Oracle® Communications
Policy Management

Software Upgrade Procedure (10.4.0 RC6 to 10.4.1)

Release 10.4.1

E64589-01 TKPMT, Revision 1

June 2015

Oracle Communications Policy Management   Software Upgrade Procedure (10.4.0 RC6 to 10.4.1)

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⚠ 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.

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See more information on MOS in the Appendix section.

TABLE OF CONTENTS

1. Introduction

1.1 Purpose and Scope

This document describes the procedure for the upgrade of the Wireline PCRF from 10.4.0_23.1.0 to 10.4.1._29.1.0 while the solution is in-service. The Wireline PCRF solution includes the components: CMP and MPE.

1.2 References

[1] TEKELEC Acronym Guide, MS005077, Current Revision

[2] Policy 8/9 Incremental Upgrade Procedure, MO007688, latest version

[3] Platform Configuration User's Guide ,910-6732-001,Current Revision

[4] CMP Wireline User Guide, 910-6895-001, Current Revision

[5] Policy 10.4 Incremental Upgrade Procedure, MO008288, latest version

1.3 Acronyms

Acronym	Definition
CMP	Configuration Management Platform
iLO	Integrated Lights Out manager
MPE	Multimedia Policy Engine
PCRF	Policy and Charging Rules Function
TPD	Tekelec Platform Distribution
UM	GUI of Upgrade Manager in CMP

Table 1. Acronyms

2. Upgrade/Backout Sequence

The Wireline PCRF solution components are configured in a clustered fashion, which means each component is installed on two blades (Active and standby) to provide high availability. When upgrading or backing out a cluster, the standby server will be performed first, and then the active server.

The correct sequence for incremental upgrade for the Wireline PCRF solution is as follows:

1) CMP cluster
2) MPE cluster

And for the backout sequence is opposite:

1) MPE cluster
3) CMP cluster

3. Pre-requisites Access/Materials

1) The target release "build 10.4.1_29.1.0" software will be available as an ISO image file.

2) The capability to secure copy (scp/sftp) ISO image from the laptop/workstation to the target servers.

3) User logins, passwords, IP addresses and other administration information for the servers to be upgraded.

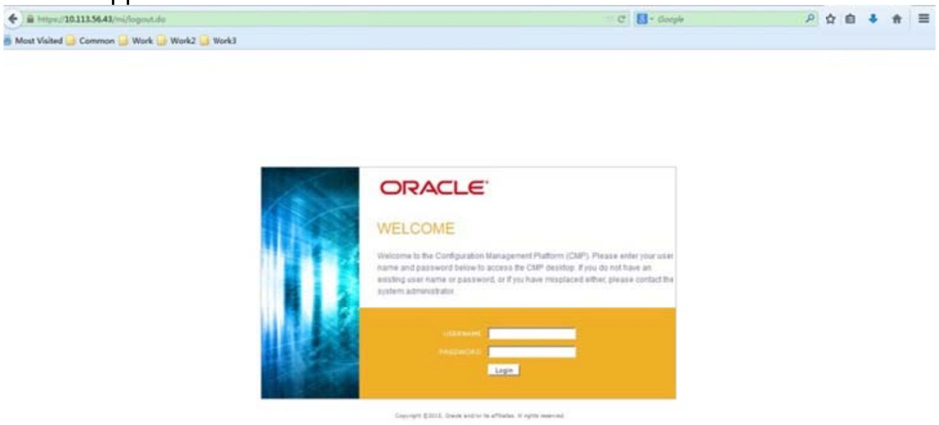
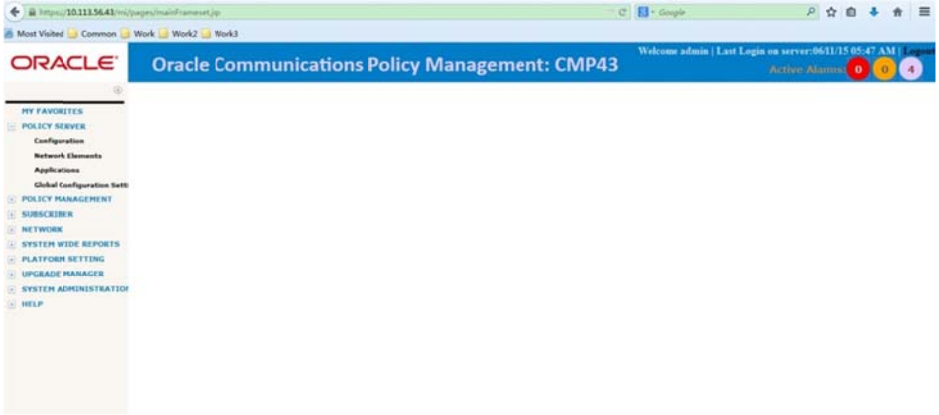
4) The capability to login to the target server as "root".

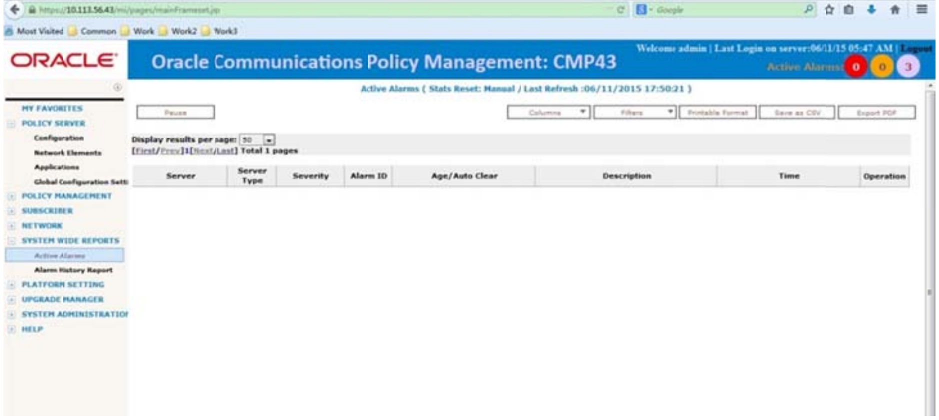
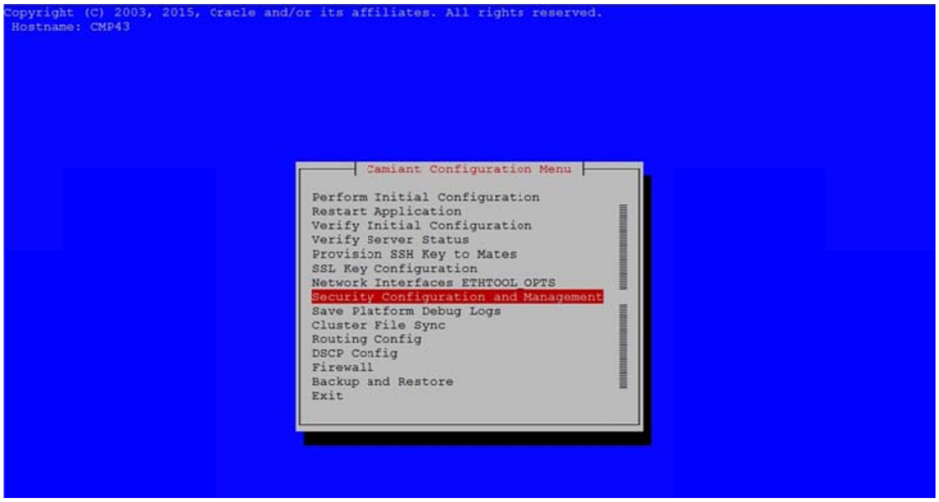
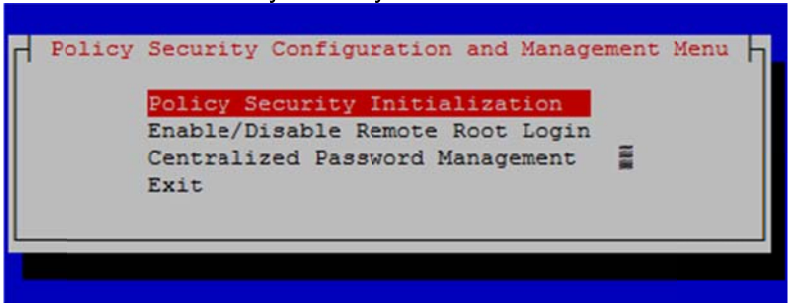
NOTE: All commands in CLI must be executed by root user. Login to the server can be accomplished through SSH, local console, or iLO. For SSH login, if the remote- root- login is disabled, login in with user "camiant", and then "su - root" to switch to root user. Reference section 5 for more information about the user administration and login policy.

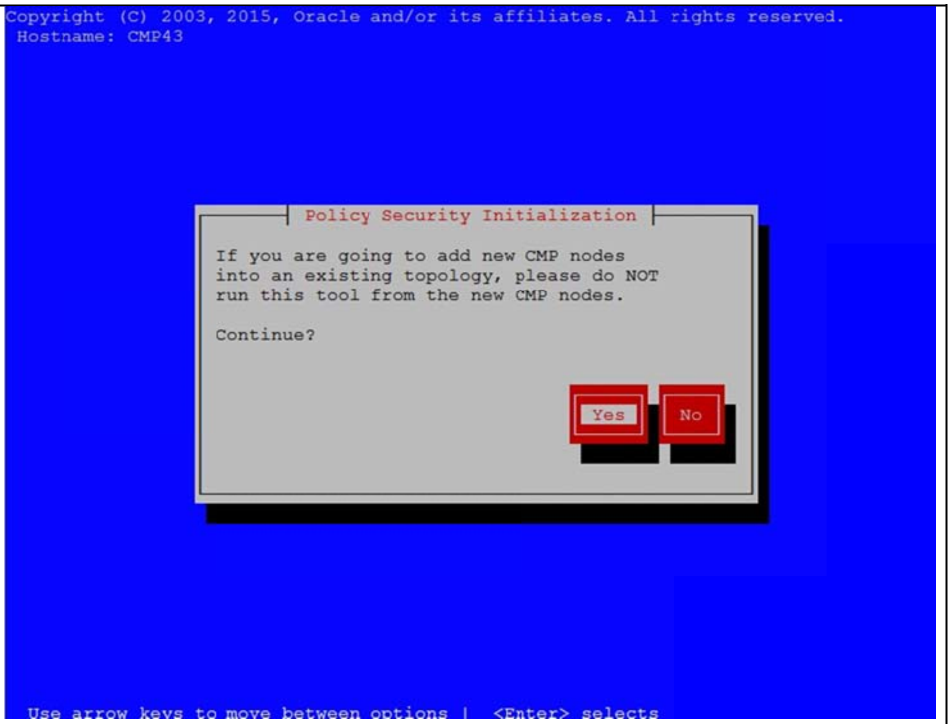
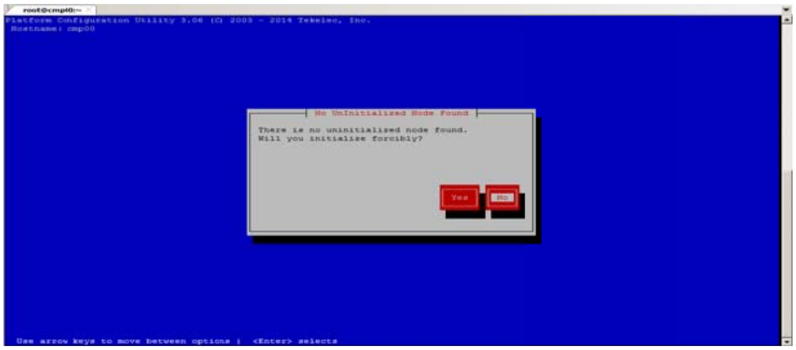
5) Already upgraded firmware to SPP 2.2.5.

4. Pre-upgrade system health check

This procedure is to determine the health and status of the servers to be upgraded. This must be executed at least once within the time frame of 24 or 36 hours prior to the start of the maintenance window. And it should be followed for each component, both active and standby nodes of both the CMP and MPE clusters.

STEP #	This procedure performs a pre-upgrade check on the system to decide if it is convenient to start the incremental upgrade of the system. **Needed material:** - CMP OAM VIP address - Laptop or workstation that can access CMP - CMP administrator password	
1. □	**Laptop/workstation on upgraded solution network:** login to CMP	• Open a web browser and type in the CMP OAM VIP to start the CMP application:  https://10.113.56.43/mi/logout.do Most Visited Common Work Work2 Work3 ORACLE WELCOME USERNAME PASSWORD Login Welcome to the Configuration Management Platform (CMP). Please enter your user name and password below to access the CMP desktop. If you do not have an existing user name or password, or if you have misplaced either, please contact the system administrator. Copyright ©2015, Oracle and/or its affiliates. All rights reserved. • Enter the username (admin) and the CMP administrator password to login:  https://10.113.56.43/mi/pages/mainFrameset.jsp Most Visited Common Work Work2 Work3 ORACLE Oracle Communications Policy Management: CMP43 Logout Active Alarms: 0 0 4 MY FAVORITES POLICY SERVER Configuration Network Elements Applications Global Configuration Setti POLICY MANAGEMENT SUBSCRIBER NETWORK SYSTEM WIDE REPORTS PLATFORM SETTING UPGRADE MANAGER SYSTEM ADMINISTRATIOI HELP Welcome admin | Last Login on server:06/11/15 05:47 AM |
2. □	**Laptop/workstation on upgraded solution network:**	• Inspect the “Active Alarms” from the “System Wide Report” side menu to make sure there is no major alarms that may affect upgrade :

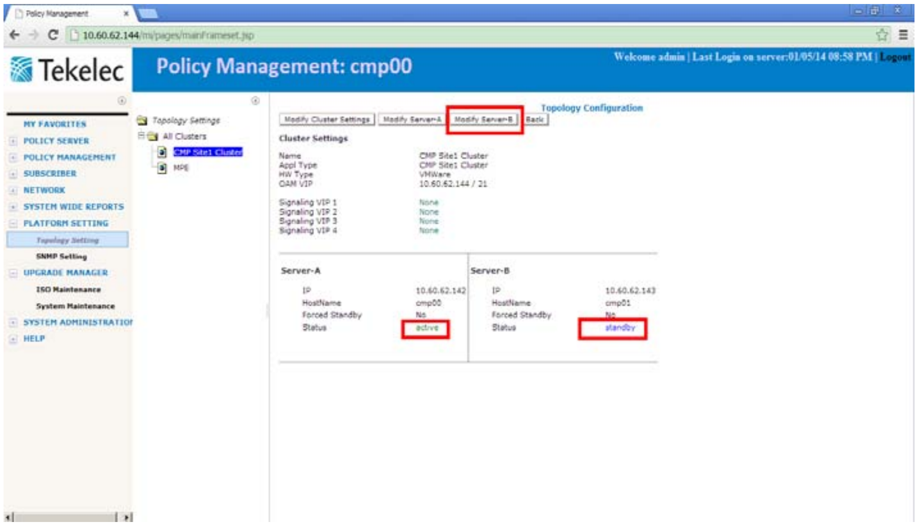
	Check active alarms	 https://10.113.56.43/mi/pages/mainFrameset.jsp Most Visited Common Work Work2 Work3 ORACLE Oracle Communications Policy Management: CMP43 Welcome admin | Last Login on server:06/11/15 05:47 AM | Logout Active Alarms: 0 0 3 MY FAVORITES POLICY SERVER Configuration Network Elements Applications Global Configuration Setti POLICY MANAGEMENT SUBSCRIBER NETWORK SYSTEM WIDE REPORTS Active Alarms Alarm History Report PLATFORM SETTING UPGRADE MANAGER SYSTEM ADMINISTRATIO HELP Pause Columns Filters Printable Format Save as CSV Export PDF Active Alarms (Stats Reset: Manual / Last Refresh :06/11/2015 17:50:21) Display results per page: 50 [First/Prev]1[Next/Last] Total 1 pages Server | Server Type | Severity | Alarm ID | Age/Auto Clear | Description | Time | Operation Note: if there are some alarms, please contact Oracle support
3. □	**Laptop/workstation on upgraded solution check:** check the security initial configuration	• Login into active CMP and issue the following command to enter the platcfg menu: `#su - platcfg` • Follow menu“Camiant Configuration”→“Security Configuration and Management” in platcfg:  Copyright (C) 2003, 2015, Oracle and/or its affiliates. All rights reserved. Hostname: CMP43 Camiant Configuration Menu Perform Initial Configuration Restart Application Verify Initial Configuration Verify Server Status Provision SSH Key to Mates SSL Key Configuration Network Interfaces ETHTOOL OPTS Security Configuration and Management Save Platform Debug Logs Cluster File Sync Routing Config DSCP Config Firewall Backup and Restore Exit • Choose “Policy Security Initialization”:  Policy Security Configuration and Management Menu Policy Security Initialization Enable/Disable Remote Root Login Centralized Password Management Exit • Enter “Yes” in the below popup dialog:

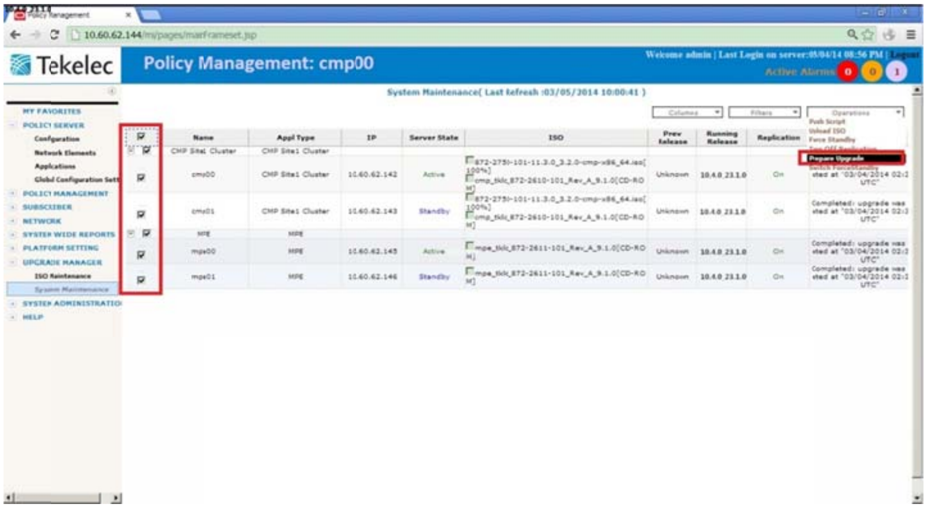
		 Copyright (C) 2003, 2015, Oracle and/or its affiliates. All rights reserved. Hostname: CMP43 Policy Security Initialization If you are going to add new CMP nodes into an existing topology, please do NOT run this tool from the new CMP nodes. Continue? Yes No Use arrow keys to move between options | <Enter> selects • The following screen indicates the security initialization is done, or we should initialize the security configuration. Check section 5 for more information.  root@cmp00:~ Platform Configuration Utility 3.06 (C) 2003 - 2014 Tekelec, Inc. Hostname: cmp00 No Uninitialized Node Found There is no uninitialized node found. Will you initialize forcibly? Yes No Use arrow keys to move between options | <Enter> selects
4.	**Check the remote-root-login configuration:** all servers should be consistent	• Refer to section 7.3.
5.	**Ensure the server is not pending accept/reject**	• Navigate to menu item “SYSTEM WIDE REPORTS” -> “Active Alarms”, there are not Minor alarms: 32532 “Server Upgrade Pending Accept/Reject”. Before upgrade, we need to resolve this alarm by accepting upgrade. Refer to section 7.4 about how to accept.

5. Upgrade Procedure

5.1 Upgrade CMP Cluster

This procedure outlines the steps required for the incremental upgrade of the CMP cluster.

S T E P #	This procedure will upgrade the CMP cluster. Note: Policy Manager upgrade requires the CMP to be upgraded before the MPE.	
1. □	**Pre-checks:**	• Refer to section 4 in this document to follow the pre-checks steps on the CMP nodes to be upgraded to make sure system is ready for upgrade. • Refer to section 7.2 of this document to check the server status. • Check whether external provisioning (Baais for example) is stopped. Customer should stop provisioning during the upgrade. Otherwise the result of provisioning operations may be uncertain.
2.	**Upload ISO image**	• Upload the target ISO image to all CMP servers in the cluster, the way to upload is described in section 7.1 of this document.
3.	**CMP:** CMP servers status	• Login to CMP GUI and navigate to “Topology Settings”, then choose the CMP cluster from the navigation tree, and make sure none of the servers is in Out Of Service (OOS) status:  Policy Management 10.60.62.144/mi/pages/mainFrameset.jsp Tekelec Policy Management: cmp00 Welcome admin | Last Login on server:01/05/14 08:58 PM | Logout MY FAVORITES POLICY SERVER POLICY MANAGEMENT SUBSCRIBER NETWORK SYSTEM WIDE REPORTS PLATFORM SETTING Topology Setting SNMP Setting UPGRADE MANAGER ISO Maintenance System Maintenance SYSTEM ADMINISTRATIOI HELP Topology Settings All Clusters CMP Site1 Cluster MPE Topology Configuration Modify Cluster Settings Modify Server-A Modify Server-B Back Cluster Settings Name CMP Site1 Cluster Appl Type CMP Site1 Cluster HW Type VMWare OAM VIP 10.60.62.144 / 21 Signaling VIP 1 None Signaling VIP 2 None Signaling VIP 3 None Signaling VIP 4 None Server-A IP 10.60.62.142 HostName cmp00 Forced Standby No Status active Server-B IP 10.60.62.143 HostName cmp01 Forced Standby No Status standby
4.	**Prepare upgrade:** excluded tables from replication	• Navigate to “System Maintenance” under the “Upgrade Manager” menu item, select all the clusters, and then click “Prepare Upgrade” item in “Operations” menu:



10.60.62.144/mi/pages/mainFrameset.jsp

Tekelec Policy Management: cmp00

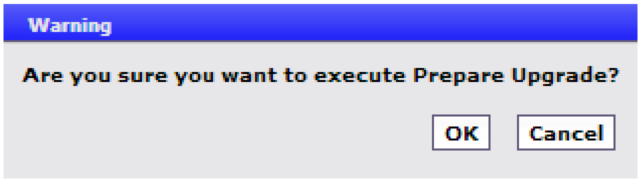
Welcome admin | Last Login on server:03/04/14 08:56 PM | Logout

Active Alarms 0 0 1

System Maintenance(Last Refresh :03/05/2014 10:00:41)

☑	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication	
☑	CMP Site1 Cluster	CMP Site1 Cluster							
☑	cmp00	CMP Site1 Cluster	10.60.62.142	Active	□872-2751-101-11.3.0_3.2.0-cmp-x86_64.iso[100%] □cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0 23.1.0	On	sted at "03/04/2014 02:3 UTC"
☑	cmp01	CMP Site1 Cluster	10.60.62.143	Standby	□872-2751-101-11.3.0_3.2.0-cmp-x86_64.iso[100%] □cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0 23.1.0	On	Completed: upgrade was sted at "03/04/2014 02:3 UTC"
☑	MPE	MPE							
☑	mpe00	MPE	10.60.62.145	Active	□mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0 23.1.0	On	Completed: upgrade was sted at "03/04/2014 02:3 UTC"
☑	mpe01	MPE	10.60.62.146	Standby	□mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0 23.1.0	On	Completed: upgrade was sted at "03/04/2014 02:3 UTC"

- Following message will pop up, and choose "OK":

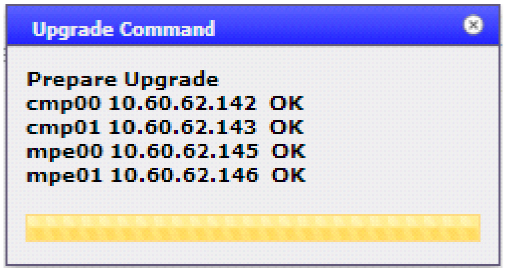


Warning

Are you sure you want to execute Prepare Upgrade?

- Following message indicates this operation is done:

Note: This window will disappear and the "checked" boxes will transition to "unchecked"



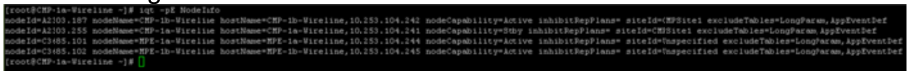
Upgrade Command

```
Prepare Upgrade
cmp00 10.60.62.142  OK
cmp01 10.60.62.143  OK
mpe00 10.60.62.145  OK
mpe01 10.60.62.146  OK
```

Attention: this operation is a "must-do" before beginning the upgrade. It is used to exclude some tables from replication during the upgrade. These exclusions should be implemented before the CMPs are upgraded until after all the MPEs have been upgraded. If new MPEs are added to the network, loaded with the initial 10.4.0 build, and will be upgraded to the 10.4.1 this procedure should be executed again to exclude the tables for the newly added MPE clusters. There is a check in the MPE upgrade section to confirm that these tables are excluded before the MPE upgrades. Refer to section 5.3 about how to withdraw this operation after all the entire network has been upgraded.

5. **Confirm operation "Prepare Upgrade" is applied successfully**

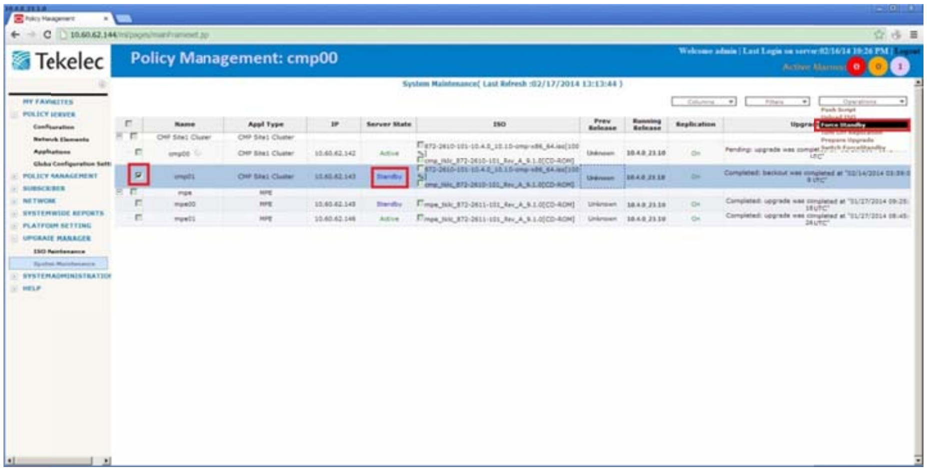
- Login to Active CMP CLI terminal, and issue the command "iqt -pE NodeInfo" and confirm that value "LongParam,AppEventDef" is assigned to column "excludeTables" for all entries:



```
[root@CMP-1a-Wireline ~]# iqt -pE NodeInfo
nodeId=A2103.187 nodeName=CMP-1b-Wireline hostName=CMP-1b-Wireline,10.253.104.242 nodeCapability=Active inhibitRepPlans= siteId=CMPSite1 excludeTables=LongParam,AppEventDef
nodeId=A2103.255 nodeName=CMP-1a-Wireline hostName=CMP-1a-Wireline,10.253.104.241 nodeCapability=Stby inhibitRepPlans= siteId=CMPSite1 excludeTables=LongParam,AppEventDef
nodeId=C3485.101 nodeName=MPE-1a-Wireline hostName=MPE-1a-Wireline,10.253.104.244 nodeCapability=Active inhibitRepPlans= siteId=Unspecified excludeTables=LongParam,AppEventDef
nodeId=C3485.102 nodeName=MPE-1b-Wireline hostName=MPE-1b-Wireline,10.253.104.245 nodeCapability=Active inhibitRepPlans= siteId=Unspecified excludeTables=LongParam,AppEventDef
[root@CMP-1a-Wireline ~]#
```

<table>
<tr>
<td>6.
□</td>
<td><b>Upgrade the standby server:</b> set the “Force standby flag”</td>
<td>

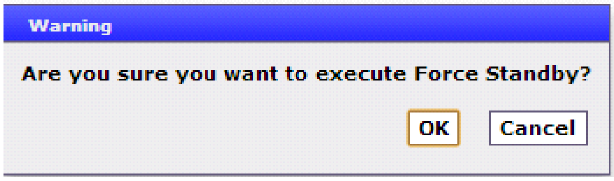
- Navigate to “System Maintenance” under the “Upgrade Manager” menu item, select the standby server to be upgraded, and click “force standby” item in “Operations” menu:



System Maintenance(Last Refresh :02/17/2014 13:13:44)

<table>
<tr><th>☐</th><th>Name</th><th>Appl Type</th><th>IP</th><th>Server State</th><th>ISO</th><th>Prev Release</th><th>Running Release</th><th>Replication</th><th>Upgrade Status</th></tr>
<tr><td>☐</td><td>CMP Site1 Cluster</td><td>CMP Site1 Cluster</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>☐</td><td>cmp00</td><td>CMP Site1 Cluster</td><td>10.60.62.142</td><td>Active</td><td>☐872-2610-101-10.4.0_10.15-cmp-x86_64.iso[100%]
☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>Unknown</td><td>10.4.0_23.10</td><td>On</td><td>Pending: upgrade was complet...</td></tr>
<tr><td>☑</td><td>cmp01</td><td>CMP Site1 Cluster</td><td>10.60.62.143</td><td>Standby</td><td>☐872-2610-101-10.4.0_10.15-cmp-x86_64.iso[100%]
☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>Unknown</td><td>10.4.0_23.10</td><td>On</td><td>Completed: backout was completed at "02/14/2014 03:59:09 UTC"</td></tr>
<tr><td>☐</td><td>mpe</td><td>MPE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>☐</td><td>mpe00</td><td>MPE</td><td>10.60.62.145</td><td>Standby</td><td>☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>Unknown</td><td>10.4.0_23.10</td><td>On</td><td>Completed: upgrade was completed at "01/27/2014 09:25:18 UTC"</td></tr>
<tr><td>☐</td><td>mpe01</td><td>MPE</td><td>10.60.62.146</td><td>Active</td><td>☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>Unknown</td><td>10.4.0_23.10</td><td>On</td><td>Completed: upgrade was completed at "01/27/2014 08:45:26 UTC"</td></tr>
</table>

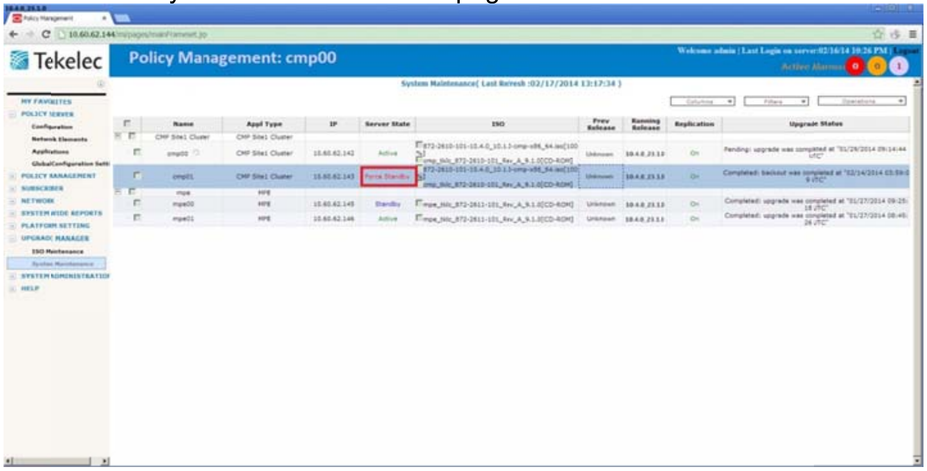
- Following message will pop up, and choose “OK”:



Warning

Are you sure you want to execute Force Standby?

“Force Standby” shall be shown in the page after about 10s:



System Maintenance(Last Refresh :02/17/2014 13:17:34)

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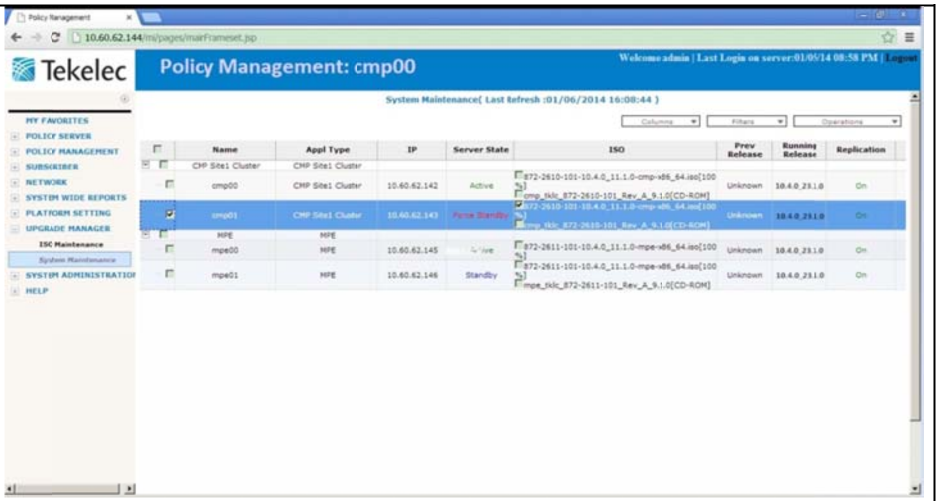
<tr><td>☐</td><td>CMP Site1 Cluster</td><td>CMP Site1 Cluster</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>☐</td><td>cmp00</td><td>CMP Site1 Cluster</td><td>10.60.62.142</td><td>Active</td><td>☐872-2610-101-10.4.0_10.1.1-cmp-x86_64.iso[100%]
☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>Unknown</td><td>10.4.0_23.1.0</td><td>On</td><td>Pending: upgrade was completed at "01/29/2014 09:14:44 UTC"</td></tr>
<tr><td>☐</td><td>cmp01</td><td>CMP Site1 Cluster</td><td>10.60.62.143</td><td>Force Standby</td><td>☐872-2610-101-10.4.0_10.1.1-cmp-x86_64.iso[100%]
☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>Unknown</td><td>10.4.0_23.1.0</td><td>On</td><td>Completed: backout was completed at "02/14/2014 03:59:09 UTC"</td></tr>
<tr><td>☐</td><td>mpe</td><td>MPE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>☐</td><td>mpe00</td><td>MPE</td><td>10.60.62.145</td><td>Standby</td><td>☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>Unknown</td><td>10.4.0_23.1.0</td><td>On</td><td>Completed: upgrade was completed at "01/27/2014 09:25:18 UTC"</td></tr>
<tr><td>☐</td><td>mpe01</td><td>MPE</td><td>10.60.62.146</td><td>Active</td><td>☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>Unknown</td><td>10.4.0_23.1.0</td><td>On</td><td>Completed: upgrade was completed at "01/27/2014 08:45:26 UTC"</td></tr>
</table>

</td>
</tr>
<tr>
<td>7.
□</td>
<td><b>Upgrade the standby server:</b> Start the upgrade</td>
<td>

- Login to CMP GUI as admin, navigate to “System Maintenance” under the “Upgrade Manager” menu item and select the server to be upgraded (the one that was set to Force Standby earlier). Note the checked boxes in the screenshot below.

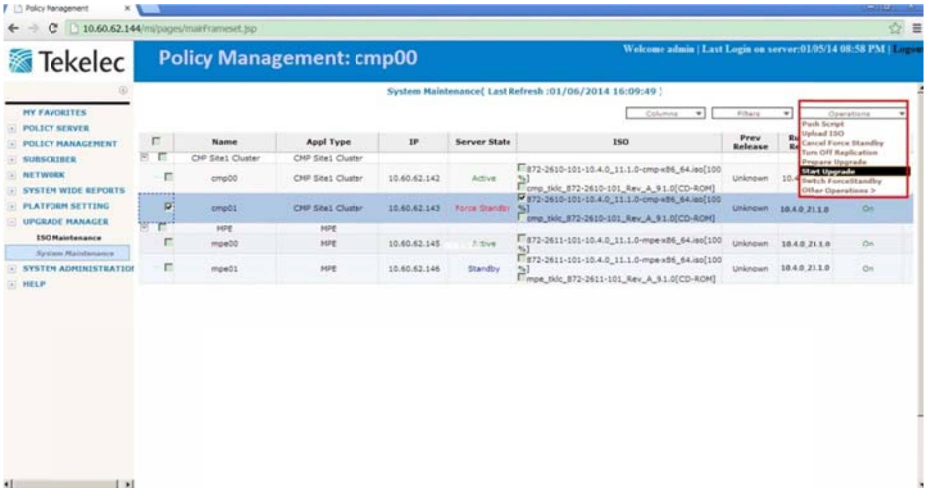
</td>
</tr>
</table>



System Maintenance(Last Refresh :01/06/2014 16:08:44)

☐	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication
☐	CMP Site1 Cluster	CMP Site1 Cluster						
☐	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On
☑	cmp01	CMP Site1 Cluster	10.60.62.143	Force Standby	☑872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On
☐	MPE	MPE						
☐	mpe00	MPE	10.60.62.145	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	Unknown	10.4.0_23.1.0	On
☐	mpe01	MPE	10.60.62.146	Standby	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On

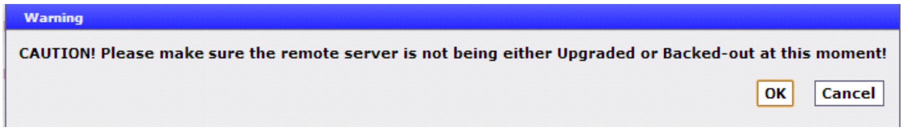
- Ensure that **correct version's ISO** is selected, choose "Start Upgrade" from the "Operations" menu:



System Maintenance(Last Refresh :01/06/2014 16:09:49)

☐	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication
☐	CMP Site1 Cluster	CMP Site1 Cluster						
☐	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4	
☑	cmp01	CMP Site1 Cluster	10.60.62.143	Force Standby	☑872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_21.1.0	On
☐	MPE	MPE						
☐	mpe00	MPE	10.60.62.145	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	Unknown	10.4.0_21.1.0	On
☐	mpe01	MPE	10.60.62.146	Standby	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_21.1.0	On

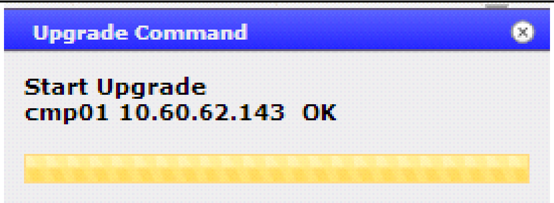
- Following message will pop up, and click "OK":



CAUTION! Please make sure the remote server is not being either Upgraded or Backed-out at this moment!

Note: Upgrade of a server which is in the process of being upgraded or "backed out" is not supported.

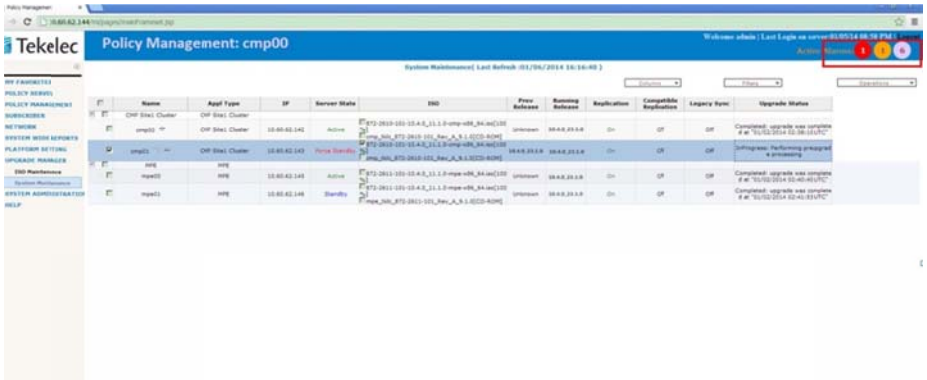
- Following message indicates that upgrade has started:



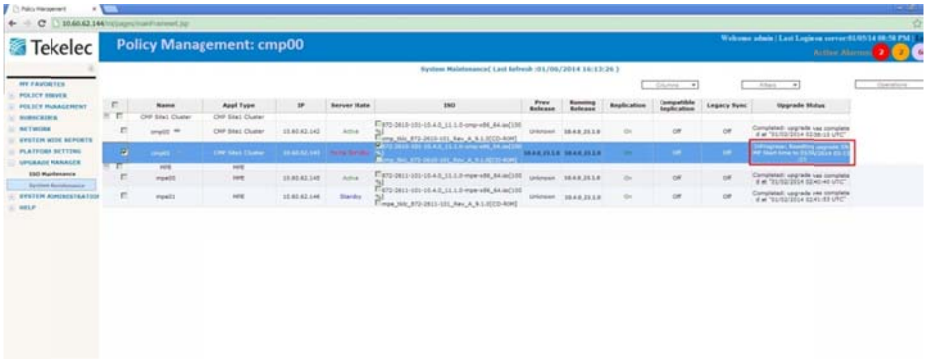
Upgrade Command

Start Upgrade
cmp01 10.60.62.143 OK

- Alarms (like: 70001, 31101, 31283) will be noted. These are expected and would be cleared automatically after the upgrade process is completed successfully:

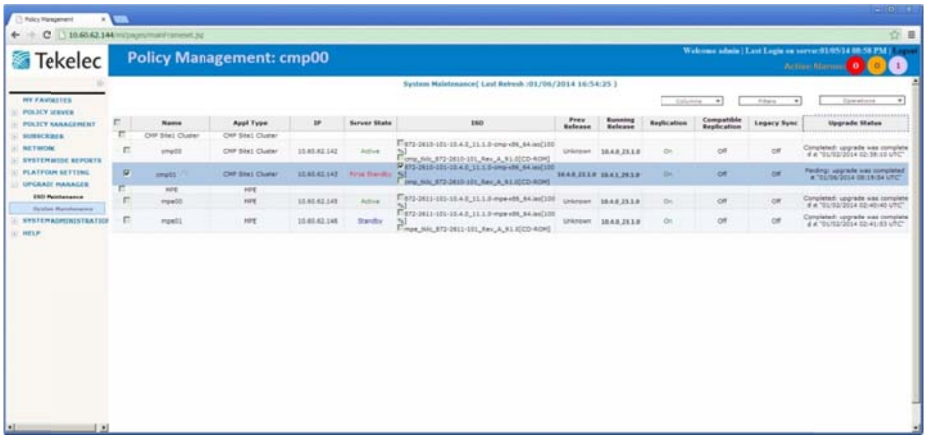


- As the upgrade progresses, the “Upgrade Status” column value will change reflecting the server being upgraded as seen in the screen shots below:



Note: “Upgrade status” progresses through several states such as “Validating media”, “Preparing for the upgrade”, “Chroot…”, “Resetting upgrade SNMP start time..”, “Initializing upgrade”, “Performing preupgrade process”, “Installing /var/TKLC/upgrade/manifest.normal.UPGRADE”, “Reboot”, “Running APP_ENABLE”, and so on.

- In the end, the server will reboot and any CLI session will be disconnected. After the reboot is completed, the running release will reflect the upgraded version and status should show “Pending: upgrade was completed”.



System Maintenance(Last Refresh :01/06/2014 16:54:25)

Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication	Compatible Replication	Legacy Sync	Upgrade Status
CMP Site1 Cluster	CMP Site1 Cluster									

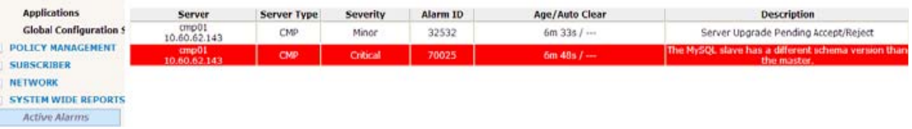
cmp00	CMP Site1 Cluster	10.60.62.142	Active	872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso(100 %)
				cmp_tklc_872-2610-101_Rev_A_91.0(CD-ROM)
					Unknown	10.4.0_23.1.0	On	Off	Off	Completed: upgrade was completed at "01/02/2014 02:38:10 UTC"

cmp01	CMP Site1 Cluster	10.60.62.143	Force Standby	872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso(100 %)
				cmp_tklc_872-2610-101_Rev_A_91.0(CD-ROM)
					10.4.0_23.1.0	10.4.1_29.1.0	On	Off	Off	Pending: upgrade was completed at "01/06/2014 08:19:54 UTC"

MPE	MPE									
mpe00	MPE	10.60.62.145	Active	872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso(100 %)	Unknown	10.4.0_23.1.0	On	Off	Off	Completed: upgrade was completed at "01/02/2014 02:40:40 UTC"

mpe01	MPE	10.60.62.146	Standby	872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso(100 %)
				mpe_tklc_872-2611-101_Rev_A_91.0(CD-ROM)
					Unknown	10.4.0_23.1.0	On	Off	Off	Completed: upgrade was completed at "01/02/2014 02:41:53 UTC"

- After successful upgrade, the server will report the alarm “70025 The MySQL slave has a different schema version than the master”, “32532 Server Upgrade Pending Accept/Reject”. These two alarms are expected, 70025 would be cleared after both Servers have been upgraded. Alarm 32532 will be cleared by accepting the upgrade, which is detailed in the section 7.4.

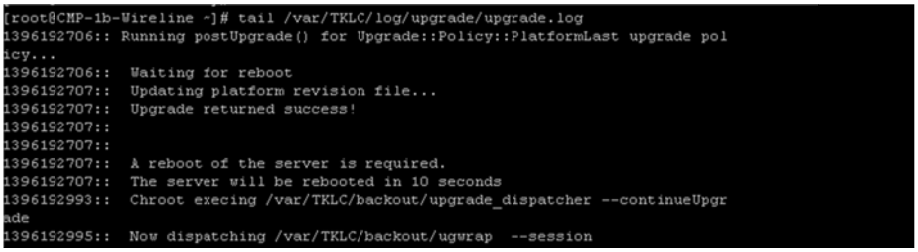


Server	Server Type	Severity	Alarm ID	Age/Auto Clear	Description
cmp01 10.60.62.143	CMP	Minor	32532	6m 33s / ---	Server Upgrade Pending Accept/Reject
cmp01 10.60.62.143	CMP	Critical	70025	6m 48s / ---	The MySQL slave has a different schema version than the master.

8. □ **Standby Server CLI:** Post upgrade checks

- Login to standby CMP CLI and tail the upgrade log file to ensure upgrade completed successfully:

```
# tail /var/TKLC/log/upgrade/upgrade.log
```



```
[root@CMP-1b-Wireline ~]# tail /var/TKLC/log/upgrade/upgrade.log
1396152706:: Running postUpgrade() for Upgrade::Policy::PlatformLast upgrade pol
icy...
1396152706::  Waiting for reboot
1396152707::  Updating platform revision file...
1396152707::  Upgrade returned success!
1396152707::
1396152707::
1396152707::  A reboot of the server is required.
1396152707::  The server will be rebooted in 10 seconds
1396152993::  Chroot execing /var/TKLC/backout/upgrade_dispatcher --continueUpgr
ade
1396152995::  Now dispatching /var/TKLC/backout/ugwrap  --session
```

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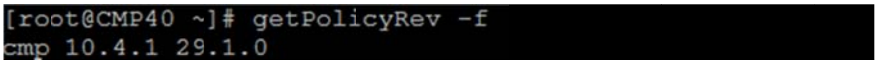
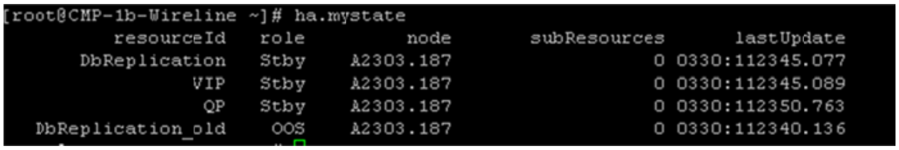
- Verify software version through “getPolicyRev -f” command:



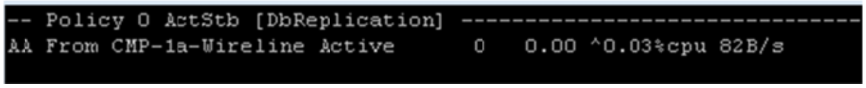
```
[root@CMP40 ~]# getPolicyRev -f
cmp 10.4.1 29.1.0
```

- Verify the server role through “ha.mystate” command:



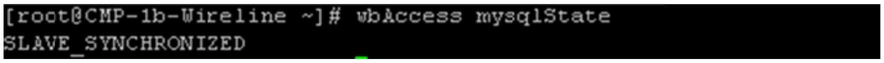
```
[root@CMP-1b-Wireline ~]# ha.mystate
          resourceId   role          node        subResources       lastUpdate
       DbReplication   Stby     A2303.187                   0 0330:112345.077
                 VIP   Stby     A2303.187                   0 0330:112345.089
                  QP   Stby     A2303.187                   0 0330:112350.763
   DbReplication_old    OOS     A2303.187                   0 0330:112340.136
```

- Verify replication is in Active state through “irepstat” command:



```
-- Policy 0 ActStb [DbReplication] -------------------------------
AA From CMP-1a-Wireline Active      0    0.00 ^0.03%cpu 82B/s
```

- Verify mysqlState state with the “wbAccess mysqlState” command



```
[root@CMP-1b-Wireline ~]# wbAccess mysqlState
SLAVE_SYNCHRONIZED
```

Note: Since the CMP 10.4.1 has updated the MySQL schema, it may cause some loss of omstat data generated during the time that the Standby CMP is being upgraded.

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9.
□

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CMP: Backout in case of failure of any post checks

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*** If upgrade verification fails and backout to old version is required, the upgraded server can be “rolled back” following these steps. *** If verification steps have passed, skip this step and proceed to next step.

- Login to CMP as admin
- Navigate to “System Maintenance” under “Upgrade Manager”, select the upgraded server and from “Operations” menu , select “Reject Upgrade”:
- For greater detail see section 6 “Backout CMP Procedure”

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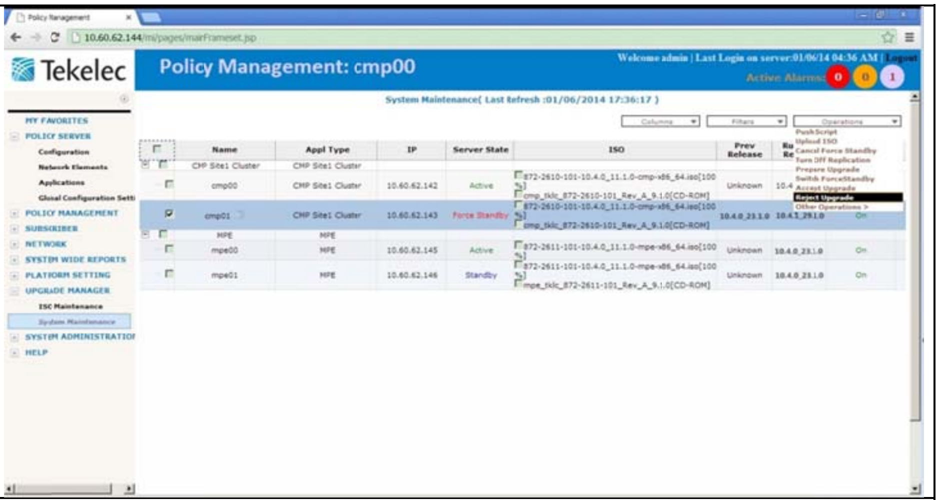
</table>



Policy Management: cmp00

Welcome admin | Last Login on server:01/06/14 04:36 AM | Logout

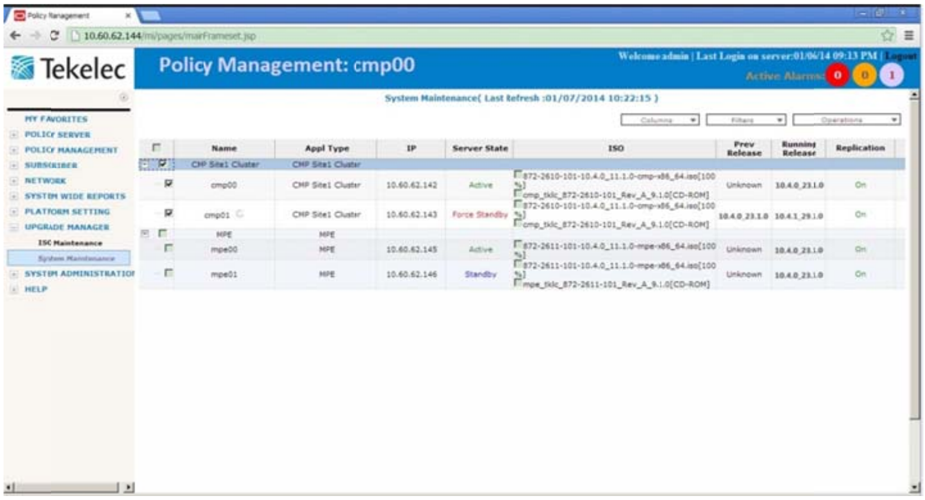
System Maintenance(Last Refresh :01/06/2014 17:36:17)

☐	Name	Appl Type	IP	Server State	ISO	Prev Release	Ru Re	
☐	CMP Site1 Cluster	CMP Site1 Cluster						
☐	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100 %] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4	
☑	cmp01	CMP Site1 Cluster	10.60.62.143	Force Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100 %] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.1_29.1.0	On
☐	MPE	MPE						
☐	mpe00	MPE	10.60.62.145	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100 %]	Unknown	10.4.0_23.1.0	On
☐	mpe01	MPE	10.60.62.146	Standby	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100 %] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On

10. □

Switch "ForceStandby":switch the upgraded Server(Server-B to Active, and the previous Active one(Server-A) to "ForceStandby"

- Navigate to "System Maintenance" under "Upgrade Manager", select the CMP cluster:



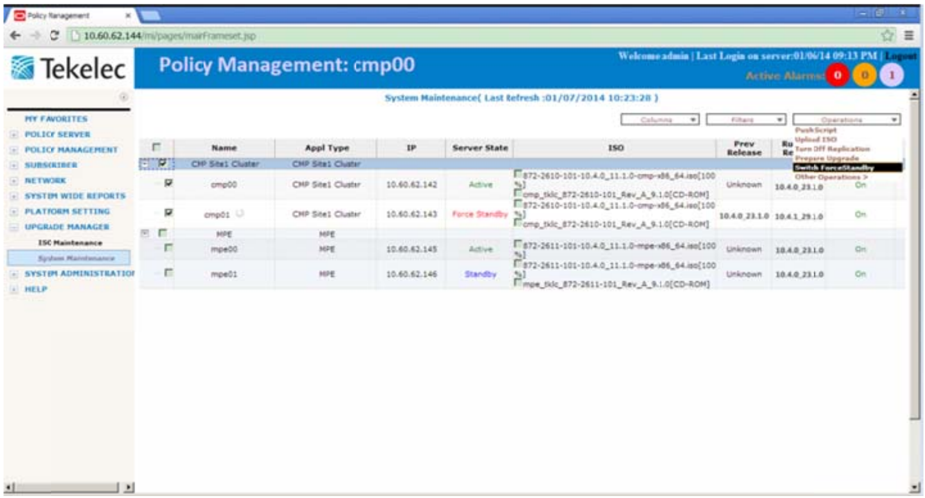
Policy Management: cmp00

Welcome admin | Last Login on server:01/06/14 09:13 PM | Logout

System Maintenance(Last Refresh :01/07/2014 10:22:15)

☐	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication
☑	CMP Site1 Cluster	CMP Site1 Cluster						
☑	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100 %] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On
☑	cmp01	CMP Site1 Cluster	10.60.62.143	Force Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100 %] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.1_29.1.0	On
☐	MPE	MPE						
☐	mpe00	MPE	10.60.62.145	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100 %]	Unknown	10.4.0_23.1.0	On
☐	mpe01	MPE	10.60.62.146	Standby	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100 %] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On

- Click the submenu "Switch ForceStandby" in "Operations" menu item:



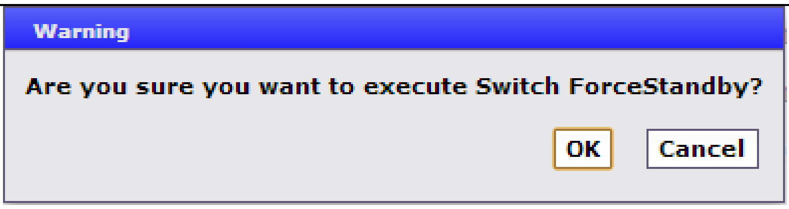
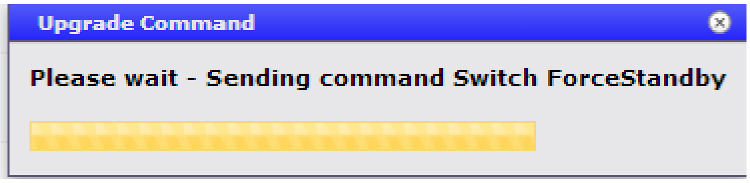
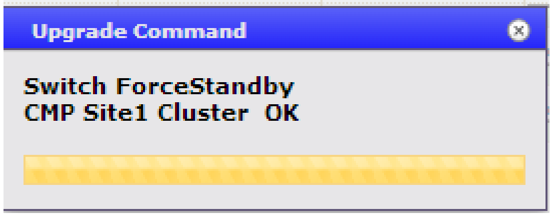
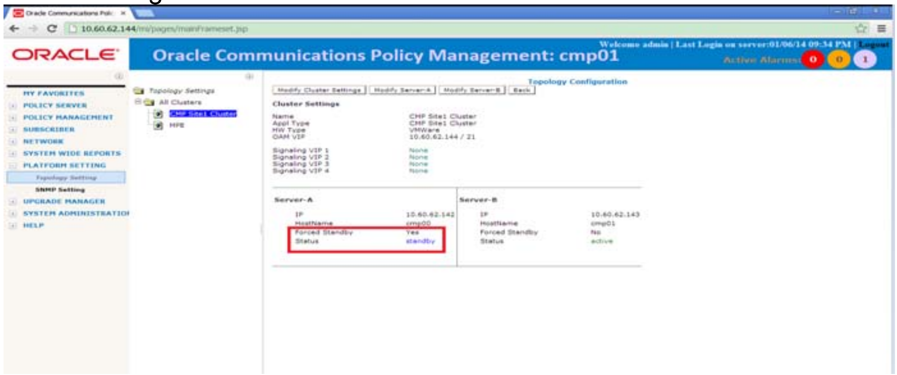
Policy Management: cmp00

Welcome admin | Last Login on server:01/06/14 09:13 PM | Logout

System Maintenance(Last Refresh :01/07/2014 10:23:28)

☐	Name	Appl Type	IP	Server State	ISO	Prev Release	Ru Re	
☑	CMP Site1 Cluster	CMP Site1 Cluster						
☑	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100 %] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On
☑	cmp01	CMP Site1 Cluster	10.60.62.143	Force Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100 %] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.1_29.1.0	On
☐	MPE	MPE						
☐	mpe00	MPE	10.60.62.145	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100 %]	Unknown	10.4.0_23.1.0	On
☐	mpe01	MPE	10.60.62.146	Standby	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100 %] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On

- Following message will pop up and choose "OK":

		 Warning Are you sure you want to execute Switch ForceStandby? - Following messages will pop up in order:  Upgrade Command Please wait - Sending command Switch ForceStandby  Upgrade Command Switch ForceStandby CMP Site1 Cluster OK At this point, the upgraded server (server B) will become the active CMP and the previous active CMP (server A) will become the forced standby one. - Re-enter the CMP GUI by the way of step 1 in section 4, navigate to “Topology Settings”, and then choose the CMP cluster from the navigation tree to check the switch result as follows:  ORACLE Oracle Communications Policy Management: cmp01 Welcome admin | Last Login on server:01/06/14 09:34 PM | Logout Active Alarms: 0 0 1 MY FAVORITES POLICY SERVER POLICY MANAGEMENT SUBSCRIBER NETWORK SYSTEM WIDE REPORTS PLATFORM SETTING Topology Setting SNMP Setting UPGRADE MANAGER SYSTEM ADMINISTRATION HELP Topology Settings All Clusters CMP Site1 Cluster MPE Topology Configuration Modify Cluster Settings Modify Server-A Modify Server-B Back Cluster Settings Name CMP Site1 Cluster Appl Type CMP Site1 Cluster HW Type VMWare OAM VIP 10.60.62.144 / 21 Signaling VIP 1 None Signaling VIP 2 None Signaling VIP 3 None Signaling VIP 4 None Server-A IP 10.60.62.142 HostName cmp00 Forced Standby Yes Status standby Server-B IP 10.60.62.143 HostName cmp01 Forced Standby No Status active Make sure the server A is in forced standby.
11. □	**Active Server Upgrade:**	- Follow the same procedure steps for the Standby server (step 7 to 9) to upgrade the new standby (from Active) server and perform the post checks.
12.	**Last Switch “ForceStandby”**	- After the second server is upgraded and the post upgrade status check has passed, do step 10 (Switch Forced Standby) again. This is to return Server-A in the HA cluster back to the original state of “Active”, and is a post upgrade step that is optional .
13.	**Remove the “forced standby” flag**	- Re-enter the CMP GUI as admin, Navigate to “System Maintenance” under the “Upgrade Manager” menu item, select forced-standby CMP, and then click “Cancel Force Standby” item in “Operations”

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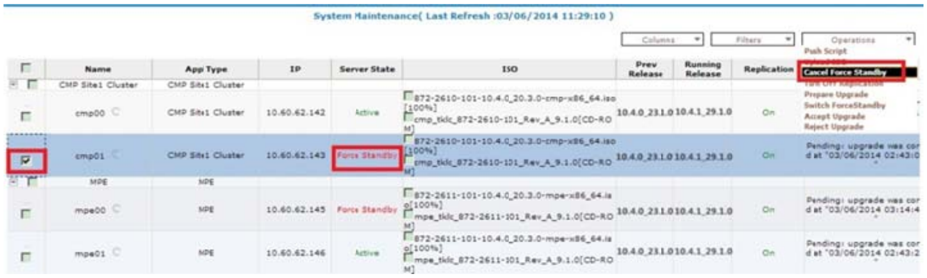
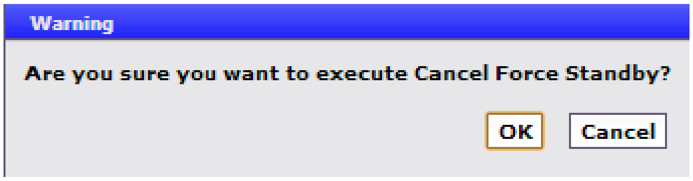
menu:



System Maintenance(Last Refresh :03/06/2014 11:29:10)

<table>
<tr><th>☐</th><th>Name</th><th>App Type</th><th>IP</th><th>Server State</th><th>ISO</th><th>Prev Release</th><th>Running Release</th><th>Replication</th><th></th></tr>
<tr><td>⊟ ☐</td><td>CMP Site1 Cluster</td><td>CMP Site1 Cluster</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>☐</td><td>cmp00</td><td>CMP Site1 Cluster</td><td>10.60.62.142</td><td>Active</td><td>☐872-2610-101-10.4.0_20.3.0-cmp-x86_64.iso [100%]
☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_23.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td></td></tr>
<tr><td>☑</td><td>cmp01</td><td>CMP Site1 Cluster</td><td>10.60.62.143</td><td>Force Standby</td><td>☐872-2610-101-10.4.0_20.3.0-cmp-x86_64.iso [100%]
☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_23.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was cor d at "03/06/2014 02:43:0</td></tr>
<tr><td>⊟ ☐</td><td>MPE</td><td>MPE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>☐</td><td>mpe00</td><td>MPE</td><td>10.60.62.145</td><td>Force Standby</td><td>☐872-2611-101-10.4.0_20.3.0-mpe-x86_64.iso[100%]
☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_23.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was cor d at "03/06/2014 03:14:4</td></tr>
<tr><td>☐</td><td>mpe01</td><td>MPE</td><td>10.60.62.146</td><td>Active</td><td>☐872-2611-101-10.4.0_20.3.0-mpe-x86_64.iso[100%]
☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_23.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was cor d at "03/06/2014 02:43:2</td></tr>
</table>

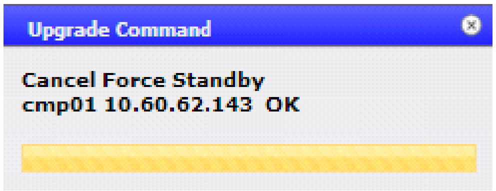
- Following message will pop up and choose “OK”:



Warning

Are you sure you want to execute Cancel Force Standby?

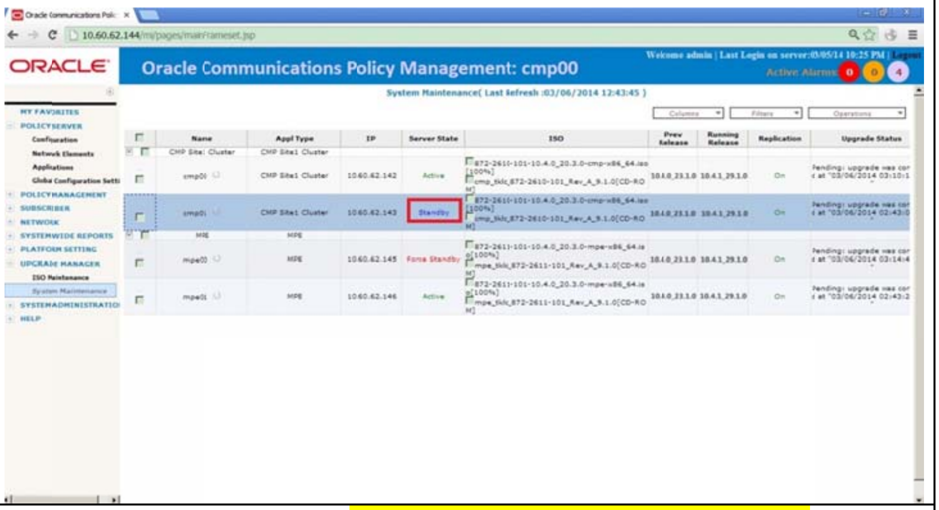
- Following messages will pop up:



Upgrade Command

Cancel Force Standby
cmp01 10.60.62.143 OK

- And the server will become “standby”:



Oracle Communications Policy Management: cmp00

System Maintenance(Last Refresh :03/06/2014 12:43:45)

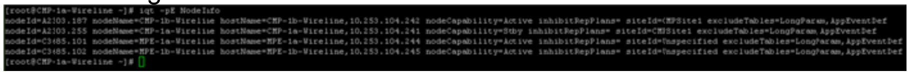
<table>
<tr><th>☐</th><th>Name</th><th>Appl Type</th><th>IP</th><th>Server State</th><th>ISO</th><th>Prev Release</th><th>Running Release</th><th>Replication</th><th>Upgrade Status</th></tr>
<tr><td>⊟ ☐</td><td>CMP Site1 Cluster</td><td>CMP Site1 Cluster</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>☐</td><td>cmp00</td><td>CMP Site1 Cluster</td><td>10.60.62.142</td><td>Active</td><td>☐872-2610-101-10.4.0_20.3.0-cmp-x86_64.iso [100%]
☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_23.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was cor d at "03/06/2014 03:10:1</td></tr>
<tr><td>☐</td><td>cmp01</td><td>CMP Site1 Cluster</td><td>10.60.62.143</td><td>Standby</td><td>☐872-2610-101-10.4.0_20.3.0-cmp-x86_64.iso [100%]
☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_23.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was cor d at "03/06/2014 02:43:0</td></tr>
<tr><td>⊟ ☐</td><td>MPE</td><td>MPE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>☐</td><td>mpe00</td><td>MPE</td><td>10.60.62.145</td><td>Force Standby</td><td>☐872-2611-101-10.4.0_20.3.0-mpe-x86_64.iso[100%]
☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_23.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was cor d at "03/06/2014 03:14:4</td></tr>
<tr><td>☐</td><td>mpe01</td><td>MPE</td><td>10.60.62.146</td><td>Active</td><td>☐872-2611-101-10.4.0_20.3.0-mpe-x86_64.iso[100%]
☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_23.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was cor d at "03/06/2014 02:43:2</td></tr>
</table>
</td>
</tr>
<tr>
<td><b>14.</b></td>
<td><b>Accept upgrade</b></td>
<td>

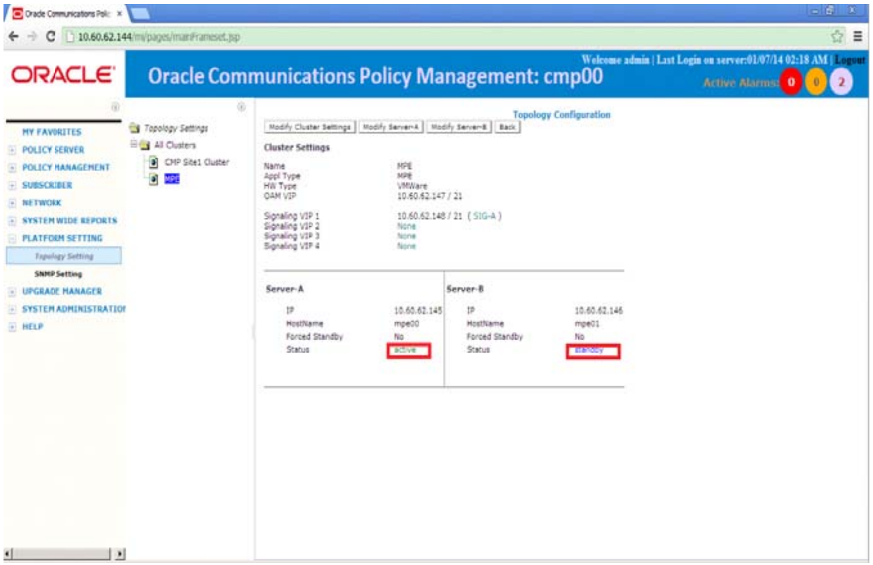
- Refer to section 7.4. Only perform this step if the upgrade is successful and there is no plan to rollback the upgrade. After the upgrade has been accepted, rollback is not supported.
</td>
</tr>
</table>

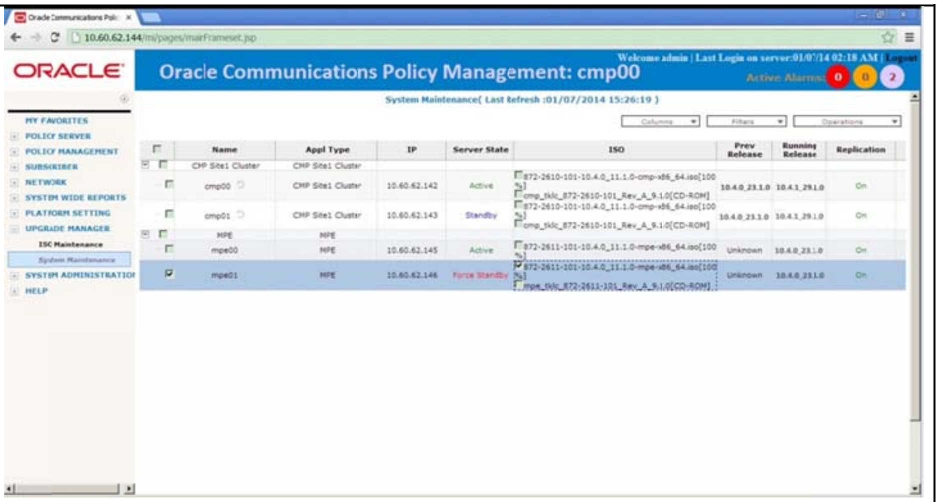
5.2 *Upgrade MPE Cluster*

This procedure outlines the steps required to incremental upgrade the MPE cluster.

STEP #	This procedure will upgrade the MPE cluster.	
1. □	**Pre-checks:**	- Refer to section 4 in this document to follow the pre-checks steps on the MPE blades to be upgraded to make sure system is ready for upgrade. - Refer to section 7.2 “step #2” of this document to check the MPE servers’ status.

2.	**Reconfirm operation “Prepare Upgrade” is applied successfully**	- Login to Active MPE CLI terminal, and issue the command “iqt -pE NodeInfo” and confirm that value “LongParam,AppEventDef” is assigned to column “excludeTables” for all entries:
		
		`[root@CMP-1a-Wireline ~]# iqt -pE NodeInfo`
		`nodeId=A2103.187 nodeName=CMP-1b-Wireline hostName=CMP-1b-Wireline,10.253.104.242 nodeCapability=Active inhibitRepPlans= siteId=CMPSite1 excludeTables=LongParam,AppEventDef`
		`nodeId=A2103.255 nodeName=CMP-1a-Wireline hostName=CMP-1a-Wireline,10.253.104.241 nodeCapability=Stby inhibitRepPlans= siteId=CMPSite1 excludeTables=LongParam,AppEventDef`
		`nodeId=C3485.101 nodeName=MPE-1a-Wireline hostName=MPE-1a-Wireline,10.253.104.244 nodeCapability=Active inhibitRepPlans= siteId=Unspecified excludeTables=LongParam,AppEventDef`
		`nodeId=C3485.102 nodeName=MPE-1b-Wireline hostName=MPE-1b-Wireline,10.253.104.245 nodeCapability=Active inhibitRepPlans= siteId=Unspecified excludeTables=LongParam,AppEventDef`
		`[root@CMP-1a-Wireline ~]#`
		
		Note: If for any reason the MPE cluster to be upgraded does not have the correct tables excluded, then it will be necessary to execute the preupgrade step in
		section 5.1, step #4.

3.	**Upload ISO image**	- Upload the target ISO image to all MPE servers in the cluster, the way to upload is described in section 7.1 of this document.
4.	**MPE:** MPE servers status	- Login to CMP GUI and navigate to “Topology Settings”, then choose the MPE cluster from the navigation tree, and make sure none of the servers is in Out Of Service (OOS) status:  Oracle Communications Pol × 10.60.62.144/mi/pages/mainFrameset.jsp ORACLE Oracle Communications Policy Management: cmp00 Welcome admin | Last Login on server:01/07/14 02:18 AM | Logout Active Alarms: 0 0 2 MY FAVORITES POLICY SERVER POLICY MANAGEMENT SUBSCRIBER NETWORK SYSTEM WIDE REPORTS PLATFORM SETTING Topology Setting SNMP Setting UPGRADE MANAGER SYSTEM ADMINISTRATIOI HELP Topology Settings All Clusters CMP Site1 Cluster MPE Topology Configuration Modify Cluster Settings Modify Server-A Modify Server-B Back Cluster Settings Name MPE Appl Type MPE HW Type VMWare OAM VIP 10.60.62.147 / 21 Signaling VIP 1 10.60.62.148 / 21 (SIG-A) Signaling VIP 2 None Signaling VIP 3 None Signaling VIP 4 None Server-A IP 10.60.62.145 HostName mpe00 Forced Standby No Status active Server-B IP 10.60.62.146 HostName mpe01 Forced Standby No Status standby
5. □	**Upgrade the standby server:** set the “Force standby flag”	- Refer to step 6 of section 5.1 to set this flag.
6. □	**Upgrade the standby server:** Start the upgrade	- Login to CMP GUI as admin, navigate to “System Maintenance” under the “Upgrade Manager” menu item and select the server to be upgraded (the one that was set to Force Standby earlier):

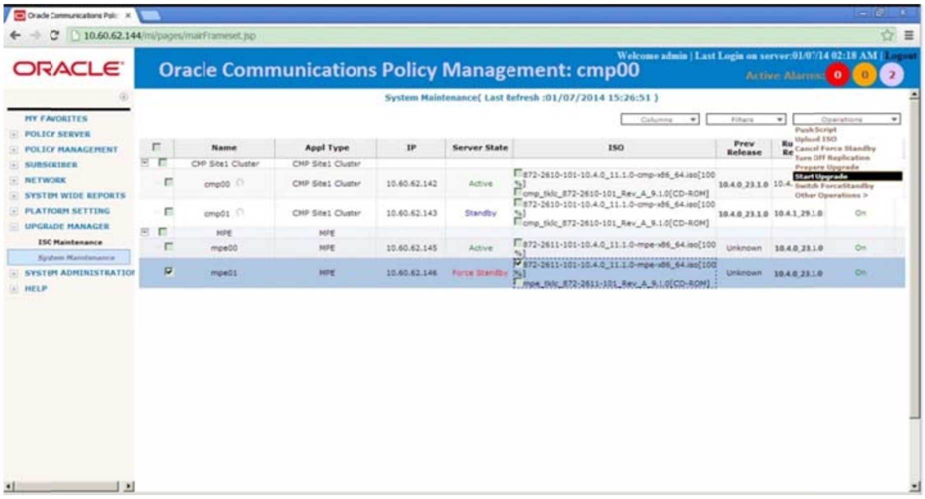


Oracle Communications Policy Management: cmp00

System Maintenance(Last Refresh :01/07/2014 15:26:19)

☐	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication
☐	CMP Site1 Cluster	CMP Site1 Cluster						
☐	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.1_29.1.0	On
☐	cmp01	CMP Site1 Cluster	10.60.62.143	Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.1_29.1.0	On
☐	MPE	MPE						
☐	mpe00	MPE	10.60.62.145	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	Unknown	10.4.0_23.1.0	On
☑	mpe01	MPE	10.60.62.146	Force Standby	☑872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On

- Choose “Start Upgrade” from the “Operations” menu:

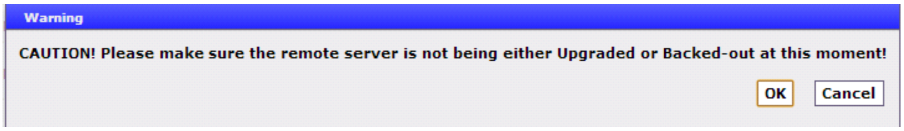


Oracle Communications Policy Management: cmp00

System Maintenance(Last Refresh :01/07/2014 15:26:51)

☐	Name	Appl Type	IP	Server State	ISO	Prev Release	Ru Re	Replication
☐	CMP Site1 Cluster	CMP Site1 Cluster						
☐	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.	
☐	cmp01	CMP Site1 Cluster	10.60.62.143	Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.1_29.1.0	On
☐	MPE	MPE						
☐	mpe00	MPE	10.60.62.145	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	Unknown	10.4.0_23.1.0	On
☑	mpe01	MPE	10.60.62.146	Force Standby	☑872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	Unknown	10.4.0_23.1.0	On

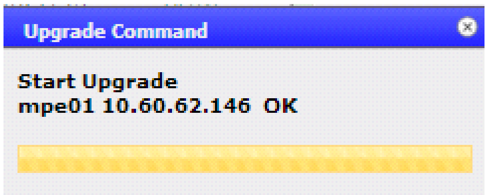
- Following message will pop up, and click “OK”:



Warning

CAUTION! Please make sure the remote server is not being either Upgraded or Backed-out at this moment!

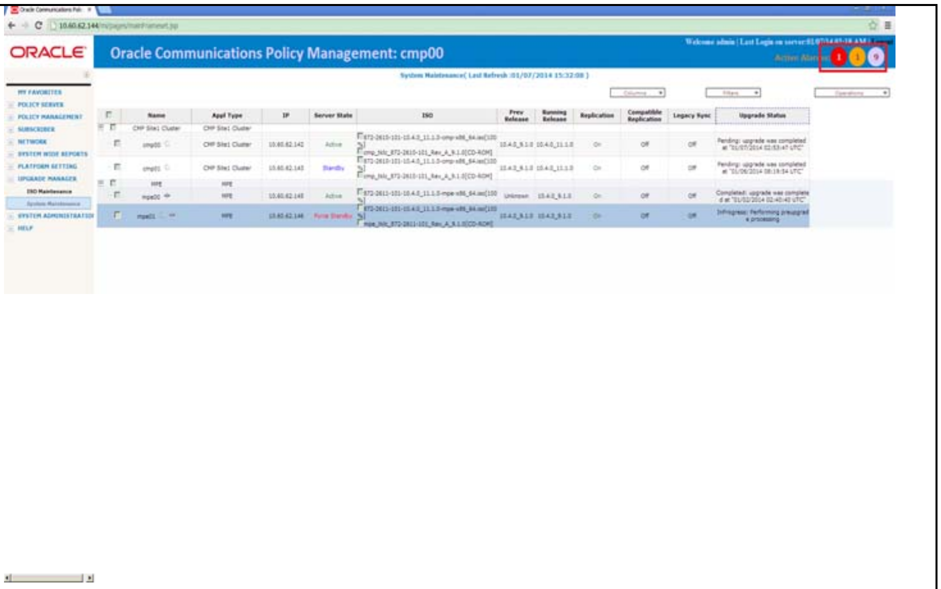
- Following message indicates that Upgrade has started:



Upgrade Command

Start Upgrade
mpe01 10.60.62.146 OK

- Then we can see some alarms (like: 70001, 31101, 31283) , be easy to those, for these are expected that should be cleared automatically after the process was completed successfully:

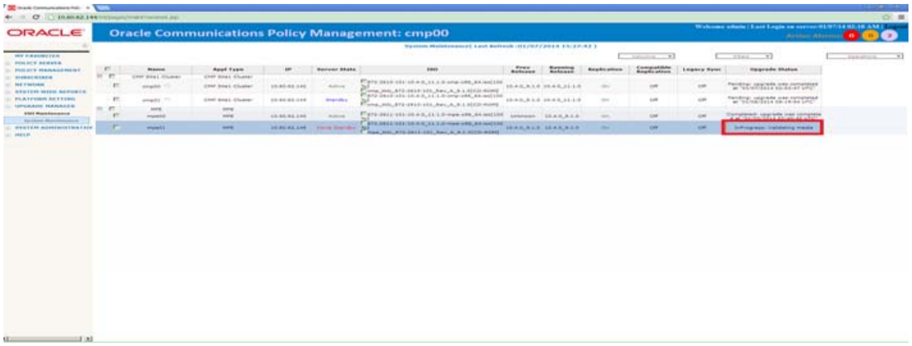


Oracle Communications Policy Management: cmp00

System Maintenance(Last Refresh :01/07/2014 15:32:08)

Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication	Compatible Replication	Legacy Sync	Upgrade Status
CMP Site1 Cluster	CMP Site1 Cluster									
cmp00	CMP Site1 Cluster	10.60.62.142	Active	872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso(100%) cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Off	Off	Pending: upgrade was completed at "01/07/2014 02:53:47 UTC"
cmp01	CMP Site1 Cluster	10.60.62.143	Standby	872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso(100%) cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Off	Off	Pending: upgrade was completed at "01/06/2014 08:19:54 UTC"
MPE	MPE									
mpe00	MPE	10.60.62.145	Active	872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso(100%)	Unknown	10.4.0_9.1.0	On	Off	Off	Completed: upgrade was completed at "01/02/2014 02:40:40 UTC"
mpe01	MPE	10.60.62.146	Force Standby	872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso(100%) mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_9.1.0	On	Off	Off	InProgress: Performing preupgrade processing

- At the same time, upgrade progress will reflect in the "Upgrade Status" column value for the server being upgraded as seen in the screen shots below:

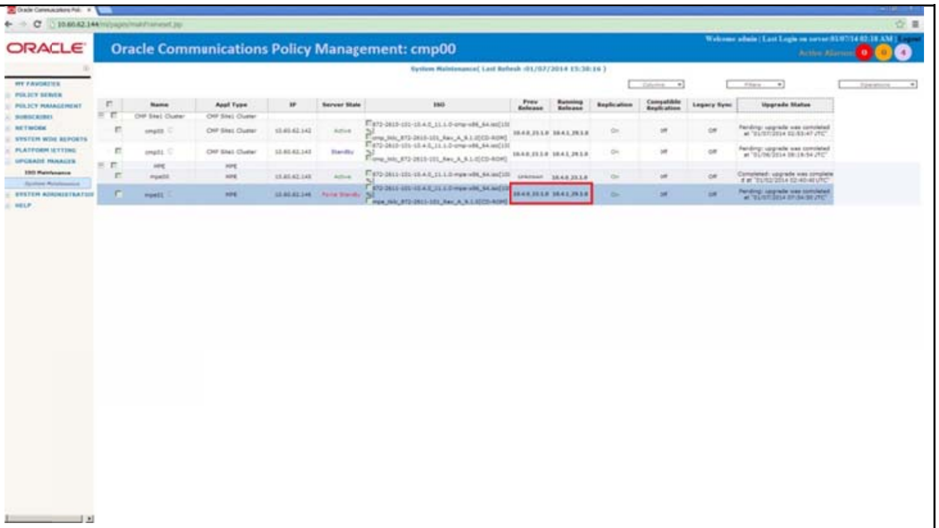


Oracle Communications Policy Management: cmp00

InProgress: Validating media

Note: upgrade procedure includes some phases, such like "Validating media", "Preparing for the upgrade", "Chroot…", "Resetting upgrade SNMP start time..", "Initializing upgrade", "Performing preupgrade process", "Installing /var/TKLC/upgrade/manifest.normal.UPGRADE", "Reboot", "Running APP_ENABLE", and so on.

- In the end, the server will reboot and any CLI session will be disconnected. After the reboot is completed, the running release will reflect the upgraded version and status should show "Pending: upgrade was completed".



Oracle Communications Policy Management: cmp00

System Maintenance(Last Refresh :01/07/2014 15:30:16)

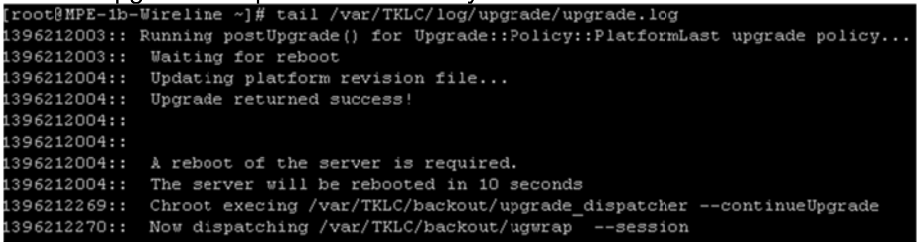
Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication	Compatible Replication	Legacy Sync	Upgrade Status
CMP Site1 Cluster	CMP Site1 Cluster									
cmp00	CMP Site1 Cluster	10.60.62.142	Active	[illegible]	10.4.0_23.1.0	10.4.1_29.1.0	On	Off	Off	Pending: upgrade was completed at "01/07/2014 02:53:47 UTC"
cmp01	CMP Site1 Cluster	10.60.62.143	Standby	[illegible]	10.4.0_23.1.0	10.4.1_29.1.0	On	Off	Off	Pending: upgrade was completed at "01/06/2014 08:18:54 UTC"
MPE	MPE									
mpe00	MPE	10.60.62.145	Active	[illegible]	Unknown	10.4.0_23.1.0	On	Off	Off	Completed: upgrade was completed at "01/02/2014 02:40:40 UTC"
mpe01	MPE	10.60.62.146	Force Standby	[illegible]	10.4.0_23.1.0	10.4.1_29.1.0	On	Off	Off	Pending: upgrade was completed at "01/07/2014 07:34:30 UTC"

- After successful upgrade, the server will report the alarm“32532Server Upgrade Pending Accept/Reject”. This is expected, just ignore it, because this will be cleared manually by take normal action in the section 5.3.

7. □

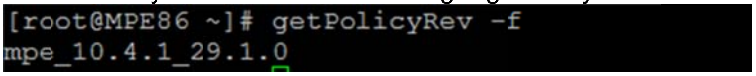
Standby Server CLI: Post upgrade checks

- Log to Standby server CLI and tail the upgrade log file to ensure upgrade completed successfully:



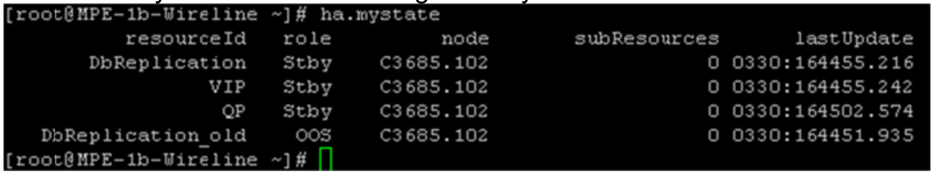
```
[root@MPE-1b-Wireline ~]# tail /var/TKLC/log/upgrade/upgrade.log
1396212003:: Running postUpgrade() for Upgrade::Policy::PlatformLast upgrade policy...
1396212003::  Waiting for reboot
1396212004::  Updating platform revision file...
1396212004::  Upgrade returned success!
1396212004::
1396212004::
1396212004::  A reboot of the server is required.
1396212004::  The server will be rebooted in 10 seconds
1396212269::  Chroot execing /var/TKLC/backout/upgrade_dispatcher --continueUpgrade
1396212270::  Now dispatching /var/TKLC/backout/ugwrap  --session
```

- Verify software revision through “getPolicyRev” command:



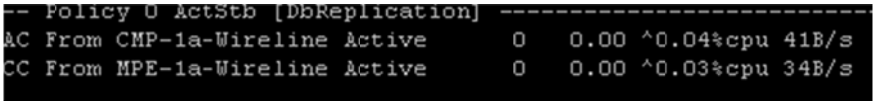
```
[root@MPE86 ~]# getPolicyRev -f
mpe_10.4.1_29.1.0
```

- Verify the server role through “ha.mystate” command:

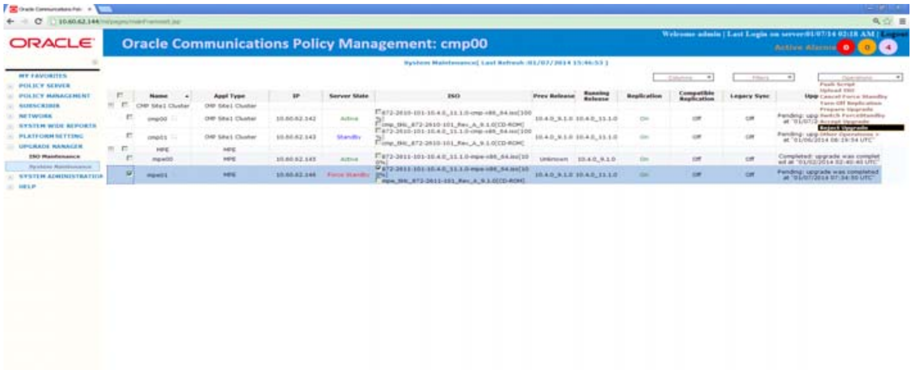
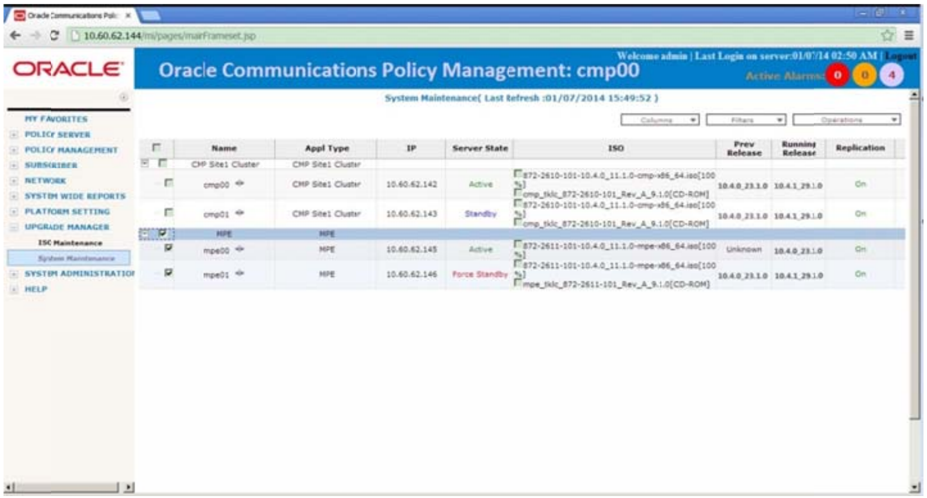


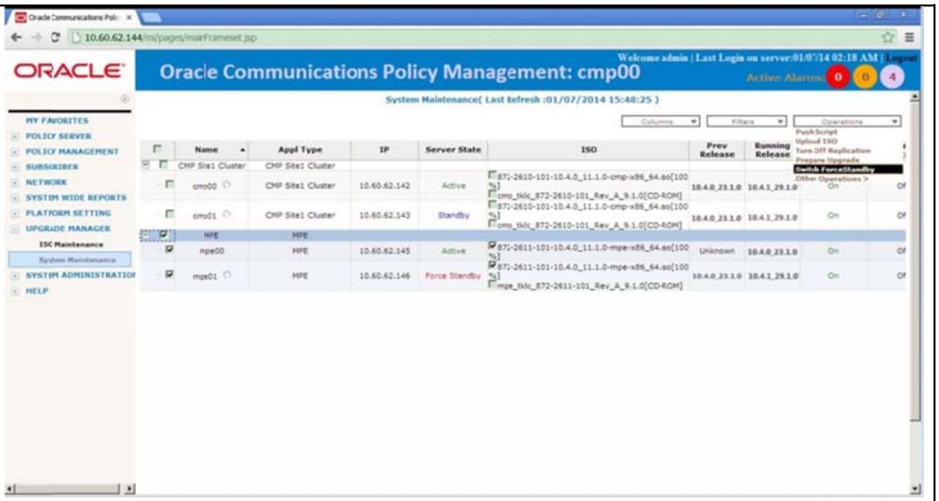
```
[root@MPE-1b-Wireline ~]# ha.mystate
          resourceId    role         node        subResources       lastUpdate
        DbReplication   Stby    C3685.102                   0  0330:164455.216
                  VIP   Stby    C3685.102                   0  0330:164455.242
                   QP   Stby    C3685.102                   0  0330:164502.574
    DbReplication_old    OOS    C3685.102                   0  0330:164451.935
[root@MPE-1b-Wireline ~]#
```

- Verify replication is in Active state through “irepstat” command:



```
-- Policy 0 ActStb [DbReplication] ---------------------------
AC From CMP-1a-Wireline Active      0    0.00 ^0.04%cpu 41B/s
CC From MPE-1a-Wireline Active      0    0.00 ^0.03%cpu 34B/s
```

8. □	**MPE:** Backout in case of failure of any post checks	*** If upgrade verification fails and backout to old version is required, the upgraded server can be “rolled back” following these steps. *** If verification steps have passed, skip this step and proceed to next step. - Login to CMP as admin - Navigate to “System Maintenance” under “Upgrade Manager”, select the upgraded server and from “Operations” menu , select “Reject Upgrade”: - For greater detail see section 6 “Backout MPE Procedure”  Oracle Communications Policy Management: cmp00
9. □	**Switch “ForceStandby:**switch the upgraded Server(Server-B to Active, and the previous Active one(Server-A) to “ForceStandby”	- Navigate to “System Maintenance” under “Upgrade Manager”, select the MPE cluster：  10.60.62.144/mi/pages/mainFrameset.jsp Oracle Communications Policy Management: cmp00 Welcome admin | Last Login on server:01/07/14 02:50 AM | Logout Active Alarms: 0 0 4 System Maintenance(Last Refresh :01/07/2014 15:49:52) Name | Appl Type | IP | Server State | ISO | Prev Release | Running Release | Replication CMP Site1 Cluster | CMP Site1 Cluster cmp00 | CMP Site1 Cluster | 10.60.62.142 | Active | 872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM] | 10.4.0_23.1.0 | 10.4.1_29.1.0 | On cmp01 | CMP Site1 Cluster | 10.60.62.143 | Standby | 872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM] | 10.4.0_23.1.0 | 10.4.1_29.1.0 | On MPE | MPE mpe00 | MPE | 10.60.62.145 | Active | 872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] | Unknown | 10.4.0_23.1.0 | On mpe01 | MPE | 10.60.62.146 | Force Standby | 872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM] | 10.4.0_23.1.0 | 10.4.1_29.1.0 | On - Click the submenu “Switch ForceStandby” in “Operations” menu item:



10.60.62.144/mi/pages/mainFrameset.jsp

Oracle Communications Policy Management: cmp00

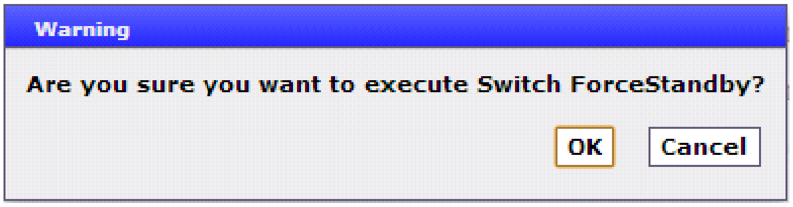
Welcome admin | Last Login on server:01/07/14 02:18 AM | Logout

Active Alarms: 0 0 4

System Maintenance(Last Refresh :01/07/2014 15:48:25)

Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release		
☐ CMP Site1 Cluster	CMP Site1 Cluster							
☐ cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.1_29.1.0	On	Of
☐ cmp01	CMP Site1 Cluster	10.60.62.143	Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.1_29.1.0	On	Of
☑ MPE	MPE							
☑ mpe00	MPE	10.60.62.145	Active	☑872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	Unknown	10.4.0_23.1.0	On	Of
☑ mpe01	MPE	10.60.62.146	Force Standby	☑872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	10.4.0_23.1.0	10.4.1_29.1.0	On	Of

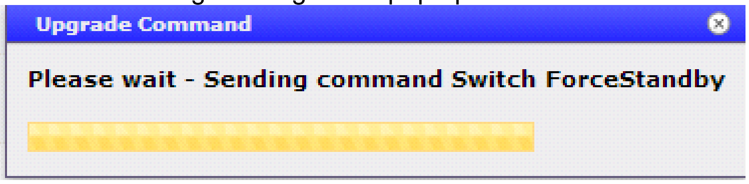
- Following message will pop up and choose “OK”:



Warning

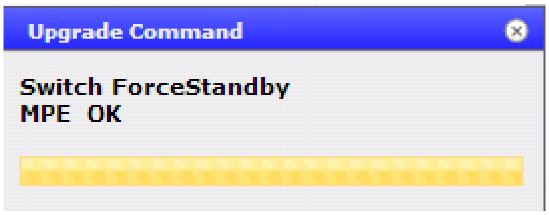
Are you sure you want to execute Switch ForceStandby?

- Following messages will pop up in order:



Upgrade Command

Please wait - Sending command Switch ForceStandby

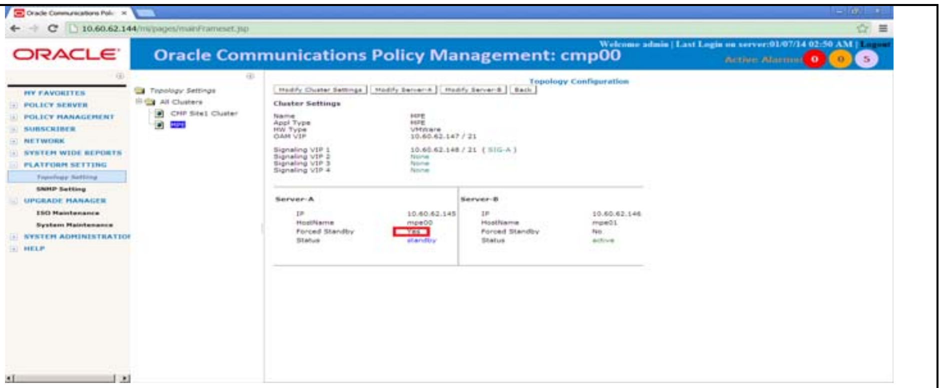


Upgrade Command

Switch ForceStandby
MPE OK

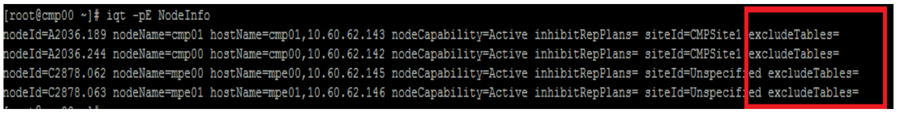
Note: after do this, the upgraded server (server B) will become the active MPE and the previous active MPE (server A) will become the forced standby one.

- Navigate to “Topology Settings”, and then choose the MPE cluster from the navigation tree to check the switch result as follows:

		 10.60.62.144/mi/pages/mainFrameset.jsp Oracle Communications Policy Management: cmp00 Welcome admin | Last Login on server:01/07/14 02:50 AM | Logout Active Alarms: 0 0 5 Topology Configuration Modify Cluster Settings | Modify Server-A | Modify Server-B | Back Cluster Settings Name: MPE Appl Type: MPE HW Type: VMware OAM VIP: 10.60.62.147 / 21 Signaling VIP 1: 10.60.62.148 / 21 (SIG-A) Signaling VIP 2: None Signaling VIP 3: None Signaling VIP 4: None Server-A IP: 10.60.62.145 HostName: mpe00 Forced Standby: Yes Status: standby Server-B IP: 10.60.62.146 HostName: mpe01 Forced Standby: No Status: active Note: if the result is not like this, just try this step again.
10. □	**Active Server Upgrade:**	- Follow the same procedure steps for the Standby server (step 5 to 6) to upgrade the new standby (from Active) server and perform the post checks.
11.	**Last Switch “ForceStandby”:**	- After the second server is upgraded and the post upgrade status check has passed, do step 9 (Switch Forced Standby) again. This is to return Server-A in the HA cluster back to the original state of “Active”, and is a post upgrade step that is optional
12.	**Remove the “forced standby” flag**	- Refer to step 14 in section 5.1 to do this.
13.	**Accept upgrade**	- Refer to section 7.4.

5.3 Upgrade completion

S T E P #	This procedure is to add excluded tables back to replication. This operation must be done in two scenarios: - After all servers (all MPEs and CMPs) were upgraded successfully, this operation must be done. - When the upgrade fails and the decision to backout is done, this operation must be done after the last server (CMP or MPE) backout is done.	

1.	**Upgrade completion:**
	add excluded tables back to replication
		- Login to CMP active CLI, issue following command to add excluded tables back to replication:
		`# /opt/camiant/bin/policyUpgrade.pl --cleanupUpgrade`
		
		- Issue following command to check whether the operation is done successfully:
		`# iqt -pE NodeInfo`
		
		NULL value to field “excludeTables” in all records indicates success:
		
		`[root@cmp00 ~]# iqt -pE NodeInfo`
		`nodeId=A2036.189 nodeName=cmp01 hostName=cmp01,10.60.62.143 nodeCapability=Active inhibitRepPlans= siteId=CMPSite1 excludeTables=`
		`nodeId=A2036.244 nodeName=cmp00 hostName=cmp00,10.60.62.142 nodeCapability=Active inhibitRepPlans= siteId=CMPSite1 excludeTables=`
		`nodeId=C2878.062 nodeName=mpe00 hostName=mpe00,10.60.62.145 nodeCapability=Active inhibitRepPlans= siteId=Unspecified excludeTables=`
		`nodeId=C2878.063 nodeName=mpe01 hostName=mpe01,10.60.62.146 nodeCapability=Active inhibitRepPlans= siteId=Unspecified excludeTables=`

2.	**Change maxMsgSize Configuration**	- Refer to section 7.5.

6. Backout Procedure

6.1 Backout MPE

This procedure outlines the steps required to roll back the MPE upgrade.

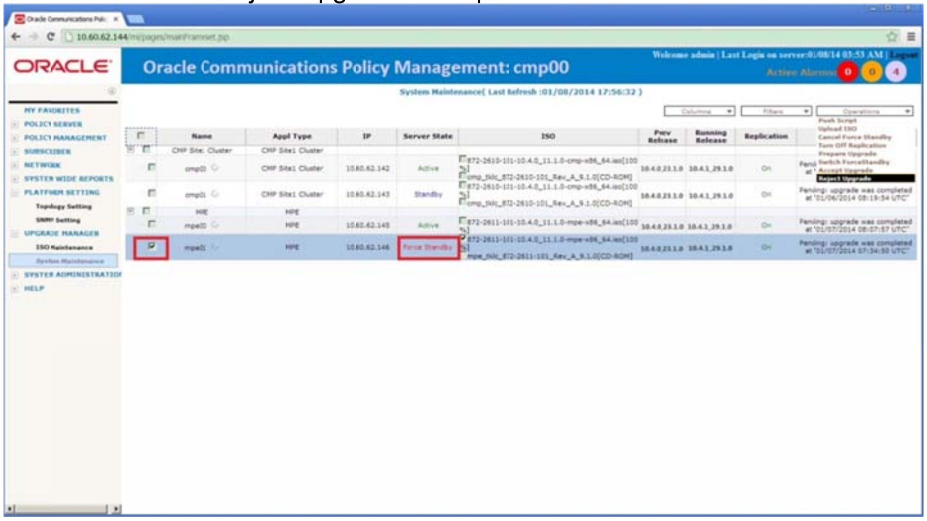
S T E P #

This procedure will roll back the MPE cluster. Both Servers have been upgraded but the upgrade has not been accepted yet. The standby server will be rolled back first. If only the standby server has been upgraded and the decision is made to "rollback", only steps 1-2 in this procedure need to be performed.

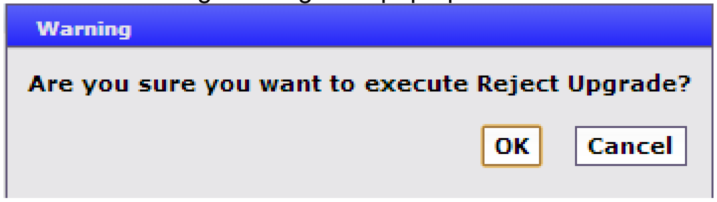
Pre-requisite: upgrade is not accepted.

1. □ **Roll back the standby server**

- Login to CMP GUI as admin, navigate to "System Maintenance" under the "Upgrade Manager" menu item , select the server to be backout (the one that was set to Force Standby earlier, or it is necessary to set it, the way to set this is written in previous section), and click "Reject Upgrade" in "Operations" menu item:



- Following message will pop up and choose "OK":

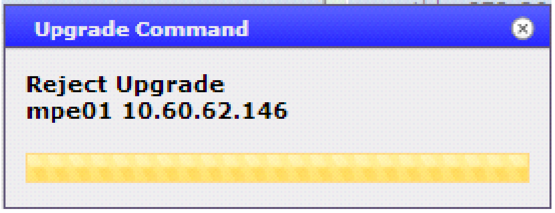


Warning

Are you sure you want to execute Reject Upgrade?

OK Cancel

- Following message indicates the reject process begins:

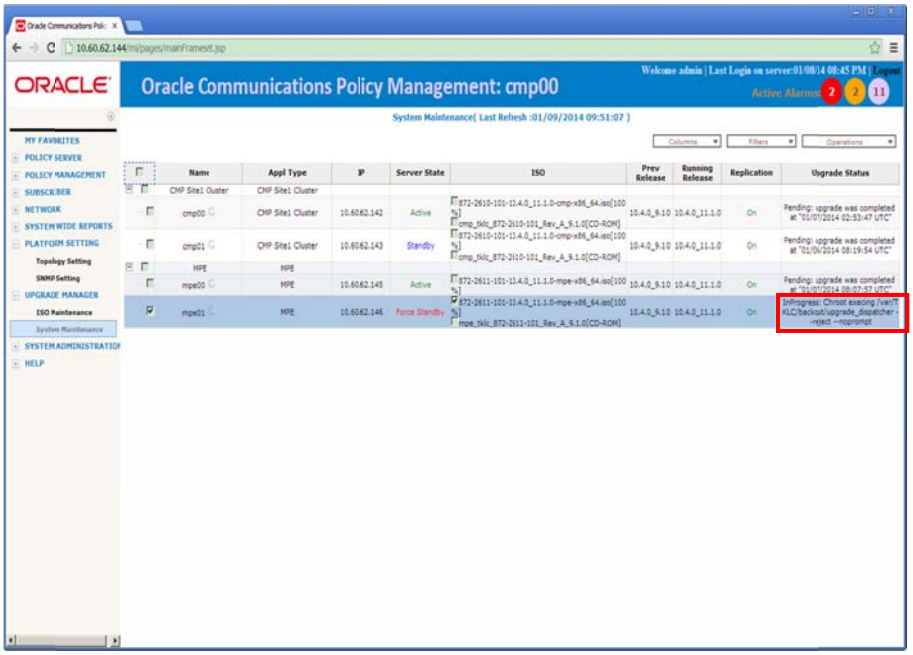


Upgrade Command

Reject Upgrade
mpe01 10.60.62.146

- Then we can see some alarms (like: 31101, 31107), be easy to those, for these are expected that should be cleared automatically after the process was completed successfully.
- At the same time, reject progress will reflect in the "Upgrade Status"

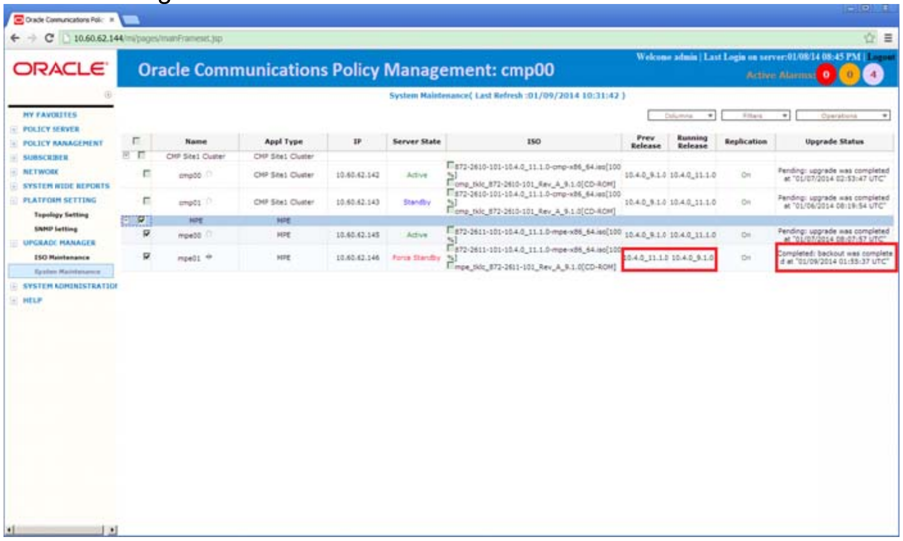
column value for the server being rejected as seen in the screen shots below:



System Maintenance(Last Refresh :01/09/2014 09:51:07)

☐	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication	Upgrade Status
☐	CMP Site1 Cluster	CMP Site1 Cluster							
☐	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Pending: upgrade was completed at "01/07/2014 02:53:47 UTC"
☐	cmp01	CMP Site1 Cluster	10.60.62.143	Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Pending: upgrade was completed at "01/06/2014 08:19:54 UTC"
☐	MPE	MPE							
☐	mpe00	MPE	10.60.62.145	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	10.4.0_9.1.0	10.4.0_11.1.0	On	Pending: upgrade was completed at "01/07/2014 08:07:57 UTC"
☑	mpe01	MPE	10.60.62.146	Force Standby	☑872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	InProgress: Chroot execing /var/TKLC/backout/upgrade_dispatcher --reject --noprompt

- After a while, backout is end until the the value of “Upgrade Status” is “backou was completed”,and value of “Running Release” is also changed.



System Maintenance(Last Refresh :01/09/2014 10:31:42)

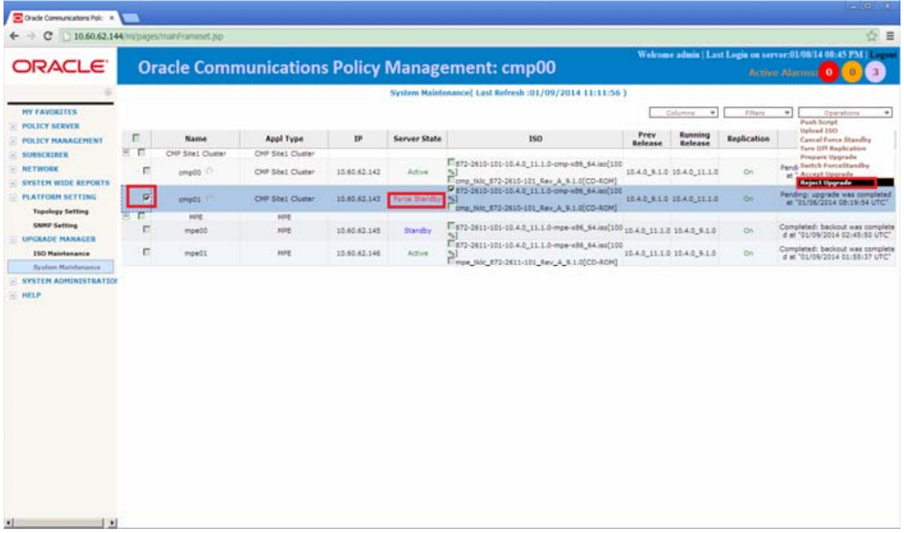
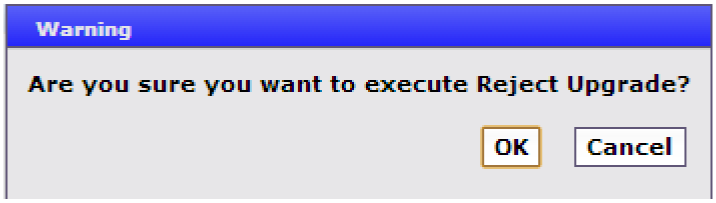
☐	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication	Upgrade Status
☐	CMP Site1 Cluster	CMP Site1 Cluster							
☐	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Pending: upgrade was completed at "01/07/2014 02:53:47 UTC"
☐	cmp01	CMP Site1 Cluster	10.60.62.143	Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Pending: upgrade was completed at "01/06/2014 08:19:54 UTC"
☑	MPE	MPE							
☑	mpe00	MPE	10.60.62.145	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	10.4.0_9.1.0	10.4.0_11.1.0	On	Pending: upgrade was completed at "01/07/2014 08:07:57 UTC"
☑	mpe01	MPE	10.60.62.146	Force Standby	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	10.4.0_11.1.0	10.4.0_9.1.0	On	Completed: backout was completed at "01/09/2014 01:55:37 UTC"

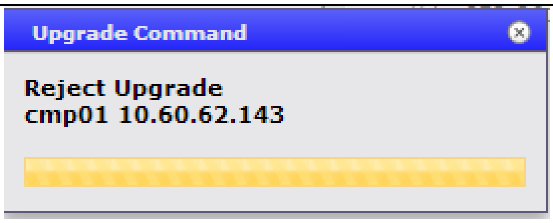
2.	**Standby Server CLI:** post backout check	- Ensure there is no major alarm in CMP GUI by referring to step 2 of section 4. - Login to MPE CLI and verify server system state, validate server role and application state as per step 2 of section 7.2.
3.	**Roll back the active server:**	- Switch the roll-backed Server(Server-B to Active, and the previous Active one(Server-A) to “ForceStandby”, the way to do this is described in step 10ofsection 5.2 in this document.

		• Roll back the new standby server by the same way of step 1.
4.	**Last Switch “ForceStandby”**	• Refer to step 10 in section 5.1in this document.
5. □	**Remove the “forced standby” flag**	• Refer to step 14 in section 5.1in this document.
6.	**Check server status**	• Refer to section 7.2 in this document.

6.2 Backout CMP

This procedure outlines the steps required to roll back the CMP upgrade in CMP Cluster.

S T E P #	This procedure will roll back the CMP cluster. Both Servers have been upgraded but the upgrade has not been accepted yet. The standby server will be rolled back first. If only the standby server has been upgraded and the decision is made to “rollback”, only steps 1-3 in this procedure need to be performed. **Pre-requisite:** upgrade is not accepted.	
1. □	**Roll back the standby CMP**	• Login to CMP GUI as admin, navigate to “System Maintenance” under the “Upgrade Manager” menu item , select the server to be backed out (make sure it is in Force Standby), and click “Reject Upgrade” in “Operations” menu item:  Oracle Communications Poli 10.60.62.144/mi/pages/mainFrameset.jsp ORACLE Oracle Communications Policy Management: cmp00 Welcome admin | Last Login on server:01/08/14 08:45 PM | Logout Active Alarms 0 0 3 MY FAVORITES POLICY SERVER POLICY MANAGEMENT SUBSCRIBER NETWORK SYSTEM WIDE REPORTS PLATFORM SETTING Topology Setting SNMP Setting UPGRADE MANAGER ISO Maintenance System Maintenance SYSTEM ADMINISTRATION HELP Columns Filters Operations Push Script Upload ISO Cancel Force Standby Turn Off Replication Prepare Upgrade Switch ForceStandby Accept Upgrade Reject Upgrade System Maintenance(Last Refresh :01/09/2014 11:11:56) Name, Appl Type, IP, Server State, ISO, Prev Release, Running Release, Replication CMP Site1 Cluster, CMP Site1 Cluster cmp00, CMP Site1 Cluster, 10.60.62.142, Active, 872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100 %] cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM], 10.4.0_9.1.0, 10.4.0_11.1.0, On, Pending: ... cmp01, CMP Site1 Cluster, 10.60.62.143, Force Standby, 872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100 %] cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM], 10.4.0_9.1.0, 10.4.0_11.1.0, On, Pending: upgrade was completed at "01/06/2014 08:19:54 UTC" MPE, MPE mpe00, MPE, 10.60.62.145, Standby, 872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100 %], 10.4.0_11.1.0, 10.4.0_9.1.0, On, Completed: backout was completed at "01/09/2014 02:45:50 UTC" mpe01, MPE, 10.60.62.146, Active, 872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100 %] mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM], 10.4.0_11.1.0, 10.4.0_9.1.0, On, Completed: backout was completed at "01/09/2014 01:55:37 UTC" • Following message will pop up and choose “OK”:  Warning Are you sure you want to execute Reject Upgrade? • Following message indicates the reject process begins:

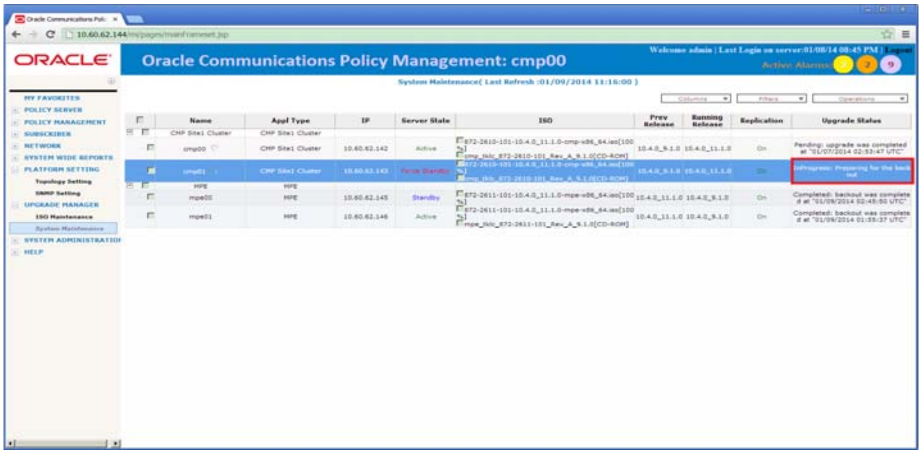


Upgrade Command

Reject Upgrade
cmp01 10.60.62.143

- Alarms (like: 70001, 31101, 31107,31114) will be noted. These are expected and should clear automatically after the rollback process is completed successfully:

- At the same time, reject progress will be reflected in the "Upgrade Status" column for the server being rejected, as seen in the screen shots below:



10.60.62.144/mi/pages/mainFrameset.jsp

Oracle Communications Policy Management: cmp00

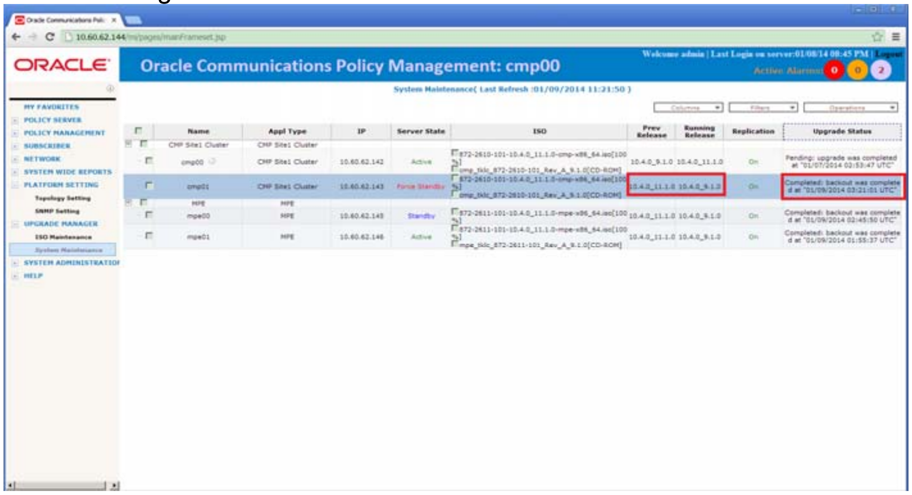
Welcome admin | Last Login on server:01/08/14 08:45 PM | Logout

Active Alarms: 2 2 9

System Maintenance(Last Refresh :01/09/2014 11:16:00)

	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication	Upgrade Status
☐	CMP Site1 Cluster	CMP Site1 Cluster							
☐	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Pending: upgrade was completed at "01/07/2014 02:53:47 UTC"
☐	cmp01	CMP Site1 Cluster	10.60.62.143	Force Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	InProgress: Preparing for the backout
☐	MPE	MPE							
☐	mpe00	MPE	10.60.62.145	Standby	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	10.4.0_11.1.0	10.4.0_9.1.0	On	Completed: backout was completed at "01/09/2014 02:45:50 UTC"
☐	mpe01	MPE	10.60.62.146	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	10.4.0_11.1.0	10.4.0_9.1.0	On	Completed: backout was completed at "01/09/2014 01:55:37 UTC"

- After backout is completed, "Upgrade Status" is "Completed: backout was completed", and the value of "Running Release" is also changed:



10.60.62.144/mi/pages/mainFrameset.jsp

Oracle Communications Policy Management: cmp00

Welcome admin | Last Login on server:01/08/14 08:45 PM | Logout

Active Alarms: 0 0 2

System Maintenance(Last Refresh :01/09/2014 11:21:50)

	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication	Upgrade Status
☐	CMP Site1 Cluster	CMP Site1 Cluster							
☐	cmp00	CMP Site1 Cluster	10.60.62.142	Active	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Pending: upgrade was completed at "01/07/2014 02:53:47 UTC"
☐	cmp01	CMP Site1 Cluster	10.60.62.143	Force Standby	☐872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] ☐cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_11.1.0	10.4.0_9.1.0	On	Completed: backout was completed at "01/09/2014 03:21:01 UTC"
☐	MPE	MPE							
☐	mpe00	MPE	10.60.62.145	Standby	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	10.4.0_11.1.0	10.4.0_9.1.0	On	Completed: backout was completed at "01/09/2014 02:45:50 UTC"
☐	mpe01	MPE	10.60.62.146	Active	☐872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] ☐mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	10.4.0_11.1.0	10.4.0_9.1.0	On	Completed: backout was completed at "01/09/2014 01:55:37 UTC"

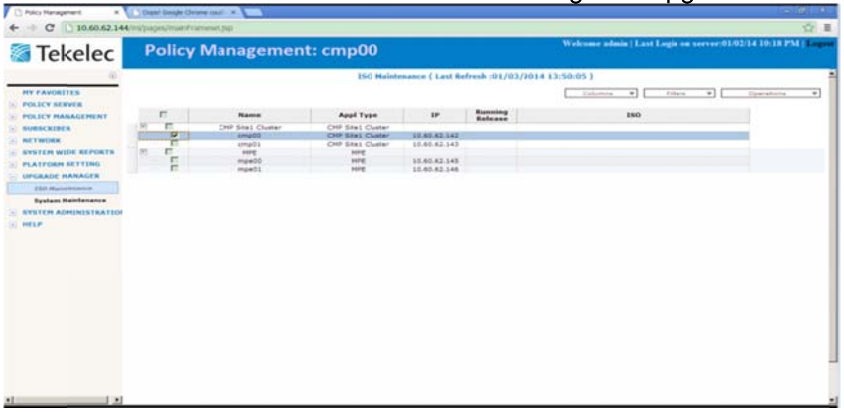
2.	**Standby Server**	• Ensure there is no major alarm in CMP GUI by referring to step 2 of

	CLI:post backout check	section 4. • Login to CMP CLI and verify server system state, validate server role and application state as per step 1 of section 7.2.
3.	**Check and harmonize the remote-root-login configuration**	• Refer to section 7.3.
4.	**Roll back the active server: "Switch Forced Standby"**	Switch the roll-backed Server(Server-B) to Active, and the previous Active one(Server-A) to "ForceStandby". Refer to step 10 of section 5.1.
5.	**Roll back the standby server**	• Roll back the newly standby Server-A as per step 1 and do post backout checks as in step2 of this procedure.
6.	**Last Switch "ForceStandby"**	• Refer to step 10 of section 5.1. This step will make Server-A the active server in the cluster again
7. □	**Remove the "forced standby" flag**	• Refer to step14 of section 5.1. The forced standby status will now be on Server-B and can be removed.
8.	**Check server status**	• Refer to section 7.2 .
9.	**Upgrade completion:** add excluded tables back to replication	• Refer to section 5.3 to do this step.

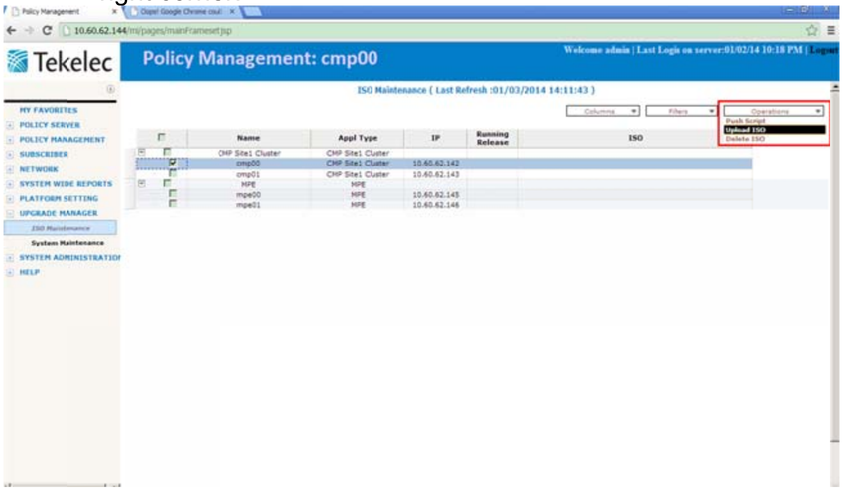
7. Supporting Procedures

7.1 *Uploading policy release (iso image file) to server to be upgraded*

The iso image for the upgrade must be transferred to the /var/TKLC/upgrade directory of each server to be upgraded. The following procedure (step #1) shows how this is done using the Upgrade Manager. (UM). A software distribution site is used as an ftp server so that the iso image file can be transferred to the CMP target server using SCP/. Alternately, the iso image can be transferred manually (Step #2) to /var/TKLC/upgrade directory with root user. Remote root access must be enabled. To enable remote root access, reference section 7.3..

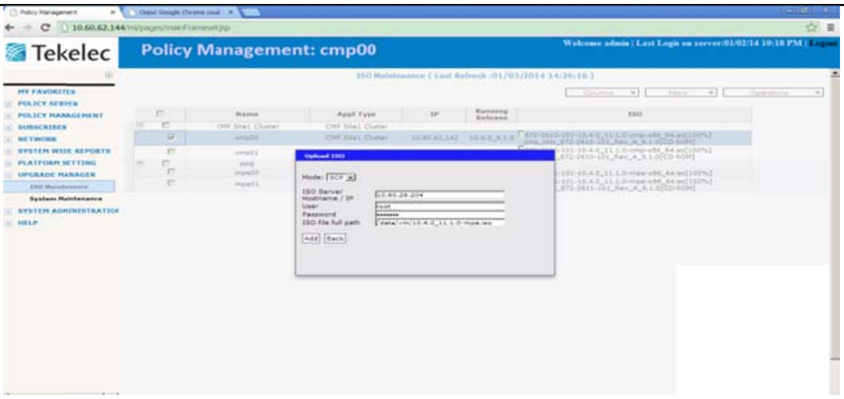
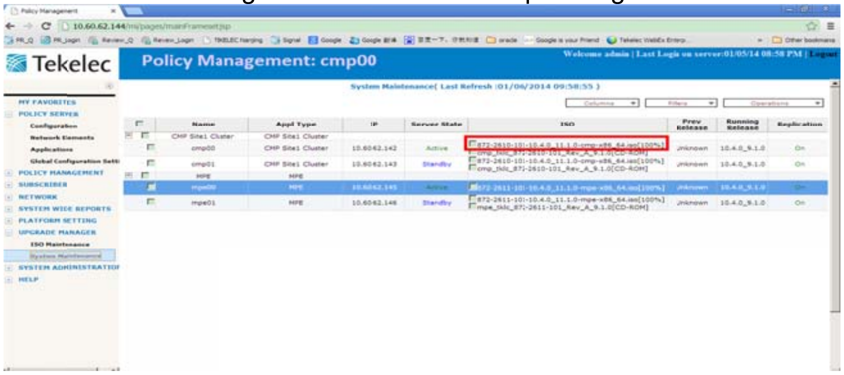
<table>
<tr><th>S
T
E
P
#</th><th colspan="2">This procedure will prepare the upgrade version of Wireline policy software in the designated path
<b>Needed material:</b>
- Wireline policy software iso image on scp server or local workstation</th></tr>
<tr><td><b>1.</b>
□</td><td><b>Upload iso image to target server using UM</b></td><td>Notice: If don’t have SCP server, then please skip this method.
• Enter UM and choose the server arranged to upgrade:

10.60.62.144/mi/pages/mainFrameset.jsp
Policy Management: cmp00
Welcome admin | Last Login on server:01/02/14 10:18 PM | Logout
ISO Maintenance (Last Refresh :01/03/2014 13:50:05)
<table><tr><th>Name</th><th>Appl Type</th><th>IP</th><th>Running Release</th><th>ISO</th></tr><tr><td>CMP Site1 Cluster</td><td>CMP Site1 Cluster</td><td></td><td></td><td></td></tr><tr><td>☑ cmp00</td><td>CMP Site1 Cluster</td><td>10.60.62.142</td><td></td><td></td></tr><tr><td>cmp01</td><td>CMP Site1 Cluster</td><td>10.60.62.143</td><td></td><td></td></tr><tr><td>MPE</td><td>MPE</td><td></td><td></td><td></td></tr><tr><td>mpe00</td><td>MPE</td><td>10.60.62.145</td><td></td><td></td></tr><tr><td>mpe01</td><td>MPE</td><td>10.60.62.146</td><td></td><td></td></tr></table>

Tekelec
MY FAVORITES
POLICY SERVER
POLICY MANAGEMENT
SUBSCRIBER
NETWORK
SYSTEM WIDE REPORTS
PLATFORM SETTING
UPGRADE MANAGER
ISO Maintenance
System Maintenance
SYSTEM ADMINISTRATION
HELP
Columns
Filters
Operations

• Then choose the submenu “Upload ISO” in menu “Operations” on top right corner:

10.60.62.144/mi/pages/mainFrameset.jsp
Policy Management: cmp00
Welcome admin | Last Login on server:01/02/14 10:18 PM | Logout
ISO Maintenance (Last Refresh :01/03/2014 14:11:43)
<table><tr><th>Name</th><th>Appl Type</th><th>IP</th><th>Running Release</th><th>ISO</th></tr><tr><td>CMP Site1 Cluster</td><td>CMP Site1 Cluster</td><td></td><td></td><td></td></tr><tr><td>☑ cmp00</td><td>CMP Site1 Cluster</td><td>10.60.62.142</td><td></td><td></td></tr><tr><td>cmp01</td><td>CMP Site1 Cluster</td><td>10.60.62.143</td><td></td><td></td></tr><tr><td>MPE</td><td>MPE</td><td></td><td></td><td></td></tr><tr><td>mpe00</td><td>MPE</td><td>10.60.62.145</td><td></td><td></td></tr><tr><td>mpe01</td><td>MPE</td><td>10.60.62.146</td><td></td><td></td></tr></table>

Tekelec
MY FAVORITES
POLICY SERVER
POLICY MANAGEMENT
SUBSCRIBER
NETWORK
SYSTEM WIDE REPORTS
PLATFORM SETTING
UPGRADE MANAGER
ISO Maintenance
System Maintenance
SYSTEM ADMINISTRATION
HELP
Columns
Filters
Operations
Push Script
Upload ISO
Delete ISO

• Enter the four fields of the SCP server in which the iso image is stored, then click ‘Add’ to complete the image uploading:</td></tr>
</table>

		 Policy Management: cmp00 ISO Maintenance (Last Refresh :01/03/2014 14:26:16) Upload ISO Mode: SCP ISO Server Hostname / IP: 10.60.26.204 User: root Password: ******** ISO file full path: /data/vm/10.4.0_11.1.0-mpe.iso Add Back • The following screen indicates the uploading is ok:  Policy Management: cmp00 System Maintenance(Last Refresh :01/06/2014 09:58:55) Name | Appl Type | IP | Server State | ISO | Prev Release | Running Release | Replication CMP Site1 Cluster | CMP Site1 Cluster cmp00 | CMP Site1 Cluster | 10.6062.142 | Active | 872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM] | Unknown | 10.4.0_9.1.0 | On cmp01 | CMP Site1 Cluster | 10.6062.143 | Standby | 872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM] | Unknown | 10.4.0_9.1.0 | On MPE | MPE mpe00 | MPE | 10.6062.145 | Active | 872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] | Unknown | 10.4.0_9.1.0 | On mpe01 | MPE | 10.6062.146 | Standby | 872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM] | Unknown | 10.4.0_9.1.0 | On
2. □	**SCP iso image manually to /var/TKLC/upgrade on target server**	Alternately, the iso image can be transferred manually to /var/TKLC/upgrade directory with root user. Remote root access must be enabled. Refer to section 7.3 to enable remote root access. SCP is the procedure preferred by Verizon.
3. □	**Ensure only one image file in /var/TKLC/upgrade**	Ensure that only the target upgrade image file is in the directory /var/TKLC/upgrade. Any image file from a previous release should be removed.

7.2 Check server status

This procedure outlines the steps about how to check server status.

STEP #

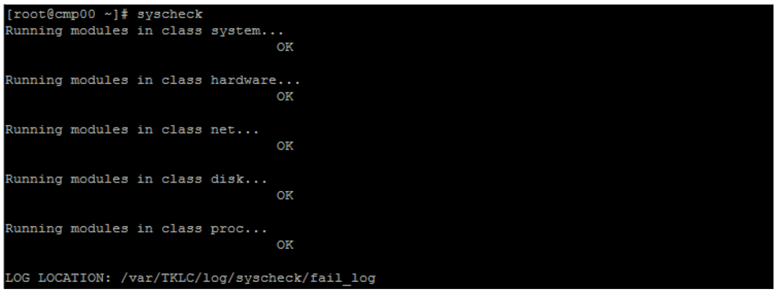
This procedure performs the operation to check server status

- Check all CMPs status in CMP cluster:
-

1.

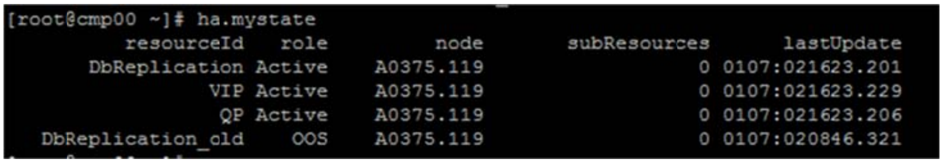
Check CMPs status in cluster: verify server system state, validate server role and application state

- Login to the active CMP cli issue the “syscheck” command, and ensure all checks status return “OK”:



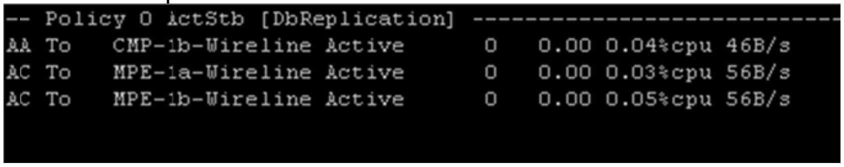
```
[root@cmp00 ~]# syscheck
Running modules in class system...
                                 OK

Running modules in class hardware...
                                 OK

Running modules in class net...
                                 OK

Running modules in class disk...
                                 OK

Running modules in class proc...
                                 OK

LOG LOCATION: /var/TKLC/log/syscheck/fail_log
```

- Login to the active CMP cli and issue the “ha.mystate” command, and confirm the server role is “Active”



```
[root@cmp00 ~]# ha.mystate
          resourceId   role          node        subResources       lastUpdate
       DbReplication Active     A0375.119                   0 0107:021623.201
                 VIP Active     A0375.119                   0 0107:021623.229
                  QP Active     A0375.119                   0 0107:021623.206
    DbReplication_old    OOS     A0375.119                   0 0107:020846.321
```

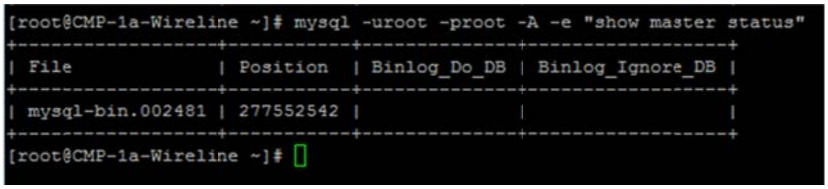
- Login into the active CMP cli and issue the “irepstat” command to ensure replication status is Active:



```
-- Policy 0 ActStb [DbReplication] ----------------------------
AA To   CMP-1b-Wireline Active      0    0.00 0.04%cpu 46B/s
AC To   MPE-1a-Wireline Active      0    0.00 0.03%cpu 56B/s
AC To   MPE-1b-Wireline Active      0    0.00 0.05%cpu 56B/s
```

- Verify that MySQL between the Active CMP and the Standby CMP is synchronized via following steps:

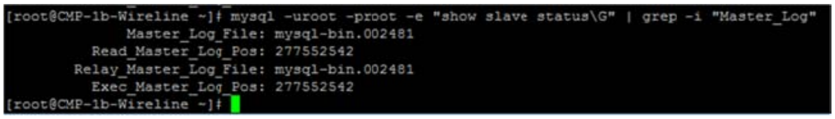
Login to the **Active CMP**, issue the command ‘**mysql -uroot -proot -e “show master status”** You will have output similar to the snapshot below.



```
[root@CMP-1a-Wireline ~]# mysql -uroot -proot -A -e "show master status"
+------------------+-----------+--------------+------------------+
| File             | Position  | Binlog_Do_DB | Binlog_Ignore_DB |
+------------------+-----------+--------------+------------------+
| mysql-bin.002481 | 277552542 |              |                  |
+------------------+-----------+--------------+------------------+
[root@CMP-1a-Wireline ~]# 
```

Now login to the **Standby CMP**, issue the command `**mysql -uroot -proot -e “show slave status\G” | grep -i “Master_Log”**`.

Check that the values of "Relay_Master_Log_File" and "Exec_Master_Log_Pos" are the same as the values of columns "File", "Position" fetched by the above SQL command.



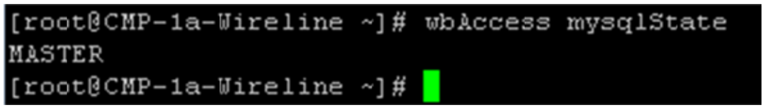
```
[root@CMP-1b-Wireline ~]# mysql -uroot -proot -e "show slave status\G" | grep -i "Master_Log"
              Master_Log_File: mysql-bin.002481
          Read_Master_Log_Pos: 277552542
        Relay_Master_Log_File: mysql-bin.002481
          Exec_Master_Log_Pos: 277552542
[root@CMP-1b-Wireline ~]#
```

For example:

mysql-bin.002481 | 277552542 |

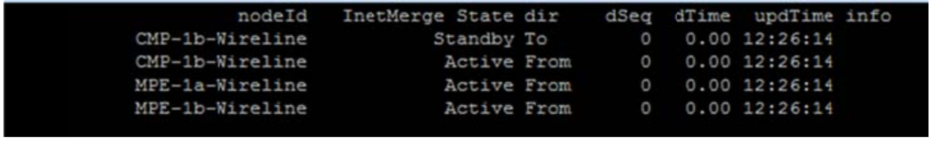
Relay_Master_Log_File: mysql-bin.002481
Exec_Master_Log_Pos: 277552542

- Now execute wbAccess mysqlState on the Active Node



```
[root@CMP-1a-Wireline ~]# wbAccess mysqlState
MASTER
[root@CMP-1a-Wireline ~]#
```

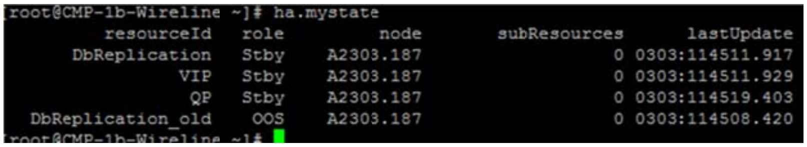
- Login into the active CMP cli and issue `inetmstat` command to ensure merge status. (Standby is "To", Active is "From")



```
              nodeId   InetMerge State dir     dSeq  dTime  updTime info
     CMP-1b-Wireline             Standby To       0   0.00 12:26:14
     CMP-1b-Wireline              Active From     0   0.00 12:26:14
     MPE-1a-Wireline              Active From     0   0.00 12:26:14
     MPE-1b-Wireline              Active From     0   0.00 12:26:14
```

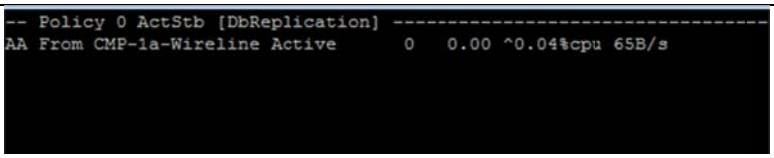
Note: Now the check will be on the standby CMP

- Login to CMP standby CLI, issue "syscheck" command, and ensure all checks status return "OK".
- Login to CMP standby CLI, issue "ha.mystate" command, and make sure that the server role is "Stby":



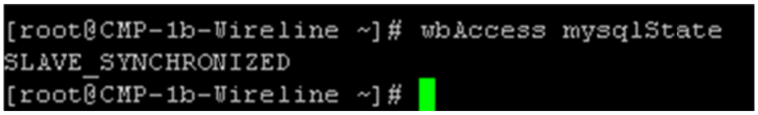
```
[root@CMP-1b-Wireline ~]# ha.mystate
        resourceId  role         node        subResources      lastUpdate
     DbReplication  Stby   A2303.187                    0 0303:114511.917
               VIP  Stby   A2303.187                    0 0303:114511.929
                QP  Stby   A2303.187                    0 0303:114519.403
 DbReplication_old   OOS   A2303.187                    0 0303:114508.420
[root@CMP-1b-Wireline ~]#
```

- Login to CMP standby CLI and issue "irepstat" command to ensure replication status is Active:



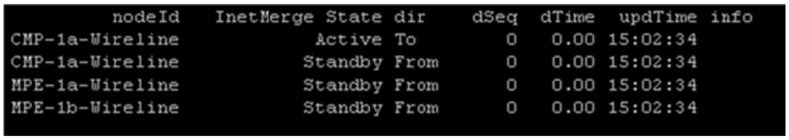
```
-- Policy 0 ActStb [DbReplication] ----------------------------------
AA From CMP-1a-Wireline Active      0   0.00 ^0.04%cpu 65B/s
```

- Now execute wbAccess mysqlState on the Standby Node



```
[root@CMP-1b-Wireline ~]# wbAccess mysqlState
SLAVE_SYNCHRONIZED
[root@CMP-1b-Wireline ~]#
```

- Login into the standby CMP cli and issue `inetmstat` command to ensure merge status. (Standby is “From”, Active is “To”) which direction is “From” is active:

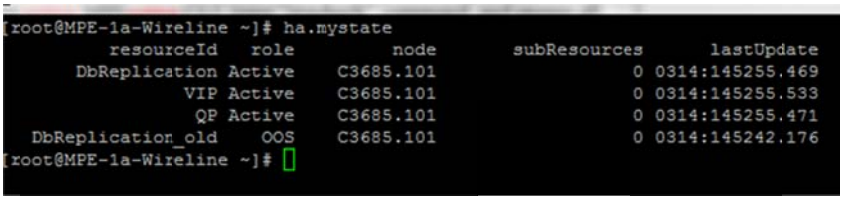


```
          nodeId    InetMerge State dir     dSeq  dTime   updTime info
CMP-1a-Wireline               Active To        0    0.00 15:02:34
CMP-1a-Wireline              Standby From      0    0.00 15:02:34
MPE-1a-Wireline              Standby From      0    0.00 15:02:34
MPE-1b-Wireline              Standby From      0    0.00 15:02:34
```

2. **Check MPEs status in cluster:** verify server system state, validate server role and application state

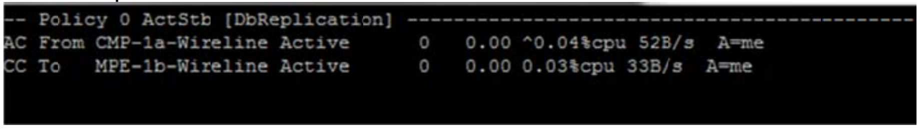
- Login to active MPE CLI, issue “syscheck” command, and ensure all checks status return “OK”.

- Login to active MPE CLI, issue “ha.mystate” command, and make sure that the server role is “Active”:



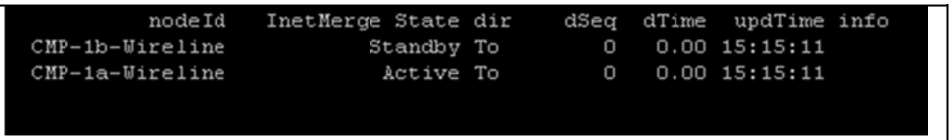
```
[root@MPE-1a-Wireline ~]# ha.mystate
           resourceId    role          node         subResources        lastUpdate
        DbReplication Active     C3685.101                     0 0314:145255.469
                  VIP Active     C3685.101                     0 0314:145255.533
                   QP Active     C3685.101                     0 0314:145255.471
   DbReplication_old     OOS     C3685.101                     0 0314:145242.176
[root@MPE-1a-Wireline ~]#
```

- Login to active MPE CLI and issue “irepstat” command to ensure replication status is Active:



```
-- Policy 0 ActStb [DbReplication] ----------------------------------------
AC From CMP-1a-Wireline Active      0   0.00 ^0.04%cpu 52B/s  A=me
CC To   MPE-1b-Wireline Active      0   0.00 0.03%cpu 33B/s  A=me
```

- Login to active MPE CLI and issue “inetmstat” command to ensure merge status: (Standby is “To”, Active is “To”)

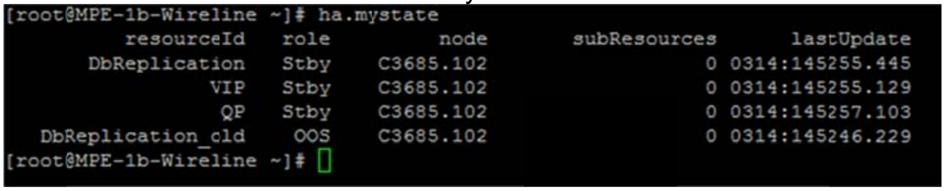


```
          nodeId   InetMerge State dir    dSeq  dTime  updTime info
 CMP-1b-Wireline              Standby To     0   0.00 15:15:11
 CMP-1a-Wireline               Active To     0   0.00 15:15:11
```

Note: Now the check will be on the standby MPE

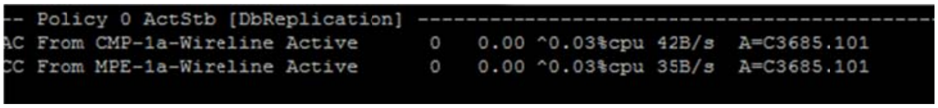
- Login to MPE standby CLI, issue “syscheck” command, and ensure all checks status return “OK”.

- Login to MPE standby CLI, issue “ha.mystate” command, and make sure that the server role is “Stby”:



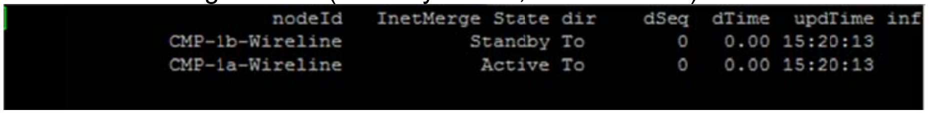
```
[root@MPE-1b-Wireline ~]# ha.mystate
          resourceId   role        node        subResources        lastUpdate
        DbReplication  Stby     C3685.102                   0 0314:145255.445
                  VIP  Stby     C3685.102                   0 0314:145255.129
                   QP  Stby     C3685.102                   0 0314:145257.103
    DbReplication_cld   OOS     C3685.102                   0 0314:145246.229
[root@MPE-1b-Wireline ~]#
```

- Login to MPE standby CLI, issue “irepstat” command, and make sure ensure replication status is Active.



```
-- Policy 0 ActStb [DbReplication] -----------------------------------------
AC From CMP-1a-Wireline Active      0    0.00 ^0.03%cpu 42B/s  A=C3685.101
CC From MPE-1a-Wireline Active      0    0.00 ^0.03%cpu 35B/s  A=C3685.101
```

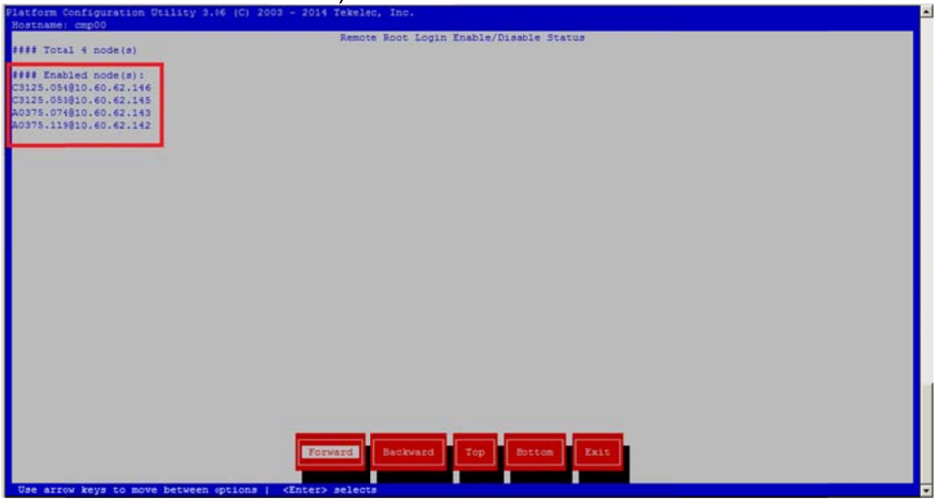
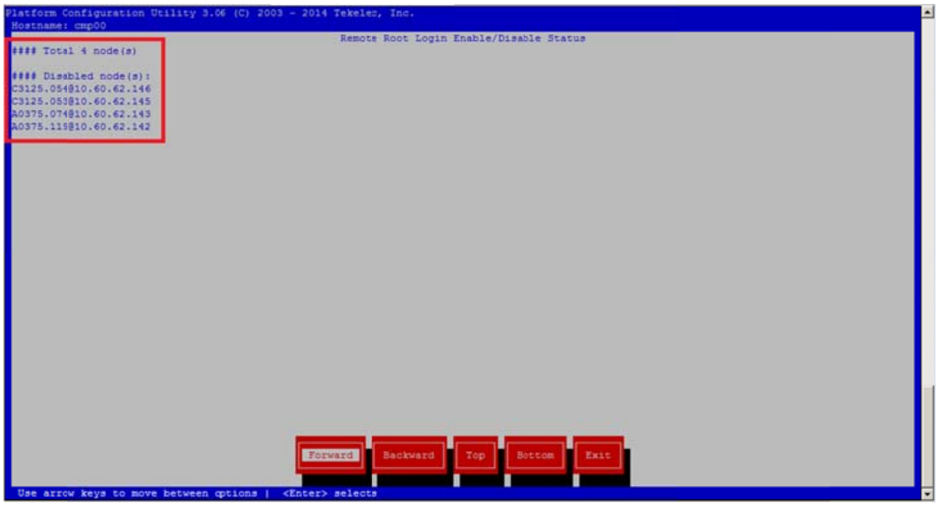
- Login to MPE standby CLI, issue `inetmstat` command, and make sure merge status: (Standby is “To”, Active is “To”)

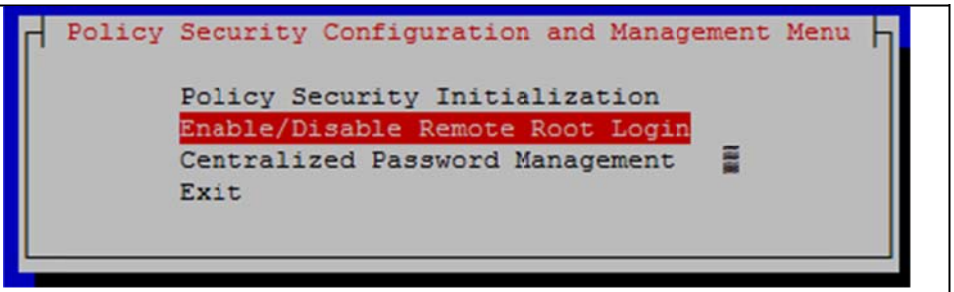


```
                  nodeId  InetMerge State dir   dSeq  dTime  updTime inf
         CMP-1b-Wireline            Standby To     0   0.00 15:20:13
         CMP-1a-Wireline             Active To     0   0.00 15:20:13
```

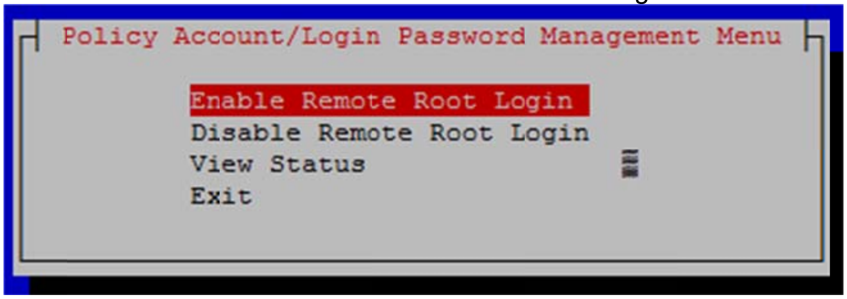
7.3 Check the remote-root-login configuration

This procedure outlines the steps about how to check the remote-root-login configuration of the topology, making sure all the servers are configured in the same way.

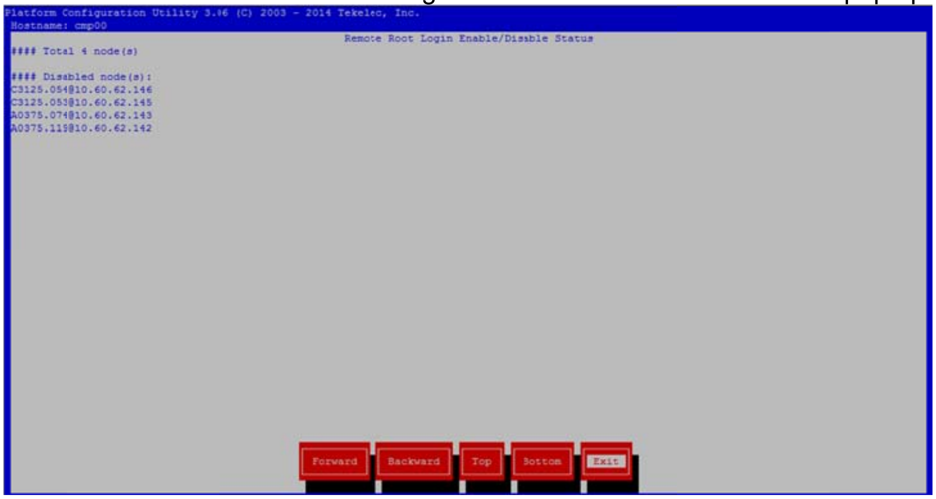
STEP #	This procedure performs the operation check and re-configure the remote-root-login - Check remote-root-login configuration - Re-configure	
1.	**Check**	• Login to active CMP CLI, issue “su - platcfg” command, follow menu “Camiant Configuration”→ “Security Configuration and Management”→ “Enable/Disable Remote Root Login”, choose “View Status “ , and then check whether the configuration is the same(either Enabled or Disabled) for all servers:  Platform Configuration Utility 3.06 (C) 2003 - 2014 Tekelec, Inc. Hostname: cmp00 Remote Root Login Enable/Disable Status #### Total 4 node(s) #### Enabled node(s): C3125.054@10.60.62.146 C3125.053@10.60.62.145 A0375.074@10.60.62.143 A0375.119@10.60.62.142 Use arrow keys to move between options | <Enter> selects  Platform Configuration Utility 3.06 (C) 2003 - 2014 Tekelec, Inc. Hostname: cmp00 Remote Root Login Enable/Disable Status #### Total 4 node(s) #### Disabled node(s): C3125.054@10.60.62.146 C3125.053@10.60.62.145 A0375.074@10.60.62.143 A0375.115@10.60.62.142 Use arrow keys to move between options | <Enter> selects If the configuration is not all the same, do following step 2.
2.	**Re-configure:** Enable/Disable the remote-root-login	• Login to active CMPCLI, issue “su - platcfg” command, follow menu “Camiant Configuration”→“Security Configuration and Management”→ “Enable/Disable Remote Root Login”:


Policy Security Configuration and Management Menu
Policy Security Initialization
Enable/Disable Remote Root Login
Centralized Password Management
Exit

- Then enter “Enable/Disable Remote Root Login” :


Policy Account/Login Password Management Menu
Enable Remote Root Login
Disable Remote Root Login
View Status
Exit

- Choose “Enable Remote Root Login” or “Disable Remote Root Login”. If “Disable Remote Root Login” was chosen and the result will pop up:



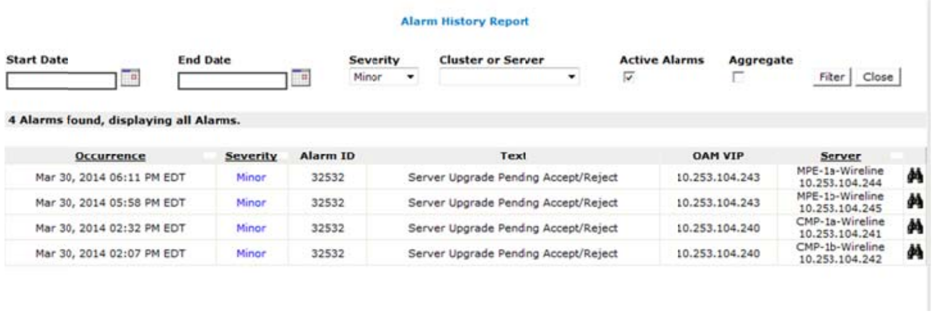
```
Platform Configuration Utility 3.06 (C) 2003 - 2014 Tekelec, Inc.
 Hostname: cmp00
                                          Remote Root Login Enable/Disable Status
#### Total 4 node(s)

#### Disabled node(s):
C3125.054@10.60.62.146
C3125.053@10.60.62.145
A0375.074@10.60.62.143
A0375.119@10.60.62.142
```

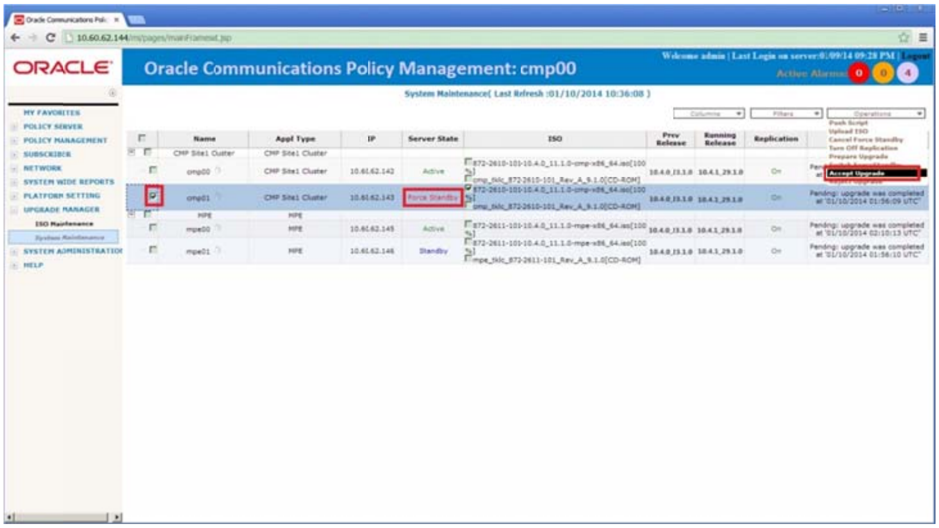
- Choose “Exit” to exit.

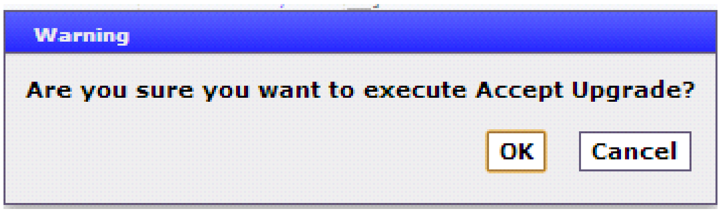
7.4 Accept Upgrade

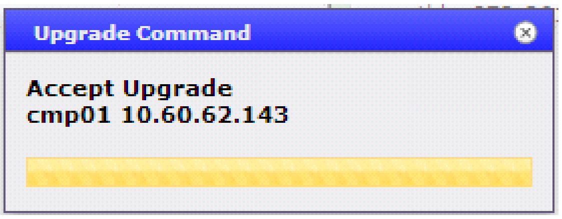
This procedure outlines the steps required to accept the upgrade after the CMP cluster or the MPE clusters are upgraded and post checks are all passed. When the accept process is completed, the upgrade cannot be rolled back anymore.

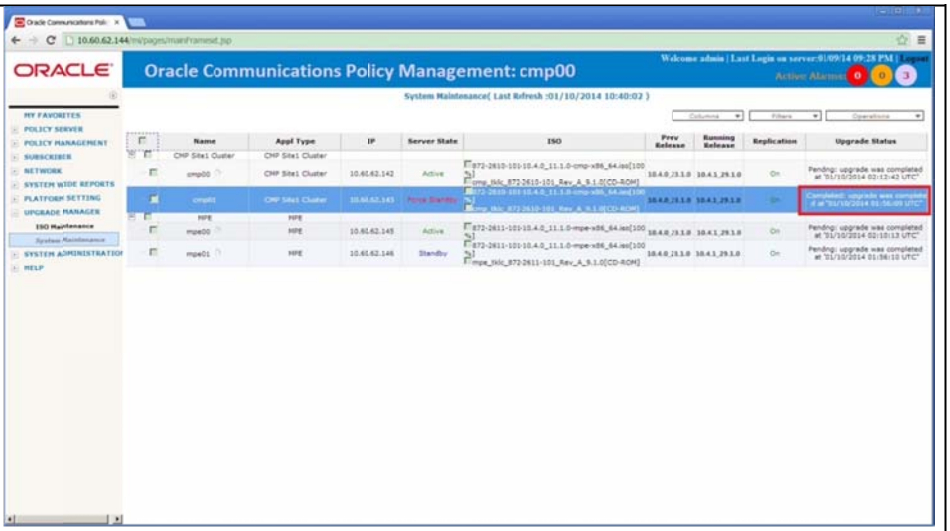
The standby blade should always be accepted first then the Active one. The server needs to be marked as “Forced Standby” to be able to accept the upgrade.

<table>
<tr><td><b>S
T
E
P
#</b></td><td colspan="2">This procedure performs a post-upgrade check on the system to decide if it is convenient to start the incremental upgrade of the system.
- Check all server status
- Check Alarm
- Accept upgrade for CMP /MPE</td></tr>
<tr><td><b>3.</b></td><td><b>Server CLI:</b>
Check all CMPs and MPEs status</td><td>• Check all of CMPs and MPEs status, this may refer to section 7.2 in this document.</td></tr>
<tr><td><b>4.</b>
□</td><td><b>Laptop/workstation on upgraded solution network:</b>
Check active alarms</td><td>• Login into CMP GUI as admin and inspect the “Active Alarms” from the “System Wide Report” side menu to make sure there are no critical/major alarms..

Alarm History Report
Start Date: (empty) End Date: (empty) Severity: Minor Cluster or Server: (empty) Active Alarms: ☑ Aggregate: ☐ Fiter Close
4 Alarms found, displaying all Alarms.
<table>
<tr><th>Occurrence</th><th>Severity</th><th>Alarm ID</th><th>Text</th><th>OAM VIP</th><th>Server</th></tr>
<tr><td>Mar 30, 2014 06:11 PM EDT</td><td>Minor</td><td>32532</td><td>Server Upgrade Pendng Accept/Reject</td><td>10.253.104.243</td><td>MPE-1a-Wireline
10.253.104.244</td></tr>
<tr><td>Mar 30, 2014 05:58 PM EDT</td><td>Minor</td><td>32532</td><td>Server Upgrade Pendng Accept/Reject</td><td>10.253.104.243</td><td>MPE-1b-Wireline
10.253.104.245</td></tr>
<tr><td>Mar 30, 2014 02:32 PM EDT</td><td>Minor</td><td>32532</td><td>Server Upgrade Pendng Accept/Reject</td><td>10.253.104.240</td><td>CMP-1a-Wireline
10.253.104.241</td></tr>
<tr><td>Mar 30, 2014 02:07 PM EDT</td><td>Minor</td><td>32532</td><td>Server Upgrade Pendng Accept/Reject</td><td>10.253.104.240</td><td>CMP-1b-Wireline
10.253.104.242</td></tr>
</table></td></tr>
</table>

<table>
<tr>
<td><b>5.</b></td>
<td><b>CMP cluster:</b> Accept upgrade for CMP</td>
<td>
• Login to CMP GUI as admin and navigate to “System Maintenance” under “Upgrade Manager” menu item.
• Set the “Force standby flag” for the standby CMP. Refer to step 5 in section 5.1.
• Select the checkbox of the forced-standby CMP and choose “Accept Upgrade” from the “Operations” menu:


<table>
<tr><th>□</th><th>Name</th><th>Appl Type</th><th>IP</th><th>Server State</th><th>ISO</th><th>Prev Release</th><th>Running Release</th><th>Replication</th><th></th></tr>
<tr><td>□</td><td>CMP Site1 Cluster</td><td>CMP Site1 Cluster</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>□</td><td>cmp00</td><td>CMP Site1 Cluster</td><td>10.60.62.142</td><td>Active</td><td>□872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%]
□cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_11.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pen… at</td></tr>
<tr><td>☑</td><td>cmp01</td><td>CMP Site1 Cluster</td><td>10.60.62.143</td><td>Force Standby</td><td>☑872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%]
□cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_11.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was completed at '01/10/2014 01:56:09 UTC'</td></tr>
<tr><td>□</td><td>MPE</td><td>MPE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>□</td><td>mpe00</td><td>MPE</td><td>10.60.62.145</td><td>Active</td><td>□872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]</td><td>10.4.0_11.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was completed at '01/10/2014 02:10:13 UTC'</td></tr>
<tr><td>□</td><td>mpe01</td><td>MPE</td><td>10.60.62.146</td><td>Standby</td><td>□872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]
□mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_11.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was completed at '01/10/2014 01:56:10 UTC'</td></tr>
</table>
• Following message will pop up and then choose “OK”:

Warning
Are you sure you want to execute Accept Upgrade?

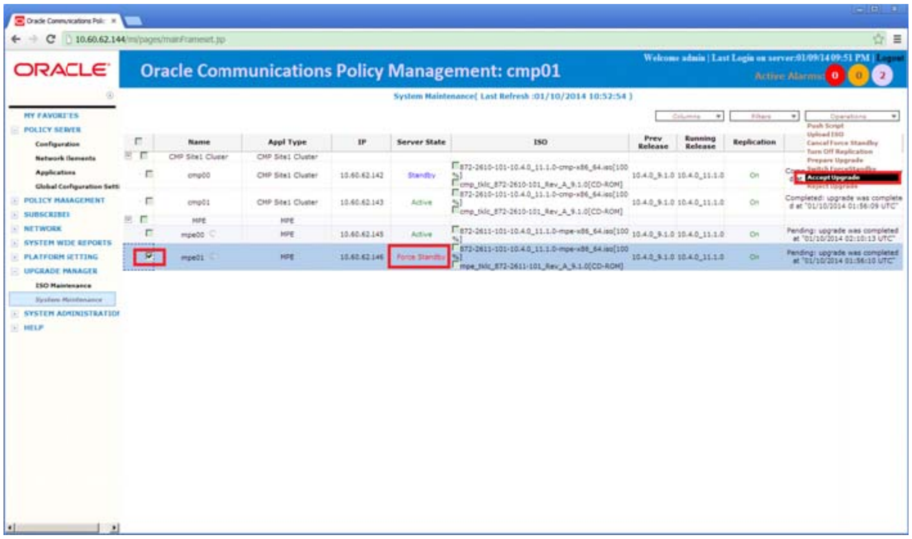
• A small window will be displayed indicating the start of accepting the upgrade:

Upgrade Command
Accept Upgrade
cmp01 10.60.62.143
• When the process is completed the upgrade status will show “Completed” in place of “Pending”
</td>
</tr>
</table>

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


Oracle Communications Policy Management: cmp00
Welcome admin | Last Login on server:01/09/14 09:28 PM | Logout
Active Alarms: 0 0 3
System Maintenance(Last Refresh :01/10/2014 10:40:02)
<table>
<tr><th>Name</th><th>Appl Type</th><th>IP</th><th>Server State</th><th>ISO</th><th>Prev Release</th><th>Running Release</th><th>Replication</th><th>Upgrade Status</th></tr>
<tr><td>CMP Site1 Cluster</td><td>CMP Site1 Cluster</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>cmp00</td><td>CMP Site1 Cluster</td><td>10.61.62.142</td><td>Active</td><td>872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%]
cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_9.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was completed at "01/10/2014 02:12:42 UTC"</td></tr>
<tr><td>cmp01</td><td>CMP Site1 Cluster</td><td>10.61.62.143</td><td>Force Standby</td><td>872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%]
cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_9.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Completed: upgrade was completed at "01/10/2014 01:56:09 UTC"</td></tr>
<tr><td>MPE</td><td>MPE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mpe00</td><td>MPE</td><td>10.61.62.145</td><td>Active</td><td>872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]</td><td>10.4.0_9.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was completed at "01/10/2014 02:10:13 UTC"</td></tr>
<tr><td>mpe01</td><td>MPE</td><td>10.61.62.146</td><td>Standby</td><td>872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]
mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_9.1.0</td><td>10.4.1_29.1.0</td><td>On</td><td>Pending: upgrade was completed at "01/10/2014 01:56:10 UTC"</td></tr>
</table>

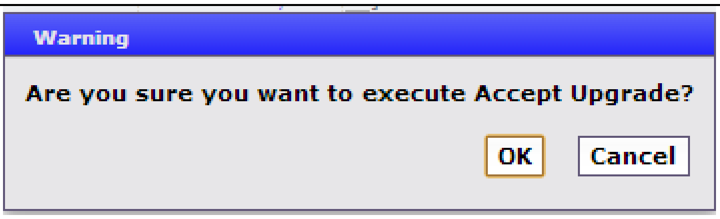
- Switch the upgrade-accepted Server(Server-B) to Active, and the previous Active one(Server-A) to “ForceStandby”. Refer to step 10 of section 5.1.
- Same steps to “Accept the upgrade” can now be applied on the new standby server. (For example Server A).
- Remove the “ForceStandby” flag from standby server (Server A). Refer to step14 of section 5.1.
</td>
</tr>
<tr>
<td><b>6.</b></td>
<td><b>MPE cluster:</b> Accept upgrade for MPE</td>
<td>

- Login to CMP as admin and navigate to “System Maintenance” under “Upgrade Manager” menu item.
- Select the check of the standby MPE and choose “Accept Upgrade” from the “Operations” menu:



Oracle Communications Policy Management: cmp01
Welcome admin | Last Login on server:01/09/14 09:51 PM | Logout
Active Alarms: 0 0 2
System Maintenance(Last Refresh :01/10/2014 10:52:54)
<table>
<tr><th>Name</th><th>Appl Type</th><th>IP</th><th>Server State</th><th>ISO</th><th>Prev Release</th><th>Running Release</th><th>Replication</th><th>Upgrade Status</th></tr>
<tr><td>CMP Site1 Cluster</td><td>CMP Site1 Cluster</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>cmp00</td><td>CMP Site1 Cluster</td><td>10.60.62.142</td><td>Standby</td><td>872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%]
cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_9.1.0</td><td>10.4.0_11.1.0</td><td>On</td><td>Com</td></tr>
<tr><td>cmp01</td><td>CMP Site1 Cluster</td><td>10.60.62.143</td><td>Active</td><td>872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%]
cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_9.1.0</td><td>10.4.0_11.1.0</td><td>On</td><td>Completed: upgrade was completed at "01/10/2014 01:56:09 UTC"</td></tr>
<tr><td>MPE</td><td>MPE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mpe00</td><td>MPE</td><td>10.60.62.145</td><td>Active</td><td>872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]</td><td>10.4.0_9.1.0</td><td>10.4.0_11.1.0</td><td>On</td><td>Pending: upgrade was completed at "01/10/2014 02:10:13 UTC"</td></tr>
<tr><td>☑ mpe01</td><td>MPE</td><td>10.60.62.146</td><td>Force Standby</td><td>872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]
mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]</td><td>10.4.0_9.1.0</td><td>10.4.0_11.1.0</td><td>On</td><td>Pending: upgrade was completed at "01/10/2014 01:56:10 UTC"</td></tr>
</table>

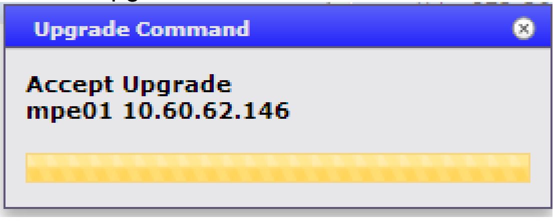
- Following message will pop up and then choose “OK”:
</td>
</tr>
</table>



Warning

Are you sure you want to execute Accept Upgrade?

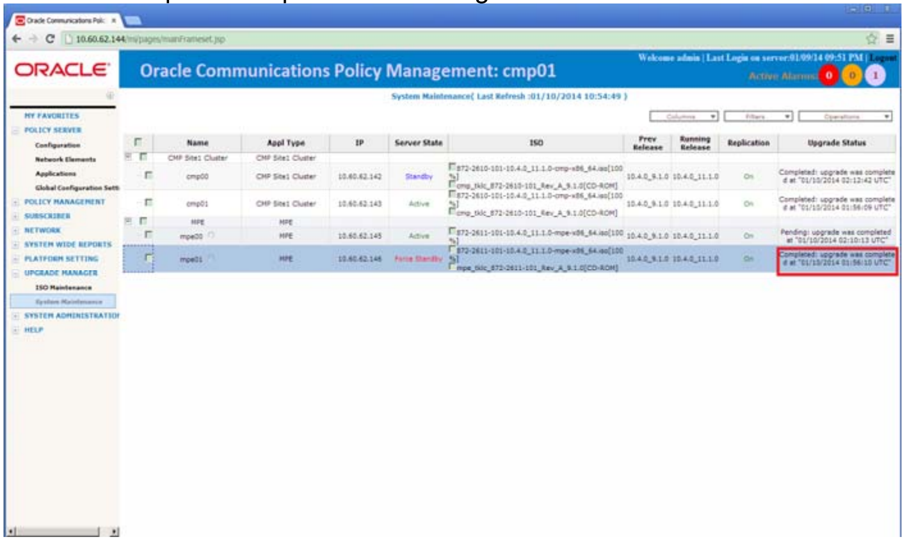
- A small window will be displayed indicating the start of accepting the upgrade:



Upgrade Command

Accept Upgrade
mpe01 10.60.62.146

- When the process is completed the upgrade status will show "Completed" in place of "Pending"



Oracle Communications Policy Management: cmp01

System Maintenance(Last Refresh :01/10/2014 10:54:49)

	Name	Appl Type	IP	Server State	ISO	Prev Release	Running Release	Replication	Upgrade Status
□	CMP Site1 Cluster	CMP Site1 Cluster							
□	cmp00	CMP Site1 Cluster	10.60.62.142	Standby	□872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] □cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Completed: upgrade was completed at "01/10/2014 02:12:42 UTC"
□	cmp01	CMP Site1 Cluster	10.60.62.143	Active	□872-2610-101-10.4.0_11.1.0-cmp-x86_64.iso[100%] □cmp_tklc_872-2610-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Completed: upgrade was completed at "01/10/2014 01:56:09 UTC"
□	MPE	MPE							
□	mpe00	MPE	10.60.62.145	Active	□872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%]	10.4.0_9.1.0	10.4.0_11.1.0	On	Pending: upgrade was completed at "01/10/2014 02:10:13 UTC"
□	mpe01	MPE	10.60.62.146	Force Standby	□872-2611-101-10.4.0_11.1.0-mpe-x86_64.iso[100%] □mpe_tklc_872-2611-101_Rev_A_9.1.0[CD-ROM]	10.4.0_9.1.0	10.4.0_11.1.0	On	Completed: upgrade was completed at "01/10/2014 01:56:10 UTC"

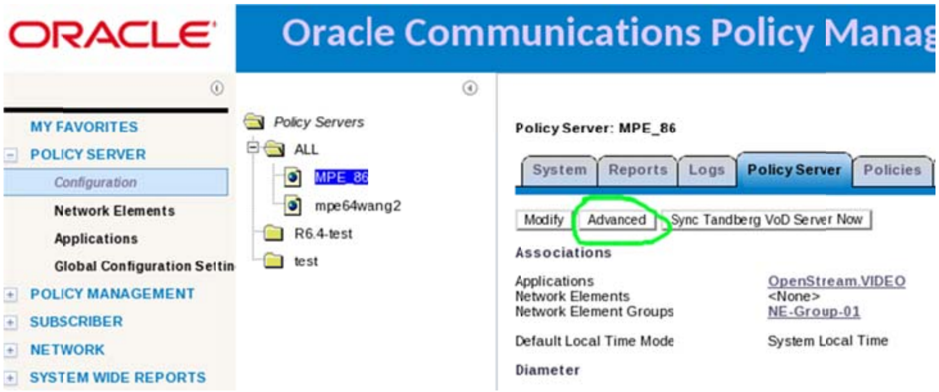
- Switch the upgrade-accepted Server(Server-B) to Active, and the previous Active one(Server-A) to "ForceStandby", the way to do this is described in step 10 in section 5.1 in this document.

- Same steps to "Accept the upgrade" can now be applied on the new standby server. (For example Server A).

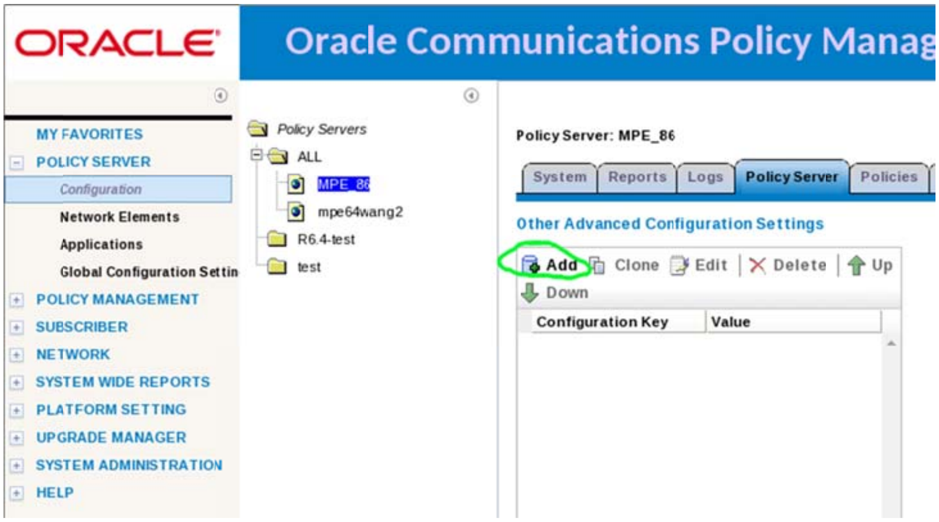
- Remove the "ForceStandby" flag from standby server(Server A), this can refer to step 14 in section 5.1 in this document.

7.5 Change maxMsgSize configuration after upgrade completion

Due to the fact that in 10.4.0 MPE, DIAMETER.MaxMsgSize is hardcoded as 25K (before the patch), upgrade from 10.4.0 to 10.4.1 won't set the value as 64K automatically. It is essential to do following steps on CMP GUI after upgrade from 10.4.0 to 10.4.1 is done.

<table>
<tr><td><b>STEP #</b></td><td colspan="2">This procedure performs the change of maxMsgSize configuration on policy server.
- Open Policy Server tab of a policy server on CMP GUI
- Open Advanced Configuration Settings GUI via Advanced button
- Click Add button and input <b>DIAMETER.MaxMsgSize</b> as Configuration Key and <b>65536</b> as the Value
- Click Save on the Advanced Configuration Settings GUI</td></tr>
<tr><td><b>1.</b></td><td><b>Open Policy Server tab</b></td><td>

ORACLE
Oracle Communications Policy Manag
MY FAVORITES
POLICY SERVER
Configuration
Network Elements
Applications
Global Configuration Settin
POLICY MANAGEMENT
SUBSCRIBER
NETWORK
SYSTEM WIDE REPORTS
Policy Servers
ALL
MPE_86
mpe64wang2
R6.4-test
test
System
Reports
Logs
Policy Server
Policies
Modify
Advanced
Sync Tandberg VoD Server Now
Associations
Diameter

Policy Server: MPE_86
Applications OpenStream.VIDEO
Network Elements &lt;None&gt;
Network Element Groups NE-Group-01
Default Local Time Mode System Local Time</td></tr>
<tr><td><b>2.</b></td><td><b>Open Advanced Configuration Settings GUI</b></td><td>

ORACLE
Oracle Communications Policy Manag
MY FAVORITES
POLICY SERVER
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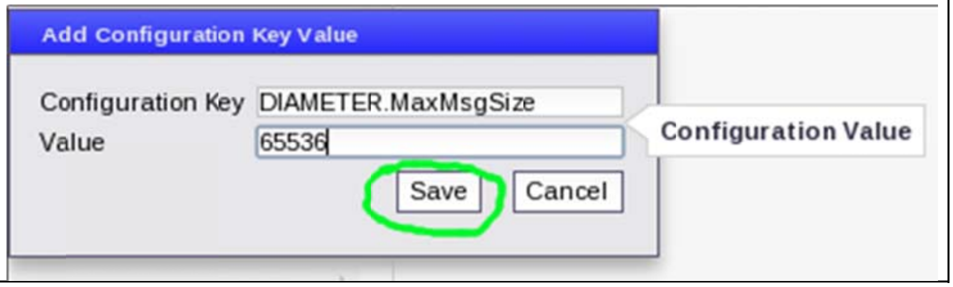
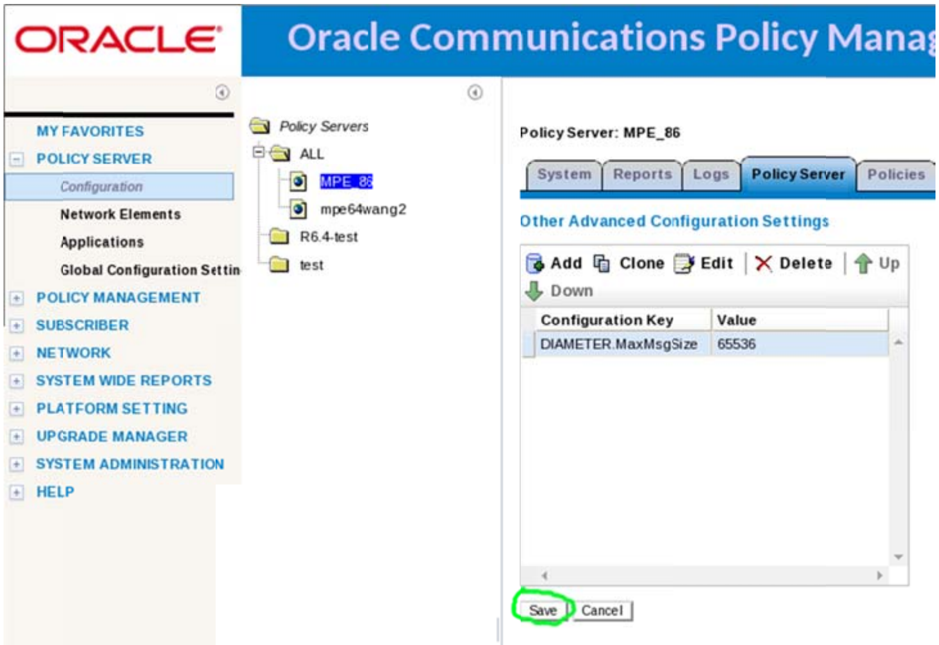
SYSTEM WIDE REPORTS
PLATFORM SETTING
UPGRADE MANAGER
SYSTEM ADMINISTRATION
HELP
Policy Servers
ALL
MPE_86
mpe64wang2
R6.4-test
test
System
Reports
Logs
Policy Server
Policies
Other Advanced Configuration Settings
Add
Clone
Edit
Delete
Up
Down

Policy Server: MPE_86
Configuration Key | Value</td></tr>
<tr><td><b>3.</b></td><td><b>Click Add button and then click Save button</b></td><td>

Add Configuration Key Value
Save
Cancel
Configuration Value

Configuration Key DIAMETER.MaxMsgSize
Value 65536</td></tr>
</table>

4.	**Click Save on the Advanced Configuration Settings GUI**	 ORACLE Oracle Communications Policy Manag MY FAVORITES POLICY SERVER Configuration Network Elements Applications Global Configuration Settin POLICY MANAGEMENT SUBSCRIBER NETWORK SYSTEM WIDE REPORTS PLATFORM SETTING UPGRADE MANAGER SYSTEM ADMINISTRATION HELP Policy Servers ALL MPE_86 mpe64wang2 R6.4-test test Policy Server: MPE_86 System Reports Logs Policy Server Policies Other Advanced Configuration Settings Add Clone Edit Delete Up Down Save Cancel Configuration Key: DIAMETER.MaxMsgSize Value: 65536 - It is done if the GUI shows *The configuration was applied successfully.*