

Support Live Image Version 2.2

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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Overview

Support Live Image (SLI) is a CentOS 7.0 image that packages a collection of utilities and diagnostic tools for Dell PowerEdge servers, Dell PowerEdge C servers, and Dell PowerVault storage systems. It provides an environment to run the tools and troubleshoot hardware related issues and gather system configuration information. The results of the diagnostic tests and configuration information are sent manually to the technical support team to identify and resolve an issue.

Support Live Image is primarily used by Dell Service Providers (DSP), and in some cases, customers instructed by the Dell Technical Support.

If a Dell customer contacts Dell Technical Support for a hardware issue that requires a part replacement, the replacement part is dispatched to the customer through the DSP. After replacing the part, if the DSP finds that the issue is not fixed, the DSP works with technical support to troubleshoot and resolve an issue.

NOTE: For troubleshooting issues with 12th to 14th generation of PowerEdge servers, use Support Live Image version 3.0. For instructions to use Support Live Image version 3.0, see the *Support Live Image version 3.0 User's Guide* at Dell.com/ServiceabilityTools.

Topics:

- [What is new in this release](#)
- [Support matrix](#)
- [Minimum hardware requirements](#)
- [Tools available](#)
- [Other documents you may need](#)

What is new in this release

The release highlights of Support Live Image are the availability of the following:

- Intel Processor Diagnostic Tool version 2.17.1.0
- Dell OpenManage Server Administrator version 8.0.1
- Dell System E-Support Tool version 3.7
- iDRAC8 Evaluation License Tool for Dell's 13th generation of PowerEdge servers
- Dell PowerEdge C Logs version 2014-09-23
- Dell PowerEdge C System Management Pack version 2014-07-03
- Dell Server Update Utility version 14.10
- Availability of a desktop shortcut to access the `/var/data` folder where the generated reports are saved

Support matrix

Supported PowerEdge servers

The following table includes the supported PowerEdge servers.

Table 1. Supported PowerEdge servers

Model	Dell PowerEdge server generation	System type
6950	9th generation	Rack
2970	9th generation	Rack
2950	9th generation	Rack

Table 1. Supported PowerEdge servers (continued)

Model	Dell PowerEdge server generation	System type
2900	9th generation	Rack
1950	9th generation	Rack
1900	9th generation	Rack
1955	9th generation	Modular
R905	10th generation	Rack
R900	10th generation	Rack
R805	10th generation	Rack
T605	10th generation	Tower
T300	10th generation	Tower
R300	10th generation	Rack
R200	10th generation	Rack
T105	10th generation	Tower
T100	10th generation	Tower
M600	10th generation	Modular
M605	10th generation	Modular
M805	10th generation	Modular
M905	10th generation	Modular
R915	11th generation	Rack
R910	11th generation	Rack
R815	11th generation	Rack
R810	11th generation	Rack
R715	11th generation	Rack
T710	11th generation	Tower
R710	11th generation	Rack
T610	11th generation	Tower
R610	11th generation	Rack
R515	11th generation	Rack
R510	11th generation	Rack
R415	11th generation	Rack
T410	11th generation	Tower
R410	11th generation	Rack
T310	11th generation	Tower
R310	11th generation	Rack
R210 II	11th generation	Rack
R210	11th generation	Rack
T110 II	11th generation	Tower
T110	11th generation	Tower

Table 1. Supported PowerEdge servers (continued)

Model	Dell PowerEdge server generation	System type
M610	11th generation	Modular
M610x	11th generation	Modular
M710	11th generation	Modular
M710HD	11th generation	Modular
M910	11th generation	Modular
R220	12th generation	Rack
R720	12th generation	Rack
R720xd	12th generation	Rack
R620	12th generation	Rack
T620	12th generation	Tower
M620	12th generation	Blade
R820	12th generation	Rack
R420	12th generation	Rack
R520	12th generation	Rack
R320	12th generation	Rack
M520	12th generation	Blade
M420	12th generation	Blade
M820	12th generation	Blade
T420	12th generation	Tower
T320	12th generation	Tower
VRTX	12th generation	Chassis
R920	12th generation	Rack
R630	13th generation	Rack
R730	13th generation	Rack
R730xd	13th generation	Rack
T630	13th generation	Tower

Supported Dell PowerEdge C servers

The following table includes the supported PowerEdge C servers.

Table 2. Supported PowerEdge C servers

Model	Type
C1100	Server
C2100	Server
C6100	Sled
C6105	Sled
C6145	Sled
C6220	Sled


Table 2. Supported PowerEdge C servers (continued)

Model	Type
C6220II	Sled
C8220	Sled
C5220	Sled
C5125	Sled

Supported Dell PowerVault systems

The following table includes the supported PowerVault systems.

Model
NX200
NX300
NX1950
NX3000

 **NOTE:** On an unsupported hardware, Support Live Image will be booted, but the tools may or may not work.

Minimum hardware requirements

For optimal use or functionality of Support Live Image, the system should have a minimum of 8 GB RAM.

Tools available

The following table lists the diagnostic and configuration tools available on Support Live Image.

Table 3. Tools available on support live image

MS-DOS-Based Tools	Linux-Based Tools
<ul style="list-style-type: none"> • Dell 32-Bit Diagnostics • Dell MP Memory • MemTest86 • Dell Asset Tag Utility 	<ul style="list-style-type: none"> • Dell OpenManage Server Administrator (OMSA) <ul style="list-style-type: none"> ◦ Version 7.4 for Dell's 9th to 12th generation of PowerEdge servers ◦ Version 8.0.1 for Dell's 13th generation of PowerEdge servers • Dell System E-Support Tool (DSET) <ul style="list-style-type: none"> ◦ Version 3.7 for Dell's 9th to 13th generation of PowerEdge servers • Dell Server Update Utility (SUU) <ul style="list-style-type: none"> ◦ Version 14.10 for Dell's 9th to 12th generation of PowerEdge servers • Dell iDRAC7 Evaluation License Tool for Dell's 12th generation of PowerEdge servers • Dell iDRAC8 Evaluation License Tool for Dell's 13th generation of PowerEdge servers • Dell PowerEdge C System Management Pack <ul style="list-style-type: none"> ◦ setupbios ◦ bmc tool ◦ ldstate • Dell PowerEdge C Logs (PE-C Logs) for PowerEdge C servers • Intel Processor Diagnostics Tool (IPDT)

Other documents you may need

The User's Guide and release notes related to Dell OpenManage Server Administrator, Dell System E-Support Tool, Dell OpenManage Server Update Utility, MS-DOS-Based Tools, iDRAC Evaluation License, and PowerEdge C System Management Pack is available in the **User_Guides_and_Release_Notes** folder that is available on the Support Live Image desktop.

The *Support Live Image Release Notes* available on the SLI desktop, provides details about the supported devices and tools available on the image.

In addition to this guide, you can access the following guides available at **support.dell.com**. On the **Support** page, click **Software & Security**, and then click **Remote Enterprise Systems Management** or **Serviceability Tools** or **Enterprise System Management**. Click the appropriate product link to access the documents.

Using Support Live Image

This chapter provides information about using the Support Live Image to run diagnostic tools and gather configuration information.

To use the Support Live Image to start the server and run the diagnostic tools, you must create a bootable DVD or USB key. For more information about using a bootable DVD or USB, see:

- [Creating a Bootable Support Live Image USB Key On Systems Running Windows](#)
- [Creating a Bootable Support Live Image DVD On Systems Running Windows](#)


Topics:

- [Creating bootable Support Live Image USB key on systems running Windows](#)
- [Creating a bootable support live image DVD on systems running Windows](#)
- [Starting the server](#)
- [Boot options](#)
- [Using the MS-DOS-based tools](#)
- [Using the Linux-Based tools and utilities](#)

Creating bootable Support Live Image USB key on systems running Windows

It is recommended that you create the Support Live Image bootable USB key by using **Rufus**. However, you can also use other tools available for creating the bootable USB key.

1. Download and install **Rufus** on your system. You can download **Rufus** from the [Rufus](#) website.
2. Connect a USB key with a minimum capacity of 4 GB to an available USB connector on your system.
3. From the **File System** list, select **FAT32**.
4. From the **Partition scheme and target system type** list, select **MBR partition scheme for BIOS or UEFI**.

 **NOTE:** By default, the Device, Cluster Size, and New volume label values are displayed depending on the size of the USB key.

5. In the **Format Options** section, select the **Create a bootable disk using** option, and browse to select the Support Live Image ISO file.
6. Click **Start**.
The bootable USB key is created and a confirmation message is displayed.

Creating a bootable support live image DVD on systems running Windows

You can use any image-burning tool available for creating a bootable DVD. This section provides instructions for creating a bootable DVD using **ImgBurn**.

To create a bootable Support Live Image DVD:

1. Download **ImgBurn** available at <http://imgburn.com> and install it on your system.
2. Insert a writable DVD with a minimum capacity of 4.7 GB into the optical drive.
3. Click **Start > All Programs > ImgBurn**.
4. Right-click **ImgBurn** and select **Run as administrator**.
The **ImgBurn** dialog box is displayed.
5. Click **Write image file to disc**.

6. Under **Source**, click the browse icon.
7. In the **Open** dialog box, browse through to select the Support Live Image (*.iso) file, and then click **Open**.
8. Under **Destination**, select the appropriate DVD drive.
9. Click the write icon that is displayed at the bottom of the dialog box.

Starting the server

To run the diagnostic tools and gather configuration information, you must start the server using the Support Live Image USB drive key or DVD or iDRAC Virtual Media that you created. The methods of starting a server are:

- Starting from the USB drive key or DVD or iDRAC Virtual Media. For more information, see [Starting From a DVD or USB drive Key or iDRAC Virtual Media](#).
- Starting by using a virtual media. For more information, see [Booting To The Virtual Drive](#).

Starting From a DVD or USB drive Key or iDRAC Virtual Media.

To start from a DVD or USB drive key or iDRAC Virtual Media:

1. Insert the Support Live Image DVD or USB drive key or mount the ISO image through virtual media in the server.
2. Restart the server.
3. When the **F11** prompt is displayed on the screen, press the <F11> key.
The **BIOS Boot Manager** screen is displayed.
4. Select one of the following on the basis of the device you want to boot to:
 - To boot to the DVD, select **Optical Drive** in the menu, and then press <Enter>.
 - To boot to the USB key:
 - a. Select **Hard Drive C:** in the menu.
 - b. In the menu that is displayed, select the appropriate USB port, and then press <Enter>.
 - To boot to the iDRAC Virtual Media, select **Virtual Media** in the menu, and then press <Enter>

The server boots to the Support Live Image DVD or USB key. The Support Live Image welcome screen is displayed with a list of options. For more information, see [Boot Options](#).

5. Press any key before the automatic boot countdown timer reaches zero (0).

NOTE: If you do not press any key before the countdown timer reaches 0, the Support Live Image automatically boots to the **Linux-Based Diagnostic Tools (Dell 9G–13G servers)** option.

Booting to the virtual drive

NOTE: The method of using virtual media varies across systems, depending on the DRAC or iDRAC and the version of the firmware. For DRAC, you can mount Support Live Image on DRAC virtual console from DRAC GUI and for iDRAC, you can mount Support Live Image on **Virtual ConsoleVirtual Media**. For more information, see the DRAC or iDRAC User's Guide at dell.com/support/manuals.

1. Perform one of the following as applicable:
 - Mount the Support Live Image (*.iso) file to the virtual media.
 - If the Support Live Image DVD or an USB drive key is available, insert the DVD or an USB drive key into the local system, and then mount the image to the DRAC on the remote system.
2. When the system starts, **F11** prompt is displayed on the screen, press <F11>.
The **BIOS Boot Manager** screen is displayed.
3. Select **Virtual CD** and press <Enter>.
The server boots to the Support Live Image DVD or USB key. The Support Live Image welcome screen is displayed with a list of options. For more information, see [Boot Options](#).
4. Press any key before the automatic boot countdown timer reaches zero (0).

NOTE: If you do not press any key before the countdown timer reaches 0, the Support Live Image automatically boots to the **Linux-Based Diagnostic Tools (Dell 9G–13G servers)** option.

Boot options

NOTE: When the system boots to the Support Live Image, the automatic boot countdown timer is displayed. To view the boot options menu, you must press any key before the countdown timer reaches 0. If you do not press any key before the countdown timer reaches 0, the Support Live Image automatically boots to the **Linux-Based Diagnostic Tools (Dell 9G–13G servers)** option.

The following are the list of boot options:

- **Linux-Based Diagnostic Tools (Dell 9G–13G Servers)** — Boots to the Community ENTERprise Operating System (CentOS), an Enterprise-class Linux distribution.
- **DOS-Based Diagnostics Tools (Dell 9G–10G Servers)** — Boots to MS-DOS and you can run MP Memory test, Loop Memory test, Dell 32-Bit Diagnostics, and the Asset tool.
- **DOS-Based Diagnostics Tools (Dell 11G Servers)** — Boots to MS-DOS and you can run MP Memory test, Loop Memory test, Dell 32-Bit Diagnostics, and the Asset tool.
- **DOS-Based Asset Tag Utility (Dell 12G Servers)** — Boots to MS-DOS and you can run the Asset tool.
- **DOS-Based MemTest86 Utility (Dell 9G–13G)** — Boots to MS-DOS and you can run MemTest86 tool.

NOTE: Dell 32-Bit Diagnostics, MP Memory test, and Loop Memory test is not supported on Dell 12G servers because ePSA on 12G servers provide the similar functionality.

For more information on the diagnostic tools that you can run in the Linux and DOS environments, see [Tools Available](#).

Using the MS-DOS-based tools

This section provides information about using the MS-DOS-based tools included in the Support Live Image.

To use the MS-DOS-based tools and options available on the image, see:

- [Running the MP Memory Test](#)
- [Running the GUI-Based 32-Bit Diagnostics](#)
- [Running the Loop Memory Test](#)
- [Running the MemTest86](#)
- [Setting the Asset Tag](#)
- [Clearing the Single Bit Error Log](#)

Running the MP Memory test

MP Memory is a Dell-developed, DOS-based memory test tool. Running MP Memory test, it tests the processor's cache memory and physical memory.

This tool is efficient for memory configurations greater than 4 GB. The tool supports single processor or multiprocessor configurations and processors using Intel Hyper-Threading Technology. MP Memory operates only on Dell PowerEdge servers that run on Intel processors.

NOTE: The MP Memory test may not be supported on some PowerEdge C servers.

To run the MP Memory test:

1. Boot the system using the **DOS-Based Diagnostic Tools (Dell 9G-10G servers)** or **DOS-Based Diagnostic Tools (Dell 11G servers)** option.
The Customer Diagnostic Menu Ver 1.6 message is displayed.
2. When the Enter option or letter is displayed, then press <1> key.
The MP Memory test is run. Follow the instructions on the screen to select the method of execution.

Running the gui-based 32-bit diagnostics

Dell 32-Bit Diagnostics is an executable tool consisting of a graphical user interface (GUI) and test modules for individual server subsystems. In addition to the GUI, Dell 32-Bit Diagnostics also offers a command-line interface (CLI) to enable administrators to execute diagnostics using scripts or batch files

Dell 32-Bit Diagnostics can determine whether individual devices and subsystems are operating as expected. However, the diagnostics provide only local control and output.

To run the 32-Bit Diagnostics:

1. Boot the system using the **DOS-Based Diagnostic Tools (Dell 9G-10G servers)** or **DOS-Based Diagnostic Tools (Dell 11G servers)** option.
The Customer Diagnostic Menu Ver 1.6 message is displayed.
2. When the Enter option or letter is displayed, then press the <2> key.
The 32-Bit Diagnostics is executed. Follow the instructions on the screen to select the type of test you want to execute.

Running the Loop Memory Test

The Loop memory test is to run the MP Memory test on loop to stress test the memory

To run the loop memory diagnostic test:

1. Boot the system using the **DOS-Based Diagnostic Tools (Dell 9G-10G servers)** or **DOS-Based Diagnostic Tools (Dell 11G servers)** option.
The Customer Diagnostic Menu Ver 1.6 message is displayed.
2. At the Enter option or letter prompt, press <3>.
3. At the Enter loops to test 0..254 prompt, type a value between 0 and 254.
The loop memory diagnostic test is executed.

Running the MemTest86

MemTest86 is used to find the memory errors. MemTest86 uses advanced algorithms that are highly effective at detecting difficult memory errors. MemTest86 has the capability to test all available memory.

When MemTest86 starts it displays details about the system configuration and then begins testing. MemTest86 executes a repeating cycle of tests. Testing will continue to run until the program execution is interrupted by pressing <ESC>.

MemTest86 executes a series of numbered test sections to check for errors. The time required for a complete pass of MemTest86 will vary depending on CPU speed, memory speed, and memory size.

If memory errors are detected they will be displayed on the lower half of the screen. The default error reporting mode will display a detailed summary of all errors.

To run the MemTest86:

Boot the system using the **DOS-Based MemTest86 Utility (Dell 9G-13G servers)** option.

The MemTest86 starts running.

Press **C** to display the runtime command menu. The following options are available in the Configuration command menu.

- (1) Test Selection
- (2) Address Range
- (3) Error Report Mode
- (4) CPU selection Mode
- (5) Refresh Screen
- (6) Restart Test
- (7) Miscellaneous Options
- (0) Continue

A help bar is displayed at the bottom of the screen with the following options:

Keyboard Operations	Description
ESC	Exits the test and does a restart through the BIOS
C	Enter the configuration menu
SP (Spacebar)	Set scroll lock (Stops scrolling of error messages)


Keyboard Operations	Description
CR (Enter)	Clear scroll lock (Enables error message scrolling)

Setting the Asset Tag

1. Boot the system using the **DOS-Based Diagnostic Tools (Dell 9G-10G servers)**, **DOS-Based Diagnostic Tools (Dell 11G servers)**, or **DOS-Based Diagnostic Tools (Dell 12G servers)** option.
The Customer Diagnostic Menu Ver 1.6 is displayed.
2. At the `Enter` option or letter prompt, press <4>.
The MS-DOS prompt is displayed.
3. Type `c:`, and press <Enter>.
The working drive changes to `c:\`.
4. Type `CD Util`, and press <Enter>.
The working directory changes to `c:\Util`.
5. To change the asset tag, type `asset new_asset_tag` where `new_asset_tag` is the tag you want to assign to the system.
6. At the confirmation prompt, press <y>.

Clearing the Single-Bit Memory error log

You can clear or reset the Single-Bit Memory Error (SBE) log during and after troubleshooting. Clearing the SBE log during troubleshooting enables you to capture new errors.

 **NOTE:** Clearing the SBE log also clears the Embedded System Management (ESM) logs.

To clear the SBE log:

1. Boot the system using the **DOS-Based Diagnostic Tools (Dell 9G-10G servers)** or **DOS-Based Diagnostic Tools (Dell 11G servers)** option.
The Customer Diagnostic Menu Ver 1.6 is displayed.
2. When the `Enter` option or letter is displayed, then press the <4> key.
The MS-DOS prompt is displayed.
3. Type `C:`, and then press <Enter>.
The current drive changes to `C:\`.
4. Type `mpmemory -ptech -tlogclr`, and then press <Enter>.


Using the Linux-Based tools and utilities

This section provides information about using the Linux-based tools included in the Support Live Image.

- [Starting OpenManage Server Administrator Version 7.4 or 8.0.1](#)
- [Running Dell Systems E-Support Tool](#)
- [Installing the Dell iDRAC7 or iDRAC8 evaluation license](#)
- [Running Dell PowerEdge C system management pack](#)
- [Running PE-C Support Logs Script](#)

This section provides information about using the Linux-based utilities included in the Support Live Image.

- [Starting The Dell OpenManage Server Update Utility](#)
- [Using Samba Share](#)
- [Testing Network Connectivity](#)
- [Assigning A Static IP Address And Default Gateway](#)
- [Generating The PCI Devices List](#)
- [Clearing ESM Logs \(Dell 9th Generation And Later Servers Only\)](#)
- [Clearing The SBE Log](#)

 **NOTE:** You need root privileges to run any service and edit a configuration file.


 **NOTE:** You must manually create network configuration files for NIC teaming.


Starting OpenManage Server Administrator Version 7.4 or 8.0.1

Dell OpenManage Server Administrator (OMSA) provides a comprehensive, one-to-one systems management solution in two ways: from an integrated, web browser-based graphical user interface (GUI) and from a command line interface (CLI) through the operating system. Server Administrator enables system administrators to manage systems locally and remotely on a network. It enables system administrators to focus on managing their entire network by providing comprehensive one-to-one systems management.

To start OpenManage Server Administrator (OMSA):

1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-13G servers)** option.
The Support Live Image desktop is displayed.
2. Double-click the **Launch Server Administrator** icon. If you have already added OpenManage Server Administrator to the web browser's security exception, then go to step 6.
A new web browser window is displayed with the message: `This Connection is Untrusted`.
3. Click **I Understand the Risks**.
A disclaimer is displayed at the bottom of the page.
4. Click **Add Exception**.
The **Add Security Exception** dialog box is displayed.
5. Click **Get Certificate**, and then click **Confirm Security Exception**.
The OpenManage Server Administrator login page is displayed.
6. In the **Username** field, type `root`.
7. In the **Password** field, type `dell`.
8. Click **Submit**.
The OMSA dashboard is displayed.


 **NOTE:** For more information about using OMSA, see the *Dell OpenManage Server Administrator User's Guide* available in the **User_Guides_and_Release_Notes** folder that is available on the Support Live Image desktop.


 **NOTE:** OpenManage Server Administrator is not supported on PowerEdge C servers.

Running Dell System E-Support Tool


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

You can run DSET using one of the following methods:

 **NOTE:** For ease of copying the DSET collection report to a USB key, it is recommended that you run DSET using the desktop icon.

 **NOTE:** To collect the software and advance data information, run DSET using the Gnome Terminal.

- [Running DSET Using The Desktop Icon](#)
- [Running DSET Using The Gnome Terminal](#)

 **NOTE:** For more information about DSET, see the *Dell Systems E-Support Tool User's Guide* available in the **User_Guides_and_Release_Notes** folder that is available on the Support Live Image desktop.

 **NOTE:** DSET is not supported on PowerEdge C servers.


Running DSET using the desktop icon

To run DSET:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The Support Live Image desktop is displayed.
2. Double-click the **DSET** icon.

The DSET tool starts, the report is collected, and the message `Press ENTER to exit` is displayed.

3. Press <Enter>.
The DSET tool exits and the report is saved in `/var/data` folder. `/var/data` folder has been shared through Samba service. For more information see, [Sharing Files Using Samba Share Service](#)
4. To copy and paste the DSET collection report to a USB key:
 - a. Insert the USB drive. See [Mounting An USB Drive](#).
 - b. Copy the DSET collection report to the USB drive. See [Copying Files To An USB Drive](#).
5. To share the collection report with Dell technical support, use TightVNC or WinSCP. For more information, see [Using TightVNC](#) or [Using WinSCP](#).

 **NOTE:** DSET will not collect the software data when it is run through desktop shortcut icon

Running DSET using the GNOME terminal

To run DSET:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The Support Live Image desktop is displayed.
2. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
3. At the command prompt, type `su -`, and press <Enter>.
The Password prompt is displayed.
4. Type `dell`, and press <Enter>.
The root user command prompt is displayed.
5. Type `dellsysteminfo` and press <Enter>.

To collect the DSET report with report filtering, type `dellsysteminfo -v yes -r /var/data`.

To collect the DSET report from specific devices, use the `-d hw, st, lg` option, where `hw` indicates server, `st` indicates storage, and `lg` indicates logs. For example, type `dellsysteminfo -v yes -d hw, st, lg -r /var/data`.

For more information about report filtering, see [Report Filtering \(Command Line Only\)](#).

The DSET tool is executed and the collection report is saved in the `/root` folder by default. If you want to save the report to a specific path, type `dellsysteminfo -r <path>`.

6. To copy the DSET collection report to a USB key:
 - a. Mount the USB key. See [Mounting An USB Drive](#).
 - b. Copy the DSET collection report to the USB key. See [Copying Files To An USB Drive](#).
7. To share the collection report with Dell technical support, use TightVNC or WinSCP. For more information, see [Using TightVNC](#) or [Using WinSCP](#).

Report filtering (command line interface only)

You can use the privacy option while executing DSET from the command line interface to filter the following data from the DSET collection report:


- Host Name
- IP Address
- Subnet Mask
- Default Gateway
- MAC Address
- DHCP Server
- DNS Server
- Processes
- Environment variables
- Registry
- Logs
- iSCSI Data
- Fibre Channel data (host WWN and port WWN)

If you want to include any of the data to the report, specify 'no' in the `privacy_presetlist.cfg` file available at `/opt/dell/advdiags/dset/config/`.

Installing the Dell iDRAC7 or iDRAC8 evaluation license


iDRAC is a systems management hardware and software solution that provides remote management capabilities, crashed system recovery, and power control functions for Dell PowerEdge systems.


The Dell iDRAC7 or iDRAC8 evaluation license allows you to try and test certain Enterprise features for 30 days before you purchase a permanent license. A status icon in the iDRAC graphical user interface (GUI) changes from green color to yellow color five days before the license expires. Customers who require additional time to complete an evaluation can obtain an extension of 30 days by contacting their account representative.

 **NOTE:** Installing the Dell iDRAC7 or iDRAC8 evaluation license in a production environment is not recommended.

You can install the Dell iDRAC7 or iDRAC8 evaluation license by:

- [Installing the iDRAC7 or iDRAC8 evaluation license using the desktop icon](#)
- [Installing the iDRAC7 or iDRAC8 evaluation license using the gnome terminal](#)

 **NOTE:** For more information about using Dell iDRAC7 or iDRAC8 evaluation license, see the *Integrated Dell Remote Access Controller User's Guide* available in the **User Guides and Release Notes** folder that is available on the Support Live Image desktop.

 **NOTE:** The Dell iDRAC7 or iDRAC8 evaluation license is not supported on PowerEdge C servers.

Installing the iDRAC7 or iDRAC8 evaluation license using the desktop icon

To install the Dell iDRAC7 or iDRAC8 evaluation license:

1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-13G servers)** option.
The Support Live Image desktop is displayed.
2. Double-click the **12G_iDRAC7_Demo_License** or **13G_iDRAC8_Demo_License** icon.
The following prompt is displayed on the GNOME terminal window: `Do you want to install an enterprise evaluation license that is valid for 30 days [Y/N]?`
3. Press `<Y>` to install the license.
The license is imported and a warning message prompting to install a permanent license in 30 days is displayed.
4. At the, `Press ENTER to exit` prompt, press `<Enter>`.
The GNOME terminal is exited.

Installing the iDRAC7 or iDRAC8 evaluation license using the gnome terminal

To install the Dell iDRAC7 or iDRAC8 evaluation license:


1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
2. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
3. At the command prompt, type `su -`, and press `<Enter>`.
The `Password` prompt is displayed.
4. Type `dell`, and press `<Enter>`.
The root user command prompt is displayed.
5. Perform one of the following:
 - For iDRAC7: `/usr/iDracEvalLicense/uploadEvalLicense.sh`
 - For iDRAC8: `/usr/iDracEvalLicense/uploadEvalLicense.sh`The following prompt is displayed: `Do you want to install an enterprise evaluation license that is valid for 30 days [Y/N]?`
6. Press `<Y>` to install the license.
The license is imported and a warning message prompting to install a permanent license in 30 days is displayed.

7. At the `Press ENTER to exit` prompt, press `<Enter>`.
The GNOME terminal prompt is displayed.

Running Dell PowerEdge C system management pack

The PowerEdge C line of servers uses a baseboard management controller (BMC) to provide system monitoring and administration, including remote power-on.

Dell provides the following Linux command-line tools to assist managing PowerEdge C servers (all tools work with all PowerEdge C offerings).

 **NOTE:** Dell PowerEdge C System Management Pack is officially supported to work on PowerEdge C servers only.

The tools available are:

- PEC-logs
- setupbios
- bmc tool
- ldstate

Running setupbios

Setupbios is a BIOS configuration tool. It provides a number of ways to setup and replicate BIOS settings on PowerEdge C servers.

It is used to confirm or change BIOS settings.

To run setupbios:

1. Boot the **PowerEdge C** server using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The CentOS desktop window is displayed.
2. Double-click the **gnome-terminal** icon.
The **GNOME terminal** window is displayed.
3. At the command prompt, type `setupbios`.
The list of options is displayed.

The output from setupbios is included in PEC-logs report for troubleshooting.

Running bmc-tool (bmc)

The bmc software application enables you to manage and configure PowerEdge C Baseboard Management Controller by using command line interface (CLI). BMC abstracts some of the complicated IPMI commands and provides simple, Linux-type of interface. It works with all PowerEdge C formats and attempts to provide the most-commonly used commands in an easy format.

To run bmc:

1. Boot the **PowerEdge C** server using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The CentOS desktop window is displayed.
2. Double-click the **gnome-terminal** icon.
The **GNOME terminal** window is displayed.
3. At the command prompt, type `bmc`.
The list of options is displayed.

The output from BMC is included in PEC-logs report for troubleshooting.

Running ldstate

Ldstate is a front-end tool for subordinate tools to monitor storage arrays.

It provides storage monitoring for single-disk, chipset RAID, and MegaRAID controllers.

To run ldstate:

1. Boot the **PowerEdge C** server using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.

The CentOS desktop window is displayed.

2. Double-click the **gnome-terminal** icon.
The **GNOME terminal** window is displayed.
3. At the command prompt, type `ldstate`.
The list of options is displayed.

The output from `ldstate` is included in PEC-logs report for troubleshooting.

Running PowerEdge-C logs script

PowerEdge-C Script (pec-logs) is a utility that collects configuration and log data from the target server for various chassis hardware, storage, and operating system components on Dell PowerEdge-C servers. It uses OS specific built-in report tools and/or individual OS commands to pull operating system logs and configuration.

You can run PowerEdge-C Logs Script using one of the following methods:

- [Running PowerEdge-C logs script using the desktop icon](#)
- [Running PowerEdge-C logs script using the gnome terminal](#)

Running PowerEdge-C logs script using the desktop icon


To run PowerEdge-C Logs Script:

1. Boot the **PowerEdge C** server using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
2. Double-click the **PEC-Logs** icon.
The PowerEdge-C logs tool starts, the report is collected, and close the terminal.
3. The PowerEdge-C logs tool exits and the report is saved in `/var/data` folder.

Running PowerEdge-C logs script using the gnome terminal

To run PowerEdge-C Logs Script using GNOME terminal:

1. Boot the **PowerEdge C** server using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The CentOS desktop window is displayed.
2. Double-click the **gnome-terminal** icon.
The **GNOME terminal** window is displayed.
3. At the command prompt, type `su -`, and press <Enter>.
The `Password` prompt is displayed.
4. Enter `dell`, and press <Enter>.
The **root user** command prompt is displayed.
5. Enter `cd /opt/dell/pec/pec-logs/` and press <Enter>.
6. Execute the script `./pec-logs`.
PowerEdge-C Logs Script is executed and the output is saved in `/var/data`.

 **NOTE:** PowerEdge-C Logs Script is used only for PowerEdge C systems.



Intel Processor Diagnostic Tool

The Intel Processor Diagnostic Tool verifies the functionality of an Intel processor. The diagnostic checks for brand identification, verifies the processor operating frequency, tests specific processor features, and performs a stress test on the processor.

- [Installing Intel Processor Diagnostic Tool](#)
- [Running Intel Processor Diagnostic Tool](#)

Installing Intel Processor Diagnostic Tool using the desktop icon

To install Intel Processor Diagnostic Tool:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The Support Live Image desktop is displayed.
2. Double-click the **IPDT_Install** icon.
The Intel Processor Diagnostic Tool starts installing.
 **NOTE:** Intel Processor Diagnostic Tool is not installed on the Hard Disk Drive.
3. Type **a** and press **<Enter>** to accept the license agreement.
Intel Processor Diagnostic Tool will be installed.
4. Press **<Enter>** to exit the installation window.
IPDT icon is displayed on the desktop.
 **NOTE:** The **IPDT_Install** icon on the desktop is replaced by **IPDT** and **IPDT Configuration Editor** icons.

Running Intel Processor Diagnostic Tool using the desktop icon

To run Intel Processor Diagnostic Tool, Double-click the **IPDT** icon.

The Intel Processor Diagnostic Tool starts, the report is collected, and the result is displayed.

Starting Dell OpenManage Server Update Utility

Dell OpenManage Server Update Utility (SUU) is a DVD-based application for identifying and applying updates to the system.

You can use SUU to update the Dell PowerEdge system or to view the updates available for systems supported by SUU. SUU compares the versions of components currently installed on the system with update components packaged on the Dell PowerEdge Server Update Utility media.

SUU displays a comparison report of the versions and provides various options for updating the components.

To start the Server Update Utility (SUU) application:

1. Start the server using the **Linux-Based Diagnostic Tools (Dell 9G-13G servers)** option.
The Support Live Image desktop is displayed.
2. Mount the Server Update Utility stored in the USB drive or by inserting a DVD or by virtual console.
3. Right-click the SUU icon on the desktop and select **Open in Terminal**.
4. Type `sudo ./suu -g` and press **<Enter>**.

The SUU window is displayed.

Running the stress tool using the GNOME terminal

To run the stress tool:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The Support Live Image desktop is displayed.
2. Double-click **gnome-terminal**.
The GNOME terminal window is displayed.
3. In the Command Prompt, type `sudo stress --cpu <forks> --hdd <pummels> --timeout <seconds> --verbose`, and press **<Enter>**.
For example, `sudo stress --cpu 8 --hdd 4 --timeout 30s --verbose`.
If the stress test is successful, a `successful run completed` message is displayed.

Sharing files using Samba share service

Samba share is used to share the files between systems running Linux and Windows.

To use the Samba share service:

1. Start the server using the **Linux-Based Diagnostic Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed. By default, the Samba services running on the `on-boot` and `/var/data` folders are shared.

2. Open the terminal window.
3. Type `ifconfig` and press **Enter**.
The network interface configuration is displayed.
4. Make note of the IP address of the server.
5. Log in to a server running a Windows operating system.
6. Click **Start > Run**. In the **Open** box, type the IP address of the server running Support Live Image, and then press **Enter**.
The Samba shared folder `data` is displayed.

Testing network connectivity

To test the network connectivity:

1. On the server, connect the network cable to either the network port that is having issues or to NIC1.
2. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
3. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
4. At the command prompt:
 - Type `ifconfig`, and then press <Enter> to display the network interface parameters, such as the IP address.
 - Type `route`, and then press <Enter> to determine the default gateway.
 - Type `ping ip_address -b`, and then press <Enter> to verify if you can ping the default gateway.

Assigning a static IP address and default gateway

To assign a static IP address and default gateway:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
2. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
3. At the command prompt, type `su -`, and then press <Enter>.
The `Password` prompt is displayed.
4. Type `dell`, and then press <Enter>.
The root user command prompt is displayed.
5. Type `service NetworkManager stop`, and press <Enter>.
6. To assign a static IP, type `ifconfig <eth0> <ip_address> netmask <subnet>`, and then press <Enter>.
7. To assign a default gateway, type `route add default gw <ip_address>`, and then press <Enter>.
8. Type `service NetworkManager start`, and then press <Enter>.

Generating the PCI devices list

To generate the PCI devices list connected to your system:

1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
2. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
3. At the command prompt, type `lspci`, and press <Enter>.
The PCI devices list is displayed.
4. To export the PCI devices list to a file, at the command prompt:
 - Type `lspci > /var/data/lspci.txt`
 - Type `lspci > /mnt/disc/folder_name/lspci.txt` to copy to the local file system after remount, where `folder_name` is the folder on the local file system. For instructions to remount, see [Accessing And Remounting The Local File System](#).

Clearing ESM logs (Dell's 9th generation or later PowerEdge servers only)

To clear ESM logs:

1. Start the system using the **Linux-Based Diagnostic Tools (Dell 9G–13G servers)** option.
The CentOS desktop is displayed.
2. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
3. At the command prompt, type `su-`, and press <Enter>.
The password prompt is displayed.
4. Type **dell** and press <Enter>.
The root user command prompt is displayed.
5. At the command prompt, type `/opt/dell/advdiags/dset/bin/. /ClearESMLog`, and press <Enter>.
6. At the `Do you want to continue? Y/N` prompt, press <Y>.


Clearing the SBE log

To clear SBE logs:


1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G–13G servers)** option.
The CentOS desktop is displayed.
2. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
3. At the command prompt, type `su -`, and then press <Enter>.
The Password prompt is displayed.
4. Type `dell`, and then press <Enter>.
The root user command prompt is displayed.
5. Type `dcicfg command=clearmemfailures`, and then press <Enter>.

Accessing and remounting local NTFS file system

To access and mount the local NTFS file system:

1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G–13G servers)** option.
The Support Live Image desktop is displayed.
2. Download the following RPMs available at https://dl.fedoraproject.org/pub/epel/7/x86_64/Packages/e/ and https://dl.fedoraproject.org/pub/epel/7/x86_64/Packages/n/:
 - `epel-release-7-13.noarch.rpm`
 - `ntfs-3g-2017.3.23-11.el7.x86_64.rpm`
 - `ntfs-3g-devel-2017.3.23-11.el7.x86_64.rpm`
 - `ntfsprogs-2017.3.23-11.el7.x86_64.rpm`
3. Install the RPMs by using the following command: `sudo rpm -ivf <RPM_filename>`.
 **NOTE:** Ensure that you install the RPMs in the following sequence:
 - a. `epel-release-7-13.noarch.rpm`
 - b. `ntfs-3g-2017.3.23-11.el7.x86_64.rpm`
 - c. `ntfs-3g-devel-2017.3.23-11.el7.x86_64.rpm`
 - d. `ntfsprogs-2017.3.23-11.el7.x86_64.rpm`
4. Double-click the **Local Hard Drives** icon and provide the password as **De11** when prompted.
The local file system is now available in read/write format.

Mounting USB drive

 **NOTE:** If the USB drive is using the NTFS file system, ensure that you perform the steps in [Accessing and remounting local NTFS file system](#).

To mount a USB drive:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
2. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
3. At the command prompt, type `su -`, and then press <Enter>.
The Password prompt is displayed.
4. Type `dell`, and then press <Enter>.
The root user command prompt is displayed.
5. Type `mount`, and then press <Enter>.
The available storage devices are listed. The USB drive is listed as `type vfat (ro)`. For example, the USB drive may be listed as `/dev/sda1` on `/mnt/disc/sda1` type `vfat (ro)`.
6. Type `mount -o remount,rw /dev/<device_name>`, where `<device_name>` is the name of the USB device.

Copying files to a USB drive

To copy files to an USB drive:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
2. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
3. At the command prompt, type `sudo nautilus`, and then press <Enter>.
The Nautilus browser is displayed.
4. Under **Places**, click **File System**.
5. In the right pane, navigate to the `/var/data` folder, and locate the file (for example, DSET collection report) you want to copy.
6. Right-click the file you want to copy, and then select **Copy**.
7. Under **Places**, click **File System**.
8. In the right pane, navigate to the `/mnt/disc/` folder, and open the folder that corresponds to the mounted USB drive.
9. Right-click and select **Paste**.

Starting the Vim editor

Vim Editor is a text editing tool used to open the `.txt` files.

To start the vim editor:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
2. Double-click the **gnome-terminal** icon.
The GNOME terminal window is displayed.
3. At the command prompt, type `vim file_name`, where `file_name` is the name of the file.
The vim editor is displayed.
4. To insert text, type `i`.
5. Type the required information.
6. To exit the insert mode, press <Esc>.
7. To save the file, type `:wq`.
The file is saved in the current folder.

Starting gedit

gedit is a Gui-based text editing tool.

To start gedit:

1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
2. Click **Applications > Accessories > gedit Text Editor**.
The **gedit** window is displayed.

Starting the Hex editor

Hex Editor is a GUI-based text editing tool.

To start the hex editor:

1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-13G servers)** option.
The CentOS desktop is displayed.
2. Click **Applications > Programming > Hex Editor**.
The **GHex** window is displayed.

Using TightVNC

You can establish a remote desktop session using TightVNC. After a remote connection is established, you can copy and paste the configuration files from the remote system to a local system at Dell technical support.

Ensure that TightVNC is installed on the local system (Dell technical support) and that the remote system is booted to CentOS.

To use TightVNC:

1. Launch TightVNC on the local system.
The **New TightVNC Connection** dialog box is displayed.
2. In the **TightVNC server** box, type the IP address of the remote system.
3. In the **User name** field, type `root`.
4. In the **Password** field, type `dell`.
5. Click **Connect**.
The desktop of the remote system is displayed.

Using WinSCP

WinSCP is a Windows-based tool. You can securely transfer files between a local Windows and a remote Linux (Support Live Image) system using WinSCP. You can use WinSCP to securely transfer the configuration reports to Dell technical support. WinSCP is available for download at **winscp.net**.

To use WinSCP:

1. Ensure that WinSCP is installed on the local Windows system (Dell technical support) and that the remote system is booted to Support Live Image.
2. Launch WinSCP on the local system.
The **WinSCP Login** dialog box is displayed.
3. In the **Host name** box, type the ip address of the remote system.
4. In the **User name** field, type `root`.
5. In the **Password** field, type `dell`.
6. Click **Login**.
The WinSCP window is displayed with the directory structure of the local and remote systems. You can securely drag the files between the local and remote system.

Useful commands

This section provides the Linux commands you can use to start, stop, or restart the OMSA and network service. At the terminal command prompt, type the commands listed in the following tables to perform the required functions.


 **NOTE:** You can run these commands using the root privileges.

Table 4. OMSA service commands

Command	Description
<code>srvadmin-services.sh start</code>	Start the OMSA service.
<code>srvadmin-services.sh stop</code>	Stop the OMSA service.
<code>srvadmin-services.sh restart</code>	Restart the OMSA service.
<code>srvadmin-services.sh status</code>	Status of the OMSA service.

Table 5. Network service commands

Command	Description
<code>service network start</code>	Start the network service.
<code>service network stop</code>	Stop the network service.
<code>service network restart</code>	Restart the network service.