

SD-WAN FOR MANUFACTURING

Accelerating Data Center Modernization with HCI and SD-WAN



A leading producer of construction materials serves a global market from ten locations across Montana and Wyoming, recently modernized its data centers to hyperconverged infrastructure (HCI). The Company can't afford disruptions to services; one day of downtime can result in tens of thousands of dollars lost. The Company needed to ensure workers in remote and branch office locations with a

minimum of local infrastructure can access applications in the data center securely and reliably. Additionally, they need continuous data protection for operational recovery and disaster recovery.

Solution

The Company migrated to HCI data centers with software-defined infrastructure that converges storage, compute, and networking on flash-accelerated servers under unified management.

To overcome the challenges of delivering applications reliably, the Company implemented a new high-performance SD-WAN to replace its legacy network. (Includes active-active configuration across multiple data centers for load balancing). SD-WAN architecture delivers network traffic efficiently and securely between data centers and remote branch offices, and the cloud. SD-WAN optimizes delivery by dynamically using multiple available connections (MPLS, broadband, LTE) to expedite traffic via optimal paths, according to business policies, all managed from a central console. SD-WAN simplifies deploying network services by providing operational efficiency and automation to the organization

After evaluating several options, they chose:

- **Dell VxRail:** Joint engineering between Dell EMC and VMware leads to a seamless, curated, optimized hyperconverged experience. This deep integration combined with the simplicity of VxRail HCI System Software and the performance of next-generation PowerEdge servers provides an ideal platform across core, edge, and cloud. VxRail is optimized for VMware server virtualization and software-defined storage. Simplify IT operations and reduce risk with one of the fastest ways to adopt and maintain hyperconverged infrastructure. VxRail is the only HCI appliance with full VMware integration, jointly engineered with Dell to deliver highly automated operations and seamless deployment.
- **Dell EMC RecoverPoint for Virtual Machines (RP4VM):** Two RP4VM appliances at each site enable quick recovery of VMware virtual machines to any point in time. They provide continuous data protection for operational recovery and disaster recovery. RP4VMs uses a vCenter plug-in that tightly integrates management into vSphere and allows customers a simple interface with orchestration and automation capabilities.

Challenge:

Ensuring all users can leverage the full power of new HCI data centers.

Business Goals for SD-WAN:

- Serving applications reliably – high availability – minimizing downtime
- Improving application performance over the wide-area network
- Reducing time, effort, and cost to manage and maintain data center and network infrastructure
- Future-ready architecture is scalable and flexible

Solution:

- Dell VxRail
- Dell EMC RecoverPoint for Virtual Machines (RP4VM)
- VMware SD-WAN Gateways
- VMware SD-WAN Edge
- VMware SD-WAN Orchestrator

Results:

- Fault Tolerant
- Simplified Management
- Enhanced Backup/Recovery
- Seamless Access from any location

- **VMware SD-WAN Gateways:** Incorporates a distributed network of service gateways deployed at top-tier cloud data centers worldwide, providing scalability, redundancy, and on-demand flexibility. They provide optimized data paths to all applications, branches, and data centers, along with the ability to deliver network services from the cloud.
- **VMware SD-WAN Edge:** Zero-touch enterprise-class appliances that provide secure, optimized connectivity to private, public, and hybrid applications, compute, and virtualized services. They perform deep application recognition, application and packet steering, performance metrics, and end-to-end quality of service in addition to hosting virtual network function services.
- **VMware SD-WAN Orchestrator:** Provides centralized enterprise-wide installation, configuration, and real-time monitoring in addition to orchestrating the data flow through the network.

Benefits

After thorough testing, The Company was confident in the new data center, network, and disaster recovery solutions. Workers have secure, high-performing, cost-effective access to data center applications from all locations. The SD-WAN is resilient and tolerates site failures to protect against corruption in the data center. The multiple geographically dispersed data center locations assure that a complete outage of one data center does not disrupt application services.

The design minimizes the Company's physical server footprint providing savings on energy and cooling. It simplifies and centralizes data centers and WAN management. It enables the Company to perform data center maintenance without disrupting service to users. Data backup and recovery is faster and easier with roll back to any point in time (PIT) copies of their protected VMs. And one-click provisioning of virtual services in the branch, the cloud, or the enterprise data center.