

ESG SHOWCASE

SmartFabric Services Delivers Automation Simplicity with Autonomous Fabric Interconnects for VMware

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ABSTRACT: Dell Technologies continues to drive innovation with integrated solutions. A great example of that is Dell EMC SmartFabric Services that enables autonomous fabric interconnects for VMware-based software-defined infrastructure. Its tight integration with VMware vCenter enables administrators to easily manage the entire infrastructure from a single pane of glass. This unique approach is ideal for software-defined infrastructures of all sizes and can be deployed within the data center, wiring closets, or edge locations.

Overview

Organizations of all sizes are embarking on digital transformation initiatives to better support their business. Most commonly, organizations are trying to drive greater levels of operational efficiency in the IT environment so they can respond more quickly to rapidly changing market requirements.

As a result, these organizations are deploying highly flexible and scalable solutions, such as hyperconverged infrastructure (HCI). In fact, according to ESG research, deploying HCI solutions was the third most-cited investment priority for modernizing on-premises data centers in 2020.¹ But the value extends beyond the data center, as HCI solutions are also rapidly gaining traction in edge locations. While HCI environments are great at combining compute and storage, there is a requirement to simplify the interconnects between HCI nodes, racks, and even locations.

Beyond HCI, organizations are also taking other approaches that depend heavily on compute virtualization with or without network virtualization. The common theme across all of these environments is the need for agility to dynamically scale and meet both business and workload requirements. Solution administrators are already familiar with the use of VMware's vCenter as a central point of control to achieve this type of agility. With Dell Technologies interconnects, these administrators can further extend agility benefits to the physical connectivity part of the solution fabric.

Dell Technologies SmartFabric Services with Interconnects

Leveraging the correct type of connectivity approach is a fundamental requirement for any data center, and in the modern software-defined data center, this becomes even more essential. These solutions need interconnects to flexibly scale to accommodate overall scale-out requirements. The interconnects must also allocate appropriate bandwidth on demand at different locations within the interconnect cluster. The entire interconnect solution domain—also known as a solution

¹ Source: ESG Master Survey Results, [2020 Technology Spending Intentions Survey](#), January 2020.

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pod—needs simplified and automated lifecycle management capabilities. Lastly, solution interconnects must fully and easily interoperate with the existing data center network to provide external connectivity.

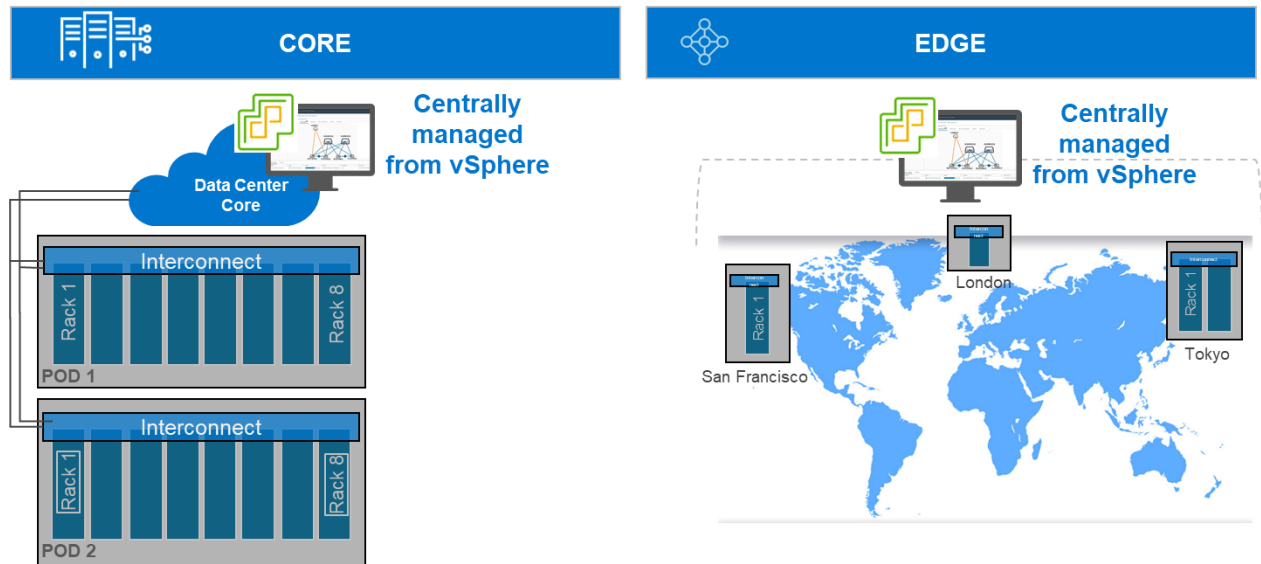
Dell Technologies SmartFabric Services utilizes interconnects that are designed to address these requirements, allowing solution administrators to effectively respond to workload needs while significantly reducing complexity for network administrators. Its key capabilities include:

1. **Operational consistency.** Dell Technologies interconnects offer tight integration with VMware vCenter, allowing physical interconnects to dynamically react to network changes within vCenter. Administrators can also easily view the entire solution interconnect fabric as well as the inventory of connected devices directly within vCenter. Interconnect lifecycle management is integrated within vCenter, allowing solution administrators to effortlessly upgrade the entire fabric with a simple click of a button.
2. **Deployment agility.** As infrastructures grow and become more complex, manually configuring them becomes time consuming and difficult. Once Dell Technologies interconnects with SmartFabric Services are installed, scaling the solution is as simple as plugging in additional interconnects to the existing environment. SmartFabric Services does the rest. Inter-rack bandwidth allocation can easily be changed by simply connecting additional cables between the interconnect devices. Compared to legacy, manual processes, Dell Technologies estimates that the use of interconnects with SmartFabric Services eliminates close to 99% of the provisioning steps required for network fabrics.
3. **A low entry point for automation.** Being able to start with as few as two interconnects and the fact that SmartFabric Services is included at no additional cost makes this an extremely cost-effective automation solution. The low barrier to entry makes this ideal for small and medium enterprises to get started with network automation and utilize a pay-as-you-grow model. Also helping to reduce costs is the fact that SmartFabric Services is a controllerless solution and doesn't require additional server hardware to run.

Dynamic Connectivity and Visibility through VMware vCenter

The simple and dynamic interconnects solution approach works well whether deployed within a data center or at the edge. Multiple interconnect fabrics can easily be managed from a single location by registering them within the same vCenter instance. Furthermore, a controller-less approach means each interconnect fabric will continue to function even if it loses connection with the central vCenter instance. Within the interconnect fabric, all connectivity is extended, leveraging well-known industry-standard protocols. This ensures administrators can continue to use common network debugging approaches while trusting the automation to protect it from human error. Dell Technologies interconnects fully own the network configuration, allowing only vCenter-driven changes to take effect.

Figure 1. Dell Technologies SmartFabric Services Interconnects



Source: Dell Technologies

The Bigger Truth

Dell Technologies understands the need for simplicity and automation as IT environments in data center and edge locations become more powerful, yet complex. The combination of Dell Technologies and VMware delivers industry-leading integrated solutions that are simple to use and operationally efficient. By working closely with VMware, interconnects within SmartFabric Services can anticipate changes in the compute and storage space based on inputs in vCenter and automatically adjust the interconnects to accommodate that need.

Dell Technologies interconnects with SmartFabric Services is a highly effective connectivity solution for VMware-based environments, and not just for large enterprises. Small and medium enterprises can take advantage with as few as two switches and expand as needed.

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