

First Look

Automating IT Infrastructure with Dell EMC PowerOne

Autonomous Infrastructure

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Challenges with Digital Transformation:¹

93%

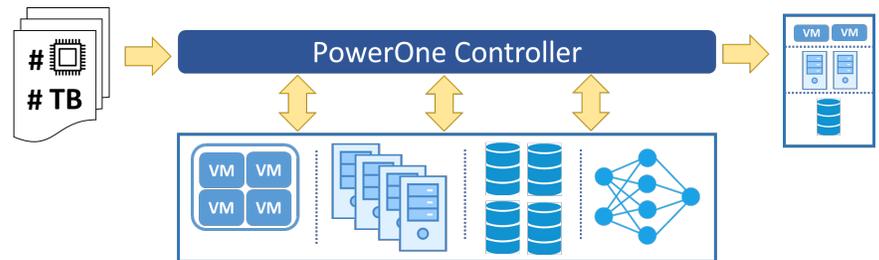
The percentage of organizations that view their IT environments as **equally or more complex** than two years ago.

50%

The percentage of organizations with mature digital transformation initiatives that currently have a shortage of **skills in IT orchestration and automation**.

Reducing overall IT complexity, especially in a data center, remains a challenge. While organizations continue to use traditional do-it-yourself architectures composed of server, storage, networking, and virtualization resources, the challenge of configuring, deploying, and managing those resources

remain. Organizations can potentially spend weeks or months in configuring and deploying data center infrastructure. Once deployed, managing and reconfiguring data center resources can be time-consuming, especially in large enterprises, where IT support for individual resource types can be siloed, leading to additional time spent on coordination and communication. These issues can impede an organization's digital transformation efforts to increase business agility and decrease response time to changing business needs. To become operationally efficient, organizations are demanding solutions that will provide IT automation and orchestration support for the deployment, lifecycle management, and expansion of data center resources for any workload.



Dell EMC PowerOne – Autonomous Infrastructure

The Dell EMC PowerOne System has been designed to reduce IT environment complexity. Built-in automation and orchestration capabilities can potentially eliminate the majority of manual tasks associated with the deployment, provisioning, and management of a VMware virtualization platform running on Dell EMC hardware. The built-in PowerOne Controller automation engine can significantly reduce the administrative time and effort needed to configure, expand, and repurpose the appropriate amount of data center resources for any given workload. The PowerOne System is part of the Dell Technologies Cloud portfolio that supports organizations in creating hybrid cloud environments.

By leveraging PowerOne, organizations no longer have to focus on resource-level configuration. Using the PowerOne Navigator GUI, organizations input the desired target configuration. PowerOne achieves the target configuration by executing tasks for configuring the hardware and software of compute, storage, virtualization, and networking resources, based on Dell EMC best practices. Once the PowerOne System is set up, organizations can use the PowerOne Navigator to provision and deploy a vSphere cluster using a single automation task, as well as to expand compute and storage resources, enabling IT to deliver the right infrastructure on demand.

Because PowerOne automates and orchestrates numerous common and repetitive tasks, organizations can potentially reduce the time spent configuring and reconfiguring environments by a significant margin. Configuration errors can be practically eliminated as repetitive tasks associated with the setup, management, expansion, and teardown of resources are executed with minimal manual intervention. The PowerOne controller only requires the input of the desired configuration of resources for a workload. The automation and orchestration capabilities provide organizations with a cloud computing-like experience for their on-premises infrastructure, resulting in increased business uptime and agility.

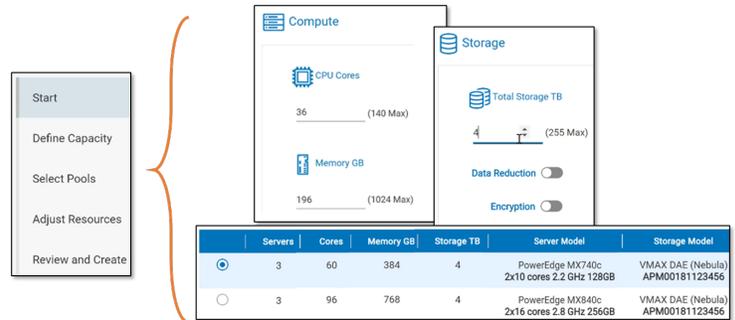
¹ Source: ESG Master Survey Results, [2019 Technology Spending Intentions Survey](#), March 2019.

ESG Demo Highlights

ESG noted the following when observing demos of installing and using a PowerOne System.

Reduce the Number of Manual Steps in Configuring and Deploying Data Center Resources

- ESG first set up a cluster resource group (CRG) on a configured PowerOne System containing Dell EMC PowerEdge MX servers and PowerMax all-flash storage. A CRG is a collection of PowerOne system resources (compute, network, storage, and virtualization) configured for a specific workload.
- Using the PowerOne Navigator wizard, we created a CRG by choosing an existing CRG or a “default” CRG as a template. After choosing the “default” template, the wizard proceeded to the “Define Capacity” window for us to declare the desired number of cores, amount of RAM, and the total storage to be allocated in our CRG.



- ESG then proceeded to the “Select Pools” window, enabling us to choose the exact hardware type and allocation of server and storage resources, according to the available hardware models in our test PowerOne system. We could also choose the exact racks in which the resources were located if we did not prefer the default choices.
- After reviewing our selections, we prompted the PowerOne Controller to create our CRG. We noted that the PowerOne Controller executed numerous and repetitive steps in the background as each task was completed. ESG saw how the controller software can decrease manual intervention and administration time significantly.
- ESG then reviewed initial results generated by Dell EMC internal testing. The results documented the decrease in manual steps required by an organization to initially set up a PowerOne system consisting of one PowerMax array, four PowerEdge MX Chassis (each with six blades), two management switches, and two fabric switches. VMware vSphere and NSX-V would also be installed by the setup automation task. We estimated that the number of manual steps eliminated by the PowerOne controller automation could decrease opportunities for errors caused by number of manual and repetitive tasks by at least 90%. If IT support personnel specializing in compute, storage, virtualization, and network resources were not all available at the same time, we could further save time and reduce errors, as the need to coordinate schedules is minimized. We believe that results will vary depending on the size of the PowerOne system to be deployed and the amount of coordination between IT specialists, especially in large enterprises.

First Impressions

The setup, deployment, and configuration of data center components (compute, storage, virtualization, and network) remain bottlenecks for organizations that wish to increase their business agility. What organizations need is a solution that will enable on-demand provisioning of these resources for their data center infrastructure.

The Dell EMC PowerOne System, with its automation engine, removes the bottleneck by automating and orchestrating the majority of manual and repetitive tasks associated with provisioning compute, storage, virtualization, and networking resources for a given workload. Based on our initial testing, we believe that the PowerOne Controller can significantly reduce the amount of time and manual intervention typically required when setting up and configuring data center resources for any given workload.

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