

**Oracle® Communications  
Platform**

TVOE 3.2 Disaster Recovery

Disaster Recovery Procedure

Release 7.2

**E56282**

August 2015

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**Table of Contents**

**1 INTRODUCTION.....5**

    1.1 Purpose and Scope.....5

    1.2 My Oracle Support .....5

    1.3 References .....5

    1.4 Glossary .....6

**2 PREREQUISITES.....7**

    2.1 Required Tools for TVOE Disaster Recovery Procedure .....7

        2.1.1 Files.....7

        2.1.2 Documents.....7

        2.1.3 Information .....7

    2.2 Network Connections .....8

    2.3 Assumptions and Restrictions.....8

**3 TVOE DISASTER RECOVERY PROCEDURE .....9**

    3.1 Restore TVOE configuration from backup media .....9

    3.2 Supporting Procedures .....21

**APPENDIX A. LOCATE PRODUCT DOCUMENTATION ON THE ORACLE TECHNICAL NETWORK SITE.....28**

**List of Tables**

Table 1. Glossary .....6

Table 2 Required Information .....7

**List of Procedures**

Procedure 1. Restore TVOE configuration from backup media.....9

Procedure 2. Standalone TVOE IPM.....21

Procedure 3. PM&C Aided TVOE IPM .....21

Procedure 4. Configure Network .....22

Procedure 5. Restore TVOE backup ISO using NetBackup.....24

Procedure 6. Restore TVOE backup ISO using SCP .....25

Procedure 7. Delete TVOE host key from PM&C .....26

Procedure 8. Determine IPv6 Link Local Address .....26

## Important Notices



**CAUTION:** Use only the procedure downloaded from Oracle Technology Network (OTN) (<http://www.oracle.com/technetwork/indexes/documentation/oracle-comms-tekelec-2136003.html>).

Before upgrading your system, access **My Oracle Support** web portal (<https://support.oracle.com>) and review any Alerts that may be related to the System Health Check or the Upgrade.

Before beginning this procedure, contact [Oracle Support](#) to inform them of your upgrade plans.

## 1 Introduction

TVOE is a TPD based virtualization host. TVOE allows for virtualization of servers so that multiple applications can reside on one physical machine while still retaining dedicated resources. This means software solutions that include multiple applications and require several physical machines can be installed on very few (possibly one) TVOE hosts.

### 1.1 Purpose and Scope

In a disaster scenario in which the TVOE host has been lost, the procedures contained herein can be used to recover the TVOE host to its state at the time of the last backup. The disaster recovery requires that a TVOE host backup image has been stored on a customer medium and is available. The scope of this disaster recovery includes only the TVOE host. Guests WILL NOT be restored during this procedure. See the appropriate application disaster recovery information for information concerning restoring guests.

**Note:** These procedures are intended to be run by Oracle personnel. This document assumes that the user has basic knowledge of the server's hardware, and at least an intermediate skill set with the Linux environment.

### 1.2 My Oracle Support

**Web portal (preferred option): My Oracle Support (MOS)** at <https://support.oracle.com/>

**Phone: +1.800.223.1711** (toll-free in the US),

Or retrieve your local hotline from Oracle Support Contacts Global Directory at <http://www.oracle.com/support/contact.html>

Make the following selections on the Support telephone menu:

Select **2** for **New Service Request**

Then select **3** for **Hardware, Networking, and Solaris Operating System Support**

Then either

- select **1** for **Technical Issues**,  
When talking to the agent, please indicate that you are an existing Tekelec customer.

**Note:** Oracle support personnel performing installations or upgrades on a customer site must obtain the customer Support Identification (SI) number prior to seeking assistance.

OR

- select **2** for **Non-Technical Issues**, for example, for My Oracle Support (MOS) registration.  
When talking to the agent, mention that you are a Tekelec customer new to MOS.

### 1.3 References

[1] *Platform 7.2.x Configuration Procedures Reference*, E64363, Latest Revision, Oracle

[2] *TPD Initial Product Manufacture*, E56280, Latest Revision, Oracle

1.4 Glossary

Table 1. Glossary

Acronym/Term	Definition
HIDS	Host Intrusion Detection System
IPM	Initial Product Manufacture
Link Local IPv6 Address	An IPv6 address that is assigned automatically to every IPv6 enabled network interface and can only be used within the segment of a local network. This means it is a non-routable address and can only be accessed from machines that are on the same link.
PM&C	Platform Management and Configuration
TPD	Tekelec Platform Distribution
TVOE	Tekelec Virtualization Operating Environment

## 2 Prerequisites

### 2.1 Required Tools for TVOE Disaster Recovery Procedure

#### 2.1.1 Files

The following files or media are required in order to run a Disaster Recovery procedure on a TVOE host:

- TVOE IPM Media
- TVOE Backup ISO Image

#### 2.1.2 Documents

The following documents are required in order to run a Disaster Recovery procedure on a TVOE host:

- *Platform 7.2.x Configuration Procedures Reference*, E64363[1]
- *TPD Initial Product Manufacture*, E56280 [2]

#### 2.1.3 Information

The following information is required to run a Disaster Recovery procedure for the TVOE host.

**Table 2 Required Information**

Item	Value
TVOE Remote Console IP Address	
TVOE Remote Console username	
TVOE Remote Console password	
TVOE IP address*	
TVOE default gateway*	
TVOE netmask*	
TVOE network device name (e.g. eth01)	
TVOE Vlan number (if the network is tagged)	
TVOE storage pools	
TVOE admusr password	
TVOE tvoeadmin password	
TVOE tvoexfer password	
TVOE platcfg password	
Full path to backup ISO on Customer Server**	
Customer Server** IP address	
Customer Server** username	
Customer Server** password	
NetBackup Master Server IP Address***	

- \* If a PM&C is available, the TVOE IP address should be the address assigned by the PM&C via the control network. The default gateway and netmask do not have to be gathered if this is the case.
- \*\* The machine used to copy the backup image to the TVOE host. If a PM&C is available, this will be the PM&C IP, username, password and path to backup ISO.
- \*\*\* This is only necessary if NetBackup is being used to restore the system backup ISO.

## **2.2 Network Connections**

The user must have network connectivity to the remote console and a network interface on the TVOE host.

## **2.3 Assumptions and Restrictions**

- This is a software disaster recovery for the TVOE host that will not recover the hardware.
- If there was a hardware failure, then it should be resolved and the system should be in a healthy state before executing this procedure.
- This procedure only recovers the TVOE host. Guests previously installed on the TVOE will not be recovered by this procedure.
- TVOE backups must be from the same version of TVOE as the newly installed TVOE.
- TVOE backups can only be used on servers of the same hardware type as the server the backup was created on.
- TVOE backups have been stored somewhere safe by the customer at an earlier point in time and are to be transferred to the TVOE host over the network.



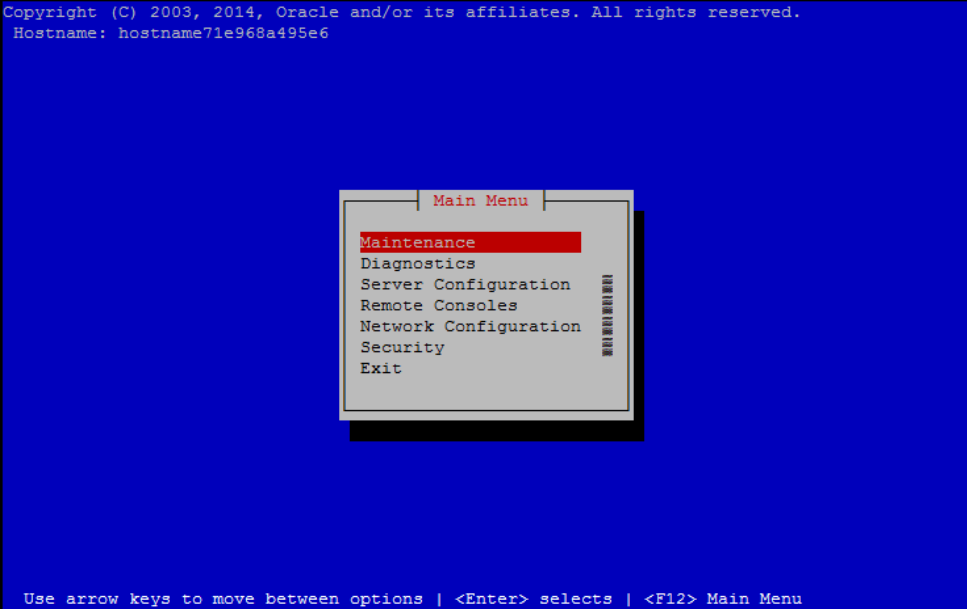
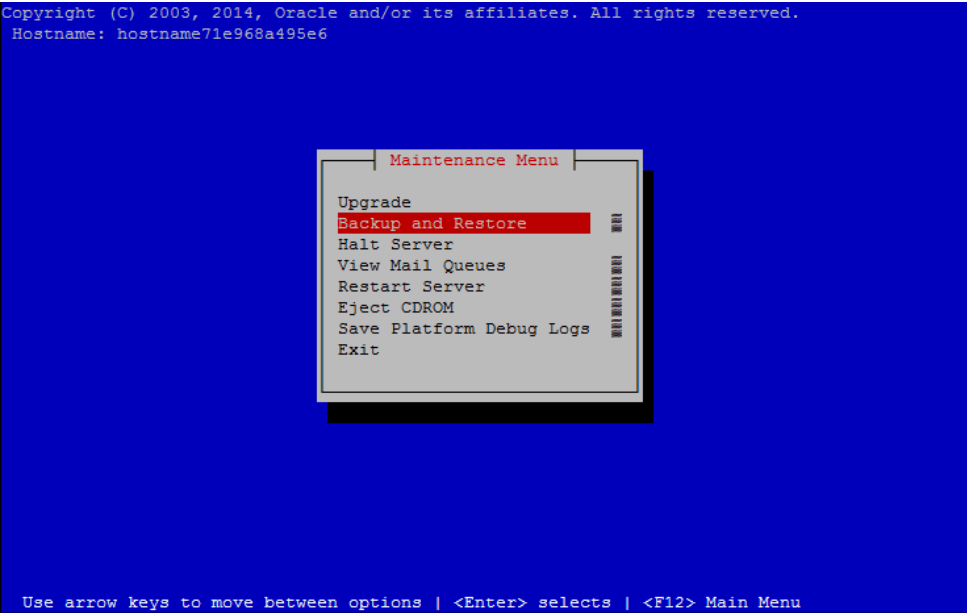
### 3 TVOE Disaster Recovery Procedure

#### 3.1 Restore TVOE configuration from backup media

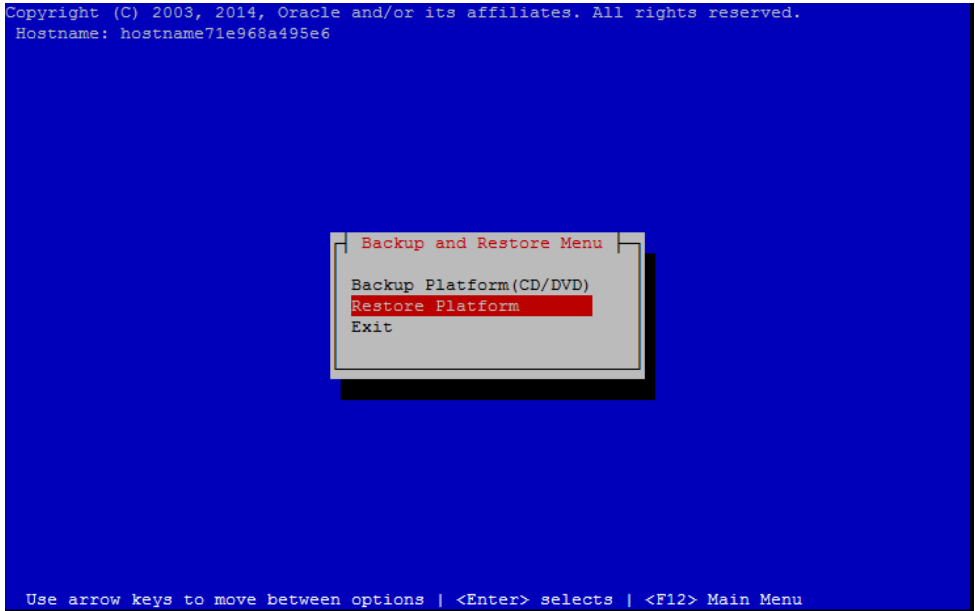
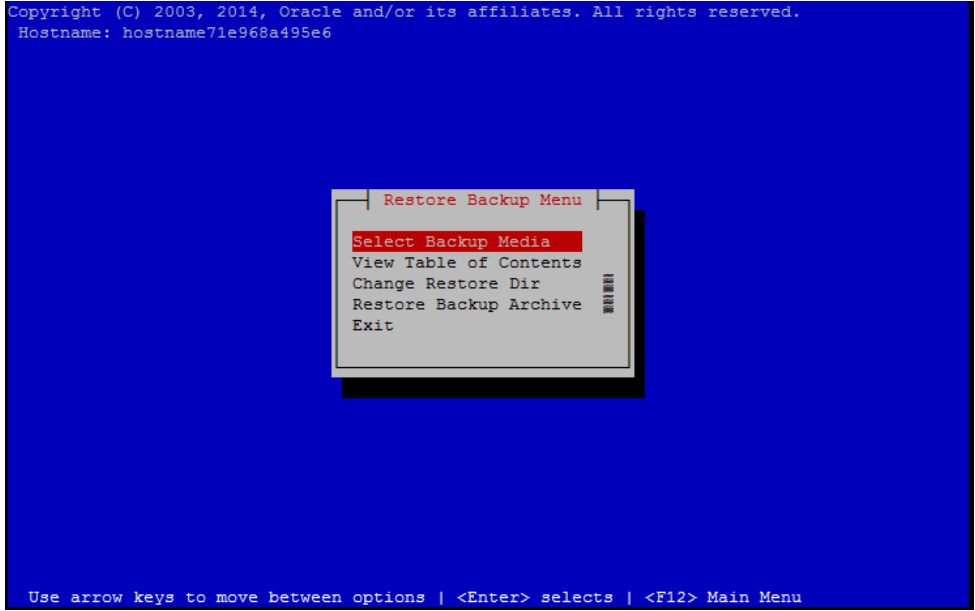
**Procedure 1. Restore TVOE configuration from backup media**

STEP	Use this procedure to restore the TVOE application configuration from backup media. <i>Check off (✓) each step as it is completed. If this procedure fails, contact <a href="#">Oracle Support</a>.</i>	
	Task	Description
	<b>Prerequisites</b>	You must have a backup ISO image to perform this procedure.
<b>1</b> <input type="checkbox"/>	<p>Install TVOE application.</p> <p>Check each box as each task is completed. Do not check the box if the task is not performed.</p>	<p>If PM&amp;C is available then IPM the TVOE application using the following procedure from this document:</p> <p><input type="checkbox"/> “Procedure 3. PM&amp;C Aided TVOE IPM”</p> <p>If PM&amp;C is not available, IPM the TVOE application using the following procedure from this document:</p> <p><input type="checkbox"/> “Procedure 2. Standalone TVOE IPM”</p>
<b>2</b> <input type="checkbox"/>	<p><b>TVOE host remote console:</b></p> <p>Configure network</p>	<p>If PM&amp;C is available then skip to the next step. Otherwise, execute the following procedure to configure an IP address on the TVOE host.</p> <p><b>Note:</b> The IP address that is configured on the TVOE must be one that will be accessible via the network of the machine that currently holds the TVOE Backup ISO image. This could be a NetBackup Master Server, a Customer PC, etc.</p> <p><input type="checkbox"/> “Procedure 4. Configure Network”</p>
<b>3</b> <input type="checkbox"/>	<p>Restore TVOE Backup ISO image to the TVOE host.</p>	<p>Restore the TVOE Backup ISO image to the TVOE host by executing one of the following procedures:</p> <p>If using NetBackup to restore the TVOE Backup ISO image then execute:</p> <p><input type="checkbox"/> “Procedure 5. Restore TVOE backup ISO using NetBackup”</p> <p>If copying the TVOE Backup ISO from a remote location, such as a PM&amp;C or Customer PC, then execute:</p> <p><input type="checkbox"/> “Procedure 6. Restore TVOE backup ISO using SCP”</p>
<b>4</b> <input type="checkbox"/>	<p><b>TVOE host remote console:</b></p> <p>Connect to the remote console.</p>	<p>Using the section listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i> [1], log in to the remote console using a SSH client to connect to the IP address of the TVOE host remote console.</p> <p><input type="checkbox"/> “Appendix G: How to Access a Server Console Remotely [1]”</p>

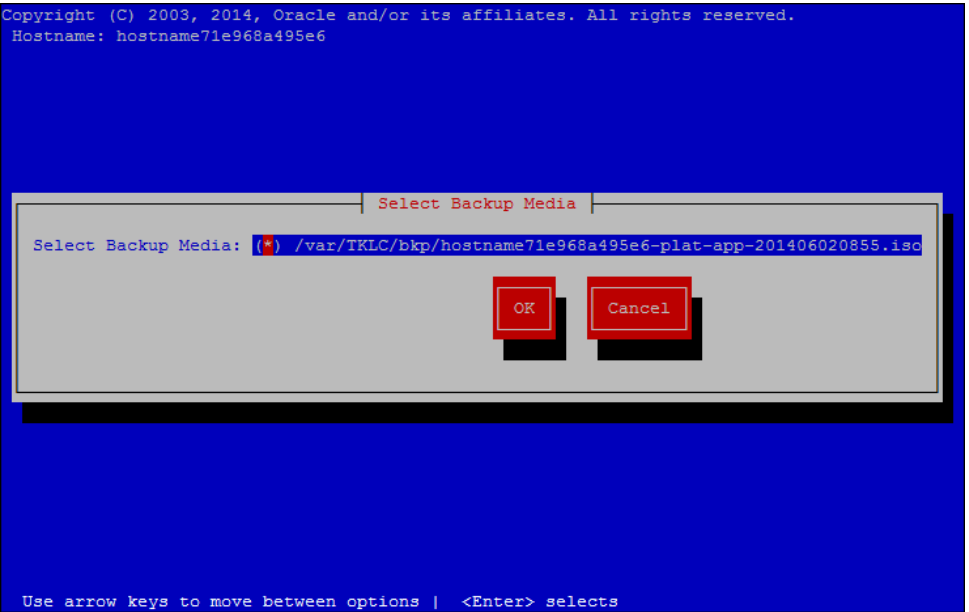
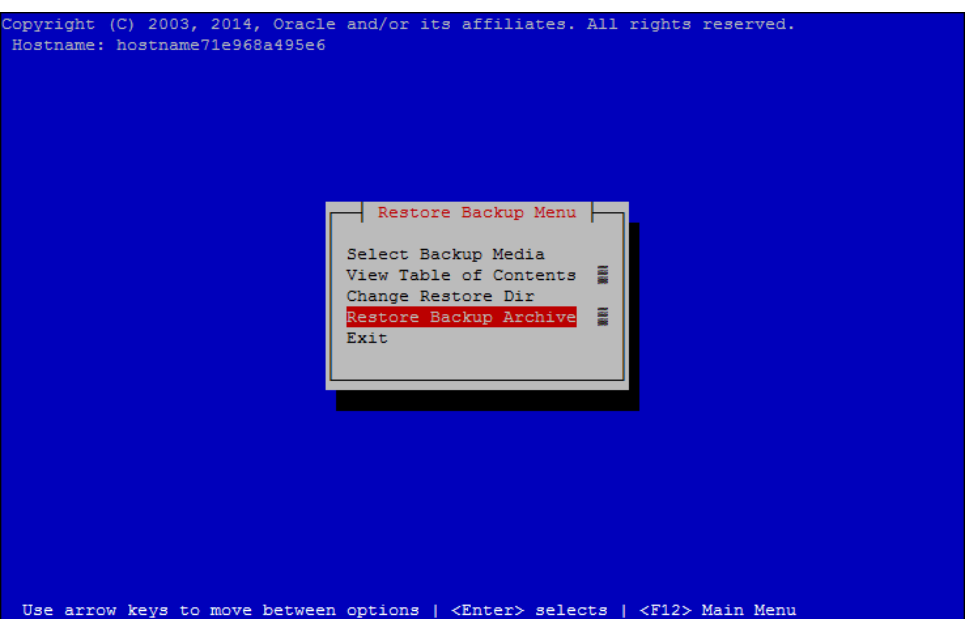
Procedure 1. Restore TVOE configuration from backup media

<p><b>5</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b>  Log in to the platcfg menu.</p>	<p>Log in as the <i>platcfg</i> user.</p>
<p><b>6</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b>  Select the “Maintenance” option</p>	 <p>Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.          Hostname: hostname71e968a495e6</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p style="text-align: center;">Main Menu</p> <p>Maintenance              Diagnostics              Server Configuration              Remote Consoles              Network Configuration              Security              Exit</p> </div> <p style="font-size: small; text-align: center;">Use arrow keys to move between options   &lt;Enter&gt; selects   &lt;F12&gt; Main Menu</p>
<p><b>7</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b>  Select the “Backup and Restore” option</p>	 <p>Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.          Hostname: hostname71e968a495e6</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p style="text-align: center;">Maintenance Menu</p> <p>Upgrade              Backup and Restore              Halt Server              View Mail Queues              Restart Server              Eject CDROM              Save Platform Debug Logs              Exit</p> </div> <p style="font-size: small; text-align: center;">Use arrow keys to move between options   &lt;Enter&gt; selects   &lt;F12&gt; Main Menu</p>

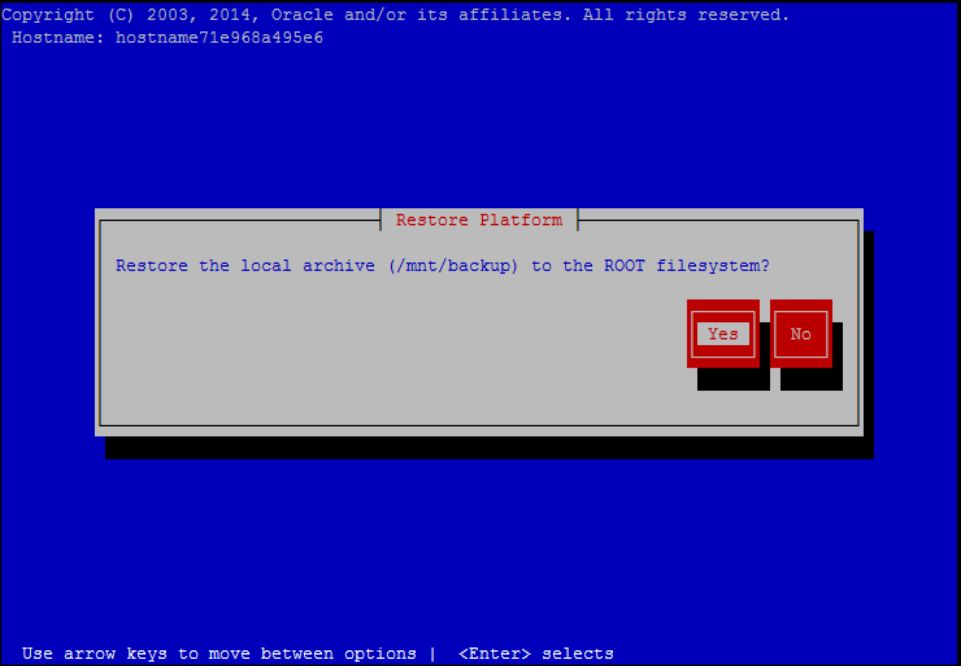
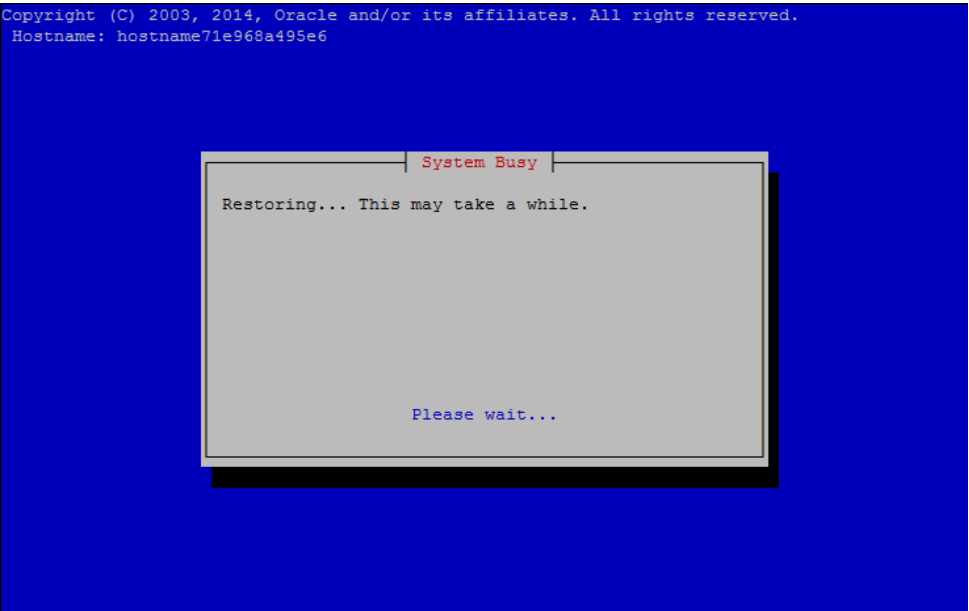
Procedure 1. Restore TVOE configuration from backup media

<p><b>8</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Select the “Restore Platform” option.</p>	
<p><b>9</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Select the “Select Backup Media” option</p>	


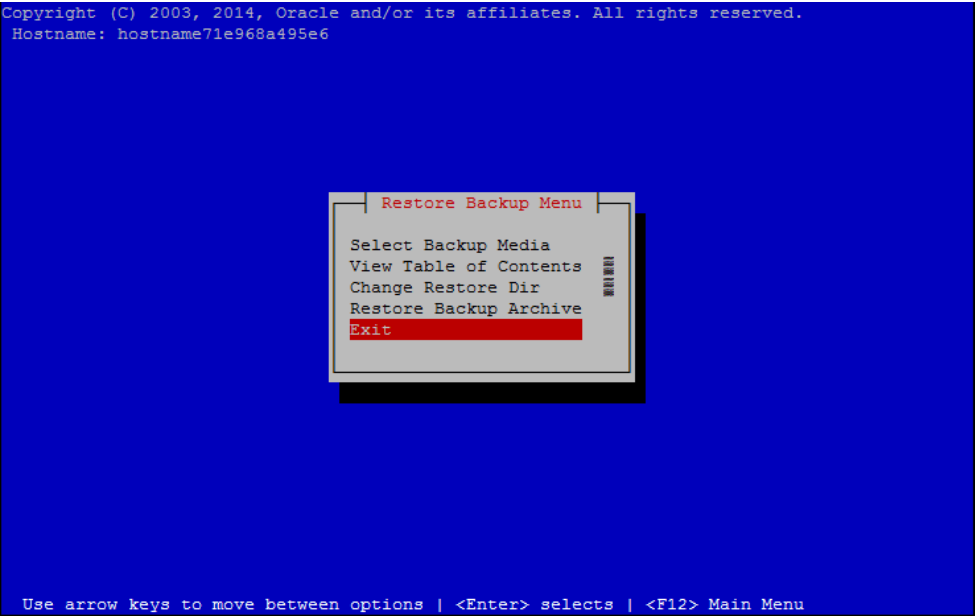
Procedure 1. Restore TVOE configuration from backup media

<p><b>10</b> <input type="checkbox"/> <b>TVOE host remote console:</b></p> <p>Select the desired archive.</p>	 <p>Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6</p> <p>Select Backup Media</p> <p>Select Backup Media: (*) /var/TKLC/bkp/hostname71e968a495e6-plat-app-201406020855.isc</p> <p>OK Cancel</p> <p>Use arrow keys to move between options   &lt;Enter&gt; selects</p>
<p><b>11</b> <input type="checkbox"/> <b>TVOE host remote console:</b></p> <p>Select the "Restore Backup Archive" option.</p>	 <p>Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6</p> <p>Restore Backup Menu</p> <p>Select Backup Media View Table of Contents Change Restore Dir Restore Backup Archive Exit</p> <p>Use arrow keys to move between options   &lt;Enter&gt; selects   &lt;F12&gt; Main Menu</p>

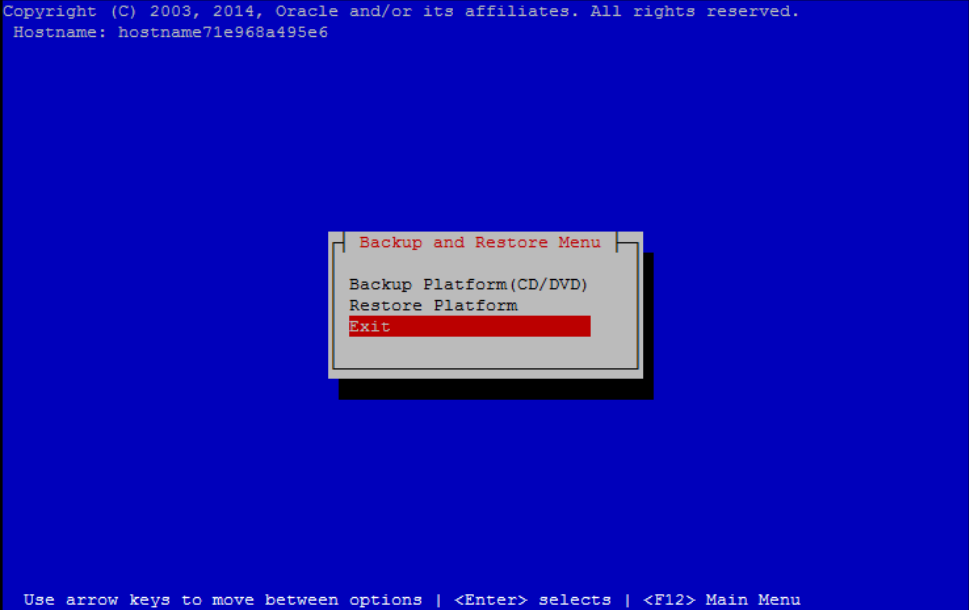
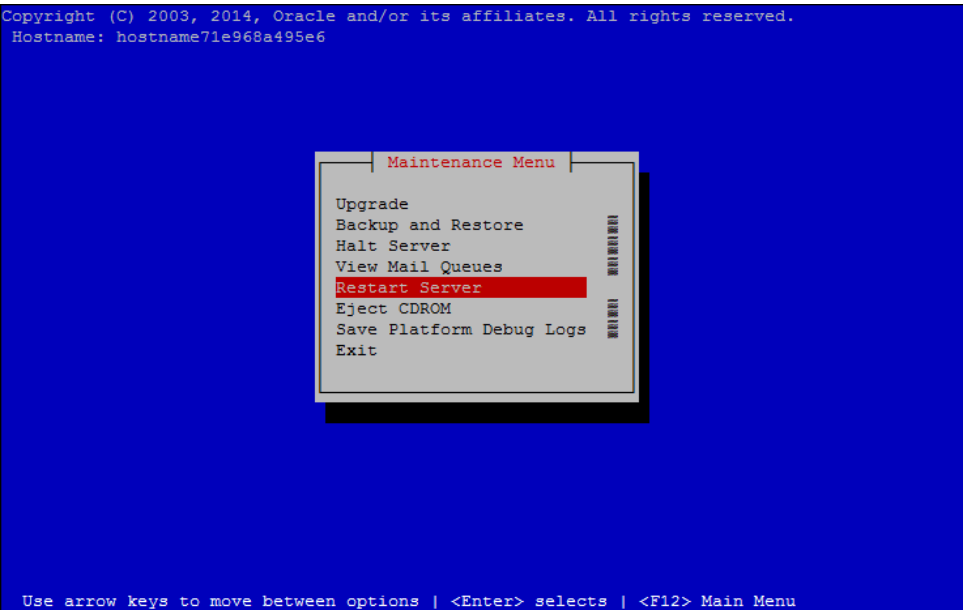
Procedure 1. Restore TVOE configuration from backup media

<p><b>12</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Confirm restore</p>	 <p>Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.          Hostname: hostname71e968a495e6</p> <p>Restore Platform</p> <p>Restore the local archive (/mnt/backup) to the ROOT filesystem?</p> <p>Yes No</p> <p>Use arrow keys to move between options   &lt;Enter&gt; selects</p>
<p><b>13</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Wait for restore to complete. This will typically take less than 5 minutes.</p>	 <p>Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.          Hostname: hostname71e968a495e6</p> <p>System Busy</p> <p>Restoring... This may take a while.</p> <p>Please wait...</p>

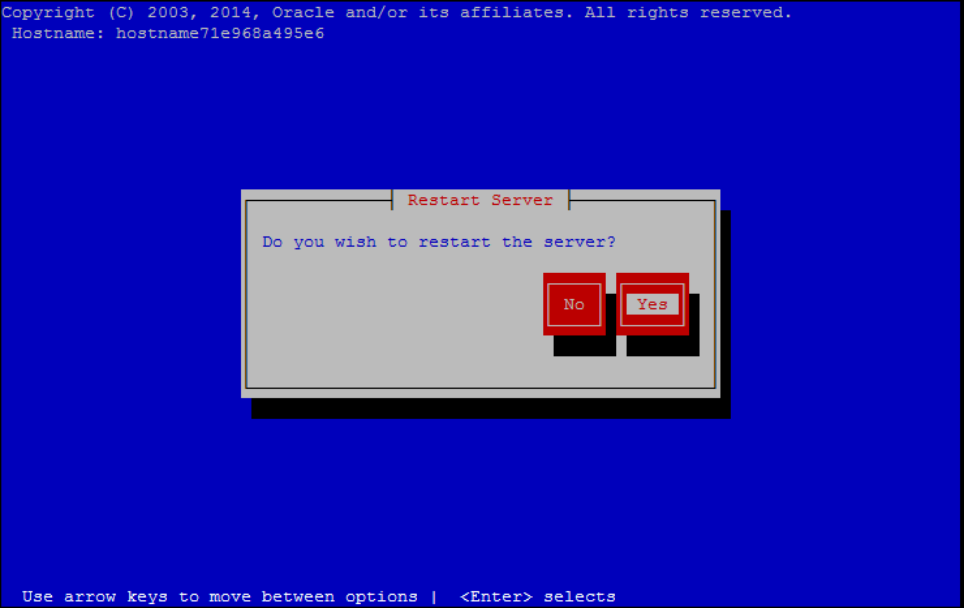

Procedure 1. Restore TVOE configuration from backup media

<p>14</p> <p><input type="checkbox"/></p>	<p>TVOE host remote console:</p> <p>Restore is complete</p>	 <p><b>Note:</b> If any failures are reported, contact <a href="#">Oracle Support</a> for information on how to proceed.</p>
<p>15</p> <p><input type="checkbox"/></p>	<p>TVOE host remote console:</p> <p>Exit out of the Restore Backup Menu.</p>	

Procedure 1. Restore TVOE configuration from backup media

<p><b>16</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Exit out of the Backup and Restore Menu.</p>	 <p>The screenshot shows a blue terminal window with white text. At the top, it reads: "Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6". In the center, a grey box titled "Backup and Restore Menu" contains the following options: "Backup Platform (CD/DVD)", "Restore Platform", and "Exit". The "Exit" option is highlighted with a red background. At the bottom of the terminal, it says: "Use arrow keys to move between options   &lt;Enter&gt; selects   &lt;F12&gt; Main Menu".</p>
<p><b>17</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Select the "Restart Server" option.</p>	 <p>The screenshot shows a blue terminal window with white text. At the top, it reads: "Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6". In the center, a grey box titled "Maintenance Menu" contains the following options: "Upgrade", "Backup and Restore", "Halt Server", "View Mail Queues", "Restart Server", "Eject CDROM", "Save Platform Debug Logs", and "Exit". The "Restart Server" option is highlighted with a red background. At the bottom of the terminal, it says: "Use arrow keys to move between options   &lt;Enter&gt; selects   &lt;F12&gt; Main Menu".</p>

Procedure 1. Restore TVOE configuration from backup media

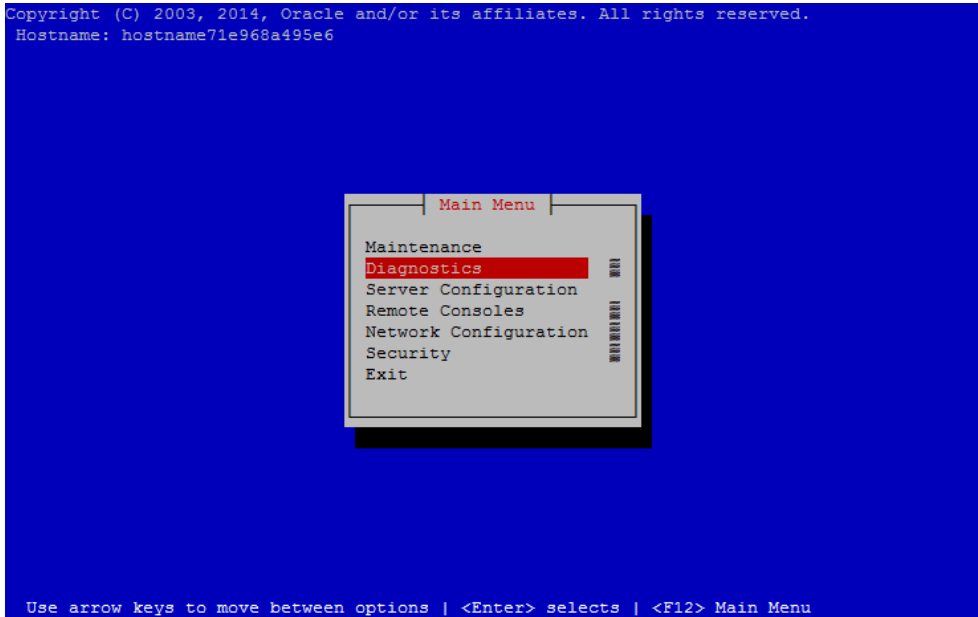
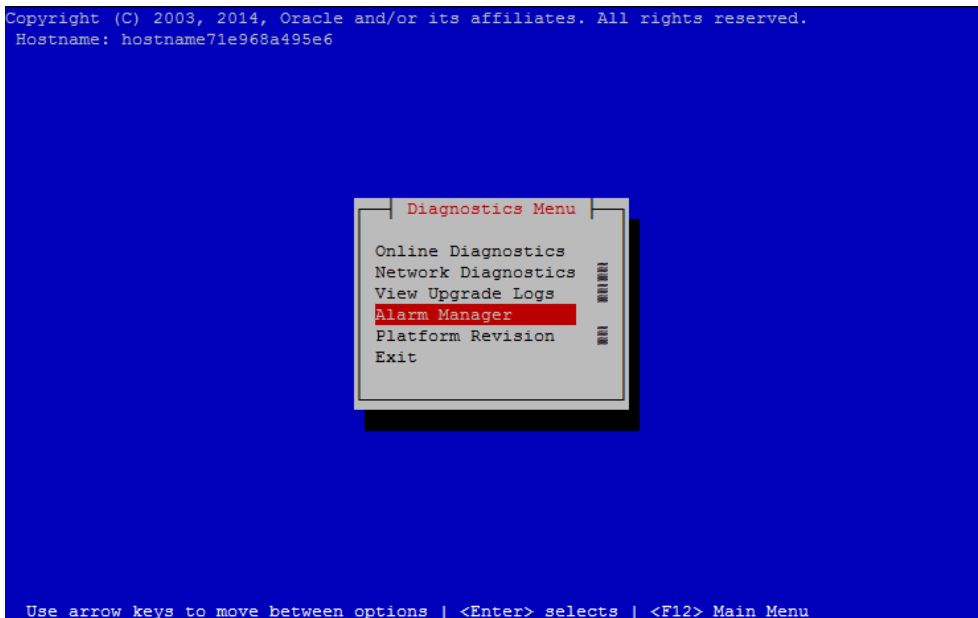
<p><b>18</b> TVOE host remote console:</p> <p><input type="checkbox"/></p> <p>Select yes to restart server.</p>	 <p>The screenshot shows a terminal window with a blue background. At the top, it displays 'Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.' and 'Hostname: hostname71e968a495e6'. In the center, a grey dialog box titled 'Restart Server' asks 'Do you wish to restart the server?'. Below the question are two red buttons: 'No' and 'Yes'. At the bottom of the terminal, it says 'Use arrow keys to move between options   &lt;Enter&gt; selects'.</p>
<p><b>19</b> TVOE host remote console:</p> <p><input type="checkbox"/></p> <p>Confirm restart.</p>	 <p>The screenshot shows a terminal window with a blue background. At the top, it displays 'Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.' and 'Hostname: hostname71e968a495e6'. In the center, a grey dialog box titled 'Restart Server' asks 'Are you sure you want to restart the server?'. Below the question are two red buttons: 'Yes' and 'No'. At the bottom of the terminal, it says 'Use arrow keys to move between options   &lt;Enter&gt; selects'.</p>



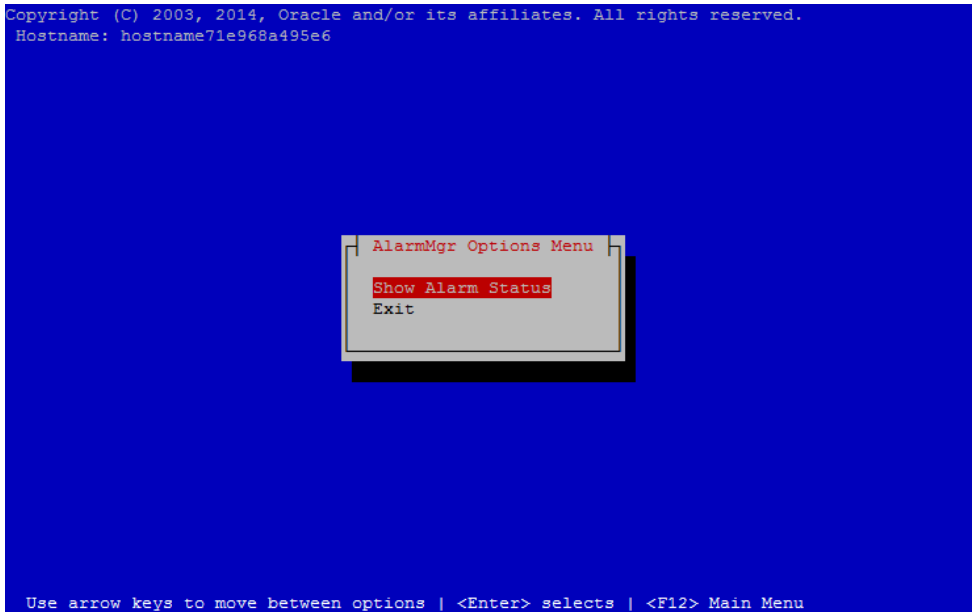
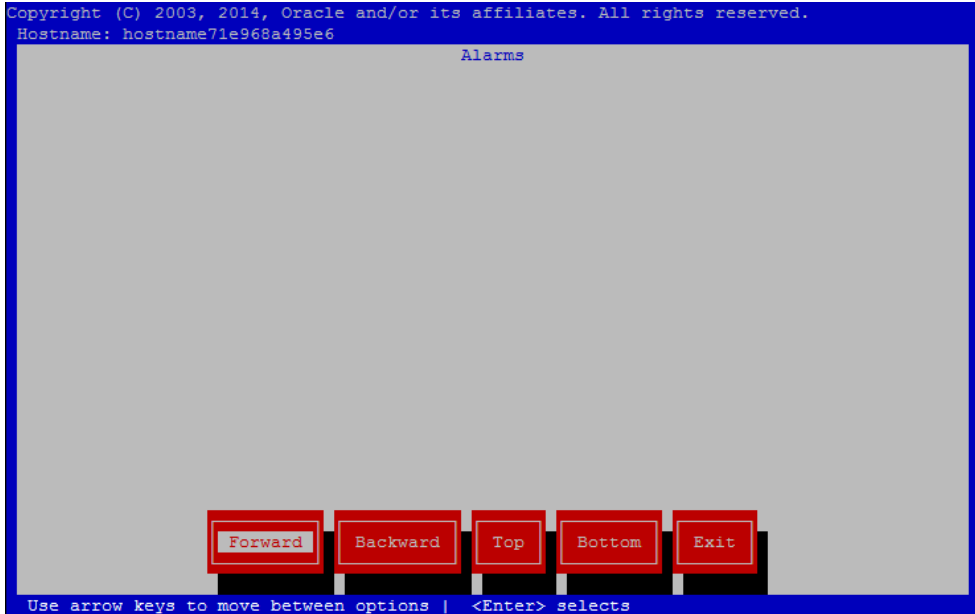
Procedure 1. Restore TVOE configuration from backup media

<p><b>20</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Wait for restart to successfully complete. This should typically take less than 20 minutes to complete.</p>	 <pre> 1401715649: Upstart Job TKLChpacucli: started #####  1401715649: Upstart Job alarmMgr: started #####  1401715649: Upstart Job tpdProvd: started #####  Oracle Linux Server release 6.5 Kernel 2.6.32-431.11.2.el6prere17.0.0.0_86.3.0.x86_64 on an x86_64  1401715649: Upstart Job syscheck: started #####  1401715650: Upstart Job TKLCsnmp-subagent: started #####  1401715651: Upstart Job ntdMgr: started #####  Oracle Linux Server release 6.5 Kernel 2.6.32-431.11.2.el6prere17.0.0.0_86.3.0.x86_64 on an x86_64  hostname71e968a495e6 login: █                     </pre>									
<p><b>21</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Log in as <i>tvoeadmin</i> user.</p>	<p>Log in as the <i>tvoeadmin</i> user.</p>									
<p><b>22</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Verify storage pools are active.</p>	<p>Execute the following command and verify all storage pools are listed and are in the active state:</p> <p><b>\$ virsh -c "qemu:///system" pool-list</b></p> <p>An example of the output is shown below:</p> <table border="1" data-bbox="500 1402 1096 1514"> <thead> <tr> <th>Name</th> <th>State</th> <th>Autostart</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>active</td> <td>yes</td> </tr> <tr> <td>vgguests</td> <td>active</td> <td>yes</td> </tr> </tbody> </table> <p><b>Note:</b> If any storage pools are missing or inactive, contact <a href="#">Oracle Support</a> for information on how to proceed.</p>	Name	State	Autostart	default	active	yes	vgguests	active	yes
Name	State	Autostart									
default	active	yes									
vgguests	active	yes									
<p><b>23</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Log out, then log in as <i>platiqg</i> user.</p>	<p>Log out by typing <b>exit</b> at the command prompt and pressing <b>Enter</b>. Log in as the <i>platiqg</i> user.</p>									

Procedure 1. Restore TVOE configuration from backup media

<p><b>24</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Select the “Diagnostics” option.</p>	 <p>Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6</p> <pre> Main Menu ----- Maintenance Diagnostics Server Configuration Remote Consoles Network Configuration Security Exit -----  Use arrow keys to move between options   &lt;Enter&gt; selects   &lt;F12&gt; Main Menu</pre>
<p><b>25</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Select the “Alarm Manager” option.</p>	 <p>Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6</p> <pre> Diagnostics Menu ----- Online Diagnostics Network Diagnostics View Upgrade Logs Alarm Manager Platform Revision Exit -----  Use arrow keys to move between options   &lt;Enter&gt; selects   &lt;F12&gt; Main Menu</pre>

Procedure 1. Restore TVOE configuration from backup media

<p><b>26</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Select the “Show Alarm Status” option.</p>	 <p>The screenshot shows a blue terminal window with the following text at the top: "Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6". In the center, a grey box titled "AlarmMgr Options Menu" contains two options: "Show Alarm Status" (highlighted in red) and "Exit". At the bottom of the terminal, it says "Use arrow keys to move between options   &lt;Enter&gt; selects   &lt;F12&gt; Main Menu".</p>
<p><b>27</b></p> <p><input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Examine the output and determine if any errors or failures were reported.</p>	 <p>The screenshot shows a blue terminal window with the following text at the top: "Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6". Below this, the word "Alarms" is centered. At the bottom of the terminal, there are five red buttons labeled "Forward", "Backward", "Top", "Bottom", and "Exit". At the very bottom of the terminal, it says "Use arrow keys to move between options   &lt;Enter&gt; selects".</p> <p><b>Note:</b> If any failures are reported contact <a href="#">Oracle Support</a> for information on how to proceed.</p>

**Procedure 1. Restore TVOE configuration from backup media**

<p><b>28</b></p>	<p><b>TVOE host remote console:</b></p> <p>Optionally enable HIDS</p>	<p><b>Note:</b> Enabling HIDS is optional. This step should be skipped if HIDS is not required to be enabled.</p> <p>Exit out of platcfg and login as admusr. When enabling HIDS, the baseline should be updated as well so the restored files aren't incorrectly reported as being tampered with. The following commands should be run from the TVOE host remote console to enable HIDS and update the baseline.:</p> <pre><b>\$ /usr/TKLC/plat/bin/hidsMgr --enable</b> <b>\$ /usr/TKLC/plat/bin/hidsMgr --update --all</b></pre> <p>An example of the output is shown below:</p> <pre><b>\$ /usr/TKLC/plat/bin/hidsMgr --enable</b> HIDS monitoring has successfully been enabled New State: ENABLED <b>\$ /usr/TKLC/plat/bin/hidsMgr --update --all</b> HIDS baseline has successfully been updated</pre>
<p><b>29</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b></p> <p>Log out.</p>	<p>Using the section listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i>[1], log out of the remote console.</p> <p><input type="checkbox"/> “Appendix G: How to Access a Server Console Remotely” [1]</p>
<p><b>30</b> <input type="checkbox"/></p>	<p>Remove TVOE SSH key from PM&amp;C.</p>	<p>If this TVOE host will host PM&amp;C, this is completely new hardware, or there is no PM&amp;C in the network then no work is necessary for this step.</p> <p>Remove the TVOE remote host key from the PM&amp;C in the network by executing the following procedure from this document:</p> <p><input type="checkbox"/> “Procedure 7. Delete TVOE host key from PM&amp;C”</p>
<p><b>---End of Procedure---</b></p>		

3.2 Supporting Procedures

Procedure 2. Standalone TVOE IPM

<b>S T E P</b>	Use this procedure to install the TVOE application without a PM&C. <i>Check off (✓) each step as it is completed. If this procedure fails, contact <a href="#">Oracle Support</a>.</i>	
	Task	Description
<b>1</b>  <input type="checkbox"/>	Install TVOE application.  Check each box as each task is completed.	Using the section listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i> [1], reinstall the TVOE application in accordance with the checklist shown:  <input type="checkbox"/> “3.6.1 IPM Management Server” [1]  <b>Note:</b> The version of TVOE used for this procedure must match the backed up version of TVOE.
---End of Procedure---		

Procedure 3. PM&C Aided TVOE IPM

<b>S T E P</b>	Use this procedure to install the TVOE application using a PM&C. <i>Check off (✓) each step as it is completed. If this procedure fails, contact <a href="#">Oracle Support</a>.</i>	
	Task	Description
	<b>Prerequisites</b>	In addition to the requirements listed in Section 2, this procedure also requires the following: <ul style="list-style-type: none"> <li>• PM&amp;C IP Address</li> <li>• PM&amp;C GUI Password</li> </ul>
<b>1</b>  <input type="checkbox"/>	Install TVOE application.  Check each box as each task is completed.	Use the sections listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i> [1], to reinstall the TVOE application with the aid of PM&C:  <input type="checkbox"/> “3.7.10 IPM Servers Using PM&C Application” [1]  <b>Note:</b> The version of TVOE used for this procedure must match the backed up version of TVOE.
---End of Procedure---		

Procedure 4. Configure Network

STEP	Use this procedure to configure an IP address and default route on the TVOE host. Once an IP address is configured it can then be used to transfer the TVOE backup ISO image to the TVOE host. <i>Check off (✓) each step as it is completed. If this procedure fails, contact <a href="#">Oracle Support</a>.</i>	
	Task	Description
1 <input type="checkbox"/>	<b>TVOE host remote console:</b>  Connect to the remote console.	Using the section listed below from the <i>Platform 7.2.x: Configuration Procedures Reference</i> [1], log in to the remote console by using a SSH client to connect to the IP address of the TVOE host remote console.  <input type="checkbox"/> “Appendix G: How to Access a Server Console Remotely” [1]
2 <input type="checkbox"/>	<b>TVOE host remote console:</b>  Log into the server	Log in as the <i>admusr</i> user.
3 <input type="checkbox"/>	<b>TVOE host remote console:</b>  Remove live network configuration.	Remove any live interface configuration on the TVOE by executing the following command:  <b>\$ sudo /sbin/service network stop</b>  An example of the output is shown below:  Shutting down interface control: [ OK ] Shutting down interface bond0: [ OK ] Shutting down loopback interface: [ OK ]
4 <input type="checkbox"/>	<b>TVOE host remote console:</b>  Bring the loopback interface up.	The loopback interface was also brought down in the previous step. Bring it back up by executing the following command:  <b>\$ sudo /sbin/ifup lo</b>
5 <input type="checkbox"/>	<b>TVOE host remote console:</b>  Set up a vlan device if needed.	If a vlan tagged interface is needed then create it and bring it up using the following two commands. <b>&lt;VLAN_DEVICE&gt;</b> is the name of the vlan device that is being created, <b>&lt;DEVICE&gt;</b> is the name of the physical interface to build the vlan device on top of, and <b>&lt;VLAN&gt;</b> is the number of the vlan. <b>&lt;VLAN_DEVICE&gt;</b> is a concatenation of <b>&lt;DEVICE&gt;</b> and <b>&lt;VLAN&gt;</b> which should both be retrieved from Table 2 Required Information.  <b>\$ sudo /sbin/ip link add dev &lt;VLAN_DEVICE&gt; link &lt;DEVICE&gt; type vlan id &lt;VLAN&gt;</b> <b>\$ sudo /sbin/ip link set up &lt;DEVICE&gt;</b>  There should be no output from the commands. An example is shown below:  <b>\$ sudo /sbin/ip link add dev eth01.3 link eth01 type vlan id 3</b> <b>\$ sudo /sbin/ip link set up eth01</b>  Note: <b>&lt;DEVICE&gt;</b> in the following steps would now be <b>“eth01.3”</b>

Procedure 4. Configure Network

<p><b>6</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b> Set up IP address on ethernet device.</p>	<p>On the command line execute the following command to add an IP address to the system. The <b>&lt;IP&gt;</b> and <b>&lt;NETMASK&gt;</b> will need to be on a network that is accessible from the machine currently hosting the TVOE backup ISO image; this could be a NetBackup Master server, a customer system or a PM&amp;C. The device <b>&lt;DEVICE&gt;</b> will need to be physically attached to a network segment that can be reached from the machine hosting the TVOE backup ISO image.</p> <p><b>\$ sudo /sbin/ip addr add &lt;IP&gt;/&lt;NETMASK&gt; dev &lt;DEVICE&gt;</b></p> <p>There should be no output from the command.</p>
<p><b>7</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b> Bring up the ethernet device.</p>	<p>On the command line execute the following command to bring up the interface <b>&lt;DEVICE&gt;</b>.</p> <p><b>\$ sudo /sbin/ip link set up &lt;DEVICE&gt;</b></p> <p>There should be no output from the command.</p>
<p><b>8</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b> Add route if necessary.</p>	<p>If a default route needs to be configured (this is the case when the IP and netmask configured in the previous steps are on a different network than the IP and netmask of the server hosting the TVOE backup ISO image) then execute the following command. <b>&lt;GATEWAY&gt;</b> is the IP address of the gateway from Table 2 Required Information.</p> <p><b>\$ sudo /sbin/ip route add default via &lt;GATEWAY&gt;</b></p> <p>There should be no output from the command.</p>
<p><b>9</b> <input type="checkbox"/></p>	<p><b>TVOE host remote console:</b> Verify network settings applied successfully.</p>	<p>Verify the network settings, by running the following command. In the command below, <b>&lt;REMOTE SYSTEM&gt;</b> is the IP address of either the NetBackup master server or of the PM&amp;C from Table 2 Required Information.</p> <p><b>\$ /bin/ping -c 4 &lt;REMOTE SYSTEM&gt;</b></p> <p>Below is sample output from the command:</p> <pre>[admusr@localhost ~]# /bin/ping -c 4 192.168.1.1 PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data. 64 bytes from 192.168.1.1: icmp_seq=1 ttl=254 time=0.891 ms 64 bytes from 192.168.1.1: icmp_seq=2 ttl=254 time=0.835 ms 64 bytes from 192.168.1.1: icmp_seq=3 ttl=254 time=0.864 ms 64 bytes from 192.168.1.1: icmp_seq=4 ttl=254 time=0.902 ms  --- 192.168.1.1 ping statistics --- 4 packets transmitted, 4 received, 0% packet loss, time 3001ms rtt min/avg/max/mdev = 0.835/0.873/0.902/0.025 ms [admusr@localhost ~]#</pre> <p>If packet loss is higher than 25%, contact <a href="#">Oracle Support</a>.</p>

**Procedure 4. Configure Network**

<b>10</b> <input type="checkbox"/>	<b>TVOE host remote console:</b>  Log out.	Using the section listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i> [1], log out of the remote console.  <input type="checkbox"/> “Appendix G: How to Access a Server Console Remotely” [1]
<b>---End of Procedure---</b>		

**Procedure 5. Restore TVOE backup ISO using NetBackup**

<b>S T E P</b>	Use this procedure to restore the TVOE Backup ISO image to the TVOE host by pushing it via NetBackup. <i>Check off (✓) each step as it is completed. If this procedure fails, contact <a href="#">Oracle Support</a>.</i>	
	<b>Task</b>	<b>Description</b>
	<b>Prerequisites</b>	In addition to the requirements listed in Section 2, this procedure also requires the following: <ul style="list-style-type: none"> <li>• TVOE has been configured with an IP address in <i>Procedure 4: Configure Network</i></li> </ul>
<b>1</b> <input type="checkbox"/>	<b>TVOE host remote console:</b>  Connect to the remote console.	Using the section listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i> [1], log in to the remote console by using a SSH client to connect to the IP address of the TVOE host remote console.  <input type="checkbox"/> “Appendix G: How to Access a Server Console Remotely” [1]
<b>2</b> <input type="checkbox"/>	<b>TVOE host remote console:</b>  Install NetBackup Client.	Using the section listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i> [1], install and configure the NetBackup Client on TVOE.  <input type="checkbox"/> “3.11.2 TVOE NetBackup Client Configuration” [1]
<b>3</b> <input type="checkbox"/>	<b>NetBackup Server:</b>  Restore TVOE Backup ISO.	Interface with the NetBackup Master Server and initiate a restore of the TVOE Backup ISO image.  <b>Note:</b> Once restored, the ISO image will be in <b>/var/TKLC/bkp/</b> on the TVOE Server.
<b>4</b> <input type="checkbox"/>	<b>TVOE host remote console:</b>  Log out.	Using the section listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i> [1], log out of the remote console.  <input type="checkbox"/> “Appendix G: How to Access a Server Console Remotely” [1]
<b>---End of Procedure---</b>		



**Procedure 6. Restore TVOE backup ISO using SCP**

<b>S T E P</b>	<p>Use this procedure to restore the TVOE backup ISO image to the TVOE host by pushing it via SCP from a remote location, such as a Customer PC, where the Backup ISO image is located.</p> <p><i>Check off (✓) each step as it is completed. If this procedure fails, contact <a href="#">Oracle Support</a>.</i></p>	
	Task	Description
	<b>Prerequisites</b>	<p>In addition to the requirements listed in Section 2, this procedure also requires the following:</p> <ul style="list-style-type: none"> <li>• TVOE has been configured with an IP address in <i>Procedure 4: Configure Network</i></li> </ul>
<p><b>1</b></p> <input type="checkbox"/>	<p><b>PM&amp;C or Customer PC:</b></p> <p>Copy Backup ISO image to TVOE</p>	<p>Using the IP address on the TVOE host (if a PM&amp;C is unavailable this was configured in Procedure 4. Configure Network), transfer the Backup ISO image to TVOE. The Backup ISO image should be copied into the backup directory within the <i>twoexfer</i> user’s home directory.</p> <p><b>Note:</b> If you do not have a backup ISO image then you cannot proceed.</p> <ul style="list-style-type: none"> <li>• <b>Linux</b></li> </ul> <p>From the command line of a Linux machine use the following command to copy the Backup ISO image to the TVOE host:</p> <pre># scp &lt;path_to_image&gt; tvoexfer@&lt;TVOE_IP&gt;:backup/</pre> <p>Where <b>&lt;path_to_image&gt;</b> is the path to the Backup ISO image on the local system and <b>&lt;TVOE_IP&gt;</b> is the TVOE IP address. If the IP is an IPv4 address then <b>&lt;TVOE_IP&gt;</b> will be a normal dot-decimal notation (e.g. “10.240.6.170”). If the IP is an IPv6 link local address then <b>&lt;TVOE_IP&gt;</b> will be need to be scoped such as “[fe80::21e:bff:fe76:5e1c%control]” where <b>control</b> is the name of the interface on the machine that is initiating the transfer and it must be on the same link as the interface on the TVOE host.</p> <p>IPv4 Example:</p> <pre># scp /path/to/image.iso tvoexfer@10.240.6.170:backup/</pre> <p>IPv6 Example:</p> <pre># scp /path/to/image.iso tvoexfer@[fe80::21e:bff:fe76:5e1c%control]:backup/</pre> <ul style="list-style-type: none"> <li>• <b>Windows</b></li> </ul> <p>Use WinSCP to copy the Backup ISO image into the backup directory within the <i>twoexfer</i> user’s home directory. Refer to “Appendix A: Using WinSCP” from <i>Platform 7.2.x Configuration Procedures Reference</i> [1] for help using WinSCP.</p>
<p>---End of Procedure---</p>		

**Procedure 7. Delete TVOE host key from PM&C**

<b>S T E P</b>	Use this procedure to delete the TVOE host SSH from PM&C. This is only needed if PM&C exists in the network at the time TVOE is being recovered and if this is not a new piece of hardware. <i>Check off (✓) each step as it is completed. If this procedure fails, contact <a href="#">Oracle Support</a>.</i>	
	Task	Description
	<b>Prerequisites</b>	In addition to the requirements listed in Section 2, this procedure also requires the following: <ul style="list-style-type: none"> <li>• PM&amp;C IP Address</li> <li>• PM&amp;C <i>admusr</i> password</li> </ul>
1 <input type="checkbox"/>	Determine TVOE ipv6 link local address.	Determine the IPv6 link local address of the TVOE host by executing the following procedure from this document:  <input type="checkbox"/> “Procedure 8. Determine IPv6 Link Local Address”
2 <input type="checkbox"/>	Log in to the PM&C CLI.	Log in to the PM&C via SSH as the <i>admusr</i> user.
3 <input type="checkbox"/>	<b>PM&amp;C CLI:</b>  Delete the remote host key.	Using the IPv6 address found in Step 1, execute the following command to remove the TVOE host’s SSH key from the PM&C.  <pre>\$ sudo /usr/TKLC/smac/bin/pmacadm removeHostKeys -- ip=&lt;TVOE_IP&gt;</pre> An example of the output is shown below:  <pre>successful delete of entry for ip (fe80::21e:bff:fe76:5e1c) from PM&amp;C list of known hosts.</pre>
---End of Procedure---		

**Procedure 8. Determine IPv6 Link Local Address**

<b>S T E P</b>	Use this procedure to find the IPv6 link local address of the TVOE host . <i>Check off (✓) each step as it is completed. If this procedure fails, contact <a href="#">Oracle Support</a>.</i>	
	Task	Description
1 <input type="checkbox"/>	<b>TVOE host remote console:</b>  Connect to the remote console	Using the section listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i> [1], log in to the remote console by using a SSH client to connect to the IP address of the TVOE host remote console.  <input type="checkbox"/> “Appendix G: How to Access a Server Console Remotely” [1]

## Procedure 8. Determine IPv6 Link Local Address

<p><b>2</b></p> <input type="checkbox"/>	<p><b>TVOE host remote console:</b></p> <p>Log into the server</p>	<p>Log in as the <i>admusr</i> user.</p>
<p><b>3</b></p> <input type="checkbox"/>	<p><b>TVOE host remote console:</b></p> <p>Detect IPv6 link local address.</p>	<p>On the command line execute the following command:</p> <pre><b>\$ ip -6 addr show dev control</b></pre> <p>An example of the output of this command is shown below:</p> <pre>12: control: &lt;BROADCAST,MULTICAST,UP,LOWER_UP&gt; mtu 1500     inet6 fe80::21e:bff:fe76:5e1c/64 scope link         valid_lft forever preferred_lft forever</pre> <p>In this case the link local address is <b>fe80::21e:bff:fe76:5e1c</b>. Record the link local address in the output for later use.</p>
<p><b>4</b></p> <input type="checkbox"/>	<p><b>TVOE host remote console:</b></p> <p>Log out.</p>	<p>Using the sections listed below from the <i>Platform 7.2.x Configuration Procedures Reference</i>[1], log out of the remote console.</p> <p><input type="checkbox"/> “Appendix G: How to Access a Server Console Remotely” [1]</p>
<p><b>---End of Procedure---</b></p>		

## Appendix A. Locate Product Documentation on the Oracle Technical Network Site

Oracle customer documentation is available on the web at the Oracle Technology Network (OTN) site, <http://docs.oracle.com>. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at [www.adobe.com](http://www.adobe.com).

Log into the Oracle Customer Support site at <http://docs.oracle.com>.

1. Under **Applications**, click the link for **Communications**.
2. The *Oracle Communications Documentation* window opens with Tekelec shown near the top.
3. Click **Oracle Communications Documentation for Tekelec Products**.
4. Navigate to your Product and then the Release Number, and click the **View** link (the Download link will retrieve the entire documentation set).