




# Support Live Image Version 2.1 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.

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# Contents

<b>1 Overview</b>	<b>5</b>
What is new in this release	5
Support Matrix	5
Supported PowerEdge Systems	5
Supported PowerEdge C Systems	7
Supported PowerVault Systems	8
Minimum hardware requirements	8
Tools available	8
Other documents you may need	9
<b>2 Using Support Live Image</b>	<b>10</b>
Creating a bootable support live image USB key on systems running Windows	10
Creating a bootable support live image DVD on systems running Windows	10
Starting the server	11
Starting from a DVD or an USB drive key	11
Booting to the virtual drive	11
Boot options	12
Using the MS-DOS-Based tools	12
Running the MP Memory test	12
Running the gui-based 32-bit diagnostics	13
Running the Loop Memory Test	13
Running the MemTest86	13
Setting the Asset Tag	14
Clearing the Single-Bit Memory error log	14
Using the Linux-Based tools and utilities	15
Starting OpenManage Server Administrator	15
Running Dell System E-Support Tool	16
Installing the Dell 12th generation iDRAC7 evaluation license	18
Dell powerededge c system management pack	19
Running PE-C support logs script	20
Intel processor diagnostic tool	21
Starting Dell OpenManage Server Update Utility	21
Running the Stress tool using the GNOME terminal	22
Sharing files using Samba Share service	22
Testing network connectivity	22
Assigning a static IP address and default gateway	23
Generating the PCI devices list	23
Clearing ESM logs (Dell 9th generation and later servers only)	23

Clearing the SBE log.....24

Accessing and remounting the local file system..... 24

Mounting a USB drive..... 24

Copying files to a USB drive..... 25

Starting the Vim editor.....25

Starting gedit..... 26

Starting the Hex editor..... 26

Using TightVNC..... 26

Using WinSCP..... 26

Useful commands.....27

## Overview

Support Live Image (SLI) is a CentOS 6.2 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.

## What is new in this release

The release highlights of Support Live Image are:

- Support for Intel Processor Diagnostic Tool
- Safe Booting option for unsupported hardware
- Support for MemTest86 version 4.1 tool
- Dell OpenManage Server Administrator version 7.4
- Dell System E-Support Tool version 3.6
- Dell 12th generation iDRAC7 Evaluation License Tool
- Dell OpenManage Server Update Utility (SUU) version 7.4
- Latest PowerEdge C tools and Systems Management Pack 02/16/2014

## Support Matrix

### Supported PowerEdge Systems

This section lists the supported PowerEdge Systems.

**Table 1. Supported PowerEdge Systems**

Model	Generation	Description
6950	9G	Rack
2970	9G	Rack
2950	9G	Rack
2900	9G	Rack
1950	9G	Rack
1900	9G	Rack

<b>Model</b>	<b>Generation</b>	<b>Description</b>
1955	9G	Modular
R905	10G	Rack
R900	10G	Rack
R805	10G	Rack
T605	10G	Tower
T300	10G	Tower
R300	10G	Rack
R200	10G	Rack
T105	10G	Tower
T100	10G	Tower
M600	10G	Modular
M605	10G	Modular
M805	10G	Modular
M905	10G	Modular
R915	11G	Rack
R910	11G	Rack
R815	11G	Rack
R810	11G	Rack
R715	11G	Rack
T710	11G	Tower
R710	11G	Rack
T610	11G	Tower
R610	11G	Rack
R515	11G	Rack
R510	11G	Rack
R415	11G	Rack
T410	11G	Tower
R410	11G	Rack
T310	11G	Tower
R310	11G	Rack
R210 II	11G	Rack
R210	11G	Rack
T110 II	11G	Tower

<b>Model</b>	<b>Generation</b>	<b>Description</b>
T110	11G	Tower
M610	11G	Modular
M610x	11G	Modular
M710	11G	Modular
M710HD	11G	Modular
M910	11G	Modular
R720	12G	Rack
R720xd	12G	Rack
R620	12G	Rack
T620	12G	Tower
M620	12G	Blade
R820	12G	Rack
R420	12G	Rack
R520	12G	Rack
R320	12G	Rack
M520	12G	Blade
M420	12G	Blade
M820	12G	Blade
T420	12G	Tower
T320	12G	Tower
VRTX	12G	Chassis
R920	12G	Rack

## Supported PowerEdge C Systems

This section lists the supported PowerEdge Systems.

**Table 2. Supported PowerEdge C Systems**


<b>Model</b>	<b>Type</b>	<b>Supported</b>
C1100	Server	Yes
C2100	Server	Yes
C6100	Sled	Yes
C6105	Sled	Yes
C6145	Sled	Yes
C6220	Sled	Yes

Model	Type	Supported
C6220II	Sled	Yes
C8220	Sled	Yes
C5220	Sled	Yes
C5125	Sled	Yes

## Supported PowerVault Systems

This sections lists the supported PowerVault Systems.

Model	Supported
NX200	Yes
NX300	Yes
NX1950	Yes
NX3000	Yes

 **NOTE:** For unsupported hardware, Support Live Image will be booted and 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"> <li>• Dell 32-Bit Diagnostics</li> <li>• Dell MP Memory</li> <li>• MemTest86</li> <li>• Dell Asset Tag Utility</li> </ul>	<ul style="list-style-type: none"> <li>• Dell OpenManage Server Administrator (OMSA) <ul style="list-style-type: none"> <li>– Version 7.4 for Dell 9G to 12G servers</li> </ul> </li> <li>• Dell System E-Support Tool (DSET) <ul style="list-style-type: none"> <li>– Version 3.6 for Dell 9G to 12G servers</li> </ul> </li> <li>• Dell Server Update Utility <ul style="list-style-type: none"> <li>– Version 7.4 for Dell 9G to 12G servers</li> </ul> </li> <li>• Dell 12G iDRAC7 Evaluation License Tool version 1.55.55</li> <li>• Dell PowerEdge C System Management Pack <ul style="list-style-type: none"> <li>– setupbios</li> <li>– bmc tool</li> <li>– ldstate</li> </ul> </li> <li>• PEC-logs for PowerEdge C servers</li> <li>• Intel Processor Diagnostics Tool</li> </ul>



## 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](http://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](#)

### Creating a bootable support live image USB key on systems running Windows

It is recommended that you create the Support Live Image bootable USB key using **Fedora Live USB Creator**. However, you can also use any other tool available for creating a bootable USB key.

To create a bootable Support Live Image USB key:

1. Download **Fedora LiveUSB Creator** available at <https://fedorahosted.org/releases/l/l/liveusb-creator/liveusb-creator-3.12.0-setup.exe> and install it on your system.
2. Insert a USB key with a minimum capacity of 4 GB into an available USB port on your system.
3. Click **Start** → **All Programs** → **LiveUSB Creator**.
4. Right-click **LiveUSB Creator** and select **Run as administrator**.  
The **Fedora LiveUSB Creator** dialog box is displayed.
5. Under **Use existing Live CD**, click **Browse**.  
The **Select Live ISO** dialog box is displayed.
6. Browse through and then select the Support Live Image (\*.iso) file, and then click **Open**.
7. Under **Target Device**, select the USB key drive.
8. Click **Create Live USB**.

### 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 that you created. The methods of starting a server are:

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

### Starting from a DVD or an USB drive key

To start from a DVD or an USB drive key:


1. Insert the Support Live Image DVD or an USB drive key 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:
    1. Select **Hard Drive C:** in the menu.
    2. In the menu that is displayed, select the appropriate USB port, 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–12G 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](http://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–12G 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–12G servers)** option.

The following are the list of boot options:

- **Linux-Based Diagnostic Tools (Dell 9G–12G 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–12G)** — 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-10G 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)
CR (Enter)	Clear scroll lock (Enables error message scrolling)


## Setting the Asset Tag

To set 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. 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](#)
- [Running Dell Systems E-Support Tool](#)
- [Installing The 12th Generation iDRAC7 Evaluation License](#)
- [Dell PowerEdge C System Management Tools](#)
- [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

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-12G 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, and operating system 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 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-12G 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 `/tmp/data` folder. `/tmp/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](#).



## Running DSET using the GNOME terminal

To run DSET:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-12G 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 /tmp/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 /tmp/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 12th generation iDRAC7 evaluation license


iDRAC7 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 12th Generation iDRAC7 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 12th Generation iDRAC7 evaluation license in a production environment is not recommended.

You can install the 12th Generation iDRAC7 evaluation license by:

- [Installing The Dell 12th Generation iDRAC7 Evaluation License Using The Desktop Icon](#)
- [Installing The Dell 12th Generation iDRAC7 Evaluation License Using The GNOME Terminal](#)

 **NOTE:** For more information about using Dell 12th Generation iDRAC7 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 12th Generation iDRAC7 evaluation license is not supported on PowerEdge C servers.

### Installing the Dell 12th generation iDRAC7 evaluation license using the desktop icon

To install the Dell 12th Generation iDRAC7 evaluation license:

1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-12G servers)** option.  
The Support Live Image desktop is displayed.
2. Double-click the **12G\_iDRAC7\_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 Dell 12th generation iDRAC7 evaluation license using the gnome terminal

To install the Dell 12th Generation iDRAC7 evaluation license:


1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G–12G 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. Type `/usr/iDrac7EvalLicense/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.

## 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-12G 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-12G 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-12G 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 PE-C support logs script

PE-C Support 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 PE-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 PE-C Support Logs Script using one of the following methods:

- [Running PE-C Support Logs Script Using The Desktop Icon](#)
- [Running PE-C Support Logs Script Using The GNOME Terminal](#)

### Running PE-C support logs script using the desktop icon


To run PE-C Support Logs Script:

1. Boot the **PowerEdge C** server using the **Linux-Based Diagnostics Tools (Dell 9G-12G servers)** option.  
The CentOS desktop is displayed.
2. Double-click the **PEC-Logs** icon.  
The PE-C support logs tool starts, the report is collected, and close the terminal.
3. The PE-C support logs tool exits and the report is saved in **/tmp/data** folder.

### Running PE-C support logs script using the gnome terminal

To run PE-C Support Logs Script using GNOME terminal:

1. Boot the **PowerEdge C** server using the **Linux-Based Diagnostics Tools (Dell 9G-12G 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**.  
PE-C Support Logs Script is executed and the output is saved in **/tmp/data**.

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

## Intel processor diagnostic tool


The purpose of the Intel Processor Diagnostic Tool is to verify the functionality of an Intel microprocessor. 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 IPDT


### Installing Intel Processor Diagnostic Tool using the desktop icon

To install IPDT:

1. Boot the system using the **Linux-Based Diagnostics Tools (Dell 9G-12G servers)** option.  
The Support Live Image desktop is displayed.
2. Double-click **IPDT\_Install**.  
The IPDT tool starts installing.

 **NOTE:** IPDT is not installed on the Hard Disk Drive.

3. Type `a` and press **<Enter>** to accept the license agreement.  
IPDT 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 IPDT using the desktop icon

To run IPDT:

Double-click the **IPDT** icon.

The IPDT 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-12G 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.

**NOTE:**

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

## 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-12G 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 on Linux and Windows.

To use the Samba share service:

1. Start the server using the **Linux-Based Diagnostic Tools (Dell 9G-12G servers)** option.  
The CentOS desktop is displayed. By default, the Samba services running on the **on-boot** folder and **/tmp/data** folder is shared.
2. By running the `ifconfig` command, check the IP address of Support Live Image.
3. On a Windows server, on the taskbar, click **Start** → **Run**. In the **Open** box, type the IP address of the Support Live Image, and then press **Enter**.
4. Enter the username (`root`), password (`dell`), and then click **OK**.  
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-12G 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-12G 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–12G 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 > /tmp/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 9th generation and later servers only)

To clear ESM logs:

1. Start the system using the **Linux-Based Diagnostic Tools (Dell 9G–12G 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-12G 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 the local file system

To access and mount the local file system:

 **NOTE:** By default, the local hard disk drives are mounted as read-only.

1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-12G servers)** option.  
The Support Live Image desktop is displayed.
2. Double-click the **Local Hard Drives** icon.
3. Double-click the **disc** folder.  
The local hard drives are represented as folders named **sde1**, **sde2**, **sde3**, and so on.
4. To identify where the **C:** drive is mounted, open and check each folder.  
The **C:** drive may be mounted at `/mnt/disc/sde2`.
5. To remount the local file system as read/write NTFS:
  - a. Close all windows that may be accessing the local file system.
  - b. Double-click the **gnome-terminal** icon.
  - c. In the CentOS terminal window, type `umount /dev/sde2`, where `/dev/sde2` is the location of the device or partition you want to unmount.
  - d. Type `mount -t ntfs /dev/sde2 /mnt/disc/sde2`, where `/dev/sde2` is the actual location and `/mnt/disc/sde2` is the new mount location.

The local file system is now available in read/write format.

## Mounting a USB drive

To mount a USB drive:

1. Boot the system using the **Linux-Based Diagnostic Tools (Dell 9G-12G 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 `del`, 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 usually 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-12G 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 `/tmp/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-12G 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-12G 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-12G 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](http://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.