DELL EMC System Update Version 1.9.1.0

User's Guide

March 2021
Rev. A00

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.

Contents

1

Introduction to Dell System Update

This chapter provides insights on why Dell System Update is used and providing various components updates for Linux and Microsoft Windows operating systems.

Dell System Update is a script-optimized update deployment tool that you can use to apply Dell EMC updates such as applications, firmware, and drivers for Linux, and Microsoft Windows operating systems. With this tool, you identify the available updates, select, and deploy on a single system or multiple systems using your operating system or Integrated Dell Remote Access Controller (iDRAC) or pass-through. It is designed in a way it works both in online and offline mode to use the updates available in the catalog or repository and applying the same updates to the system. Using scripts, Dell System Update can automate the update management.

Topics:

What is new in this release

The following topic provides information about the new features that are supported in the current release.

- Proxy is used when user tries to connect to repository or get updates by user configured proxy only with online or downloads.dell.com repository.
- Support for https connection using the certificate with catalog or source location. Also, https is used to get repository and catalog details.
- DSU downloads and updates dynamically the signature file that is provided along with catalog location from the index catalog .
- To skip invalid or unavailable category filters during updates.
- Support for Hyper Converged Infrastructure operating system.

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Support Matrix

This section lists the hardware, operating systems and PowerEdge servers required to install Dell System Update.

Topics:

Supported hardware

The following topic provides information on the hardware requirement to install Dell System Update.

Prerequisites

To install through iDRAC on iDRAC9 based PowerEdge Servers, minimum version of iDRAC 3.30.30.30 and later is required.

About this task

DSU 1.7 and later versions does not support remote update through iDRAC7 and iDRAC8

Supported Operating Systems

This section describes the list of supported Linux and Windows operating systems.

NOTE: Community-based distribution site such as Fedora, CentOS, and open SUSE are not tested with Dell Linux repository.

DSU 1.9.1.0 supports Hyper Converged Infrastructure operating system.

The following Windows operating systems are supported:

- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019

The following Linux operating systems are supported:

- Red Hat Enterprise Linux 8.3
- Red Hat Enterprise Linux 7.9
- SUSE Linux Enterprise Server 15 SP3 (x86_64)
- Ubuntu 20.04.01

Supported devices

DSU supports iDRAC7, and later version of Dell EMC PowerEdge severs.

NOTE: Hyper Converged Infrastructure operating system supports only AX-740XD, AX-640, AX-6515 devices.

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Installing DSU

You can install DSU on Microsoft Windows Server and Linux Operating Systems through Dell Update Package (DUP).

Topics:

To install Dell System Update

This chapter provides information on installation steps on Linux, SLES, CentOS, Red Hat Enterprise Linux, Ubuntu operating systems, Microsoft windows server using command prompt and at UI, and offline method to install Dell System Update

Prerequisites

To use the Dell System Update features, it is recommended to install Dell System Update on the physical server and not on the remote server.

About this task

The following protocols are for connecting to a remote system:

- Enable SSH protocol on Linux operating system.
- Ensure that you have administrator or root privileges..
- Ensure that the WMI services are running.
- Install dependant Operating System libraries for Linux.
- Enable Redfish for iDRAC. For more information, see the latest iDRAC9 Users Guide.

NOTE: To install through iDRAC on iDRAC9 based PowerEdge Servers, minimum version of iDRAC 3.30.30.30 and later is required.

Install Dell System Update DUP on Linux operating systems

This section provides steps to install Dell System Update DUP on Linux operating system by giving information on pre-requisites such as user permissions, enabling default location, and operating system package requirement.

Prerequisites

- Ensure that you have superuser or root user permissions.
- Ensure that you have pre-enabled the default PermitRootLogin attribute in /etc/ssh/sshd_config for remote systems
- Ensure that you use the root account to access a Linux server remotely.
- Ensure that you have the Libssh or Libssh2 package.
- Ensure to install all the required Operating System package.
- Ensure that you enable the SSH protocol.
- Ensure to install Dell System Update on the supported Dell EMC PowerEdge Severs.
- For more information about the latest Dell System Update rpm, see **linux.dell.com/repo/hardware/Dell System Update/os_independent/x86_64/**

Online method to install Dell System Update on SLES operating system

This section provides steps to install Dell System Update DUP on SLES operating system at command prompt having user priviledge, latest Dell Update Package from support site.

Prerequisites

Ensure that the online repository is configured to `linux.dell.com`.

About this task

To install Dell System Update on the supported SUSE Linux Enterprise Server (SLES) operating system at command prompt, perform the following steps:

Steps

1. Download the latest Dell Update Package (DUP) from the support site.
2. Provide the superuser or root privileges for the folder where you have saved the DUP files.
3. At the command prompt, run the following command: `zypper install dell-system-update`
   The status of the installation is displayed with details such as release title, release date, description, and supported devices information.

Next steps

To verify if the installation is successful, run `dsu -h` and run dsu -v for Linux based Operating System on the command prompt with root privileges.

Online method to install Dell System Update on Red Hat Enterprise Linux operating system

This section provides steps to install Dell System Update DUP on Red Hat Enterprise Linux operating system at command prompt having user priviledge, latest Dell Update Package from support site.

Prerequisites

Ensure that the online repository is configured to `linux.dell.com`.

About this task

To install Dell System Update on the supported Red Hat Enterprise Linux operating system through command prompt, perform the following steps:

Steps

1. Download the latest Dell Update Package (DUP) from the support site.
2. Provide the superuser or root privileges for the folder where you have saved the DUP files.
3. At command prompt, run the following command: `yum install dell-system-update`
   The status of the installation is displayed with details such as release title, release date, description, and supported devices information.

Next steps

To verify if the installation is successful, run `dsu -h` and run `dsu -v` for Linux based Operating System on the command prompt with root privileges.

Install Dell System Update using the offline method on systems running supported Linux operating systems

. This section provides stepsoffline to install Dell System Update by giving information on installation of Dell system Update at command prompt having user privilege, latest Dell Update Package from support site.

About this task

To install Dell System Update on the supported Linux operating system through command prompt, perform the following steps:

Steps

1. Download the latest Dell Update Package (DUP) from the support site.
2. Provide the superuser or root privileges for the folder where you have saved the DUP files.
3. In command prompt, go to the location where you have saved the download files. Type or select the .bin file and add `./` command to install Dell System Update.
   Status of the installation is displayed with details such as release title, release date, description, and supported devices information.
4. Press **q** to continue .
5. Press **y** to install Dell System Update.
   A successful installation message is displayed.
6. The installation path for Linux: `/var/log/dell/updatepackage/log/support/`

Install Dell System Update on systems running Ubuntu

This section provides steps to install Dell System Update DUP on Ubuntu operating system by giving information on pre-requisites such as use permissions, command to run at command prompt and the details of the installation.

Prerequisites

You have to downloaded the latest version of Dell System Update from dell.com/support.

- Ensure that you have superuser or root user permissions.
- Ensure that you have pre-enabled the default PermitRootLogin attribute in /etc/ssh/sshd_config for remote systems
- Ensure that you use the root account to access a Linux server remotely.
- Ensure that you have the Libssh or Libssh2 package.
- Ensure to install all the required Operating System package.
- Ensure that you enable the SSH protocol.
- Ensure to install Dell System Update on the supported Dell EMC PowerEdge Severs.
- Ensure that you have the Libssl 1.0.0 library.

Installation procedure for libssl

1. Edit the source `list sudo nano /etc/apt/sources.list` and add the following line: `deb http://security.ubuntu.com/ubuntu xenial-security main`
2. Then perform `sudo apt update` and `sudo apt install libssl1.0.0`

To install Dell System Update on the supported Ubuntu at command prompt

The following displays steps to install Dell System Update on ubuntu operating system at command prompt.

About this task

Perform the following steps to install Dell System Update on ubuntu operating system.

Steps

1. Download the latest Dell Update Package (DUP) from the support site.

2. Provide the superuser or root privileges for the folder where you have saved the DUP files.
3. At the command prompt, run the following command: `./Systems-Management_Application_8CTK7_LN64_1.9.1.0_XA00.BIN`
   The status of the installation is displayed with details such as release title, release date, description, and supported devices information.

Next steps

To verify if the installation is successful, run `dsu -h` and run `dsu -v` for Linux based operating system on the command prompt with root privileges.

Installing DSU DUP on Windows server operating systems on command prompt

Prerequisites

- Ensure that you have administrator privileges to install DSU on Microsoft Windows server operating system.
- To use the remote feature, ensure that Windows Management Instrumentation (WMI) service is running on the target systems.
- Ensure have administrator privileges if DSU is installed on the supported Microsoft Windows server operating system.
- Ensure to have sufficient privilege for connecting remote severs and WMI.

About this task

To install DSU, install the Dell Update Packages (DUP) using the following steps on command prompt:

Steps

1. Download the latest DUP from `support.dell.com`.
2. Launch the command prompt with administrative privileges.
3. In command prompt, go to the location where you have saved the download files. Type or select the .exe file and add the `/i` command to install DSU.

   For example, `Systems-Management_Application_8CTK7_WN64_1.9.1.0_XA00.EXE /i`
4. Press Enter.
   The Dell EMC System Update page is displayed.
5. View the details, and click **Intsall**.
6. Click **Yes** on the confirmation screen.

   NOTE: Add `/s` to run the installation in silent mode.
7. After a successful installation, click **OK** and relaunch the command prompt with administrator privileges.

Installing DSU on Windows Server Operating Systems on UI

About this task

To install DSU, install the Dell Update Packages (DUP) using the following steps on User Interface (UI):

Steps

1. Download the latest DUP from `support.dell.com`.
2. Double-click the .exe file.
   The **User Account Control** page is displayed.
3. Click **Yes**.
   The **Dell EMC System Update** page is displayed.
4. To install DSU, click **Install**.
5. (For first-time users only) Click **Yes** on the confirmation screen.

6. After a successful installation, the success page is displayed. Click **OK**.

Next steps

To verify if the installation is successful, run `dsu /h` and dsu `-v` for linux for `/v` for Windows on the command prompt or PowerShell with **superuser** or **administrative privileges.**

NOTE: The DSU file is saved in the following location by default: `C:\Program Files\Dell\DELL EMC System Update`

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Dell System Update features

In this chapter you will learn about Dell System Update features such as inventory, preview, compliance, update and bootable ISO along with their usage and command lines.

About this task

These features provide updates for BIOS, applications, firmware and driver for various devices to the end customer. The updates are provided to the customer by gathering and adding all the device and dependency details together by providing a consistent and easy to execute user interface. Also publishes inventory collector application for inventorying the updatable components and also the metadata about the updates in the form of catalogs and hosts repositories. Dell Repository Manager provides the capability to customize these catalogs

DSU provides following basic features:

1. Inventory
2. Preview
3. Compliance
4. Update
5. Bootable ISO

In this release, Dell System Update provides user an option to get details or updates securely. Following are the options:

1. --proxy is used when user wants a secure connection to repository to get details of inventory, to get details on updates, to generate compliance report for both remote and host system. Dell System Update gets proxy details by user configured proxy.
2. --Cacert is a certificate option provided by Dell System Update to have a secured connection to repository using https protocol.

NOTE: Updatable components names are inconsistent when any of these features are performed for remote hosts, remote-iDRAC, and remote operating system to iDRAC Passthrough.

NOTE: IPV4 is the default IP compatibility.

NOTE: The sample IP Address, Username and Password provided in this document are only for reference purposes.

NOTE: A SSH connection to remote systems without password is not supported through certificate.

Topics:

Inventory

Inventory is a basic feature which provides list of system components. With inventory feature, user can perform the following use cases:

1. View Inventory: User can view inventory list from the console for remote single and multiple servers, iDRAC, and iDRAC passthrough.
2. Export Inventory: User can export inventory list in JSON format from the location for remote single and multiple servers, iDRAC, and iDRAC passthrough.
3. View system inventory using an inventory file: User can view inventory file from the location for remote Host/single servers, iDRAC, and iDRAC passthrough.

See the below table for all the inventory use cases and respective mandatory and optional attributes along with format and an example.

For more details on optional attributes and its usage, click the hyperlink that is provided in the below table.

NOTE: For Driver, inventory lists all the required updatable and non- updatable parent component and sub components.

NOTE: Do not use `--ic-location` option along with `rsystemtype=IDRAC`

Table 1. Inventory Use cases (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example

View inventory	`--inventory`	`--component-type`	Format:
			`dsu --inventory`
			Example:
			`dsu --inventory`
			`dsu --inventory --component-type=BIOS`

Export inventory in JSON format	`--inventory`
	`--output`
	`--output-format`
		`--authentication`
		`--component-type`
			Format:
			`dsu --inventory --output=<location> --output-format=JSON`
			Example:
			`dsu --inventory --output=C:\Program files\Dell\Dell EMC System Update\dell_dup\inv.json --output-format=JSON`
			`dsu --inventory --output=C:\Program files\Dell\Dell EMC System Update\dell_dup\inv.json --output-format=JSON --authentication=Abc:bca123`

View system inventory using an inventory file	`--input-inventory-file`
	`--inventory`
		`--component-type`	Format:
			`dsu --inventory --input-inventory-file=<absolute file path.xml>`
			Example:
			`dsu --inventory --input-inventory-file=C:\Program files\Dell\Dell EMC System`

Table 1. Inventory Use cases (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example

			`Update\dell_dup\inv.xml`
			
			`dsu --inventory --input-inventory-file=C:\Program files\Dell\Dell EMC System Update\dell_dup\inv.xml --component-type=BIOS`

View inventory when system is not connected to *downloads.dell.com* (offline)	`--inventory`
	
	`--source-type`
	
	`--source-location`
		`--component-type`
		
		`--authentication`
		
		`--catalog-location`
		
		`--ic-location`
			Format:
			
			`dsu --inventory --source-type=repository --source-location=<location>`
			
			Example:
			
			`dsu --inventory --source-type=repository --source-location=C:\Program files\Dell\Dell EMC SystemUpdate\ABC`
			
			`dsu --inventory --catalog-location=\\192.168.10.25\DSU\catalog.xml --ic-location=C:\Users\DSU\invCol.exe --source-type=repository --source-location=C:\Program files\Dell\Dell EMC SystemUpdate\ABC --authentication=abc:bca123`

Inventory on remote Host Servers through Operating System			

View inventory for single remote host server	`--inventory`
	
	`--remote`
		`--component-type`	Format:
			
			`dsu --inventory --remote=username:password@OS_IP>`
			
			Example:
			
			`dsu --inventory --remote=<abc:ABC_123@100.28.22.99`

Table 1. Inventory Use cases (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			`dsu --inventory --remote=abc:abc_123@100.78.34.77 --component-type=BIOS`

Export inventory for single remote host server	`--inventory`
	`--remote`
	`--output`
	`--output-format`
		`--component-type`	Format:
			`dsu --inventory --remote=username:password@IPaddress --output= <location> --output-format=JSON`
			Example:
			`dsu --inventory --remote=abc:abc_123@100.89.45.27 --output= C:\Dell\DELL EMC System Update\dell_dup\inv.json --output-format=JSON`
			`dsu --inventory --remote=abc:abc_123@100.89.45.27 --output= C:\Dell\DELL EMC System Update\dell_dup\inv.json --output-format=JSON --component-type=BIOS`

Inventory on multiple servers			

View inventory for multiple servers	`--inventory`
	`--config`
	`--remote`
		`--component-type`	Format:
			`dsu --inventory --config=<file> --remote`
			Example:
			`dsu --inventory --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml --remote`
			`dsu --inventory --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml --remote --component-type=BIOS`

Table 1. Inventory Use cases (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example

Export inventory for multiple servers	`--inventory`
	`--remote`
	`--config`
	`--output`
	`--output-format`
		`--component-type`	Format:
			`dsu --inventory --remote --config=<file> -output=<location> --output-format=JSON`
			Example:
			`dsu --inventory --remote --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml --output=C:\Dell\Dell EMC System Update\dell_dup\inv.json --output-format=JSON`
			`dsu --inventory --remote --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml --output=C:\Dell\Dell EMC System Update\dell_dup\inv.json --output-format=JSON --component-type=BIOS`

Inventory on remote server through iDRAC			

View inventory	`--inventory`
	`--remote`
	`--rsystemtype`
	NOTE: If there is linux, `--source-type=repository` is required.
		`--component-type`	Format:
			`dsu --inventory --remote=<idracusername:idracpassword@iDRAC_IPaddress> --rsystemtype=iDRAC`
			Example:
			`dsu --inventory --remote=abc:abc_123@100.88.66.100 --rsystemtype=iDRAC`
			`dsu --inventory --remote=abc:abc_123@100.88.66.100 --rsystemtype=iDRAC --component-type=BIOS`

Table 1. Inventory Use cases (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example

Export inventory	`--inventory`
	`--remote`
	`--rsystemtype`
	`--output`
	`--output-format`
		`--component-type`	Format:
			`dsu --inventory --remote=idracusername:idracpassword@iDRAC_IPaddress --rsystemtype=iDRAC --output=<location> --output-format=JSON`
			Example:
			`dsu --inventory --remote=abc:abc_123@100.88.66.100 --rsystemtype=iDRAC --output=C:\Program files\Dell\Dell EMC System Update\dell_dup\inv.json --output-format=JSON`
			`dsu --inventory --remote=abc:abc_123@100.88.66.100 --rsystemtype=iDRAC --output=C:\Program files\Dell\Dell EMC System Update\dell_dup\inv.json --output-format=JSON --component-type=BIOS`

Inventory on Operating System to iDRAC passthrough(OAUTH)			

View inventory from online repository for remote system	`--inventory`
	`--use-idrac-passthrough`
	`--remote`
		`--component-type`	Format:
			`dsu --inventory --use-idrac-passthrough --remote=username:OS_IP address`
			Example:
			`dsu --inventory --use-idrac-passthrough --remote=abc:abc_123@100.88.66.100`
			`dsu --inventory --use-idrac-passthrough --remote=abc:abc_123@100.88.`

Table 1. Inventory Use cases (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			`66.100 --component-type=BIOS`

View inventory from offline repository	`--inventory`
	`--use-idrac-passthrough`
	`--remote`
	`--source-type`
	`--source-location`
		`--component-type`	Format:
			`dsu --inventory --use-idrac-passthrough --remote=Username:password@OS_IP address --source-location=<location> --ic-location=<location> --catalog-location=<location> --source-type=<Type>`
			Example:
			`dsu --inventory --use-idrac-passthrough --remote=abc:abc_123@100.88.66.100 --source-location=C:\Dell\DELL EMC System Update\dell_dup --ic-location=C:\Dell\DELL EMC System Update\dell_dup\invCol.exe --catalog-location=C:\Dell\DELL EMC System Update\dell_dup\Catalog.xml --source-type=REPOSITORY`
			`dsu --inventory --use-idrac-passthrough --remote=abc:abc_123@100.88.66.100 --source-location=C:\Dell\DELL EMC System Update\dell_dup --ic-location=C:\Dell\DELL EMC System Update\dell_dup\invCol.exe --catalog-location=C:\Dell\DELL EMC System Update\dell_dup\Catalog.xml --source-type=REPOSITORY --component-type=BIOS`

Table 1. Inventory Use cases (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example

View inventory for host servers	`--inventory`
	`--use-idrac-passthrough`
		`--component-type`	Format:
			`dsu --inventory --use-idrac-passthrough`
			Example:
			`dsu --inventory --use-idrac-passthrough`
			`dsu --inventory --use-idrac-passthrough`
			`dsu --inventory --use-idrac-passthrough dsu --inventory --use-idrac-passthrough --component-type=BIOS`

Export inventory in JSON format for remote system	`--inventory`
	`--use-idrac-passthrough`
	`--remote`
	`--output`
	`--output-format`
		`--component-type`	Format:
			`dsu --inventory --use-idrac-passthrough --remote= username:password@IP address --output=location --output-format=JSON`
			Example:
			`dsu --inventory --use-idrac-passthrough --remote=abc:abc_123@100.99.88.77 --output=C:\Program files\Dell\Dell EMC System Update\dell_dup\inv.json --output-format=JSON`
			`dsu --inventory --use-idrac-passthrough --remote=abc:abc_123@100.99.88.77 --output=C:\Program files\Dell\Dell EMC System Update\dell_dup\inv.json --output-format=JSON --component-type=BIOS`

Table 1. Inventory Use cases

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example

View system inventory using an inventory file on host server(BasicAuth)	`--inventory`
	`--use-idrac-passthrough`
	`--remote`
	`--input-inventory-file`
		`--component-type`	Format::
			`dsu --inventory --use-idrac-passthrough --remote=idracusername:idracpassword --input-inventory-file=<linventory file>`
			Example:
			`dsu --inventory --use-idracpassthrough --remote=abc:abc_123 --input-inventory-file=C:\Dell\DELL EMC System Update\dell_dup`
			`dsu --inventory --use-idracpassthrough --remote=abc:abc_123 --input-inventory-file=C:\Dell\DELL EMC System Update\dell_dup\inv_idrac.xml --component-type=BIOS`

Preview

Preview command is used for listing all the applicable updates.

For more details on optional attributes and its usage, click the hyperlink that is provided in the below table.

Table 2. Preview (continued)

Action	Mandatory Attributes	Optional Attributes	Syntax/Example

Viewing preview on host server	`--preview`	`--config`
		`--component-type`
		`--category`
			Format:
			`dsu --preview`
			Example:
			`dsu --preview`
			`dsu --preview --component-type=BIOS`

Viewing preview on remote server with Operating System installed	`--preview` `--remote`	`--component-type` `--category`	Format: `dsu --preview --remote=<username:password@IP address>`

Table 2. Preview (continued)

Action	Mandatory Attributes	Optional Attributes	Syntax/Example

			Example:
			`dsu --preview --remote=abc:abc_@128.99.88.100`
			`dsu --preview --remote=abc:abc_@128.99.88.100 --component-type=BIOS`

Viewing preview using remote iDRAC	`--preview`
	`--remote`
	`--rsystemtype`
		`--component-type`
		`--category`
			Format:
			`dsu --preview --remote=<username:passwrod@iDRAC_IPaddress> --rsystemtype=<value>`
			Example:
			`dsu --preview --remote=abc:abc_@128.99.56.77 --rsystemtype=iDRAC`
			`dsu --preview --remote=abc:abc_@128.99.56.77 --rsystemtype=iDRAC --category=AS,BI,ES`

Viewing preview using remote Operating System to iDRAC pass through(OAUTH)	`--preview`
	`--remote`
	`--use-idrac-passthrough`
		`--component-type`
		`--category`
			Format:
			`dsu --preview --remote=<username:password@OS_IPaddress> --use-idrac-passthrough`
			Example:
			`dsu --preview --remote=abc:abc_@128.99.100 --use-idrac-passthrough`
			`dsu --preview --remote=abc:abc_123@128.99.100 --use-idrac-passthrough --component-type=BIOS`

Various combinations of preview command			

Table 2. Preview (continued)

Action	Mandatory Attributes	Optional Attributes	Syntax/Example

View preview by importing inventory file	`--preview`
	`--input-inventory-file`
		`--remote`
		`--config`
		`--authentication`
			Format:
			`dsu --preview --input-inventory-file=<path of the fileName>`
			Example:
			`dsu --preview --input-inventory-file=C:\\users\progamdata\inventory.xml`
			`dsu --preview --input-inventory-file=C:\\users\progamdata\inventory.xml --authentication=abc:abc:abc_`

View preview by providing catalog file	`--preview`
	`--catalog-location`
		`--remote`
		`--config`
		`--authentication`
			Format:
			`dsu --preview --catalog-loction=<location> --input-inventory-file=<FileName>`
			Example:
			`dsu --preview --catalog-loction=\\192.168.10.24\Share\Catalog.gz --input-inventory-file=\\192.168.10.24\Share\inventory.xml`
			`dsu --preview --catalog-loction=\\192.168.10.24\Share\Catalog.gz --input-inventory-file=\\192.168.10.24\Share\inventory.xml --authentication=abc:abc:abc_`

Preview output using offline source (when the internet connection is not available)	`--preview`
	`--source-location`
	`--source-type`
		`--remote`
		`--config`
		`--authentication`
			Format:
			`dsu --preview --source-location=<location> --source-type=<type>`

Table 2. Preview

Action	Mandatory Attributes	Optional Attributes	Syntax/Example

			Example:
			`dsu --preview --source-location=C:\Dell\Dell EMC System Update\Dell_dup\abc --source-type=REPOSITORY`
			`dsu --preview --source-location=C:\Dell\Dell EMC System Update\Dell_dup\abc --source-type=REPOSITORY --authentication=Administrator:password123`

Compliance

To view the compliance report of the system

For more details on optional attributes and its usage, click the hyperlink that is provided in the below table.

Table 3. Compliance

Action	Mandatory Attributes	Optional Attributes	Syntax/Example

Viewing compliance on host server	`--compliance`	`--component-type`
		`--category`
			Format:
			`dsu --compliance`
			Example:
			`dsu --compliance`
			`dsu --compliance --component-type=BIOS`

Viewing compliance on remote server with Operating System installed	`--compliance`
	`--remote`
		`--component-type`
		`--category`
		`--config`
			Format:
			`dsu --compliance --remote=<username:password@IP address>`
			Example:
			`dsu --compliance --remote=abc:abc_@128.99.88.100`
			`dsu --compliance --remote=abc:abc_@128.99.88.100 --component-type=BIOS`

Table 3. Compliance (continued)

Action	Mandatory Attributes	Optional Attributes	Syntax/Example

Viewing compliance using remote iDRAC	`--compliance`
	`--remote`
	`--rsystemtype`
		`--component-type`
		`--category`
		`--config`
			Format:
			`dsu --compliance --remote=<username:passwrod@iDRAC_IPaddress> --rsystemtype=<value>`
			Example:
			`dsu --compliance --remote=abc:abc_@128.99.56.77 --rsystemtype=iDRAC`
			`dsu --compliance --remote=abc:abc_@128.99.56.77 --rsystemtype=iDRAC --category=AS,BI,ES`

Viewing compliance using remote Operating System to iDRAC pass through(OAUTH)	`--compliance`
	`--remote`
	`--use-idrac-passthrough`
		`--component-type`
		`--category`
			Format:
			`dsu --compliance --remote=<username:password@OS_IPaddress> --use-idrac-passthrough`
			Example:
			`dsu --compliance --remote=abc:abc_@128.99.100 --use-idrac-passthrough`
			`dsu --compliance --remote=abc:abc_123@128.99.100 --use-idrac-passthrough --component-type=BIOS`

Various combinations of compliance command			

View compliance by providing catalog file	`--compliance`
	`--catalog-location`
		`--remote`
		`--config`
		`--authentication`
			Format:
			`dsu --compliance --catalog-loction=<location> --input-inventory-file=<FileName>`
			Example:
			`dsu --compliance --catalog-loction=\\192.168.10.24\Share\Catalog.gz --input-inventory-file=\`

Table 3. Compliance

Action	Mandatory Attributes	Optional Attributes	Syntax/Example

			`\192.168.10.24\Share\inventory.xml`
			
			`dsu --compliance --catalog-loction=\\192.168.10.24\Share\Catalog.gz --input-inventory-file=\\192.168.10.24\Share\inventory.xml --authentication=abc:abc:abc_`

compliance output using offline source (when the internet connection is not available)	`--compliance`
	`--source-location`
	`--source-type`
	`--catalog-location`
		`--remote`
		`--config`
		`--authentication`
		`--dsu-lin64-installer-location`
		`--dsu-win64-installer-location`
			Format:
			`dsu --compliance --source-location=<location> --source-type=<type>`
			Example:
			`dsu --compliance --source-location=C:\Dell\Dell EMC System Update\Dell_dup\abc --source-type=REPOSITORY`
			
			`dsu --compliance --source-location=C:\Dell\Dell EMC System Update\Dell_dup\abc --source-type=REPOSITORY --authentication=Administrator:password123`

Updating Server

DSU connects to remote systems for performing inventory and update operations on them. With update feature, user can perform the following use cases:

DSU provides methods for determining and applying updates in both interactive and non-interactive ways. DSU provides following facilities for applying updates in a non-interactive manner.

NOTE: By default DSU runs in interactive mode for local host and in non-interactive mode for remote host.

- Upgrades Only
- Downgrades Only.
- Equivalent update
- Updating specific components.
- Updating components from specified categories. *Click the hyperlink for more information.*

See the below table for all the update use cases and respective mandatory and optional attributes along with format and an example.

For more details on optional attributes and its usage, click the hyperlink that is provided in the below table.

Table 4. Update on host server and single remote host server (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
Updating server using non-interactive method	`--non-interactive`	NA	Format: `dsu --non-interactive` Example: `dsu --non-interactive`

Update single remote server from host server through operating systems.	`--remote`	`--config`	Format:
			`dsu --remote=<username:password@IP address>`
			Example:
			`dsu --remote=abc:abc_123@124.99.88.77`
			`dsu --remote --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml`

Update through iDRAC for single server	`--remote`
	`--rsystemtype`
	`--source-type`
		`--component-type`
		`--category`
		`--list-critical-updates`
			Format:
			`dsu --remote=<username:password@IP address> --rsystemtype --source-type=<Type>`
			Example:
			`dsu --remote=abc:abc_123@100.88.77 --rsystemtye=iDRAC --source-type=REPOSITORY`
			`dsu --remote=abc:abc_123@101.99.11.22 --rsystemtye=iDRAC --source-type=REPOSITORY --component-type=BIOS`

Updating multiple servers			
Updating multiple remote servers through operating systems	`--config` `--remote`	`--component-type`	Format: `dsu --remote --config<file>`

Table 4. Update on host server and single remote host server (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example

			Example:
			`dsu --remote --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml`
			`dsu --remote --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml --component-type=BIOS`

Updating multiple servers through iDRAC	`--config`
	`--source-type`
	`--remote`
		`--component-type`
		`--category`
		`--list-critical-updates`
			Format:
			`dsu --config=<FILE> --source-type=<TYPE> --remote`
			Example:
			`dsu --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml --source-type=REPOSITORY --remote`
			`dsu --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml --source-type=REPOSITORY --remote --list-critical-updates`

Updating remote servers through iDRAC passthrough	`--use-idrac-passthrough`
	`--remote`
	`--config`
	`--source-type`
		`--component-type`
		`--category`
			Format:
			`dsu --use-idrac-passthrough --remote --config=<file> --source-type=<type>`
			Example:
			`dsu --use-idrac-passthrough --remote --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml --source-type=REPOSITORY`

Updating host server through iDRAC passthrough			

Table 4. Update on host server and single remote host server (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example

Updating host server through iDRAC passthrough	`--use-idrac-passthrough`
	`--source-type`
		NA	Format:
			`dsu --use-idrac-passthrough --source-type=<TYPE>`
			Example:
			`dsu --use-idrac-passthrough --source-type=REPOSITORY`

Updating a server with types of updates			

Applying updates using upgrade only	`--apply-upgrades`	`--remote`
		`--config`
			Format:
			`dsu --apply-upgrades`
			Example:
			`dsu --apply-upgrades`
			`dsu --apply-upgrades --remote=abc:abc_123@123.66.55.45`

Applying updates using downgrade only	`--apply-downgrades`	`--remote`
		`--config`
			Format:
			`dsu --apply-downgrades`
			Example:
			`dsu --apply-downgrades`
			`dsu --apply-downgrades --remote=abc:abc_123@102.66.44`

Applying updates using equivalent update	`--apply-equivalent-updates`	`--remote`
		`--config`
			Format:
			`dsu --apply-equivalents`
			Example:
			`dsu --apply-equivalents`
			`dsu --apply-equivalents --remote=abc:abc_123@100.11.123.77`

Table 4. Update on host server and single remote host server (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example

Applying updates for critical updates only	`--list-critical-updates`	`--remote`
		`--config`
			Format:
			`dsu --list-critical-updates`
			Example:
			`dsu --list-critical-updates`
			`dsu --list-critical-updates --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml`

Updating a server with online or local repository and offline method			

Updating server offline or local path	`--catalog-location`
	`--source-location`
	`--ic-location`
	`--installer-location`
	`--source-type`
		`--component-type`
		`--category`
		`--authentication`
			Format:
			`dsu --catalog-location=<location> --source-location<Directory Path> --ic-location --installer-location --source-type=<TYPE>`
			Example:
			`dsu --catalog-location=C:\Dell\DELL EMC System Update\dell_dup\Catalog.gz --source-location=<C:\Dell\Dell EMC System Update\dell_dup\abc> --ic-location=<C:\Dell\Dell EMC System Update\dell_dup\invCol.exe> --installer-location --source-type=REPOSITORY`
			`dsu --catalog-location=C:\Dell\DELL EMC System Update\dell_dup\Catalog.gz --source-location=<C:\Dell\Dell EMC System Update\dell_dup\abc> --ic-location=<C:\Dell\Dell EMC System Update\dell_dup\invCol.exe> --`

Table 4. Update on host server and single remote host server (continued)

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			`installer-location --source-type=REPOSITORY --component-type=BIOS`

Updating a server with different component types	`--component-type`	`--remote`
		`--config`
			Format:
			`dsu --component-type=<component type values>`
			Example:
			`dsu --component-type=BIOS,FRMW,APP,DRVR`
			`dsu --component-type=BIOS,DRVR,FRMW,APP --remote=abc:abc_123@100.188.22.99`

Updating server with different filters			

Updating a specific server component with category filter	`--category`	`--remote`
		`--config`
			Format:
			`dsu --category=<categories 1, categories 2>`
			Example:
			`dsu --category=AS,BI,ES`
			`dsu --category=BI,AS,ES --remote=abc:abc_123@111.22.12.23`

Applying specific components	`--update-list`	`--remote`
		`--config`
			Format:
			`dsu --update-list=<update file list>`
			Example:
			`dsu --update-list="Chipset_Driver_9V5VH_WN64_10.1.18243.8188_A04.EXE"`
			`dsu --update-list="Chipset_Driver_9V5VH_WN64_10.1.18243.`

Table 4. Update on host server and single remote host server

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			8188_A04.EXE" --remote=abc:abc_123@100.19.88.77

Bootable ISO

With Bootable ISO feature, user can perform the following use cases:

1. Interactive-mode
2. Non-interactive

See the below table for all the Bootable ISO-related use cases and its respective mandatory and optional attributes along with format and an example.

For more details on optional attributes and its usage, click the hyperlink that is provided in the below table.

Table 5. Bootable ISO (continued)

Action	Mandatory attributes	Optional attributes	Syntax/Example
Interactive-mode	--destination-type --destination-location	--authentication	Format: dsu --destination-type=ISO --destination-location=<location> Example: dsu --destination-type=ISO --destination-location=\\192.168.10.1\Share\ISO9660.iso dsu --destination-type=ISO --destination-location=\\192.168.10.1\Share\ISO9660.iso --authentication=Abc:bca123
Non-interactive mode	--destination-type --config --destination-location --non-interactive	--authentication	Format: dsu --destination-type=ISO --config=<Config file path> --bootable-log-location=<Log Path in the server> --non-interactive Example: dsu --destination-type=ISO --config=\\100.98.20.21\DSU\c

Table 5. Bootable ISO

Action	Mandatory attributes	Optional attributes	Syntax/Example

			`onfig.xml--destination-location=\\192.168.10.1\Share\ISO9660.iso --non-interactive`
			
			`dsu --destination-type=ISO --config=\\100.98.20.99\DSU\config.xml --authentication=abc:bca123 --destination-location=\\192.168.10.1\Share\ISO9660.iso --non-interactive`

Using DSU Bootable ISO

NOTE: The bootable ISO can be created with an alternative sample script which is a simple method and has multiple options for customization such as creating ISO for some specific set of platforms. For more information, see Sample scripts using DSU.

NOTE: Use IP address or URL with https protocol.

This is one of the Bootable ISO generation methods. It can be created through either of the two following methods:

- **Interactive**- DUPs are downloaded and packaged in the iso.

```
dsu --destination-type=ISO --destination-location=”/root/bootabledsu.iso”
```

- **Non-interactive**- Requires a repository location to fetch DUPs.

```
dsu –n --destination-type=ISO --destination-location=”/root/bootabledsu.iso” –config=”/root/dsuconfig.xml”
```

  The config.xml template is as following:

```
<DSUConfig><Repository Type="YUM"><RepoLocation IP="198.168.10.12" Directory="16.08.10" UseLatestDSU="False"/></Repository></DSUConfig>
```

You can also perform the same operation on Microsoft Windows Server Operating Systems using the following commands:

- **Interactive**:

```
dsu --destination-type=ISO --destination-location=C:\OUTPUT.ISO
```

- **Non-interactive**:

```
dsu --non-interactive --destination-type=ISO --destination-location=C:\output.iso --config=C:\config.xml
```

5

Network share

In this chapter you will learn about network share, command line attributes to export inventory using network share option and various options supporting network share

A shared resource, or network share, is a computer resource made available from one host to other host on a computer network .

DSU supports SMB1 and SMB2 protocol.

Choices:

```
--authentication
```

Network share allows user to specify the authentication parameters that are required for accessing the repository. If the authentication parameters are incorrect, then `AUTHENTICATION_FAILURE` is returned.

To export inventory file using authentication option:

```
--inventory --output=C:\Programfiles\Dell\Dell EMCSystem Update\dell_dup\inv.json --
output-format=JSON --authentication=abc:bca123
```

Following are the key points to users while using network share option

- Ensure to provide credentials when multiple Dell System Update options are given from the same network share.
- Dell System Update retains the temporary files even when a file is exported to a network share via SMB1 protocol.
- If the location you provide is an external network share, then ensure that you provide the `--authentication` attribute.
- When system is not connected to network, user can provide all the below options to get required files:
  - `--ic-location`
  - `--source-type`
  - `--source-location`
  - `--installer-location`
  - `--catalog-location`

The following are the Dell System Update options which supports network share:

1. `--config`
2. `--source-location`
3. `--destination-location`
4. `--bootable-log-location`
5. `--catalog-location`
6. `--ic-location`
7. `--inventory-file`
8. `--output-log-file`
9. `--dsu-lin64-installer-location`

10. `--dsu-win64-installer-location`
11. `--output`

With network share feature, user can perform following options:

To get the inventory

To get the inventory details of remote servers from a network share

Syntax:

```
dsu --remote -i --config=<N/W share path with config file name> --
authentication=username:password --dsu-win64-installer-location=<N/W share path with DSU
application name with file extension> --ic-location=<N/W share path with inventory
collector name with file extension>
```

Updating host server

To update a host server by using the repository present in the network share

Syntax:

```
dsu --source-type=REPOSITORY --source-location=<N/W share path till the directory repo
name> --catalog-location=<N/W share path with catalog file name>  --authentication=
username:password /u
```

Creating and exporting Bootable ISO

To create and export bootable ISO to a network share using the repository.

Syntax:

```
dsu --source-type=REPOSITORY --source-location=<N/W share path till the directory
repo name> --catalog-location=<N/W share path with catalog file name> /u --
destination-type=ISO --destination-location=<N/W share path till the ISO file name> --
authentication= username:password
```

Updating server

Updating a server using the inv.xml from a network share and exporting the log file to a network share

Syntax:

```
dsu/u --input-inventory-file=<N/W share path with inv.xml> --
authentication=username:password --output-log-file=<N/W share path with log file name>
```

Exporting progress report of host server

Exporting progress report of a host server to a network share

Syntax:

```
dsu --progress --output=<N/W share path with progress file name> --
authentication=username:password --output-format=json
```

Exporting inventory of host server in JSON format

To export inventory report of a host sever in JSON format to a network share

Syntax:

```
dsu /i --output=<N/W share path with inventory file name>  --
authentication=username:password --output-format=json
```

Naming Convention

The following section describes the format on how user can provide share location. For example: For windows:

```
--catalog-location=\\100.96.12.21\folder\catalog.xml --authentication=abc:bca123
```

example: For Linux:

```
 --catalog-location=//100.96.12.21/folder/catalog.xml --authentication=Abc:bca123
```

NOTE: It is suggested to see the storage space in the system when user gets the following error message : "Unable to access network location".

6

Index catalog

In this chapter, you will learn about index catalog, supported options, and command line usage.

Index Catalog is also known as catalogs of catalog. To get host updates for inventory, Compliance and Update feature using Index Catalog for Enterprise Catalog.

Following are the supported options for Index Catalog :

- --inventory
- --compliance
- --apply-upgrades
- --apply-downgrades
- --apply-equivalents
- --authentication=<username:password>
- --config=<FILE>
- --source-type=<TYPE>
- --source-location=<PATH>
- --destination-type=<TYPE> (ISO)
- --destination-location=<DIR>
- --catalog-location=<FILE>
- --catalog=<catalog_ID>
- --log-level=<LOGLEVEL>
- --remote=<Domain\username:password@hostname>
- --dsu-lin64-installer-location=<FILE>
- --reboot
- --ignore-signature
- --uninstall
- --proxy

Table 6. Index catalog

Actions	Attributes	Optional Attributes	Format/example

To view inventory on host server	`--inventory`
	`--catalog`
	`--source-type=REPOSITORY`
		`--catalog=<Non default Enterprise ID>`	Format:
			`dsu --inventory --catalog=<Enterprise ID> --source-type=REPOSITORY`
			Example:
			`dsu --inventory --catalog=46633c58-53b7-41a9-9b83-40491eebafd1 --source-type=REPOSITORY`
			Format:
			`dsu --inventory --catalog=<Enterprise ID> --source-`

Table 6. Index catalog (continued)

Actions	Attributes	Optional Attributes	Format/example

			`type=REPOSITORY --authentication=<username:password>`
			Example:
			`dsu --inventory --catalog=46633c58-53b7-41a9-9b83-40491eebafd1 --source-type=REPOSITORY --authentication=abc:abc123`

To view compliance report for host server	`--compliance`
	`--catalog`
	`--source-type=REPOSITORY`
		`--catalog=<Non default Enterprise ID>`	Format:
			`dsu --compliance --catalog=<Enterprise ID> --source-type=REPOSITORY`
			Example:
			`dsu --compliance --catalog=46633c58-53b7-41a9-9b83-40491eebafd1 --source-type=REPOSITORY`

To view compliance report for remote server	`--compliance`
	`--remote`
	`--catalog`
	`--source-type=REPOSITORY`
		`--config`
		`--dsu-lin64-installer-location`
		`--authentication`
			Format:
			`dsu --compliance --remote --config= <File Path> --catalog=<Enterprise ID> --dsu-lin64-installer-location=<File> --source-type=REPOSITORY`
			Example:
			`dsu --compliance --remote --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml --catalog=46633c58-53b7-41a9-9b83-40491eebafd1 --dsu-lin64-installer-location=C:\Dell\Dell EMC SystemUpdate\dell`

Table 6. Index catalog (continued)

Actions	Attributes	Optional Attributes	Format/example
			`_dup\invCol.exe> --source-type=REPOSITORY`

To get Host Server Updates through Offline method	`--catalog-location`
	`--source-location`
	`--catalog`
	`--source-type=REPOSITORY`
	`--config`
		`--authentication`	Format:
			`dsu --catalog-location=<File path> --source-location=<Directory Path> --source-type=REPOSITORY`
			Example:
			`dsu --catalog-location=/root/user/IUC.xml or gz --source-location=C:\Dell\Dell EMC System Update\dell_dup\abc --installer-location --source-type=REPOSITORY`
			Format:
			`dsu --catalog=<Enterprise ID> --source-location=<Directory Path> --config --source-type=REPOSITORY --authentication=<username:password>`
			Example:
			`dsu --catalog=46633c58-53b7-41a9-9b83-40491eebafd1 --source-location=C:\Dell\Dell EMC System Update\dell_dup\abc --config=C:\Dell\DellEMC System Update\dell_dup\config.xml --source-type=REPOSITORY --authentication=abc:abc123`

Table 6. Index catalog (continued)

Actions	Attributes	Optional Attributes	Format/example

To update remote host server through online method	`--apply-upgrades`
	`--source-type=REPOSITORY`
	`--catalog`
	`--remote`
		`--downgrades-only`
		`--equivalent-updates`
		`--config`
			Format:
			`dsu --upgrades --source-type=REPOSITORY --catalog=<Enterprise ID> --remote=username:password@IPAddress`
			Example:
			`dsu --upgrades --source-type=REPOSITORY --catalog=46633c58-53b7-41a9-9b83-40491eebafd --remote=abc:abc@128.99.88.100`
			Format:
			`dsu --upgrades --source-type=REPOSITORY --catalog=<Enterprise ID> --remote --config`
			Example:
			`dsu --upgrades --source-type=REPOSITORY --catalog=46633c58-53b7-41a9-9b83-40491eebafd --remote --config=\\100.98.20.21\DSU\config.xml`

Table 6. Index catalog (continued)

Actions	Attributes	Optional Attributes	Format/example

To update remote host server through offline method	`--apply-upgrades`
	`--source-type=REPOSITORY`
	`--catalog`
	`--remote`
	`--source-location`
	`--dsu-lin64-installer-location`
		`--downgrades-only`
		`--equivalent-updates`
		`--authentication`
			Format:
			`dsu --apply-upgrades --source-type=REPOSITORY --remote=username:password@IPAddress --authentication=<username:password> --source-location=<path of DUP> --dsu-lin64-installer-location=<file path>`
			Example:
			`dsu --apply-upgrades --source-type=REPOSITORY --remote=abc:abc@128.99.88.100 --authentication=abc:abc123 --source-location=C:\Dell\Dell EMC System Update\dell_dup\abc --dsu-lin64-installer-location=/home/dsu/Systems-Management_Application_7PMM2_LN64_1.9.0_A00.BIN`
			Format:
			`dsu --apply-upgrades --source-type=REPOSITORY --catalog=<Enterprise ID> --remote=username:password@IPAddress --source-location=<directory path> --dsu-lin64-installer-location=<DSU lin64 installer location> --authentication=<username:password>`

Table 6. Index catalog (continued)

Actions	Attributes	Optional Attributes	Format/example
			Example: `dsu --apply-upgrades --source-type=REPOSITORY --catalog=46633c58-53b7-41a9-9b83-40491eebafd1 --remote=abc:abc@128.99.88.100 --source-location=C:\Dell\Dell EMC System Update\dell_dup\abc --dsu-lin64-installer-location=/home/dsu/Systems-Management_Application_7PMM2_LN64_1.9.0_A00.BIN --authentication=abc:abc123`

To update hosts from Online Enterprise catalog	`--source-type=REPOSITORY`
	`--catalog`
			Format:
			dsu
			`--source-type=REPOSITORY --catalog=<Enterprise ID>`
			Example:
			`dsu --source-type=REPOSITORY --catalog=46633c58-53b7-41a9-9b83-4049`

7

Sample scripts using DSU

In this chapter, you will learn about how to create bootable ISO using helper script, options to create bootable ISO, to create workspace directory, destination path to save ISO file, and to create destination path.

To create bootable ISO using helper script

Syntax to create bootable ISO:

```
dsucreateiso[options]
```

Following options are used to create a bootable ISO:

- Destination path custom script.
- Location of the custom script.
- Location of the Dell boot plug-in.
- Apply action for the component.
- Location to create log file.
- Display the location of catalog file.
- Listing of platforms to create ISO.
- Listing of available platforms.
- Destination path to save the Bootable ISO file.
- Workspace directory command

To create linux-based bootable ISO, see the script at the location: https://linux.dell.com/repo/hardware/scripts/.

Creating a workspace directory

A user can create workspace directory using bootable ISO. By default a unique temporary directory is created in */tmp/tmp/XXX* which is cleared after execution.

Syntax for creating workspace directory:

```
dsucreateiso -w WORKSPACE or dsucreateiso --workspace=WORKSPACE
```

Destination path to save bootable ISO file

Provides the complete path for the output Bootable ISO file created by the script. By default the file is created in the current directory with the file name: `dsu_bootableimage_%Y%m%d_%H%M%S.iso`

Syntax for creating destination path:

```
dsucreateiso -o OUTPUT or dsucreateiso --output=OUTPUT
```

To list available platforms

Displays list of Linux platforms available in the given catalog file.

Syntax to list linux platforms:

```
dsucreateiso -i INPUTPLATFORMLIST or dsucreateiso --input-platformlist=INPUTPLATFORMLIST
```

To list platforms to create Bootable ISO

Lists all the platforms for Bootable ISO creation. If given platform is not present in catalog, file errors out. Multiple platforms can be provided either with pipe or comma separated.

Syntax to create Bootable ISO

```
dsucreateiso -i INPUTPLATFORMLIST or dsucreateiso --input-platformlist=INPUTPLATFORMLIST
```

Display the location of Catalog file

Provides either local or network location of repository or catalog. By default network would be enabled to download catalog and DUPs file.

Syntax for displaying the location of catalog file:

```
dsucreateiso -s SOURCELOCATION or dsucreateiso --source-location=SOURCELOCATION
```

Location to create log file

Creates a log file at the given location with the file name as `dsucreateiso_%Y%m%d_%H%M%S.log`. By default the log is located at /var/log/dsucreateiso.log and appends with each execution.

Syntax to create log file:

```
dsucreateiso -l LOGLOCATION or dsucreateiso --log-location= LOGLOCATION
```

Apply action for the component

Specifies the option with which dsu will execute in mount environment. By default no DSU option of application status are used. The options are applyall|upgrade|downgrade|equivalent.

Syntax for apply action:

```
dsucreateiso -a APPLYACTION or dsucreateiso --apply-action= APPLYACTION
```

Location of the DELL Boot plug-in

Provides the location of dellbootplugin in `tar.gz` format. Both network as well as local location can be provided. By default `dellbootplugin.tar.gz` will be downloaded from the posted location of dell.

Syntax for bootable plug-in:

```
dsucreateiso -d DELLBOOTPLUGIN or dsucreateiso --dellbootplugin=DELLBOOTPLUGIN
```

Location of the custom script file used for ISO creation

Provides the location of script file.

Syntax for the location of the script file:

```
dsucreateiso -i INPUTSCRIPT or dsucreateiso --input-custom-script=INPUTSCRIPT
```

Destination path for the custom script file used for ISO creation

Provides the location of script file where script file will be generated.

Syntax to create destination path:

```
dsucreateiso -u OUTPUTSCRIPT or dsucreateiso --output-custom-script=OUTPUTSCRIPT
```

Topics:

Bootable ISO scripts

This chapter provides insights on the usage of commands on creating custom catalog, repository, to customize working directory etc,. using bootable ISO

The following are the options to create bootable ISO:

Command to create bootable ISO using custom catalog

```
dsucreateiso --source=/root/Catalog.xml --output=bootabledsu.iso
```

Command to create bootable ISO by the available repository

```
dsucreateiso --source=/root --output=bootabledsu.iso
```

Command to customize the working directory

```
dsucreateiso --output=/root/bootabledsu.iso --workspace=/root/myworkspace
```

Command to create bootable ISO with offline network and local repository

```
dsucreateiso --dellbootplugin=/root/dellbootplugin.tar.gz --source=/root --
output=bootabledsu.iso
```

Command to create bootable ISO for particular platform

```
dsucreateiso --input-platformlist=PER730|PER830
```

Command to create bootable ISO with the action for components

```
dsucreateiso --apply-action='upgrade|downgrade'
```

Command to create bootable ISO with the given custom-script

```
dsucreateiso --input-custom-script=/root/apply_bundles.sh
```

Using the Script

Ensure that you assess the following before using the script:

1. Red Hat Enterprise Linux 6.3 (x86_64) or later
2. Python 2.6.6
3. mkisofs 2.01 (genisoimage 1.1.9)

You can generate a bootable ISO using the following script:

- To create ISO using custom catalog

```
./dsucreateiso --dellbootplugin=/root/dell-boot-plugin-8.3.0-16.08.00.noarch.rpm
--catalog=/root/Catalog.xml --baseurl=ftp://downloads.dell.com/ --dsu=/root/dell-
system-update-1.3.1-16.09.00.x86_64.rpm
--output=bootabledsu.iso
```

- To create ISO by providing previously created repository

```
./dsucreateiso --dellbootplugin=/root/dell-boot-plugin-8.3.0-16.08.00.noarch.rpm
--catalog=/root/Catalog.xml --baseurl=ftp://downloads.dell.com/ --dsu=/root/dell-
system-update-1.3.1-16.09.00.x86_64.rpm
--repo=/usr/libexec/dell_dup/repository --output=bootabledsu.iso
```

- To use custom working directory

```
./dsucreateiso --dellbootplugin=/root/dell-boot-plugin-8.3.0-16.08.00.noarch.rpm
--catalog=/root/Catalog.xml --baseurl=ftp://downloads.dell.com/ --dsu=/root/dell-
```

```
system-update-1.3.1-16.09.00.x86_64.rpm
--output=/root/bootabledsu.iso --workspace=/root/myworkspace/
```

NOTE: Log files are located in /var/log/. The log file is `dsucreateiso.log`.

Kick-start files

This chapter tells you how to create ISO image using kick-start files.

Kick-start files are used to create a linux based live-ISO image including Dell System Update. With the support of kick-start file, you can also create bootable ISO utility such as live cd-creator.

Command syntax to create Live-ISO image using kick-start files:

```
livecd-creator --config=<kickstart_file_path> --fslabel=<filesystem_label>
```

For more information, see https://linux.dell.com/repo/hardware/sampleks/

8

Dell System Update Options

This section provides a detailed information on various Dell System Update options.

Topics:

DSU Help

Displays the command-line options and help information.

Command for Linux:

```
dsu --help or dsu –h
```

Command for Windows:

```
dsu --help or dsu /h
```

Utility version

To get the DSU utility version.

Command for Linux:

```
dsu --version
```

Command for Windows:

```
dsu --version
```

Non-interactive update

Runs the update silently without user intervention. The `-q` option writes all the output to log files. The default behavior ignores new IC unless `--download-ic` option is specified. When used with `--remote` option, it performs on the specified remote system without prompting user input.

Command for Linux:

```
dsu --non-interactive
```

Command for Windows:

```
dsu --non-interactive
```

System inventory

To see the system inventory.

Command for Linux:

```
dsu --inventory
```

Command for Windows:

```
dsu --inventory
```

Proxy

Proxy is an attribute used by the user for connecting to repository or fetch updates from downloads.dell.com, inventory details, compliance report from user configured proxy details for both remote and host system. Dell System Update support user

configured proxy (system configured or user provided proxy) details for both host and remote systems. Proxy option with user provided proxy details are used when the operating system is not configured with proxy details in the settings.

Following are the limitations for proxy:

- Ensure to use `--source-type=REPOSITORY` for Linux operating system.
- yum repository is not supported in proxy.
- When the system proxy information is used, ensure environment variable `echo $HTTP_PROXY` or `echo $HTTPS_PROXY` is updated while configuring system proxy through network settings when user details in system proxy for Linux operating system is configured.

NOTE: The domain name, username, password, ip address provided are for reference purpose only.

Following are the format and example for user configured proxy:

Username and password along with http

User should provide user details when user credentials are provided in the system configuration. See the below format and example

Format for Windows:

```
dsu /i --proxy="http://username:password@proxyserver:port"
```

Example for windows:

```
dsu /i --proxy="http://test:test$123@100.100.194.05:8990"
```

Format for Linux:

```
dsu -i --proxy=http://"Domain\username:password"@100.100.194.05:8990 --source-
type=REPOSITORY
```

Example for Linux:

```
dsu -i --proxy=http://"abc\test:test123"@100.100.194.05:8990 --source-type=REPOSITORY
```

When proxy is provided with domain name

Format:

```
dsu --proxy=https://"domain\username:password"@proxy-server:port
```

Example:

```
dsu --proxy= http://"abc\test:test123"@100.100.194.05:8990
```

Following are the format and example for system configured proxy on host servers:

Without username and password

Format:

```
dsu --proxy=http://proxy-server:port
```

Example:

```
dsu --proxy=http://100.100.194.05:8990
```

Without port

Format:

```
dsu --proxy=http://proxy-server
```

Example:

```
dsu --proxy=http://proxy-abc
```

Certificate

Cacert option is used in Dell System Update along with catalog location or source location to have a secured connection using certificate. Following are the limitations to adhere while using cacert option:

- Cacert option dos not support for remote systems.
- For host systems, only catalog location and source location is supported with Cacert option. Cacert option should be provided immediately after source location or catalog location. For example, `dsu --inventory --source-location=https://"location" --cacert=C:\custom_https.cer --source-type=repository`
- Cacert does not support network share but supports only local path. Hence it is recommended to provide URL while making a secured connection
- Cacert should be used separately for both catalog-location and source-location, even if same https location is used in both the locations.

Command for Linux:

```
dsu --source location=<HTTPS URL path of the repository> --cacert=<Certificate file Local Path> --source-type=REPOSITORY
```

Command for Windows:

```
dsu --source location=<HTTPS URL path of the repository> --cacert=<certificate file Local Path> --source-type=REPOSITORY
```

NOTE: When user tries to establish unsecured connection, the following message is shown "The certificate chain is issued by a non trusted authority". It is recommended not to have any unsecured connection. For example, for Windows:

```
dsu --source-location=https://10.110.200.11/location/catalog.xml --cacert=C:\Cacert\https_cert.crt --source-type=REPOSITORY
```

For Linux:

```
dsu --source location=https://10.102.200.11/location/catalog.xml --cacert= /root/https_cert.crt  --source-type=REPOSITORY
```

Compliance

Provides compliance report for inventory and catalog.

Command for Linux:

```
dsu --compliance
```

Command for Windows:

```
dsu --compliance
```

Catalog location

Path of catalog file used.

File format supported: .xml, .gz and cab

Command for Linux:

```
dsu --catalog-location=<catalog filepath>
```

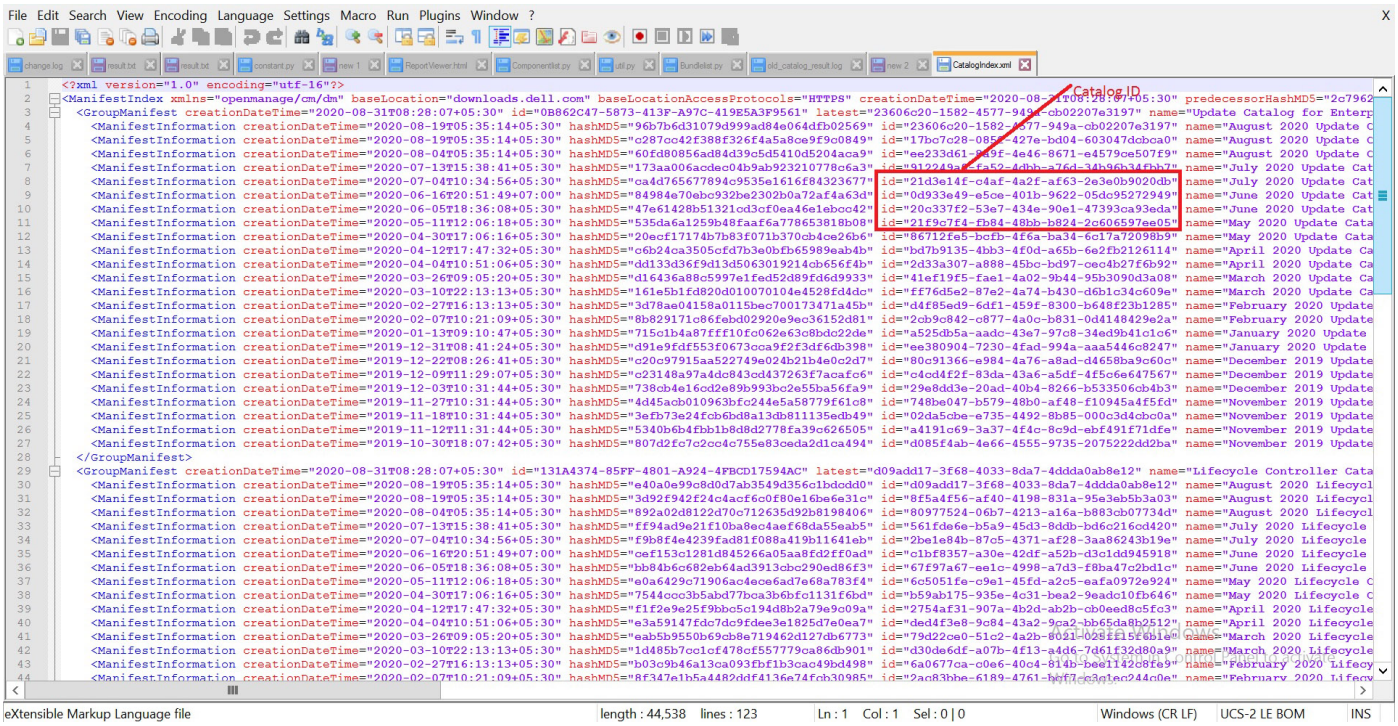
Command for Windows:

```
dsu --catalog-location=<catalog filepath>
```

Catalog ID

Allows user to select catalog from index catalog.

To identify Enterprise ID from index catalog, download the index Catalog from *downloads.dell.com/catalog/catalogIndex.xml*. Extract the file and look for CatalogIndex.xml and use the corresponding catalog ID



Command for Linux:

```
dsu --catalog=<Catalog ID>
```

Category values

To get all the supported category values and display the corresponding acronym for the category name from the catalog.

Command for Linux:

```
dsu --get-categories
```

Command for Windows:

```
dsu --get-categories
```

Category list

To get all the upgradable components of the specified categories.

Command for Linux:

```
dsu --category= <CATEGORY1,CATEGORY2,..>
```

Command for Windows:

```
dsu --category= <CATEGORY1,CATEGORY2,..>
```

Upgrades only

Upgrades only option is considered while determining the applicable updates. This option is also used with `--remote` for the remote system .

Command for Linux:

```
dsu --apply-upgrades-only
```

Command for Windows:

```
dsu --apply-upgrades-only
```

Downgrades only

To get the list of down-gradable components.

Command for Linux:

```
dsu --apply-downgrades
```

Command for Windows:

```
dsu --apply-downgrades
```

Updates list

To apply the updates specified in the file list, if applicable and available in catalog.

Command for Linux:

```
dsu --update-list=<FILENAME1,FILENAME2,...>
```

Command for Windows:

```
dsu --update-list=<FILENAME1,FILENAME2,...>
```

Equivalent version updates

To get the list of applicable components of the same versions for updating.

For example, if the installed version of the component is same as the available version of the component in the catalog, below option is used.

Command for Linux:

```
dsu --apply-equivalents
```

Command for Windows:

```
dsu --apply-equivalents
```

Inventory file path

To provide the path of the inventory file.

Command for Linux:

```
dsu --input-inventory-file=<FILE>
```

Command for Windows:

```
dsu --input-inventory-file=<FILE>
```

Output inventory information

Output the system inventory information in to a file.

Command for Linux:

```
dsu --output-inventory-xml=<Inventory File>
```

Command for Windows:

```
dsu --output-inventory-xml=<Inventory file>
```

Preview updates

Displays a preview of the updated system inventory post updates.

Command for Linux:

```
dsu --preview or -p
```

Command for Windows:

```
dsu --preview or /p
```

Configuration file

Configuration of the file path for DSU.

All the configuration and options are specified using this option. Once this option is specified, the remaining options are ignored.

NOTE: For the given config file, it performs schema check only if the schema file (config.xsd) is available at *%programdata%\Dell\DellEMCSystemUpdate\dell_dup.* To Download schema file, see *http://downloads.dell.com/catalog/schema/*

Command for Linux:

```
dsu --config=<FILE>
```

Command for Windows:

```
dsu --config=<FILE>
```

Destination type

If the applicable updates are packaged for a specific destination, below command is used. To know more about creating of bootable ISO, click on ISO below.

1. ISO is used for creating bootable ISO.
2. **CBD** is used for creating a repository with deployment script.

If the destination type is invalid, then `INVALID_DESTINATION_TYPE` is returned.

Command for Linux:

```
dsu --destination-type=<TYPE> [ISO|CBD]
```

Command for Windows:

```
dsu --destination-type=<TYPE>[ISO|CBD]
```

Path of the inventory collector binary file

Allows users to specify the location from which IC is selected.

This overrides the IC from the catalog when specified.

When it is used with `--remote` option, the IC binary file is used for the remote system for inventory. If invalid location is provided then `INVALID_IC_LOCATION`is returned.

Command for Linux:

```
dsu --ic-location=<inventory collector binary location>
```

Command for Windows:

```
dsu --ic-location=<inventory collector binary location>
```

NOTE: .sign file is provided by the user is located in the same IC location. Else, use `--ignore-signature` to disable signature check.

NOTE: While performing inventory for remote systems, the IC-log is seen only on the remote host systems.

Source Location

Allows user to specify the local or network directory location of the source or repository.

Command for Linux:

```
dsu --source-location=<Directory PATH>
```

Command for Windows:

```
dsu --source-location=<Directory PATH>
```

Destination location

To provide the path of the package created using the `--destination-type` and to be saved.

NOTE: When using `--destination-type=ISO`, the ISO filename provided in --destination-location should adhere to ISO9660 file system standards. For more details, see main page of genisoimage.

Command for Linux:

```
dsu --destination-location=<DIR>
```

Command for Windows:

```
dsu --destination-location=<DIR>
```

Bootable ISO log

This option allows to specify the location at which the log is written while applying the updates using the bootable ISO.

Command for Linux:

```
dsu --bootable-log-location=<Log file location>
```

Command for Windows:

```
dsu --bootable-log-location=<Log file location>
```

Source type

Allows users to specify the type of source update.

1. OSNATIVE for YUM or any operating system default repository
2. DRM or Dell creates repository for REPOSITORY.

If any other value is specified, then **INVALID_UPDATE_SOURCE_TYPE** is returned.

Command for Linux:

```
dsu --source-type=<OSNATIVE|REPOSITORY>
```

Command for Windows:

```
dsu --source-type=<OSNATIVE|REPOSITORY>
```

Path to save the log file

To provide the file path to save the dsu log file.

Command for Linux:

```
dsu --output-log-file=/root/dsu.log
```

Command for Windows:

```
dsu --output-log-file=C:\dsu.log
```

List only critical updates

To list critical component updates. The DSU selection views shall display Criticality of the updates along with update name. **[Urgent/Recommended/Optional**] Dependent updates (only Hard) shall also be listed along with the updates.

Command for Linux:

```
dsu --list-critical-updates
```

Command for Windows:

```
dsu --list-critical-updates
```

Log level

Logging level of DSU. The default location for log file are as follows:

For windows: C:\ProgramData\Dell\DELL EMC System Update\dell_dup

For linux:/usr/libexec/dell_dup

- 1=FATAL messages.
- 2= FATAL+ERROR messages.
- 3=FATAL+ERROR+ WARNING messages are logged
- 4=FATAL+ERROR+WARNING+User Information messages are logged

Command for Linux:

```
dsu --log-level=<log level>
```

Command for Windows:

```
dsu --log-level=<log level>
```

Pushing updates to the remote system

This option is used only with `--remote` option. If this option is provided, all the files that are required for the remote update are copied to the remote platform. Also, push updates option is helpful when remote systems are not connected to the internet.

Command for Linux:

```
dsu --push-remote-updates
```

Command for Windows:

```
dsu --push-remote-updates
```

DSU installer file location

To install or update the DSU on remote systems which is required for remote updating.

NOTE: If this option is not provided, then the DSU installer file present in the catalog are used.

NOTE: The DSU version should be same version as the local system.

Command for Linux:

```
--dsu-lin64-installer-location=<DSU lin64 installer location>
```

Command for Windows:

```
--dsu-win64-installer-location=<DSU win64 installer location>
```

Restarting system

To restart the system, automatically post updates.

Command for Linux:

```
dsu --reboot
```

Command for Windows:

```
dsu --reboot
```

To ignore the optional dependency

To ignore the optional dependency while performing updates of the system.

Command for Linux: dsu `--ignore-optional-dependencies`

Command for Windows: dsu `--ignore-optional-dependencies`

To import the Dell public key

To import the Dell public key.

NOTE: This option should be used along with the other update features.

Command for Windows:

```
dsu --import-public-key
```

Command for Linux:

```
dsu --import-public-key
```

To ignore the signature verification

This option is used to ignore the signature verification of files.

NOTE: This option should be used along with the other update features.

Command for Linux:

```
dsu --ignore-signature
```

Command for Windows:

```
dsu --ignore-signature
```

Component Type

Component type filter lists the updates that are required for the specified component type.

The following are the five component type filters provided:

1. FRMW (Firmware)
2. BIOS
3. APAC (Application)
4. APP (Application)
5. DRVR (Drivers)

NOTE: APP is used only for upgrading OMSA DUPs

NOTE: For JSON supported files, APAC component is displayed as EAPP.

NOTE: The category filter option works when the IC version is greater or equal to 20.04.200, it lists specified components in the servers. Else, the filter list all the components in the server.

If the dependency is not met for the specified component type, the component information is not displayed. But updating of components runs on the available types.

Command Syntax for Linux:

```
dsu --component-type=<component type values>
```

Command Syntax for Windows:

```
dsu --component-type=<component type values
```

NOTE: For Driver, inventory lists all the required updatable and non- updatable parent component and sub components.

Remote

With remote option, user can enable updates of the remote systems, to provide the credentials of the remote system, and to push updates to the remote system.

Pre-requisites:

- It is recommended to provide equivalent options while performing reboot on remote servers.
- DSU supports only when the similar operating system is used in host and remote systems. For example: Windows(Host) - Windows(Remote) ; Linux(Host) - Linux(Remote)
- Remote option is supported only on iDRAC9 and later.
- Ensure to use compatible DSU version when using the DSU options for remote system.
- For Windows Operating Systems, ensure to log in once to remote server for uninterrupted connection.

Enabling updates of the remote systems

To enable the compatibility of the remote system with the host system.

Command for Linux:

```
dsu --remote
```

Command for Windows:

```
dsu --remote
```

NOTE: For the usage of remote option, root account only can be used. Sudo users cannot be used. The remote system must have default PermitRootLogin preenabled in /etc/ssh/sshd_config.

NOTE: Remote option that is mentioned in the system prompt takes precedence over the config file options.

Providing the credentials of the remote system

To enable the remote system with the credentials provided along with the hostname. Multiple remote destinations can be configured using the input config file.

Command for Linux:

```
dsu --remote=<credentials@hostname>
```

Command for Windows:

```
dsu --remote=<Domain\credentials@hostname>
```

NOTE: When domain is used, only single-label DNS names are supported that do not contain a suffix such as .com, Corp, .net, .org, or company name. For example, "host" is a single-label DNS name.

To push updates to the remote system.

To push the required updates to the remote system.

Command for Linux:

```
dsu --push-remote-updates
```

Command for Windows:

```
dsu --push-remote-updates
```

Providing the updates for remote system using iDRAC

To provide the remote system type. The value that is supported is iDRAC. This option performs the iDRAC Update (Out-of band) without any operating system.

Command for Linux:

```
dsu --rsystemtype=<value>
```

Command for Windows:

```
dsu --rsystemtype=<value>
```

To use operating system to iDRAC, pass through interface

To push the updates by operating system IDRAC Passthrough using the USB-NIC interface.

- OAuth: Supports operating system to iDRAC passthrough connection without iDRAC credentials
- BasicAuth: Supports operating system to iDRAC passthrough connection with iDRAC credentials

Command for Linux:

```
dsu --use-idrac-passthrough
```

Command for Windows:

```
dsu --use-idrac-passthrough
```

Input inventory

Allows users to specify the inventory information in a file. DSU takes the information instead of inventorying for determining the applicable updates. Inventory Collector output and multi system inventory are provided with this option. If the input of inventory file is invalid, then `INVALID_INVENTORY` is returned.
Command Syntax for Linux:

```
dsu --input-inventory-file=<Inventory XML file>
```

Command Syntax for Windows:

```
dsu --input-inventory-file=<Inventory XML file>
```

Output inventory

Path to save the inventory xml file.

Command Syntax for Linux:

```
dsu --output-inventory-xml=<inventory file>
```

Command Syntax for Windows:

```
dsu --output-inventory-xml=<inventory file>
```

Output

Location of the output fileCommad

Command Syntax for Linux:

```
dsu --output=<LOCATION>
```

Command Syntax for Windows:

```
dsu --output=<LOCATION>
```

Output format

Format of output file.

Command Syntax for Linux:

```
dsu --output-format=<JSON>
```

Command Syntax for Windows:

```
dsu --output-format=<JSON>
```

Uninstall

To uninstall the DSU from remote machine after performing DSU operation on remote

Command Syntax for Linux:

```
dsu --uninstall
```

Command Syntax for Windows:

```
dsu --uninstall
```

Progress

Progress command is used to get the update status of DSU on host and remote.

NOTE: Run progress command in one minute interval.

NOTE: When no instance of DSU is running on the system and --progress option is used, displays an output as `No progress is available.`

NOTE: The generated progress files are successful but unable to see the file in the network share. Also, the generated progress output file does not provide server progress status and also, when performed progress command with incorrect server details, the generated progress status displays as **DSU intiated**

NOTE: While performing update command for multiple servers from source repository, the generated progress JSON output does not display status message

Command Syntax for Linux

```
dsu --progress
```

Command Syntax for Windows

```
dsu --progress
```

DSU Outputs and Options

Following are the DSU outputs and options:

`[ ]` represents components which are not selected

`[*]` represents components which are selected

`[-]` represents component already at repository version (cannot be selected)

Choose: `q` to Quit without update

Choose: `m` to view mandatory dependencies

Choose: `c` to Commit and apply updates

Choose: `<number>` to Select/Deselect updates

Choose: `a` to Select All

Choose: `n` to Select None

DSU Return Codes

The return codes help you determine and analyze the results after the execution of DSU, see the codes described in the following table:

Table 7. DSU Return Codes

DSU Return Codes		
Number	**Return Codes**	**Description of Return Codes**
0	Success	Any successful operation performed by DSU.
1	Failure	Any failure in operation performed by DSU.
2	Insufficient Privileges	DSU not executed using ROOT privilege..
3	Invalid Log File	Failure in opening a log file or invalid log location.
4	Invalid Log Level	Invalid log level set by user.
6	Invalid Command Line Option	Invalid combination of DSU options used. For example, `–destination` type and `–non-interactive` cannot be used simultaneously.
7	Unknown Option	Incorrect option provided.
8	Reboot Required	Reboot is required for the update to be completed successfully.
12	Authentication failure	When the provided credentials during the network share are incorrect, the following return code is displayed

Table 7. DSU Return Codes

DSU Return Codes		
13	Invalid Source Config (Configuration)	Values provided for source location or source type is invalid.
14	Invalid Inventory	Errors related to Inventory such as filename not present in the location or failed parsing inventory.
15	Invalid Category	Category value (for example: BI) may not exist, DSU returns Invalid Category
17	Invalid Config (Configuration) File	Configuration file location is invalid or failure in parsing it.
19	Invalid IC Location	Invalid Location of inventory collector.
20	Invalid Component Type	Any component type other than the specified type, displays invalid component type
21	Invalid Destination	Destination directory location is invalid.
22	Invalid Destination Type	Destination type is not ISO or CBD.
24	Update Failure	Failure in applying updates.
25	Update Partial Failure	Out-of-date updates are selected.
26	Update Partial Failure And Reboot Required	Out-of-date updates are selected. For successful updates, reboot is required.
27	Destination not reachable	Unable to connect to the remote machine
28	Connection access denied	Privilege restriction
29	Connection invalid session	Abrupt closure of the session
30	Connection Time out	Connection to the system timed out
31	Connection unsupported protocol	Invalid protocols provided during the connection to remote system or target
32	Connection terminated	Connection to the system terminated
33	Execution permission denied	Restricted privilege
34	No Applicable Updates Found	There are no updates found which can be applied.
35	Remote Partial Failure	Some remote systems has failure some maybe successful.
36	Remote Failure	All the remote systems has failure.
40	Public Key Not Found	The signature verification failed due to public keys are not imported on system.
41	No Progress available	Progress report not available
44	Invalid Certification	Invalid certificate error
45	Invalid Proxy format	When user provide invalid proxy format.

9

Uninstalling DSU

This chapter provides the steps to uninstall Dell System Update package on Red Hat Enterprise Linux, CentOS, Ubuntu, SLES, windows using UI. Following are the prerequisites before uninstalling DSU DUP on any of the following Operating Systems.

1. Ensure to use working directory to store the data.

NOTE: While performing uninstallation, DSU deletes working directory. Following are the path for linux and windows:

For Linux: /usr/libexec/dell_dup

For windows: C:\ProgramData\Dell\DELL EMC System Update\dell_dup

NOTE: Upon uninstalling DSU on linux, DSU deletes log files.

Topics:

To uninstall Dell System Update DUP on Red Hat Enterprise Linux operating system

About this task

To uninstall DSU on the supported Red Hat Enterprise Linux (RHEL) operating system through command prompt, perform the following steps:

Steps

1. In command prompt, run the following command: `yum remove dell-system-update`
2. Press **y** to uninstall.

To uninstall Dell System Update DUP on Ubuntu operating system

About this task

To uninstall DSU on the supported Ubuntu operating system through command prompt, perform the following steps:

Steps

1. In command prompt, run the following command: `apt-get remove dell-system-update`
2. Press **y** to uninstall.

To uninstall Dell System Update on Hyper Converged Infrastructure operating system

This topic provides information on the uninstallation of Dell System Update on Hyper Converged Infrastructure

Steps

1. In command prompt, run the following command: `apt-get remove dell-system-update`

2. Press **y** to uninstall.

To uninstall Dell System Update DUP on SLES operating system

Steps

1. At command prompt, run the following command: `zypper remove dell-system-update`
2. Press **y** to uninstall.

To uninstall Dell System Update on Windows through UI

About this task

To uninstall DSU on Windows operating system through user interface (UI), perform the following steps:

Steps

1. Launch the start menu and open **Control Panel**.
2. In **Programs** section, click **Uninstall a program**.
3. In the search bar search for **Dell EMC System Update**.
4. Select the program and click **Uninstall**.
5. In **Programs and Features** window, click **Yes**.
6. In **User Account Control** window, click **Yes**.

10

Troubleshooting Dell System Update

This section helps you troubleshoot if you face any issues

Inventory or compliance is displayed when Enterprise catalog provided instead of Index catalog along with catalog ID

`--catalog` is not necessary to use when Enterprise location is given. To use `--catalog`, user must provide catalog ID.

Use of repository location from config file

This option is supported only for the use of linux repository with source type as YUM repository.

For example for config file:

```
<DSUConfig xmlns="DSUConfiguration"><Repository Type="YUM"><RepoLocation
Directory="drmupdates/cataog.xml" IP="https://httpsserver:port"
useLatestDSU="True" /></Repository><RemoteSystem><System
Address="100.200.00.9"><AuthenticationSequence><Authentication ExecProto="SSH"
Password="test123" Type="PLAIN" Username="root" /></AuthenticationSequence></System></
RemoteSystem></DSUConfig>
```

How does DSU update in case of dependencies during updates

If the component has dependency on component or different version of the same component, Dell System Update updates the dependent component and then updates the required component. For example:

1. Update of IDSDM Component dependency on iDRAC component.
2. Update of iDRAC latest version component dependency on IDRAC older version.

In case if the dependent component requires reboot, then user has to reboot and re-initiate the DSU to continue other updates.

In case of multi-level dependency of the component.

For example: iDSDM depends on iDRAC and again same iDRAC depends on another BIOS Component. In such scenarios, compliance report will show only the immediate dependent component. In the above example, compliance report shows only IDRAC. But when user performs the update, all the dependent components are updated.

Facing issue with IC signature file or Catalog

Description: This issue is seen during the execution of Dell System Update when user terminates the session / partial download of IC file or catalog / network issue during downloads.

Resolution: Before the next execution of Dell System Update, ensure to clear the corrupted file from the working directory and reinitiate the execution.

For Windows: `c:\Programdata\Dell\Dell EMC System Update` is the working directory

For Linux: `/usr/libexec/dell_dup/ folder` is the working directory

User is not prompted with an option to import when new key is present in the index catalog with preview option

Preview option does not prompt user to import new key which is added to the index catalog.

Workaround: User should provide `--import-public-key` to import the new keys or use `--ignore-signature` option to skip signature check and import keys to proceed further.

DSU fails with "Unable to find system proxy settings" when the system proxy is configured using command line

Auto proxy in DSU works only when the proxy is set through LAN setting options.

DSU fails to download the catalog when proxy server is provided along with the password

DSU fails to download the catalog when the password contains special characters such as "&", " ^ ", "%", "$".

For windows users: It is recommended to provide input within the double quotes.

Example: dsu /i --proxy="http://test:test$123@100.100.194.05:8990"

For Linux users: User should provide back slash (\) preceding each special character.

Example: dsu -i --proxy=http://test:abc\$123@100.100.194.05:8990

DSU fails when the system proxy is used along with the credentials

Even though the system proxy is configured , user has to provide the proxy details along with credentials on the DSU command line.

When progress command is run with an incorrect combination of server details, the generated status shows as "DSU initiated"

When performed inventory or update command on the remote servers and perform progress on host server without remote server details, the above message is shown.

Workaround: To generate the progress report, provide

```
dsu --progress --config=<> --remote
```

Provided Index catalog as an input to --catalog-location from the local or network share path

User can provide index catalog from local or share path using --source-type=REPOSITORY and --catalog=<Enterprise Catalog ID > as an input to catalog location.

Deleted or changed the Public key

When user deletes or changes the Public key.

Workaround: Download all the .asc files from *https://linux.dell.com/files/pgp_pubkeys/* and add it under the working directory */usr/libexec/dell_dup folder*.

Unable to update the servers from user created repository

Unable to update the servers from user created repository using `--source-type=REPOSITORY`, `--source-location` and `--catalog-location`

Workaround: when `--source-type` and `--source-location` is used, user is recommended to use catalog file as "catalog.xml" in the source location

when `--source-type` , `--source-location` and `--catalog-location` is used, user is recommended to provide full name of the catalog.

Repository conflicts for updates having different version.

DSU hovers over incorrect updates, if multiple repositories are configured which contains different versions of similar packages.

It is recommended to disable other repositories in such cases.

Unable to recognize DSU after installation

After installation of DSU, when you try to run DSU commands on host or remote system, the following error message is displayed: "DSU is not recognized as internal and external command"

Workaround:

- Ensure that all the mentioned prerequisites are met .
- Refresh the PATH environment variable by deleting and reentering the PATH value and click apply from the System settings. Open a new command prompt window, and try the DSU commands.
- Reboot the host system after installation.

On the freshly installed Operating System, when user runs DSU commands, DSU is unrecognized due to delay (approx. three minutes) in updating environment variables. Post the update, DSU works as expected.

DSU exit with an error message

The following error message is displayed "Symbolic link detected `[C:\ProgramData\Dell\DELL EMC System Update\Log.txt]`"

Workaround: DSU does not allow symbolic link files (like Log.txt) by default , unless user provides it explicitly.

"Unknown option provided in DSU" error message while performing DSU options

When user tries performing any DSU options on remote system, user is prompted with an error message.

Workaround: Recommended to use the latest DSU version on remote system as well.

Failure message is observed while creating a bootable ISO through DSU.

```
[FAILED] Failed to start Startup script for DTK
Please check 'systemctl status start-script.service' for details”
```

The message that is displayed can be ignored as it does not have any impact while creating a bootable ISO.

Unable to access network location

Description: When you try to access, file over SMB2 network share that is hosted on any windows operating system, the following error message is displayed intermittently `Unable to access network location`

Work around:

1. Close all the open share connections.
2. Sign out and sign in to the machine to close the connection to the share network.

A message is displayed when running any DSU command

Description: When run only a single instance of DSU on Linux operating system, the following message is displayed `DSU already in use`

Work around: Delete the temporary files in the following location (/temp/DSUINACTION.txt) and run the commands again.

Failure in updating firmware

Description: When updating firmware, dup fails and prompts an error message.

Workaround: If you face any issue when updating servers using DSU, see the specific DUP Release Notes for more information.

Outputs are displayed with no model numbers

Description: When performed multiple updates, few Servers (Remote Hosts) display output without Model Number and few servers are displayed with Model Server.

Work around: Multiple server updates support only on physical server.

DSU displays partial inventory

Description: DSU displays partial inventory on the console.

Work around: Check the IC log at *C:\ProgramData\Dell\Dell EMC System Update\dell_dup* on microsoft windows and */usr/libexec/dell_dup* for linux operating systems to get more information about the inventory not displayed.

Issue faced during multiple selections of update

Description: Unable to select multiple updatable components.

Work around: To select multiple updates, user has to use "space." Special characters like comma are not supported for multiple selections.

11

Frequently asked questions

This section lists some frequently asked questions about DSU.

Accessing the NW Share fails when all the mount points are used

User must remove one mounting point for accessing the Network share.

DSU command fails with libssl error on Ubuntu operating system

User has to download the libssl 1.0.0 library. For information about the procedure to install libssl, see Installing libssl topic under Install Dell System Update DUP on linux operating systems.

Dynamic key fails to import using index catalog

User should not remove or tamper existing keys in the dell_dup path. Removed or tampered dynamic key will not be downloaded from the index catalog.

Remote update fails from windows to windows when network is slow

This error is due to network issue. Check the network connection and try again.

The connection on remote machine using ssh on windows is lost during network driver installation

DSU does not support ssh for windows.

Unable to use the latest repository linux.dell.com with DSU 1.8 or earlier versions.

User must upgrade to latest DSU version to use the latest repository.

How can I select an update in the given list?

Type the number displayed against the update, to select the update. An asterisk (*) is displayed corresponding to the update after it is selected.

Can I run DSU using PowerShell ISE?

Use DSU with PowerShell but not with PowerShell ISE.

How can I cancel an update already selected in the given list?

It works like a toggle button. For example, if update number 7 is already selected (an asterisk (*) is displayed corresponding to the update after it is selected), and now if you select 7 as an option, it gets cancelled.

After I select the required updates, how to start the update process?

After you selected the required updates, type **c** option to start the update procedure.

Can I select more than one update?

Yes, you can select more than one update at a time. You can provide update numbers one by one as an option to select multiple updates.

Can I select all updates simultaneously?

Yes, you can select all updates at a time. Select an option and press enter, all the updates get selected.

Can I select multiple updates at the same time using a single option in the command?

No, you cannot select multiple updates. However you can select multiple updates by providing numbers one by one.

DSU Inventory displays update for a component that is installed is newer than what is available.

DSU Linux Repository is refreshed on a monthly basis, at the next refresh of the DSU Linux Repository the newer version will be carried.

I am using DSU on 10th and 11th generation of PowerEdge Systems. What are the possible outcomes that i may have to handle while using DSU with repository, catalog or RPM?

The following table describes the scenarios and the expected outcomes if you use DSU on 10th generation of PowerEdge systems.

NOTE: The Dell's PowerEdge 10G and 11G servers have reached end of support life. Version 16.12.01 is the last version of repository or catalog with support for 10th generation updates.

Possible outcomes for PowerEdge systems

Table 8. Possible Outcomes for PowerEdge systems

Scenarios	Outcomes
DSU on 10th generation of PowerEdge system pointing to the newest Linux Repository (on linux.dell.com) and the Repository no longer has 10G content.	**Platform not supported** message is displayed.
DSU 1.5 RPM (sourced from linux.dell.com) on a 10th generation of PowerEdge system pointing to the newest Linux Repository that no longer has 10G content.	**Platform not supported** message is displayed.
DSU 1.4 RPM on a 10th generation of PowerEdge system pointing to an older Linux Repository that still has 10G content.	All commands work as usual.
DSU 1.4 DUP (sourced from downloads.dell.com) pointing to catalog.xml file that no longer has 10G content.	There may be two possible outcomes: • If the DUP doesn't support 10G platform, then DSU is not installed. • If DUP supports 10G platform, DSU is installed. When `dsu` command is invoked **Platform not supported** message is displayed.
I am running DSU 1.4 DUP and pointing at a legacy catalog.xml that has 10G content.	There may be two possible outcome: • If the DUP doesn't support 10G platform, then DSU is not installed. • If DUP supports 10G platform, DSU is installed. `dsu` command works as usual.

On Ubuntu operating system, I see a message "genisoimage: command not found. Please install genisoimage to create bootable iso". What am I supposed to do?

To troubleshoot the issue, execute the following command: `sudo apt-get install genisoimage`. By executing the command, you are installing the genisoimage to generate the ISO.

On Linux operating system, I see a message "mkisofs: command not found. Please install mkisofs to create bootable iso". What am I supposed to do?

To troubleshoot the issue, execute the following command: `yum install mkisofs` on RHEL operating systems and `zypper install mkisofs` on SLES operating systems.

On Microsoft Windows operating system, when I execute the command “dsu”, I see a message “dsu is not recognized as an internal or external command, operable program or batch file”. What am I supposed to do?

To troubleshoot the issue, you must add the dsu install path to environmental variable by executing following command with administrator privileges: `setx PATH=%PATH%;C:\Dell\Dell System Update`.

There are few components that are listed when I execute the command `dsu –i` or `dsu /i`. However, I am not able to view these components in the comparison report. Why do I see the difference?

Though the components are listed after executing the command, there may be no updates available for certain components in the catalog. You may view the components in the comparison report if an update is available for that particular component in the catalog.

I get a warning message saying “Inventory collector returned with partial failure”. How do I get more information about the potential issue?

Check the IC log to get more information regarding the failure. You can find the log file in `C:\ProgramData\Dell\UpdatePackage\log` on Microsoft Windows operating systems and `/var/log/dell/` on Linux operating systems.

I see a message saying “Failed to parse config file” with exit code 17. What should I do to troubleshoot and resolve the issue?

The config file may not be filled correctly. Refer the configuration schema information in the `dsuconfig.xml` section in Using DSU bootable ISO topic.

I see a message “unable to get the inventory collector path from catalog”. What should I do to troubleshoot and resolve the issue?

For more information on the inventory collector path, check the catalog file.

Sample inventory collector data from catalog.xml:

- WIN64: `<InventoryComponent schemaVersion="2.0" releaseID="WF06C" hashMD5="0dbe6b18f0ebf247ea317c51c7257ff4" path="FOLDER04054889M/1/`

```
invcol_WF06C_WIN64_16.12.200.896_A00.exe" dateTime="2016-11-25T16:25:47Z"
releaseDate="November 25, 2016" vendorVersion="16.12.200.896" dellVersion="A00"
osCode="WIN64" />
```

- LIN64: `<InventoryComponent schemaVersion="2.0" releaseID="WF06C" hashMD5="2778b35ac99d4fb7a6c09aa04d095ca6" path="FOLDER04054886M/1/ invcol_WF06C_LN64_16.12.200.896_A00" dateTime="2016-11-25T16:25:47Z" releaseDate="November 25, 2016" vendorVersion="16.12.200.896" dellVersion="A00" osCode="LIN64" />`

When we create a bootable ISO using the ./dsucreateiso script, does it include files such as LC OS Driver Packs, DSET and other files?

Yes, using the script the repository is being created with the Linux bundles. As in mounted environment, DSU is being executed which applies filters to remove the LC OS Driver Packs and the other files.

Which is the default directory to output the ISO?

Executing directory with ISO name as dsu_bootableimage_%Y%m%d_%H%M%S is the default directory to output the ISO.

Where to look for the log files while using the dsucreateiso command?

The log files are located in /var/log/ with the log filename as `dsucreateiso.log`.

How can I generate a separate log file for each remote system on host system.

Separate log file for individual connection can be provided using `LogFile` attribute in the config file as shown below.

```
<RemoteSystem>
    <System Address="100.100.138.12" LogFile="/home/dsu/system1.log"/>
 <System Address="100.100.138.13" LogFile="/home/dsu/system2.log"/>
     </RemoteSystem>
```

DSU exits with an error message on Ubuntu while loading libraries.

DSU exits with an error message: `" dsu : error while loading shared libraries: libssh2.so.1: cannot open shared object file: No such file or directory."`. Install the dependencies (libssh2.so.1) required for executing remote feature of DSU.

Are there any limitations on the number of servers that can be updated at one time with the Remote attribute?

As long as the network has the bandwidth there are no limitations.

Redundant message displayed on Windows console while using remote option.

To avoid redundant messages the command prompt needs to be restarted. For example: `Number of systems complete: 5/5 100%` **Number of systems complete: 4/5 80%**

The system IP address on the DSU's Log file displayed is not correct.

On some cases the Virtual IP address is captured by DSU in place of OS IP, in such scenarios the IP address displayed will not be correct.

On the remote systems running SUSE Linux 15 servers, the remote system is unable get connected after a restart.

This is due to the firewall which could be enabled after a restart.

Host System displays an error message as "unknown option provided in DSU" when the option `UseLatestDSU=FALSE` mentioned in config file

Set the value of attribute value as `TRUE`. If the lesser version of DSU installed on target system all the functionality or the options for remote feature is not enabled hence following message can be thrown in the case.

While using `--push-remote-updates` option on systems running SUSE Linux operating systems , updates failure message is observed.

Reason for failure message is the updates fails to download on the host system.

In such scenarios try using option `--source-type=REPOSITORY` along with `--source-location=<repo-location>`.

Libgpme library not found, on Ubuntu operating systems to run any DSU command.

Error occurs when libgpgme library not found on the host system.

Solution: libgpgme library is one of the dependency for DSU. Please install it on your host system

Unable to connect error occurs while running the DSU with option -use-idrac-passthrough in Linux Operating System.

In case of USB-NIC already **enabled** status the interface settings then there are no actions carried out by DSU hence failure is observed.

Solution: Change the state of USB-NIC in passthrough configuration to disable on iDRAC system and retry.

[iDRAC Settings->Connectivity->OS to iDRAC Pass-through->State]

Recommended to reset the iDRAC incase of connectivity failure.

For more information see, Integrated Dell Remote Access Controller User's Guide at **www.dell.com/iDRACmanuals**.

Unable to connect error occurs while running the DSU with option -use-idrac-passthrough in Windows Operating System.

Solution: Change the state of USB-NIC in passthrough configuration to should always be enabled on iDRAC system

[iDRAC Settings->Connectivity->OS to iDRAC Pass-through->State]

Recommended to reset the iDRAC incase of connectivity failure.

For more information see, Integrated Dell Remote Access Controller User's Guide at **www.dell.com/iDRACmanuals**.

IDSDM firmware update fails for iDRAC remote system.

This DUP is not supported via iDRAC.

Recommendation: Run the DUP directly on the operating system.

DSU fails to connect to the system when the iDRAC is configured on a non-default HTTPS port.

Single remote iDRAC with non-default port fails to get the inventory, preview or update command information.

Recommendation: It supports only by providing the non-default port details in a Config file.

Sample config file:

```
<DSUConfig xmlns="DSUConfiguration>"
<RemoteSystem>
<System  Address="100.98.68.93" RSystemType="iDRAC">
   <AuthenticationSequence>
            <Authentication Password="calvin" Type="PLAIN" Username="root"
ExecPort="445"/>
   </AuthenticationSequence>
</System>>
</RemoteSystem>

</DSUConfig>
```

DSU fails to connect to the remote host system using ActiveDirectory credentials.

Before running DSU commands, used credentials (Local User or AD User) should log in to remote system to create an user account

When using a multi-domain user. For example: If the user has provided "subdomain.domain.com\username", Dell recommends to provide the username as subdomain\username.

DSU fails to connect to remote host system with local administrator user when the host was added to the ActiveDirectory

Recommended to use ActiveDirectory user instead of local Administrator user.

DSU fails to connect to the remote iDRAC using USB-NIC pass through option using ActiveDirectory credentials.

For the remote system to connect through iDRAC USB-NIC pass through option, use only iDRAC user Administrator account.

DSU update fails for few components when update is pushed via iDRAC or via operating system to iDRAC passthrough.

When updates are pushed via iDRAC or OS to iDRAC passthrough, the update fails when the job is in-progress or scheduled or fails in case of restart is required.

Work around: Clear the iDRAC job queue to avoid this error.

Invalid System ID on RHEL 7.6 when executed on Re-branded systems

DSU fails and displays an error message as "Invalid System ID" on re-branded systems.

Update of SAS-RAID firmware and OS collector fails when multiple-updates scheduled via iDRAC or iDRAC Passthrough

In such scenarios update the failed components individually.

Segmentation error is observed when the option `rsystemtype` or when `--use-idrac-passthrough` is mentioned in config file

In some scenarios segmentation fault is observed for multiple remote connection through iDRAC.

Recommendation: If the issue persists, user has to re-try the command.

Firmware updates via iDRAC or iDRAC passthrough with a non-admin user displays an error as 0 Updates Succeeded.

Reason for this error might be with insufficient privileges, refer DSU log file to confirm same. Perform the update using iDRAC user with Administrator privileges.

DSU functionality fails for the system when the iDRAC was configured with non-default HTTPS port using iDRAC USB-NIC passthrough

Change the iDRAC HTTPS port to default (443) and retry the updates.

DSU installed system environmental variable "PATH" is not getting cleared during uninstallation

When DSU is used in remote scenarios, DSU installed system environmental variable "PATH" is not getting cleared during uninstallation. If multiple remote sessions are used for the same machine the entry created by DSU will get accumulated due to this.

Workaround : Delete multiple entries of DSU path.

Incorrect network Firmware name displayed for iDRAC and iDRAC-pass-through with preview with iDRAC version 3.36.36.36

Displays incorrect firmware name for iDRAC and iDRAC-pass-through.

Recommendation :Use latest iDRAC version.

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Sample

When using an IC that has component type filter, it lists component types which are specified. When using an IC that does not have component type filter option, all the available server components are listed.

Topics:

Sample options usage

The following are some of the sample options with DSU:

Sample Config file with Authentication Sequence and Remote System options

To point to a repository hosted at `https://<ip_address>/<directory>`(for example, https://192.168.10.11/16.08.00), the config XML file is:

```
<DSUConfig>
<Repository Type="REPOSITORY">
    <RepoLocation IP="192.168.10.11" Directory="16.08.00" UseLatestDSU="True"/>
</Repository>

<AuthenticationSequence>

    <Authentication Type="PLAIN" ExecPort="22" Username="name" Password="password1"
OrderID="4"
  ExecProto="SSH"/>
    <Authentication Type="PLAIN" ExecPort="22" Username="name" Password="password2"
OrderID="1"
  ExecProto="SSH"/>
    <Authentication Type="PLAIN" ExecPort="22" Username="name" Password="password3"
  ExecProto="SSH"/>
</AuthenticationSequence>

<RemoteSystem>
    <System Address="192.200.14.145">
    <AuthenticationSequence>
        <Authentication Type="PLAIN" Username="name" Password="password1" OrderID="1"
ExecProto="SSH"/>
    </AuthenticationSequence>
    <ApplySequence>
 <UseiDRACPassThrough>
 <Authentication ExecProto="REDFISH" Password="calvin" Type="PLAIN" Username="root"/>
 </UseiDRACPassThrough>
    <Sequence Type="ApplyFirst">
        <Category OrderID="1" Value="BI"/>
        <Category OrderID="2" Value="NI"/>
        <Category OrderID="3" Value="DI"/>
    </Sequence>
    <Sequence Type="ApplyLast">
        <Category OrderID="3" Value="SA"/>
        <Category OrderID="0" Value="DD"/>
    </Sequence>
    </ApplySequence>
</System>

<System Address="192.150.12.132" RSystemType="iDRAC">
    <AuthenticationSequence>
```

```
        <Authentication Type="PLAIN" Username="name" Password="password2" OrderID="2"
ExecProto="SSH"/>
    </AuthenticationSequence>
</System>
<System Address="192.160.10.101 RSystemType="iDRAC">
 <AuthenticationSequence>
 <Authentication Password="password" Type="PLAIN" Username="username"/>
 </AuthenticationSequence>
 </System>
</RemoteSystem>


</DSUConfig>
```

```
# Sample Config file for Configuring repository and sequencing the order of updates
using Config file
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<DSUConfig xmlns="DSUConfiguration">
    # Repository Details
    <Repository Type="REPOSITORY">
    <RepoLocation IP="192.168.10.11" Directory="16.08.00" UseLatestDSU="True"/>
    </Repository>

    <ApplySequence>
    <Sequence Type="ApplyFirst">
    <Category Value="NI" OrderID = "1"/>
    <Category Value="BI" OrderID = "2"/>
    </Sequence>

    <Sequence Type="ApplyLast">
    <Category Value="SV" OrderID = "0"/>
    <Category Value="SA" OrderID = "3">
    </Sequence>
    </ApplySequence>

    <RemoteSystem>
    # Windows Remote Hosts
    <System  Address="192.168.200.11" >
      <AuthenticationSequence>
    <Authentication Type="PLAIN" Username="system Username" Password="password2"
Domain="Domain Name" OrderID="1"  ExecProto="WMI"/>
  </AuthenticationSequence>
  </System>

  <System  Address="192.168.200.11" >
      <AuthenticationSequence>
    <Authentication Type="PLAIN" Username="system Username" Password="password2"
Domain="Domain Name" OrderID="2"  ExecProto="WMI"/>
  </AuthenticationSequence>
  </System>
  <RemoteSystem>


</DSUConfig>
```

```
#Sample Config file for providing multiple Remote iDRACs

<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<DSUConfig xmlns="DSUConfiguration">
   <RemoteSystem>
    <System  Address="192.168.200.135" RSystemType="iDRAC">
      <AuthenticationSequence>
    <Authentication ExecProto="REDFISH" Username="root" Password="calvin" Type="PLAIN"
ExecPort="443" OrderID="2"/>
  </AuthenticationSequence>
    </System>

    <System  Address="192.168.200.136" RSystemType="iDRAC">
      <AuthenticationSequence>
    <Authentication ExecProto="REDFISH" Username="root" Password="calvin" Type="PLAIN"
ExecPort="443" OrderID="1"/>
  </AuthenticationSequence>
```

```
    </System>

  </RemoteSystem>

</DSUConfig>
```

```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<DSUConfig xmlns="DSUConfiguration">


   <RemoteSystem>
    # Remote Windows OS to iDRAC Passthrough with basic Authentication
    <System  Address="192.168.200.140" >
      <AuthenticationSequence>
        <Authentication ExecProto="WMI" Password="password" Username="System Username"
Domain="Domain Name" Type="PLAIN" OrderID="2"/>
      </AuthenticationSequence>
      <UseiDRACPassThrough>
         <Authentication ExecProto="REDFISH" Password="calvin" Type="PLAIN"
Username="root"/>
      </UseiDRACPassThrough>
    </System>

    # Remote Linux OS to iDRAC Passthrough with basic authentication
    <System  Address="192.168.200.140" >
      <AuthenticationSequence>
        <Authentication ExecProto="SSH" ExecPort="22" Username="System Username"
Password="password" Domain="Domain Name" Type="PLAIN" OrderID="1"/>
      </AuthenticationSequence>

      <UseiDRACPassThrough>
         <Authentication ExecProto="REDFISH" Password="calvin" Type="PLAIN"
Username="root"/>
      </UseiDRACPassThrough>
    </System>

    # Remote Linux OS to iDRAC Passthrough with OAuth authentication
    <System  Address="192.168.200.140" >
      <AuthenticationSequence>
        <Authentication ExecProto="SSH" ExecPort="22" Username="System Username"
Password="password" Domain="Domain Name" Type="PLAIN" OrderID="1"/>
      </AuthenticationSequence>

      <UseiDRACPassThrough>
         <Authentication ExecProto="REDFISH"  Type="PLAIN" />
      </UseiDRACPassThrough>
    </System>

  </RemoteSystem>

</DSUConfig>
```

```
# Sample Config file for providing multiple Remote Hosts
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<DSUConfig xmlns="DSUConfiguration">

   <RemoteSystem>
    # Windows Remote Hosts
    <System  Address="192.168.200.11" >
      <AuthenticationSequence>
    <Authentication Type="PLAIN" Username="system Username" Password="password2"
Domain="Domain Name" OrderID="1"  ExecProto="WMI"/>
  </AuthenticationSequence>
  </System>

  <System  Address="192.168.200.11" >
      <AuthenticationSequence>
    <Authentication Type="PLAIN" Username="system Username" Password="password2"
Domain="Domain Name" OrderID="2"  ExecProto="WMI"/>
  </AuthenticationSequence>
  </System>
```

```
    # Linux Remote Hosts
     <System  Address="192.168.200.123" >
     <AuthenticationSequence>
     <Authentication Type="PLAIN" ExecPort="22" Username="system Username"
Password="password2" OrderID="1"  ExecProto="SSH"/>
     </AuthenticationSequence>
      </System>
     </RemoteSystem>
</DSUConfig>
```

Table 9. Config file options usage

Element	Options Usage	Description
Repository	`Type="OSNATIVE|REPOSITORY"`	When type is `OSNATIVE`, the command specific to the OS will be used to install updates. Updates are fetched from IP + '/' + Directory. When type is `REPOSITORY`, the updates will be downloaded from location provided in the `IP + '/' + Directory`.
Repository -> RepoLocation	`IP="<ipaddress>" Directory="<directoryaddress>"`	The attributes provides the location of repository for the update of IP and Directory as: [IP + '/' + Directory]. If the Type is `OSNATIVE`, location provided in the [IP + '/' + Directory] is expected to carry updates in rpm format. If the Type is `REPOSITORY`, location provided by the [IP + '/' + Directory] should contain catalog file in `.gz` format and same will be used to fetch updates.
	`UseLatestDSU="True|False"`	The `UseLatestDSU` refers to the latest DSU version to be installed at the target system. **Usecase 1: Bootable ISO** a. TRUE: When `Type` is `OSNATIVE`, DSU'S version is compared from the location provided in the `IP + '/' + Directory` to the version carried by DSU bootable plug-in. b. False: The DSU version carried inside dell boot plugin will be used. **UseCase2: While using remote option.** a. TRUE: Latest DSU will be made available at target system (Install/update) b. False: DSU version available at target system will be used to apply updates. This options is ignored in case `Type` is `REPOSITORY`. **NOTE:** Dell recommends the value of the attribute as `True`, when using the `remote` option. **NOTE:** Dell recommends the value of the attribute as `True`, in the config file to avoid failures at the remote system.
ApplySequence -> Sequence	`Type= "ApplyFirst | ApplyLast"`	This option allows user to provide the sequencing. ApplyFirst allows the user to apply the list of categories mentioned to be updated first and ApplyLast allows the user to apply the updates last.

Table 9. Config file options usage

Element	Options Usage	Description
ApplySequence -> Sequence -> Category	`Value OrderID`	There are two attributes which has to be mentioned for this feature: • Value - Category value is to be provided. To get the category value use the option `--get-categories` • OrderID - OrderID is positive integer value which will be used to apply the updates in an ascending order. Default order for updating is: • iDRAC / LC • Applications like: Diagnostics – DI, iSM • Device Driver (Storage, COMMs, Chipset, Video) • Device Firmware (Storage, COMMs, PSU, CPLD) • BIOS

AuthenticationSequence -> Authentication	`Authentication`
	`Type="PLAIN"`
	`ExecPort="22"`
	`Username="name" Password="password1"`
	`OrderID="4"`
	`ExecProto="SSH" |"WMI" | "REDFISH"`
		The Authentication has various attributes which can be used to config the remote systems.
		The default value is **Plain** which requires the user to provide the user name and the password for the connection.
		The **ExecPort** is used to provide the port number in accordance to the execution protocol provided.
		Username and password are required for authentication.
		The **OrderID** provides the order in which the authentications provided will be checked for the remote connections.
		The **ExecProto** provides the protocol method over which the connection will be established.
		• `SSH` is the connection protocol used for Linux operating systems.
		• `WMI` is the connection protocol used for Microsoft Windows operating systems.
		• Redfish - is connection method used for iDRAC.
		This attribute is optional.

RemoteSystem -> System	`System Address type`
	`AddressType="IPV4"`
	`RSystemType=iDRAC`
		To provide the IP address of system, DSU automatically detects the type of address if the input is not provided by the user.
		To provide the system type to connect to remote system.

Sample config file with only Apply Sequence option

```
<DSUConfig>
<Repository Type="CATALOG">
 <RepoLocation IP="192.168.10.11" Directory="16.08.00" UseLatestDSU="False"/>
</Repository>
<ApplySequence>
 <Sequence Type="ApplyFirst">
  <Category Value="NI" OrderID = "1"/>
```

```
  <Category Value="BI" OrderID = "2"/>
</Sequence>
<Sequence Type="ApplyLast">
<Category Value="SV" OrderID = "0"/>
</Sequence>
</ApplySequence>
</DSUConfig>
```

Command to perform firmware updates via iDRAC (Remote System)

Inventory:

```
dsu --source-type=REPOSITORY -i --remote="idracuser:idracpassword@iDRAC IP" --
rsystemtype=iDRAC
```

Preview:

```
dsu --source-type=REPOSITORY --preview --remote="idracuser:idracpassword@iDRAC IP" --
rsystemtype=iDRAC
```

Update:

```
dsu --source-type=REPOSITORY -u --remote="idracuser:idracpassword@iDRAC IP" --
rsystemtype=iDRAC --reboot
```

Sample config file for performing firmware updates via iDRAC (Multiple Remote system)

```
<DSUConfig>

<RemoteSystem>
 <System  Address="192.168.1.10" RSystemType="iDRAC">
   <AuthenticationSequence>
       <Authentication Password="idracpassword" Type="PLAIN" Username="username"
ExecPort="443"/>
   </AuthenticationSequence>
 </System>
</RemoteSystem>
</DSUConfig>
```

Command to perform firmware update via operating system to iDRAC using Passthrough interface.

Host System: `dsu --use-idrac-passthrough --source-type=REPOSITORY -u`

Remote System: `dsu --use-idrac-passthrough --source-type=REPOSITORY -u --remote="OS Username:OSPassowrd@OSIP`

Sample Config File to perform firmware update via operating system to iDRAC Passthrough using OAuth Authentication

```
<DSUConfig>
   <RemoteSystem>
        <System  Address="100.100.200.131" >
            <AuthenticationSequence>
                   <Authentication ExecProto="WMI" Password="ospassword" Type="PLAIN"
                    Username="username" Domain="domainname"/>
            </AuthenticationSequence>
            <UseiDRACPassThrough>
                   <Authentication ExecProto="REDFISH" Type="PLAIN" />
            </UseiDRACPassThrough>
```

```
        </System>
   </RemoteSystem>
</DSUConfig>
```

Sample Config file to perform firmware update via operating system to iDRAC passthrough using Basic Authentication

```
<DSUConfig>
   <RemoteSystem>
     <System  Address="192.168.10.1" >
         <AuthenticationSequence>
                 <Authentication ExecProto="WMI" Password="ospassword" Type="PLAIN"
Username="username"
                   Domain="domain"/>
         </AuthenticationSequence>
       <UseiDRACPassThrough>
           <Authentication ExecProto="REDFISH" Password="idracpassword " Type="PLAIN"
             Username="idracusername"/>
       </UseiDRACPassThrough>
    </System>
  </RemoteSystem>
</DSUConfig>
```

Command to import the public keys for Signature Validation on Linux operating system

On Host System: `dsu -u --import-public-key`

On Remote System: `dsu -u --remote=username:password@SystemOSIP --import-public-key`

Command to ignore the signature Validation on Linux and Microsoft Windows operating systems

Host system: `dsu -u --ignore-signature`

Remote system: `dsu -u --remote=username:password@SystemOSIP --ignore-signature`

Command to use the installer option

```
dsu --dsu-lin64-installer-location="<location>"
```

```
dsu --remote --config=/home/dsu/config.xml --dsu-lin64-installer-location=/home/dsu/
Systems-Management_Application_7PMM2_LN64_1.8.0_A00.BIN
```

```
--dsu-win64-installer-location=C:\dsu\ Management_Application_7PMM2_WN64_1.8.0_A00.EXE
```

```
--dsu-lin64-installer-location=/home/dsu/ Systems-
Management_Application_7PMM2_LN64_1.8.0_A00.BIN
```

To pick the location provided and install at remote system if DSU is not installed. Alternatively if `uselatestdsu` attribute is true then following DUP will be used to replace the DSU at remote system.

Command to use reboot options

```
dsu --reboot
```

Restarts the system for updates to take effect.

While reboot option is used on host the DSU needs to be triggered manually after restart to check the status of updates.

```
dsu --config="<configFile Path>" --remote --category=BI -e --reboot
```

The command restarts the remote systems specified in the config file if the update requires a restart of the system and will relaunch DSU to check the status of the same.

Command to use push remote updates

```
dsu --push-remote-updates --remote --config="<filepath>" --category=BI
```

To push all the required updates to the remote system from the system where DSU is running, runs the update and provides the status back.

Use with custom offline repository created with Dell Repository Manager

DSU can update a system based on a custom-built Server Update Utility (SUU) offline repository exported from Dell Repository Manager (DRM):

- Build a bundle of desired DUPs using DRM in a custom repository or choose a Dell-defined system bundle from the **Dell Online Catalog** tab.
- Select the checkbox of each desired bundle then click the **Create Deployment Tools** button.
- Choose **Create Server Update Utility (SUU)** and then **SUU to Directory**.
- Choose **Generate 64-bit SUU**.
- Browse for a directory to begin the export then click **Finish**.

Once the export task for the SUU image has completed then issue the following:

Linux Operating System:

```
dsu --source-type=REPOSITORY --source-location= ="<path_to_suu> repository" --ic-
location="<path_to_suu>/bin/Linux/invcol
```

Microsoft Windows Operating System:

```
dsu --source-type=REPOSITORY --source-location=="<path_to_suu> Repository" --ic-
location="<path_to_suu>\bin\Windows\invcol.exe
```

Command to update from the provided repository

```
dsu --source-type=REPOSITORY --source-location="downloads.dell.com/catalog"
```

```
dsu --source-type=OSNATIVE
```

In case of `OSNATIVE` the default repository will take the respective operating system flavor.

Command to create bootable DSU ISO

Linux Operating System:

```
dsu --destination-type=ISO --destination-location="/home/demo.iso" -n -source-
type=REPOSITORY --source-location="192.168.10.11/16.08.00" --config="/usr/libexec/dell_dup/
dsuconfig.xml"
```

Windows Operating System:

```
dsu --destination-type=ISO --destination-location="C:\demo.iso" -n -source-type=REPOSITORY
--source-location="192.168.10.11/16.08.00" --config="C:\dsuconfig.xml"
```

Command to create bootable non-interactive DSU ISO

Linux Operating System:

```
dsu --non-interactive --destination-type=ISO --destination-location=/root/home/
output.iso --config=/root/home/config.xml --source-type=REPOSITORY --source-
location="downloads.dell.com/catalog"
```

Microsoft Windows Operating System:

```
dsu --non-interactive --destination-type=ISO --destination-location= C:\output.iso --
config=C:\config.xml
```

Command to create bootable interactive DSU ISO

Linux Operating System:

```
dsu --destination-type=ISO --destination-location=/root/home/output.iso
```

Microsoft Windows Operating System:

```
dsu --destination-type=ISO --destination-location= C:\output.iso
```

Command to package the selected updates to a folder using existing bootable ISO

Linux Operating System:

```
dsu --destination-type=CBD --destination-location=/root/home/outdirectory --bootable-log-
location=/var/log/bootmsg.log
```

Microsoft Windows Operating System:

```
dsu --destination-type=CBD --destination-location= C:\outdirectory --bootable-log-
location=/var/log/bootmsg.log
```

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Topics:

Xerces

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libcurl

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Cygwin

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