

## Multiple Ways to

# Efficiently Monitor and Manage Dell PowerEdge Servers

The Dell OpenManage™ suite of systems management applications, along with Dell Remote Access Controllers and baseboard management controllers, can help administrators efficiently monitor and manage Dell™ PowerEdge™ servers in enterprise data centers both locally and remotely. This article outlines four practical IT management tasks and how these tools can help administrators perform them.

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Using the Dell OpenManage suite in conjunction with Dell Remote Access Controllers (DRACs) and baseboard management controllers (BMCs) can help simplify the following server management processes:

- Monitoring server elements such as memory modules, processors, cooling systems, and power supplies
- Remotely managing servers
- Performing update deployments and other maintenance tasks to help keep servers up-to-date and help protect them from damage related to high temperatures and other problems

This article discusses four scenarios in which these tools can help administrators perform common monitoring and management tasks: monitoring server temperatures, remotely recovering and managing servers, remotely monitoring device performance, and performing server maintenance.

### Monitoring server temperatures

Enterprise data centers can generate enormous amounts of heat, and air conditioning failures can have a devastating effect on servers and other hardware. Dell OpenManage Server Administrator (OMSA) enables administrators to set temperature thresholds at which servers should perform an emergency thermal shutdown. Figure 1 shows the Thermal Shutdown screen in the OMSA Shutdown tab, which administrators can use to configure these thresholds. OMSA also enables administrators to configure e-mail notifications, broadcast messages, and Simple Network Management Protocol (SNMP) alerts for this type of event.

### Remotely recovering and managing servers

DRACs and BMCs can provide critical out-of-band remote management capabilities, allowing administrators to remotely manage servers after an event occurrence. DRACs enable administrators to set up a full graphical

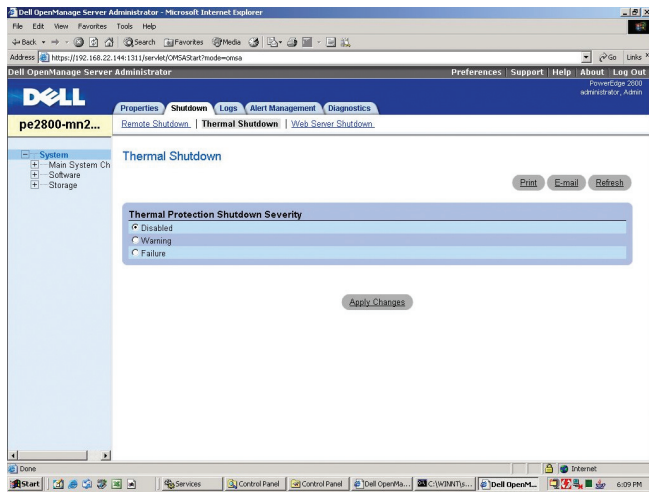


Figure 1. Configuring thermal shutdown with Dell OpenManage Server Administrator

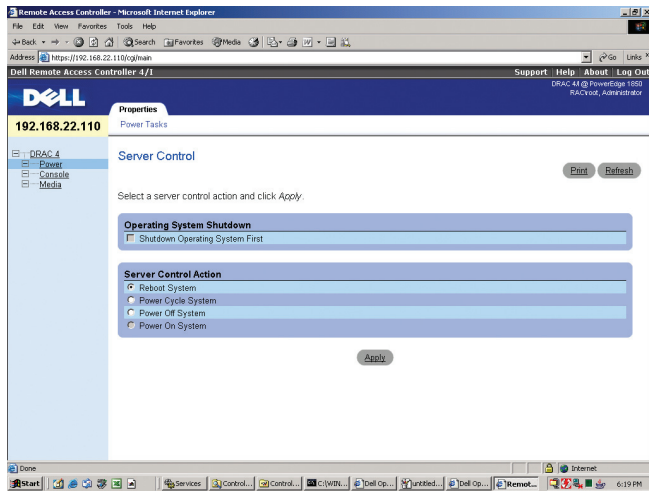


Figure 2. Executing server power control actions with the DRAC console

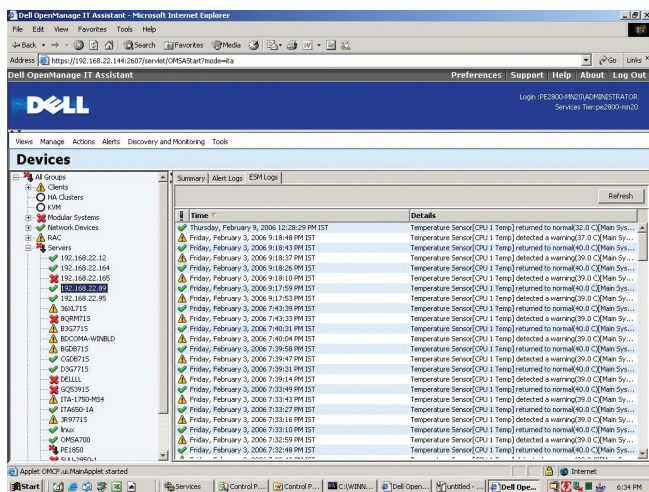


Figure 3. Viewing hardware logs with Dell OpenManage IT Assistant

console redirection of the server to a remote station, perform virtual media operations, and execute server power control actions. Figure 2, for example, shows the Server Control screen in the DRAC console, where administrators can reboot, power cycle, power down, or power up a system. BMCs, which are present by default in eighth- and ninth-generation Dell PowerEdge servers, enable administrators to set up a text console redirection of the server during system boot, access the server BIOS, and execute server control actions.

### Remotely monitoring device performance

Dell OpenManage IT Assistant is a one-to-many management application that can help administrators monitor and manage devices within a network such as servers, clients, network switches, digital KVM (keyboard, video, mouse) switches, printers, Dell/EMC storage arrays, Intelligent Platform Management Interface (IPMI) devices, and DRACs from a single management console. Administrators can use IT Assistant to view hardware or alert logs from monitored devices (see Figure 3) and generate reports from this data, which they can then use to analyze hardware behavior trends to help make decisions about future hardware acquisitions based on hardware quality and reliability. These reports can also help administrators analyze and troubleshoot critical hardware problems, which can help reduce system downtime.

IT Assistant 8.0 provides agentless performance monitoring capabilities, which administrators can use to monitor the performance or status of system parameters such as network traffic; I/O rates; and disk, memory, and processor usage on servers running the Microsoft® Windows® or Linux® operating systems. IT Assistant can provide graphical representations of this data over a period of time.

### Performing server maintenance

Administrators can use Dell OpenManage IT Assistant to perform large-scale scheduled deployments, including unattended deployments, of critical updates for elements such as server firmware and BIOS, storage devices, and network controller drivers. Figure 4, for example, shows the first step of the IT Assistant Task Creation Wizard for a server software update. Using IT Assistant for this type of maintenance can help administrators efficiently plan system downtime and carry out data center maintenance operations.

### Simplifying data center monitoring and management

The Dell OpenManage suite, DRACs, and BMCs can enable administrators to track potentially dangerous conditions such as high temperatures, perform remote server recovery and management operations, analyze system performance, and carry out routine maintenance. Using these tools can help administrators efficiently

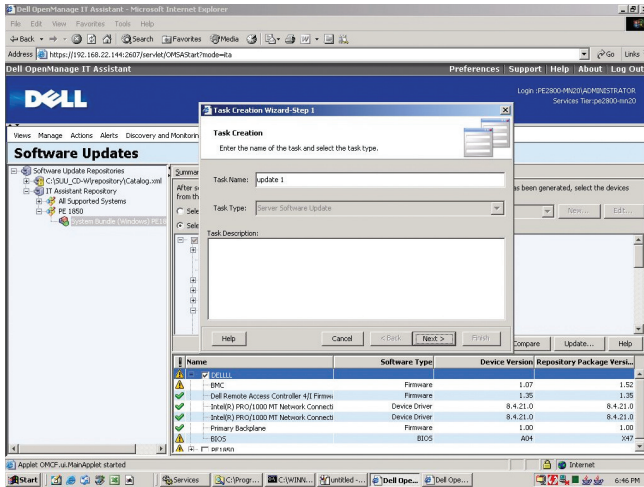



Figure 4. Creating a server software update task with Dell OpenManage IT Assistant

monitor and manage enterprise data centers, with the ultimate goal of helping to reduce system downtime and improve IT decision making. 

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