Hardware Guide

Revision B

McAfee Data Loss Prevention

1650, 3650, 4400, 5500

This guide describes the features and capabilities of McAfee® Data Loss Prevention (McAfee DLP) appliances to help you to manage and maintain them.

For information on running and installing McAfee DLP in a virtual environment, see the *McAfee Data Loss Prevention Virtual Installation Guide*.

About the appliances

McAfee DLP software runs on these appliance models.

- 1650
- 3650
- 4400
- 5500

Supported software versions

McAfee DLP appliances support these software versions.

- 9.0.x
- 9.2.x
- 9.3.x

Models and features

The table shows the McAfee DLP models and features.

Table 1 Model features

Model	Number of hard drives	Capture database capacity	RAM	Remote Management Module (RMM)	Rack height
1650	4	500 GB	16 GB	No	1U
3650	16	4 TB	16 GB	No	3U
4400	12	7.2 TB	24 GB	Yes	2U
5500	8	9 TB	32 GB	Yes	2U

Model 1650

The model 1650 appliance ships on a Supermicro X7DBU system board.

Back panel hardware components

The illustration identifies the hardware components on the back panel of the appliance.

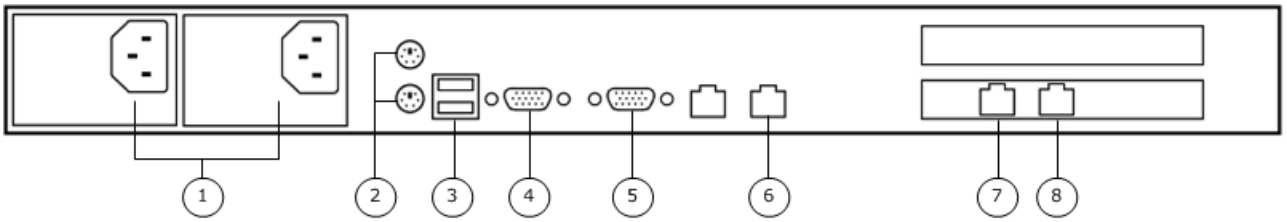

Figure 1 1650 back panel

1 Power supplies	5 VGA port
2 PS2 ports	6 Management port
3 USB ports	7 Capture port 0
4 Serial port	8 Capture port 1

Front control panel

The control panel is on the front of the chassis.

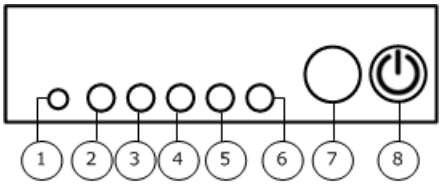

Figure 2 1650 front control panel

1 System ID button	5 Hard drive activity
2 System overheat/fan failure	6 System power
3 NIC 2 activity	7 Reset button
4 NIC 1 activity	8 Power button

Model 3650

The model 3650 appliance ships on a Supermicro X7DBU system board.

Back panel hardware components

The illustration identifies the hardware components on the back panel of the appliance.

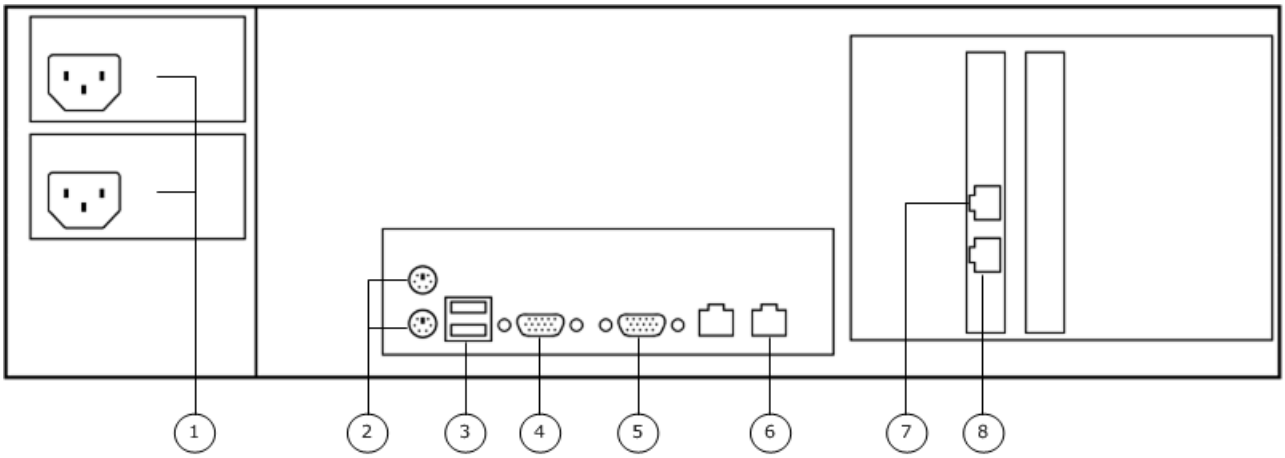

Figure 3 3650 back panel

1 Power supplies	5 VGA port
2 PS2 ports	6 Management port
3 USB ports	7 Capture port 0
4 Serial port	8 Capture port 1

Front control panel

The control panel is on the front of the chassis.

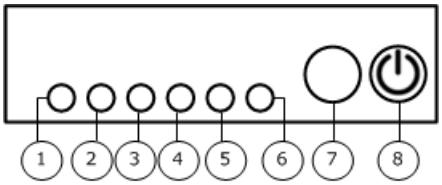

Figure 4 3650 front control panel

1 System power failure	5 Hard drive activity
2 System overheat/fan failure	6 System power
3 NIC 2 activity	7 Reset button
4 NIC 1 activity	8 Power button

Model 4400

The model 4400 appliance ships on an Intel Server System SR2612UR.

For more information on the Intel Server System SR2612UR, see the Intel documentation.

- *Intel® Server System SR2612UR Technical Product Specification*:
  http://download.intel.com/support/motherboards/server/s5520ur/sb/sr2612ur_tps_13.pdf
- *Intel® Server System SR2612UR Service Guide*:
  http://download.intel.com/support/motherboards/server/s5520ur/sb/r2612ur_service_guide_14.pdf

Back panel hardware components

The illustration identifies the hardware components on the back panel of the appliance.

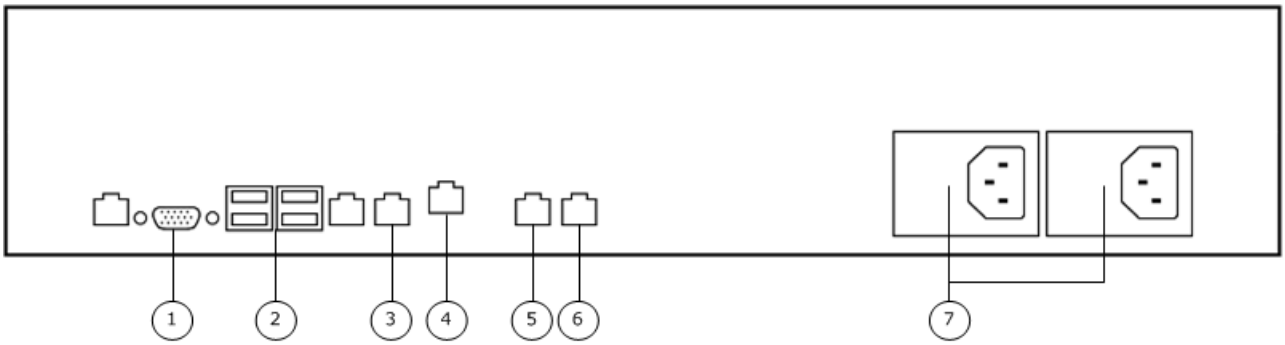

Figure 5 4400 back panel

1 VGA port	**5** Capture port 0
2 USB ports	**6** Capture port 1
3 Management port	**7** Power supplies
4 Remote access port (RMM)	

On some 4400 models, the capture ports might be on a slotted NIC instead of on the motherboard. In this case, the capture port numbers are swapped.

Front control panel

The control panel is on the front of the chassis.

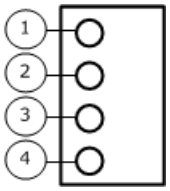

Figure 6 4400 front control panel

1 Power supply + 12V OK
2 Enclosure services subsystem fault
3 System status
4 System identify

Table 2 4400 indicator light states

Indicator light	Description
Power supply + 12V OK	• **Off** — Initial state • **Green** — +12V output is enabled for a power supply
Enclosure services subsystem fault	• **Off** — Initial state • **Amber** — Enclosure Service Processor on the midplane detects a failure condition
System identify	• **Off** — Initial state • **Blue** — System identify is enabled by server system management software

Table 3 4400 system status indicator light states

Color	State	Status
Green	Solid	System booted and ready

	Blink	System degraded:
		• Non-critical threshold crossed:
		  • Temperature
		  • Voltage
		• Fan redundancy lost, sufficient system cooling maintained
		• Power supply redundancy lost
		• Unable to use all of the installed memory — one or more DIMMS failed or disabled, but functional memory remains available
		• Correctable errors over a threshold of 10 and migrating to a spare DIMM (memory sparing)
		• Memory mirroring takes place and the system loses memory redundancy
		• PCI Express link errors
		• CPU failed or disabled

Amber	Solid	Fatal alarm — System has failed or shut down: • CPU 1 missing • CPU configuration error • IERR signal asserted • Power fault • DIMM failure when only one DIMM is present • Runtime memory uncorrectable error in non-redundant mode • Critical temperature threshold crossed

Table 3 4400 system status indicator light states *(continued)*

Color	State	Status
	Blink	Non-fatal alarm — System is likely to fail: • Critical voltage threshold crossed • VRD hot asserted • Minimum number of fans to cool the system not present or failed • Memory threshold of ten correctable errors crossed within the window in non-sparing and non-mirroring mode
Off	Off	System powered off

Power supply indicator lights

Each installed power supply module has a single indicator light to show the power supply status.

Table 4 4400 power supply indicator light states

Color	State	Status
Green	Solid	Output ON and OK
	Blink	AC present / Only 5 VSB on (Power supply off)

Amber	Solid	• No AC power to this power supply unit only (for 1+1 configuration)
		• Power supply critical event causing a shutdown:
		  • Failure
		  • Fuse blown (for 1+1 configuration)
		  • OCP
		  • OVP
		  • Fan failed

	Blink	Power supply warning events where the power supply continues to operate: • High temperature • High power • High current • Slow fan
Off	Off	No AC power to all power supplies

Model 5500

The model 5500 appliance ships on an Intel Server System R2312GZ.

For more information on the Intel Server System R2312GZ, see the Intel documentation.

- *Intel® Server System R2000GZ/GL Product Family Technical Product Specification*: http://download.intel.com/support/motherboards/server/sb/r2000gzgl_tps_r2_2.pdf
- *Intel® Server System R2000GZ/GL Family Service Guide*: http://download.intel.com/support/motherboards/server/sb/r2000gzgl_serviceguide.pdf
- *Intel® Server System R2000GZ/GL Product Family Quick Installation User's Guide*: http://download.intel.com/support/motherboards/server/r2000gz-gl/sb/R2000GZ_GL_QIG.pdf

Back panel hardware components

The illustration identifies the hardware components on the back panel of the appliance.

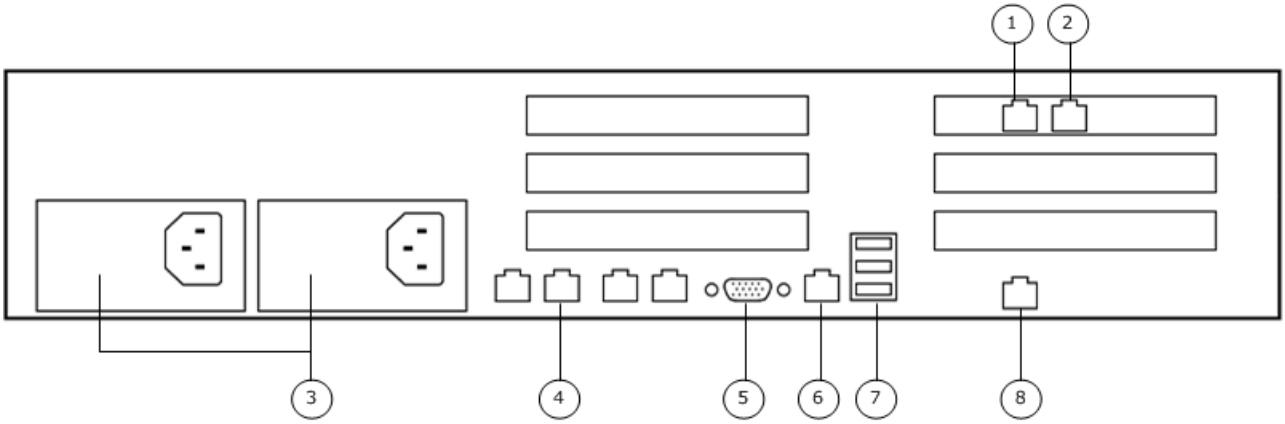

Figure 7 5500 back panel

1 Capture port 1	**5** VGA port
2 Capture port 0	**6** Serial port
3 Power supplies	**7** USB ports
4 Management port	**8** Remote access port (RMM)

Front control panel

The control panel is on the front of the chassis.

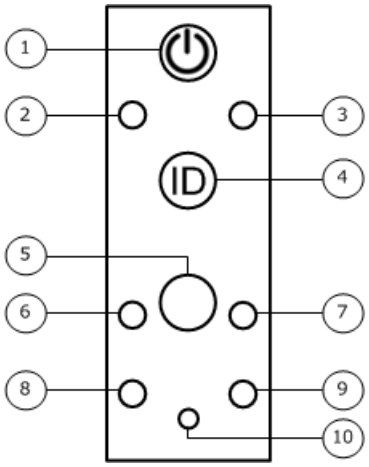

Figure 8 5500 front control panel

1 Power button	**6** NIC 2 activity
2 System status	**7** NIC 4 activity
3 Hard drive activity	**8** NIC 1 activity
4 System ID button	**9** NIC 3 activity
5 System cold reset button	**10** NMI button (recessed)

NICs 1, 3, and 4 are not used by the McAfee DLP appliance.

Table 5 5500 system status indicator light states

Color	State	Status
Green	Solid	System booted and ready

	Blink	System degraded:
		• Non-critical threshold crossed:
		  • Temperature
		  • Voltage
		  • Power supply input or output
		• Fan redundancy lost, sufficient system cooling maintained
		• Power supply redundancy lost
		• Unable to use all of the installed memory — one or more DIMMS failed or disabled, but functional memory remains available
		• Correctable errors over a threshold and migrating to a spare DIMM (memory sparing)
		• Uncorrectable memory error in Mirroring Mode
		• Correctable memory error threshold reached for failing DDR3 DIMM when the system operates in RAS Mirroring Mode
		• Battery failure
		• Power unit sensor offset error asserted
		• HDD HSC offline or degraded
		• BMC executing uBoot
		• BMC Watchdog has reset the BMC

Table 5 5500 system status indicator light states *(continued)*

Color	State	Status

Amber	Solid	Fatal alarm — System has failed or shut down:
		• CPU CATERR signal asserted
		• CPU 1 missing
		• CPU Thermal Trip
		• CPU ERR2 signal asserted
		• MSID mismatch detected
		• DIMM failure when only one DIMM is present
		• Runtime memory uncorrectable error in non-redundant mode
		• DIMM Thermal Trip or equivalent
		• SSB Thermal Trip or equivalent
		• BMC/Video memory test failed
		• Both uBoot BMC FW images are bad
		• 240VA fault
		• Power fault
		• Fatal error in processor initialization:
		  • Processor families not identical
		  • Processor models not identical
		  • Processor core/thread counts not identical
		  • Processor cache sizes not identical
		  • Unable to synchronize processor frequency
		  • Unable to synchronize QPI link frequency

	Blink	Non-fatal alarm — System is likely to fail:
		• Critical threshold crossed:
		  • Temperature
		  • Voltage
		  • Power supply input or output
		• VRD hot asserted
		• Minimum number of fans to cool the system not present or failed
		• Hard drive fault
		• Insufficient power supplies present
		• Correctable memory error threshold crossed for a failing DDR3 DIMM when the system operates in a non-redundant mode

Off	Off	System powered off

Power supply indicator lights

Each installed power supply module has a single indicator light to show the power supply status.

Table 6 5500 power supply indicator light states

Color	State	Status
Green	Solid	Output ON and OK
	1 Hz Blink	AC present / Only 12VSB on (power supply off) or power supply in cold redundant state
	2 Hz Blink	Power supply FW updating

Amber	Solid	• AC cord unplugged or AC power lost when a second parallel power supply still has AC input power
		• Power supply critical event causing a shutdown:
		  • Failure
		  • OCP
		  • OVP
		  • Fan failed

	Blink	Power supply warning events where the power supply continues to operate: • High temperature • High power • High current • Slow fan
Off	Off	No AC power to all power supplies

Replacing hardware components

McAfee DLP appliances ship with replaceable hard drives and power supplies.

Replace the hard drive

Each McAfee DLP appliance uses hot-swappable hard drives connected to a RAID controller. The RAID controller allows the system to continue operating if a single disk drive fails. A single failed hard drive can be replaced while the system is still operational.

Before you begin

The replacement hard drive must be the same capacity as the failed hard drive.

Task

1 Identify the failed hard drive.

A failed hard drive typically has an amber indicator light.

2 Remove the failed hard drive from the appliance.

a Press the latch on the failed hard drive to release the spring-loaded handle.

b Pull on the handle to remove the failed hard drive from the appliance.

3 On the replacement hard drive, press the latch to release the spring-loaded handle.

4 Insert the replacement hard drive into the appliance.

a Slide the drive into the empty hard drive bay until it is fully seated.

b Press the handle until it latches.

c If the appliance is turned off, turn it on.

After the drive is inserted, the RAID controller begins the rebuild operation.

Do not turn off the appliance until the rebuild operation is complete.

Performance is reduced while the rebuild operation takes place.

Replace the power supply

Each model has dual power supplies that allow the appliance to continue operating if one power supply fails. The power supplies are hot-swappable, so a single power supply can be replaced while the system is still operating.

Before you begin

Verify that the replacement power supply is compatible with your appliance model.

A power supply can be replaced while the appliance is turned on and running or when the appliance is turned off.

Use both power supplies in normal operation so that two power supplies share the load.

Task

1 Disconnect the power cord from the failed power supply.

2 Unlatch the handle and remove the failed power supply.

3 Slide the replacement power supply into the appliance until it is fully seated and the latch has engaged.

4 Connect the power cord to the replacement power supply.

Diagnosing hardware problems

McAfee DLP appliance shipments include the Intel Diagnostic Tool (IDT).

For information on performing hardware diagnostics using the supplied IDT, see KnowledgeBase article PD24396.

Re-imaging an appliance

Re-imaging an appliance restores the drives to their pre-installed state.

Re-imaging a model 1650 or 3650

Contact technical support for assistance on re-imaging a model 1650 or 3650.

Re-image a model 4400 or 5500 using the RMM

Use the RMM to re-image the appliance.

Before you begin

- Using an Ethernet cable, connect the RMM port to your network.
- Decide the IP address, subnet mask, and gateway IP address to use when configuring the RMM port.
- Make sure Java is installed on the computer that connects to the RMM.

Task

1. Download the McAfee DLP Manager .iso image file to the computer that connects to the RMM.
   a. Locate the grant number you received after purchasing the product.
   b. In a web browser, go to www.mcafee.com/us/downloads.
   c. Enter your grant number, then select the appropriate product and version.
   d. In the **Software Downloads** tab, select and save the appropriate *.iso file.
2. Restart the appliance.
3. Press **F2** before the operating system boots to enter the BIOS.
4. Select **Server Management** | **BMC LAN Configuration**.
5. Configure these items:
   - **Intel(R) RMM4 IPv4 LAN Configuration – IP Source** — Enter the IP address, subnet mask, and gateway IP address for the RMM port.
   - **User ID** — Select **root**.
   - **User Status** — Select **Enabled**.
   - **User name** — Enter `root`.
   - **User password** — Enter `mcafee`. You must enter this password twice.
6. Confirm the network and user information, and press **F10** to save and exit the BIOS.
   The appliance boots with the new settings.
7. On the computer that connects to the RMM, open a web browser and enter:
   `http://x.x.x.x`
   x.x.x.x is the IP address of the RMM port. The credentials are `root`/`mcafee`.

8 Select the .iso file and re-image.

a On the **Remote Control** tab, click **Launch Console**.

b On the **Device** tab, select **Redirect ISO** and browse to the .iso file.

c On the **Remote Control** tab, select **Server Power Control | Power Cycle Server**.

The appliance re-images using the .iso file.

d Click **Launch Console**.

e On the **Device** tab, disable **Redirect ISO**.

If you do not disable the **Redirect ISO** setting, the appliance will re-image after the next reboot, removing your current installation and returning the appliance to factory default.

Re-image a model 4400 using the DVD

Use the DVD that shipped with the appliance to re-image a model 4400.

Task

1 Insert the DVD into the appliance.

2 Using a command line session, log on to the appliance as root.

3 Restart the system.

```
# reboot
```

The system restarts and re-images the drives.

4 After the restore completes, remove the DVD.

If you do not remove the DVD, the appliance will re-image from the DVD after the next reboot, removing your current installation and returning the appliance to factory default.

Re-image a model 5500 using the USB drive

Use the USB drive included in the appliance shipment to re-image the appliance.

Task

1 Connect the USB drive to one of the USB ports on the appliance.

2 Restart the appliance.

3 Press **F2** before the operating system boots to enter the BIOS.

4 Select **Boot from USB device**.

5 Press **F10** to save and exit.

6 Follow the on-screen instructions to re-image from the USB drive.

7 After the re-image finishes, remove the USB drive.

If you do not remove the USB drive, the appliance will re-image from the USB drive after the next reboot, removing your current installation and returning the appliance to factory default.

Technical specifications

McAfee DLP appliances meet all safety and operational standards and are in compliance with FCC standards.

McAfee DLP rack mounting requirements

McAfee DLP hardware must be rack mounted properly to ensure safe configuration.

This checklist provides requirements for installing McAfee DLP hardware in a rack.

- **Elevated operating ambient temperature** — If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than room ambient. Consider installing the equipment in an environment compatible with the maximum ambient temperature (MAT) specified by the manufacturer.
- **Reduced air flow** — When installing the equipment in a rack, do not compromise the amount of air flow required for safe operation.
- **Mechanical loading** — When mounting the equipment, make sure no hazardous conditions are created due to uneven mechanical loading.
- **Circuit overloading** — When connecting the equipment to the supply circuit, consider the effect that circuit overloading might have on overcurrent protection and supply wiring. Use appropriate consideration of equipment nameplate ratings when addressing this concern.
- **Reliable earthing** — Maintain reliable earthing of rack-mounted equipment. Give particular attention to supply connections that are not directly connected to the branch circuit, such as power strips.

McAfee DLP power redundancy

McAfee DLP appliances with more than one power supply must be configured to provide redundancy by sharing the load while operating at nominal power. Additional protection is provided if two electrical outlets that are on different circuit breakers are used.

If one power supply fails, a backup fan automatically turns on, an alarm sounds, and a warning LED illuminates. If a power supply fails, contact McAfee for a replacement unit.

If a McAfee DLP appliance loses power for any reason, the appliance will not come back up unless you change the BIOS setting in advance. The motherboard is set to **off** by default.

McAfee DLP FCC compliance

McAfee DLP hardware has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 16 of the Federal Communications Commission rules. Any modifications to McAfee DLP equipment, unless expressly approved by the party responsible for compliance, could void authority to operate the equipment.

Operation of the McAfee DLP appliances is subject to the following conditions:

- The device might cause harmful interference, and
- The device must accept any interference received, including interference that might cause unwanted operation.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

McAfee DLP equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instruction manual, it might cause harmful interference to radio communications. If operation of this equipment in a residential area causes harmful interference, it must be corrected at owner expense.

McAfee DLP safety compliance guidelines

McAfee DLP appliances must be operated in compliance within strict safety guidelines.

McAfee DLP hardware must be installed only in **Restricted Access** locations, such as dedicated equipment rooms or electrical closets.

Disconnect all power supply cords before servicing. There is a RISK OF EXPLOSION if a battery is replaced by an incorrect type. Dispose of used batteries according to industry standards.