

MiVoice MX-ONE

# Upgrading or Updating MX-ONE 7.X - Installation Instruction

Release 7.4 SP1

April 13, 2022



## Notice

The information contained in this document is believed to be accurate in all respects but is not warranted by **Mitel Networks™ Corporation (MITEL®)**. The information is subject to change without notice and should not be construed in any way as a commitment by Mitel or any of its affiliates or subsidiaries. Mitel and its affiliates and subsidiaries assume no responsibility for any errors or omissions in this document. Revisions of this document or new editions of it may be issued to incorporate such changes. No part of this document can be reproduced or transmitted in any form or by any means - electronic or mechanical - for any purpose without written permission from Mitel Networks Corporation.

## Trademarks

The trademarks, service marks, logos and graphics (collectively "Trademarks") appearing on Mitel's Internet sites or in its publications are registered and unregistered trademarks of Mitel Networks Corporation (MNC) or its subsidiaries (collectively "Mitel") or others. Use of the Trademarks is prohibited without the express consent from Mitel. Please contact our legal department at [legal@mitel.com](mailto:legal@mitel.com) for additional information. For a list of the worldwide Mitel Networks Corporation registered trademarks, please refer to the website: <http://www.mitel.com/trademarks>.

®,™ Trademark of Mitel Networks Corporation  
© Copyright 2022, Mitel Networks Corporation  
All rights reserved

---

# Contents

|                   |  |           |
|-------------------|--|-----------|
| <b>Chapter: 1</b> | <b>General . . . . .</b>   | <b>1</b>  |
|                   | Scope . . . . .  | 1         |
|                   | Target Group . . . . .   | 1         |
| <b>Chapter: 2</b> | <b>Prerequisites . . . . .</b>                                     | <b>2</b>  |
| <b>Chapter: 3</b> | <b>Preparations . . . . .</b>                                      | <b>3</b>  |
|                   | When Upgrading to or Post MX-ONE 7.4 . . . . .                     | 3         |
| <b>Chapter: 4</b> | <b>Upgrade to MiVoice MX-ONE Service Node 7.x . . . . .</b>        | <b>4</b>  |
|                   | Upgrade Using Regeneration Script Utility . . . . .                | 4         |
|                   | Collect Telephony Data via regeneration script utility . . . . .   | 4         |
|                   | Install the MiVoice MX-ONE Service Node 7.x . . . . .              | 5         |
|                   | Import Saved Telephony . . . . .                                   | 5         |
|                   | Regeneration Summary with Regeneration Script Utility . . . . .    | 5         |
|                   | Upgrade using PC-Regen . . . . .                                   | 6         |
|                   | Collection Regeneration of Data through PC-Regen . . . . .         | 6         |
|                   | Collecting Data from Source System . . . . .                       | 6         |
|                   | Perform the Data Generation . . . . .                              | 7         |
|                   | Install the MiVoice MX-ONE 7.x . . . . .                           | 8         |
|                   | Import and Restore Saved Telephony Data through PC-Regen . . . . . | 8         |
|                   | Regeneration Summary with PC-Regen . . . . .                       | 8         |
|                   | Manually Regenerated Commands (if wanted) . . . . .                | 8         |
|                   | Automatically regenerated Commands, summary . . . . .              | 9         |
|                   | Moved or removed commands and parameters . . . . .                 | 12        |
| <b>Chapter: 5</b> | <b>Upgrade Manager Applications to MX-ONE 7.x . . . . .</b>        | <b>13</b> |
|                   | Upgrade from 5.x to 7.x . . . . .                                  | 13        |
|                   | Backup Service Node Manager . . . . .                              | 13        |
|                   | Template Data Backup . . . . .                                     | 13        |
|                   | Backup Provisioning Manager . . . . .                              | 14        |

---

|                   |   |           |
|-------------------|---|-----------|
|                   | Template Data Backup . . . . .                              | .15       |
|                   | Upgrade from 6.x to 7.x . . . . .                           | .15       |
|                   | Backup of PM and SNM in 6.x . . . . .                       | .15       |
|                   | Restore . . . . .   | .15       |
|                   | Restore Service Node Manager . . . . .                      | .15       |
|                   | Restore Provisioning Manager . . . . .                      | .16       |
| <b>Chapter: 6</b> | <b>Update from MX-ONE 7.0 to MX-ONE 7.x . . . . .</b>       | <b>17</b> |
| <b>Chapter: 7</b> | <b>Appendix A, Exception cases for PM and SNM . . . . .</b> | <b>18</b> |
|                   | Save Data for Service Node Manager . . . . .                | .18       |
|                   | Save Data for Provisioning Manager . . . . .                | .18       |

# General

## Scope

This document describes the upgrading procedure from MX-ONE 5.x, or 6.x to MX-ONE 7.x, which means a new installation due to the new operating system version, and new system database (Cassandra), for the MiVoice MX-ONE system. This document details the installation instruction *UPGRADING AND UPDATING, GENERAL*.

There are two alternative ways to regenerate the system telephony data (both reload data and system database data) at upgrade, one by copying the data from the old system database, using a **Regeneration Script Utility**, converting it to CSV format, and entering it in the Cassandra database, and the other by using the legacy **PC-Regen application** function.

The document also describes updating of MX-ONE 7.0 to MX-ONE 7.x.

**NOTE:** Regeneration Script Utility is used to regenerate the data only when you are doing upgrade from a MX-ONE 6.3 SPx system to MX-One 7.x. It cannot be used doing upgrade from a 5.x, 6.0, 6.1 or 6.2 system to 7.x.

## Target Group

This document is intended for installation-, service-, support technicians and system responsible.

# Prerequisites

MiVoice MX-ONE 7.x system build with Linux SLES12.

# Preparations

A backup of the old system's data using the legacy PC-Regen application should always be done before starting the upgrade procedure.

A new license file must be ordered for the 7.x system, and that requires the system identity, so the server(s) must be running.

## When Upgrading to or Post MX-ONE 7.4

In MiVoice MX-ONE 7.4, the concept of Extension Category (CAT) will become obsolete. The Extension Common Service Profile (CSP) will be used instead of CAT. CSP will be used for all types of extensions in MiVoice MX-ONE 7.4.

During upgrade, new CSP will be created for every unique combination CAT and ADC parameters and for category data which cannot be mapped to a CAT (extension with CAT = '-') that is used in the existing system. The new created CSP will be allocated using CSP number 257-500. This means that maximum 244 new CSP can be created from existing CAT and ADC parameter settings.

In MX-ONE 7.4, there is a script included that can be executed to see how many new CSP can be created at the upgrade to MX-ONE 7.4. If the result output from the script indicates that more than 244 new CSP will be created. Manual actions are needed to reduce number of used CAT and ADC combination in the existing 7.x system before running the upgrade to MX-ONE 7.4. The script can then be executed again to see if number of new CSP will be less than 244.

**NOTE:** A `data_backup` is needed to be done before running the script again.

The script can be executed after the MX-ONE 7.4 package has been distributed to the system but before running Prepare Upgrade or Upgrade.

To run the script:

Replace below x.x.x with the version of the build number to upgrade to; for example, 7.4.0.0.34. **Root** password needs to be available to run the script.

See Online help text:

```
sudo -H sh /opt/mxone_install/7.4.x.x.x/target/utilities/cat_csp_translation.sh  
-?
```

Executed script:

```
sudo -H sh /opt/mxone_install/7.4.x.x.x/target/utilities/cat_csp_translation.sh
```

# Upgrade to MiVoice MX-ONE Service Node 7.x

**NOTE:** There are two alternative ways to regenerate the system telephony data at upgrade, one using the **Regeneration Script Utility**, [Upgrade Using Regeneration Script Utility](#) by copying the data from the old OpenLDAP database, converting it to CSV format, and entering it in the Cassandra database, and the other by using the legacy **PC-Regen application function** [Upgrade using PC-Regen](#). The first alternative requires unchanged server (LIM) and media gateway configuration. DNS Domain, IP addresses and host (fqdn) names of the new installed MX-ONE 7.x system do not need to be the same as used in the old 6.3 SPx system. The second alternative must be used if the server (LIM) or media gateway configuration is changed during the upgrade.

**NOTE:** If upgrading from MX-ONE 6.x (or older release) to MX-ONE 7.x rollback is not possible, due to license, encryption, security and OS version changes. A new installation of the older release will be required in case the upgrade fails.

**NOTE:** Active DND will be cancelled at system restart or shutdown. So, when the system is powered on again, make sure you activate DND again manually if wanted.

## Upgrade Using Regeneration Script Utility

This alternative is only valid when upgrading from 6.3 SPx to 7.x. The following steps are included in the upgrade procedure:

1. Collect Telephony data of old MX-ONE 6.3 SPx system (using `config_mirror`) function.  
For more information, see [Collecting Data from Source System](#).
2. Install MX-ONE 7.x including its system database(s).

For more information, see installation instructions for *INSTALLING AND CONFIGURING MIVOICE MX-ONE*.

3. Import saved Telephony Data (with the Regeneration Script Utility).

**NOTE:** Regeneration Script Utility cannot be used if Migration license feature is used in 6.x. You must upgrade using the legacy PC-Regen application function.

**NOTE:** See the Release Note of 7.x for more information concerning 6.3 SPX versions, for which the Regeneration Script Utility can be used to regenerate data.

## Collect Telephony Data via regeneration script utility

To save the telephony configuration data from the old MX-ONE Service Node, and to restore the same data in the new MX-ONE Service Node, this upgrading procedure uses the regeneration script `regen.sh` for MX-ONE.

Perform the following steps to back up the data from the old MX-ONE:

1. Perform a data backup using command `data_backup`.
2. Enter the `config_mirror` command.



3. Store the `config_mirror` files containing all server data in a place outside the MX-ONE system. The `config_mirror` files are found in the directory `/mxone/mirror/version/dateandtime/`.

## Install the MiVoice MX-ONE Service Node 7.x

For more information, see Installation Instruction for *INSTALLING AND CONFIGURING MIVOICE MX-ONE*.

## Import Saved Telephony

After installation of the new MX-ONE 7.x system is completed, the following steps need to be performed for successful regeneration of the telephony data from the old MX-ONE system into the new MX-ONE system through the Regeneration Script Utility.

To restore the telephony data into the new MX-ONE system, the created `config_mirror` files from the old MX-ONE system must have to be transferred to the new system.

1. Login to the Master Server (LIM1) as `mxone_admin`.
2. Transfer the `config_mirror` files to the Master server and place them in a new directory (for example `/tmp/upgrademirror`). You can do this through USB or copy function.
3. Start the Regeneration Script Utility by entering `sudo -H /opt/mxone_install/bin/regen_mirror_data` (see `sudo -H /opt/mxone_install/bin/regen_mirror_data --help`).
4. Select the directory where `config_mirror` files stored `/tmp/upgrademirror`.
5. The regeneration script utility shows the data restoration progress. Check the printout and logs for errors.
6. Make a reload of the system. Use the `reload--system` command. The reload data is now in the program units.
7. Check that the system is running stable after the reload is completed.
8. Run the command `license_normalize` to update license usage according to new license structure MX-ONE 7.x.
9. Take a data backup of the system using the command `data_backup`.
10. Do a new `config_mirror` of the system with the command `config_mirror`.
11. Install the new 7.x license file using `mxone_maintenance` tool.
12. Make a new `data_backup` and `config_mirror` of the system.

## Regeneration Summary with Regeneration Script Utility

Basically, all system database data and all the reload data can be regenerated through the Regeneration Script Utility.

The features (commands) listed below are not regenerated and must be entered manually:

- Call logging (`callinfo_*` commands)
- `ring_signal`
- `recorded_announcement_prompt`

- Traffic Measurement (TRDIP)

## Upgrade using PC-Regen

The following steps are included in the PC-Regen upgrade procedure:

1. Collect Telephony data (with *PC-Regen-compact*).  
For more information, see Collection regeneration of data, via PC-Regen on page 5.
2. Install MX-ONE 7.x including its system database(s).  
For more information, see installation instructions for *INSTALLING AND CONFIGURING MIVOICE MX-ONE*.
3. Import saved Telephony Data (with *PC-Regen-compact*).  
For more details see [Import and Restore Saved Telephony Data through PC-Regen](#).

## Collection Regeneration of Data through PC-Regen

To save the telephony configuration data from the old MX-ONE Service Node, and to restore the same data in the new MX-ONE Service Node, the upgrading procedure uses PC-Regen-compact for MX-ONE.

Perform the following steps to back up the data from the old MX-ONE:

1. Download PC-Regen-compact from the provided web page.
2. Collect the old source data.
3. Backup the telephony data from the old system.
4. Perform the regeneration.

## Collecting Data from Source System

For regeneration PC-Regen-compact uses a source and a target directory. The data collected from the old system shall be stored in the source directory. The regenerated data will be stored in the target directory.

The default source directory is located as "...\\PC-Regen.compact\\source" at the installation point.

The default target directory is located as "...\\PC-Regen.compact\\target" at the installation point.

For simplicity the whole directory structure ...\\PC-Regen-compact can be copied to a different place and leaving the installed directory as a reference. This is useful when several systems shall be generated because the default source directory can be used.

If different paths are to be used they need to be specified at runtime.

A batch file to collect the old data is needed. To generate this run the program either from the installation menu (or by clicking on the PC-Regen-compact.exe) and select a target system, a source system and when asked to generate a batch file answer yes.

The following files will be generated:

**Table 5.1:** Generated files

|                   |   |
|-------------------|---|
| data_gen.batch    | This is the batch file for collecting old data site name.           |
| racep2.batch      | This file is to collect customer based recorded voice announcement. |
| pu_add_info.batch | This file is to collect special program units.                      |
| gjts2.batch       | This file is used when upgrading from an old TSW based source.      |

If the file transmission is going to take place from a Linux/Unix machine, the file data\_gen.batch is preferably converted to Unix format (using dos2unix or equivalent). The rest of this section assumes this is the case.

The files above shall be put under the directory labeled source and zipped together in a special file (that is, data.zip). Then this file is moved to a directory, from where the collection takes place, that is the Lim 1 server under directory /tmp/upgrade.

The special file is then unzipped in the collection directory on the server.

From the collection directory using SSH sends the following command:

```
serverLim1/tmp/upgrade # source data_gen.batch | tee TS1log.txt
```

Zip the output in the collection directory using command:

```
serverLim1/tmp/upgrade # zip -j pcregenSource.zip *
```

**NOTE:** The -j option does avoid including the directory structure.

Move the file pcregenSource.zip to the selected PC-Regen-compact source directory and unzip it.

You now have the necessary data collected under the PC-Regen-compact source directory.

## Perform the Data Generation

When the source files are present in the PC-Regen-compact source directory we are ready for a data regeneration.

1. Run the program from the installation menu (or by clicking on the C-Regen-compact.exe).
2. Select your target system, your source system.
3. On the question to generate a batch file answer no,
4. On the question for syntax check answer no.
5. You will then get a prompt:  

```
Regeneration MX-One... --> MX-ONE..Source path:.\source
Regeneration MX-One... --> MX-ONE..Target path :.\target
OK? y/n :
```
6. Here you get an option to change source and target paths, otherwise just select y and the regeneration will start.

For more information, refer to the *PC-Regen-compact* document.

## Install the MiVoice MX-ONE 7.x

For more information, see Installation Instruction for *INSTALLING AND CONFIGURING MIVOICE MX-ONE*. The Cassandra database will also be installed.

## Import and Restore Saved Telephony Data through PC-Regen

After installing the new MX-ONE, the following steps need to be performed in PC-Regen for successful regeneration of the telephony data from the old MX-ONE system into the new MX-ONE system.

To restore the telephony data into the new MX-ONE system, the created Init-files first have to be transferred.

- Zip the folder mentioned in the Target path on the main window of the PC-Regen-compact application. Name it pcregenTarget.zip
- Connect the host system to the new MX-ONE system through the file transfer tool.
- Connect to MX-ONE through SSH, do as following:
  - Log on by providing a user name and password.
  - Type in the following command to unzip the target file: `serverLim1/tmp/upgrade # unzip pcregen-Target.Zip`.
  - Type in the following command to remove formatting: `serverLim1/tmp/upgrade # dos2unix *`.
  - Type in the following command at the prompt: `serverLim1/tmp/upgrade # mdsh REGENCMD.TXT | tee upgradeLog.txt`.
  - Wait till the prompt reappears. This command will run the Init files, restoring the telephony data from the old MX-ONE into the MX-ONE system.
  - Check the file upgradeLog.txt for no or wrong loaded data.
 

**NOTE:** The MX-ONE periodically performs data backups.
  - Finally, back up the system data by typing in the following command: `serverLim1/tmp/upgrade mdsh -c data_backup`.
- Exit the SSH sessions and close the file transfer tool.

## Regeneration Summary with PC-Regen

### Manually Regenerated Commands (if wanted)

Some commands cannot be regenerated by PC-Regen-compact. However, these commands are stored in the Target folder in the MX-ONE system in corresponding text files. Based on the need, run the corresponding SET command manually at the MDSH prompt with the data in the corresponding file to configure the new MX-ONE system with the data from the old MX-ONE system.

License file update shall be done via the `mxone_maintenance` script.

The following table shows list of commands that cannot be regenerated by PC-Regen or by manual entering:

**Table 5.2:** Not regenerated files (using PC-Regen) (Sheet 1 of 2)

| Command Not Regenerated       | Corresponding File Name       |
|-------------------------------|-------------------------------|
| <code>alarm_cfg_reread</code> | <code>alarm_cfg_reread</code> |

**Table 5.2:** Not regenerated files (using PC-Regen) (Continued) (Sheet 2 of 2)

| Command Not Regenerated      | Corresponding File Name      |
|------------------------------|------------------------------|
| alarm_cfg_reread             | trace                        |
| callinfo_output              | callinfo_output              |
| recorded_announcement_prompt | recorded_announcement_prompt |
| ring_signal                  | ring_signal                  |
| TRDIP                        | TRDIP                        |

**NOTE:** recorded\_announcement\_prompt initiate file needs to be manually updated by entering the values of parameters "-host" and "--path" and also uncommenting the entries of initiate file before executing them in the Service Node.

Example:

```
#recorded_announcement_prompt --load -m 1A --host $HOST$ --file message001.wav --path $PATH$
```

The above initiation needs to be uncommented and should manually edit the values of "-host" and "-path"

```
recorded_announcement_prompt --load -m 1A --host 203.0.113.10 --file message001.wav --path user/rva/messages.
```

### Automatically regenerated Commands, summary

Basically all commands except the ones mentioned above shall be automatically regenerated. Note that Table 4.3 Automatically regenerated MML Commands on page 13 and Table 4.4 Automatically regenerated Unix-style commands on page 14 are not complete.

**Table 5.3:** Automatically regenerated MML Commands (Sheet 1 of 2)

| Commands  |
|---|
| AC: <i>ACGRI, ACTNI, ACPAC</i>                                      |
| AD: <i>ADCOI, ADINI</i>   |
| AS: <i>ASPAC</i>  |
| CD: <i>CDCOI*</i> , <i>CDINI*</i> (* = replaced, see section 4.3.5) |
| CH: <i>CHCMI</i>  |
| EX: <i>EXTEI</i>  |
| GD: <i>GDNDI</i>  |
| GH: <i>GHGMI, GHGRI</i>   |
| GP: <i>GPAGI, GPGMI, GPGR I</i>                                     |
| IC: <i>ICFUC, ICFUI, ICMWP</i>                                      |
| IS: <i>ISEPI, ISFUI</i>   |

**Table 5.3:** Automatically regenerated MML Commands (Continued) (Sheet 2 of 2)

| Commands   |
|--|
| KS: <i>KSANI,KSCHC, KSEXI, KSFKC, KSMDI, KSADC</i>                             |
| LC: <i>LCDDI, LCLDI, LCOPI, LCTDI</i>  |
| NC: <i>NCCOI, NCGMI, NCGRI, NCICI, NCNOI, NCSGI</i>                            |
| OP: <i>OPADC, OPCGS, OPCTS, OPERI, OPISS, OPRSC, OPSAI, OPNEI, OPCEI</i>       |
| PA: <i>PAGII</i>   |
| RA: <i>RACEI, RADSI, RAGAI, RAGMI, RAGPI, RAMDI</i>                            |
| RI: <i>RIANI</i>   |
| RO: <i>ROAPI, ROCAI, ROCDI, RODAI, RODDI, RODNI, ROEQI, ROND, RORNI, ROVNI</i> |
| SP: <i>SPEXI</i>   |
| TR: <i>TRDPI, TRRSI</i>  |
| VM: <i>VMFUI, VMGEI, VMPOI</i>   |

**Table 5.4:** Automatically regenerated Unix-style commands (Sheet 1 of 3)

| Commands  |
|---|
| <i>account_code_init</i>  |
| <i>alarm_action</i>   |
| <i>alarm_input</i>  |
| <i>alarm_output</i>   |
| <i>auth_code</i>  |
| <i>board_config</i>   |
| <i>callinfo_condcode_set</i>  |
| <i>callinfo_mask_set, callinfo_output_set, callinfo_status_set, callinfo_qos_report_set</i> |
| <i>call_list</i>  |
| <i>call_list_profile</i>  |
| <i>csta</i>   |
| <i>csta_authentication</i>  |
| <i>dect_cfp, dect_extension, dect_rfp, dect_system_id</i>                                   |
| <i>diversion</i>  |

**Table 5.4:** Automatically regenerated Unix-style commands (Continued) (Sheet 2 of 3)

| Commands   |
|--|
| <i>diversion_common</i>  |
| <i>diversion_system</i>  |
| <i>exchange_info</i>   |
| <i>extension, extension_key*, extension_profile, extension_text, extension_registration_distribution</i><br>* = extension_key cannot be automatically regenerated if extra key panels are used for Mitel 6800/6900 SIP phones. |
| <i>external_directory</i>  |
| <i>global_traffic_data</i>   |
| <i>ip_domain</i>   |
| <i>ip_extension</i>  |
| <i>ip_gatekeeper</i>   |
| <i>language_strings_override</i>   |
| <i>media_gateway_config</i>  |
| <i>media_gateway_interface</i>   |
| <i>media_encryption_enable</i>   |
| <i>media_server</i>  |
| <i>media_server_message</i>  |
| <i>name</i>  |
| <i>number_conversion_initiate</i>  |
| <i>number_initiate</i>   |
| <i>number_data_initiate</i>  |
| <i>parallel_ringing</i>  |
| <i>remote_extension</i>  |
| <i>route_data_common</i>   |
| <i>sip_domain</i>  |
| <i>sip_route</i>   |
| <i>sec_policy</i>  |
| <i>sms_server_initiate</i>   |
| <i>sms_client_initiate</i>   |

**Table 5.4:** Automatically regenerated Unix-style commands (Continued) (Sheet 3 of 3)

| Commands   |
|--|
| <i>streaming_data</i>                                |
| <i>traffic_matrix</i> (new)                          |
| <i>trsp_synchronization</i> , <i>trsp_connection</i> |
| <i>vacant_number</i>                                 |

### Moved or removed commands and parameters

The following commands did exist in earlier version of MX-ONE, but have either been removed, or replaced by Unix-style dittos.

- DECT commands have been replaced to Unix-style commands replacing the CX commands as follows:
  - CXAKX: *dect\_extension*
  - CXSYX: *dect\_system\_id*
  - CXCFP: *dect\_cfp*
  - CXRFP: *dect\_rfp*
- The CDCOx commands have been replaced by the Unix-style *diversion\_common* commands. The SYTDS command has partly been replaced by the *diversion\_system* command. Also PARNUM 121 from the ASPAx commands has been moved to *diversion\_system*. The CDINx commands have been replaced by the *diversion* commands.
- NIINx commands have been replaced by the *name* commands.
- In the *extension* command the parameter *--third-party-sip-client* is replaced by *--third-party-client*. There are also additional *diversion* related parameters in the *extension\_profile* commands.
- In *extension* and *extension\_text* command *language* parameter is replaced by *language-code*.
- Command *csta\_initiate* has been replaced by *csta*, and *csta\_status* has been removed.
- The command EMFUI in MD110/TSW is not supported in MX-ONE.
- The CPDLx- and ROELx- commands are replaced by the *route\_data\_common* command.
- The FTxxx command have been replaced by the *failure\_transfer* command.
- The SUDIx, and SUSIx commands have been replaced by the *resource\_status* and *vacant\_number* commands.
- The SYDAS, SYIDI, and SYTDS commands are replaced by the *global\_traffic\_data* command.
- The TCMax- commands are replaced by the *traffic\_matrix* commands.
- The *license\_migration* command has been removed (from version 7.0).
- The GHxxx commands are replaced by the *extension\_group*, *extension\_group\_member*, and *extension\_group\_profile*.



# Upgrade Manager Applications to MX-ONE 7.x

The Manager Applications require some special handling at upgrade, due to their separate databases. Note the name change of PM (former MP) and SNM (former MTS).

To upgrade **Provisioning Manager** (PM) and **Service Node Manager** (SNM), the following database backup procedure is required.

## Upgrade from 5.x to 7.x

For Upgrade from 5.x to 7.x, follow the below procedure to take backups.

### Backup Service Node Manager

To backup Service Node Manager database, follow the below procedure to take the backup:

1. Ensure that you are logged in as root.
2. Create a folder; for example, /home/eri\_sn\_admin/TSBackup/
3. Change the permission to allow postgres to write in the folder, such as `chmod 757 /home/eri_sn_admin/TSBackup`
4. Save all data of WBM database, and do the following:
  - a. Use the following command: `su postgres -c "pg_dump -a -d WBM -f /home/eri_sn_admin/TSBackup/wbm_data_only.sql"`
  - b. Enter the password for the database if asked, which is by default MX-ONE 5.x.
  - c. Save all data of QoS Database and use the following command: `su postgres -c "pg_dump -U postgres QoS -f/home/eri_sn_admin/TSBackup/QoS_entire_data.sql -C --inserts"`
  - d. Enter the password for the database, which is default in MX-ONE 5.x.
  - e. Copy the created files to an external media; for example, a USB memory or another safe location.

### Template Data Backup

To backup templates, follow the below procedure:

1. Ensure that you are logged in as root on the Manager Telephony System Server.
2. Use the following command to archive the templates.
3. `"tar -cf customer.tar --directory=/opt/jboss/server/default/conf/templates customer"`.
4. Copy the *customer.tar* file to an external media; for example, USB memory.

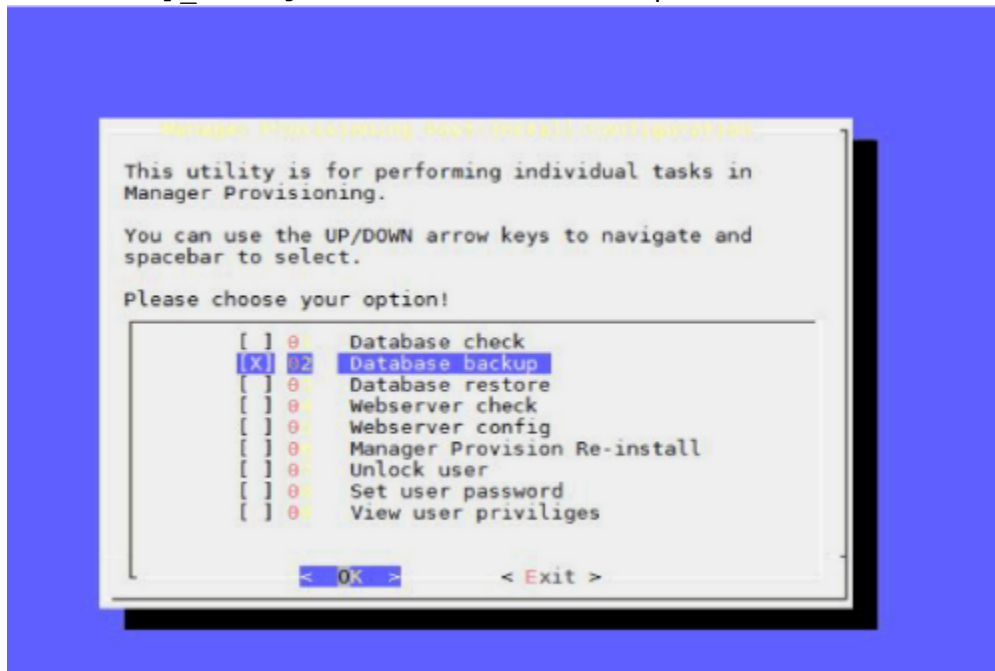
## Backup Provisioning Manager

If Provisioning Manager and Service Node Manager are installed on the same server or on different servers, the data for Provisioning Manager must be saved. This is because, upgrading Service Node Manager clears the database that is used by Provisioning Manager.

In case of stand-alone system, taking backup from *mp\_config* and backing up of template is sufficient.

To backup Provisioning Manager database in the MX-ONE 5.x/6.x, do the following:

1. Log on to the Provisioning Manager Server as root.
2. Create a folder in `/home/eri_sn_admin/TSBackup/` if it does not exist. Such as `mkdir -p /home/eri_sn_admin/TSBackup/`.
3. Enter the command `mp_config` and select database backup.



4. Backup PM (former MP) database is stored in directory: `/var/opt/eri_mp_config/` with a file name starting with **mpManagerPostgresDump** followed by date, rpm version and release details.
5. Save all data of Quartz Database using the following command:
 

```
su postgres -c pg_dump -a -d Quartz -f/home/eri_sn_admin/TSBackup/Quartz_data_only.sql.
```
6. Enter the password for the database, which is default in MX-ONE 5.x.
7. Copy the created files (or the entire directory) to an external media; for example, a USB memory or another safe location.

## Template Data Backup

To backup templates, follow the below procedure:

1. Ensure that you are logged in as root on the Manager Telephony System Server. This is useful when the Provisioning Manager is in different server (standalone).
2. Use the following command to archive the templates.
3. `tar -cf customer.tar --directory=/opt/jboss/server/default/conf/templates customer`
4. Copy the *customer.tar* file to an external media; for example, USB memory.

## Upgrade from 6.x to 7.x

For Upgrade from 6.x to 7.x, follow the below procedure to take backups.

### Backup of PM and SNM in 6.x

The procedure remains same for standalone and collocated system. In case of standalone system, the command has to be executed once in standalone PM setup and once in SNM setup, and respective files should be used for restore.

Follow the below procedure:

1. Download the `pm_snm_6.x_backup` script mentioned to the instruction in the release notes.
2. Execute the `pm_snm_6.x_backup` script using below command, `sudo sh pm_snm_6.x_backup`
3. After the execution, the files get saved in `/local/home/TSBackup`
4. Copy all files in `/local/home/TSBackup` directory to an external media; for example, USB memory

## Restore

This topic describes the restore operations that you need to perform prior to upgrade.

### Restore Service Node Manager

**NOTE:** Before executing this step, first take data backup of MX-ONE, and then restore MX-ONE data.

To restore Service Node Manager, do the following:

1. Log in the Service Node 1 as `mxone_admin`.
2. Create a folder named `TSBackup` in `/local/home/mxone_admin`.
3. Copy the Manager Telephony System's data files (`wbm_data_only.sql`, `QoS_entire_data.sql`, `customer.tar`) to `/local/home/mxone_admin /TSBackup Directory`.
4. Provide the 755 permissions to these files (`chmod 755 <filename>`).
5. Enter the command `sudo -H webserver_config`
6. Select Other Utilities.

7. Select option Migrating old version SNM Data (SNM DB,...) and follow the instructions.

## Restore Provisioning Manager

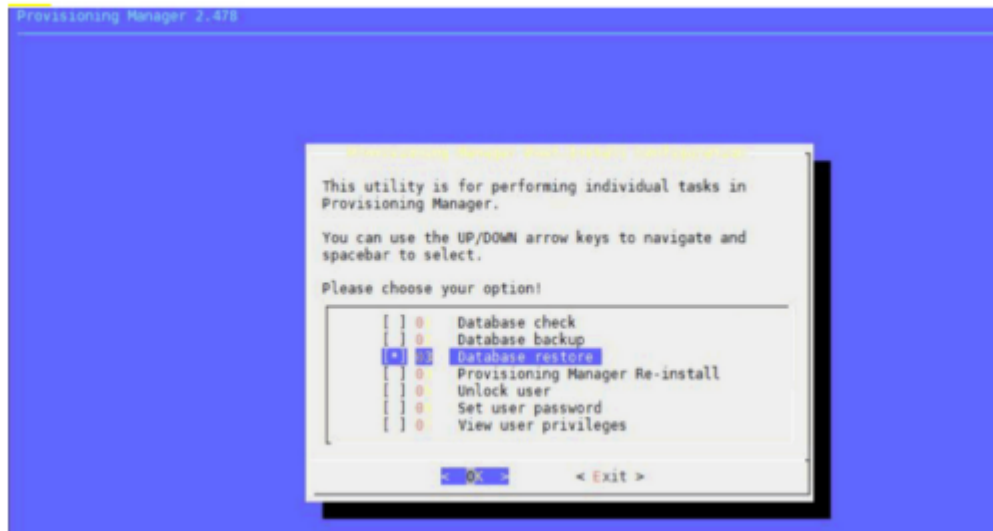
**NOTE:** Restore **Service Node Manager** before restoring **Provisioning Manager** in case of co-existence system.

To restore the backup in **Provisioning Manager**, do the following:

1. Copy the Manager Provisioning data files (*mpManagerPostgresDumpxxxxxx*, *Quartz\_data\_only.sql*, *customer\_mp.tar*) files to */var/opt/mxone\_pm\_config/Directory*
2. Ensure that the files are owned by root user.

**NOTE:** If you do not have the folder in */var/opt/mxone\_pm\_config/* it is understood that **Provisioning Manager** is not installed on this server as it is not automatically installed like **Service Node Manager**.

3. Execute the command `mp_config` and select Database restore. The script takes care of restoring PM, Quartz databases and *Customer\_mp.tar* (Customer template) data.
4. Remove the *Quartz\_data\_only.sql* and *customer\_mp.tar* from */var/opt/mxone\_pm\_config* directory after data restore and restart.



5. Login as root and execute the following:
  - `rm -f /var/opt/mxone_pm_config/Quartz_data_only.sql`
  - `rm -f /var/opt/mxone_pm_config/customer_mp.tar`
6. For the setup where **Service Node Manager** and **Provisioning Manager** were co-existing before the upgrade, and Provisioning Manager will be stand alone after the upgrade. Modify the following data after SNM and PM restore is completed:
  - a. Login to the PM and update the IP/FQDN of the SNM in Subsystems.
  - b. If PM authentication is used in SNM, which is running on SNM as *mxone\_admin* user (`sudo mxone_maintenance`) > `webmanagement` > Set SNM to authenticate to PM or Linux > Change To/Keep PM authentication and enter the IP/FQDN of PM.
  - c. Exchange between SNM and PM the root certificates, if needed in `sudo mxone_maintenance` > `webmanagement` > Root Certificate Management > Download Server Certificate by connecting to trusted host.

# Update from MX-ONE 7.0 to MX-ONE 7.x

When updating from MX-ONE 7.0 to 7.x, the SLES12/Linux operating system is the same, but a new Service Pack (for 7.0 SLES 12 SPx is included) may be needed. See the installation instruction *UPGRADING AND UPDATING, GENERAL*.

You normally do not need data regeneration for updates, but the PC-Regen procedure can be used in case it is needed.

For re-installation of a MX-ONE 7.1 (and above) with unchanged server (LIM) and media gateway configuration, it is possible to use the Regeneration Script Utility. Config mirror files or a safety backup tar file from the MX-ONE 7.x system to be reinstalled is used as source (see `/opt/mx_install/bin/regen_mirror_data—help`).

# Appendix A, Exception cases for PM and SNM

The upgrade process of the MX-ONE Service Node does in normal circumstances not require any manual handling of configuration and/or data connected to Service Node Manager (SNM) or Provisioning Manager (PM). However, the process might be interrupted for some unexpected reason. This could for instance be a manual interaction or a power failure.

To enable the possibility to restore configuration and data after such failure you are advised to take the following steps before the upgrade process starts. In case of need for restoration, contact your service partner for advice.

## Save Data for Service Node Manager

For more detailed information, see the section Import and restore saved telephony data through PC-Regen and Regeneration summary with PC-Regen for 5.x systems and see the section Collection regeneration of data through PC-Regen for 6.x systems.

## Save Data for Provisioning Manager

For more detailed information, see the section import and restore saved telephony data through PC-Regen and Regeneration summary with PC-Regen Script Utility for 5.x systems and see the section Collection regeneration of data through PC-Regen for 6.x systems.

