

# Technical Note

## Firmware Update Instructions for Micron® Client SSDs

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### Introduction

This document describes how end users may perform firmware updates on Micron's client SSDs installed in personal computing environments, which are referred to in this document as host systems. Three methods can be used to perform firmware updates and they are listed according to how easy they are to perform.

**Method 1: Online Update Using Micron's Storage Executive Software (Preferred)** – Storage Executive software will check for firmware updates online when the program is executed and inform the user when an update is available. Users can view the firmware change list and choose to perform an update using the Storage Executive graphical user interface.

**Method 2: Manual Update Using Micron's Storage Executive Software** – Users may perform updates offline using a previously downloaded update package and Micron's Storage Executive software. Storage Executive verifies that the target package is applicable before performing the update.

**Method 3: Bootable ISO Image Provided by Micron** – A bootable ISO file can be used to perform firmware updates without installing Storage Executive on a host system. This method requires users to load the provided image on a piece of bootable media such as a CD-R or USB flash drive and then use that to boot their system and perform the update.

With each of the above methods, the final steps of the update are performed inside a secure boot environment on the host system, which re-checks the applicability and integrity of the update materials before and during the download. The update is performed on every applicable SSD in the host system.

It is recommended that a stable power source be used while using any of the three methods described in this tech note, and that a full system backup be performed prior to using any of the methods. Although drive loss or corruption caused by an interrupted update is exceedingly rare, the update is performed at the user's own risk.

### Method 1: Online – Using Micron's Storage Executive

This method requires users to install Micron's Storage Executive software. This method also requires that the host system have Internet access and a connection between the Storage Executive software and the Micron server.

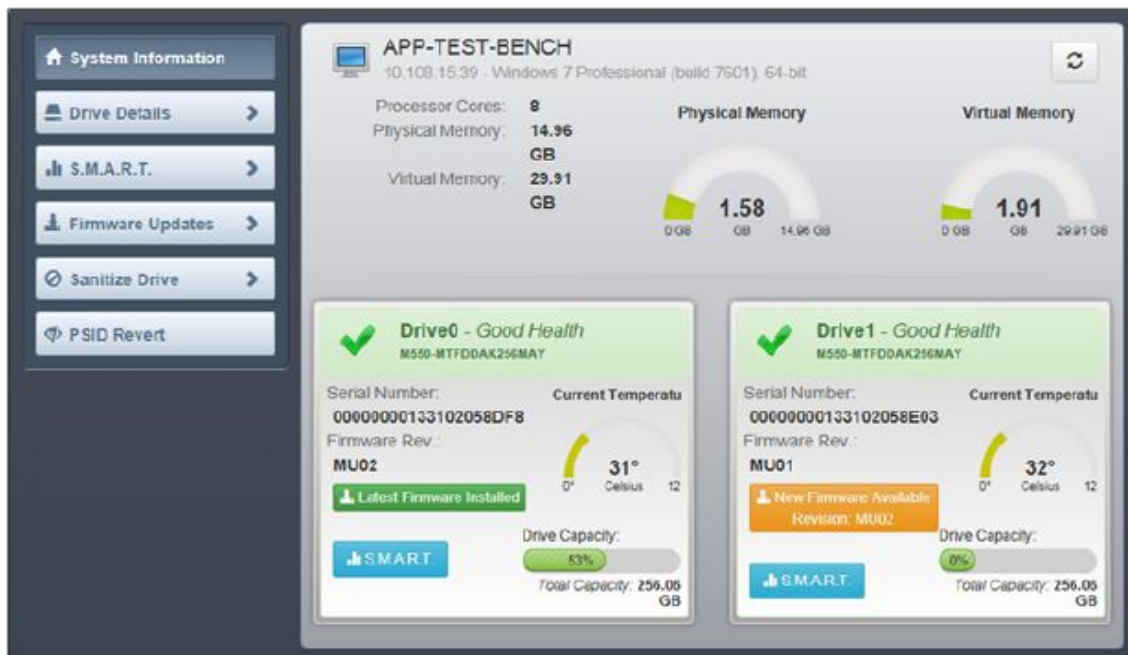
If the host system is connected to the Internet through a network proxy, Storage Executive will attempt to connect using the system network proxy settings. In the event that Storage Executive is unable to connect through the network proxy, refer to Micron's [Storage Executive User's Guide](#) for more information.

#### Step 1: Start Storage Executive

- In Windows 7 or earlier, open the Start menu and click All Programs > Storage Executive > Storage Executive Client.
- In Windows 8, type Storage Executive Client and click on the Micron Storage Executive application.
- In Linux, open a terminal and navigate to /opt/MicronTechnology/StorageExecutive and run the command ./StorageExecutiveClient.run

When Storage Executive starts, the System Information Screen will appear in your default browser, and Drive Status will indicate the availability of firmware updates for each of the Micron SSDs in the host system, as shown below.

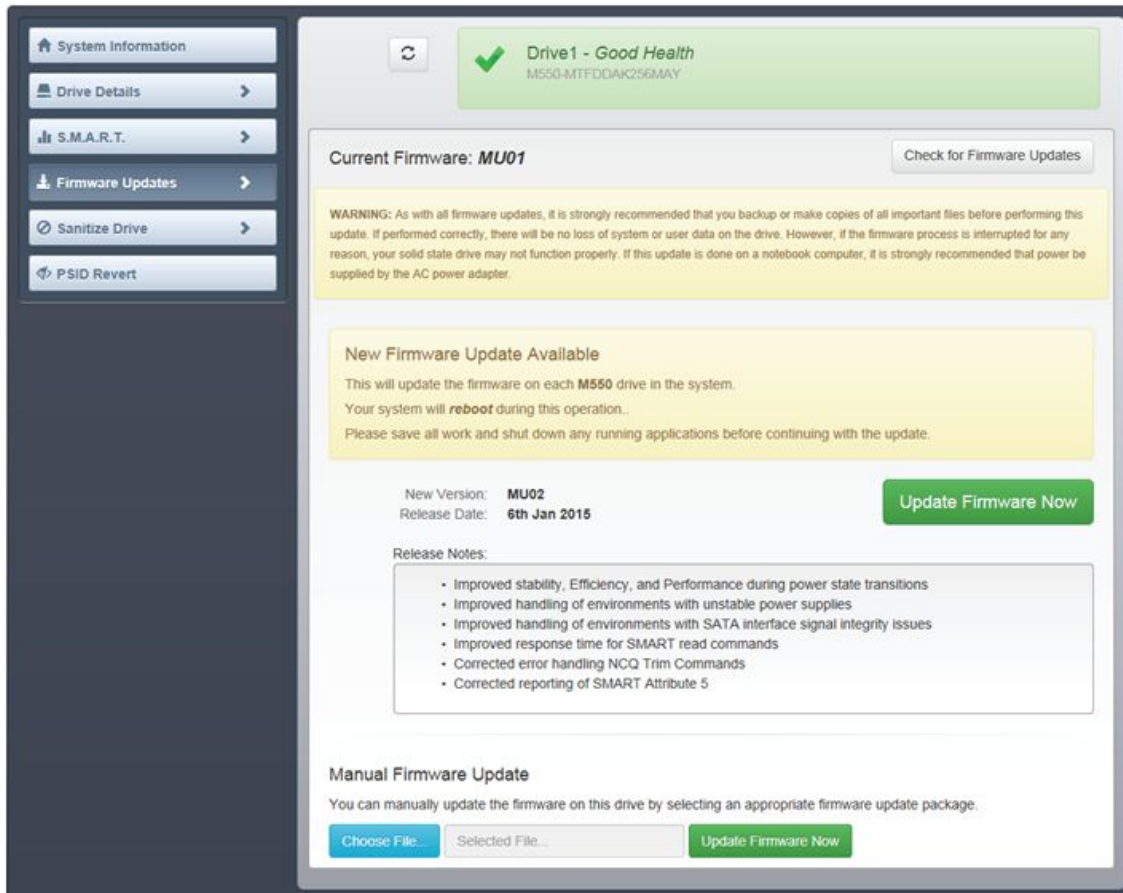
Figure 1: Online Update – System Information Screen



## Step 2: Select an Update to Perform

Select an update either by clicking on the orange update button for a particular drive or by clicking the Firmware Updates tab on the left and choosing a drive to update. Once a firmware update is selected, information concerning the update will be displayed, as shown below.

**Figure 2: Online Update – Firmware Updates Screen**



## Step 3: Perform the Update

Before performing a firmware update, keep in mind:

- Save files and close other programs before performing the update.
- The update will be performed on every compatible drive on the host system.
- The system will reboot into the Storage Executive environment when performing the update.
- After the update is complete, the system will automatically reboot into the normal operating environment.

Information on the firmware version, the release date, and the release notes will display on the screen. After reviewing them, click Update Firmware Now.

## Method 2: Manual – Using Micron's Storage Executive

This method requires users to install Micron's Storage Executive software. Although this method may be used on a host system without an Internet connection, the initial download of the correct firmware update package does require an Internet connection. Information about Storage Executive, including a user's guide and a download link, can be found on [our web site](#).

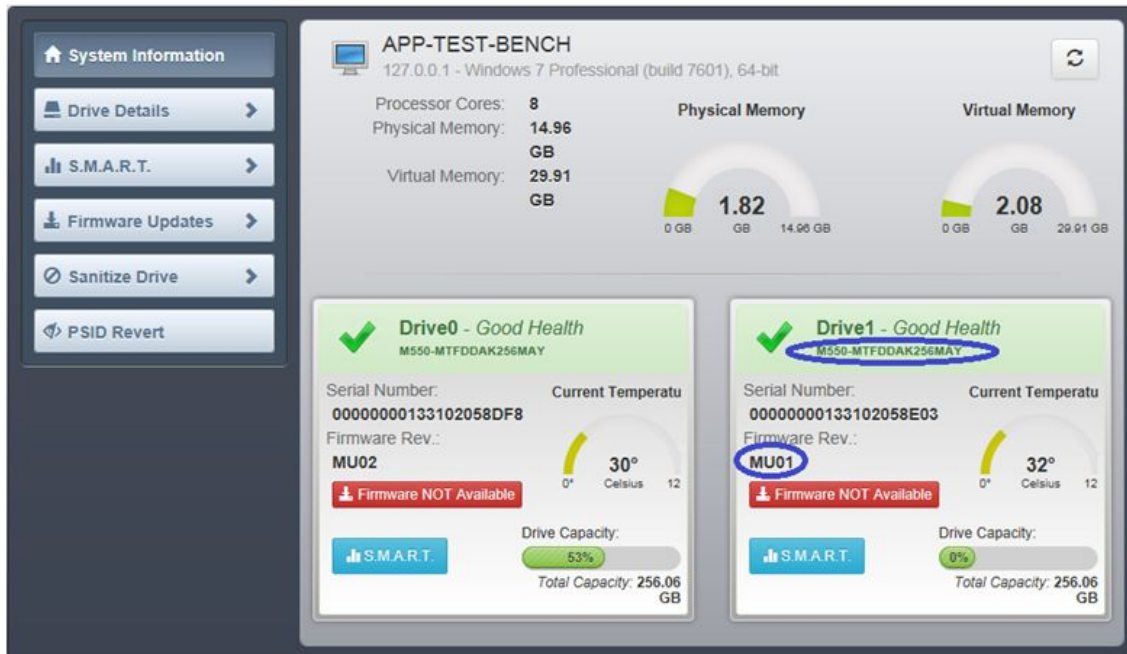
### Step 1: Start Storage Executive on the Host System

Start Storage Executive on the host system as described in Method 1, Step 1.

### Step 2: Identify Drive Model and Current Firmware

In Storage Executive, click on System Information. In the System Information example below, we can tell that Drive1 is an M550 and that MU01 is the current firmware revision. Drive0 is also an M550, but MU02 is already loaded. Assuming that MU02 is the most recent firmware for the M550 drive, Drive1 should be updated, but Drive0 should not unless a later version is available. This information will be used to download the correct firmware update package in Step 3.

Figure 3: Manual Update – System Information Screen



### Step 3: Download the Correct Firmware Package From [micron.com](#)

On a system with a working Internet connection, navigate to [our web site](#) to find firmware update packages.

Search for a manual update package that matches the first several characters of your drive model. There may be multiple packages that match the drive model. When this

happens, choose the package that is most recent and most similar in format to the firmware revision currently on the drive. In the example above, MU01 was already loaded on an M550 drive, so an M550 firmware update package for MU02 or MU03 would be appropriate.

In some cases multiple firmware types exist for the same product line, which may not be compatible. In these cases, the firmware revisions will be distinct from each other. For example, the standard M550, which supports the self-encrypting drive (SED) feature, would require standard firmware (i.e., MU01 or MU02) and a non-SED version would require non-SED firmware (i.e., MUN1 or MUN2).

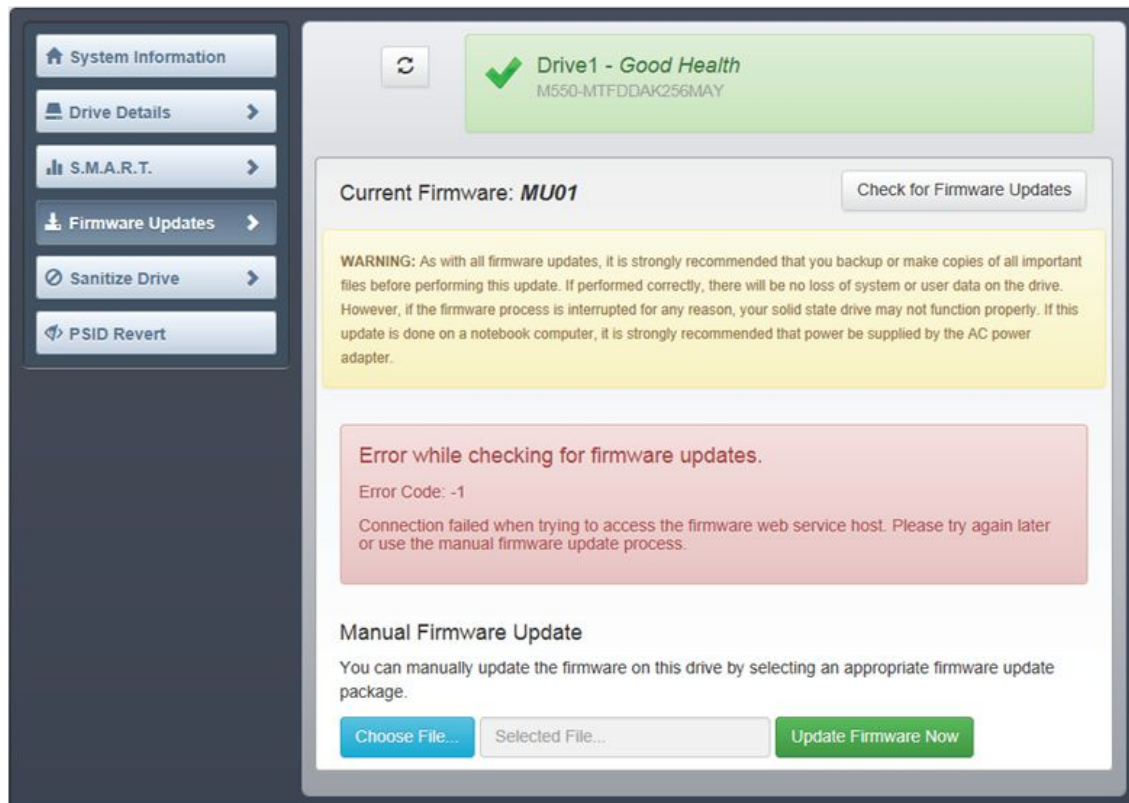
Once the appropriate firmware update package has been downloaded, copy it to the host system that contains the drive to be downloaded.

### Step 4: Perform the Update

Restart Storage Executive on the host system if necessary; click on the Firmware Update tab on the right and select the drive identified in Step 2. A screen similar to the one shown below will be displayed.

Click on the Choose File button, browse to and select the firmware update .zip file from Step 3. Unlike the online method, information specific to the firmware revision will not be displayed.

**Figure 4: Manual Update – Firmware Updates Screen**





## **TN-FD-30: Firmware Update Instructions for Client SSDs Method 2: Manual – Using Micron's Storage Executive**

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Before performing a firmware update, keep in mind:

- Save files and close other programs before performing the update.
- The update will be performed on every compatible drive on the host system.
- The system will reboot into the Storage Executive environment when performing the update.
- After the update is complete, the system will automatically reboot into the normal operating environment.

If the update package from Step 3 is compatible with the selected drive, the system will reboot into the Storage Executive environment and perform the update after you click Update Firmware Now. If the update package is not compatible, Storage Executive will display an appropriate error message and will not reboot.

## Method 3: Bootable ISO Image Provided by Micron

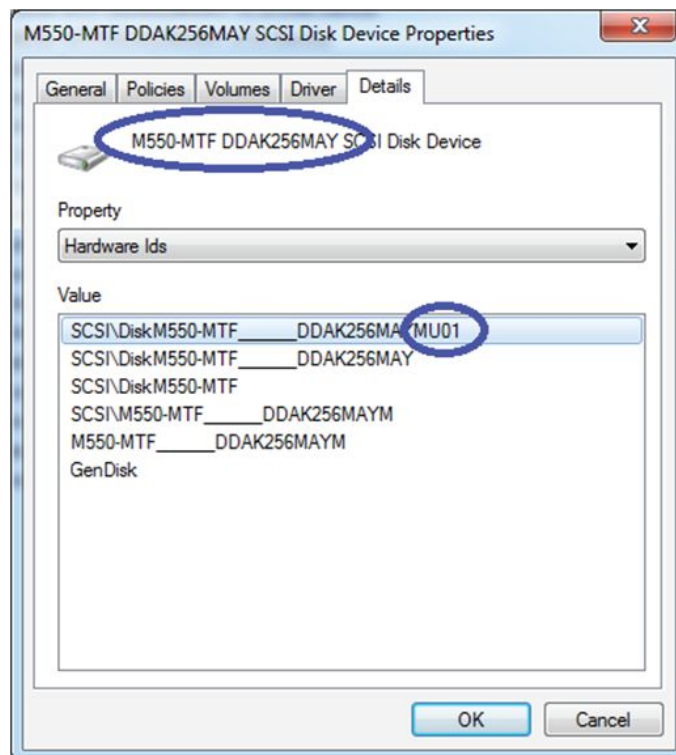
This method does not require Storage Executive software or a working Internet connection on the host system to perform; however, it is a more complicated and error-prone method compared to the other two since the process for determining applicable updates, booting into the update environment, and verifying that the update was successful are more complicated without Storage Executive.

### Step 1: Identify Drive Model and Current Firmware

This can often be performed using system configuration utilities installed on the operating system. The following steps can be taken in Windows 7:

- Click the Windows Start button and select Computer.
- Right-click the disk icon that represents your drive and select Properties.
- Select the Hardware tab.
- The All Disk Drives list shows all physical drives in the system. Highlight the appropriate drive and click Properties. Note there may be multiple entries in the list, and each entry may appear as an ATA device or a SCSI device depending on which drivers are installed in the system.
- In the Details tab, select the Property Hardware IDs and you will see a screen similar to the one below. Our example shows the drive model and current firmware revision circled. Note that the format of the information shown below may change depending on whether the drive appeared as an ATA device or a SCSI device.

Figure 5: Windows 7 Example



### Step 2: Download Appropriate ISO Image From [micron.com](http://micron.com)

On a system with a working Internet connection, navigate to [our web site](#) to find the appropriate firmware update packages.

Search for a firmware update ISO image that matches the first several characters of the drive model. There may be multiple packages that match the drive model. If this is the case, choose the most recent ISO that is similar in format to the firmware revision currently on the drive. In the example above, MU01 was loaded on an M550 drive, so an M550 firmware update package for MU02 or MU03 would be appropriate.

In some cases multiple firmware types exist for the same product line, which may not be compatible. In these cases, the firmware revisions will be distinct from each other. For example, the standard M550, which supports the self-encrypting drive (SED) feature, would require standard firmware (i.e., MU01 or MU02) and a non-SED version would require non-SED firmware (i.e., MUN1 or MUN2).

Ensure the correct ISO image has been downloaded before proceeding to Step 3.

### Step 3: Create Bootable Media With ISO

This step may be performed using a CD burner and a CD-R, or by creating a bootable USB drive. Select the option that makes the most sense based on the connectivity of the host system.

#### Option 1: Burn a Bootable CD

1. This step may be performed by burning the ISO image on a CD-R or CD-RW. To do this in Windows, place an unused CD-R into a CD-R capable optical drive, then right-click on the downloaded ISO file and select Burn Disk Image. Selecting the slowest burn speed is generally advised to ensure proper recording.

#### Option 2: Create a Bootable USB Drive

1. Start with an empty, newly formatted USB.
2. Open a USB installer program. If you do not have a USB installer program, you may install a USB installer program such as [the Universal USB Installer](#), which is available for free.
3. Using the Universal USB installer:
  - Select Try Unlisted Linux ISO from the Step 1 drop-down box.
  - Browse for the firmware ISO previously downloaded.
  - Create the bootable USB with the Format Drive option selected.

Shut down the host system with the newly created bootable media attached.

### Step 4: Boot Into the Created Media to Perform the Update

This step may first require disabling drive passwords or changing the boot order using the host system's BIOS or UEFI configuration utility. Consult the host system's owner's manual to perform these actions.

When the system is booted from the bootable media created using the ISO, the update will be performed on all compatible drives on the host system.

The user is informed of the progress of the update through text displayed on the screen similar to what is shown below.



**Figure 6: Bootable Update – Progress Screen**

```
Micron Storage Ececutive
Loading .../

Upgrading drive /dev/sda [Serial No. 00000000133102058E03] from firmware
MU01 to MU02
.....

Device Name       : /dev/sda
Firmware Update  on /dev/sda Succeeded!
CMD_STATUS       : Success
STATUS_CODE      : 0

Device /dev/sdb is up to date!
Your system will now return to normal operation following a reboot
```

### **Step 5: Remove the Bootable Media and Reboot**

To prevent the host system from booting into the ISO again, remove the bootable media from the host system. The host system should then function normally following a reboot.



## **Revision History**

### **Rev. A – 01/15**

- Initial release

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