



## Reduce the hassle: Order servers with Dell EMC PowerEdge Configuration Services and free IT admins to focus on other tasks

Save time for deployment teams and ready servers for production workloads more quickly

New Dell EMC™ PowerEdge™ servers add critical resources to your infrastructure. Ordering and deploying servers, however, can occupy an IT admin's schedule and stop them from being able to tackle other tasks. In addition, organizations that have multiple people ordering data center hardware could find it difficult to ensure IT admins order servers that meet corporate configuration standards. Dell EMC PowerEdge Configuration Services allows you to order pre-configured servers ready for deployment time and again.

We compared the IT admin time it took to configure and deploy two Dell EMC PowerEdge R740 servers with and without Dell EMC PowerEdge Configuration Services. PowerEdge Configuration Services saved over 1 hour and 16 minutes. When we extrapolated the time savings to a 100-server installation, we found that the service could extend the time savings for admins to over 127 hours (or three standard work weeks). The exact amount of time your admins could save depends on your configuration needs. Faster and easier deployment can allow your admins to focus on other data center initiatives, complete routine management and monitoring tasks, or address help desk tickets.

In addition, PowerEdge Configuration Services created a profile for us and retained our order information. This means you don't have to repeat the initial ordering process when you order more servers with the same configurations, which could ease the process of scaling out workloads.



**Save 1 hour and 16 minutes**

Reduce admin involvement saving admin time during deployment



**Save 127 hours**

Scale time savings with large orders, saving attended and unattended admin time when deploying 100 servers

## Our experience with Dell EMC PowerEdge Configuration Services

According to Dell, PowerEdge Configuration Services delivers “new PowerEdge servers with expert care, precision, to your specifications”<sup>1</sup> that are ready to deploy to your infrastructure out of the box. By ordering with PowerEdge Configuration Services, you can get PowerEdge servers with pre-configured system settings and disk images, asset tagging and reporting for security and inventory control, and custom PCIe card placements to match your needs.

We found that using the service offered a simple and helpful ordering and deployment experience in the following ways:

- Outsourcing the tedious and error-prone tasks of manual configuration offered convenience and peace of mind.
- The PowerEdge Configuration Services project manager for our order walked us through the process. They helped us understand the options available from PowerEdge Configuration Services and worked with us to ensure our configuration fit its purpose.
- Having a unique project code at Dell, i.e., all the ordering and configuration info in one place, allowed multiple members of our team to take part in the configuration process without worrying about missing key information.
- We did not need to set up a secure pre-staging area. Without PowerEdge Configuration Services, organizations deploying new PowerEdge servers likely need a secure space to configure them before moving them to their final locations.

For more information on PowerEdge Configuration Services, visit

<https://www.delltechnologies.com/en-us/services/deployment-services/server-configuration.htm>.

## What we found

### Keep track of servers easily before they arrive

Keeping inventory of hundreds or thousands of servers requires great attention and monitoring. We used the Asset Tracking and Asset Reporting options from Dell EMC PowerEdge Configuration Services to keep tabs on our PowerEdge server as it moved through the configuration process and to ensure it arrived safely. For the Asset Tracking add-on, the service labeled our PowerEdge servers and shipping boxes with our inventory tag and QR code. For Asset Reporting, PowerEdge Configuration Services can pull order history info and email a report with server specs, ship dates, and other important information. Inventory teams can use this as a records update to site inventory but done automatically.

To approximate the time that PowerEdge Configuration Services can save organizations with asset tracking and reporting, we measured the necessary time and steps to print and apply our own labels and to build our own report for inventory purposes for one server.

### Save with automatic asset tracking and reporting

with Dell EMC PowerEdge Configuration Services

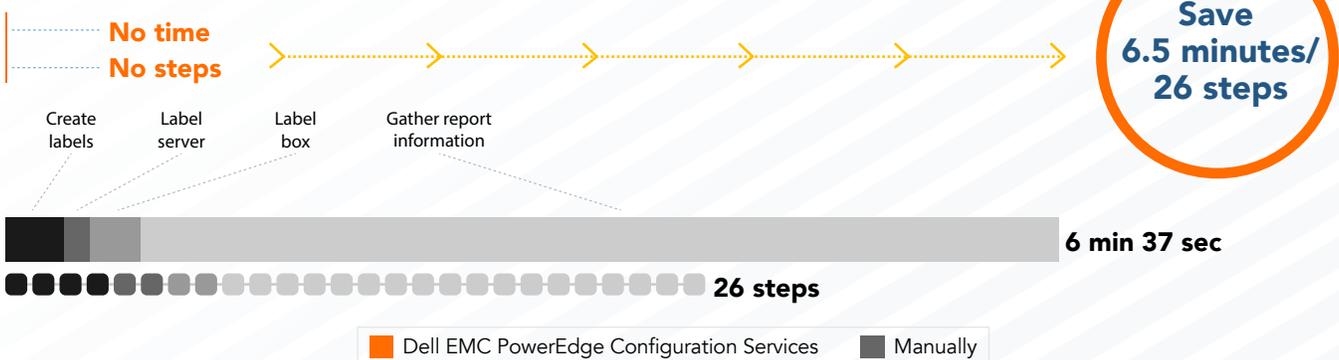


Figure 1: The time, in minutes and seconds, and steps our admin needed to complete asset tracking and reporting tasks on a single server. Lower is better. Source: Principled Technologies.



## Receive servers with the right settings while reducing the possibility for error

Regardless of whether your organization orders a few dozen servers, hundreds, or more, configuring them with the same settings helps ensure your applications have the resources they need and that users get consistent experiences. Each step of the configuration offers a possibility for an error, which could cause IT staff to spend more time on the deployment to correct the error, delay the server from running critical production applications, or if the error goes unnoticed, crash an application.

Compared to our admin configuring iDRAC, BIOS, firmware, and RAID settings on a single server, PowerEdge Configuration Services saved 46 minutes and 4 seconds and 55 steps. In addition to saving admin time, ordering PowerEdge servers with pre-configured settings from the service can offer consistency for subsequent orders and minimize time for gathering settings information for them.

PowerEdge Configuration Services allows organizations to customize location-specific settings and create their own groups of configurations. This could prove particularly helpful for organizations that need different configurations for data centers in different regions. For example, servers that run critical applications in one data center might need different BIOS-level settings than servers that support second-tier workloads or disaster recovery at another data center. Customizing settings per data center could further reduce IT involvement and the possibilities for errors in the ordering and deployment processes of PowerEdge servers.

## Save with iDRAC, BIOS settings, pre-configured firmware, and RAID levels with Dell EMC PowerEdge Configuration Services

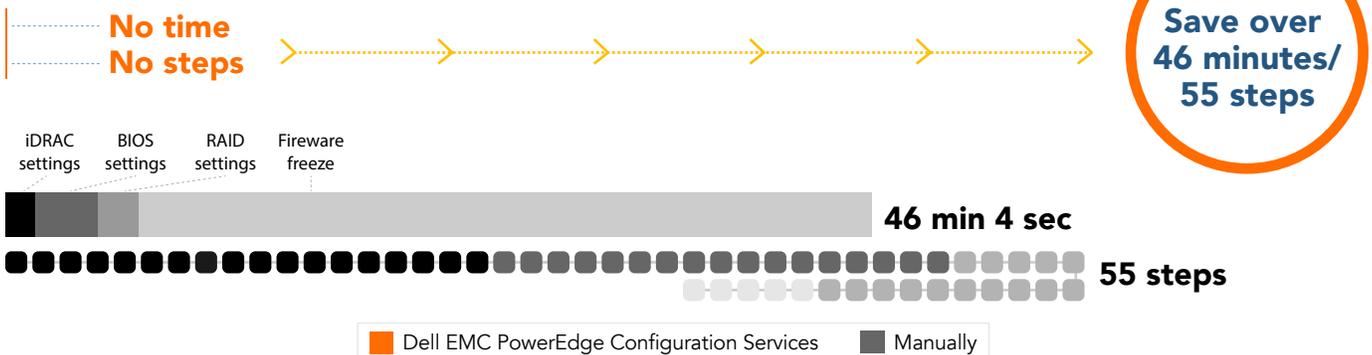


Figure 2: The time, in minutes and seconds, and steps our admin needed to configure iDRAC and BIOS settings on a single server. Lower is better. Source: Principled Technologies.

## The Dell EMC PowerEdge servers we ordered

We ordered two Dell EMC PowerEdge R740 servers from Dell EMC PowerEdge Configuration Services. To demonstrate how the service allows customers to tailor settings for different locations, we requested that the servers have slightly different settings. After receiving them, we verified that each server matched what we ordered.

The Dell EMC PowerEdge R740 servers we ordered had Intel® Xeon® Bronze 3204 processors, 8 GB of memory, a combination of BOSS card and PERC-enabled HDD storage, and an additional Intel X710 PCIe network adapter. In addition, PowerEdge Configuration Services set up the servers with a disk image that we provided and configured iDRAC, BIOS, firmware, and RAID settings to our specifications. The service allows you to configure these settings for any Dell EMC PowerEdge server you order. Without the service, IT staff must configure settings themselves after receiving the server.

When we ordered our PowerEdge R740 servers, we provided the following:

- A list of desired hardware, including a BOSS card adapter, PERC RAID adapter, and additional network adapter to allow for custom RAID, boot, and firmware settings
- An asset tag number and list of desired Asset Report fields
- A description of BIOS, iDRAC, firmware, and RAID settings that we wanted
- A custom disk image that we uploaded through the Dell online portal

## Boot to the operating system you need without spending time on installation or updates

When we ordered our PowerEdge servers from PowerEdge Configuration Services, we provided them with a custom disk image of Windows Server 2019 Datacenter (Desktop Experience) to install on our servers. The service pre-installed the operating system, a process that required 6 minutes and 33 seconds of hands-on time from our admin and an additional 16 minutes and 58 seconds of unattended time to complete the install. Providing the disk image to the service meant that the correct operating system appeared upon initial boot of the server. Using the service to install a custom disk image can again reduce hands-on admin involvement and get your servers ready for production workloads sooner. For the sake of this report, we assume that an IT department would already have a custom disk image for internal use that they could share with Dell, so we did not include the time to create this image in our results.

Figure 3 distinguishes between attended and unattended stages of the image installation. When we configured the firmware and installed the custom image, we differentiated between the time that an admin would need to perform actions at a terminal or with a user interface (attended time) and the time that an admin could potentially spend away from a terminal or user interface (unattended time).

## Save with pre-installed custom disk imaging

with Dell EMC PowerEdge Configuration Services

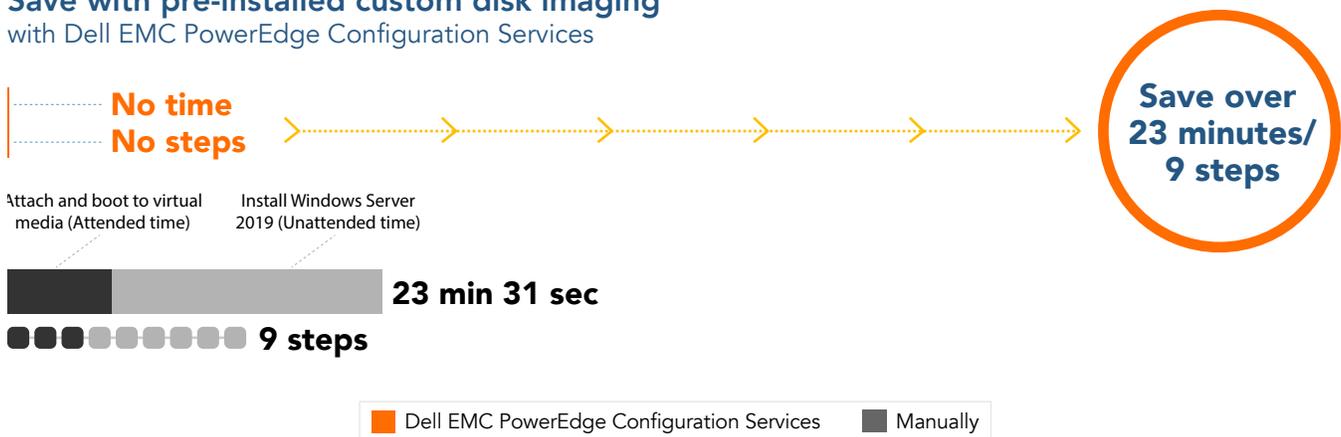


Figure 3: The time, in minutes and seconds, and steps our admin needed to install the operating system on a single server. Lower is better. Source: Principled Technologies.



## Increase your server order to see more hands-on time savings

We measured the time and steps to manually configure a single server, but we extrapolated the time savings for 100 servers to show how using PowerEdge Configuration Services could deliver time savings at scale. Allowing the service to install our custom disk image to 100 servers (rather than an admin opening the iDRAC console, attaching the virtual media, and booting to it) could save over 10 hours. Ordering many servers with PowerEdge Configuration Services could save additional admin time while allowing them to deploy more production-ready servers at once.

With manual, large-scale deployments, admins often use deployment tools to assist with imaging and firmware updates. We chose to use a basic, manual approach and then multiplied the total time to show scaling. Using other deployment tools could vary the time savings for your admins.

## Conclusion

Adding new Dell EMC PowerEdge servers to your data center could help your organization grow, but reaching that goal could require significant time from your IT admins. Using Dell EMC PowerEdge Configuration Services to order and configure new PowerEdge servers can reduce the burden on your IT admins while also shortening the time to value for the servers. And because PowerEdge Configuration Services retains your order information, you could easily repeat previous orders to ensure resource consistency and scale to meet demand.

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1 Dell Technologies, "Dell EMC Configuration Services," accessed November 17, 2020, <https://www.delltechnologies.com/en-us/services/deployment-services/server-configuration.htm>.

Read the science behind this report at <http://facts.pt/7oAKbNX> ►



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