



## Rein in power consumption faster and more easily

### Dell OpenManage Enterprise Power Manager 3.0 delivered faster server power monitoring and capping vs. completing tasks manually

Meeting the challenges of sustainability improvements or rising energy prices can force organizations to look carefully at their servers' energy consumption. With the right data, you can quickly understand and limit or reduce power use in your data center. For Dell servers, Dell™ OpenManage™ Enterprise (OME) offers full server lifecycle management, which includes capabilities that can help your organization track and control power consumption faster.

We compared the time and steps to complete energy and monitoring tasks for Dell PowerEdge servers using two approaches. The first approach utilized the OpenManage Enterprise Power Manager 3.0 element. The second approach relied on manually completing tasks with Integrated Dell Remote Access Controller (iDRAC). Completing these sustainability-based tasks with Power Manager 3.0 was faster and easier—for example, saving more than 11 minutes when collecting power usage data for an eight-server cluster. Additionally, server power monitoring and capping with Power Manager 3.0 took the same amount of time and steps regardless of server count, whereas the manual approach increased the time and steps with each additional server.

By reducing the necessary time and steps to complete routine, sustainability-focused tasks, OpenManage Enterprise Power Manager 3.0 could help you respond to energy price changes sooner, control data center power consumption promptly, and calculate your carbon footprint more quickly.



Power management

Obtain multi-server power data in just 27 seconds\*

Cap power faster Up to 82% less time\*

\*Using Power Manager 3.0 vs. a traditional method for an eight-server cluster

## How we tested

We wanted to see how using OpenManage Enterprise Power Manager 3.0 compared to manually completing server monitoring and management tasks with iDRAC. We created a testbed of eight Dell PowerEdge servers and installed Power Manager 3.0 into the OpenManage Enterprise 3.9 console. After we set up the testbed, we completed common two tasks: collecting power data from the servers and applying a power cap to them.

**Collecting power data** included capturing total power usage in watt hours (Wh), average power usage, maximum peak usage, minimum peak usage, peak server temperature, and average temperature.

**Applying a power cap** consisted of implementing a policy on the server that limited the number of watts it could consume. For both tasks we measured, we started with a single node and scaled to two, three, four, and then eight nodes.

### Collect power data faster

Collecting critical power consumption data is often the first step that IT staff take when looking to reduce power consumption in the data center. This data helps identify underutilized power resources or physical and virtual resources that consume high amounts of energy. For admins collecting the data daily, automation could help them routinely simplify their workdays.

#### A single node

As Figure 1 shows, collecting power data with Power Manager for a single node took 70 percent less time and 33 percent fewer steps than our manual process using iDRAC.

#### Time and steps to collect power data for a single node

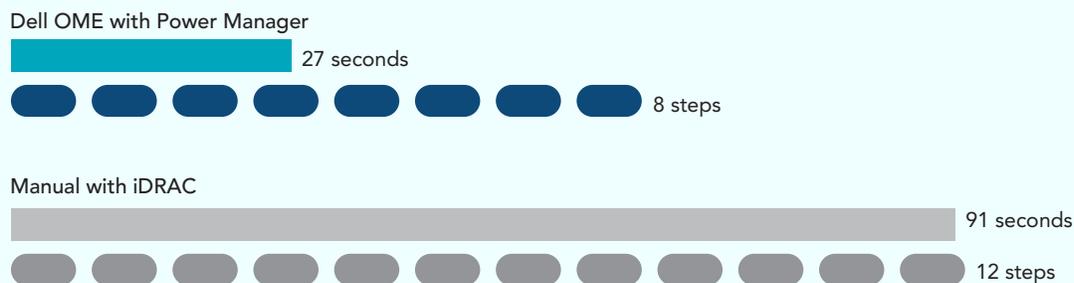


Figure 1: The time, in seconds, and steps to collect power data for one server using our two management approaches. Lower is better. Source: Principled Technologies.

### About Dell OpenManage Enterprise Power Manager 3.0

Dell OpenManage Enterprise Power Manager is a fully integrated extension for the Dell OpenManage Enterprise management and monitoring platform for Dell servers. System administrators can use the extension to report and manage servers' power data, including power consumption and thermals, anomalies, and utilization.

You can learn more about the capabilities of OpenManage Enterprise Power Manager 3.0 from our May 2022 report at <https://facts.pt/SZ3MhkK>.

## Time and steps to collect power data on two, three, four, and eight servers

### No additional time and steps as servers scale

Power Manager saved time in our single-node comparison, but those advantages present just a small slice of the potential impact of Power Manager. In our tests, collecting power data with Power Manager took the same amount of time and steps regardless of server count, as opposed to our manual process using iDRAC, which increased the time and effort demand from our IT admin as the server count grew. Once we added the devices to Power Manager, Power Manager continued to collect data automatically, saving even more ongoing effort.

### An eight-node cluster of servers

Because the time and steps for collecting power data with Power Manager were the same for one node and eight nodes, we measured how long it would take to collect power data using iDRAC for clusters of two, three, four, and eight servers. As Figure 2 shows, using Power Manager saved more than 11 minutes—taking 96 percent less time—and took 88 fewer steps when it collected power data for an eight-node cluster. Figure 2 also shows the results for collecting power data from two-, three-, and four-node clusters.

## Time and steps to collect power data on two, three, four, and eight servers

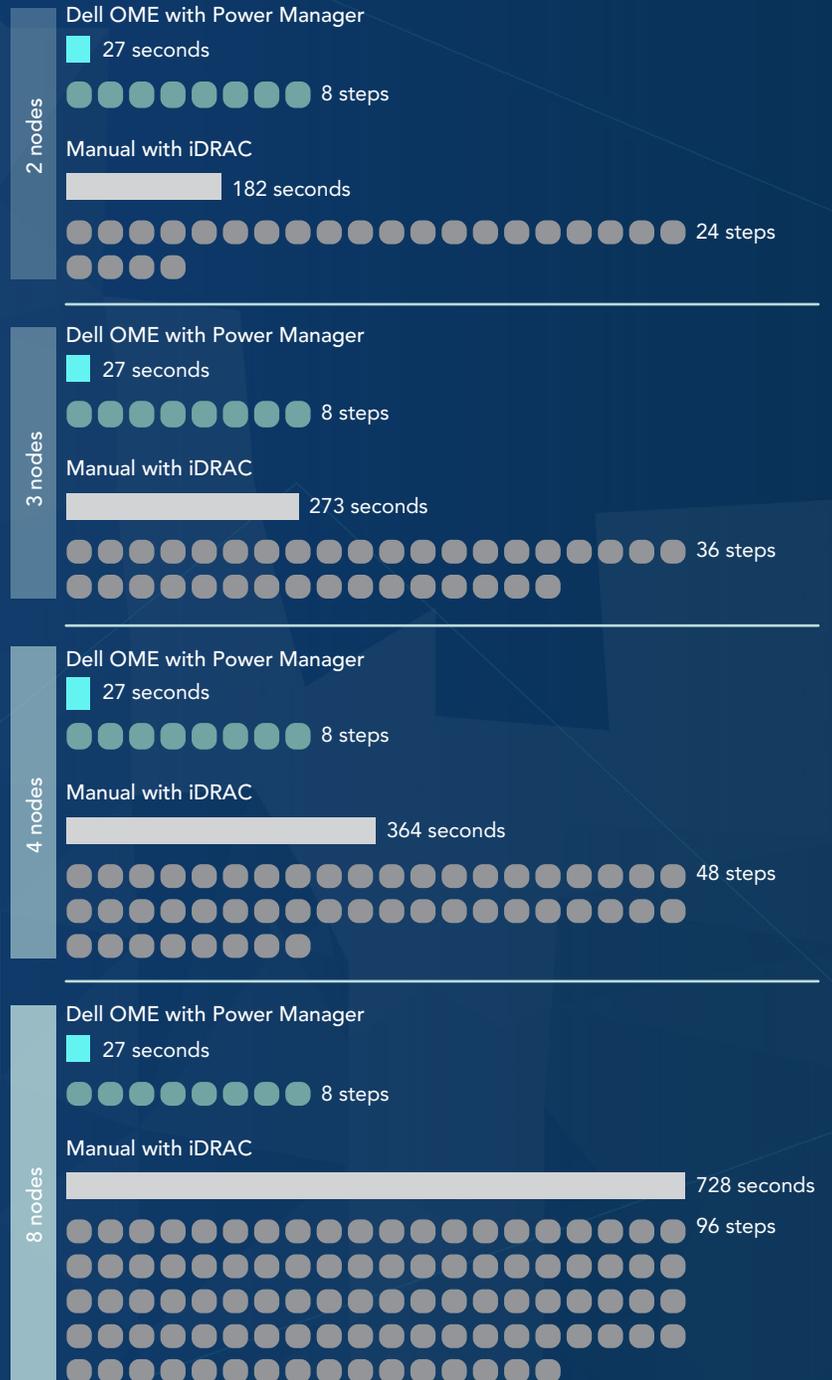


Figure 2: The time, in seconds, and steps to collect power data from two-, three-, four-, and eight-node clusters using our two management approaches. Lower is better. Source: Principled Technologies.

## Apply a power cap more quickly and easily

Capping power at the server or cluster level is a direct way for organizations to control power consumption in the data center. When we applied a power cap policy to our eight-node cluster, we found that using Power Manager took nearly four minutes less (or 82 percent less time) and 34 fewer steps than our manual approach using iDRAC. Figure 3 shows the time and steps to apply the power cap to the eight-node clusters.

### Time and steps to apply a power cap on eight-node clusters

Dell OME with Power Manager



Manual with iDRAC

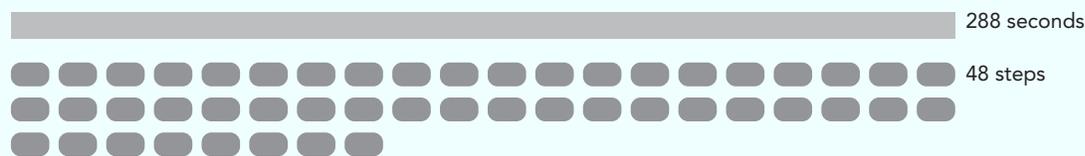


Figure 3: The time, in seconds, and steps to apply a power cap to eight-node clusters using our two management approaches. Lower is better. Source: Principled Technologies.

## Conclusion

Knowing and controlling how much power your servers use is a critical step in improving sustainability and managing your organization's carbon footprint. It could also help your bottom line by potentially reducing power bills. Simplifying server power monitoring and management tasks can mean saving time and effort for IT admins, too. If you are using Dell PowerEdge servers, OpenManage Enterprise Power Manager 3.0 automates critical tasks that can help you control, or even reduce, your data center's power consumption faster and more easily than using manual processes with iDRAC. In addition to automating the data collection and power capping tasks we tested, the Power Manager 3.0 extension enabled us to scale out the node count without adding time and effort to the task.

Read the science behind this report at <https://facts.pt/eFNLqgA> ▶



Facts matter.®

Principled Technologies is a registered trademark of Principled Technologies, Inc. All other product names are the trademarks of their respective owners. For additional information, review the science behind this report.

This project was commissioned by Dell Technologies.