

DELL EMC System Update Version 1.8

User's Guide

Notes, cautions, and warnings

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

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

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

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Introduction to Dell System Update

DELL EMC System Update (DSU) is a script optimized update deployment tool that is used to apply Dell EMC updates such as applications, firmware and drivers for Linux, and Microsoft Windows operating systems. Using DSU identify the available updates, select the relevant updates, and deploy the updates on a single system or multiple systems through operating systems or Integrated Dell Remote Access Controller (iDRAC) or iDRAC pass through.

Topics:

- [How does Dell System Update work](#)
- [What is new in this release](#)
- [Related Documents](#)

How does Dell System Update work

Dell System Update (DSU) is designed to facilitate the consumption of the updates referred in the catalog or repository.

DSU references catalog to get updates and apply on to the target systems. It can work online and offline. Use DSU for automating the update management through scripts.

What is new in this release

This release of DSU supports the following new feature:

- Support (CIFS/SMB1 and SMB2) network share for providing repositories, Inventory Collector, Dell Update Packages, Catalog, and so on, to DSU.
- Saving log file and exporting JSON files to network share.
- Exporting Inventory and Progress information to JSON formatted file.
- Feature to get progress information during server update.
- Support to export inventory in XML and JSON format to a local or a network share.
- Install location that is changed to *ProgramFiles* and working directory to *Programmata* in Windows.
- Option to uninstall DSU from target system after remote operations.
- Enhancing the feature to support device guard fix.
- Enhancing the feature to update remote and host systems that are based on the component type like DRVVR, APP, APAC, BIOS, Firmware.

 **NOTE: Driver support is available only for systems running on Microsoft Windows.**

Related Documents

Since DSU supports an Update to the Server by iDRAC, see *Integrated Dell Remote Access Controller User's Guide* for any configuration-related queries. For the information about supported PowerEdge Servers, see *Dell EMC Systems Management - OpenManage Software Support Matrix*. All these documents are available at Dell.com/Support.

Support Matrix

This section lists the hardware, Operating Systems and PowerEdge Servers required for installing DSU.

Topics:

- [Supported hardware](#)
- [Supported Operating Systems](#)

Supported hardware

DSU supports iDRAC7, iDRAC8 and iDRAC9 based Dell EMC PowerEdge servers.

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

NOTE: DSU 1.8 does not support remote update through iDRAC7 and iDRAC8

Supported Operating Systems

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

NOTE: Community distros such as Fedora, CentOS, and open SUSE are not tested with Dell Linux repository. Since most of the kernel drivers in the Dell Linux repository are in Dynamic Kernel Module Support (DKMS) format, community distros may work.

The following Microsoft Windows Operating Systems are supported:

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

The following Ubuntu Operating Systems are supported:

- Ubuntu 18.04.04

For more information on the catalog that has the updates for Ubuntu operating system, see <https://linux.dell.com/repo/hardware/ubuntu/catalog/>

The following Linux Operating Systems are supported:

- Red Hat Enterprise Linux 8.1
- Red Hat Enterprise Linux 8.0 (x86_64)
- Red Hat Enterprise Linux 7.6 (x86_64)
- Red Hat Enterprise Linux 7.7
- SUSE Linux Enterprise Server 15 SP1 (x86_64)

NOTE: The remote feature of DSU is not supported on RHEL 8.1 operating system.

Prerequisites for installing on remote systems

The following protocols are used 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.

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

i **NOTE:** It is recommended to have physical server to install or uninstall DSU on remote or host system.

Installing DSU

Installing DSU DUP on Linux operating systems

Prerequisites

- Ensure that you have **superuser** or **root** user permissions.
- Ensure that the remote system has a default **PermitRootLogin** pre-enabled in `/etc/ssh/sshd_config`.
- Ensure that you use the root account to access a Linux server remotely.
- Ensure that you have the Libssh2 package.
- Ensure that you enable the SSH protocol.
- For more information about the latest DSU RPM, see https://linux.dell.com/repo/hardware/dsu/os_independent/x86_64/

Offline method to install DSU

About this task

To install DSU 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 DSU.
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 DSU.
A successful installation message is displayed.

Online method to install DSU on Red Hat Enterprise Linux operating system

Prerequisites

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

About this task

To install DSU 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. In command prompt, run the following command: `yum install dell-system-update`
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` on the command prompt or PowerShell with **superuser** or **root** privileges.

Online method to install DSU on SLES operating system

Prerequisites

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

About this task

To install DSU on the supported SUSE Linux Enterprise Server (SLES) 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, run the following command: `zypper install dell-system-update`
Status of the installation is displayed with details such as release title, release date, description, and supported devices information.

Installing DSU DUP on Microsoft 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 servers 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_7PMM2_WN64_1.8.0_A00.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 Microsoft 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` on the command prompt.

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

DSU features

Provides 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.

About this task

DSU provides following basic features:

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

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.

Topics:

- [Inventory](#)
- [Preview](#)
- [Updating Server](#)
- [Bootable ISO](#)

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.

Table 1. Inventory Use cases

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
View inventory	<code>--inventory</code>	<code>--component-type</code>	Format: <code>dsu --inventory</code>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			Example: <pre>dsu --inventory</pre> <pre>dsu --inventory --component-type=BIOS</pre>
Export inventory in JSON format	<pre>--inventory</pre> <pre>--output</pre> <pre>--output-format</pre>	<pre>--authentication</pre> <pre>--component-type</pre>	Format: <pre>dsu --inventory --output=<location> --output-format=JSON</pre> Example: <pre>dsu --inventory --output=C:\Program files\Dell\Dell EMC System Update \dell_dup\inv.json --output-format=JSON</pre> <pre>dsu --inventory --output=C:\Program files\Dell\Dell EMC System Update \dell_dup\inv.json --output-format=JSON --authentication=Abc:bc123</pre>
View system inventory using an inventory file	<pre>--input-inventory-file</pre> <pre>--inventory</pre>	<pre>--component-type</pre>	Format: <pre>dsu --inventory --input-inventory-file=<absolute file path.xml></pre> Example: <pre>dsu --inventory --input-inventory-file=C:\Program files\Dell\Dell EMC System Update \dell_dup\inv.xml</pre> <pre>dsu --inventory --input-inventory-file=C:\Program files\Dell\Dell EMC System Update \dell_dup\inv.xml --component-type=BIOS</pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
View inventory when system is not connected to <i>downloads.dell.com</i> (offline)	<pre>--inventory</pre> <pre>--source-type</pre> <pre>--source-location</pre>	<pre>--component-type</pre> <pre>--authentication</pre> <pre>--catalog-location</pre> <pre>--ic-location</pre>	<p>Format:</p> <pre>dsu --inventory --source-type=repository --source-location=<location></pre> <p>Example:</p> <pre>dsu --inventory --source-type=repository --source-location=C:\Program files\Dell\Dell EMC SystemUpdate\ABC</pre> <pre>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:bc123</pre>
Inventory on remote Host Servers through Operating System			
View inventory for single remote host server	<pre>--inventory</pre> <pre>--remote</pre>	<pre>--component-type</pre>	<p>Format:</p> <pre>dsu --inventory --remote=username:password@OS_IP></pre> <p>Example:</p> <pre>dsu --inventory --remote=<abc:ABC_123@100.28.22.99</pre> <pre>dsu --inventory --remote=abc:abc_123@100.78.34.77 --component-type=BIOS</pre>
Export inventory for single remote host server	<pre>--inventory</pre> <pre>--remote</pre> <pre>--output</pre> <pre>--output-format</pre>	<pre>--component-type</pre>	<p>Format:</p> <pre>dsu --inventory --remote=username:password@IPAddress --output= <location> --output-format=JSON</pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			<p>Example:</p> <pre>dsu --inventory -- remote=abc:abc_123@1 00.89.45.27 -- output= C:\Dell \DELL EMC System Update\dell_dup \inv.json --output- format=JSON</pre> <pre>dsu --inventory -- remote=abc:abc_123@1 00.89.45.27 -- output= C:\Dell \DELL EMC System Update\dell_dup \inv.json --output- format=JSON -- component-type=BIOS</pre>
Inventory on multiple servers			
View inventory for multiple servers	<pre>--inventory</pre> <pre>--config</pre> <pre>--remote</pre>	<pre>--component-type</pre>	<p>Format:</p> <pre>dsu --inventory -- config=<file> -- remote</pre> <p>Example:</p> <pre>dsu --inventory -- config=C:\Dell\Dell EMC System Update \dell_dup \config.xml --remote</pre> <pre>dsu --inventory -- config=C:\Dell\Dell EMC System Update \dell_dup \config.xml -- remote --component- type=BIOS</pre>
Export inventory for multiple servers	<pre>--inventory</pre> <pre>--remote</pre> <pre>--config</pre> <pre>--output</pre> <pre>--output-format</pre>	<pre>--component-type</pre>	<p>Format:</p> <pre>dsu --inventory -- remote -- config=<file> - output=<location> -- output-format=JSON</pre> <p>Example:</p> <pre>dsu --inventory -- remote -- config=C:\Dell\Dell EMC System Update \dell_dup \config.xml -- output=C:\Dell\Dell EMC System Update</pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			<pre>\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</pre>
Inventory on remote server through iDRAC			
View inventory	<pre>--inventory --remote --rsystemtype</pre> <p>i NOTE: If there is linux, --source-type=repository is required.</p>	<pre>--component-type</pre>	<p>Format:</p> <pre>dsu --inventory -- remote=<idracusername: idracpassword@iDRAC _IPAddress> -- rsystemtype=iDRAC</pre> <p>Example:</p> <pre>dsu --inventory -- remote=abc:abc_123@1 00.88.66.100 -- rsystemtype=iDRAC</pre> <pre>dsu --inventory -- remote=abc:abc_123@1 00.88.66.100 -- rsystemtype=iDRAC -- component-type=BIOS</pre>
Export inventory	<pre>--inventory --remote --rsystemtype --output --output-format</pre>	<pre>--component-type</pre>	<p>Format:</p> <pre>dsu --inventory -- remote=idracusername :idracpassword@iDRAC _IPAddress -- rsystemtype=iDRAC -- output=<location> -- output-format=JSON</pre> <p>Example:</p> <pre>dsu --inventory -- remote=abc:abc_123@1 00.88.66.100 -- rsystemtype=iDRAC -- output= C:\Program files\Dell\Dell EMC System Update \dell_dup\inv.json --output-format=JSON</pre> <pre>dsu --inventory -- remote=abc:abc_123@1 00.88.66.100 --</pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			<pre>rssystemtype=iDRAC -- output= C:\Program files\Dell\Dell EMC System Update \dell_dup\inv.json --output- format=JSON -- component-type=BIOS</pre>
Inventory on Operating System to iDRAC passthrough(OAUTH)			
View inventory from online repository for remote system	<pre>--inventory --use-idrac- passthrough --remote</pre>	<pre>--component-type</pre>	<p>Format:</p> <pre>dsu --inventory -- use-idrac- passthrough -- remote=username:OS_I P address</pre> <p>Example:</p> <pre>dsu --inventory -- use-idrac- passthrough -- remote= abc:abc_123@100.88.6 6.100</pre> <pre>dsu --inventory -- use-idrac- passthrough -- remote= abc:abc_123@100.88.6 6.100 --component- type=BIOS</pre>
View inventory from offline repository	<pre>--inventory --use-idrac- passthrough --remote --source-type --source-location</pre>	<pre>--component-type</pre>	<p>Format:</p> <pre>dsu --inventory -- use-idrac- passthrough -- remote=Username:pass word@OS_IP address --source- location=<location> --ic- location=<location> --catalog- location=<location> --source-type=<Type></pre> <p>Example:</p> <pre>dsu --inventory -- use-idrac- passthrough -- remote=abc:abc_123@1 00.88.66.100 -- source-location= C:\Dell\DELL EMC System Update \dell_dup --ic- location= C:\Dell \DELL EMC System Update\dell_dup</pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			<pre> \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@1 00.88.66.100 -- 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 </pre>
View inventory for host servers	<pre> --inventory --use-idrac- passthrough </pre>	<pre> --component-type </pre>	<p>Format:</p> <pre> dsu --inventory -- use-idrac- passthrough </pre> <p>Example:</p> <pre> dsu --inventory -- use-idrac- passthrough dsu -- inventory --use- idrac-passthrough dsu --inventory -- use-idrac- passthrough dsu -- inventory --use- idrac-passthrough --component- type=BIOS </pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
Export inventory in JSON format for remote system	<pre>--inventory</pre> <pre>--use-idrac-passthrough</pre> <pre>--remote</pre> <pre>--output</pre> <pre>--output-format</pre>	<pre>--component-type</pre>	<p>Format:</p> <pre>dsu --inventory -- use-idrac- passthrough -- remote= username:password@IP address -- output=location -- output-format=JSON</pre> <p>Example:</p> <pre>dsu --inventory -- use-idrac- passthrough -- remote=abc:abc_123@1 00.99.88.77 -- output=C:\Program files\Dell\Dell EMC System Update \dell_dup\inv.json --output-format=JSON</pre> <pre>dsu --inventory -- use-idrac- passthrough -- remote=abc:abc_123@1 00.99.88.77 -- output=C:\Program files\Dell\Dell EMC System Update \dell_dup\inv.json --output- format=JSON -- component-type=BIOS</pre>
View system inventory using an inventory file on host server(BasicAuth)	<pre>--inventory</pre> <pre>--use-idrac-passthrough</pre> <pre>--remote</pre> <pre>--input-inventory-file</pre>	<pre>--component-type</pre>	<p>Format::</p> <pre>dsu --inventory -- use-idrac- passthrough -- remote=idracusername :idracpassword -- input-inventory- file=<linventory file></pre> <p>Example:</p> <pre>dsu --inventory -- use- idracpassthrough -- remote=abc:abc_123 --input-inventory- file=C:\Dell\DELL EMC System Update \dell_dup</pre> <pre>dsu --inventory -- use- idracpassthrough -- remote= abc:abc_123 --input-inventory- file=C:\Dell\DELL EMC System Update</pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			<pre>\dell_dup \inv_idrac.xml -- component-type=BIOS</pre>

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

Action	Mandatory Attributes	Optional Attributes	Syntax/Example
Viewing preview on host server	<pre>--preview</pre>	<pre>--config --component-type --category</pre>	<p>Format:</p> <pre>dsu --preview</pre> <p>Example:</p> <pre>dsu --preview dsu --preview -- component-type=BIOS</pre>
Viewing preview on remote server with Operating System installed	<pre>--preview --remote</pre>	<pre>--component-type --category</pre>	<p>Format:</p> <pre>dsu --preview -- remote=<username:password@IP address></pre> <p>Example:</p> <pre>dsu --preview -- remote=abc:abc_@128.99.88.100 dsu --preview -- remote=abc:abc_@128.99.88.100 -- component-type=BIOS</pre>
Viewing preview using remote iDRAC	<pre>--preview --remote --rsystemtype</pre>	<pre>--component-type --category</pre>	<p>Format:</p> <pre>dsu --preview -- remote=<username:password@iDRAC_IPaddresses> -- rsystemtype=<value></pre> <p>Example:</p> <pre>dsu --preview -- remote=abc:abc_@128.99.56.77 -- rsystemtype=iDRAC dsu --preview -- remote=abc:abc_@128.99.56.77 --</pre>

Action	Mandatory Attributes	Optional Attributes	Syntax/Example
			<pre>rssystemtype=iDRAC -- category=AS,BI,ES</pre>
Viewing preview using remote Operating System to iDRAC pass through(OAUTH)	<pre>--preview --remote --use-idrac- passthrough</pre>	<pre>--component-type --category</pre>	<p>Format:</p> <pre>dsu --preview -- remote=<username:pas sword@OS_IPaddress> --use-idrac- passthrough</pre> <p>Example:</p> <pre>dsu --preview -- remote=abc:abc_@128. 99.100 --use-idrac- passthrough</pre> <pre>dsu --preview -- remote=abc:abc_123@1 28.99.100 --use- idrac-passthrough -- component-type=BIOS</pre>
Various combinations of preview command			
View preview by importing inventory file	<pre>--preview --input-inventory- file</pre>	<pre>--remote --config --authentication</pre>	<p>Format:</p> <pre>dsu --preview -- input-inventory- file=< path of the fileName></pre> <p>Example:</p> <pre>dsu --preview -- input-inventory- file=C:\\users \\progamdata \\inventory.xml</pre> <pre>dsu --preview -- input-inventory- file=C:\\users \\progamdata \\inventory.xml -- authentication=abc:a bc:abc_</pre>
View preview by providing catalog file	<pre>--preview --catalog-location</pre>	<pre>--remote --config --authentication</pre>	<p>Format:</p> <pre>dsu --preview -- catalog- loction=<location> --input-inventory- file=<FileName></pre> <p>Example:</p> <pre>dsu --preview -- catalog-loction=\\ \\192.168.10.24\\Share \\Catalog.gz --input-</pre>

Action	Mandatory Attributes	Optional Attributes	Syntax/Example
			<pre>inventory-file=\ \192.168.10.24\Share \inventory.xml</pre> <pre>dsu --preview -- catalog-loction=\ \192.168.10.24\Share \Catalog.gz --input- inventory-file=\ \192.168.10.24\Share \inventory.xml -- authentication=abc:a bc:abc_</pre>
Preview output using offline source (when the internet connection is not available)	<pre>--preview</pre> <pre>--source-location</pre> <pre>--source-type</pre>	<pre>--remote</pre> <pre>--config</pre> <pre>--authentication</pre>	<p>Format:</p> <pre>dsu --preview -- source- location=<location> --source- type=<type></pre> <p>Example:</p> <pre>dsu --preview -- source- location=C:\Dell \Dell EMC System Update\Dell_dup \abc --source- type=REPOSITORY</pre> <pre>dsu --preview -- source- location=C:\Dell \Dell EMC System Update\Dell_dup \abc --source- type=REPOSITORY -- authentication=Admin istrator:password123</pre>

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 3. Update on host server and single remote host server

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
Updating server using non-interactive method	<code>--non-interactive</code>	NA	Format: <pre>dsu --non-interactive</pre> Example: <pre>dsu --non-interactive</pre>
Update single remote server from host server through operating systems.	<code>--remote</code>	<code>--config</code>	Format: <pre>dsu --remote=<username:password@IP address></pre> Example: <pre>dsu --remote=abc:abc_123@124.99.88.77</pre> <pre>dsu --remote --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml</pre>
Update through iDRAC for single server	<code>--remote</code> <code>--rsystemtype</code> <code>--source-type</code>	<code>--component-type</code> <code>--category</code> <code>--list-critical-updates</code>	Format: <pre>dsu --remote=<username:password@IP address> --rsystemtype --source-type=<Type></pre> Example: <pre>dsu --remote=abc:abc_123@100.88.77 --rsystemtype=iDRAC --source-type=REPOSITORY</pre> <pre>dsu --remote=abc:abc_123@101.99.11.22 --rsystemtype=iDRAC --source-type=REPOSITORY --component-type=BIOS</pre>
Updating multiple servers			
Updating multiple remote servers through operating systems	<code>--config</code> <code>--remote</code>	<code>--component-type</code>	Format: <pre>dsu --remote --config<file></pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			<p>Example:</p> <pre>dsu --remote -- config=C:\Dell\Dell EMC System Update \dell_dup\config.xml</pre> <pre>dsu --remote -- config=C:\Dell\Dell EMC System Update \dell_dup \config.xml -- component-type=BIOS</pre>
Updating multiple servers through iDRAC	<pre>--config</pre> <pre>--source-type</pre> <pre>--remote</pre>	<pre>--component-type</pre> <pre>--category</pre> <pre>--list-critical- updates</pre>	<p>Format:</p> <pre>dsu --config=<FILE> --source- type=<TYPE> --remote</pre> <p>Example:</p> <pre>dsu -- config=C:\Dell \Dell EMC System Update \dell_dup \config.xml -- source- type=REPOSITORY -- remote</pre> <pre>dsu -- config=C:\Dell \Dell EMC System Update \dell_dup \config.xml -- source- type=REPOSITORY -- remote --list- critical-updates</pre>
Updating remote servers through iDRAC passthrough	<pre>--use-idrac- passthrough</pre> <pre>--remote</pre> <pre>--config</pre> <pre>--source-type</pre>	<pre>--component-type</pre> <pre>--category</pre>	<p>Format:</p> <pre>dsu --use-idrac- passthrough -- remote -- config=<file> -- source-type=<type></pre> <p>Example:</p> <pre>dsu --use-idrac- passthrough -- remote -- config=C:\Dell\Dell EMC System Update \dell_dup \config.xml -- source- type=REPOSITORY</pre>
Updating host server through iDRAC passthrough			

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
Updating host server through iDRAC passthrough	<pre>--use-idrac-passthrough</pre> <pre>--source-type</pre>	NA	Format: <pre>dsu --use-idrac-passthrough --source-type=<TYPE></pre> Example: <pre>dsu --use-idrac-passthrough --source-type=REPOSITORY</pre>
Updating a server with types of updates			
Applying updates using upgrade only	<pre>--apply-upgrades</pre>	<pre>--remote</pre> <pre>--config</pre>	Format: <pre>dsu --apply-upgrades</pre> Example: <pre>dsu --apply-upgrades</pre> <pre>dsu --apply-upgrades --remote=abc:abc_123@123.66.55.45</pre>
Applying updates using downgrade only	<pre>--apply-downgrades</pre>	<pre>--remote</pre> <pre>--config</pre>	Format: <pre>dsu --apply-downgrades</pre> Example: <pre>dsu --apply-downgrades</pre> <pre>dsu --apply-downgrades --remote=abc:abc_123@102.66.44</pre>
Applying updates using equivalent update	<pre>--apply-equivalent-updates</pre>	<pre>--remote</pre> <pre>--config</pre>	Format: <pre>dsu --apply-equivalents</pre> Example: <pre>dsu --apply-equivalents</pre> <pre>dsu --apply-equivalents --remote=abc:abc_123@100.11.123.77</pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
Applying updates for critical updates only	<pre>--list-critical-updates</pre>	<pre>--remote</pre> <pre>--config</pre>	<p>Format:</p> <pre>dsu --list-critical-updates</pre> <p>Example:</p> <pre>dsu --list-critical-updates</pre> <pre>dsu --list-critical-updates --config=C:\Dell\Dell EMC System Update\dell_dup\config.xml</pre>
Updating a server with online or local repository and offline method			
Updating server offline or local path	<pre>--catalog-location</pre> <pre>--source-location</pre> <pre>--ic-location</pre> <pre>--installer-location</pre> <pre>--source-type</pre>	<pre>--component-type</pre> <pre>--category</pre> <pre>--authentication</pre>	<p>Format:</p> <pre>dsu --catalog-location=<location> --source-location<Directory Path> --ic-location --installer-location --source-type=<TYPE></pre> <p>Example:</p> <pre>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</pre> <pre>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-</pre>

Actions	Mandatory Attributes	Optional Attributes	Syntax/Example
			<pre>type=REPOSITORY -- component-type=BIOS</pre>
Updating a server with different component types	<pre>--component-type</pre>	<pre>--remote</pre> <pre>--config</pre>	<p>Format:</p> <pre>dsu --component- type=<component type values></pre> <p>Example:</p> <pre>dsu --component- type=BIOS, FRMW, APP, D RVR</pre> <pre>dsu --component- type=BIOS, DRVR, FRMW, APP -- remote=abc:abc_123@1 00.188.22.99</pre>
Updating server with different filters			
Updating a specific server component with category filter	<pre>--category</pre>	<pre>--remote</pre> <pre>--config</pre>	<p>Format:</p> <pre>dsu -- category=<categories 1, categories 2></pre> <p>Example:</p> <pre>dsu -- category=AS, BI, ES</pre> <pre>dsu -- category=BI, AS, ES -- remote=abc:abc_123@1 11.22.12.23</pre>
Applying specific components	<pre>--update-list</pre>	<pre>--remote</pre> <pre>--config</pre>	<p>Format:</p> <pre>dsu --update- list=<update file list></pre> <p>Example:</p> <pre>dsu --update-list= "Chipset_Driver_9V5V H_WN64_10.1.18243.81 88_A04.EXE"</pre> <pre>dsu --update-list= "Chipset_Driver_9V5V H_WN64_10.1.18243.81 88_A04.EXE" -- remote=abc:abc_123@1 00.19.88.77</pre>

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 4. Bootable ISO

Action	Mandatory attributes	Optional attributes	Syntax/Example
Interactive-mode	<p><code>--destination-type</code></p> <p><code>--destination-location</code></p>	<p><code>--authentication</code></p>	<p>Format:</p> <pre>dsu --destination-type=ISO --destination-location=<location></pre> <p>Example:</p> <pre>dsu --destination-type=ISO --destination-location=\192.168.10.1\Share\ISO9660.iso</pre> <pre>dsu --destination-type=ISO --destination-location=\192.168.10.1\Share\ISO9660.iso --authentication=Abc:bc123</pre>
Non-interactive mode	<p><code>--destination-type</code></p> <p><code>--config</code></p> <p><code>--destination-location</code></p> <p><code>--non-interactive</code></p>	<p><code>--authentication</code></p>	<p>Format:</p> <pre>dsu --destination-type=ISO --config=<Config file path> --bootable-log-location=<Log Path in the server> --non-interactive</pre> <p>Example:</p> <pre>dsu --destination-type=ISO --config=\100.98.20.21\DSU\config.xml--destination-location=\192.168.10.1\Share\ISO9660.iso --non-interactive</pre> <pre>dsu --destination-type=ISO --config=\100.98.20.99\DSU\config.xml --</pre>

Action	Mandatory attributes	Optional attributes	Syntax/Example
			<pre>authentication=abc:bc al23 --destination- location=\\ 192.168.10.1\Share \ISO9660.iso --non- interactive</pre>

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](#).

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
```

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
```

NOTE: Even when the same network share is provided as input for multiple DSU options, credentials should be provided for both the DSU options.

NOTE: When a file is exported to network share through SMB1 protocol, DSU retains the temporary files.

NOTE: If the location you provide is an external network share, then ensure that you provide the `--authentication` attribute.

NOTE: When system is not connected to network, user can provide all below options to get the required files

- `--ic-location`
- `--source-type`
- `--source-location`
- `--installer-location`

The following are the DSU option 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
```

Sample scripts using DSU

Creating Bootable ISO using helper script

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

Syntax to create bootable ISO:

```
dsucreateiso [options]
```

Creating bootable ISO

Following options can be used while creating 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

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.tar.gz` 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:

- [Sample usage with script](#)
- [Using the Script](#)
- [Using kickstart files](#)

Sample usage with script

The following are some of the sample options with bootable ISO script:

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/bootablesu.iso --workspace=/root/myworkspace/
```

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

Using kickstart files

Kickstart files can be used to create a Linux based Live-ISO image including DSU, using a bootable ISO creation utility, such as `livecd-creator` or any other bootable ISO creation utility that supports kickstart files.

Command syntax to create Live-ISO image using kickstart files: `livecd-creator --config=<kickstart_file_path> --fslabel=<filesystem_label>`

For more information, view <https://linux.dell.com/repo/hardware/sampleks/>

Dell System Update Options

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
```

Catalog location

Path of catalog file used.

File format supported: .xml, .gz and .tar.gz

Command for Linux:

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

Command for Windows:

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

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 and APT 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. Firmware
2. BIOS
3. APAC
4. APP
5. Drivers

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.

NOTE: The IC is available at catalog version 20.05.00.

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.

NOTE: It is recommended to provide equivalent options while performing reboot on remote servers.

NOTE: Remote option is supported only on iDRAC9 and later.

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>
```

i **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 file

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 initiated**
- 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: 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 5. 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.

DSU Return Codes		
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
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.
37	IC Signature Download Failure	Unable to get the signature file for IC.
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

Uninstalling DSU

Topics:

- Uninstalling DSU DUP on Red Hat Enterprise Linux operating system
- Uninstalling DSU DUP on SLES operating system
- Uninstalling DSU on Windows through UI

Uninstalling DSU 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 **q** to continue.
3. Press **y** to uninstall.

Uninstalling DSU DUP on SLES operating system

About this task

NOTE: Do not use working directory to store data. When DSU performs uninstall option, DSU deletes working directory. Following is the working directory path:

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.

NOTE: During uninstallation on Linux Operating System, ignore the warning message *warning: file /usr/lib64/dsulib/libssh2.so: remove failed: No such file or directory* when prompted.

To uninstall DSU on the supported SUSE Linux Enterprise Server (SLES) operating system through command prompt, perform the following steps:

Steps

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

Uninstalling DSU 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**.

Troubleshooting DSU

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.

DSU not recognized 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"

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.

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.

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.

Frequently asked questions

This section lists some frequently asked questions about DSU.

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 at the same time?

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

Can I cancel all updates at the same time?

Yes, you can cancel all updates at a time. Select **q** option and press enter, all updates get deselected.

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 6. 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:

Scenarios	Outcomes
	<ul style="list-style-type: none"> 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.	<p>There may be two possible outcome:</p> <ul style="list-style-type: none"> 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>`.

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

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

Solution: libpgme 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 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.

IDSMD 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.

If the ActiveDirectory credentials contains suffixes with dot, the DSU fails to connect. Only single-label DNS names are supported that do not contain a suffix such as .com, .corp, .net, .org or companyname.

If 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.

Remote update fails from windows to windows when network is very slow

Remote update fails from when network speed is slow, and displays an error message. Dell recommends to avoid this issue ensure the network connection is suitable to run the update and re-try the operations.

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.

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](#)

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 7. 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. i NOTE: Dell recommends the value of the attribute as True, when using the remote option. i 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.
ApplySequence -> Sequence -> Category	Value OrderID	There are two attributes which has to be mentioned for this feature:

Element	Options Usage	Description
		<ul style="list-style-type: none"> Value - Category value is to be provided. To get the category value use the option <code>--get-categories</code> OrderID - OrderID is positive integer value which will be used to apply the updates in an ascending order. <p>Default order for updating is:</p> <ul style="list-style-type: none"> iDRAC / LC Applications like: Diagnostics – DI, iSM Device Driver (Storage, COMMs, Chipset, Video) Device Firmware (Storage, COMMs, PSU, CPLD) BIOS
AuthenticationSequence -> Authentication	<pre>Authentication Type="PLAIN" ExecPort="22" Username="name" Password="password1" OrderID="4" ExecProto="SSH" "WMI" "REDFISH"</pre>	<p>The Authentication has various attributes which can be used to config the remote systems.</p> <p>The default value is Plain which requires the user to provide the user name and the password for the connection.</p> <p>The ExecPort is used to provide the port number in accordance to the execution protocol provided.</p> <p>Username and password are required for authentication.</p> <p>The OrderID provides the order in which the authentications provided will be checked for the remote connections.</p> <p>The ExecProto provides the protocol method over which the connection will be established.</p> <ul style="list-style-type: none"> 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. <p>This attribute is optional.</p>
RemoteSystem -> System	<pre>System Address type AddressType="IPV4" RSystemType=iDRAC</pre>	<p>To provide the IP address of system, DSU automatically detects the type of address if the input is not provided by the user.</p> <p>To provide the system type to connect to remote system.</p>

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>
```

```
</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
```