



ETM[®] System

Knowledge Base Article #ETM3462

Upgrading to v9.0.2 from v7.1.1 Build 41 or Later of the ETM[®] System on Linux

Synopsis

This article explains how to upgrade to v9.0.2 from v7.1.1 build 41 or later of the ETM[®] System on Linux. If you are upgrading from an earlier version, contact SecureLogix Technical Support before beginning the upgrade.

IMPORTANT NOTES

- Ensure that you are running a supported version of Oracle before you continue. Oracle 12c R2, 18c, and 19c (Enterprise or Standard) are supported.
- Upgrade the Management Server/Report Server systems first and then ETM Client systems afterwards.
- Clients from versions prior to v9.0.1 cannot connect to a v9.0.2 Management Server. You must upgrade all remote clients that are prior to v9.0.1 before trying to use them to connect to the upgraded Management Server. Remote clients that are running v9.0.1 will connect to the upgraded Management Server, but it is strongly recommended that you upgrade them to v9.0.2 as soon as possible to support the v9.0.2 features and eliminate incompatibilities.
- You cannot upgrade a UTA Appliance from a previous version to v9.0.2, due to the operating system upgrade. You must uninstall the previous version and then install the v9.0.2 UTA Appliance. Note that the 7.x/9.0.1 UTA Appliance connects to and interoperates with the 9.0.2 Management Server.
- **<INSTALL_DIR>** is used in these instructions to refer to the directory where the ETM System is installed. ETM System RPMs install the applications under **/opt** and the installation directory cannot be changed.

Steps

1. **Connect to the database via the Database Maintenance Tool.** Verify that no errors exist before beginning the upgrade. If errors are present, contact SecureLogix Technical Support before you continue. See the *ETM[®] System Administration Guide* for instructions for using the Database Maintenance Tool, if necessary.
2. **Back up the ETM System directory.** The entire directory is replaced during upgrade, meaning customized properties and configuration files are overwritten upon upgrade. These must be manually



restored from backup during upgrade on Linux.

3. **Shut down any running ETM System applications.** See the Appendix in this document for instructions for starting, stopping, and viewing the status of the applications.
4. **Uninstall the previous version of software and then install the ETM System v9.0.2 software.** Refer to the Appendix of this document for detailed software uninstallation and installation instructions.
 - **IMPORTANT** Be sure to upgrade all remote ETM System Clients of versions prior to v9.0.1 before trying to use them to connect to the upgraded ETM Server. Remote clients that are running v9.0.1 will connect to the upgraded Management Server, but it is strongly recommended that you upgrade them to v9.0.2 as soon as possible to support the v9.0.2 features and eliminate incompatibilities.
5. **Restore custom configuration files.**
 - Use a tool such as **CompareIt** to identify customization in the backed-up **.properties**, **.cfg**, and **.ini** files. Copy those changes from the previous files into the newly installed files so that any updates in the files are retained. **DO NOT** copy over the new files, because they contain new settings for this release.
 - **delivery.properties**
 - **ETMManagementServer.cfg**
 - **npconfig.properties**
 - **smdr.properties**
 - **twms.properties**
 - **ETMReportServer.cfg**
 - **ETMDBMaintTool.cfg**
 - **ETMSystemConsole.cfg**
 - **/ps/software_repository/smdr/**—Entire directory, which contains the SMDR parse files. If a file with a default name has been user-modified, it must be restored to the ETM Server **<INSTALL_DIR>\ps\software_repository\smdr** directory after upgrade. User-defined files with custom names are not deleted nor overwritten during upgrade and therefore do not need to be restored.
 - **/ps/software_repository/ini/**—Entire directory, which contains the Dialing Plans. Upon upgrade, the Dialing Plans installed on the Appliances are not deleted, but user-modifications to the Dialing Plans need to be copied to new Dialing Plan file in the **<INSTALL_DIR>\ps\software_repository\ini** directory on the ETM Server and then



reinstalled on the Spans.

6. **Copy the database driver and required jar files to required locations.** Copy the database driver that corresponds to the version of Oracle you are running from the Oracle installation to each of the following ETM System installation directories. Also copy the **oraclepki.jar**, **osdt_cert.jar**, and **osdt_core.jar** files to these directories if you are running Oracle 12.2:

- The ETM Server.
- Any remote Report Server.
- Any remote ETM Database Maintenance Tool.

Remote ETM System Consoles do not require the driver file.

7. **Connect to the database.**

IMPORTANT If you are applying this update to a system that requires the new TNS Names connection string format, continue with “Updating the Database to Allow Use of a TNS Names Connection String” on page 5 before continuing. If the system can use the “quick connect” string for the upgrade, those steps are not needed, and you can continue with the steps below.

- a. Start the **ETM Database Maintenance Tool** and connect to the database.
 - b. You are prompted to upgrade the database. Click **Yes**. (If any errors occur while upgrading the database, note the error and call Technical Support at the number at the bottom of this article.)
 - c. Right-click the data instance the ETM Server uses and click **Set as Default**. (Not necessary if you returned the backed up **twms.properties** file to the **<INSTALL_DIR>**, since that information is already included in the file.)
8. **Start the ETM System applications and verify operation.** Perform the following for each set of Server instances:
 - a. Start the ETM Server and Report Server. Check for errors in the **error** and **server-fatal.log** files. The **server-fatal.log** is stored in the root of the **<INSTALL_DIR>** and is only present if the ETM Server terminates unexpectedly. The error logs are stored in the **<INSTALL_DIR>/ps/errors** directory.
 - b. If no errors appear, start the ETM System Console, log in to the Server, and then open the Performance Manager.

Important: Remote Clients of a versions prior to v9.0.1 cannot connect to the ETM v9.0.2 Management Server. Remote clients that are running v9.0.1 will connect to the upgraded Management Server, but it is strongly recommended that you upgrade them to v9.0.2 as soon as possible to support the v9.0.2 features and eliminate incompatibilities.
 - c. Verify that all Cards have reconnected and no errors are present. If errors are present, contact



SecureLogix Technical Support for assistance before continuing.

9. **Uninstall any existing UTA Appliances of a previous version and then install and configure the v9.0.2 UTA Appliances.** Note that the v7.1.x/9.0.1 UTA Appliances will connect to the v9.0.2 Management Server, giving you time to complete the upgrade without taking all of them out of service at once. After you install the 9.0.2 UTA Appliance, you can import the configuration from the 7.1.x/9.0.1 Appliance. Optionally, you can choose to continue using the existing 7.1.x/9.0.1 UTA Appliances if you do not want to install the 9.0.2 version.
10. **Upgrade the Card software (Not on UTA).** After the Cards connect to the Server, install the included appliance packages on all SIP, TDM, and dedicated CRC* Appliances (if they are not already running that version) using the software installation mechanism in the GUI. See the *ETM[®] System Administration and Maintenance Guide* for instructions for installing Card software. You can view the progress of the upgrade in the **Status Tool** and **Diagnostic Log**.

IMPORTANT: You cannot upgrade the Card software on an existing UTA Appliance of a previous version to the 9.0.2 package. You must first completely uninstall the previous UTA Appliance and then install the 9.0.2 UTA Appliance if you want to upgrade to the v9.0.2 UTA Appliance. You can, however, upgrade the software on deployed 7.1.x UTA Appliances to the 7.1.90 package, if they are not already running that version.

**Does not apply to the EOL 1060.*

IMPORTANT:

- It is imperative that you do not reboot or power cycle the Card while the software is being downloaded until the upgrade and software installation is complete. The Card automatically reboots when the upgrade is complete. If you believe the Card has become unresponsive, be certain that 15 minutes have elapsed since you began and call SecureLogix Technical Support. Do not manually power cycle or reboot the Card.
- **IMPORTANT Information about upgrading UTA and SIP Proxy applications:**
 - **SIP Proxy TCP response handling:** TCP response handling is configurable, depending on whether an SBC/proxy expects TCP response messages to be delivered on its predefined port, or whether the ETM SIP Proxy sends TCP response messages to the source port used in the request message packet. While reusing the TCP connection is the desired behavior according to the RFC, some SBCs/proxies running older versions of their software may expect TCP responses to be returned to their predefined port. This behavior is configurable via an ETM Command to suit the given SBC/proxy. It defaults to **ephemeral**.

To configure/view TCP response message handling, use the following ETM Commands on the Signaling Proxy:

```
set tcp response [ephemeral|configured]
show tcp response
```



- **When installing software on a UTA Appliance**, additional steps are required compared to other appliance models. You first push the software package to the Call Processor at the Card level, which then makes it available on the signaling and media proxy nodes. You must then activate the new software on each of the proxy nodes.

For instructions, see the *ETM[®] System Administration and Maintenance Guide*.

11. **Remove backup files.** When the upgrade is complete and the ETM System is verified to be operating correctly, backup directories can be deleted to free the hard drive space they use.

Updating the Database to Allow Use of a TNS Names Connection String

These steps are needed when upgrading to 9.0.2 on a system that already requires the TNS connection string format where it has not previously been configured, and also when immediately going to the TNS connection string format (such as when migrating to a new database that only allows this format). If you are applying this update to a system where you can use the “quick connect” string to install and configure the Database, or upgrading a system that does not use the TNS Names format, these steps are not required.

To update the Database to use the TNS Names format connection string

1. Perform Steps 1-6 above.
2. Connect to the Database Instance in SQL Plus, and issue the `describe parent_db;` command. Output similar to the following appears:

```
SQL> describe parent_db;
```

Name	Null?	Type
PARENT_ID	NOT NULL	VARCHAR2(1024)
IP_ADDR	NOT NULL	VARCHAR2(255)
PORT	NOT NULL	NUMBER
INSTANCE_NAME	NOT NULL	VARCHAR2(255)
SCHEMA_NAME	NOT NULL	VARCHAR2(255)

```
SQL>
```

3. Issue these commands:

```
SQL> ALTER TABLE PARENT_DB ADD ( custom_connection_string VARCHAR(255) NULL );
```



Table altered.

```
SQL> ALTER TABLE PARENT_DB ADD ( use_custom_connection_string CHAR(1) DEFAULT '0' NOT NULL );
```

Table altered.

4. Issue the `describe parent_db;` command again. The new format below is displayed:

```
SQL> describe parent_db;
```

Name	Null?	Type
PARENT_ID	NOT NULL	VARCHAR2 (1024)
IP_ADDR	NOT NULL	VARCHAR2 (255)
PORT	NOT NULL	NUMBER
INSTANCE_NAME	NOT NULL	VARCHAR2 (255)
SCHEMA_NAME	NOT NULL	VARCHAR2 (255)
CUSTOM_CONNECTION_STRING		VARCHAR2 (255)
USE_CUSTOM_CONNECTION_STRING	NOT NULL	CHAR (1)

```
SQL>
```

5. Connect to the Database Instance in the Database Maintenance Tool using the new connection string. It will ask if you want to change the format of the connection string from the old format to the new format. Click **Yes**. It will then say the database is out of date and needs to be updated Click **Yes**. After the validation completes, the Database is updated and ready for use. (If any errors occur while upgrading the database, note the error and call Technical Support at the number at the bottom of this article.)
6. Right-click the data instance the ETM Server uses and click **Set as Default**. (Not necessary if you returned the backed up **twms.properties** file to the **<INSTALL_DIR>**, since that information is already included in the file.)
7. Continue with Step 8 above.

Current Software Versions:

- ETM Client and Server applications—9.0.2 Build 11
- Appliance packages:



- UTA—9.0-61
- SIP Proxy—9.0-206
- All other Appliance types*—7.1.90

**Does not apply to the EOL 1060.*



Appendix

Uninstalling and Installing the ETM[®] System on a 64-Bit Linux Server

Before You Begin

1. When you install and configure your Linux platform, allocate space for the ETM applications under **/opt**. ETM RPMs are installed under **/opt** and the installation directory cannot be changed.
2. Install the **xorg-x11-server-Xvfb** package for RedHat or CentOS.

Note: See the Release Notes for special configuration instructions for certain cases on a CentOS 7 installation. <https://support.securelogix.com/kb/etm-system-v9-0-2-release-notes/>

3. Four installation (RPM) files are included for the Linux ETM Server installation:
 - **etm-esc-<version-build>.x86_64.rpm**—ETM System Console on Management Server Host
 - **etm-ms-<version-build>.x86_64.rpm**—ETM Management Server
 - **etm-rs-<version-build>.x86_64.rpm**—ETM Report Server
 - **etm-esco-<version-build>.x86_64.rpm**—Remote ETM System Console

To uninstall and Install the ETM applications

Execute the following sequence of steps to uninstall and then install each required RPM (not order-dependent):

1. Log in as **root** user.
2. Change to the directory containing the new RPM files. Files are installed in the **/opt/SecureLogix/ETM** directory with the exception of the Service-specific files, which are installed in the **/etc/init.d** directory. The installation directories cannot be changed.
3. Determine whether previous RPMs are installed by typing: `rpm -qa |grep -i etm-`
 - If RPMs exist, remove them by typing: `rpm -e <rpm_name>` where **<rpm_name>** is one of **etm-esc**, **etm-ms**, **etm-rs**, or **etm-esco**.
4. Install each required RPM by executing the command: `rpm -ivf <complete_rpm_file_name>`
 - When installing the **etm-esc** RPM add the `--force` option due to overlap with Management Server/Report Server resources: `rpm -ivf <complete_rpm_file_name> --force`

Files are installed in the **/opt/SecureLogix/ETM** directory with the exception of the Service-specific files, which are installed in the **/etc/init.d** directory. The installation directories cannot be changed.



Verify several packages are installed on CentOS 7 Linux Management Server installation—

During installation, several packages are not always installed on CentOS 7 Linux systems that the ETM System needs: **libXpm**, **libXtst**, and **libXrender**. Verify that these packages are installed, and use a yum update if they are missing.

5. Do one of the following, depending on the version of Linux you are running:
 - **Linux 6:** Use the **chkconfig** command (`chkconfig --level 345 <servicename> on`) or the Services GUI to set the Management Server (**ETMMS**) and Report Server (**ETMRS**) services to start automatically when the system is started.
 - **Linux 7:** Use the **systemctl enable** command to set the Management Server (**ETMMS**) and Report Server (**ETMRS**) services to start automatically when the system is started.

IMPORTANT Be sure to upgrade all remote ETM System Clients before trying to use them to connect to the upgraded ETM Server.

Starting, Stopping, and Viewing Status of the Applications

To start/stop/view status of the ETM applications

1. Log in as **root** user.
2. Change to the **/opt/SecureLogix/ETM** directory.
3. Use the following commands:
 - To start the Database Maintenance tool, type:

```
./ETMDBMaintTool
```
 - To start the ETM System Console, type:

```
./ETMSystemConsole
```
 - ETM Management Server commands are (depending on version of Linux):

```
service ETMMS {start | stop | status}
```

-or-

```
systemctl {start | stop | status} ETMMS
```
 - ETM Report Server commands are (depending on version of Linux):

```
service ETMRS {start | stop | status}
```

-or-

```
systemctl {start | stop | status} ETMRS
```



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