TPM firmware version 1.2 to version 2.0 upgrade instructions for Wyse 7040 thin client

New releases are created to support new hardware platforms, correct defects, make enhancements, or add new features. These releases are tested and supported on current, actively shipping hardware platforms, and those hardware platforms that are within their first year after their official End-of-Life date, as applicable. After the one year time period, new software releases are no longer certified for use with the earlier version of the hardware, even though it is possible that they may still work. This allows us to advance our product with features and functions that might not have been supported by the previous hardware, with previous generation CPUs and supporting components.

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Purpose/Background

Change or upgrade from an existing operating system to a newer operating system requires an update to Trusted Platform Module (TPM).

ⓘ **NOTE: For more information about Trusted Platform Technology, go to Dell TechCenter Client TPM WIKI.**

Pre-requisites

TPM upgrade is required for select Dell systems, if the operating system that runs on the system is upgraded to Windows 10 IoT Enterprise.
• Windows Embedded Standard 7P systems require TPM firmware version 1.2
• Windows 10 Enterprise systems can use either TPM firmware version 1.2 or 2.0

Supported platforms

Wyse 7040 thin client supports TPM upgrade.

Requirements

ⓘ **NOTE: While performing TPM upgrade, make sure that you do not turn off the power and then turn on again. Any power disruption that occurs may damage the TPM module during upgrade. If disruption occurs, then the data in hard drive cannot be accessible and system is not usable.**

Systems that shipped with Windows Embedded standard 7P OS from the factory has TPM firmware 1.2. Such systems require Dell TPM 2.0 Update Utility to upgrade the TPM firmware version to version 2.0.

For more information about upgrade instructions for the update utility, see the Upgrade instructions section.

Upgrade instructions

Use the Dell TPM Update Utility for Windows/ DOS to perform the TPM upgrade.

To update the TPM firmware version 1.2 to version 2.0, do the following:

1   Go to Dell TPM 2.0 Update Utility, and download the TPM upgrade utility application file.
2   When the **File Download** window is displayed, click **Save** to save the file to your USB mass storage device.
3   Disable Unified Write Filter (UWF) on your thin client. To disable UWF, do the following:
    a   Log in as an Admin. If logged in as a User, log off and log in to the system again with the Admin credentials.
    b   On the desktop, double-click the *Dell Wyse WF Disable* icon.
        Write filter is disabled and system reboots.
    c   After reboot, log off and log in to the Admin account again because auto logon is enabled and the system automatically logs in to User mode.
    d   Double-click **Dell Thin Client Application**, navigate to **Auto logon**, and then change the default auto logon user name to Admin from User. Admin or User account referred in this scenario is the local Admin/ User account.
4   Clear the TPM owner before running the TPM update utility. To clear the TPM, do the following:
    a   If BitLocker is enabled on your system, then suspend the **BitLocker encryption** before updating the TPM on a BitLocker enabled system.
    b   The TPM must be on and enabled in BIOS setup. Ensure that the TPM is not owned. If the TPM is owned, go to BIOS setup and clear the TPM before proceeding. Run TPM.msc, if applicable, to reinitialize the TPM under Windows OS.
    c   When the TPM ownership is cleared, some operating systems automatically take ownership of the TPM in the successive boot (TPM Auto Provisioning), disable this feature in the OS to proceed with the update
5   To disable the TPM Auto Provisioning in Windows, do the following:
    a   Boot to Windows OS.
    b   Launch the **PowerShell Command** window in Admin mode.
    c   At the PowerShell command prompt, run the following command:
        Disable-TpmAutoProvisioning
    d   Confirm the following:
        AutoProvisioning: Disabled

        System reboot is required.
    e   Press the F2 Key when rebooting the system to access the BIOS setup.
    f   Go to **Security** > **TPM 1.2 Security**.
    g   To clear the TPM settings, click the **Clear** check box and select **Yes** at the prompt. Skip this step, if the item is disabled.
    h   To save changes, click **Exit**.
    i   Reboot system to Windows.
    j   Make sure the TPM is not owned. Windows should not provision TPM anymore.
    k   Browse to the location where you have downloaded the file, and then double-click the new file.
        Windows system automatically restarts and update the TPM during the system startup. When the TPM update is complete, the system auto reboots to take effect.
    l   To re-enable the auto provisioning, launch the **PowerShell command** window in Admin mode, and run the following command:
        Enable-TpmAutoProvisioning.
    m   Confirm the following:
        AutoProvisioning: Enabled
6   After the TPM update is complete, re-enable the Unified Write Filter (UWF). To enable UWF again, do the following:
    a   Double-click **Dell Thin Client Application**, navigate to the **Auto logon**, and then change the default auto logon user name to User from Admin. Admin or User account referred in this scenario is the local Admin/ User account.

b   On the desktop, double-click the *Dell Wyse WF Enable* icon.

Write filter is enabled and system reboots.

System automatically logs in to user account because the auto logon is enabled for the User account on the system.

TPM firmware upgrade is complete, and the firmware version is upgraded from version 1.2 to version 2.0.

TPM update procedure using DOS environment

The following are the two scenarios to run TPM update utility using Disk Operating System (DOS) environment:

- Scenario 1: Legacy Boot mode
- Scenario 2: Unified Extensible Firmware Interface (UEFI) Boot mode

Scenario 1: Legacy boot mode

To run the TPM update utility from DOS environment in Legacy boot mode (Non-Windows users), do the following:

1   Copy the downloaded file to a bootable DOS USB key.
2   Power on the system.
3   Press the `F12` key and select the **USB Storage Device** option and boot to DOS.
4   Run the file by typing the copied file name where the executable is located

DOS system automatically restarts , and TPM is updated during the system startup.

When the TPM update is complete, the system automatically reboots.

Scenario 2: UEFI boot mode

To run the TPM update utility from DOS environment in UEFI boot Mode (Non-Windows users), do the following:

1   Copy the downloaded file to a bootable DOS USB key.
2   Power on the system.
3   Press the `F2` key.
4   In the BIOS setup, go to **General** > **Boot Sequence** > **Boot List Option**.
5   Change `UEFI` to `Legacy`.
6   To save the changes, click **Apply** > **Exit**.
7   Restart the system.
8   Press the `F12` Key, and select the **USB Storage Device** option and boot to DOS.
9   Run the file by typing the copied file name where the executable is located

When the TPM update is complete, the system automatically reboots.

10 Press the `F2` key to access the BIOS setup.
11 Go to **General** > **Boot Sequence** > **Boot List Option**.
12 Change `Legacy` to `UEFI`.
13 To save the changes, click **Apply** > **Exit**.
14 Restart the system.