;Kernel 2.6.18-128.4.1.el5prere14.0.0_70.32.0 on an x86_64&lt;br&gt;dp-carync-l login: root&lt;br&gt;Password: &lt;root_password&gt;</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> The XMI IP address may be viewed by locating the server hostname under…&lt;br&gt;<strong>Main Menu</strong>&lt;br&gt;→ Configuration&lt;br&gt;→ Servers</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td><strong>DP Server XMI IP (SSH):</strong>&lt;br&gt;Output similar to that shown on the right will appear as the server access the command prompt.</td>
<td>*** TRUNCATED OUTPUT ***&lt;br&gt;VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpss7&lt;br&gt;PRODPATH=/opt/TKLCcomcol/cm5.13/prod&lt;br&gt;RUNID=0&lt;br&gt;VPATH=/opt/TKLCcomcol/runcm5.13:/opt/TKLCcomcol/cm5.13&lt;br&gt;PRODPATH=RELEASE=5.13&lt;br&gt;RUNID=0&lt;br&gt;VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpss7:/usr/TKLC/exhr&lt;br&gt;PRODPATH=/opt/TKLCcomcol/cm5.13/prod&lt;br&gt;RUNID=0&lt;br&gt;[root@dp-carync-l ~]#</td>
</tr>
</tbody>
</table>
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| 24.  | DP Server XMI IP (SSH):  
   1) Execute "syscheck".  
   2) Record the number of “found” CPU(s) below. | [root@dp-carync-1 ~]# syscheck
   Running modules in class disk... OK
   Running modules in class hardware... OK
   Running modules in class net... OK
   Running modules in class proc... OK
   Running modules in class system...
   * cpu: FAILURE:: MINOR::5000000000000004 -- Server Hardware Configuration Error
   * cpu: FAILURE:: 40 CPU(s) on the system, found "20" instead.
   One or more module in class "system" FAILED
   LOG LOCATION: /var/TKLC/log/syscheck/fail_log |
|      | “found” CPU(s): __________ |        |
| 25.  | DP Server XMI IP (SSH):  
   Modify the “EXPECTED_CPUS” value to the number of “found” CPU(s) in the previous Step 24 of this Procedure. | # syscheckAdm system cpu --set --var='EXPECTED_CPUS' --val='20'
| 26.  | DP Server XMI IP (SSH):  
   Verify that the “EXPECTED_CPUS” value has been updated to the number of “found” CPU(s) in the previous Step 9 of this Procedure. | # syscheckAdm system cpu --get --var='EXPECTED_CPUS'
   20 |
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<td>27.</td>
<td><strong>EXECUTE THIS STEP FOR SDS 5.x SYSTEMS ONLY!!!</strong>&lt;br&gt;DP Server XMI IP (SSH):&lt;br&gt;Restart the &quot;syscheck&quot; service.&lt;br&gt;<strong>NOTE:</strong> Output to the right may differ depending on the OS version.</td>
<td>[root@dp-carync-2 ~]# <strong>restart syscheck</strong>&lt;br&gt;syscheck start/running, process 41789&lt;br&gt;[root@dp-carync-2 ~]#</td>
</tr>
<tr>
<td>28.</td>
<td><strong>EXECUTE THIS STEP FOR SDS 4.x SYSTEMS ONLY!!!</strong>&lt;br&gt;DP Server XMI IP (SSH):&lt;br&gt;Restart the &quot;syscheck&quot; service.&lt;br&gt;<strong>NOTE:</strong> Output to the right may differ depending on the OS version.</td>
<td>[root@dp-carync-2 ~]# <strong>service syscheck restart</strong>&lt;br&gt;*** TRUNCATED OUTPUT ***&lt;br&gt;RUNID=00&lt;br&gt;...&lt;br&gt;[root@dp-carync-2 ~]#</td>
</tr>
<tr>
<td>29.</td>
<td>DP Server XMI IP (SSH):&lt;br&gt;Modify the number of CPUs recorded at OS installation to the number of &quot;found&quot; CPU(s) in the previous Step 9 of this Procedure.</td>
<td># <strong>echo 20 &gt; /usr/TKLC/awpcommon/prod/bin/NumOriginalCpus</strong></td>
</tr>
</tbody>
</table>
| 30. | DP Server XMI IP (SSH):<br>Verify the number of CPUs has been updated to the number of "found" CPU(s) in the previous Step 9 of this Procedure. | # **cat /usr/TKLC/awpcommon/prod/bin/NumOriginalCpus**

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<tr>
<td>31. DP Server XMI IP (SSH):</td>
<td>Execute “syscheck” to verify that the previous CPU alarms have been cleared.</td>
<td>[root@dp-carync-1 ~]# <code>syscheck</code>&lt;br&gt;Running modules in class disk...&lt;br&gt;Running modules in class hardware...&lt;br&gt;Running modules in class net...&lt;br&gt;Running modules in class proc...&lt;br&gt;Running modules in class system...&lt;br&gt;LOG LOCATION: /var/TKLC/log/syscheck/fail_log</td>
</tr>
<tr>
<td>32. DP Server XMI IP (SSH):</td>
<td>Exit from the server command line.</td>
<td>[root@dp-carync-1 ~]# <code>exit</code>&lt;br&gt;logout</td>
</tr>
<tr>
<td>33.</td>
<td>- Repeat this procedure until hyperthreading has been “disabled” for all installed DP blades.</td>
<td></td>
</tr>
</tbody>
</table>