

# DELL EMC SMARTFABRIC FOR ESXI ON POWEREDGE

Dell Technologies enables simple, agile, and efficient network fabrics for PowerEdge Servers running ESXi, with integrated SmartFabric Services

There is a clear need for a **different approach to deploying scalable fabrics capable of supporting virtualized computing environments.**

Deep vSphere integration removes complexity and reduces risk, while providing a more agile, reliable and simple solution managed as a unified infrastructure.

Read on to learn more about Dell Technologies' approach to simplifying ESXi Based Network Fabrics with **SmartFabric Services.**

## Introduction

As companies race to keep pace with aggressive growth and the need to modernize IT infrastructures, the rapid adoption of virtualization in the data center is playing a key role in digital transformation initiatives. Application proliferation is driving infrastructure complexity and organizations are looking to increase IT staff productivity, simplify configuration and reduce management touch points.

The data center fabric is the foundation on which all IT functions run, and is critical for the high-performance access, delivery, and response times needed to lead in today's business marketplace. However, they are often slow to provision, have performance bottlenecks and inconsistent security policies, and can be prone to configuration and management issues.

## A Simple and Consistent Distributed Enterprise with ESXi on Dell EMC PowerEdge

Dell EMC PowerEdge servers and VMware provide industry-leading solutions for a modern data center including servers, virtualization, HCI, storage, networking and cloud.

PowerEdge, the world's #1 server and the bedrock of a modern data center, delivers lower TCO, scalable architectures, intelligent automation and management, and multilayer security when paired with the industry leader in enterprise virtualization solutions. Dell EMC PowerEdge and VMware help modernize, automate and protect IT infrastructures.

## VMware ESXi on PowerEdge R Series

As computing clusters scale, the network fabric becomes critical to a successful deployment. Dell Technologies fabrics deliver:

- **On-demand scalability:** to remain competitive, the modern data center requires the capability to dynamically grow based on business requirements. Together, PowerSwitch switching fabrics and PowerEdge servers provide an intelligent and capable architecture that scales on demand and increases the efficiency of the data center.
- **Increased availability at scale:** robust and redundant fabrics are an absolute necessity for today's data center. A single failure should not cause a full-service interruption.

## Dell EMC SmartFabric Services

SmartFabric Services is a “one-of-a-kind” feature, part of the Dell EMC SmartFabric OS10 flagship networking operating system. It creates a fully integrated solution between the fabric and ESXi on PowerEdge infrastructures.

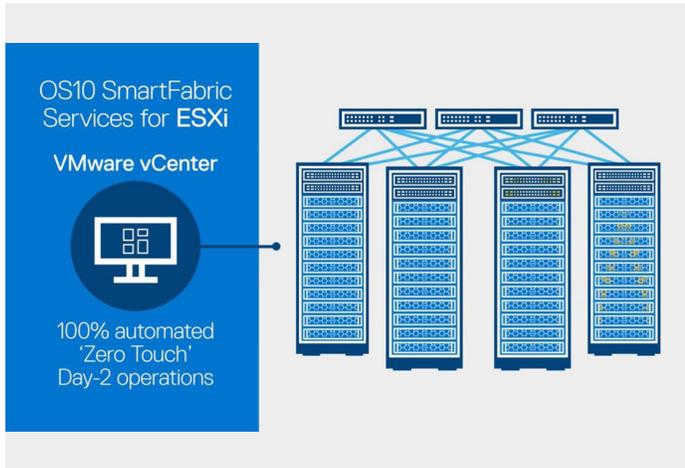


Figure 1 – Dell EMC SmartFabric Services for ESXi on PowerEdge R Series

With SmartFabric Services, customers can quickly and easily deploy and automate data center networking fabrics both within a single rack or between multiple on-site racks. Dell EMC SmartFabric Services for VMware ESXi on PowerEdge only requires customers to perform a single configuration step per switch, automating up to 99% of multiple leaf and spine configuration steps per rack, providing elastic network provisioning, tightly integrating with the VMware ecosystem and delivering an enhanced support experience.

## Validated Fabric Deployment Guide

Along with Fabric Design Center, Dell Technologies offers a complete portfolio of scalable networking solutions for PowerEdge R series platforms, validated deployment guides, choice of operating system, and industry standard features to ensure interoperability and investment protection. Customers wishing to explore highly customizable fabric deployments can leverage the various validated deployment guides certified through proven best practice guides and engineering solution qualifications.

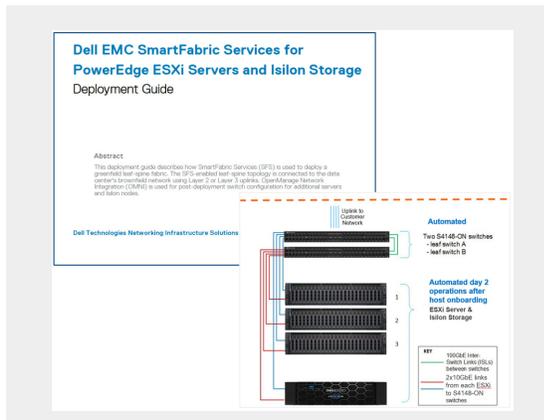


Figure 2 – Deployment guide for ESXi with SmartFabric Services

## The Value of SmartFabric Services

- Significantly simplify complex single and multi-rack deployments for VMware ESXi clusters on PowerEdge servers.
- Flexible topology for multi-rack deployments
- Quickly and easily deploy, scale and adapt data center fabrics for VMware ESXi hosts on PowerEdge
- Reduce risk of network configuration errors
- User-friendly network management via single pane of glass leveraging existing VMware tools
- Enhanced support experience with single vendor support
- Automation through vCenter integrations providing zero touch day 2+ network operations

SmartFabric Services for ESXi on PowerEdge automates

99%

of network configuration steps for leaf and spine switches across multiple racks.

## Dell EMC Open Manage Network Integration (OMNI) for VMware vCenter

Dell EMC OMNI is an efficient REST API based plug-in, integrated with VMware's vCenter whose primary objective is to enable vCenter to easily deploy and manage a large virtual network of VMs and physical underlay for the ESXi PowerEdge R Series compute infrastructure. With Dell EMC OMNI, day two operations and management of the compute fabric is a breeze. With the capability to provide visibility into the virtual environment and dynamic infrastructure configuration deployment, OMNI is key to the overall Dell Technologies fabric umbrella.

OMNI complements the day-to-day operation with all virtualization management done within the familiar vCenter Server interface. This results in day-to-day operations for Dell Networking and virtualization management all taking place within the vCenter Server interface. Once the administrator onboards an ESXi PowerEdge rack server using the OMNI server profile, they can leverage day 2+ operations with zero touch fabric automation.

In addition, OMNI also helps in simplifying management and operations of the fabric by providing automation life cycle management, automated switch replacement and a full network visualization view.

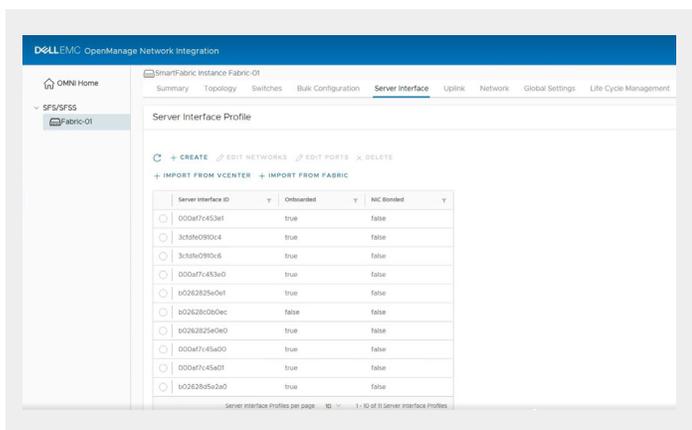


Figure 3 – Onboarding Servers through the OMNI interface

## Dell EMC Services

Organizations deploying solutions based on networking from Dell Technologies are never alone: Dell Technologies provides a comprehensive set of deployment and support options covering the entire lifecycle of the enterprise IT investment.

Services such as planning and design, deployment and integration, and education are just a few offerings within a comprehensive set of customer services available. Dell EMC ProDeploy and ProDeploy Plus provide full service installation and configuration of both hardware and system software by certified deployment engineers. Dell Technologies delivers single vendor support, eliminating the usual headaches encountered when dealing with a multi-vendor solution.

## PowerSwitch Fabric Building Blocks

With a full range of 10/25/40/50GbE and 100/400GbE PowerSwitch Ethernet data center switches plus a distributed architecture, Dell Technologies delivers a highly scalable purpose-built fabric for leading virtualization environments.

At the spine, our high-performance Z-series 100/400GbE switches provide optimum multi-rack communications, while at the leaf (or top-of-rack) layer, our high performance, low latency S-series 10/25GbE switches provide an efficient 10GbE-to-25GbE evolution path for single rack connectivity.

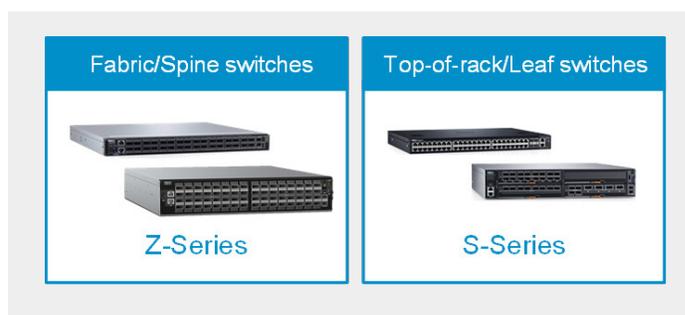


Figure 4 – PowerSwitch Fabric Hardware Blocks

## Summary

Dell Technologies wants to be a partner on our customers' digital transformation journey. Whatever the size of your organization, Dell Technologies can help by providing solutions that are:

- **Purpose-built:** our purpose-built Open Networking product portfolio is optimized for I/O intensive networking workloads and traffic patterns.
- **Future-ready:** Networking fabrics that span from 10GbE through 400GbE.
- **Validated:** our production-ready solutions are tested and validated.
- **Supported:** global secure supply chain and support services ensure deployments of any scale virtually anywhere in the world.



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