

# Dell Pro Thunderbolt 4 Smart Dock SD25TB4

## Administrator's Guide

## Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

|                                                                                                                                |           |
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# Introduction

This guide is for IT professionals and engineers to get more information about the following technical topics:

- Step-by-step stand-alone Dock Firmware Update (DFU) and driver update utilities.
- Using Dell Command | Update (DCU) for driver download.
- Dock asset management locally and remotely through Dell Command | Monitor (DCM) and System Center Configuration Manager (SCCM).

# Dell docking station firmware update

## About this task

**NOTE:** Dell Docking stations are supported with select Dell computers. See the [Dell Commercial Docking Compatibility Guide](#) for the list of supported computers and recommended docking.

## Updating the firmware

### Prerequisites

1. Ensure that your computer meets the following conditions:
  - The minimum Thunderbolt driver version is installed (applicable to Thunderbolt supported computers only).
  - The computer has more than 10% charge or is connected to AC power.
2. To install Dell Pro Thunderbolt 4 Smart dock SD25TB4 driver and firmware updates, go to [Dell Support Site](#).

### Steps

#### 1. Windows operating system:

- a. Connect the docking station to your computer.
- b. Open the Dell Firmware Update (DFU) tool as administrator.
- c. Wait for all the information to be entered in the various Graphical User Interface (GUI) panes.

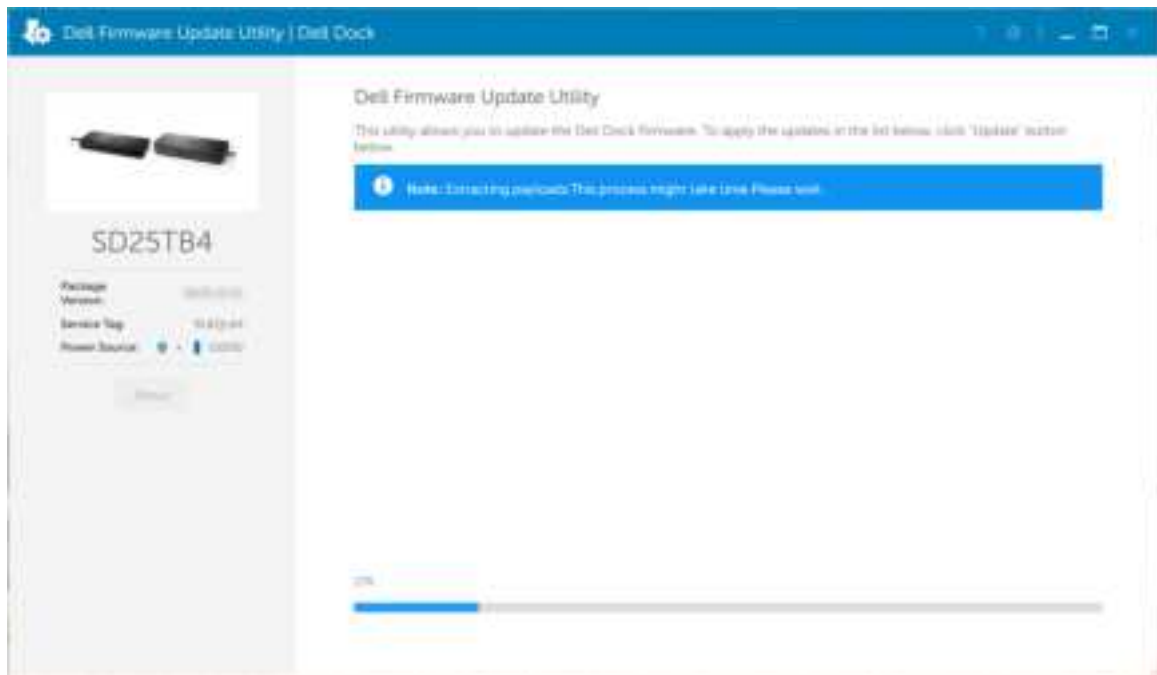
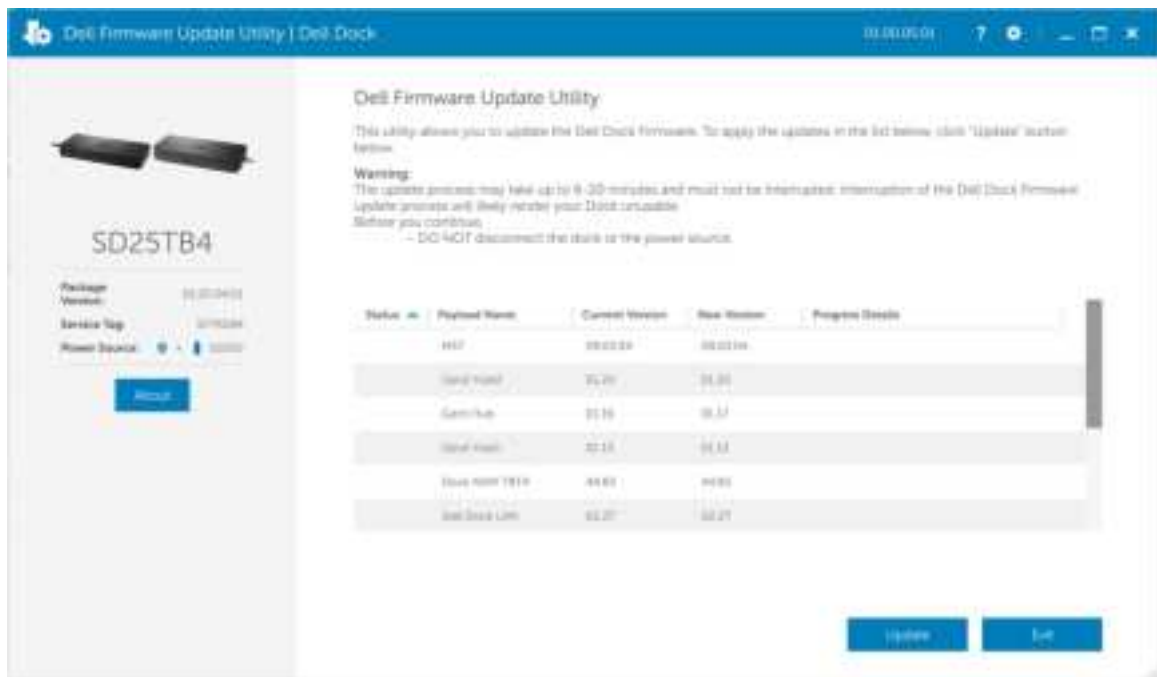


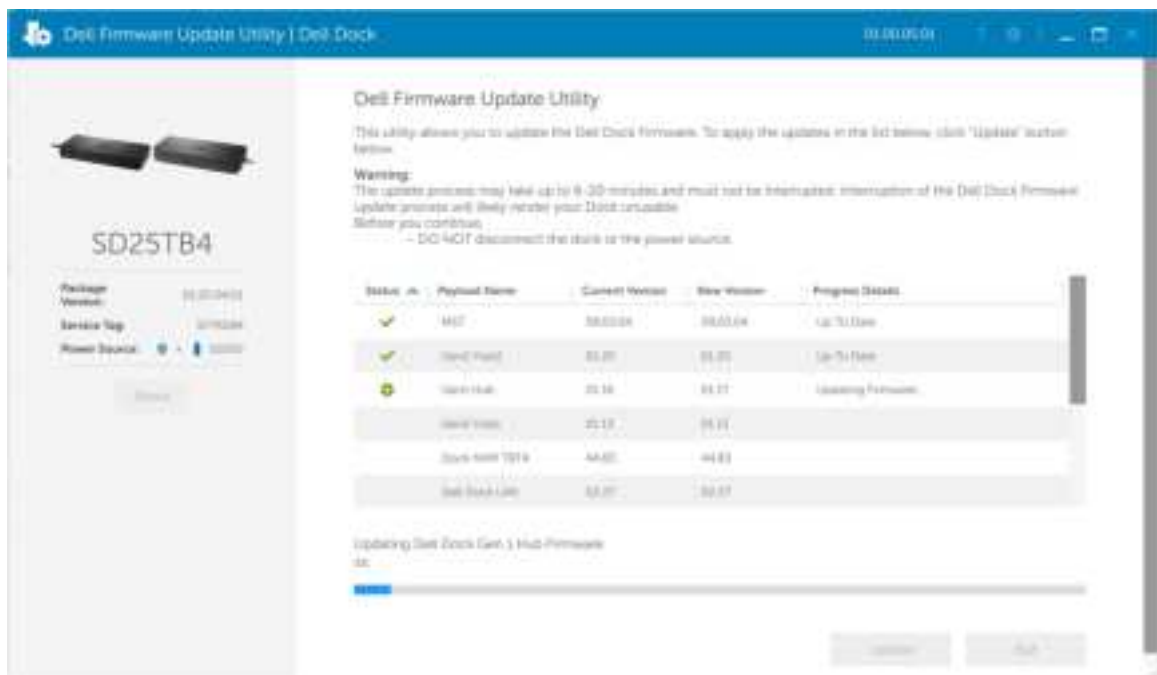
Figure 1. Wait for the information to load in the SD25TB4 DFU tool

- d. **Update** and **Exit** buttons are displayed in the bottom-right corner. Click the **Update** button to initiate the updates.



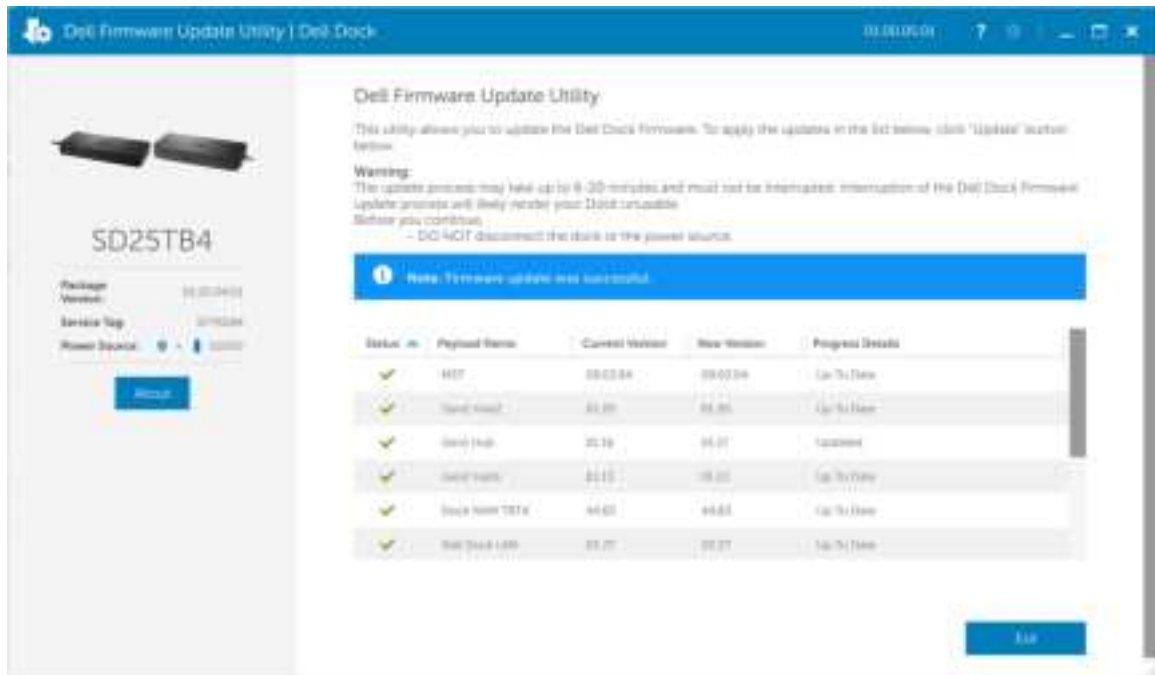
**Figure 2. Initiate the update in the SD25TB4 DFU tool**

- e. Wait for all the component firmware update to complete. A progress bar is displayed in the bottom.



**Figure 3. Wait for the update to complete in the SD25TB4 DFU tool**

- f. The update status is displayed above the payload information.



**Figure 4. The update status is displayed in the SD25TB4 DFU tool**

**Table 1. Command-Line Options**

| Command lines   | Function                                                |
|-----------------|---------------------------------------------------------|
| /? or /h        | Usage                                                   |
| /s              | Silent                                                  |
| /l=<filename>   | Log file                                                |
| /uod            | Initiate Update on Disconnect                           |
| /verflashexe    | Display utility version                                 |
| /componentsvers | Display current version of all dock firmware components |

2. **Linux operating system:** The firmware update has both the update tool and binary assembled in a single package. If you have fwupd 2.0.7 or later, plug in your dock and use fwupdmgr or Gnome Software to check for updates from the Linux Vendor Firmware Service (LVFS).
  - a. Download the SD25TB4 Linux update tool (DellDockFirmwarePackage\_WD25\_SD25\_Series\_XX.YY.ZZ.bin).
  - b. Open a terminal application.
  - c. Modify the permissions on the binary to make it executable.
 

```
# sudo chmod +x DellDockFirmwarePackage_WD25_SD25_Series_XX.YY.ZZ.bin
```
  - d. Run the binary with the install argument to install updated firmware.
 

```
# sudo ./DellDockFirmwarePackage_WD25_SD25_Series_XX.YY.ZZ.bin install.
```

\*Resolve any kernel dependency packages as needed.
  - e. Unplug the USB type-C cable and plug it back to the computer after one minute.
  - f. Check that the SD25TB4 firmware has been upgraded properly.
 

```
# sudo ./DellDockFirmwarePackage_WD25_SD25_Series_XX.YY.ZZ.bin get-devices
```

3. **Chrome operating system:**
  - a. SD25TB4 firmware update is distributed with the latest Enterprise Chrome book operating system release.
  - b. Check the firmware version at [System Info](#) in the browser.

# Update on Disconnect (UoD)

Download the Dell Pro Thunderbolt 4 Smart dock SD25TB4 driver and firmware update from [Dell Support Site](#). Connect the dock to the computer and open the tool as administrator.

1. Wait for all the information to be entered in the various Graphical User Interface (GUI) panes.

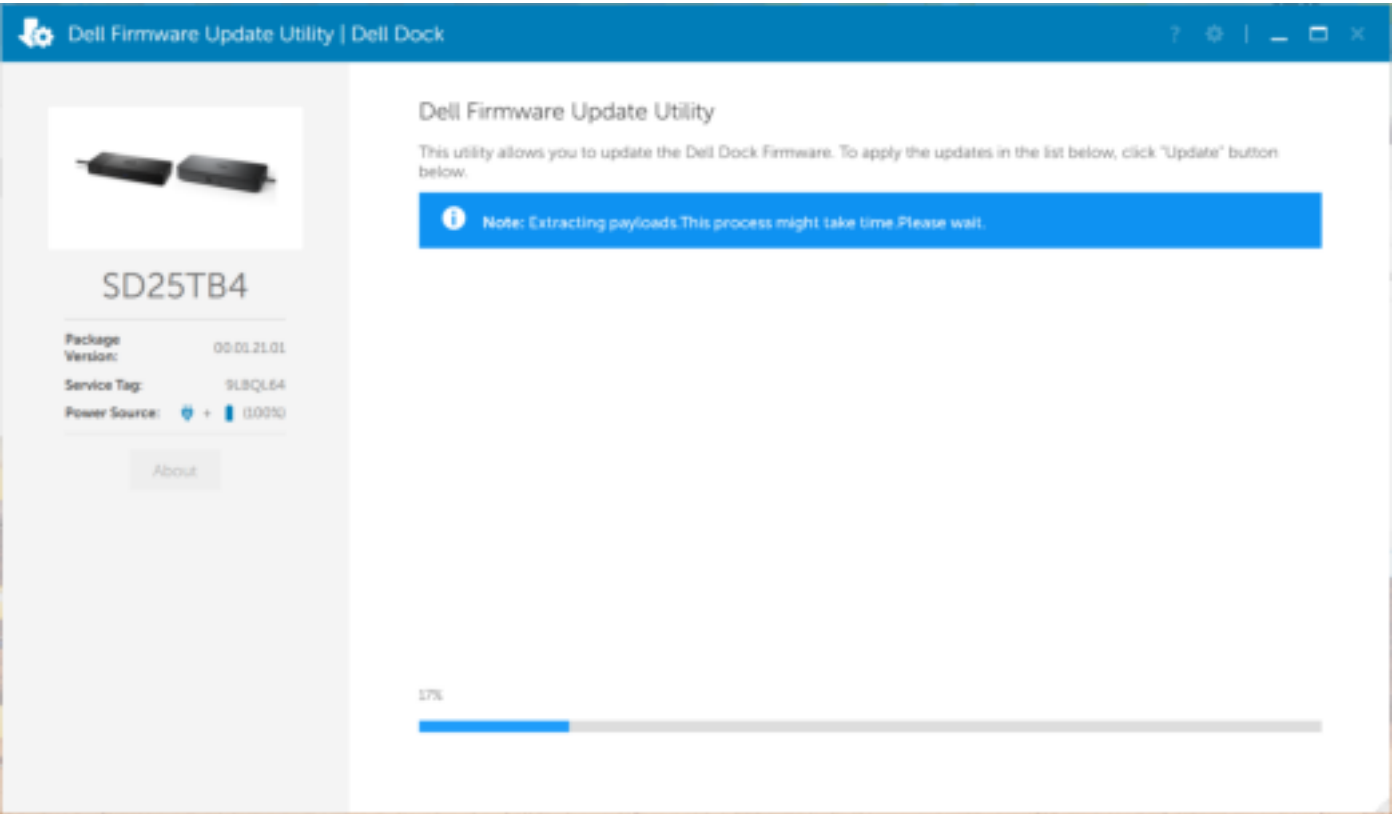


Figure 5. Wait for the information to load in the SD25TB4 DFU tool

2. Click the **Settings** icon which is displayed on the upper right corner. Enter `/uod` command and click **Ok**.

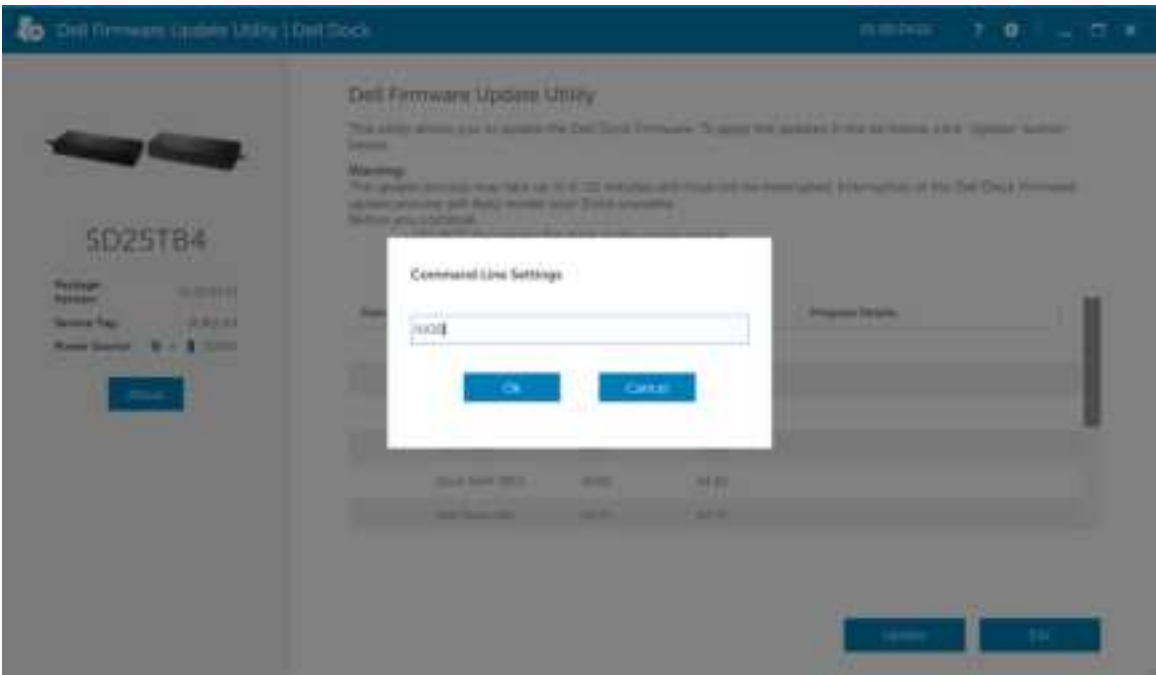
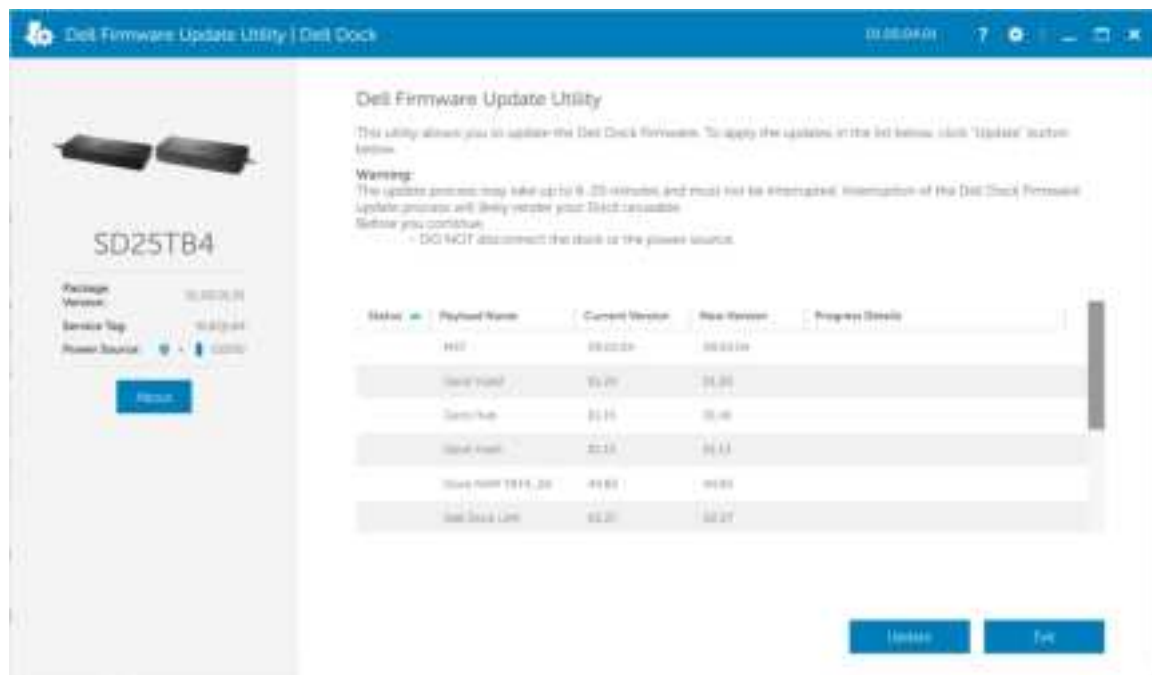


Figure 6. Update and exit in the SD25TB4 DFU tool

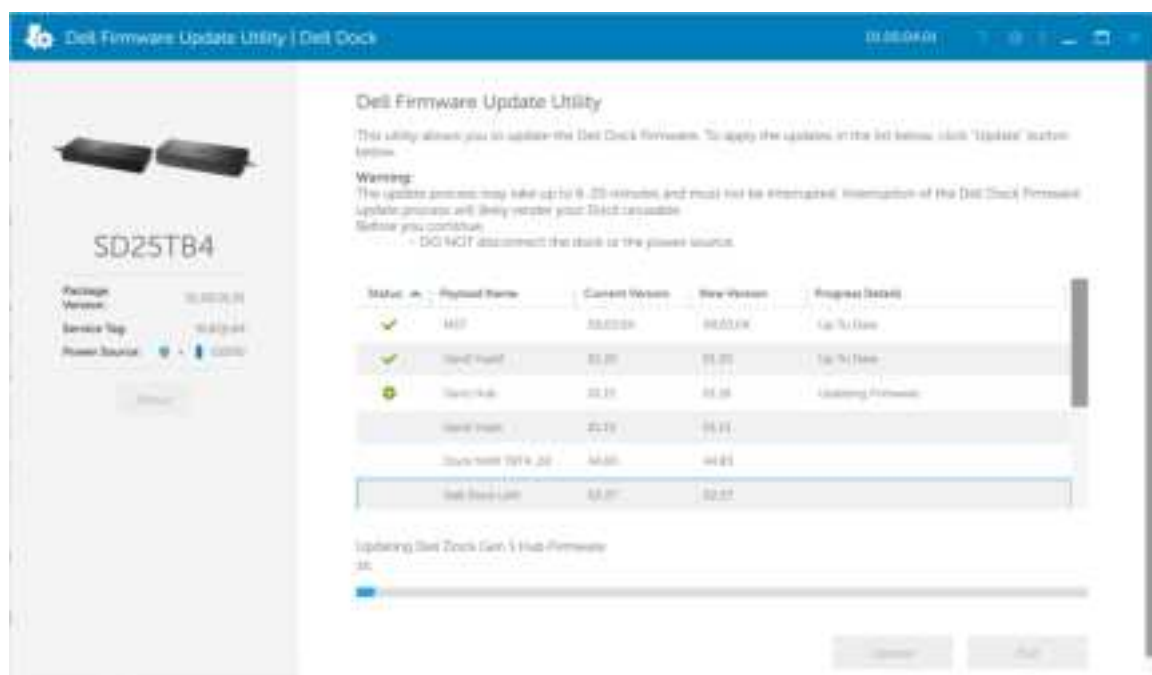
3. **Update** and **Exit** buttons are displayed in the upper-right corner. Click the **Update** button to initiate the updates.



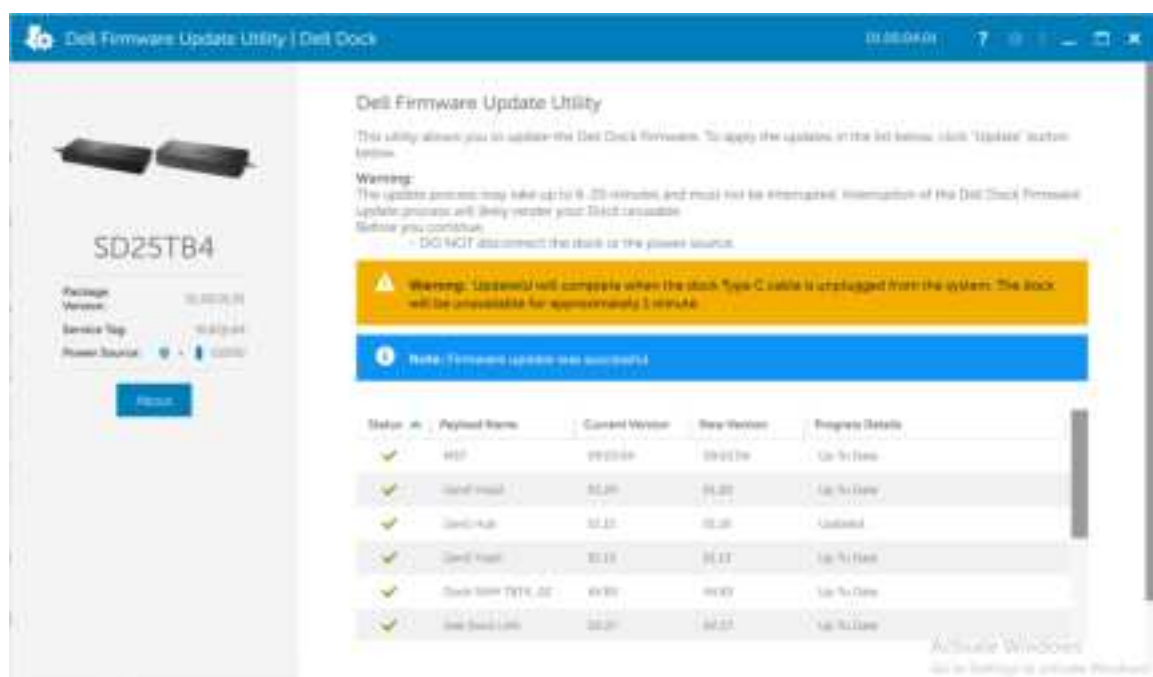
**Figure 7. Wait for all the component firmware update in the SD25TB4 DFU tool**

4. Wait for all the component firmware update to complete. A progress bar is displayed in the bottom. The MST/USB Gen1/USB Gen2 firmware is updated.

**NOTE:** Only EC/NVM (thunderbolt) supports the disconnect mode.

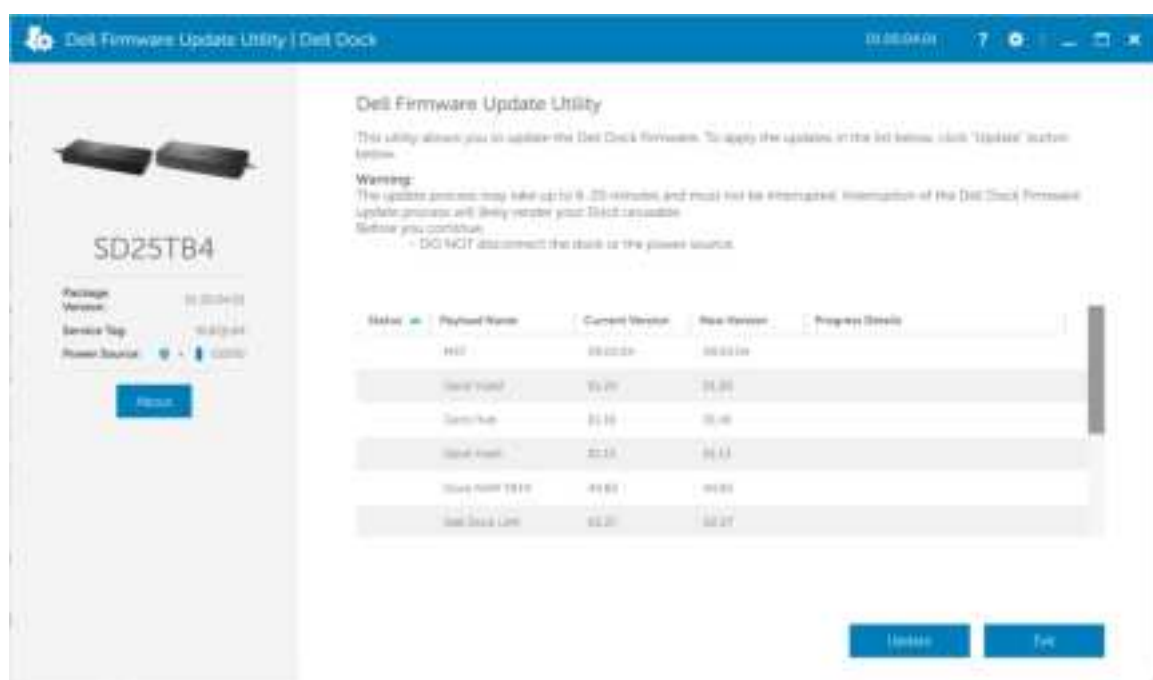


**Figure 8. The update status is displayed in the SD25TB4 DFU tool**



**Figure 9. The update status is displayed in the SD25TB4 DFU tool**

5. Disconnect the dock from the computer. The EC starts the updating process, and the process is completed in around a minute. The power button LED of the docking station flashes three times to indicate the update is completed.
6. Connect the dock to the computer, and start the tool in administrative mode. The Dell Firmware Update Utility is completed.



**Figure 10. Wait for all the component firmware update in the SD25TB4 DFU tool**

## Approximate firmware update duration

### About this task

The firmware update time duration in the following table is from a measurement running Dock Firmware Utility A02 on a Latitude 5400 with Windows Operating System. These numbers are for reference only and can vary depending on multiple factors including existing firmware and/or devices attached.

**Table 2. Approximate firmware update duration**

| Firmware      | Update duration (in seconds) |
|---------------|------------------------------|
| MST           | 15                           |
| Gen2 Hub2     | 13                           |
| Gen1 Hub      | 31                           |
| Gen2 Hub1     | 15                           |
| Dock NVM TBT4 | 82                           |
| Dell Dock LAN | 233                          |
| Dell Dock RMM | 156                          |
| Dell Dock EC  | 14                           |
| Dell Dock PD  | 28                           |

## Smart update

### About this task

EC, USB Gen1/2 Hub, MST, and Intel GR NVM are updated only if incoming version is new.

## Logging

### About this task

- Dock utility logs to the default file (/s command-line option).
  - Default log file is at CurrentDrive: \Dell\UpdatePackage\Log\exename.txt
- Optional logging can be done in any mode using /l=logfilename.txt
- Log message is useful for:
  - Debugging
  - Service
  - Component version information

## Error handling

### Error handling conditions

### About this task

**Table 3. Error handling conditions**

| Error Condition | Symptom/Scenario                                                      | Message                                                                                                                                          | CLI options                                                                                                          |
|-----------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Power Check     | If there is no AC adapter or battery that is connected on the laptop. | The AC adapter and battery must be plugged in before the dock Firmware can be updated. Press OK when they are both plugged in or CANCEL to quit. | /forceit, power check is skipped.<br><br>/s, error message is not displayed and log will have proper error messages. |
|                 | If the battery level is less than 10% on the laptop.                  | The battery must be charged above 10% before the Dock Firmware can be updated.                                                                   |                                                                                                                      |

**Table 3. Error handling conditions (continued)**

| Error Condition                                                               | Symptom/Scenario                                                                                                                                                                                                                                                                                                  | Message                                                                                                                                                                                                                               | CLI options                                                                |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
|                                                                               |                                                                                                                                                                                                                                                                                                                   | Press OK when the battery is charged or CANCEL to quit.                                                                                                                                                                               |                                                                            |
| Dock Detection                                                                | Dock is not connected or detected.                                                                                                                                                                                                                                                                                | No dock attached. This firmware update utility only works with a single dock attached.                                                                                                                                                | /s, error message is not displayed, and the log has proper error messages. |
|                                                                               | Multiple docks that are connected to the computer.                                                                                                                                                                                                                                                                | Too many docks are attached. This update utility only works when a single dock is attached. Only connect a single dock and restart the update utility to download the latest version and update the driver. Then, rerun this utility. |                                                                            |
| TBT driver not detected (applicable for Thunderbolt supported computers only) | The utility returns fail. It also displays the following error message in nonsilent mode.                                                                                                                                                                                                                         | The Dock Driver must be installed or updated before the dock firmware can be updated. Visit the Dell website for more information.                                                                                                    | /s, error message is not displayed, and log has proper error messages.     |
| Firmware update fails                                                         | <ul style="list-style-type: none"> <li>When one firmware component update fails, the error message shows in the "Progress Details" field for this component.</li> <li>The utility continues to update other firmware.</li> <li>After complete firmware update for all components, show the error mess.</li> </ul> | Firmware update failed                                                                                                                                                                                                                | /s, error message is not displayed, and the log has proper error messages. |

## Automatic dock reboot after firmware update

### About this task

Dock automatically reboots when one or more of the components are updated.

 **NOTE:** Dock reboots as part of the EC update or the tool sends a reboot command when EC is not updated and at least one of the components is updated.

## Setting Package Version

### About this task

Package version is a 32-bit BCD format (the device saves them in reverse byte order). The tool reverses the bytes for the display purpose. The display format is WW.XX.YY.ZZ. Major, minor, and maintenance versions are represented as WW.XX.YY. The LSB in ZZ (or the MSB in 32-bit raw data) represents the status of the dock update.

- 01 - All components are updated and have a valid version.
- 00 - Some of the components are not updated.

The package version is set before any of the components are updated. If the update fails on any of the components, the device reports 0 for LSB (invalid package version).

**Table 4. Dell Flash Update Utility Exit code and meaning**

| Exit code | DUP spec description      |
|-----------|---------------------------|
| 0         | Success                   |
| 1         | General failure           |
| 2         | Reboot required           |
| 3         | Soft dependency Error     |
| 4         | Hard dependency error     |
| 5         | Hard qualification error  |
| 6         | Rebooting the computer    |
| 7         | Password validation error |
| 8         | Downgrade is not allowed  |
| 9         | Update pending            |
| 10        | Unspecified error         |

## Commands for Automation

### About this task

- Run the tool with administrative privileges with the command-line options `/s` (silent) `/l=filename.txt`. The update is run in silent mode without GUI or use command-line options: `/uod /l=filename.txt`. The update runs and only completes when the dock Type-C cable is unplugged from the computer. Automation environment can capture the return code (DUP compliant) from the tool for verifying pass or fail status. The logfile (filename.txt) can be used for parsing the dock data and individual component update information.
- After the update, tool can run with `/componentsvers /s /l=verfilename.txt`. The command is run in the silent mode. Return code can be captured for pass or fail status (DUP compliant). Verfilename.txt contains the current component information.

# Dell Device Management Console

## Overview

The Dell Device Management Console is a comprehensive, cloud-based tool that is designed to remotely manage Dell Pro docks, enhancing IT efficiency. It is hosted on a secure cloud infrastructure and provides IT administrators the ability to oversee and configure various Dell docking stations and related peripherals.

To use the Dell Device Management Console, users must enable the management of Dell docking stations through offer entitlement.

## Features

Key features of the Dell Device Management Console include centralized management of Dell Pro docks and other peripherals. Users can benefit from functionalities such as:

- **Fleet summary**  
Get an overview of all connected devices.
- **Peripheral inventory**  
Track all peripherals that are connected to the docking stations.
- **Firmware updates**  
Update the firmware of connected devices.
- **Setting configurations**  
Configure settings for docking stations and peripherals.

## Resources

See the following links for tutorials and instructional videos of Dell Device Management Console that is related to your Dell Pro Smart dock:

- [Dell Pro Thunderbolt 4 Smart Dock SD25TB4 Videos](#)
- [Dell Pro Smart Dock SD25 Videos](#)

For detailed information about the Dell Device Management Console, see the DDMC Administrator Guide on [Dell Support Site](#).

## Using Dell Command Update

Dell Docking Station drivers (Realtek USB GBE Ethernet Controller Driver and Intel i226 PCIe Ethernet Controller Driver for vPro Dock support platforms) are required to be installed before using the docking station for full functionality. Dell Technologies recommends updating the system BIOS, graphics driver, Thunderbolt driver, and Thunderbolt firmware to the latest version before using the docking station. Older BIOS versions and drivers could result in the docking station not being recognized by your computer or not functioning optimally.

Dell Technologies highly recommends the Dell Command Update to automate the installation of BIOS, firmware, driver, and critical updates specific to your computer and docking station.

For more information about Dell Command Update, see [Dell Command | Update](#).

# Dock Asset Management

**NOTE:** You can manage dock inventory either directly through the [Dell Device Management Console](#) or through the computer using Dell Command Monitor.

## Managing inventory of Dell Pro Thunderbolt 4 dock and Dell Pro Thunderbolt4 Smart dock using Dell Command Monitor locally

### Prerequisites

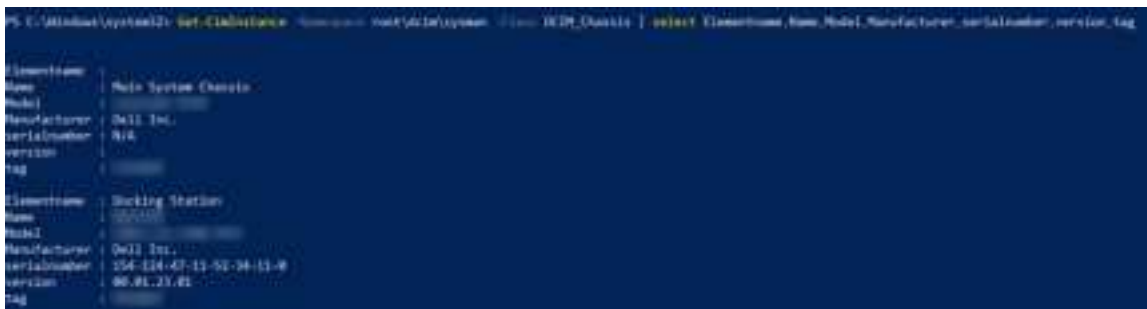
1. Follow the steps in the [firmware update](#) and retrieve dock information by using Dell command monitor locally.

### Steps

1. Install Dell Command Monitor XX.X or later. For detailed install instructions, follow the [Dell command monitor Installation Guide](#).
2. Run the commands given below:
  - a. For computers with Windows operating system, using PowerShell: **Get-CimInstance -Namespace root\dcim\sysman -ClassName DCIM\_Chassis**

**NOTE:** DCIM\_Chassis can have multiple instances. For Dock Details, see instance where CreationClassName = DCIM\_DockingStation

3. Screenshot of output:



```
PS C:\Windows\system32> Get-CimInstance -Namespace root\dcim\sysman -ClassName DCIM_Chassis | select ElementName,Name,Model,Manufacturer,serialnumber,version,tag

ElementName : Main System Chassis
Name        : 
Model       : 
Manufacturer: Dell Inc.
serialnumber: N/A
version     : 
tag         : 

ElementName : Docking Station
Name        : 
Model       : 
Manufacturer: Dell Inc.
serialnumber: 154-114-07-11-01-04-11-0
version     : 90.01.23.01
tag         :
```

```
root@uj:~# ./opt/omi/bin# ./omictl el root/dcim/sysman dcim_chassis
Instance of DCIM_Chassis
(
  ElementName=
  Name=Main System Chassis
  [Key] Tag=
  [Key] CreationClassName=DCIM_Chassis
  Manufacturer=Dell Inc.
  Model=
  SKU=N/A
  SerialNumber=N/A
  PartNumber=N/A
  CanBeFirmware=false
  RemovalConditions=2
  PackageType=3
  LockPresent=false
  SecurityBreach=2
  BreachDescription=Unknown
  ChassisPackageType=18
  PropertyOwnershipTag=
)
Instance of DCIM_Chassis
(
  ElementName=Docking Station
  Name=H022T84
  [Key] Tag=
  [Key] CreationClassName=DCIM_DockingStation
  Manufacturer=Dell Inc.
  Model=
  SerialNumber=154-124-47-11-52-34-11-8
  Version=88.81.23.01
  PackageType=1
  ChassisPackageType=12
)
```

4. Key dock properties mapping with cim properties:

**Table 5. Key dock**

| Dock data               | Dell command   Monitor mapping |
|-------------------------|--------------------------------|
| Dock service tag        | DCIM_Chassis::Tag              |
| Dock FW package version | DCIM_Chassis::Version          |
| Dock module type        | DCIM_Chassis::Model            |
| Dock marketing name     | DCIM_Chassis::Name             |
| Dock module serial      | DCIM_Chassis::SerialNumber     |

## Remote inventory management of Dell Pro Thunderbolt Dock and Dell Pro Thunderbolt Smart dock using Dell Command

### About this task

For more information, see [Dell Command Monitor User guide](#).

# Getting help and contacting Dell

## Self-help resources

You can get information and help on Dell products and services using these self-help resources:

**Table 6. Self-help resources**

| Self-help resources                                                                                                                  | Resource location                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Information about Dell products and services                                                                                         | <a href="#">Dell Site</a>                                                                                                                                                                                                                                                                                                                                                             |
| Contact Support                                                                                                                      | In Windows search, type <code>Contact Support</code> , and press Enter.                                                                                                                                                                                                                                                                                                               |
| Online help for operating system                                                                                                     | <a href="#">Windows Support Site</a><br><a href="#">Linux Support Site</a>                                                                                                                                                                                                                                                                                                            |
| Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents. | Your Dell docking station is uniquely identified using a Service Tag or Express Service Code. To view relevant support resources for your Dell docking station, enter the Service Tag or Express Service Code at <a href="#">Dell Support Site</a> .<br><br>For more information about how to find the Service Tag for your Dell device, see <a href="#">Locate the Service Tag</a> . |
| Dell knowledge base articles                                                                                                         | <ol style="list-style-type: none"> <li>1. Go to <a href="#">Dell Support Site</a>.</li> <li>2. On the menu bar at the top of the Support page, select <b>Support &gt; Support Library</b>.</li> <li>3. In the Search field on the Support Library page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.</li> </ol>      |

## Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see [Contact Support at Dell Support Site](#).

 **NOTE:** Availability of the services may vary depending on the country or region, and product.

 **NOTE:** If you do not have an active Internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog.