

## **Cisco Prime Central RHEL Operating System Upgrade Guide**

October 31, 2018

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## Preface

## Introduction

The Operating System (OS) upgrade procedure supports Prime Central 2.1 customers to perform upgrade of Operating System from RHEL 6.5, 6.7, 6.8 or 6.9. This upgrade procedure is supported in all the three configurations:

- Local HA
- Geo HA(DR)
- Standalone

### **Prerequisites**

The prerequisites for the OS upgrade procedure are as follows:

- Verify the following check points before starting with the upgrade procedure:
  - Ensure to have all the user passwords used for installation or upgrade of Prime Central version 2.0.
  - Download .iso files for RHEL 6.5 or RHEL 6.7 or RHEL 6.8 or RHEL 6.9 from Red Hat website.
  - Download OSUpgradeScripts.tar from the below link, which will be used in subsequent sections:

https://software.cisco.com/download/release.html?i=!y&mdfid=286306701&softwareid=284406574&release=1.5.1.2&os=

- Ensure that an additional secondary storage space is available to backup of Prime Central data before starting with the RHEL 6.5 installation.
- Archive all the backups that are taken as part of OS upgrade procedure on a separate secondary storage out of the server. Archiving of backups is required as the data will be erased after RHEL 6.5 re-installation.
- Take the snapshot of the server as there is no support for rollback to RHEL 5.8 with Prime Central 2.1.

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# **Upgrade RHEL Operating System from 5.8 to 6.5**

These topics introduce you to upgrade RHEL Operating System (OS) in Disaster Recovery (DR) configuration.

- Upgrading from RHEL 5.8 to 6.5 in Prime Central Disaster Recovery Configuration, page 1-2
- Upgrading Prime Central Fault Management from RHEL 5.8 to 6.5 in Disaster Recovery Configuration, page 1-4
- Upgrading from RHEL 5.8 to 6.5 in a Prime Central Standalone Setup, page 1-7
- Upgrading from RHEL 5.8 to 6.5 in Prime Central High Availability Configuration, page 1-9

## **Prerequisites**

The RHEL upgrade procedure is applicable only on Prime Central 2.1. If the Prime Central version is less than 1.5.3, the application must be first upgraded to 2.1 before proceeding. For Prime Central upgrade, refer to the Prime Central 2.1 Quick Start Guide and Prime Central 2.1 HA Guide.

## **Install RHEL 6.5**

- Step 1 Install RHEL 6.5 with .iso file on both Prime Central and Fault Management servers, if installed separately. This step needs to be performed on both primary and standby nodes. Refer to Installing RHEL, page 5-1 for instructions.
- **Step 2** Change SELINUX mode to disabled as below:

vi /etc/sysconfig/selinux # modify as

SELINUX=disabled

### Step 3 Reboot all the servers.

## **Upgrading from RHEL 5.8 to 6.5 in Prime Central Disaster Recovery Configuration**

Complete the following procedures explained in each topics to upgrade from RHEL 5.8 to 6.5 in DR:

## **Prepare OS Upgrade**

Step 1 Stop application monitoring, data replication monitoring and file synchronization.

a. Log in to the active server as a root user.

- **b.** Enter the following commands:
  - # cd primeusr-home-directory/local/scripts/
  - # appmonctl stop
- c. Log in to the inactive server as a root user. Enter the following command:
  - # dbmonctl stop
- d. Log in to the active server as a primeusr.
- e. Enter the following command:
  - # filesyncctl stop
- Step 2 Uninstall Prime Central Fault Management 2.1 from the Standby server. For more information about uninstalling process, refer to Cisco Prime Central 2.1 Quick Start Guide.
- Step 3 Uninstall Prime Central 2.1 from the Standby server. For more information about uninstalling process, refer to Cisco Prime Central 2.1 Quick Start Guide.
- Step 4 Log in to Primary server to take a full backup of oracle database:

```
su - primeusr
emdbctl --backup
```

- **Step 5** Execute the following script to stop the Prime Central and Fault Management Services. This script needs to be executed on both Prime Central and Fault Management servers if installed separately.
  - **a.** Copy and execute primeServices.sh from OSUpgradeScripts.tar to "/root" directory in Fault Management and Prime Central servers:

./primeServices.sh stop

**b.** Execute the following command as root user on Fault Management server to remove Fault Management Status cron entry:

```
crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -
```

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**Step 6** Export the database schemas to a dump file:

a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME Example:

- cp /root/OSUpgradeScripts/database\_export\_import.sh /export/home/oracle/
- **b.** Change permissions of database\_export\_import.sh

chown [oracle user:oracle group] [path to script]

```
chmod 755 [path to script]
```

Example:

```
chown oracle:dba /export/home/oracle/database_export_import.sh
chmod 755 /export/home/oracle/database_export_import.sh
```

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
./database_export_import.sh "export" "schema" "[folder-name]"
"[oracle-user]"
```

Example:

```
su - oracle
./database_export_import.sh "export" "schema" "PCDBExportSchema" "oracle"
```



e At the end of the operation, folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime export schemas.log

- d. Check the log: "prime export schemas.log" for any errors before proceeding to Step 7.
- **Step 7** Take a backup of the folder given as input for Step 6 (like PCDBExportSchema)

**Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.

Step 8 Execute the following step on Primary PC server to stop database services. This is to ensure that no operations are permitted during OS upgrade process.

su - primeusr emdbctl -stop

- **Step 9** Execute the following steps in sequence to take the backup of Prime Central and Fault Management application, which is required to restore application after OS upgrade:
  - a. Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.

This script needs to be executed on Prime Central and Fault Management servers if installed separately.

**b.** Execute the following scripts:

```
./backupPrimeCentral.sh "backup_folder_full_path"
```

Example:

```
./backupPrimeCentral.sh "/root/PCBACKUP20" (On Prime central Server)
./backupPrimeCentral.sh "/root/FMBACKUP20" (On Fault Management Server)
```

I

Note

Take a backup of these folders (both Prime Central and Fault Management) created in Step 7 through Step 9 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.5, formatted and all the data will be erased from the server.

## **Upgrading Prime Central Fault Management from RHEL 5.8 to 6.5 in Disaster Recovery Configuration**

```
<u>)</u>
Note
```

Follow the procedure mentioned in this section only if you want to continue the upgrade from RHEL5.8 to 6.5. Both active and inactive machines should be upgraded to 6.5 using the RHEL inline upgrade procedure. Always perform inline upgrade procedural steps on the inactive machine (except where mentioned active).

Step 1 Take a backup of Prime Central Oracle database:

```
su - primeusr
emdbctl --backup
```

**Step 2** Take a DE Backup from the Fault Management server:

```
su - primeusr
cd .acsi_primeusr/bin
setenv
./de_backupdb -bfile [backupfile_full_path]
```

#### Example:

./de\_backupdb -bfile ~/debackup\_28Sep2016

- **Step 3** Take a backup of the following Fault Management database folders:
  - FM-install-folder/tiov2Components/TCRComponent/cognos/contentstore
  - FM-install-folder/omnibus/db/NCOMS

#### Example:

```
su - primeusr
cp -rf $NCHOME/omnibus/db/NCOMS ~/
cp -rf $NCHOME/tipv2Components/TCRComponent/cognos/contentstore ~/
```

- **Step 4** Stop application monitoring, data replication monitoring, and file synchronization:
  - **a.** Log in to the active server as a root user.
  - **b.** Enter the following commands:
    - # cd primeusr-home-directory/local/scripts/
    - # appmonctl stop
  - c. Log in to the inactive server as a root user.
  - d. Enter the following command:
    - # dbmonctl stop

- e. Log in to the active server as a primeusr.
- f. Enter the following command:

# filesyncctl stop

**Step 5** Execute the following sql query as a sys user to stop database sync between active and inactive machine:

su - oracle
sqlplus / as sysdba
ALTER DATABASE STOP LOGICAL STANDBY APPLY;

Step 6 Disable automatic restart of services.

#### **On Prime Central Server:**

- rm -f /etc/rc.d/rc2.d/S95restartpc
- rm -f /etc/rc.d/rc3.d/S95restartpc
- rm -f /etc/rc.d/rc4.d/S95restartpc
- rm -f /etc/rc.d/rc5.d/S95restartpc
- mv /etc/rc.d/init.d/restartpc /etc/rc.d/init.d/disable\_restartpc
- **On Fault Management Server:**

chkconfig primefm off
mv /etc/rc.d/init.d/primefm /etc/rc.d/init.d/disable primefm

#### **On Database Server:**

```
setenforce 0 >& /dev/null; cd /etc/init.d ; /sbin/chkconfig --del dbora
unlink "/etc/init.d/dbora";
```

Step 7 Execute the following script to stop the Prime Central and Fault Management services.

This script needs to be executed on Prime Central and Fault Management servers if installed separately.

a. Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory:

./primeServices.sh stop

**Step 8** Stop prime central database services:

su – primeusr emdbctl ––stop

Step 9 Perform the inline upgrade on the **inactive machine** from RHEL 5.8 to 6.5. See the Red Hat documentation for instructions.

## 

- **Note** Make sure that you perform inline upgrade only. Fresh installation of RHEL 6.5 is not supported and you may loose complete data.
- Step 10 Start Prime Central database services:

```
su - primeusr
emdbctl --start
```

**Step 11** Execute below sql query as a sys user to start database sync between active and inactive:

su - oracle sqlplus / as sysdba ALTER DATABASE START LOGICAL STANDBY APPLY IMMEDIATE;

Step 12 Start nco pad process on Fault Management server as a root user:

cd FM-install-folder/omnibus/bin ./nco\_pad

- Step 13 Start application monitoring, data replication monitoring, and file synchronization:
  - a. Log in to the active server as the root user.
  - **b.** Enter the following commands:

```
# cd primeusr-home-directory/local/scripts/
# appmonctl start
```

- c. Log in to the inactive server as root user.
- d. Enter the following command:
  - # dbmonctl start
- e. Log in to the active server as the user primeusr.
- f. Enter the following command:

# filesyncctl start

Note

Wait for 5 to 10 minutes before proceeding to the next step as file sync takes time to complete.

- Step 14 Perform switchover of Prime Central, Fault Management, and all Domain Managers integrated to the setup to make the current inactive machine as active. Refer to the Prime Central HA guide for instructions.
- Step 15 Restore backup of Fault Management database folder (taken in Step3)
  - Stop the Fault Management service:

```
su - primeusr
fmctl stop
```

- FM-install-folder/tipv2Components/TCRComponent/cognos/contentstore/cm
   Example:
  - mv \$NCHOME/tipv2Components/TCRComponent/cognos/contentstore/cm
  - \$NCHOME/tipv2Components/TCRComponent/cognos/contentstore/old\_cm
  - mv \$NCHOME/tipv2Components/TCRComponent/cognos/contentstore/old\_cm ~/
  - cp -rf ~/contentstore/cm \$NCHOME/tipv2Components/TCRComponent/cognos/contentstore/
- Change ownership to the directory:

Ex: chown primeusr:ncoadmin -R

\$NCHOME/tipv2Components/TCRComponent/cognos/contentstore/cm

• Start the Fault Management service:

su - primeusr fmctl start Step 16 Enable automatic restart of service:

- Log in to the Active Prime Central server (after switch over in Step 14).
- Execute the following commands:

```
cd pc-install-folder/local/scripts/embedded_oracle/PostDB
    perl auto_start_stop_db.pl $oratab $oracle_sid $oracle_home $oracle_user
    mv /etc/rc.d/init.d/disable_restartpc /etc/rc.d/init.d/restartpc
    cd /etc/rc.d/init.d
    chmod 755 restartpc
ln -s ../init.d/restartpc /etc/rc.d/S95restartpc.
```

## **Upgrading from RHEL 5.8 to 6.5 in a Prime Central Standalone Setup**

Complete the following procedures explained in each topics to upgrade RHEL 5.8 to 6.5 in a standalone setup:

### **Prepare OS Upgrade**

```
Step 1
        Take a full backup of oracle database on the server where Prime Central is installed:
              su - primeusr
              emdbctl --backup
        Execute the following script to stop the Prime Central and Fault Management Services:
Step 2
             a. Copy and execute primeServices.sh from OSUpgradeScripts.tar to "/root" directory in Fault
                 Management and Prime Central servers.
                 This script should be executed on both Prime Central and Fault Management servers if installed
                 separately.
                      ./primeServices.sh stop
             b. Execute the below command as root user on Fault Management Server to remove Fault
                 Management Status cron entry:
                      crontab -u primeusr -1 | grep -v 'FMStatusCron.csh' | crontab -u primeusr -
Step 3
        Export the database schemas to a dump file:
         Note
                This step needs to be executed on the server where Prime Central Database is installed.
             a. Copy database export import.sh from OSUpgradeScripts.tar to ORACLE USER HOME.
```

Example:

- cp /root/OSUpgradeScripts/database export import.sh /export/home/oracle/
- **b.** Change permissions of database\_export\_import.sh:

chown [oracle user:oracle group] [path to script]
chmod 755 [path to script]

#### Example:

```
chown oracle:dba /export/home/oracle/database_export_import.sh
chmod 755 /export/home/oracle/database export import.sh
```

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
./database_export_import.sh "export" "schema" "[folder-name]"
"[oracle-user]"
```

Example:

```
su - oracle
./database_export_import.sh "export" "schema" "PCDBExporSchema" "oracle"
```

Note At the end of the operation, a folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime\_export\_schemas.log

- d. Check the log: "prime\_export\_schemas.log" for any errors before proceeding to the next step.
- **Step 4** Take a backup of the folder given as input for Step 6 (like PCDBExportSchema).

Note

• Make sure that the above backup folder is copied outside the server onto the separate disk storage.

Step 5 Execute the below step on the Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process:

su - primeusr emdbctl --stop

**Step 6** Execute the following steps in sequence to take the backup of Prime Central application, which is required to restore application after OS upgrade:

This script needs to be executed on Prime Central and Fault Management servers if installed separately

- a. Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.
- **b.** Execute the following script:

```
./backupPrimeCentral.sh <backup_folder_full_path>
```

Example:

```
Note
```

Take a backup of these folders (both Prime Central and Fault Management) created in Step 4 through Step 6 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.5, formatted and all the data will be erased from the server.

./backupPrimeCentral.sh "/root/PCBACKUP151" (On Prime Central Server) ./backupPrimeCentral.sh "/root/FMBACKUP151" (On Fault Management Server)

## **Upgrading from RHEL 5.8 to 6.5 in Prime Central High Availability Configuration**

Complete the following procedures explained in each topics to upgrade from RHEL 5.8 to 6.5 in High Availability (HA):

### **Prepare OS Upgrade**

Step 1Take a full backup of oracle database on the server where Prime Central is installed.Execute the following commands:

su - primeusr emdbctl --backup

**Step 2** Freeze both Prime Central and Fault Management cluster services.

Execute the following command:

clusvcadm -Z [cluster-service-name]

Example:

clusvcadm -Z PrimePCService (On Prime Central server) clusvcadm -Z PrimeFMService (On Fault Management server)

- Step 3 Execute the following steps in sequence to stop the Prime Central or Fault Management Services:
  - **a.** Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory into the active Prime Central and Fault management cluster nodes and execute the commands:

chmod +x /root/primeServices.sh
./primeServices.sh stop

**b.** Execute the following command on active Fault Management cluster node to remove Fault Management Status cron entry:

crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -

- **Step 4** Export the database schemas to a dump file:
  - a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME.

Example:

cp /root/OSUpgradeScripts/database\_export\_import.sh /opt/pc/oracle/

**b.** Change permissions of database export import.sh:

```
chown [oracle user:oracle group] [path to script]
chmod 755 [path to script]
```

#### Example:

```
chown oracle:dba /opt/pc/oracle/database_export_import.sh
chmod 755 /opt/pc/oracle/database export import.sh
```

c. Execute the script by following the steps in sequence:

```
su - [oracle-user]
./database export import.sh "export" "schema" "[folder-name]" "[oracle-user]"
```

#### Example:

```
su - oracle
./database_export_import.sh "export" "schema" "PCDBExportSchema" "oracle"
```

```
Note
```

At the end of the operation, folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime export schemas.log

- d. Check the log: "prime\_export\_schemas.log" for any errors before proceeding to Step 5.
- **Step 5** Take a backup of the folder given as input for Step 4 (like PCDBExportSchema).

**Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.

Step 6 Execute the following step on Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process.

su - primeusr emdbctl --stop

Step 7 Execute the following steps in sequence to take the backup of Prime Central application, which is required to restore application after OS upgrade:

#### **On the Prime Central Cluster:**

• Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below:

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./backupPrimeCentral.sh backup\_folder\_full\_path

Example:

|         | • Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below  |
|---------|---|
|         | $./{\tt backupPrimeCentral.sh}$ $backup_folder_full_path$   |
|         | Example:  |
|         | ./backupPrimeCentral.sh "/root/FMBACKUP151"   |
|         | <b>Note</b> Take a backup of these folders (both Prime Central and Fault Management) that are created in Step 5 through step 7 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.8, and all the data will be erased from the server. |
| Step 8  | Unfreeze both Prime Central and Fault Management cluster services by executing the following command:   |
|         | clusvcadm -U <service name=""></service>  |
|         | Example:  |
|         | clusvcadm -U PrimePCService (On Prime Central server)   |
|         | clusvcadm -U PrimeFMService (On Fault Management server)  |
| Step 9  | Disable both the Prime Central and Fault Management cluster services:   |
|         | clusvcadm -d <service name=""></service>  |
|         | Example:  |
|         | clusvcadm -d PrimePCService (On Prime Central server)   |
|         | clusvcadm -d PrimeFMService (On Fault Management server)  |
| Step 10 | Remove or detach the shared storage from both Prime Central and Fault Management clusters. See th<br>Red Hat documentation for instructions.  |
|         |   |
| Note    | Though it is optional to remove or detach the shared storage before installing RHEL 6.5, it is recommended to avoid any issues with the shared storage configurations and to save the data inside shared storage (if exists).   |

Step 1Install Prime Central and Fault Management applications on Primary server alone with version 2.1 and<br/>RHEL 6.5 with the same old configuration (that existed before OS upgrade).

Refer to the Prime Central 2.1 documentation for instructions.

Note

- After executing Step 1, make sure that Prime Central and Fault Management applications with version 2.1 are installed, up and running properly in DR mode before proceeding to step 2.
- **Step 2** Execute the following script in sequence to stop the Prime Central and Fault Management Services.

This script needs to be executed on Prime Central and Fault Management servers if installed separately.

a. Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory:

./primeServices.sh stop

Step 3 Copy the backup folders obtained in Step 7 through Step 9 (Prepare OS Upgrade, page 1-2) to the local servers respectively. If Prime Central and Fault Management are installed separately, backup files should be copied onto both the servers respectively.

Example:

Copy "PCDBExportSchema" to "/root" on the PC server Copy "PCBACKUP151" to "/root" on the PC server

- **Step 4** Import the database schemas from the dump file:
  - a. Copy database export import.sh from OSUpgradeScripts.tar to ORACLE USER HOME
  - b. Copy oracle backup folder "PCDBExportSchema" to ORACLE USER HOME

Example:

```
cp /root/OSUpgradeScripts/database_export_import.sh /export/home/oracle/
cp /root/PCDBExportSchema /export/home/oracle/
Change permissions of database_export_import.sh and PCDBExportSchema folder
chown [oracle user:oracle group] [path to script]
chmod 755 [path to script]
```

#### Example:

```
chown oracle:dba /export/home/oracle/database_export_import.sh
chown oracle:dba -R /export/home/oracle/PCDBExportSchema
chmod 755 /export/home/oracle/database_export_import.sh
chmod -R 755 /export/home/oracle/PCDBExportSchema
```

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
./database_export_import.sh "import" "schema" "[folder-name]"
"[oracle-user]" "[fullpath-of-export-folder]"
```

#### Example:

```
su - oracle
```

```
./database_export_import.sh "import" "schema" "PCDBImportSchema" "oracle"
"/export/home/oracle/PCDBExportSchema"
```

Note At the end of operation, folder-name given as input for the above command (like PCDBImportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_import.par prime\_import\_schemas.log

d. Check the log: "prime\_import\_schemas.log" for any errors before proceeding to next step.



e Ignore warnings with Error code: ORA-39082.

For any other exceptions, please refer to the Troubleshooting OS Upgrade, page 6-1 section in this guide.

Step 5 Execute the following step on Prime Central server to stop database services. This is to ensure that no operations are permitted during OS upgrade process.

```
su - primeusr
emdbctl --stop
```

**Step 6** Execute the following script to restore Prime Central and Fault Management application.

This script should be executed on both Prime Central and Fault Management servers if installed separately.

- a. Copy restorePrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.
- **b.** Execute the following script:

```
./restorePrimeCentral.sh backup_folder_full_path
Example:
    ./restorePrimeCentral.sh "/root/PCBACKUP151" (On Prime Central server)
    ./restorePrimeCentral.sh "/root/FMBACKUP151" (On Fault Management server)
```

Step 7 Start Database services on the Prime Central server.

```
su - primeusr
emdbctl --start
```

**Note** If there any exception related to known\_hosts entries, you need to manually remove corrupted entry from known\_hosts file. When you again start the emdbctl, it will prompt for authenticity. Select "Yes" to proceed.

Step 8 Start Portal, integration and fault management services by executing the below script.

This script should be executed on both Prime Central and Fault Management servers if installed separately.

- a. Execute the following script:
  - ./primeServices.sh start
- Step 9 Restart Integration Layer services on all integrated domain managers.

Refer to the respective documentation.

Example: itgctl restart on Prime Network IL server

Step 10 Execute the following commands on Fault Management server to re-register all integrated DMs:

```
su - primeusr
cd $NCHOME/prime_integrator/scripts
./DMRegistration.sh -f
```

Step 11 Restart Portal, integration and fault management services by executing the below script.

This script should be executed on both Prime Central and Fault Management servers if installed separately.

a. Execute the following script:

./primeServices.sh restart

- Step 12 Perform Disaster Recovery setup of Prime Central 2.1 on the Standby server. Refer the Configuring Prime Central for Geographical Disaster Recovery section for setup instructions.
- Step 13 Perform Disaster Recovery setup of Prime Central Fault Management 2.1 on the Standby server. Refer the Configuring Prime Central Fault Management for Geographical Disaster Recovery section for setup instructions.
- Step 14 Configure Fault Management to send 3GPP alarm notifications to Northbound Interface:

fmctl configimpact <centraladmin pwd>
fmctl restart

Example:

fmctl configimpact Prime123 fmctl restart



# **Upgrade RHEL Operating System from 5.8 or** 6.5 to 6.7

These topics introduce you to upgrade RHEL Operating System (OS) in a standalone setup. You can upgrade the RHEL OS in single server and dual server environments.

- Upgrading from RHEL 5.8 or 6.5 to 6.7 in a Prime Central Standalone Setup, page 2-2
- Upgrading from RHEL 5.8 or 6.5 to 6.7 to in Prime Central Disaster Recovery Configuration, page 2-6
- Upgrading Prime Central Fault Management from RHEL 5.8 or 6.5 to 6.7 in Prime Central Standalone Setup, page 2-8
- Upgrading from RHEL 5.8 or 6.5 to 6.7 in Prime Central High Availability Configuration, page 2-10

## **Prerequisites**

The RHEL upgrade procedure is applicable only on Prime Central 2.1. If the Prime Central version is less than 2.0, the application must be first upgraded to 2.1 before proceeding. For Prime Central upgrade, please refer to the Prime Central 2.1 Quick Start Guide and Prime Central 2.1 HA Guide.

## **Install RHEL 6.7**

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| Step 1 | Install RHEL 6.7 with .iso file on both Prime Central and Fault Management servers if installed separately. For more information, see Installing RHEL, page 5-1 for instructions. |
|--------|---|
| Step 2 | Change SELINUX mode to disabled as below:   |
|        | vi /etc/sysconfig/selinux   |
|        | # modify as   |
|        | SELINUX=disabled  |
| Step 3 | Reboot all the servers.   |

## **Upgrading from RHEL 5.8 or 6.5 to 6.7 in a Prime Central Standalone Setup**

Complete the following procedures explained in each topics to upgrade RHEL 5.8 or 6.5 to 6.7 in a standalone setup:

## **Prepare OS Upgrade**

**Step 1** Take a full backup of oracle database on the server where Prime Central is installed:

```
su - primeusr
emdbctl --backup
```

**Step 2** Execute the following script to stop the Prime Central and Fault Management Services:

a. Copy and execute primeServices.sh from OSUpgradeScripts.tar to "/root" directory in Fault Management and Prime Central servers.

This script should be executed on both Prime Central and Fault Management servers if installed separately.

./primeServices.sh stop

**b.** Execute the below command as root user on Fault Management Server to remove Fault Management Status cron entry:

crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -

**Step 3** Export the database schemas to a dump file:



This step needs to be executed on the server where Prime Central Database is installed.

a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME. Example:

cp /root/OSUpgradeScripts/database\_export\_import.sh /export/home/oracle/

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**b.** Change permissions of database export import.sh:

chown [oracle user:oracle group] [path to script]
chmod 755 [path to script]

Example:

chown oracle:dba /export/home/oracle/database\_export\_import.sh chmod 755 /export/home/oracle/database\_export\_import.sh

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
./database_export_import.sh "export" "schema" "[folder-name]"
"[oracle-user]"
```

Example:

```
su - oracle
```

```
./database export import.sh "export" "schema" "PCDBExporSchema" "oracle"
```

Note At the end of the operation, a folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime export schemas.log

- d. Check the log: "prime export schemas.log" for any errors before proceeding to the next step.
- **Step 4** Take a backup of the folder given as input for Step 6 (like PCDBExportSchema).



- **Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.
- Step 5 Execute the below step on the Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process:

su - primeusr emdbctl --stop

**Step 6** Execute the following steps in sequence to take the backup of Prime Central application, which is required to restore application after OS upgrade:

This script needs to be executed on Prime Central and Fault Management servers if installed separately

- a. Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.
- **b.** Execute the following script:

```
./backupPrimeCentral.sh <backup_folder_full_path>
```

Example:

```
./backupPrimeCentral.sh "/root/PCBACKUP151" (On Prime Central Server)
./backupPrimeCentral.sh "/root/FMBACKUP151" (On Fault Management Server)
```



Take a backup of these folders (both Prime Central and Fault Management) created in Step 4 through Step 6 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.5, formatted and all the data will be erased from the server.

#### Upgrade from RHEL 5.8 or 6.5 to 6.7 in Prime Central Standalone Setup

Note

Follow the procedure mentioned in this section only if you want to continue the upgrade from RHEL 5.8 or 6.5 to 6.7. All machines should be upgraded to 6.7 using the RHEL inline upgrade procedure.

**Step 1** Take a backup of PC Oracle database:

su - primeusr

```
emdbctl --backup
```

**Step 2** Take a DE Backup from the Fault Management server:

```
su - primeusr
cd .acsi_primeusr/bin
setenv
./de_backupdb -bfile <backupfile_full_path>
```

Example:

./de\_backupdb -bfile ~/debackup\_28Sep2016

- Step 3 Take a backup of below Fault Management database folders:
  - FM-install-folder/tipv2Components/TCRComponent/cognos/contenstore
  - FM-install-folder/omnibus/db/NCOMS

Example:

cp -rf \$NCHOME/omnibus/db/NCOMS /opt/ cp -rf \$NCHOME/tipv2Components/TCRComponent/cognos/contentstore /opt/

Step 4 Disable automatic restart of services.

#### **On Prime Central Server:**

rm -f /etc/rc.d/rc2.d/S95restartpc
rm -f /etc/rc.d/rc3.d/S95restartpc
rm -f /etc/rc.d/rc4.d/S95restartpc
rm -f /etc/rc.d/rc5.d/S95restartpc
mv /etc/rc.d/init.d/restartpc /etc/rc.d/init.d/disable\_restartpc

#### **On Fault Management Server:**

chkconfig primefm off

mv /etc/rc.d/init.d/primefm /etc/rc.d/init.d/disable primefm

#### **On Database Server:**

setenforce 0 >& /dev/null; cd /etc/init.d ; /sbin/chkconfig --del dbora
unlink "/etc/init.d/dbora";

Step 5 Execute the following script to stop the Prime Central and Fault Management Services:

This script needs to be executed on Prime Central and Fault Management servers if installed separately.

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• Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory:

./primeServices.sh stop

**Step 6** Stop the Prime Central database service:

su - primeusr emdbctl --stop

Step 7 Perform the inline upgrade of Prime Central and Fault Management servers (if installed separately) from RHEL 5.8 or 6.5 to 6.7. For more instructions, see the Red Hat documentation.

- **Note** Make sure that you perform inline upgrade only. Fresh installation of RHEL 6.7 is not supported and you may lose complete data.
- **Step 8** Start the Prime Central database service:

su - primeusr emdbctl --start

Step 9 Start nco\_pad process on Fault Management Server as a root user.

```
cd FM-install-folder/omnibus/bin ./nco_pad
```

Step 10 Execute the following script to start the Prime Central and Fault Management Services:

This script needs to be executed on Prime Central and Fault Management servers if installed separately.

./primeServices.sh "start"

- **Step 11** Enable automatic restart of services:
  - a. Log in to the Prime Central server.
  - **b.** Execute the following commands:

```
cd pc-install-folder/local/scripts/embedded_oracle/PostDB
```

```
perl auto_start_stop_db.pl $oratab $oracle_sid $oracle_home $oracle_user
```

Example:

perl auto\_start\_stop\_db.pl "/etc/oratab" "primedb"

"/export/home/oracle/product/12.1.0/db\_1" "oracle"

mv /etc/rc.d/init.d/disable\_restartpc /etc/rc.d/init.d/restartpc cd /etc/rc.d/init.d

chmod 755 restartpc

ln -s ../init.d/restartpc /etc/rc.d/rc2.d/S95restartpc
ln -s ../init.d/restartpc /etc/rc.d/rc3.d/S95restartpc
ln -s ../init.d/restartpc /etc/rc.d/rc4.d/S95restartpc
ln -s ../init.d/restartpc /etc/rc.d/rc5.d/S95restartpc

- c. Log in to the Fault Management server.
- d. Execute the following commands:

mv /etc/rc.d/init.d/disable\_primefm /etc/rc.d/init.d/primefm chkconfig --add primefm chkconfig --level 2345 primefm on

# **Upgrading from RHEL 5.8 or 6.5 to 6.7 to in Prime Central Disaster Recovery Configuration**

Complete the following procedures explained in each topics to upgrade from RHEL 5.8 or 6.5 to 6.7 in DR:

## **Prepare OS Upgrade**

**Step 1** Stop application monitoring, data replication monitoring and file synchronization.

- a. Log in to the active server as a root user.
- b. Enter the following commands:
  - # cd primeusr-home-directory/local/scripts/
  - # appmonctl stop
- c. Log in to the inactive server as a root user. Enter the following command:
  - # dbmonctl stop
- **d.** Log in to the active server as a primeusr.
- e. Enter the following command:
  - # filesyncctl stop
- Step 2 Uninstall Prime Central Fault Management 2.1 from the Standby server. For more information about uninstalling process, refer to Cisco Prime Central 2.1 Quick Start Guide.
- Step 3 Uninstall Prime Central 2.1 from the Standby server. For more information about uninstalling process, refer to Cisco Prime Central 2.1 Quick Start Guide.
- Step 4 Log in to Primary server to take a full backup of oracle database:

su - primeusr emdbctl --backup

- Step 5 Execute the following script to stop the Prime Central and Fault Management Services. This script needs to be executed on both Prime Central and Fault Management servers if installed separately.
  - **a.** Copy and execute primeServices.sh from OSUpgradeScripts.tar to "/root" directory in Fault Management and Prime Central servers:

./primeServices.sh stop

**b.** Execute the following command as root user on Fault Management server to remove Fault Management Status cron entry:

```
crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -
```

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**Step 6** Export the database schemas to a dump file:

a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME Example:

cp /root/OSUpgradeScripts/database\_export\_import.sh /export/home/oracle/

**b.** Change permissions of database export import.sh

chown [oracle user:oracle group] [path to script] chmod 755 [path to script]

#### Example:

```
chown oracle:dba /export/home/oracle/database_export_import.sh
chmod 755 /export/home/oracle/database_export_import.sh
```

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
./database_export_import.sh "export" "schema" "[folder-name]"
"[oracle-user]"
```

Example:

```
su - oracle
./database_export_import.sh "export" "schema" "PCDBExportSchema" "oracle"
```

```
Note
```

At the end of the operation, folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime export schemas.log

d. Check the log: "prime\_export\_schemas.log" for any errors before proceeding to Step 7.

**Step 7** Take a backup of the folder given as input for Step 6 (like PCDBExportSchema)

**Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.

Step 8 Execute the following step on Primary PC server to stop database services. This is to ensure that no operations are permitted during OS upgrade process.

su - primeusr emdbctl -stop

- **Step 9** Execute the following steps in sequence to take the backup of Prime Central and Fault Management application, which is required to restore application after OS upgrade:
  - a. Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.

This script needs to be executed on Prime Central and Fault Management servers if installed separately.

**b.** Execute the following scripts:

./backupPrimeCentral.sh "backup\_folder\_full\_path"

Example:

```
./backupPrimeCentral.sh "/root/PCBACKUP20" (On Prime central Server)
./backupPrimeCentral.sh "/root/FMBACKUP20" (On Fault Management Server)
```

Note

Take a backup of these folders (both Prime Central and Fault Management) created in Step 7 through Step 9 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.8, formatted and all the data will be erased from the server.

## **Upgrading Prime Central Fault Management from RHEL 5.8 or 6.5 to 6.7 in Prime Central Standalone Setup**



Follow the procedure mentioned in this section only if you want to continue the upgrade from RHEL 5.8 or 6.5 to 6.7. All machines should be upgraded to RHEL 6.7 using the RHEL inline upgrade procedure.

Step 1 Take a backup of PC Oracle database:

su - primeusr emdbctl --backup

**Step 2** Take a DE Backup from the Fault Management server:

```
su - primeusr
cd .acsi_primeusr/bin
setenv
./de_backupdb -bfile <backupfile_full_path>
```

Example:

./de backupdb -bfile ~/debackup 28Sep2016

- **Step 3** Take a backup of below Fault Management database folders:
  - · FM-install-folder/tipv2Components/TCRComponent/cognos/contenstore
  - FM-install-folder/omnibus/db/NCOMS

Example:

- cp -rf \$NCHOME/omnibus/db/NCOMS /opt/
- cp -rf \$NCHOME/tipv2Components/TCRComponent/cognos/contentstore /opt/
- Step 4 Disable automatic restart of services.

#### **On Prime Central Server:**

- rm -f /etc/rc.d/rc2.d/S95restartpc
- rm -f /etc/rc.d/rc3.d/S95restartpc
- rm -f /etc/rc.d/rc4.d/S95restartpc
- rm -f /etc/rc.d/rc5.d/S95restartpc
- mv /etc/rc.d/init.d/restartpc /etc/rc.d/init.d/disable\_restartpc

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### **On Fault Management Server:** chkconfig primefm off mv /etc/rc.d/init.d/primefm /etc/rc.d/init.d/disable primefm **On Database Server:** setenforce 0 >& /dev/null; cd /etc/init.d ; /sbin/chkconfig --del dbora unlink "/etc/init.d/dbora"; Execute the following script to stop the Prime Central and Fault Management Services: Step 5 This script needs to be executed on Prime Central and Fault Management servers if installed separately. • Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory: ./primeServices.sh stop Stop the Prime Central database service: Step 6 su - primeusr emdbctl --stop Perform the inline upgrade of Prime Central and Fault Management servers (if installed separately) from Step 7 RHEL 6.5 or 6.7 or 6.8 to 6.9. For more instructions, see the Red Hat documentation. Ø, Make sure that you perform inline upgrade only. Note Start the Prime Central database service: Step 8 su - primeusr emdbctl --start Step 9 Start nco pad process on Fault Management Server as a root user. cd FM-install-folder/omnibus/bin ./nco pad Execute the following script to start the Prime Central and Fault Management Services: Step 10 This script needs to be executed on Prime Central and Fault Management servers if installed separately. ./primeServices.sh "start" Step 11 Enable automatic restart of services: a. Log in to the Prime Central server. **b.** Execute the following commands: cd pc-install-folder/local/scripts/embedded oracle/PostDB perl auto start stop db.pl \$oratab \$oracle sid \$oracle home \$oracle user Example: perl auto\_start\_stop\_db.pl "/etc/oratab" "primedb" "/export/home/oracle/product/12.1.0/db\_1" "oracle" mv /etc/rc.d/init.d/disable\_restartpc /etc/rc.d/init.d/restartpc

cd /etc/rc.d/init.d

```
chmod 755 restartpc
ln -s ../init.d/restartpc /etc/rc.d/rc2.d/S95restartpc
ln -s ../init.d/restartpc /etc/rc.d/rc3.d/S95restartpc
ln -s ../init.d/restartpc /etc/rc.d/rc4.d/S95restartpc
ln -s ../init.d/restartpc /etc/rc.d/rc5.d/S95restartpc
c. Log in to the Fault Management server.
d. Execute the following commands:
    mv /etc/rc.d/init.d/disable_primefm /etc/rc.d/init.d/primefm
    chkconfig --add primefm
    ohkconfig --level 2345 primefm on
```

## **Upgrading from RHEL 5.8 or 6.5 to 6.7 in Prime Central High Availability Configuration**

Complete the following procedures explained in each topics to upgrade from RHEL 5.8 or 6.5 to 6.7 in High Availability (HA):

### **Prepare OS Upgrade**

Take a full backup of oracle database on the server where Prime Central is installed. Step 1 Execute the following commands: su - primeusr emdbctl --backup Step 2 Freeze both Prime Central and Fault Management cluster services. Execute the following command: clusvcadm -Z [cluster-service-name] Example: clusvcadm -Z PrimePCService (On Prime Central server) clusvcadm -Z PrimeFMService (On Fault Management server) Execute the following steps in sequence to stop the Prime Central or Fault Management Services: Step 3 a. Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory into the active Prime Central and Fault management cluster nodes and execute the commands: chmod +x /root/primeServices.sh

```
./primeServices.sh stop
```

**b.** Execute the following command on active Fault Management cluster node to remove Fault Management Status cron entry:

```
crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -
```

**Step 4** Export the database schemas to a dump file:

a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME. Example:

cp /root/OSUpgradeScripts/database\_export\_import.sh /opt/pc/oracle/

b. Change permissions of database export import.sh:

chown [oracle user:oracle group] [path to script] chmod 755 [path to script]

Example:

chown oracle:dba /opt/pc/oracle/database\_export\_import.sh chmod 755 /opt/pc/oracle/database\_export\_import.sh

c. Execute the script by following the steps in sequence:

```
su - [oracle-user]
```

```
./database export import.sh "export" "schema" "[folder-name]" "[oracle-user]"
```

Example:

```
su - oracle
./database export import.sh "export" "schema" "PCDBExportSchema" "oracle"
```

Note At the end of the operation, folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime export schemas.log

- d. Check the log: "prime\_export\_schemas.log" for any errors before proceeding to Step 5.
- **Step 5** Take a backup of the folder given as input for Step 4 (like PCDBExportSchema).

**Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.

Step 6 Execute the following step on Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process.

su – primeusr emdbctl ––stop

Step 7 Execute the following steps in sequence to take the backup of Prime Central application, which is required to restore application after OS upgrade:

#### **On the Prime Central Cluster:**

• Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below:

./backupPrimeCentral.sh backup\_folder\_full\_path

Example:

./backupPrimeCentral.sh "/root/PCBACKUP151"

#### **On the Fault Management Cluster:**

• Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below:

./backupPrimeCentral.sh backup\_folder\_full\_path

Example:

./backupPrimeCentral.sh "/root/FMBACKUP151"

Note Take a backup of these folders (both Prime Central and Fault Management) that are created in Step 5 through step 7 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.7, and all the data will be erased from the server.

Step 8 Unfreeze both Prime Central and Fault Management cluster services by executing the following command:

```
clusvcadm -U <Service name>
Example:
    clusvcadm -U PrimePCService (On Prime Central server)
```

clusvcadm -U PrimeFMService (On Fault Management server)

Step 9 Disable both the Prime Central and Fault Management cluster services:

clusvcadm -d <Service name>

Example:

clusvcadm -d PrimePCService (On Prime Central server) clusvcadm -d PrimeFMService (On Fault Management server)

Step 10 Remove or detach the shared storage from both Prime Central and Fault Management clusters. See the Red Hat documentation for instructions.

Note

Though it is optional to remove or detach the shared storage before installing RHEL 6.7.

Upgrade from RHEL 5.8 or 6.5 to 6.7 in Prime Central High Availability Configuration:

**Step 1** Take a full backup of oracle database on the server where Prime Central is installed.

Execute the following commands:

su - primeusr

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```
emdbctl --backup
```

Step 2 Freeze both Prime Central and Fault Management cluster services.

Execute the following command:

clusvcadm -Z [cluster-service-name]
Example:
 clusvcadm -Z PrimePCService (On Prime Central server)
 clusvcadm -Z PrimeFMService (On Fault Management server)

- **Step 3** Execute the following steps in sequence to stop the Prime Central or Fault Management Services:
  - a. Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory into the active Prime Central and Fault management cluster nodes and execute the commands:

```
chmod +x /root/primeServices.sh
./primeServices.sh stop
```

**b.** Execute the following command on active Fault Management cluster node to remove Fault Management Status cron entry:

```
crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -
```

**Step 4** Export the database schemas to a dump file:

```
a. Copy database_export_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME.
```

Example:

cp /root/OSUpgradeScripts/database\_export\_import.sh /opt/pc/oracle/

**b.** Change permissions of database export import.sh:

chown [oracle user:oracle group] [path to script] chmod 755 [path to script]

Example:

chown oracle:dba /opt/pc/oracle/database\_export\_import.sh
chmod 755 /opt/pc/oracle/database\_export\_import.sh

c. Execute the script by following the steps in sequence:

```
su - [oracle-user]
```

./database\_export\_import.sh "export" "schema" "[folder-name]" "[oracle-user]"

Example:

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```
su - oracle
./database_export_import.sh "export" "schema" "PCDBExportSchema" "oracle"
```

| • | At the end of the operation, folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the <b>oracle user home</b> directory. |
|---|--|
|   | The folder should contain below files:   |
|   | prime_dump_schemas.dmp   |
|   | prime_export.par   |
|   | prime export schemas.log   |

- **Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.
- **Step 6** Execute the following step on Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process.

su - primeusr emdbctl --stop

Step 5

Step 7 Execute the following steps in sequence to take the backup of Prime Central application, which is required to restore application after OS upgrade:

#### **On the Prime Central Cluster:**

• Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below:

```
./backupPrimeCentral.sh backup_folder_full_path
```

Example:

./backupPrimeCentral.sh "/root/PCBACKUP151"

**On the Fault Management Cluster:** 

• Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below:

./backupPrimeCentral.sh backup\_folder\_full\_path

Example:

```
./backupPrimeCentral.sh "/root/FMBACKUP151"
```

Note Take a backup of these folders (both Prime Central and Fault Management) that are created in Step 5 through step 7 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.9, and all the data will be erased from the server.

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Step 8 Unfreeze both Prime Central and Fault Management cluster services by executing the following command:

```
clusvcadm -U <Service name>
Example:
    clusvcadm -U PrimePCService (On Prime Central server)
    clusvcadm -U PrimeFMService (On Fault Management server)
```

Step 9 Disable both the Prime Central and Fault Management cluster services:

clusvcadm -d <Service name>

Example:

clusvcadm -d PrimePCService (On Prime Central server) clusvcadm -d PrimeFMService (On Fault Management server)

Step 10 Remove or detach the shared storage from both Prime Central and Fault Management clusters. See the Red Hat documentation for instructions.

```
<u>Note</u>
```

Though it is optional to remove or detach the shared storage before installing RHEL 6.7, it is recommended to avoid any issues with the shared storage configurations and to save the data inside shared storage (if exists).

Follow the procedure mentioned in this section only if you want to continue the upgrade from RHEL 5.8 or 6.5 to 6.7:

Step 1 Take a backup of Prime Central Oracle database:su - primeusr

emdbctl --backup

**Step 2** Take a DE Backup from Fault Management server:

```
su - primeusr
cd .acsi_primeusr/bin
setenv
./de_backupdb -bfile [backupfile_full_path]
```

Example:

./de\_backupdb -bfile ~/debackup\_28Sep2016

- Step 3 Take a backup of the following Fault Management database folders:
  - FM-install-folder/tipv2Components/TCRComponent/cognos/contentstore
  - FM-install-folder/omnibus/db/NCOMS

Example:

```
su - primeusr
cp -rf $NCHOME/omnibus/db/NCOMS ~/
cp -rf $NCHOME/tipv2Components/TCRComponent/cognos/contentstore ~/
```

```
Step 4 Disable Prime Central and Fault Management cluster:
```

clusvcadm -d [cluster-service-name]

Example:

clusvcadm -d PrimePCService clusvcadm -d PrimeFMservice

Step 5 Perform inline upgrade of all the cluster nodes from RHEL 5.8 or 6.5 to 6.7. See the Red Hat documentation for instructions.

 

 Note
 Make sure that you perform only inline upgrade.

 Step 6
 Enable Prime Central and Fault Management cluster: clusvcadm -e [cluster-service-name]

 Example:
 clusvcadm -e PrimePCService

 clusvcadm -e PrimeFMservice

## **Post-Installation Configurations**

Step 1 Install Prime Central and Fault Management applications with version 2.1 on the RHEL 5.8 or 6.5 to 6.7 machines with the same old configuration (that existed before OS upgrade). Refer to the Prime Central 2.1 documentation for instructions.



After executing Step 1, make sure that Prime Central and Fault Management applications with version 2.1 are installed, up and running properly before proceeding to Step 2.

Step 2 Execute the following script to stop Prime Central and Fault Management Services. This script needs to be executed on Prime Central and Fault Management servers if installed separately.

./primeServices.sh stop

Step 3 Copy the backup folders obtained in Step 4 and Step 6 (Prepare OS Upgrade, page 2-2) to the local servers respectively. If Prime Central and Fault Management is installed separately, backup files should be copied on both the servers.

Example:

Copy "PCDBExportSchema" to "/root" on the PC server Copy "PCBACKUP151" to "/root" on the PC server

- Step 4 Import the database schemas from the dump file. This step needs to be executed on the server where Prime Central Database is installed.
  - a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME
  - b. Copy oracle backup folder "PCDBExportSchema" to ORACLE USER HOME
    - Example:

cp /root/OSUpgradeScripts/database\_export\_import.sh /export/home/oracle/ cp /root/PCDBExportSchema /export/home/oracle/ Change permissions of database\_export\_import.sh and PCDBExportSchema folder chown [oracle user:oracle group] [path to script] chmod 755 [path to script] Example: chown oracle:dba /export/home/oracle/database\_export\_import.sh chown oracle:dba -R /export/home/oracle/PCDBExportSchema chmod 755 /export/home/oracle/database\_export\_import.sh chmod -R 755 /export/home/oracle/PCDBExportSchema

c. Execute the scripts by following steps in sequence:

```
su - [oracle-user]
./database export import.sh "import" "schema" "[folder-name]" "[oracle-user]
```

#### Example:

```
su - oracle
./database_export_import.sh "import" "schema" "PCDBImportSchema" "oracle"
"/export/home/oracle/PCDBExportSchema"
```

```
Note
```

At the end of operation, a folder-name given as input for the above command (like PCDBImportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_import.par prime\_import\_schemas.log

d. Check the log: "prime\_import\_schemas.log" for any errors before proceeding to Step 5.

Note Ignore warnings with Error code: ORA-39082.

Step 5 Execute the following step on Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process:

```
su - primeusr
emdbctl --stop
```

**Step 6** Execute the following script to restore Prime Central and Fault Management applications.

This script should be executed on both Prime Central and Fault Management servers if installed separately.

- a. Copy restorePrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.
- **b.** Execute the following script:

./restorePrimeCentral.sh <backup\_folder\_full\_path>

Example:

```
./restorePrimeCentral.sh "/root/PCBACKUP151" (On Prime Central Server)
./restorePrimeCentral.sh "/root/FMBACKUP151" (On Fault management Server)
```

Step 7 Start Database services on the Prime Central server.

```
su - primeusr
emdbctl --start
```

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**Note** If there are any exception related to known\_hosts entries, you need to manually remove corrupted entry from known\_hosts file. When you again start the emdbetl, it will prompt for authenticity. Select "Yes" to proceed.

Step 8 Start Portal, integration, and fault management services by executing the below script:

This script should be executed on both Prime Central and Fault Management servers if installed separately.

a. Execute the following script:

./primeServices.sh start

Step 9 Restart Integration Layer services on all integrated domain managers. Refer to the respective documentation.

**Example:** itgctl restart on Prime Network IL server

Step 10 Execute the following command on Fault Management server to re-register all integrated DMs:

su - primeusr
cd \$NCHOME/prime\_integrator/scripts
./DMRegistration.sh -f

**Step 11** Restart Portal, integration and fault management services by executing below script:

This script should be executed on both Prime Central and Fault Management servers if installed separately.

**a.** Execute the following script:

./primeServices.sh restart

Step 12 Configure Fault Management to send 3GPP alarm notifications to Northbound Interface:

fmctl configimpact <centraladmin pwd>

fmctl restart

Example:

fmctl configimpact Prime123
fmctl restart



# Upgrade RHEL Operating System from 5.8 or 6.5 or 6.7 to 6.8

These topics introduce you to upgrade RHEL Operating System (OS) in Prime Central High Availability (HA) Configuration:

- Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in Prime Central Disaster Recovery Configuration, page 3-2
- Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in a Prime Central Standalone Setup, page 3-4
- Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in Prime Central High Availability Configuration, page 3-6

## **Prerequisites**

The RHEL upgrade procedure is applicable only on Prime Central 2.1. If the Prime Central version is less than 2.1, the application must be first upgraded to 2.1 before proceeding. For Prime Central upgrade, refer to the Prime Central 2.1 Quick Start Guide and Prime Central 2.1 HA Guide.

## **Install RHEL 6.8**

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| Step 1 | Install RHEL 6.8 with .iso file on both Prime Central and Fault Management cluster nodes. |
|--------|---|
|        | For more information, refer to Installing RHEL, page 5-1.                                 |
| Step 2 | Change the SELINUX mode to disabled as shown below:                                       |
|        | vi /etc/sysconfig/selinux   |
|        | # modify as   |
|        | SELINUX=disabled  |
| Step 3 | Reboot all the servers.   |

## **Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in Prime Central Disaster Recovery Configuration**

Complete the following procedures explained in each topics to upgrade from RHEL 5.8 or 6.5 or 6.7 to 6.8 in DR:

### **Prepare OS Upgrade**

**Step 1** Stop application monitoring, data replication monitoring and file synchronization.

- a. Log in to the active server as a root user.
- **b.** Enter the following commands:
  - # cd primeusr-home-directory/local/scripts/
  - # appmonctl stop
- c. Log in to the inactive server as a root user. Enter the following command:
  - # dbmonctl stop
- d. Log in to the active server as a primeusr.
- e. Enter the following command:
  - # filesyncctl stop
- Step 2 Uninstall Prime Central Fault Management 2.1 from the Standby server. For more information about uninstalling process, refer to Cisco Prime Central 2.1 Quick Start Guide.
- Step 3 Uninstall Prime Central 2.1 from the Standby server. For more information about uninstalling process, refer to Cisco Prime Central 2.1 Quick Start Guide.
- **Step 4** Log in to Primary server to take a full backup of oracle database:

su - primeusr emdbctl --backup

- Step 5 Execute the following script to stop the Prime Central and Fault Management Services. This script needs to be executed on both Prime Central and Fault Management servers if installed separately.
  - a. Copy and execute primeServices.sh from OSUpgradeScripts.tar to "/root" directory in Fault Management and Prime Central servers:

./primeServices.sh stop

**b.** Execute the following command as root user on Fault Management server to remove Fault Management Status cron entry:

```
crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -
```

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**Step 6** Export the database schemas to a dump file:

a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME Example:

- cp /root/OSUpgradeScripts/database\_export\_import.sh /export/home/oracle/
- b. Change permissions of database export import.sh

chown [oracle user:oracle group] [path to script] chmod 755 [path to script]

#### Example:

```
chown oracle:dba /export/home/oracle/database_export_import.sh
chmod 755 /export/home/oracle/database export import.sh
```

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
./database_export_import.sh "export" "schema" "[folder-name]"
"[oracle-user]"
```

Example:

```
su - oracle
```

```
./database_export_import.sh "export" "schema" "PCDBExportSchema" "oracle"
```



At the end of the operation, folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime export schemas.log

- d. Check the log: "prime\_export\_schemas.log" for any errors before proceeding to Step 7.
- **Step 7** Take a backup of the folder given as input for Step 6 (like PCDBExportSchema)



**Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.

**Step 8** Execute the following step on Primary PC server to stop database services. This is to ensure that no operations are permitted during OS upgrade process.

su - primeusr emdbctl -stop

- **Step 9** Execute the following steps in sequence to take the backup of Prime Central and Fault Management application, which is required to restore application after OS upgrade:
  - a. Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.

This script needs to be executed on Prime Central and Fault Management servers if installed separately.

**b.** Execute the following scripts:

./backupPrimeCentral.sh "backup\_folder\_full\_path"

Example:

```
./backupPrimeCentral.sh "/root/PCBACKUP20" (On Prime central Server)
./backupPrimeCentral.sh "/root/FMBACKUP20" (On Fault Management Server)
```

Note

Take a backup of these folders (both Prime Central and Fault Management) created in Step 7 through Step 9 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.8, formatted and all the data will be erased from the server.

## Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in a Prime Central Standalone Setup

Complete the following procedures explained in each topics to upgrade RHEL 5.8 or 6.5 or 6.7 to 6.8 in a standalone setup:

## **Prepare OS Upgrade**

**Step 1** Take a full backup of oracle database on the server where Prime Central is installed:

```
su - primeusr
emdbctl --backup
```

- **Step 2** Execute the following script to stop the Prime Central and Fault Management Services:
  - **a.** Copy and execute primeServices.sh from OSUpgradeScripts.tar to "/root" directory in Fault Management and Prime Central servers.

This script should be executed on both Prime Central and Fault Management servers if installed separately.

./primeServices.sh stop

**b.** Execute the below command as root user on Fault Management Server to remove Fault Management Status cron entry:

crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -

**Step 3** Export the database schemas to a dump file:

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This step needs to be executed on the server where Prime Central Database is installed.

a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME. Example:

cp /root/OSUpgradeScripts/database\_export\_import.sh /export/home/oracle/

**b.** Change permissions of database export import.sh:

```
chown [oracle user:oracle group] [path to script]
chmod 755 [path to script]
```

```
Example:
```

```
chown oracle:dba /export/home/oracle/database_export_import.sh
chmod 755 /export/home/oracle/database_export_import.sh
```

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
```

```
./database_export_import.sh "export" "schema" "[folder-name]"
"[oracle-user]"
```

Example:

su - oracle
./database\_export\_import.sh "export" "schema" "PCDBExporSchema" "oracle"

Note At the end of the operation, a folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime\_export\_schemas.log

d. Check the log: "prime\_export\_schemas.log" for any errors before proceeding to the next step.

**Step 4** Take a backup of the folder given as input for Step 6 (like PCDBExportSchema).

**Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.

Step 5 Execute the below step on the Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process:

su - primeusr emdbctl --stop

**Step 6** Execute the following steps in sequence to take the backup of Prime Central application, which is required to restore application after OS upgrade:

This script needs to be executed on Prime Central and Fault Management servers if installed separately

- a. Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.
- **b.** Execute the following script:

./backupPrimeCentral.sh <backup\_folder\_full\_path>

Example:

```
./backupPrimeCentral.sh "/root/PCBACKUP151" (On Prime Central Server)
./backupPrimeCentral.sh "/root/FMBACKUP151" (On Fault Management Server)
```



Take a backup of these folders (both Prime Central and Fault Management) created in Step 4 through Step 6 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.8, formatted and all the data will be erased from the server.

#### Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in Prime Central High Availability Configuration

## **Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in Prime Central High Availability Configuration**

Complete the following procedures explained in each topics to upgrade from RHEL 5.8 or 6.5 or 6.7 to 6.8 in High Availability (HA):

### **Prepare OS Upgrade**

```
Step 1 Take a full backup of oracle database on the server where Prime Central is installed.
Execute the following commands:
```

su – primeusr emdbctl –-backup

Step 2 Freeze both Prime Central and Fault Management cluster services.

Execute the following command:

```
clusvcadm -Z [cluster-service-name]
```

Example:

```
clusvcadm -Z PrimePCService (On Prime Central server)
clusvcadm -Z PrimeFMService (On Fault Management server)
```

- **Step 3** Execute the following steps in sequence to stop the Prime Central or Fault Management Services:
  - **a.** Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory into the active Prime Central and Fault management cluster nodes and execute the commands:

chmod +x /root/primeServices.sh
./primeServices.sh stop

**b.** Execute the following command on active Fault Management cluster node to remove Fault Management Status cron entry:

crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -

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**Step 4** Export the database schemas to a dump file:

a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME. Example:

cp /root/OSUpgradeScripts/database\_export\_import.sh /opt/pc/oracle/

b. Change permissions of database export import.sh:

chown [oracle user:oracle group] [path to script]
chmod 755 [path to script]

#### Example:

```
chown oracle:dba /opt/pc/oracle/database_export_import.sh
chmod 755 /opt/pc/oracle/database_export_import.sh
```

c. Execute the script by following the steps in sequence:

```
su - [oracle-user]
                                                 "[folder-name]"
./database export import.sh "export"
                                       "schema"
                                                                  "[oracle-user]"
```

```
Example:
```

```
su - oracle
./database export import.sh "export"
                                                 "PCDBExportSchema" "oracle"
                                       "schema"
```

```
Note
```

At the end of the operation, folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the oracle user home directory. The folder should contain below files: prime dump schemas.dmp prime export.par prime export schemas.log

- d. Check the log: "prime export schemas.log" for any errors before proceeding to Step 5.
- Take a backup of the folder given as input for Step 4 (like PCDBExportSchema). Step 5

Note Make sure that the above backup folder is copied outside the server onto the separate disk storage.

Execute the following step on Prime Central server to stop database services to ensure that no operations Step 6 are permitted during OS upgrade process.

> su - primeusr emdbctl --stop

Execute the following steps in sequence to take the backup of Prime Central application, which is Step 7 required to restore application after OS upgrade:

### **On the Prime Central Cluster:**

• Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below:

./backupPrimeCentral.sh backup\_folder\_full\_path

Example:

./backupPrimeCentral.sh "/root/PCBACKUP151"

#### **On the Fault Management Cluster:**

• Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below:

./backupPrimeCentral.sh backup\_folder\_full\_path

Example:

```
./backupPrimeCentral.sh
                          "/root/FMBACKUP151"
```

|         | Note           | Take a backup of these folders (both Prime Central and Fault Management) that are created in<br>Step 5 through step 7 onto the separate disk storage. This is mandatory as the server will be<br>re-installed with RHEL 6.8, and all the data will be erased from the server. |
|---------|----------------|---|
| Step 8  | Unfree<br>comm | eze both Prime Central and Fault Management cluster services by executing the following and:  |
|         | c              | lusvcadm -U <service name=""></service>   |
|         | Ex             | ample:  |
|         |                | clusvcadm -U PrimePCService (On Prime Central server)   |
|         |                | clusvcadm -U PrimeFMService (On Fault Management server)  |
| Step 9  | Disabl         | e both the Prime Central and Fault Management cluster services:   |
|         | c              | lusvcadm -d <service name=""></service>   |
|         | Ex             | ample:  |
|         |                | clusvcadm -d PrimePCService (On Prime Central server)   |
|         |                | clusvcadm -d PrimeFMService (On Fault Management server)  |
| Step 10 | Remov<br>Red H | ve or detach the shared storage from both Prime Central and Fault Management clusters. See the at documentation for instructions.   |
|         |                |   |
| Note    | Thoug          | h it is optional to remove or detach the shared storage before installing RHEL 6.8  |

## **Post-Installation Configurations**

| Step 1 | Attach the same shared storage to the Prime Central and Fault Management clusters respectively, which was detached in Step 10 (refer to the, Prepare OS Upgrade, page 3-6 procedure). See the Red Hat documentation for instructions. |
|--------|---|
| Step 2 | Install Prime Central and Fault Management applications with the version 2.1 on RHEL 6.8 machines with the configuration that existed before the OS upgrade. Provide the same passwords that were used during previous installation.  |
|        | For more information, refer to the Prime Central 2.1 HA documentation for instructions.   |
| Note   | After executing Step 2, make sure that Prime Central and Fault Management applications with version 2.1 are installed, up and running with the cluster before proceeding to Step 3.   |
| Step 3 | Freeze both the Prime Central and Fault Management cluster services by executing the following command:   |
|        | clusvcadm -Z [cluster-service-name]   |
|        | Example:  |

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clusvcadm -Z PrimePCService (On Prime Central cluster) clusvcadm -Z PrimeFMService (On Fault Management cluster)

- **Step 4** Execute the following steps in sequence to stop the Prime Central and Fault Management Services:
  - a. Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory into active Fault Management cluster node.
    - ./primeServices.sh stop
  - **b.** Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory into active Prime Central cluster node.
    - ./primeServices.sh stop
- Step 5 Copy the backup folders obtained in Step 5 through Step 7 (Prepare OS Upgrade, page 3-6) to the local servers respectively.

#### Example:

Copy "PCDBExportSchema" to /root on the Active PC server Copy "PCBACKUP151" to /root on the Active PC server Copy "FMBACKUP151" to /root on the Active FM server

- **Step 6** Import the database schemas from the dump file:
  - a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME Copy oracle backup folder "PCDBExportSchema" to ORACLE USER HOME

#### Example:

- cp /root/OSUpgradeScripts/database\_export\_import.sh /opt/pc/oracle/ cp /root/PCDBExportSchema /opt/pc/oracle/
- **b.** Change permissions of database\_export\_import.sh and PCDBExportSchema folder:

chown [oracle user:<oracle group] [path to script] chmod 755 [path to script]

#### Example:

chown oracle:dba /opt/pc/oracle/database\_export\_import.sh chown oracle:dba -R /opt/pc/oracle/PCDBExportSchema chmod 755 /opt/pc/oracle/database\_export\_import.sh chmod -R 755 /opt/pc/oracle/PCDBExportSchema

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
./database_export_import.sh "import" "schema"
"[folder-name]""[oracle-user]" "[fullpath-of-export-folder]"
```

```
Example:
```

```
su - oracle
```

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|         | ./database_export_import.sh "import" "schema" "PCDBImportSchema" "oracle"  |
|---------|--|
|         | "/opt/pc/oracle/PCDBExportSchema"  |
|         | Note At the end of the operation, folder-name given as input for the above command (like PCDBImportSchema in the above example) should be created in the <b>oracle user home</b> directory. The folder should contain below files: prime_dump_schemas.dump prime_import.par prime_import.schemas.log |
|         | <b>d.</b> Check the log: "prime_import_schemas.log" for any errors before proceeding to Step 7.  |
|         | Note Ignore warnings with Error code: ORA-39082.   |
|         |  |
| Step 7  | e. For any other exceptions, refer to the Troubleshooting OS Opgrade section in this guide.<br>Execute the following step on Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process   |
|         | su - primeusr  |
|         | emdbctlstop  |
| Step 8  | Execute the restore script to restore Prime Central and Fault Management application.  |
|         | This script should be executed on both Prime Central and Fault Management cluster nodes.   |
|         | a. Copy restorePrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.   |
|         | <b>b.</b> Execute the following script:  |
|         | ./restorePrimeCentral.sh   |
|         | Example:   |
|         | ./restorePrimeCentral.sh   |
|         | ./restorePrimeCentral.sh "/root/FMBACKUP151" (On Fault Management server)  |
| Step 9  | Start Database services on the Prime Central node.   |
|         | su - primeusr  |
|         | emdbctlstart   |
|         |  |
|         | Note If there are any exception related to known_host entries, you need to manually remove corrupted<br>entry from known_hosts file. When you again start the emdbetl, it will prompt for authenticity.<br>Select "Yes" to proceed.  |
| Step 10 | Start Portal, integration and fault management services by executing the below script.   |
|         | This script should be executed on both Prime Central and Fault Management cluster nodes.   |
|         | a. Execute the following script:   |
|         | ./primeServices.sh start   |
| Step 11 | Restart Integration Layer services on all integrated domain managers. Refer to the respective documentation.   |

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Example: itgctl restart on Prime Network IL server

Step 12 Execute the following commands on Fault Management node to re-register all integrated DMs:

su - primeusr
cd \$NCHOME/prime\_integrator/scripts
./DMRegistration.sh -f

Step 13 Restart Portal, integration and fault management services by executing the below script:

This script should be executed on both Prime Central and Fault Management cluster nodes.

**a.** Execute the following script:

./primeServices.sh restart

Step 14 Configure Fault Management to send 3GPP alarm notifications to Northbound Interface:

fmctl configimpact <centraladmin pwd>
fmctl restart

Example:

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fmctl configimpact Prime123 fmctl restart



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# Upgrade RHEL Operating System from 5.8 or 6.5 or 6.7 or 6.8 to 6.9

These topics introduce you to upgrade RHEL Operating System (OS) in Prime Central High Availability (HA) Configuration:

- Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in Prime Central Disaster Recovery Configuration, page 4-2
- Upgrading from RHEL 5.8 or 6.5 or 6.7 or 6.8 to 6.9 in a Prime Central Standalone Setup, page 4-4
- Upgrading from RHEL 5.8 or 6.5 or 6.7 or 6.8 to 6.9 in Prime Central High Availability Configuration, page 4-6

## **Prerequisites**

The RHEL upgrade procedure is applicable only on Prime Central 2.1. If the Prime Central version is less than 2.1, the application must be first upgraded to 2.1 before proceeding. For Prime Central upgrade, refer to the Prime Central 2.1 Quick Start Guide and Prime Central 2.1 HA Guide.

## **Install RHEL 6.9**

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| Step 1 | Install RHEL 6.9 with .iso file on both Prime Central and Fault Management cluster nodes. |
|--------|---|
|        | For more information, refer to Installing RHEL, page 5-1.                                 |
| Step 2 | Change the SELINUX mode to disabled as shown below:                                       |
|        | vi /etc/sysconfig/selinux   |
|        | # modify as   |
|        | SELINUX=disabled  |
| Step 3 | Reboot all the servers.   |

#### Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in Prime Central Disaster Recovery Configuration

## **Upgrading from RHEL 5.8 or 6.5 or 6.7 to 6.8 in Prime Central Disaster Recovery Configuration**

Complete the following procedures explained in each topics to upgrade from RHEL 5.8 or 6.5 or 6.7 to 6.8 in DR:

## **Prepare OS Upgrade**

**Step 1** Stop application monitoring, data replication monitoring and file synchronization.

- a. Log in to the active server as a root user.
- **b.** Enter the following commands:
  - # cd primeusr-home-directory/local/scripts/
  - # appmonctl stop
- c. Log in to the inactive server as a root user. Enter the following command:
  - # dbmonctl stop
- d. Log in to the active server as a primeusr.
- e. Enter the following command:
  - # filesyncctl stop
- Step 2 Uninstall Prime Central Fault Management 2.1 from the Standby server. For more information about uninstalling process, refer to Cisco Prime Central 2.1 Quick Start Guide.
- Step 3 Uninstall Prime Central 2.1 from the Standby server. For more information about uninstalling process, refer to Cisco Prime Central 2.1 Quick Start Guide.
- **Step 4** Log in to Primary server to take a full backup of oracle database:

su - primeusr emdbctl --backup

- Step 5 Execute the following script to stop the Prime Central and Fault Management Services. This script needs to be executed on both Prime Central and Fault Management servers if installed separately.
  - a. Copy and execute primeServices.sh from OSUpgradeScripts.tar to "/root" directory in Fault Management and Prime Central servers:

./primeServices.sh stop

**b.** Execute the following command as root user on Fault Management server to remove Fault Management Status cron entry:

```
crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -
```

1

**Step 6** Export the database schemas to a dump file:

a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME Example:

- cp /root/OSUpgradeScripts/database\_export\_import.sh /export/home/oracle/
- b. Change permissions of database\_export\_import.sh

chown [oracle user:oracle group] [path to script] chmod 755 [path to script]

#### Example:

```
chown oracle:dba /export/home/oracle/database_export_import.sh
chmod 755 /export/home/oracle/database export import.sh
```

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
./database_export_import.sh "export" "schema" "[folder-name]"
"[oracle-user]"
```

Example:

```
su - oracle
./database export import.sh "export"
```

```
Note
```

At the end of the operation, folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime\_export\_schemas.log

"schema"

"PCDBExportSchema"

"oracle"

- d. Check the log: "prime\_export\_schemas.log" for any errors before proceeding to Step 7.
- **Step 7** Take a backup of the folder given as input for Step 6 (like PCDBExportSchema)



**Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.

**Step 8** Execute the following step on Primary PC server to stop database services. This is to ensure that no operations are permitted during OS upgrade process.

su – primeusr emdbctl –stop

- **Step 9** Execute the following steps in sequence to take the backup of Prime Central and Fault Management application, which is required to restore application after OS upgrade:
  - a. Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.

This script needs to be executed on Prime Central and Fault Management servers if installed separately.

**b.** Execute the following scripts:

./backupPrimeCentral.sh "backup\_folder\_full\_path"

Example:

```
./backupPrimeCentral.sh "/root/PCBACKUP20" (On Prime central Server)
./backupPrimeCentral.sh "/root/FMBACKUP20" (On Fault Management Server)
```

Note

Take a backup of these folders (both Prime Central and Fault Management) created in Step 7 through Step 9 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.9, formatted and all the data will be erased from the server.

# Upgrading from RHEL 5.8 or 6.5 or 6.7 or 6.8 to 6.9 in a Prime Central Standalone Setup

Complete the following procedures explained in each topics to upgrade RHEL 5.8 or 6.5 or 6.7 or 6.8 to 6.9 in a standalone setup:

## **Prepare OS Upgrade**

```
Step 1 Take a full backup of oracle database on the server where Prime Central is installed:
```

```
su - primeusr
emdbctl --backup
```

- **Step 2** Execute the following script to stop the Prime Central and Fault Management Services:
  - **a.** Copy and execute primeServices.sh from OSUpgradeScripts.tar to "/root" directory in Fault Management and Prime Central servers.

This script should be executed on both Prime Central and Fault Management servers if installed separately.

./primeServices.sh stop

**b.** Execute the below command as root user on Fault Management Server to remove Fault Management Status cron entry:

crontab -u primeusr -l | grep -v 'FMStatusCron.csh' | crontab -u primeusr -

**Step 3** Export the database schemas to a dump file:

Note

This step needs to be executed on the server where Prime Central Database is installed.

a. Copy database\_export\_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME. Example:

cp /root/OSUpgradeScripts/database\_export\_import.sh /export/home/oracle/

**b.** Change permissions of database export import.sh:

```
chown [oracle user:oracle group] [path to script]
chmod 755 [path to script]
```

```
Example:
```

chown oracle:dba /export/home/oracle/database\_export\_import.sh chmod 755 /export/home/oracle/database\_export\_import.sh

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
```

```
./database_export_import.sh "export" "schema" "[folder-name]"
"[oracle-user]"
```

Example:

su - oracle
./database\_export\_import.sh "export" "schema" "PCDBExporSchema" "oracle"

Note At the end of the operation, a folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dmp prime\_export.par prime\_export\_schemas.log

d. Check the log: "prime\_export\_schemas.log" for any errors before proceeding to the next step.

**Step 4** Take a backup of the folder given as input for Step 6 (like PCDBExportSchema).

**Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.

Step 5 Execute the below step on the Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process:

su - primeusr emdbctl --stop

**Step 6** Execute the following steps in sequence to take the backup of Prime Central application, which is required to restore application after OS upgrade:

This script needs to be executed on Prime Central and Fault Management servers if installed separately

- a. Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.
- **b.** Execute the following script:

./backupPrimeCentral.sh <backup\_folder\_full\_path>

Example:

./backupPrimeCentral.sh "/root/PCBACKUP151" (On Prime Central Server)
./backupPrimeCentral.sh "/root/FMBACKUP151" (On Fault Management Server)



Take a backup of these folders (both Prime Central and Fault Management) created in Step 4 through Step 6 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.8, formatted and all the data will be erased from the server.

## **Upgrading from RHEL 5.8 or 6.5 or 6.7 or 6.8 to 6.9 in Prime Central High Availability Configuration**

Complete the following procedures explained in each topics to upgrade from RHEL 5.8 or 6.5 or 6.7 or 6.8 to 6.9 in HA:

## **Prepare OS Upgrade**

| Step 1 | Take a full backup of oracle database on the server where Prime Central is installed.  |
|--------|--|
|        | Execute the following commands:  |
|        | su - primeusr  |
|        | emdbctlbackup  |
| Step 2 | Freeze both Prime Central and Fault Management cluster services.   |
|        | Execute the following command:   |
|        | clusvcadm -Z [cluster-service-name]  |
|        | Example:   |
|        | clusvcadm -Z PrimePCService (On Prime Central server)  |
|        | clusvcadm -Z PrimeFMService (On Fault Management server)   |
| Step 3 | Execute the following steps in sequence to stop the Prime Central or Fault Management Services:  |
|        | a. Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory into the active Prime Central and Fault management cluster nodes and execute the commands: |
|        | chmod +x /root/primeServices.sh  |
|        | ./primeServices.sh stop  |
|        | <b>b.</b> Execute the following command on active Fault Management cluster node to remove Fault Management Status cron entry:                                      |
|        | crontab -u primeusr -l   grep -v 'FMStatusCron.csh'   crontab -u primeusr -  |
| Step 4 | Export the database schemas to a dump file:  |
|        | a. Copy database_export_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME.   |
|        | Example:   |
|        | <pre>cp /root/OSUpgradeScripts/database_export_import.sh /opt/pc/oracle/</pre>   |

**b.** Change permissions of database\_export\_import.sh:

chown [oracle user:oracle group] [path to script] chmod 755 [path to script]

#### Example:

chown oracle:dba /opt/pc/oracle/database\_export\_import.sh
chmod 755 /opt/pc/oracle/database\_export\_import.sh

c. Execute the script by following the steps in sequence:

```
su - [oracle-user]
```

```
./database export import.sh "export" "schema" "[folder-name]" "[oracle-user]"
```

#### Example:

```
su - oracle
./database_export_import.sh "export" "schema" "PCDBExportSchema" "oracle"
```

```
<u>Note</u>
```

At the end of the operation, folder-name given as input for the above command (like PCDBExportSchema in the above example) should be created in the oracle user home directory. The folder should contain below files:
 prime\_dump\_schemas.dmp
 prime\_export.par
 prime export schemas.log

- d. Check the log: "prime\_export\_schemas.log" for any errors before proceeding to Step 5.
- **Step 5** Take a backup of the folder given as input for Step 4 (like PCDBExportSchema).



**Note** Make sure that the above backup folder is copied outside the server onto the separate disk storage.

**Step 6** Execute the following step on Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process.

su - primeusr emdbctl --stop

Step 7 Execute the following steps in sequence to take the backup of Prime Central application, which is required to restore application after OS upgrade:

#### On the Prime Central Cluster:

• Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below:

```
./backupPrimeCentral.sh backup_folder_full_path
```

Example:

```
./backupPrimeCentral.sh "/root/PCBACKUP151"
```

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#### **On the Fault Management Cluster:**

Copy backupPrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory. Execute it as below:

```
./backupPrimeCentral.sh backup folder full path
```

Example:

```
./backupPrimeCentral.sh "/root/FMBACKUP151"
```

```
<u>Note</u>
```

Take a backup of these folders (both Prime Central and Fault Management) that are created in Step 5 through step 7 onto the separate disk storage. This is mandatory as the server will be re-installed with RHEL 6.9, and all the data will be erased from the server.

Step 8 Unfreeze both Prime Central and Fault Management cluster services by executing the following command:

```
clusvcadm -U <Service name>
```

clusvcadm -U PrimePCService (On Prime Central server) clusvcadm -U PrimeFMService (On Fault Management server)

**Step 9** Disable both the Prime Central and Fault Management cluster services:

clusvcadm -d <Service name>

Example:

clusvcadm -d PrimePCService (On Prime Central server) clusvcadm -d PrimeFMService (On Fault Management server)

Step 10 Remove or detach the shared storage from both Prime Central and Fault Management clusters. See the Red Hat documentation for instructions.



Though it is optional to remove or detach the shared storage before installing RHEL 6.9, it is recommended to avoid any issues with the shared storage configurations and to save the data inside shared storage (if exists).

#### Upgrade from RHEL 5.8 or 6.5 or 6.7 or 6.8 to 6.9 in Prime Central High Availability Configuration

Ø, Note

Follow the procedure mentioned in this section only if you want to continue the upgrade from RHEL 5.8 or 6.5 or 6.7 or 6.8 to 6.9.

**Step 1** Take a backup of Prime Central Oracle database:

```
su - primeusr
emdbctl --backup
```

**Step 2** Take a DE Backup from Fault Management server:

```
su - primeusr
cd .acsi_primeusr/bin
setenv
```

```
./de_backupdb -bfile [backupfile_full_path]
```

Example:

./de backupdb -bfile ~/debackup 28Sep2016

- **Step 3** Take a backup of the following Fault Management database folders:
  - FM-install-folder/tipv2Components/TCRComponent/cognos/contentstore
  - FM-install-folder/omnibus/db/NCOMS

Example:

su - primeusr
cp -rf \$NCHOME/omnibus/db/NCOMS ~/
cp -rf \$NCHOME/tipv2Components/TCRComponent/cognos/contentstore ~/

**Step 4** Disable Prime Central and Fault Management cluster:

clusvcadm -d [cluster-service-name]

Example:

```
clusvcadm -d PrimePCService
clusvcadm -d PrimeFMservice
```

Step 5 Perform inline upgrade of all the cluster nodes from RHEL 5.8 or 6.5 or 6.7 or 6.8 to 6.9. See the Red Hat documentation for instructions.



Make sure that you perform only inline upgrade. Fresh installation of RHEL 6.9 is not supported and you may loose complete data.

**Step 6** Enable Prime Central and Fault Management cluster:

```
clusvcadm -e [cluster-service-name]
```

Example:

clusvcadm -e PrimePCService clusvcadm -e PrimeFMservice

## **Post-Installation Configurations**

- Step 1 Attach the same shared storage to the Prime Central and Fault Management clusters respectively, which was detached in Step 10 (refer to the, Prepare OS Upgrade, page 4-6 procedure). See the Red Hat documentation for instructions.
- Step 2 Install Prime Central and Fault Management applications with the version 2.1 on RHEL 6.8 machines with the configuration that existed before the OS upgrade. Provide the same passwords that were used during previous installation.

For more information, refer to the Prime Central 2.1 HA documentation for instructions.

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| After executing Step 2, make sure that Prime Central and Fault Management applications with version 2.1 are installed, up and running with the cluster before proceeding to Step 3. |
|---|
| Freeze both the Prime Central and Fault Management cluster services by executing the following command:   |
| clusvcadm -Z [cluster-service-name]   |
| Example:  |
| clusvcadm -Z PrimePCService (On Prime Central cluster)  |
| clusvcadm -Z PrimeFMService (On Fault Management cluster)   |
| Execute the following steps in sequence to stop the Prime Central and Fault Management Services:  |
| <ul> <li>Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory into active Fault<br/>Management cluster node.</li> </ul>   |
| ./primeServices.sh stop   |
| <ul> <li>b. Copy primeServices.sh from OSUpgradeScripts.tar to "/root" directory into active Prime<br/>Central cluster node.</li> </ul>   |
| ./primeServices.sh stop   |
| Copy the backup folders obtained in Step 5 through Step 7 (Prepare OS Upgrade, page 4-6) to the local servers respectively.   |
| Example:  |
| Copy "PCDBExportSchema" to /root on the Active PC server  |
| Copy "PCBACKUP151" to /root on the Active PC server   |
| Copy "FMBACKUP151" to /root on the Active FM server   |
| Import the database schemas from the dump file:   |
| a. Copy database_export_import.sh from OSUpgradeScripts.tar to ORACLE USER HOME   |
| Copy oracle backup folder "PCDBExportSchema" to ORACLE USER HOME  |
| Example:  |
| cp /root/OSUpgradeScripts/database export import.sh /opt/pc/oracle/   |
| cp /root/PCDBExportSchema /opt/pc/oracle/   |
| <b>b.</b> Change permissions of database_export_import.sh and PCDBExportSchema folder:  |
| chown [oracle user: <oracle [path="" group]="" script]<="" td="" to=""></oracle>  |
| chmod 755 [path to script]  |
| Example:  |
| chown oracle:dba /opt/pc/oracle/database_export_import.sh   |
| chown oracle:dba -R /opt/pc/oracle/PCDBExportSchema   |
| chmod 755 /opt/pc/oracle/database_export_import.sh  |
| chmod -R 755 /opt/pc/oracle/PCDBExportSchema  |

"oracle"

c. Execute the scripts by following the steps in sequence:

```
su - [oracle-user]
./database_export_import.sh "import" "schema"
"[folder-name]""[oracle-user]" "[fullpath-of-export-folder]"
Example:
    su - oracle
    ./database_export_import.sh "import" "schema" "PCDBImportSchema"
```

```
"/opt/pc/oracle/PCDBExportSchema"
```

```
<u>Note</u>
```

At the end of the operation, folder-name given as input for the above command (like PCDBImportSchema in the above example) should be created in the **oracle user home** directory. The folder should contain below files: prime\_dump\_schemas.dump prime\_import.par prime import schemas.log

d. Check the log: "prime\_import\_schemas.log" for any errors before proceeding to Step 7.

```
Note
```

e Ignore warnings with Error code: ORA-39082.

e. For any other exceptions, refer to the Troubleshooting OS Upgrade section in this guide.

Step 7 Execute the following step on Prime Central server to stop database services to ensure that no operations are permitted during OS upgrade process.

```
su - primeusr
emdbctl --stop
```

**Step 8** Execute the restore script to restore Prime Central and Fault Management application.

This script should be executed on both Prime Central and Fault Management cluster nodes.

- a. Copy restorePrimeCentral.sh from OSUpgradeScripts.tar to "/root" directory.
- b. Execute the following script:

```
./restorePrimeCentral.sh backup_folder_full_path
```

Example:

```
./restorePrimeCentral.sh "/root/PCBACKUP151" (On Prime Central server)
./restorePrimeCentral.sh "/root/FMBACKUP151" (On Fault Management server)
```

**Step 9** Start Database services on the Prime Central node.

su - primeusr emdbctl --start

## <u>Note</u>

If there are any exception related to known\_host entries, you need to manually remove corrupted entry from known\_hosts file. When you again start the emdbctl, it will prompt for authenticity. Select "Yes" to proceed.

Step 10Start Portal, integration and fault management services by executing the below script.This script should be executed on both Prime Central and Fault Management cluster nodes.

a. Execute the following script:

./primeServices.sh start

Step 11 Restart Integration Layer services on all integrated domain managers. Refer to the respective documentation.

Example: itgctl restart on Prime Network IL server

Step 12 Execute the following commands on Fault Management node to re-register all integrated DMs:

su - primeusr
cd \$NCHOME/prime\_integrator/scripts
./DMRegistration.sh -f

Step 13 Restart Portal, integration and fault management services by executing the below script:

This script should be executed on both Prime Central and Fault Management cluster nodes.

**a.** Execute the following script:

./primeServices.sh restart

Step 14 Configure Fault Management to send 3GPP alarm notifications to Northbound Interface:

fmctl configimpact <centraladmin pwd>
fmctl restart
Example:

fmctl configimpact Prime123 fmctl restart



## **Install RHEL**

To install RHEL 6.5, 6.7, 6.8 and 6.9 see the Red Hat documentation for instructions. Complete the following steps in parallel on all the nodes.

## **Installing RHEL**

Γ

| Step 1 | Verify that the following options are checked:  |
|--------|---|
|        | Virtualization – Virtualization Tools   |
|        | High Availability – High Availability (Applicable only for HA configuration]  |
|        | Desktops – General Purpose Desktop  |
|        | • Desktops – X Window System  |
| Step 2 | Create local directories named /rhel and /cdrom- <rhel version="">.</rhel>  |
| Step 3 | Copy the .iso file that was used for the node installation to the /rhel directory.  |
| Step 4 | Mount the /rhel .iso file to /cdrom- <rhel version="">. For example,</rhel>   |
|        | # cd /rhel  |
|        | <pre># mount -t iso9660 -o loop /rhel/rhel-server-6.5-x86_64-dvd.iso /cdrom-6.5</pre>   |
|        |   |
|        | <b>Note</b> To permanently mount the drive, update the /etc/fstab file. For more information, see Mounting File Systems Automatically with etc/fstab. |
| Step 5 | Create a file named /etc/yum.repos.d/local.repo. Use UNIX format and be sure there are no spaces before lines.  |
| Step 6 | Save the newly created file in local.repo, as follows:  |
|        | [local]   |
|        | name=Red Hat Enterprise Linux \$releasever - \$basearch - Local   |
|        | <pre>baseurl=file:///cdrom-<rhel version="">/Server enabled=1</rhel></pre>  |
|        | gpgcheck=0  |
|        | gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release   |
|        | [HighAvailability]  |
|        |   |

```
baseurl=file:///cdrom-<RHEL version>/HighAvailability
enabled=1
gpgcheck=0
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
[ResilientStorage]
name=Red Hat Enterprise Linux $releasever - $basearch - ResilientStorage
baseurl=file:///cdrom-<RHEL version>/ResilientStorage
enabled=1
gpgcheck=0
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
```

- Step 7 (Applicable only for HA) If you forget the HA package and want to install it later, enter: # yum groupinstall "High Availability"
- **Step 8** (Applicable only for HA) If you forget the desktop and want to install it later, enter:
  - # yum groupinstall "X Window System" Desktop
  - # vi /etc/inittab

Then, change id:3:initdefault: to id:5:initdefault: and reboot the server.

Step 9 (Applicable only for HA) Temporarily disable the firewall and SELinux to enable initial testing of the cluster:

To disable the firewall, enter:

- # service iptables save
- # service iptables stop
- # chkconfig iptables off
- # service ip6tables save
- # service ip6tables stop
- # chkconfig ip6tables off

Step 10 Keep all the nodes synchronized:

# echo server tick.redhat.com\$'\n'restrict tick.redhat.com mask 255.255.255.255 nomodify notrap noquery >> /etc/ntp.conf

- # chkconfig ntpd on
- # service ntpd start

#### Step 11 Switch network daemons:

- # service NetworkManager stop
- # chkconfig NetworkManager off
- # yum remove NetworkManager
- # chkconfig network on
- Step 12 Edit the /etc/hosts file to add the node information; for example:

192.168.1.150 nodel.cisco.com nodel 192.168.1.160 node2.cisco.com node2



## Troubleshooting

## **Troubleshooting OS Upgrade**

Problem fmctl status not coming up after inline upgrade.

**Solution** Object server might have corrupted during inline upgrade procedure. Restore the Object Server Database from the backup taken before inline upgrade by following the steps:

```
su - primeusr
fmctl stop
cp -rf ~/NCOMS/ $NCHOME/omnibus/db/NCOMS
chown primeusr:ncoadmin -R $NCHOME/omnibus/db/NCOMS
fmctl start
```

Problem Could not launch Alarm reports after inline upgrade.

**Solution** TCR Database might have corrupted during inline upgrade procedure. Restore the TCR Database from the backup, which is taken before inline upgrade, by performing the below steps:

```
su - primeusr
fmctl stop
mv $NCHOME/tipv2Components/TCRComponent/cognos/contentstore/cm
$NCHOME/tipv2Components/TCRComponent/cognos/contentstore/old_cm
mv $NCHOME/tipv2Components/TCRComponent/cognos/contentstore/old_cm ~/
cp -rf ~/contentstore/cm $NCHOME/tipv2Components/TCRComponent/cognos/contentstore/
Change ownership to the directory
Ex: chown primeusr:ncoadmin -R
$NCHOME/tipv2Components/TCRComponent/cognos/contentstore/cm
fmctl start
```

Problem database\_export\_import.sh execution failed during export or import operations.

Solution Check the logs in below locations:

```
/tmp/upgrade_logs/*.log
ORACLE_BASE_directory/IMPORT_directory/*.log
```

To re-run the script again, you must use different name for the import or export folder name parameter (or) you have to delete the already existing logical and physical directories with the old name.

**Problem** Oracle Database sync is not happening in DR Standby due to switchover status: "UNRESOLVABLE GAP" on primary machine.

Solution Run the below script on the standby machine as a root user:

(root)cd primeusr-home-directory/local/disaster\_recovery/scripts/main/

./recreatestandbyADG.sh