Dell System E-Support Tool (DSET) Version 3.4 User's Guide

Notes, Cautions, and Warnings

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

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

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

Contents

Introduction

Dell System E-Support Tool (DSET) is a utility that collects configuration and log data for various chassis hardware, storage, software, and operating system components of a Dell PowerEdge server and consolidates the data into a **.zip** file.

What's New In This Release

- Support for Microsoft Windows Server 2012.
- In the iDRAC namespace report, the following modifications are included:
  - New attributes in BIOS Setup category that is in parity with OpenManage Server Administrator version 7.2.
  - New classes such as Batteries, Removable Flash Media, and Temperature in the Main Chassis category.
  - Support for Enclosures and Array Disk under storage category.

Supported Platforms And Operating Systems

For information on the supported platforms and operating systems (Microsoft Windows and Linux), see the *Readme* available with the installer or go to **dell.com/serviceabilitytools**.

Other Documents You May Need

In addition to this guide, you can view the *Readme*:

- During installation:
  - On systems running Linux, run the **./dell-dset-lx(bit)-(Version Number).bin** file and select option 1.
- After permanently installing the application:
  - On systems running Windows, in the **Start** menu, navigate to **DSET 3.4 → View Readme**. The *Readme* is displayed.
  - On systems running Linux, **the Readme.txt** is available at **/opt/dell/advdiags/ dset/** folder.
- For information on installing the DSET application, see *Dell System E-Support Tool (DSET) Version 3.x Installation Guide* available at **dell.com/serviceabilitytools**.

Accessing Documents From Dell Support Site

To access the documents from Dell Support site:

1. Go to **dell.com/support/manuals**.
2. In the **Tell us about your Dell system** section, under **No**, select **Choose from a list of all Dell products** and click **Continue**.

3. In the **Select your product type** section, click **Software, Monitors, Electronics & Peripherals**.

4. In the **Choose your Dell Software, Monitors, Electronics & Peripherals** section, click **Software**.

5. In the **Choose your Dell Software** section, click the required link from the following:

   – **Client System Management**
   – **Enterprise System Management**
   – **Remote Enterprise System Management**
   – **Serviceability Tools**

6. To view the document, click the required product version.

NOTE: You can also directly access the documents using the following links:

- For Enterprise System Management documents — **dell.com/openmanagemanuals**
- For Remote Enterprise System Management documents — **dell.com/esmmanuals**
- For Serviceability Tools documents — **dell.com/serviceabilitytools**
- For Client System Management documents — **dell.com/OMConnectionsClient**
- For OpenManage Connections Enterprise systems management documents — **dell.com/ OMConnectionsEnterpriseSystemsManagement**
- For OpenManage Connections Client systems management documents — **dell.com/OMConnectionsClient**

Contacting Dell

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

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

1. Visit **dell.com/support**
2. Select your support category.
3. Verify your country or region in the Choose a Country/Region drop-down menu at the top of page.
4. Select the appropriate service or support link based on your need.

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Using Dell System E-Support Tool (DSET) Application

Using the DSET application, you can generate reports on local and remote systems. The reports can be generated on:

- Local systems using GUI or CLI
- Remote systems using CLI

The data collection is allowed for the following operating systems on client and server:

- On a client system running Microsoft Windows to a server running Windows
- On a client system running Windows to a server running Linux
- On a client system running Linux to a server running Linux

✎ **NOTE:** Data collection is not allowed from a client system running Linux to a server running Windows.

Event viewer and application logs are generated that can be used for troubleshooting purpose.

Generating Basic And Advanced Report

Before generating the report, make sure that Remote Provider is installed on the system.

On a system running Windows, while collecting a report from a system running Linux using non-root user credentials, make sure:

- To add the user to the root group on the system running Linux.
- To add the user to the **sudoers** file as follows:

    - `%root ALL=(ALL) NOPASSWD: ALL` — provides permission to all the users in the root group.
    - `<User> ALL=(ALL) NOPASSWD: ALL` — provides permission only to the specified user.

✎ **NOTE:** For a non-root user, the hardware and storage data is collected using OpenManage Server Administrator namespace only.

On systems running Windows:

- To generate a basic report using the GUI, in the **Start** menu, navigate to **DSET 3.4 → Create Basic DSET Report.**
- To generate an advanced report using the GUI, in the **Start** menu, navigate to **DSET 3.4 → Create Advanced DSET Report.**
  A command window is displayed indicating the status. The generated report is saved as a **.zip** file on the user's desktop. For example, **DSET Report for [WIN-BPJ3P19JC4T SvcTag-7654321-PE R720xd] on 02-28- 2012 at 01.26 AM.zip.**

✎ **NOTE:** On certain systems running Windows Server 2003 R2, Windows Server 2008, Windows SBS 2008, and Windows SBS 2011, you must run the DSET application using the elevated privilege mode, where User Access Control (UAC) is enabled. To do this, right-click the **Create Basic DSET Report** or **Create Advanced DSET Report**, select **Run As Administrator**, and provide the administrator password.

For information about report filtering, see .

Report Filtering

During Dell System E–Support Tool (DSET) report collection, you can filter a few data from the report such as:

- Host name
- IP address
- Subnet mask
- Default gateway
- MAC address
- DHCP server
- DNS server
- Processes
- Environment variables
- Registry
- Logs
- iSCSI data

NOTE: For one-time report collection (Zero FootPrint report), all of the data is filtered. In permanent installation, you can specify the data to be filtered.

To enable the data filtering, select the **Enable Report Filtering** option during report collection. For information on Report Filtering, see "Installing, Upgrading, and Running DSET Application On Windows Operating System" or "Installing, Upgrading, And Running DSET Application On Linux Operating System" section in the *Dell System E-Support Tool (DSET) Version 3.x Installation Guide* available at **dell.com/serviceabilitytools**.

To include any of the data to the report, specify '**no**' in the following file:

- On systems running Windows — **<system drive>:\Program Files (x86)\Dell\AdvDiags\DSET\config\ privacy_presetlist.cfg** (in 64-bit systems) or **<system drive>:\Program Files\Dell\AdvDiags\DSET\config \privacy_presetlist.cfg** (in 32- bit systems).
- On systems running Linux — **/opt/dell/advdiags/dset/config/privacy_presetlist.cfg**

NOTE: The data is not filtered from the file logs collected in the report. The logs may contain data such as IP or MAC address and so on. If logs are set to "no", then the data is not filtered in the report.

CLI Options

This section provides the CLI options for systems running Windows and Linux.

On Systems Running Windows

To start the CLI mode, in the **Start** menu, navigate to **DSET 3.4 → DSET CLI.** The CLI command window opens and displays the location of the installed support files as:

<InstallDirectory>\AdvDiags\DSET\bin

NOTE: If you are using a system running the 64-bit Windows operating system, the CLI command window displays the location of the installed support files as:

<InstallDirectory>\Dell\AdvDiags\DSET\bin

At the command prompt, run the following command:

```
DellSystemInfo.exe [Options]
```

On Systems Running Linux

At the command prompt, run any of the following commands:
```
dellsysteminfo [Options]
```
Or

Change directory to **/opt/dell/advdiags/dset/bin** and run the command
```
dellsysteminfo.sh [Options]
```

List Of CLI Options

The `-h` option displays the list of available CLI options. To view the options, run the following command:

- On systems running Windows: `DellSystemInfo.exe -h`
- On systems running Linux: `dellsysteminfo -h`

Table 1. Command and Description

Command	Description
`-h`, --help	Displays the help text and exit.
`-s`, --server	Provide the details of the server to connect to. Use '.' to specify the local server details.
	For local report collection, the default setting is used and this parameter is not required.
	For remote report collection, the IP address of the remote server must be provided.
	For collection from an iDRAC7 source, provide the iDRAC IP address.
`-u`, --username	On systems running Windows, the current user name is used by default. On systems running Linux, you must provide the user name.
	For local report collection, this parameter is optional.
	For remote report collection, the user name for the remote server must be provided and the user must have administrator privileges on the remote server.
	For collection from an iDRAC7 source, provide the iDRAC login user name.
`-p`, --password	On systems running Windows, the current user password is used by default. On systems running Linux, specify the password.
	For local report collection, this parameter is optional for system running Windows but required for system running Linux.
	For collection from an iDRAC7 source, provide the iDRAC login password.

Command	Description
	NOTE: If −p is not included in the command, then you will receive a prompt to type in the password.
−d, --collect	Specify the type of data to be collected (one or more of the following) separated by a comma without any space: • hw— Server • st— Storage • sw— Software • lg— Logs • ad— Advanced logs NOTE: • If not specified, the default value for −d is hw, st, sw, and lg. • If ad is specified, by default, all the logs are collected and this may result in large size reports.
−n, --namespace	Specify the namespace to connect. If left blank, the program selects the best available namespace or specify one of the following options: • root/dsetcim for DSET — This is the default namespace that is installed with the Remote Provider component. Remote DSET receives information from this namespace even if Server Administrator is installed on the system. • omsa for OpenManage Server Administrator — Use this namespace instead of using the default namespace. In this case, install Server Administrator before running this command. • root/cimv2 for ESX or ESXi default providers — Use this namespace on systems running ESX or ESXi. • root/dcim/sysman for OpenManage Server Administrator on ESXi — Use this namespace for connecting to the Server Administrator installed on the target ESXi system. • root/dcim — Use this name space for collecting data from an iDRAC7 system. NOTE: The collection is supported for systems only with an iDRAC7 system.

−c, --className	Provide the class name to retrieve the data for a specific component. If class name is provided, specify the namespace. For example, to retrieve data for CPU:
	
	On systems running Windows:
	`DellSystemInfo.exe -n root/dsetcim -c DCIM_CPUViewExt`
	
	On systems running Linux:
	`dellsysteminfo -n root/dsetcim -c DCIM_CPUViewExt`

Command	Description
-r, --reportname	Specify the default location for the generated report (**.zip**) file. The default location is desktop for Windows and **/root** for Linux. The default file name is DSET appended with the host name, service tag, and time stamp.
	Either report name or report name with full path is required to access it later and to upload to Dell Technical Support.
-v, --privacy	Either report name or report name with full path is required to access it later and to upload to Dell Technical Support.
	Type `yes` to enable this option.
	Default option is `no`.
-a, --upload	Upload the report to the Dell Technical Support.
	Type `-a auto` to upload the generated report automatically to the Dell Technical Support.
	Type `-a manual` and include the (`-r`) filename to manually upload the report to the Dell Technical Support.
-x, --proxyhost	Upload the report to Dell Technical Support specifying proxy details.
	Type `-x` proxy IP or type host name to use the proxy server to upload the report to Dell Technical Support.
-y, --proxyusername	Type `-y` user name of the proxy server used to upload the report.
-z, --proxypassword	Type `-z` password for the user name of the proxy server used to upload the report.
	NOTE: If `-z` is not included in the command, then you will receive a prompt to type the password.

NOTE:

- Using authenticated proxy (`-x`, `-y`, and `-z`) option to upload the report are supported only for systems running the Windows operating system.
- The data collected from iDRAC7 namespace is limited compared to the data collected from systems running the Windows operating system or Linux operating systems with the Remote Provider installed.

Order Of Connection For Data Source

DSET uses the following data sources based on the namespace to collect hardware and storage information:

1. Remote Provider (Linux or Windows)
2. iDRAC7 (out-of-band)
3. OpenManage Server Administrator Native (Linux or Windows)
4. ESX with SMASH profile
5. ESXi with Open Manage Server Administrator installed

The following table provides the data source supported for DSET on Windows and Linux-based system.

Table 2. Data Source and DSET on Windows and Linux-based systems

Data Source	DSET on Windows-based System	DSET on Linux-based System
Remote Provider (Windows)	Yes	No
iDRAC7 (out-of-band)	Yes (only remote systems)	Yes (only remote systems)
Remote Provider (Linux)	Yes	Yes
OpenManage Server Administrator Native (Windows)	Yes	No
OpenManage Server Administrator Native (Linux)	Yes	Yes (only local systems)
ESX with SMASH profile	Yes	Yes
ESXi with OpenManage Server Administrator installed	Yes	Yes (only remote systems)

The following table provides information on the data collection supported by DSET for the data source:

Table 3. Data Collection Supported by DSET Application and Data Source

Data Source	Hardware Components	Storage Components	Operating System	Logs
Remote Provider	Full	Full	Full	Full
iDRAC7	Limited	Limited	No	No
OpenManage Server Administrator	Full	Full	Full	Full
ESX with SMASH profile	Limited	No	Full	Full
ESXi with OpenManage Server Administrator installed	Full	Full	Limited	Limited

Usage Examples

This section provides examples to generate Zero FootPrint report and also reports on your local and remote systems.

On Local System
Example 1: To collect software information and save it in the specified location, run the following command:

- On systems running Windows
  ```
  C:\Program Files\Dell\AdvDiags\DSET\bin> DellSystemInfo.exe -d sw -r C:
  \temp\software.zip
  ```
- On systems running Linux
  ```
  dellsysteminfo -d sw -r /opt/dell/myreports/software.zip
  ```

Example 2: To collect information from DSETCIM namespace and save it in the specified location, run the following command:

- On systems running Windows
  ```
  C:\Program Files\Dell\AdvDiags\DSET\bin> DellSystemInfo.exe -n root/
  dsetcim -r C:\temp\all.zip
  ```
- On systems running Linux
  ```
  dellsysteminfo -n root/dsetcim -r /opt/dell/myreports/all.zip
  ```

Example 3: To collect report information with privacy enabled, auto upload to Dell Technical Support, and save it in the specified folder, run the following command:

- On systems running Windows
  ```
  C:\Program Files\Dell\AdvDiags\DSET\bin> DellSystemInfo.exe -v yes -a auto
  -r C:\temp\dsetreport.zip
  ```
- On systems running Linux
  ```
  dellsysteminfo -v yes -a auto -r /opt/dell/myreports/dsetreport.zip
  ```

✎ **NOTE:** If -d option is not specified, then hw, st, sw, and lg data categories are collected by default.

Example 4: To collect report information and upload to Dell Technical Support using authenticated proxy, run the command:

- On systems running Windows
  ```
  C:\Program Files\Dell\AdvDiags\DSET\bin> DellSystemInfo.exe –a manual –r
  C:\temp\dset_report.zip –x <IP_ADDRESS> –y lab\test
  ```
  or
  ```
  C:\Program Files\Dell\AdvDiags\DSET\bin> DellSystemInfo.exe –upload=manual
  -r C:\temp\dset_report.zip –proxyhost= <IP_ADDRESS> –proxyusername=lab
  \test
  ```

On Remote System

Example 1: To run the report on a remote system, provide the Fully Qualified Domain Name (FQDN) or IP address of the remote system and administrator credentials.

- On systems running Windows
  ```
  C:\Program Files\Dell\AdvDiags\DSET\bin> DellSystemInfo.exe -s
  <IP_ADDRESS> -u <USERNAME> -p <PASSWORD> -d hw,sw -r C:\temp\dset.zip
  ```
- On systems running Linux
  ```
  dellsysteminfo -s <IP_ADDRESS> -u <USERNAME> -p <PASSWORD> -d hw,sw -
  r /opt/dell/myreports/dset.zip
  ```

✎ **NOTE:** The data collected from ESX/ESXi namespace is lesser compared to the data collected from Windows or Linux systems on which Remote Provider is installed.

Example 2: To collect report information and auto upload to Dell Technical Support using authenticated proxy, run the command:

- On systems running Windows
  ```
  C:\Program Files\Dell\AdvDiags\DSET\bin> DellSystemInfo.exe –a auto –r C:
  \temp\dset_report.zip –x <IP_ADDRESS> –y lab\test –s <IP_ADDRESS> –u
  <USERNAME> –p <PASSWORD>
  ```

Example 3: To collect report information from an iDRAC7 source.

- ```
  C:\Program Files\Dell\AdvDiags\DSET\bin> DellSystemInfo.exe -s<iDRAC
  IP_Address> -u <username> -p<password> -r C:\temp\dset_report.zip
  ```

NOTE: Limited data is collected from the iDRAC7 source.

Zero FootPrint Report Collection

Example 1: To collect software and hardware information silently and save it in the specified location, run the following command:

- On systems running Windows: `Dell_DSET_3.4.0.x.exe REPORTNAME=<NAME> COLLECT=<hw,sw> /qn`
- On systems running Linux: `dell-dset-lx(bit)-(Version_Number).bin –qn -d <hw,sw> -r<reportname>`

Viewing DSET Report

You can view the hardware, storage, and software data in the generated report using the GUI. The logs and advanced log information are available in the log files located in the logs folder (part of the **.zip** file).

To view the report:

- On systems running Windows, unzip the **.zip** file using the password 'dell'.
- On systems running Linux, copy the **.zip** file to Windows system and unzip the file using the password 'dell'.

After you unzip, read the **ReadmeFirst.txt** file for instructions to view the report.

Error Codes

This appendix provides the list of Dell System E-Support Tool (DSET) application error codes.

DSET Application Error Codes

DSET application returns custom error codes on collection of reports.

The list of error codes returned by `dellsysteminfo` are:

Table 4. DSET Error Codes and Description

Error Code	Name	Description	Solution
2	DSET_CIM_OPTION_ERROR	Incorrect option provided in the command line.	Check the command line options and provide the valid option.
3	DSET_CIM_NAMESPACE_ERROR	Incorrect namespace provided as source for report collection.	Check for the available namespace option.
6	DSET_CIM_CONNECTION_ERROR	Failed to collect data in the report due to incorrect IP address or login credentials.	Provide correct IP and login credentials.
7	DSET_SUDO_NOT_CONFIGURED_ERROR	Sudo prerequisite is missing.	For more details on prerequisites, see the *Readme* available at **dell.com/serviceabilitytools**.
8	DSET_CIM_HW_COLLECTION_ERROR	Hardware data source is not found.	-
9	DSET_CIM_ST_COLLECTION_ERROR	Storage data source is not found.	-
10	DSET_CIM_SW_COLLECTION_ERROR	Software data source is not found.	-
11	DSET_CIM_LG_COLLECTION_ERROR	Logs data is not collected.	-
12	DSET_CIM_INDEX_ERROR	Error occurred while creating index in the report for SCSI or SAS storage devices.	-
13	DSET_CIM_ZIP_ERROR	Final report conversion to zip file format failed.	-
14	DSET_CIM_TRANSFORM_ERROR	Failed to convert files from text to xml format.	-
15	DSET_CIM_HW_COLLECTION_WARN	Data of a few hardware classes are not collected.	-

Error Code	Name	Description	Solution
16	DSET_CIM_SW_COLLECTION_WARN	Data of a few software classes are not collected.	-
17	DSET_CIM_ST_COLLECTION_WARN	Data of a few storage classes are not collected.	-
18	DSET_CIM_INVALID_FILE_NAME_ERROR	Invalid file name is provided or the path to save the report does not exist.	-
19	DSET_CIM_CLASS_NAME_ERROR	Invalid class name is provided for data collection.	Check for available class name.
21	UPLOAD_OPTION_ERROR	Incorrect option for uploading the file is provided in the command line.	Check for available option for the file upload in the help menu.
22	UPLOAD_FILE_SIZE_ERROR	Report file size exceeds the maximum size allowed for upload.	-
23	UPLOAD_CERTIFICATE_ERROR	Server SSL certificate is invalid or expired.	-
24	UPLOAD_CHUNK_ERROR	Failed to divide the report file into chunks for upload.	-
25	UPLOAD_SERVER_ERROR	Error occurred while uploading file to the server due to server issues.	Try to upload the file again later.
26	UPLOAD_INVALID_FILE_ERROR	The report file to upload is invalid or corrupted.	Make sure that the file to upload is valid.
27	UPLOAD_TIMEOUT_ERROR	Upload time for report file exceeds the maximum allowed time.	Server may be busy or slow. Try to upload again later.
28	UPLOAD_MODULE_INIT_FAILED	Initialization of the upload module failed.	-
29	UPLOAD_MODULE_PROXY_ERROR	Failed to set the provided authenticated proxy credentials.	-
30	UPLOAD_MODULE_PROXY_UNSUPPORTED_AUTH_SCHEME	Proxy authentication method is not supported.	Only Basic, Negotiate, and NTLM Authentication methods are supported.
31	UPLOAD_MODULE_PROXY_AUTHENTICATION_FAILED	Invalid proxy credentials are provided to upload the report.	Provide valid proxy credentials.