Oracle® Communications Platform

TVOE 3.3 Disaster Recovery

Disaster Recovery Procedure

Release 7.3

E80608

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ORACLE®

Oracle Communications TVOE 3.3 Disaster Recovery Release 7.3

E80608 Revision 02

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Important Notices

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

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

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html.

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]   *PMAC 6.3 Tekelec Platform Configuration Reference Guide*, CGBU_019854, E80301, Latest Revision, Oracle

[2]   *TPD Initial Product Manufacture*, CGBU_ENG_24_3350, E53017, 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:

- *PMAC 6.3 Tekelec Platform Configuration Reference Guide*, CGBU_019854, E80301, Latest Revision, Oracle [1]

- *TPD Initial Product Manufacture*, CGBU_ENG_24_3350, E53017, Latest Revision, Oracle [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***	

Table 2 Required Information

Item	Value
PM&C IP****	
PM&C admusr password****	
PM&C GUI password****	

* 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.

**** If a PM&C is available.

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.
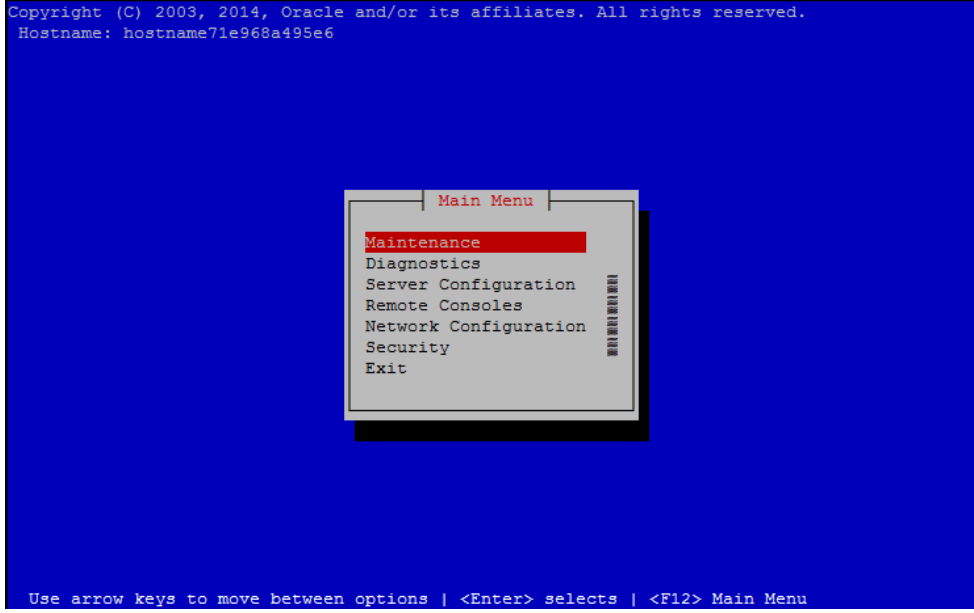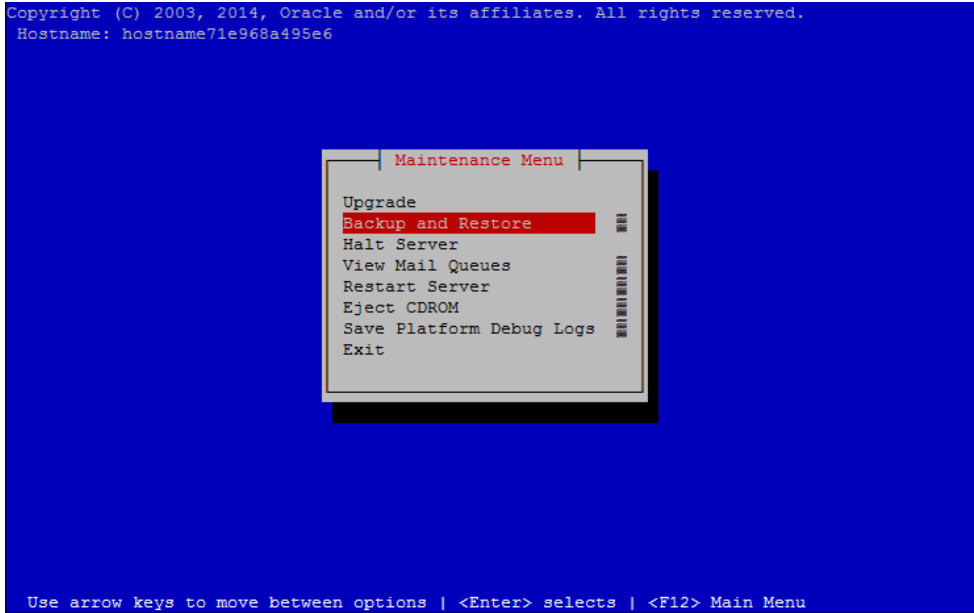
3   TVOE Disaster Recovery Procedure
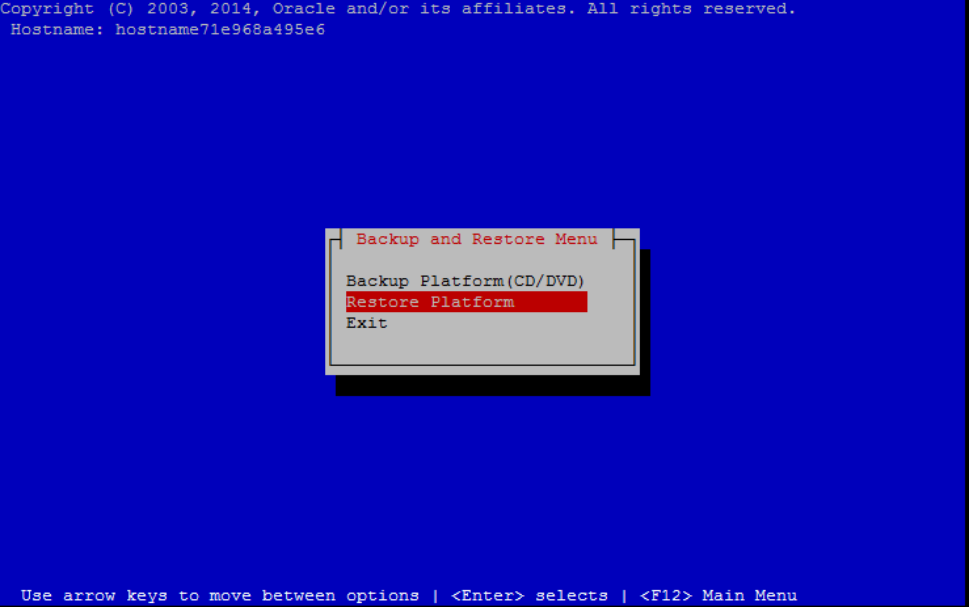
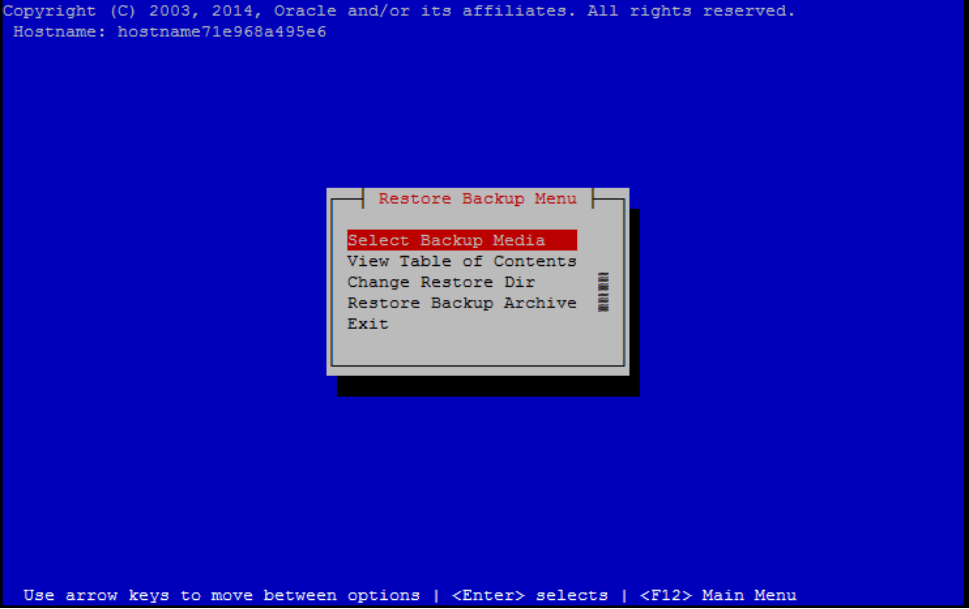## 3.1   Restore TVOE configuration from backup media

Procedure 1. Restore TVOE configuration from backup media

S T E P	Use this procedure to restore the TVOE application configuration from backup media. *Check off (√) each step as it is completed.* **If this procedure fails, contact** Oracle Support.	
	Task	**Description**
	Prerequisites	You must have a backup ISO image to perform this procedure.
1 ☐	Install TVOE application. Check each box as each task is completed. Do not check the box if the task is not performed.	If PM&C is available then IPM the TVOE application using the following procedure from this document: ☐ "Procedure 3. PM&C Aided TVOE IPM" If PM&C is not available, IPM the TVOE application using the following procedure from this document: ☐ "Procedure 2. Standalone TVOE IPM"
2 ☐	**TVOE host remote console:** Configure network	If PM&C is available then skip to the next step. Otherwise, execute the following procedure to configure an IP address on the TVOE host. **Note**: 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. ☐ "Procedure 4. Configure Network"
3 ☐	Restore TVOE Backup ISO image to the TVOE host.	Restore the TVOE Backup ISO image to the TVOE host by executing one of the following procedures: If using NetBackup to restore the TVOE Backup ISO image then execute: ☐ "Procedure 5. Restore TVOE backup ISO using NetBackup" If copying the TVOE Backup ISO from a remote location, such as a PM&C or Customer PC, then execute: ☐ "Procedure 6. Restore TVOE backup ISO using SCP"
4 ☐	**TVOE host remote console:** Connect to the remote console.	Using the section listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], log in to the remote console using a SSH client to connect to the IP address of the TVOE host remote console. ☐ "How to Access a Server Console Remotely [1]"
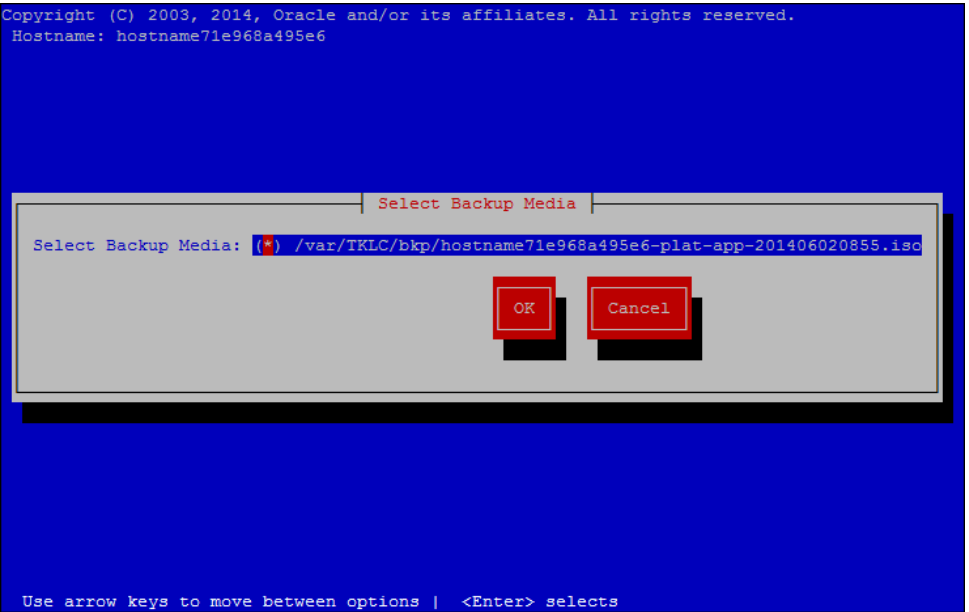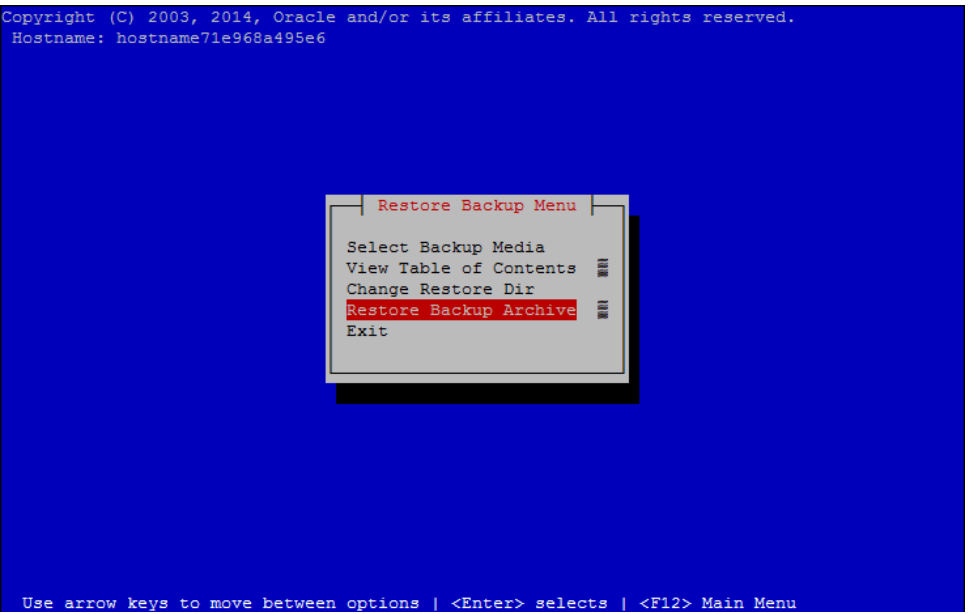
Procedure 1. Restore TVOE configuration from backup media

5 ☐	**TVOE host remote console:** Log in to the platcfg menu.	Log in as the *platcfg* user.
6 ☐	**TVOE host remote console:** Select the "Maintenance" option	Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6 ┤ Main Menu ├ Maintenance Diagnostics Server Configuration Remote Consoles Network Configuration Security Exit Use arrow keys to move between options | \<Enter\> selects | \<F12\> Main Menu
7 ☐	**TVOE host remote console:** Select the "Backup and Restore" option	Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6 ┤ Maintenance Menu ├ Upgrade Backup and Restore Halt Server View Mail Queues Restart Server Eject CDROM Save Platform Debug Logs Exit Use arrow keys to move between options | \<Enter\> selects | \<F12\> Main Menu
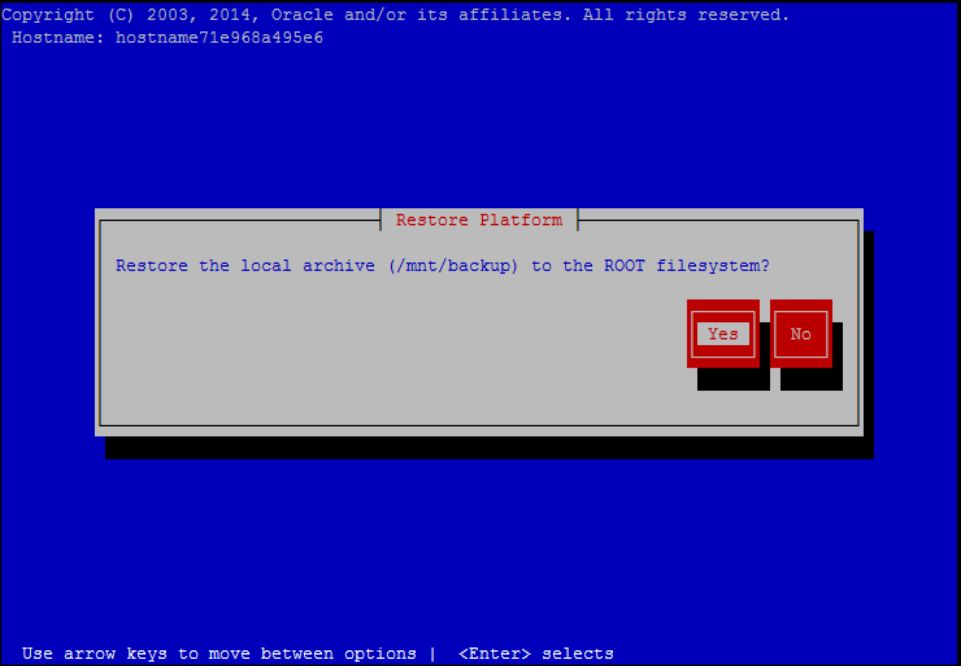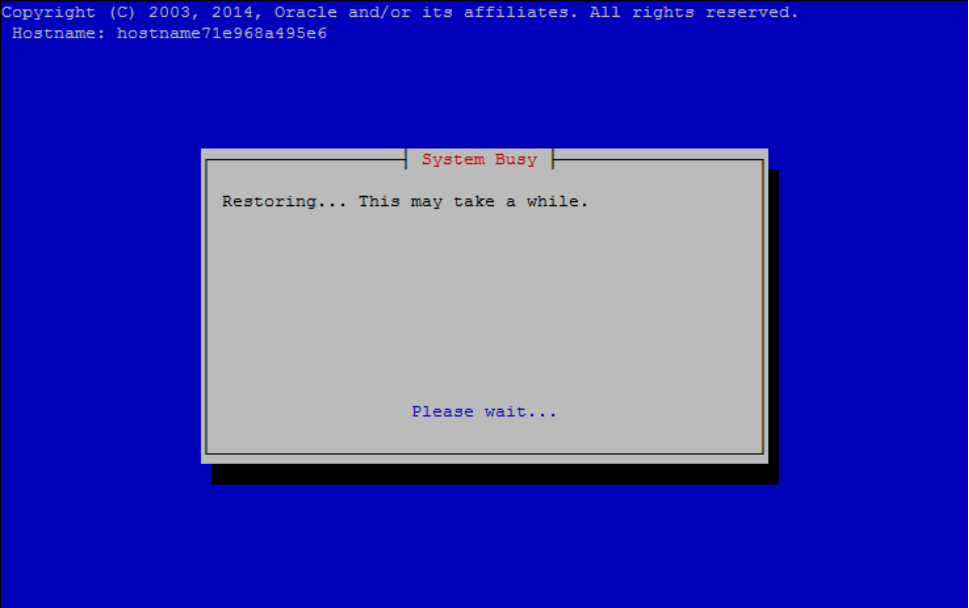
Procedure 1. Restore TVOE configuration from backup media

8 ☐	**TVOE host remote console:** Select the "Restore Platform" option.	
9 ☐	**TVOE host remote console:** Select the "Select Backup Media" option	

Procedure 1. Restore TVOE configuration from backup media

| 10 ☐ | **TVOE host remote console:**

Select the desired archive. | Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.
Hostname: hostname71e968a495e6

┤ Select Backup Media ├

Select Backup Media: (*) /var/TKLC/bkp/hostname71e968a495e6-plat-app-201406020855.iso

OK   Cancel

Use arrow keys to move between options \| <Enter> selects |
| 11 ☐ | **TVOE host remote console:**

Select the "Restore Backup Archive" option. | Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.
Hostname: hostname71e968a495e6

┤ Restore Backup Menu ├

Select Backup Media
View Table of Contents
Change Restore Dir
Restore Backup Archive
Exit

Use arrow keys to move between options \| <Enter> selects \| <F12> Main Menu |
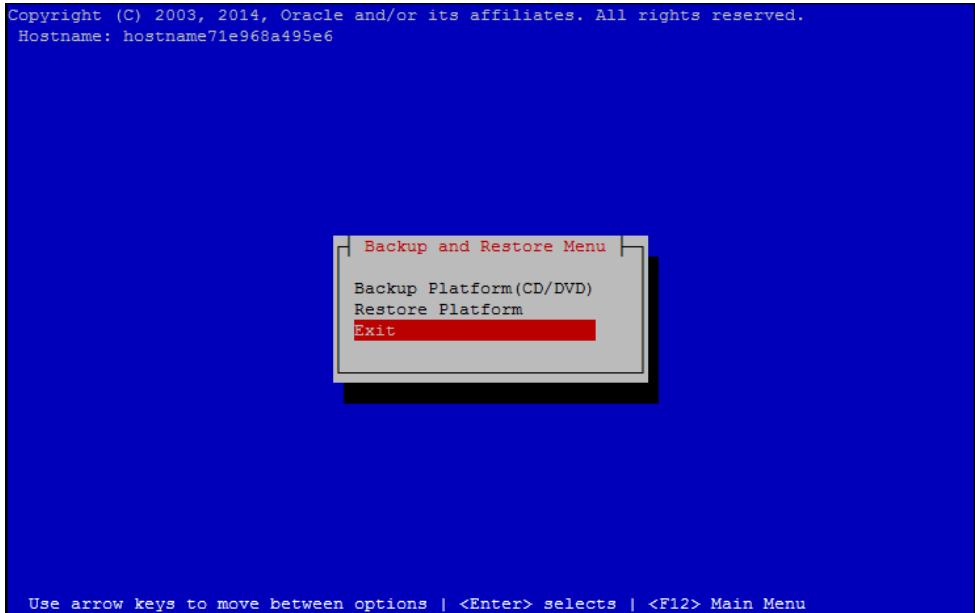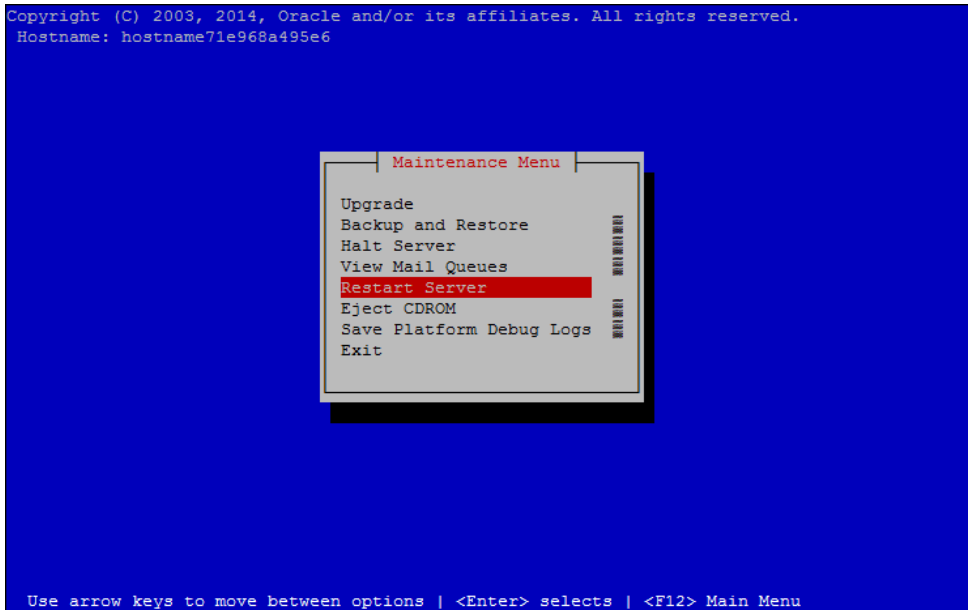
Procedure 1. Restore TVOE configuration from backup media

12 ☐	**TVOE host remote console:** Confirm restore	Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6 ┤ Restore Platform ├ Restore the local archive (/mnt/backup) to the ROOT filesystem? Yes No Use arrow keys to move between options | <Enter> selects
13 ☐	**TVOE host remote console:** Wait for restore to complete. This will typically take less than 5 minutes.	Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6 ┤ System Busy ├ Restoring... This may take a while. Please wait...
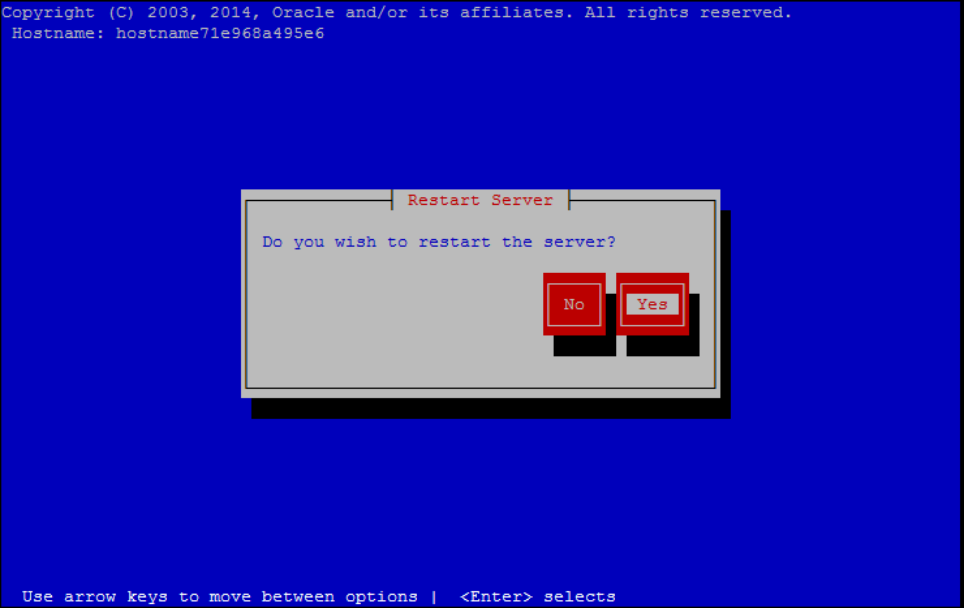
Procedure 1. Restore TVOE configuration from backup media

14 ☐	**TVOE host remote console:** Restore is complete	
		Note: If any failures are reported, contact <u>Oracle Support</u> for information on how to proceed.
15 ☐	**TVOE host remote console:** Exit out of the Restore Backup Menu.	

Procedure 1. Restore TVOE configuration from backup media

16 ☐	**TVOE host remote console:** Exit out of the Backup and Restore Menu.	
17 ☐	**TVOE host remote console:** Select the "Restart Server" option.	

Procedure 1. Restore TVOE configuration from backup media
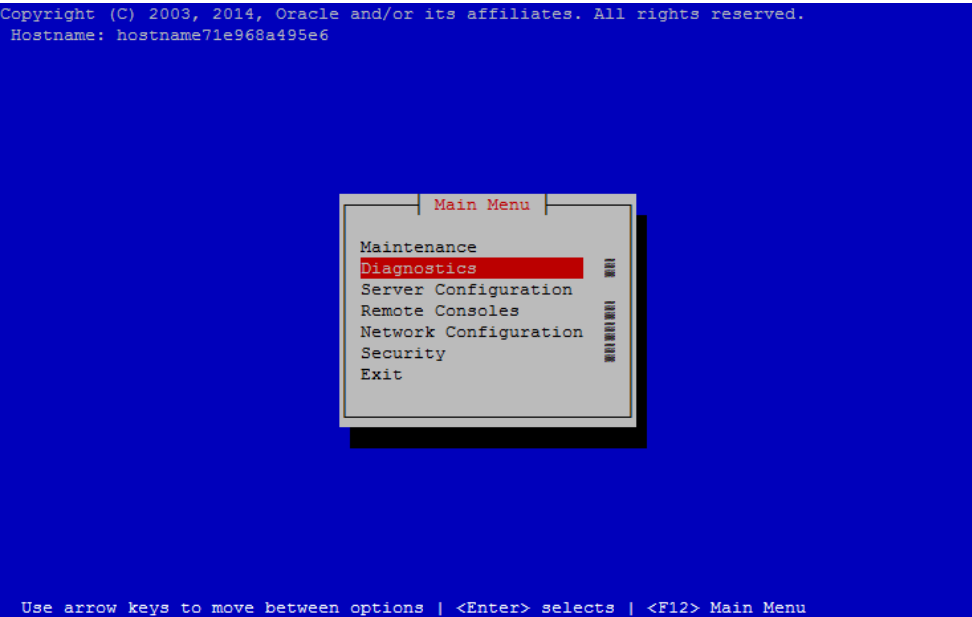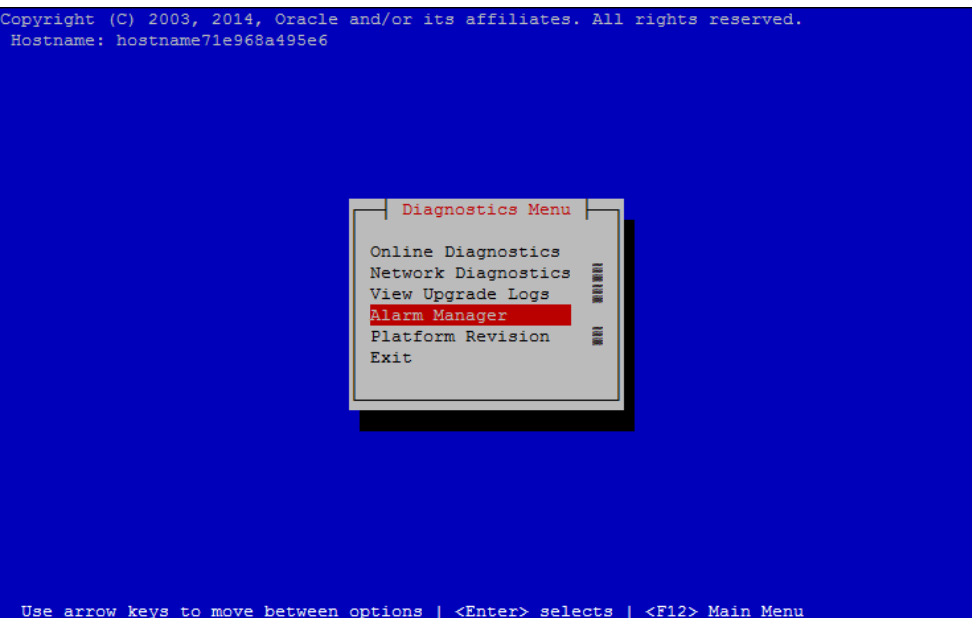
18 ☐	**TVOE host remote console:** Select yes to restart server.	
19 ☐	**TVOE host remote console:** Confirm restart.	

Procedure 1. Restore TVOE configuration from backup media

20 ☐	**TVOE host remote console:** Wait for restart to successfully complete. This should typically take less than 20 minutes to complete.	
21 ☐	**TVOE host remote console:** Log in as *tvoeadmin* user.	Log in as the *tvoeadmin* user.
22 ☐	**TVOE host remote console:** Verify storage pools are active.	Execute the following command and verify all storage pools are listed and are in the active state: **$ virsh -c "qemu:///system" pool-list** An example of the output is shown below: ```\nName State Autostart\n---\ndefault active yes\nvgguests active yes\n``` **Note:** If any storage pools are missing or inactive, contact Oracle Support for information on how to proceed.
23 ☐	**TVOE host remote console:** Log out, then log in as *platcfg* user.	Log out by typing **exit** at the command prompt and pressing **Enter**. Log in as the *platcfg* user.

Procedure 1. Restore TVOE configuration from backup media

24 ☐	**TVOE host remote console:** Select the "Diagnostics" option.	Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6 ┤ Main Menu ├ Maintenance Diagnostics Server Configuration Remote Consoles Network Configuration Security Exit Use arrow keys to move between options | <Enter> selects | <F12> Main Menu
25 ☐	**TVOE host remote console:** Select the "Alarm Manager" option.	Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved. Hostname: hostname71e968a495e6 ┤ Diagnostics Menu ├ Online Diagnostics Network Diagnostics View Upgrade Logs Alarm Manager Platform Revision Exit Use arrow keys to move between options | <Enter> selects | <F12> Main Menu

Procedure 1. Restore TVOE configuration from backup media

26 ☐	**TVOE host remote console:**
	
	Select the "Show Alarm Status" option.
		Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.
		  Hostname: hostname71e968a495e6
		
		┌─ AlarmMgr Options Menu ─┐
		│ Show Alarm Status │
		│ Exit │
		└─────────────────────────┘
		
		  Use arrow keys to move between options | <Enter> selects | <F12> Main Menu

27 ☐	**TVOE host remote console:**
	
	Examine the output and determine if any errors or failures were reported.
		Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.
		  Hostname: hostname71e968a495e6
		                              Alarms
		
		  Forward Backward Top Bottom Exit
		
		  Use arrow keys to move between options | <Enter> selects
		
		Note: If any failures are reported contact Oracle Support for information on how to proceed.

Procedure 1. Restore TVOE configuration from backup media

28	**TVOE host remote console:**
	
	Optionally enable HIDS
		Note: Enabling HIDS is optional. This step should be skipped if HIDS is not required to be enabled.
		
		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 initialize, enable HIDS, and update the baseline:
		
		`$ /usr/TKLC/plat/bin/hidsMgr --initialize`
		`$ /usr/TKLC/plat/bin/hidsMgr --enable`
		`$ /usr/TKLC/plat/bin/hidsMgr --update --all`
		
		An example of the output is shown below:
		
		`$ /usr/TKLC/plat/bin/hidsMgr --initialize`
		`LOG: HIDS monitoring has been Initialized`
		`HIDS baseline has been initialized`
		`New State: INITIALIZED $ /usr/TKLC/plat/bin/hidsMgr --enable`
		`HIDS monitoring has successfully been enabled`
		`New State: ENABLED`
		`$ /usr/TKLC/plat/bin/hidsMgr --update --all`
		`HIDS baseline has successfully been updated`

29 ☐	**TVOE host remote console:** Log out.	Using the section listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], log out of the remote console. ☐ "How to Access a Server Console Remotely" [1]
30 ☐	Remove TVOE SSH key from PM&C.	If this TVOE host will host PM&C, this is completely new hardware, or there is no PM&C in the network then no work is necessary for this step. Remove the TVOE remote host key from the PM&C in the network by executing the following procedure from this document: ☐ "Procedure 7. Delete TVOE host key from PM&C"
---End of Procedure---		

3.2   Supporting Procedures

Procedure 2. Standalone TVOE IPM

S T E P	Use this procedure to install the TVOE application without a PM&C. *Check off (√) each step as it is completed.* **If this procedure fails, contact** Oracle Support.	
	Task	**Description**
1 ☐	Install TVOE application. Check each box as each task is completed.	Using the section listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], reinstall the TVOE application in accordance with the checklist shown: ☐ *"IPM Management Server"* [1] **Note**: 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

S T E P	Use this procedure to install the TVOE application using a PM&C. *Check off (√) each step as it is completed.* **If this procedure fails, contact** Oracle Support.	
	Task	**Description**

	Prerequisites	**In addition to the requirements listed in Section 2, this procedure also requires the following:**
		  • PM&C IP Address
		  • PM&C GUI Password

1 ☐	Install TVOE application. Check each box as each task is completed.	Use the sections listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], to reinstall the TVOE application with the aid of PM&C: ☐ "IPM Servers Using PM&C Application" [1] **Note:** The version of TVOE used for this procedure must match the backed up version of TVOE.
---End of Procedure---		

Procedure 4. Configure Network

S T E P	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. *Check off (√) each step as it is completed.* **If this procedure fails, contact** Oracle Support.
	Task	**Description**
1 ☐	**TVOE host remote console:** Connect to the remote console.	Using the section listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], log in to the remote console by using a SSH client to connect to the IP address of the TVOE host remote console. ☐ "How to Access a Server Console Remotely" [1]
2 ☐	**TVOE host remote console:** Log into the server	Log in as the *admusr* user.

3 ☐	**TVOE host remote console:**
	
	 Remove live network configuration.
		Remove any live interface configuration on the TVOE by executing the following command:
		
		 `$ sudo /sbin/service network stop`
		
		 An example of the output is shown below:
		
		 `Shutting down interface control:   [  OK  ]`
		`Shutting down interface bond0:   [  OK  ]`
		`Shutting down loopback interface:   [  OK  ]`

4 ☐	**TVOE host remote console:** 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: `$ sudo /sbin/ifup lo`

5 ☐	**TVOE host remote console:**
	
	 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. `<VLAN_DEVICE>` is the name of the vlan device that is being created, `<DEVICE>` is the name of the physical interface to build the vlan device on top of, and `<VLAN>` is the number of the vlan. `<VLAN_DEVICE>` is a concatenation of `<DEVICE>` and `<VLAN>` which should both be retrieved from Table 2 Required Information.
		
		 `$ sudo /sbin/ip link add dev <VLAN_DEVICE> link <DEVICE> type vlan id <VLAN>`
		`$ sudo /sbin/ip link set up <DEVICE>`
		
		 There should be no output from the commands. An example is shown below:
		
		 `$ sudo /sbin/ip link add dev eth01.3 link eth01 type vlan id 3`
		`$ sudo /sbin/ip link set up eth01`
		
		 Note: `<DEVICE>` in the following steps would now be "`eth01.3`"

Procedure 4. Configure Network

6 ☐	**TVOE host remote console:** Set up IP address on ethernet device.	On the command line execute the following command to add an IP address to the system. The **\<IP\>** and **\<NETMASK\>** 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&C. The device **\<DEVICE\>** will need to be physically attached to a network segment that can be reached from the machine hosting the TVOE backup ISO image. `$ sudo /sbin/ip addr add <IP>/<NETMASK> dev <DEVICE>` There should be no output from the command.
7 ☐	**TVOE host remote console:** Bring up the ethernet device.	On the command line execute the following command to bring up the interface **\<DEVICE\>**. `$ sudo /sbin/ip link set up <DEVICE>` There should be no output from the command.
8 ☐	**TVOE host remote console:** Add route if necessary.	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. **\<GATEWAY\>** is the IP address of the gateway from Table 2 Required Information. `$ sudo /sbin/ip route add default via <GATEWAY>` There should be no output from the command.

9 ☐	**TVOE host remote console:**
	Verify network settings applied successfully.
		Verify the network settings, by running the following command. In the command below, **\<REMOTE SYSTEM\>** is the IP address of either the NetBackup master server or of the PM&C from Table 2 Required Information.
		
		`$ /bin/ping –c 4 <REMOTE SYSTEM>`
		
		Below is sample output from the command:
		
		``
		[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 ~]#
		``
		
		If packet loss is higher than 25%, contact Oracle Support.

Procedure 4. Configure Network

10 ☐	**TVOE host remote console:** Log out.	Using the section listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], log out of the remote console. ☐ "How to Access a Server Console Remotely" [1]
---End of Procedure---		

Procedure 5. Restore TVOE backup ISO using NetBackup

S T E P	Use this procedure to restore the TVOE Backup ISO image to the TVOE host by pushing it via NetBackup. *Check off (√) each step as it is completed.* **If this procedure fails, contact** Oracle Support.	
	Task	**Description**
	Prerequisites	In addition to the requirements listed in Section 2, this procedure also requires the following: • TVOE has been configured with an IP address in *Procedure 4: Configure Network*
1 ☐	**TVOE host remote console:** Connect to the remote console.	Using the section listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], log in to the remote console by using a SSH client to connect to the IP address of the TVOE host remote console. ☐ "How to Access a Server Console Remotely" [1]
2 ☐	**TVOE host remote console:** Install NetBackup Client.	Using the section listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], install and configure the NetBackup Client on TVOE. ☐ "TVOE NetBackup Client Configuration" [1]
3 ☐	**NetBackup Server:** Restore TVOE Backup ISO.	Interface with the NetBackup Master Server and initiate a restore of the TVOE Backup ISO image. **Note**: Once restored, the ISO image will be in **/var/TKLC/bkp/** on the TVOE Server.
4 ☐	**TVOE host remote console:** Log out.	Using the section listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], log out of the remote console. ☐ "How to Access a Server Console Remotely" [1]
---End of Procedure---		

Procedure 6. Restore TVOE backup ISO using SCP

<table>
<tr>
<td rowspan="2">S
T
E
P</td>
<td colspan="2">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.

Check off (√) each step as it is completed. **If this procedure fails, contact** <u>Oracle Support</u>.</td>
</tr>
<tr>
<td>**Task**</td>
<td>**Description**</td>
</tr>
<tr>
<td></td>
<td>**Prerequisites**</td>
<td>**In addition to the requirements listed in Section 2, this procedure also requires the following:**
•   TVOE has been configured with an IP address in *Procedure 4: Configure Network*</td>
</tr>
<tr>
<td>**1**
☐</td>
<td>**PM&C or Customer PC:**

Copy Backup ISO image to TVOE</td>
<td>Using the IP address on the TVOE host (if a PM&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 *tvoexfer* user's home directory.
Note: If you do not have a backup ISO image then you cannot proceed.

• **Linux**
    From the command line of a Linux machine use the following command to copy the Backup ISO image to the TVOE host:

    `# scp <path_to_image> tvoexfer@<TVOE_IP>:backup/`

    Where `<path_to_image>` is the path to the Backup ISO image on the local system and `<TVOE_IP>` is the TVOE IP address. If the IP is an IPv4 address then `<TVOE_IP>` will be a normal dot-decimal notation (e.g. "`10.240.6.170`"). If the IP is an IPv6 link local address then `<TVOE_IP>` will be need to be scoped such as "`[fe80::21e:bff:fe76:5e1c%control]`" where **control** 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.
    IPv4 Example:
    `# scp /path/to/image.iso tvoexfer@10.240.6.170:backup/`

    IPv6 Example:
    `# scp /path/to/image.iso`
       `tvoexfer@[fe80::21e:bff:fe76:5e1c%control]:backup/`
• **Windows**
    Use WinSCP to copy the Backup ISO image into the backup directory within the *tvoexfer* user's home directory. Refer to "Using WinSCP" from *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1] for help using WinSCP.</td>
</tr>
<tr>
<td colspan="3" align="center">**---End of Procedure---**</td>
</tr>
</table>

Procedure 7. Delete TVOE host key from PM&C

S T E P	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. *Check off (√) each step as it is completed.* **If this procedure fails, contact** Oracle Support.	
	Task	**Description**
	Prerequisites	In addition to the requirements listed in Section 2, this procedure also requires the following: • PM&C IP Address • PM&C *admusr* password
1 ☐	Determine TVOE ipv6 link local address.	Determine the IPv6 link local address of the TVOE host by executing the following procedure from this document: ☐ "Procedure 8. Determine IPv6 Link Local Address"
2 ☐	Log in to the PM&C CLI.	Log in to the PM&C via SSH as the *admusr* user.

3
☐
	PM&C CLI:
	
	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.
		
		`$ sudo /usr/TKLC/smac/bin/pmacadm removeHostKeys --ip=<TVOE_IP>`
		
		An example of the output is shown below:
		
		`Successful delete of entry for ip (fe80::21e:bff:fe76:5e1c) from PM&C list of known hosts.`

---End of Procedure---		

Procedure 8. Determine IPv6 Link Local Address

S T E P	Use this procedure to find the IPv6 link local address of the TVOE host . *Check off (√) each step as it is completed.* **If this procedure fails, contact** Oracle Support.	
	Task	**Description**
1 ☐	**TVOE host remote console:** Connect to the remote console	Using the section listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], log in to the remote console by using a SSH client to connect to the IP address of the TVOE host remote console. ☐ "How to Access a Server Console Remotely" [1]

Procedure 8. Determine IPv6 Link Local Address

2 ☐	**TVOE host remote console:** Log into the server	Log in as the *admusr* user.

3 ☐	**TVOE host remote console:**
	
	Detect IPv6 link local address.
		On the command line execute the following command:
		$ ip -6 addr show dev control
		
		An example of the output of this command is shown below:
		
		`12: control: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500`
		`    inet6 fe80::21e:bff:fe76:5e1c/64 scope link`
		`        valid_lft forever preferred_lft forever`
		
		In this case the link local address is **fe80::21e:bff:fe76:5e1c**. Record the link local address in the output for later use.

4 ☐	**TVOE host remote console:** Log out.	Using the sections listed below from the *PMAC 6.3 Tekelec Platform Configuration Reference Guide* [1], log out of the remote console. ☐ "How to Access a Server Console Remotely" [1]
---End of Procedure---		

Appendix A.   Locate Product Documentation on the Oracle Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center (OHC) site, http://docs.oracle.com. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at http://www.adobe.com.

1.   Access the Oracle Help Center site at http://docs.oracle.com.
2.   Click Industries.
3.   Under the Oracle Communications subheading, click the Oracle Communications documentation link.

The Communications Documentation page appears. Most products covered by these documentation sets will appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."

4.   Click on your Product and then the Release Number.

A list of the entire documentation set for the selected product and release appears.

5.   To download a file to your location, right-click the PDF link, select Save target as (or similar command based on your browser), and save to a local folder