Dell Docking Station WD19 Dual Cable

Administrator's Guide

Notes, cautions, and warnings

(i) **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.**

Contents

Introduction

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

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

Dell docking station firmware update

About this task

ⓘ **NOTE: Dell Docking stations are supported with select Dell systems. See the Dell Commercial Docking Compatibility Guide for the list of supported systems and recommended docking.**

Topics:

Updating the firmware

WD19 supports multi operating system firmware update for Windows/Linux/Chrome.

Prerequisites

1. The following conditions must be met to update firmware:

    - TBT driver required (applicable to Thunderbolt supported systems only)
    - Minimum TBT driver version is required (Thunderbolt supported system only).
    - System must have > 10% charge capacity or connected to AC power.

2. Download the WD19 update tool, go to www.dell.com/support.

Steps

1. **Windows operating system:**

    a. Connect the WD19 docking station to the system.
    b. Start the WD19 update tool in administrative mode.
    c. Wait for all the information to be entered the various GUI panes.
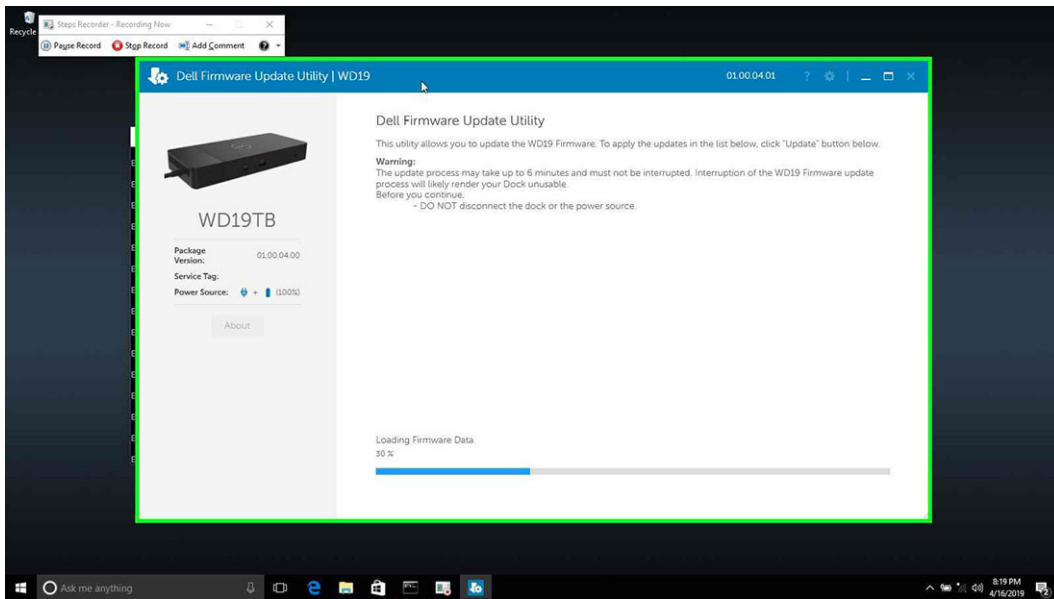
d. **Update** and **Exit** buttons appear in the bottom-right corner. Click the **Update** button.
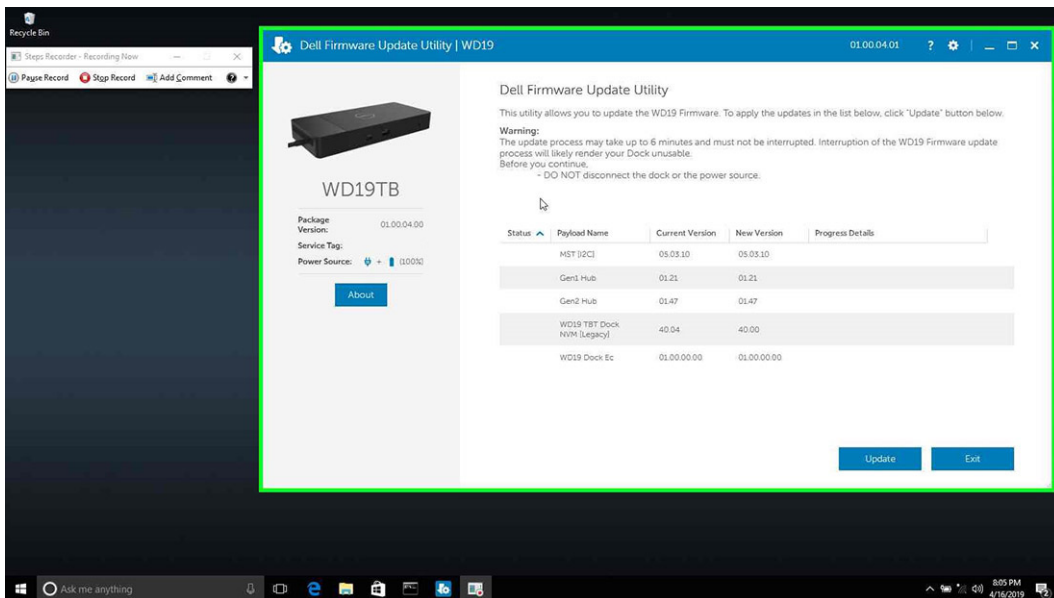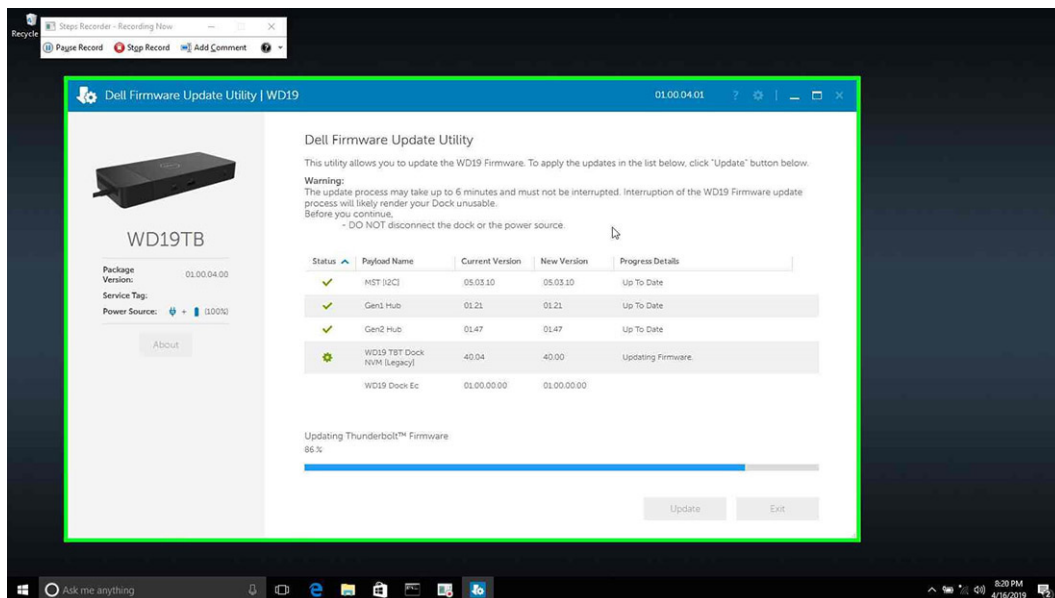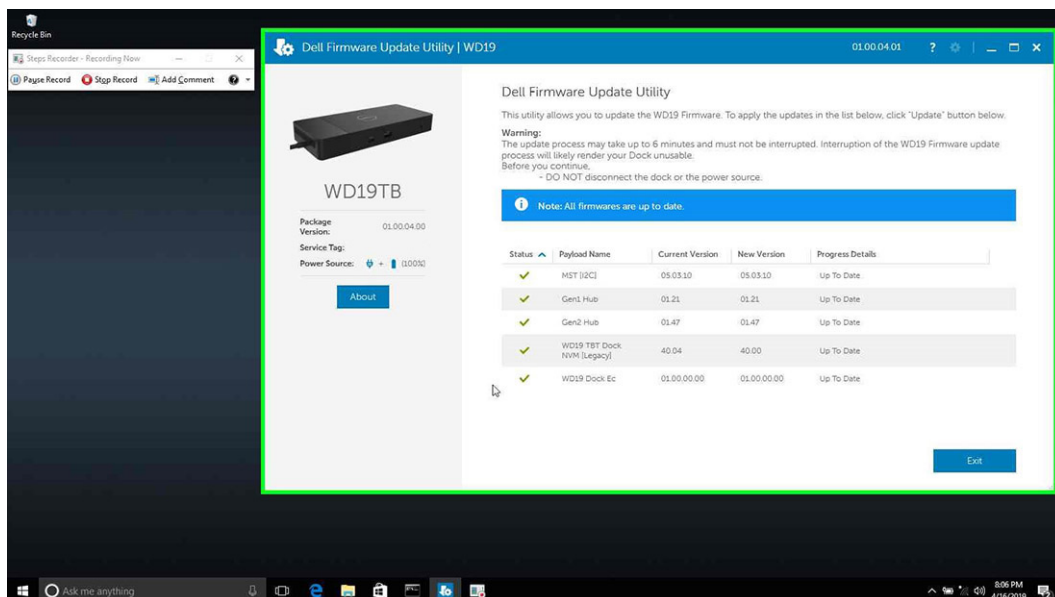

e. Wait for all the component firmware update to complete. A progress bar is displayed in the bottom.

f. Update status is displayed above the payload information.

2. **Linux operating system:** This firmware update has both the update tool and binary assembled in a single package.

   If you already have fwupd 1.2.5 or later installed on your system, you can fetch update directly from the Linux Vendor Firmware Service (LVFS) by plugging in your dock and using fwupdmgr or Gnome Software to check for updates.

   a. Download the WD19 Linux update tool (WD19FirmwareUpdateLinux_XX.YY.ZZ.bin).

   b. Open a terminal application.

   c. Modify the permissions on the binary to make it executable.

   # sudo chmod +x WD19FirmwareUpdateLinux_XX.YY.ZZ.bin

   d. Run the binary with the install argument to install updated firmware.

   # sudo ./WD19FirmwareUpdateLinux_XX.YY.ZZ.bin install.

   *Resolve any kernel dependency packages as needed.

   e. Unplug the type-C cable and plug it back to the system after one minute.

   f. Check that the WD19 firmware has been upgraded properly.

   # sudo ./WD19FirmwareUpdateLinux_XX.YY.ZZ.bin get-devices

3. **Chrome operating system:**

   a. WD19 firmware update will be distributed with the latest Enterprise Chrome book operating system release.

b. WD19 firmware version checking: chrome://system output in browser.

Command-Line options

About this task

Table 1. Command line options

Command line	Notes
/? or /h	Usage
/s	Silent
/f	Force update
/forceit	Skip power check
/l=<filename>	Log file
/verflashexe	Display utility version
/componentsvers	Display current version of all dock firmware components

Approximate firmware update duration

About this task

The firmware update time duration in the following table is from a measurement running Dock Firmware Utility A03 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)
EC	70
USB Gen1 Hub	15
USB Gen2 Hub	5
MST Hub (DPAux)	37
MST Hub (I2C)	45
Intel AR NVM (TBT Driver)	37
Intel AR NVM (I2C)	137

Smart update

About this task

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

- Exception with /f option

Logging

About this task

- In Silent mode, 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

    o Debugging
    o Service
    o 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 portable platform.	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. /s, error message is not displayed and log will have proper error messages.
	If the battery level is less than 10% on portable platform.	The battery must be charged above 10% before the Dock Firmware can be updated. Press OK when the battery is charged or CANCEL to quit.	
Dock Detection	Dock is not connected or detected to system.	No dock attached. This firmware update utility only works with a single dock attached.	/s, error message is not displayed, and log has proper error messages.
	Multiple docks that are connected to the system	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 system only)	No Intel Thunderbolt driver (DCH or Legacy) to be, found or the legacy driver version is lower than required version - With "/f" option.	Error message is not displayed. Continue the firmware update.	/s, error message is not displayed, and log has proper error messages.
	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. Please go to Dell website	
Firmware update fails	• When one firmware component update fails, the error message shows in the "Progress Details" field for this component.	Firmware update failed	/s, error message is not displayed, and log has proper error messages.

Table 3. Error handling conditions (continued)

Error Condition	Symptom/Scenario	Message	CLI options
	• The utility continues to update other firmware. • After complete firmware update for all components, show the error mess.		

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 32 bit BCD format (device saves them in reverse byte order). They 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 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 is failed on any of the components 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 system
7	Password validation error
8	Downgrade is not allowed
9	Update pending
10	Un specified 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. 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.

Using Dell Command Update

Dell Docking Station drivers (Realtek USB GBE Ethernet Controller Driver and Realtek USB Audio Driver) are required to be installed before using the docking station for full functionality. Dell 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 system or not functioning optimally.

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

For more information about Dell command update user guide. See Dell Command | Update for Windows 10

Dock Asset Management

Topics:

How to inventory Dell Dock, Dell Performance Dock, and Dell Thunderbolt Dock using Dell Command Monitor locally

Prerequisites

1. Follow the steps in the WD19 firmware update and retrieve dock information by using Dell command monitor locally.

Steps

1. Install Dell Command Monitor 10.2 or later. For detailed install instructions follow Dell command monitor Installation Guide
2. Run the commands given below:
   a. For systems running Windows, Using PowerShell: **Get-CimInstance -Namespace root\dcim\sysman -ClassName DCIM_Chassis**
   b. For systems running Linux, Using OMICLI: **./ omicli ei root\dcim\sysman DCIM_Chassis**

   > ⓘ **NOTE:** DCIM_Chassis can have multiple instances. For Dock Details, see instance where CreationClassName = DCIM_DockingStation

3. Screenshot of output:

```
PS C:\> get-ciminstance -Namespace root\dcim\sysman -Class dcim_chassis | select Elementname,Name,Model,Manufacturer,serialnumber,version,tag

Elementname   :
Name          : Main System Chassis
Model         : Latitude 7400 2-in-1
Manufacturer  : Dell Inc.
serialnumber  : N/A
version       :
tag           : SP12345

Elementname   : Docking Station
Name          : WD19TB
Model         : CABLE_ID_130W_TBT
Manufacturer  : Dell Inc.
serialnumber  : 247-255-57-20-72-59-11-0
version       : 01.00.04.00
tag           : 60GCDG2
```

```
root@dell-Latitude-3300:/opt/omi/bin# ./omicli ei root/dcim/sysman dcim_chassis
instance of DCIM_Chassis
{
    ElementName=4UGSN8QI88
    Name=Main System Chassis
    [Key] Tag=1234567
    [Key] CreationClassName=DCIM_Chassis
    Manufacturer=Dell Inc.
    Model=Latitude 3300
    SKU=N/A
    SerialNumber=N/A
    PartNumber=N/A
    CanBeFRUed=false
    RemovalConditions=2
    PackageType=3
    LockPresent=false
    SecurityBreach=2
    BreachDescription=Unknown
    ChassisPackageType=10
    PropertyOwnershipTag=XYZorganisation
    FirstPowerOnDate=20190124000000.000000+000
}
instance of DCIM_Chassis
{
    ElementName=Docking Station
    Name=WD19TB
    [Key] Tag=60GCDG2
    [Key] CreationClassName=DCIM_DockingStation
    Manufacturer=Dell Inc.
    Model=CABLE_ID_130W_TBT
    SerialNumber=247-255-57-20-72-59-11-0
    Version=01.00.04.00
    PackageType=1
    ChassisPackageType=12
}
root@dell-Latitude-3300:/opt/omi/bin#
```

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

How to inventory Dell Dock, Dell Performance Dock, and Dell Thunderbolt Dock using Dell Command | Monitor remotely

About this task

For more information, see Dell Command Monitor User guide

SCCM Integration

About this task

Using the MOF file within Dell Command | Monitor install package, which contains all the Dell Command | Monitor classes and importing to ConfigMgr.

Post Dell Command | Monitor installation, the integration MOF is placed at: C:\Program Files\Dell\Command_Monitor\ssa\omacim \OMCI_SMS_DEF.mof. For more information about integration watch, SCCM intergration.

Issue: SCCM-Client hardware inventory does not display version information for WD19\WD19TB\WD19DC.

Description: OMCI_SMS_DEF.mof file is missing Version property for DCIM_Chassis Class. SCCM-Client hardware inventory does not display version information for WD19\WD19TB\WD19DC.

Resolution: To resolve this, user must update the OMCI_SMS_DEF.mof file as suggested in steps below:

Steps

1. Edit OMCI_SMS_DEF.mof file using text editor.
2. Search for "DCIM Chassis and Docking."
3. At the end, make an entry for [SMS_Report (TRUE)] string Version. As shown in below screenshot.
4. Once edited, reimport the updated OMCI_SMS_DEF.mof file in SCCM to fetch updated Client Hardware Inventory.

SCCM setup for remote deployment

About this task

Information provided in the document available here Dell Catalog to Support Microsoft System Center Configuration Manager for Dell Hardware Updates.

For more information about Dell command update Users Guide. See Dell Command | Monitor version user's guide.

For more information about Dell command update Installation Guide. See Dell Command | Monitor version installation guide.

Getting help

Topics:

Contacting Dell

Prerequisites

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

About this task

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

Steps

1. Go to **Dell.com/support.**
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.