

Upgrade Guide

**CA Application Delivery Analysis
Multi-Port Monitor**
Version 10.1



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Chapter 1: Introduction

This document describes how to upgrade the Multi-Port Monitor software to version 10.1 on a CA6000 MTP appliance. Depending upon the version you are upgrading from, the upgrade process may include upgrading:

- The Vertica database to Vertica 6.1.2
- The Napatech driver package to 13.0.6
- The operating system to CentOS 5.11

Important! The Multi-Port Monitor does not monitor traffic during the upgrade of the operating system and the Multi-Port Monitor software.

After the software upgrade completes:

- Data monitoring resumes. We recommend performing the upgrade in a maintenance window where the load on the Multi-Port Monitor is lower or ideally, normal operations are shut down.
- When upgrading from version 9.2 or prior, existing data is migrated to the new Vertica database schema which was introduced in version 10.0. This post-upgrade data migration task will complete more quickly with a lowered load on the Multi-Port Monitor. To complete in a reasonable time, no more than 5 billion database rows are migrated:
 - Daily partitions above this limit will be purged oldest to newest until the database is below 5 billion rows.
 - On a Multi-Port Monitor with a typical processing load, data migration should complete in no more than 8-16 hours. With a heavy processing load, data migration should complete within 24 hours.

When planning a Multi-Port Monitor upgrade with CA ADA, keep the following points in mind:

- **Do not** skip MTP releases. The only supported upgrade path to MTP 10.1 is from MTP 10.0 to MTP 10.1. If you are on an earlier release of MTP, you must first upgrade to MTP 10.0 and then upgrade from MTP 10.0 to MTP 10.1.
- Upgrade the Multi-Port Monitor appliances before you upgrade CA ADA.
- We recommend updating CA ADA to at least version 9.3, however, CA ADA version 10.1 is recommended for full compatibility with Multi-Port Monitor 10.1 features and functionality.
- CA ADA versions 10.0 and 10.1 are **not** compatible with Multi-Port Monitor version 9.2 and below. If you upgrade the CA ADA Manager to version 10.0 or 10.1, you will be required to upgrade the MTP to the same version (10.0 or 10.1).

Chapter 2: Verify the Current Version

Every new CA MTP appliance ships with a software installation CD labeled with the MTP software version. If the original CD has been lost, or a subsequent upgrade has been performed, it is important to determine what version of MTP software you are upgrading from.

You can determine the MTP software version by querying for the installed Vertica database version.

Follow these steps:

1. From a command prompt window on the MTP appliance enter:

```
ls /opt
```

If there is no /opt/vertica directory, this is MTP version 1.0.

2. Determine the Vertica version. Enter:

```
rpm -qa | grep vertica
```

If the Vertica version is:

The MTP version is:

vertica-3.5.9.0	2.0
vertica-4.0.17-0	2.1
vertica-4.1.9-0	2.2
vertica-5.0.11-0	9.2
vertica-6.1.2-0	10.0 or 10.1

To distinguish between MTP version 10.0 and 10.1, check the CentOS version:

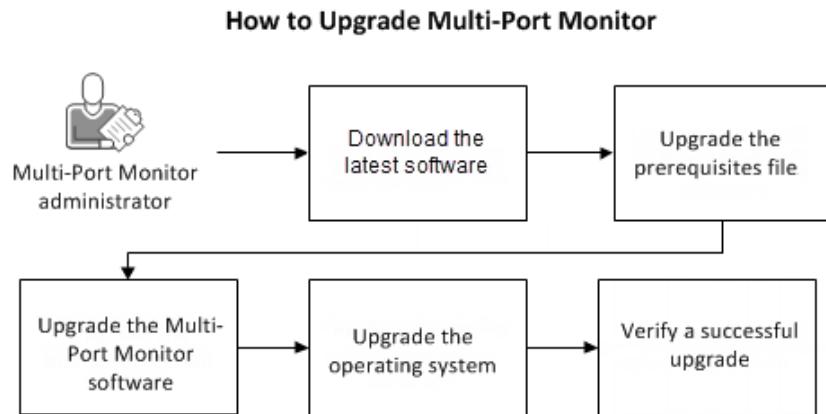
```
cat /etc/redhat-release
```

- MTP 10.1 returns CentOS release 5.11 (Final)
- MTP 10.0 returns CentOS release 5.9 (Final)

Chapter 3: Upgrade the Multi-Port Monitor Software

Important: Always assess the hardware status of the CA Multi-Port Monitor appliance *before* you upgrade. We do not recommend upgrading CA Multi-Port Monitor while it is in a degraded state. Refer to the *Assess Hardware Status Guide* for step-by-step instructions for verifying the health of the MTP appliance.

The following diagram describes the process of upgrading Multi-Port Monitor software:



Follow these steps:

1. [Download the latest software](#) (see page 13).
2. [Upgrade the prerequisites file](#) (see page 15).
3. [Upgrade Multi-Port Monitor software](#) (see page 17).
4. [Upgrade the operating system](#) (see page 19).
5. [Verify a successful upgrade](#) (see page 21).

Upgrade from MTP 10.0 to 10.1

To upgrade from MTP version 10.0 to version 10.1, you install the MTP 10.1 prerequisites image, the MTP 10.1 software image, and the CentOS 5.11 upgrade image available from the *CA Application Delivery Analysis Multi-Port Monitor* product page at <http://support.ca.com>.

Important! Do not skip MTP releases. The only supported upgrade path to MTP 10.1 is from MTP 10.0. If you are on an earlier release of MTP, you must first upgrade to MTP 10.0 and then upgrade from MTP 10.0 to MTP 10.1.

Download the Latest Software

Visit the Download Center on [CA Support](#) to verify that you have the latest software.

.ISO File Download	Contains
CA ADA Multi-Port Monitor r10.1 xxxx - Upgrade Pre-Requisite	mtp-prereqs-10.1.xxxx.image
CA ADA Multi-Port Monitor r10.1 xxxx - Upgrade	mtp-10.1.0.xxxx-release.image as well as the Upgrade Guide and Release Notes
CA ADA Multi-Port Monitor r10.1 xxxx - CentOS 5.11 Upgrade	mtp-10.1.xxxx-CentOS_5.11-upgrade.tgz; this file is large and can take a long time to download.
CA CEM TIM 9.x for CentOS DVD	third-party-xxxx.image and tim-complete-xxxx.image; these files are needed only if you are using CA APM TIM.

Follow these steps:

1. Visit [CA Support](#).
2. Go to the Product Downloads page for *CA Application Delivery Analysis Multi-Port Monitor*.
3. If necessary, download the latest .iso files and extract them to a folder location that is accessible to a web browser that can access the Multi-Port Monitor web interface.

Validate Prerequisites for MTP version 10.1

Verify that the following requirements are met before upgrading the Multi-Port Monitor to version 10.1:

CA Multi-Port Monitor is version 10.0

Upgrade is supported from version 10.0 only. To upgrade from an earlier release, follow the steps below to upgrade to version 10.0 before proceeding to upgrade to version 10.1.

Verify that the following requirements are met before upgrading the Multi-Port Monitor to version 10.0:

CA Multi-Port Monitor is version 2.1, at minimum

Upgrade is supported from versions 2.1, 2.2, and 9.2. If the Multi-Port Monitor is at:

Version 1.0 or 2.0

Upgrade to version 2.1 before upgrading to Multi-Port Monitor version 10.0.

Version 2.1

Perform the following steps:

- Upgrade the prerequisites file to version 2.2, then upgrade it to version 9.2, and then finally, upgrade it to version 10.0.
- Upgrade to Multi-Port Monitor version 10.0.
- Upgrade to CentOS 5.9.

Version 2.2

Perform the following steps:

- Upgrade the prerequisites file to version 9.2, then upgrade it to version 10.0.
- Upgrade to Multi-Port Monitor version 10.0.
- Upgrade to CentOS 5.9.

When upgrading from version 2.2, it is not necessary to upgrade the Multi-Port Monitor software to version 9.2.

Version 9.2

Perform the following steps:

- Upgrade the prerequisites file to version 10.0.
- Upgrade to Multi-Port Monitor version 10.0.
- Upgrade to CentOS 5.9.

(Optional) CA CEM TIM is version 9.1, 9.5, or 9.6

If CA CEM TIM version 9.1, 9.5, or 9.6 is installed, it should continue to work properly after you upgrade to Multi-Port Monitor 10.1.

CA Application Delivery Analysis is version is 9.3 or 10.0

We recommend updating CA ADA to at least version 9.3. CA ADA version 10.1 is recommended for full compatibility with Multi-Port Monitor version 10.1 features and function.

48 GB of RAM on the appliance

If your appliance is an older version with only 16 GB of RAM, contact [CA Technical Support](#) to obtain more memory.

Only one user logged in

Verify that only you are logged in to the Multi-Port Monitor web interface during the upgrade. Log in as a user with Administrative privileges.

(Optional) Backup manually modified system files

If you have manually modified the following system configuration files, be sure to back them up before starting the upgrade process.

- /etc/inittab
- /etc/php.ini
- /etc/httpd/conf/httpd.conf
- /etc/snmp/snmpd.conf
- /etc/snmp/snmpd.options

Upgrade the Prerequisites Files

Use this procedure to upgrade the prerequisites file. If you are upgrading from Multi-Port Monitor version 2.1 or 2.2, you cannot directly upgrade the prerequisites file to version 10.0 or 10.1. If you have Multi-Port Monitor:

Version 10.0

Upgrade the prerequisites file to 10.1.

Version 9.2

Upgrade the prerequisites file to 10.0, and then to 10.1.

Version 2.2

Upgrade the prerequisites file to 9.2, then to 10.0, and then to 10.1.

Version 2.1

Upgrade the prerequisites file to 2.2, then to 9.2, then to 10.0, and then to 10.1.

Follow these steps:

1. Log in to the web interface as a user with administrative permissions.
2. Click **Administration, Maintenance, Database Status**.
3. Click the **Stop** link for the database.
When the database stops, you are ready to upgrade the prerequisites file.
4. Click **Administration, Upgrade** in the web interface.
5. **If you are upgrading a version 2.1 prerequisites file**, upgrade the prerequisites file to version 2.2.
 - a. Click **Browse** and navigate to the location where you saved the upgrade files.
 - b. Select MTP-prereqs-2.2.xxxxxx.image.
 - c. Click **Open**.
 - d. Click **Upgrade**.

Multi-Port Monitor validates the file format and then begins the upgrade. Messages indicate the progress of the upgrade.

 - Do not navigate away from the page.
 - When upgrade is complete, a confirmation message appears. If a confirmation message does not appear, contact [CA Technical Support](#).
6. **If you are upgrading a version 2.2 prerequisites file**, upgrade the prerequisites file to version 9.2.
 - a. Click **Browse** and navigate to the location where you saved the upgrade files.
 - b. Select MTP-prereqs-9.2.xxxxxx.image.

- c. Click **Open**.
- d. Click **Upgrade**.

Multi-Port Monitor validates the file format and then begins the upgrade. Messages indicate the progress of the upgrade.

- Do not navigate away from the page.
- When upgrade is complete, a confirmation message appears. If a confirmation message does not appear, contact [CA Technical Support](#).

7. **If you are upgrading a version 9.2 prerequisites file**, upgrade the prerequisites file to version 10.0.

- a. Click **Browse** and navigate to the location where you saved the upgrade files.
- b. Select MTP-prereqs-10.0.xxxxxx.image.
- c. Click **Open**.
- d. Click **Upgrade**.

Multi-Port Monitor validates the file format and then begins the upgrade. Messages indicate the progress of the upgrade.

- Do not navigate away from the page.
- When upgrade is complete, a confirmation message appears. If a confirmation message does not appear, contact [CA Technical Support](#).

8. **If you are upgrading a version 10.0 prerequisites file**, upgrade the prerequisites file to version 10.1.

- a. Click **Browse** and navigate to the location where you saved the upgrade files.
- b. Select MTP-prereqs-10.1.xxxxxx.image.
- c. Click **Open**.
- d. Click **Upgrade**.

Multi-Port Monitor validates the file format and then begins the upgrade. Messages indicate the progress of the upgrade.

- Do not navigate away from the page.
- When upgrade is complete, a confirmation message appears. If a confirmation message does not appear, contact [CA Technical Support](#).

Upgrade the Multi-Port Monitor Software

To upgrade the Multi-Port Monitor software to version 10.1, you must be running version 10.0. If you are running a version prior to 10.0, follow the steps below to upgrade to version 10.0 *before* upgrading to version 10.1.

The MTP version 10.0 upgrade process updates the Vertica database schema. In order for the database schema upgrade to occur, you must upgrade from older versions to version 10.0 *before* upgrading to MTP version 10.1. The MTP 10.1 upgrade installer does not update the database schema.

Upgrade to version 10.1 from version 10.0:

Important! The Multi-Port Monitor does not monitor traffic during the upgrade of the Multi-Port Monitor software.

Follow these steps:

1. Start the installer program.
 - a. Click **Administration, Upgrade** in the web interface.
 - b. Click **Browse** and navigate to the location where you extracted the setup files.
 - c. Select MTP-10.1.0.xxxx-release.image.
 - d. Click **Open**.
 - e. Click **Upgrade**.

Multi-Port Monitor uploads the software, validates the file format, and then begins the upgrade. Messages indicate its progress.

Notes:

- Do not navigate away from the Upgrade page until after the software upload completes.
- When the upgrade process restarts Apache, a 404 (Page Cannot Be Displayed) error may appear. Refresh your web browser to return to the Upgrade page.

Upgrade to version 10.0 from prior versions:

Use this procedure to upgrade the Multi-Port Monitor software directly from version 2.1, 2.2, or 9.2 to version 10.0. It is not necessary, for example, to upgrade the software from version 2.2 to version 9.2, and then from version 9.2 to version 10.0.

Important! The Multi-Port Monitor does not monitor traffic during the upgrade of the Multi-Port Monitor software.

Follow these steps:

1. Start the installer program.

- a. Click **Administration, Upgrade** in the web interface.
- b. Click **Browse** and navigate to the location where you extracted the setup files.
- c. Select MTP-10.0.0.xxxx-release.image.
- d. Click **Open**.
- e. Click **Upgrade**.

Multi-Port Monitor uploads the software, validates the file format, and then begins the database schema upgrade. Messages indicate its progress.

Notes:

- Do not navigate away from the Upgrade page until after the software upload completes.
- When the upgrade process restarts Apache, a 404 (Page Cannot Be Displayed) error may appear. Refresh your web browser to return to the Upgrade page.

2. View the status of the database schema upgrade.

The Upgrade page displays a "Upgrade complete" message when the database schema upgrade completes successfully. If a confirmation message does not appear, contact [CA Technical Support](#).

After the database schema upgrade completes, data migration begins automatically and runs in the background.

Note: If the Analysis page does not display data after the database schema upgrade completes, clear the browser cache and then close the browser program. Restart the browser and log in to the web interface to view the Analysis page.

3. View the status of the data migration.

- a. Click **Administration, System Status**.
- b. Under Database Status, the Database Status for the Metrics database is UP, and a message indicates that the data migration is in progress or failed.

When the migration completes, the migration status is no longer displayed. If the data migration fails, contact [CA Technical Support](#).

4. (Recommended) Stop the **nqcapd** process. Stopping the **nqcapd** process stops packet collection. The resulting reduced load on the appliance also reduces the amount of time required for the upgrade and data migration to complete.

- a. Click **Administration, Processes** in the web interface.
- b. Locate the **nqcapd** process in the list of processes and click **Stop**.

5. Verify the data migration completed successfully.

- a. Click **Administration, System Logs**.
- b. Choose the **upgrade_projections_YYYYMMDD.log** file
- c. Click **View last entries**.
- d. The following log entries indicate the data migration completed successfully:

```
13:00:02 Vertica DB Projection Refresh: In progress
13:15:04 Vertica Projection Refresh : ipmetrics_fact_des1 drop complete.
13:15:04 Vertica Projection Refresh : DB capture complete.
13:15:04 Removed crontab job to monitor Vertica projection refreshes.
```

Note: The `upgrade_projections_YYYYMMDD.log` file is located in `/opt/NetQoS/logs/upgrade`.

6. You are ready to upgrade the operating system to CentOS 5.9 for MTP version 10.0, or CentOS 5.11 for MTP version 10.1.

After the software upgrade completes:

- Data monitoring resumes. We recommend performing the upgrade in a maintenance window where the load on the Multi-Port Monitor is lower or ideally, normal operations are shut down.
- If you are upgrading to version 10.0, existing data is migrated to the new Vertica database schema introduced in version 10.0. This post-upgrade data migration task will complete more quickly with a lowered load on the Multi-Port Monitor. To complete in a reasonable time, no more than 5 billion database rows are migrated:
 - Daily partitions above this limit will be purged oldest to newest until the database is below 5 billion rows.
 - On a Multi-Port Monitor with a typical processing load, data migration should complete in no more than 8-16 hours. With a heavy processing load, data migration should complete within 24 hours.

The Multi-Port Monitor upgrade process replaces the SNMP configuration file, `/etc/snmp/snmpd.conf`, on the Multi-Port Monitor. If you previously modified this file, for example, to change the community string to which the Multi-Port Monitor sends SNMP trap messages, you must manually restore your changes after the upgrade.

Upgrade the Operating System

If you are upgrading from MTP version 10.0, you are ready to upgrade to CentOS 5.11 for MTP version 10.1.

Follow these steps to upgrade to CentOS 5.11 for MTP 10.1:

1. Click **Administration, Upgrade** in the web interface.
2. Click **Browse** and navigate to the location where you saved the upgrade files.
3. Select `MTP-10.1.xxxxxxx-CentOS_5.11-upgrade.tgz`.

The `MTP-10.1.xxxxxxx-CentOS_5.11-upgrade.tgz` file is large. Uploading it to the Multi-Port Monitor appliance can take a long time.

4. Click **Open**.
5. Click **Upgrade**.

Multi-Port Monitor validates the file format and then begins the upgrade. Messages indicate the progress of the upgrade.

Notes:

- Do not navigate away from the upgrade page.
- When upgrade is complete, the upgrade process restarts the Multi-Port Monitor appliance.

If you are upgrading from an MTP version prior to 10.0, use this procedure to upgrade the appliance operating system to CentOS 5.9 first, then upgrade to CentOS 5.11. If you are upgrading from Multi-Port Monitor version 2.1, 2.2, or 9.2, upgrade directly to CentOS 5.9, then upgrade to CentOS 5.11 which is required for MTP 10.1.

Important! The Multi-Port Monitor does not monitor traffic during the upgrade of the operating system.

Follow these steps to upgrade to CentOS 5.9 (prerequisite for CentOS 5.11):

1. Click **Administration, Upgrade** in the web interface.
2. Click **Browse** and navigate to the location where you saved the upgrade files.
3. Select MTP-10.0.xxxxxxx-CentOS_5.9-upgrade.tgz.
The MTP-10.0.xxxxxxx-CentOS_5.9-upgrade.tgz file is large. Uploading it to the Multi-Port Monitor appliance can take a long time.
4. Click **Open**.
5. Click **Upgrade**.

Multi-Port Monitor validates the file format and then begins the upgrade. Messages indicate the progress of the upgrade.

Notes:

- Do not navigate away from the upgrade page.
- When upgrade is complete, the upgrade process restarts the Multi-Port Monitor appliance.

Verify a Successful Upgrade

Take the following steps to verify that the upgrade process was successful.

Follow these steps:

1. Open the web browser and clear the web browser cache:
 - a. Click Tools, Delete Browsing History.
 - b. Select the following options:
 - Preserve Favorites website data
 - Temporary Internet files
 - Cookies
 - History
 - c. Click Delete.
2. Close the web browser.
3. Open the web browser again and navigate to the Multi-Port Monitor web interface.
4. Log in.

When upgrade is successful, new data appears on the Analysis page within 30 minutes.

Note: If upgrade is not successful, contact [CA Technical Support](#).