DELL EMC DSS 9000

IT AT SCALE FOR CARRIERS, SERVICE PROVIDERS AND BEYOND

SUMMARY

Innovation in information technology enables a competitive advantage and creates new monetization opportunities. But all too often, leadership struggles with complex legacy infrastructure, network security, data breach prevention and overall budget pressure. Simultaneously, organizations are challenged with addressing big data, IoT and edge computing in an effort to stay ahead of the competition. To achieve success, carriers and service providers must standardize on a common platform architecture to reduce capital expenditures (CapEx), operational expenditures (OpEx) and gain the benefits of scale, open management, virtualization and cloud-based service efficiencies.

CIOs, CTOs, CMOs and newly minted CDOs (Chief Digital Officers) seek "digital transformation" opportunities within their organizations that deliver quick time to value, real-time performance, high availability, automated provisioning, cost containment and rapid service development. Legacy IT infrastructures simply cannot deliver these benefits nor can they provide the same level of access to big data and the associated analytics critical to making key business decisions.

Dell EMC, a leader in the implementation of rack-scale architecture among original equipment manufacturers (OEMs), features an open and flexible design with its Dell EMC DSS 9000. Conforming to industry-aligned standards and frameworks such as DMTF Redfish and Intel Rack Scale Design, the DSS 9000 promotes hardware interoperability and universal management. While others offer rack-based solutions, the Dell EMC DSS 9000 offers a good balance of value, innovation, simplicity and deployment flexibility. It should be evaluated within an organization's strategic IT decision planning process.

DIGITAL IT TRANSFORMATION CONSIDERATIONS

Organizations of all sizes are rapidly moving from legacy IT systems to more open, software-defined infrastructure. The benefits are obvious — lower cost, greater flexibility to run multiple workloads, faster deployment and management simplicity. Often, digital IT transformation is the catch-all term that is used to encompass many different considerations based on the industry or vertical. However, with respect to workload applications for carriers, operators and service providers, digital IT transformation is

best captured by four key technology considerations: hyperscale architecture, network functions virtualization and software-defined networking, edge computing and composable infrastructure. Not every customer will require each of these capabilities, but a vendor's capability to provide a total solution will position itself favorably among others.

The Dell EMC DSS 9000 is available to carriers, service providers and other customers with large scale environments. These customers are struggling to match the pace of industry titans, re-examining legacy IT paradigms and moving from a node to rack-level mentality. They subsequently require a solution that gives them the agility, scalability and security to respond to the dynamic needs of their business with the flexibility of multi-vendor interoperability. The DSS 9000 is resonating with this market based on its hyperscale principles, optimization for multiple workloads, open standards-based design and large-scale management capabilities. It offers both a compelling acquisition and lifecycle management cost while providing future investment protection and simplicity.

DELL EMC DSS 9000 OVERVIEW

Dell EMC's vision for the DSS 9000 is to offer carriers and service providers "IT at scale" with a flexible hyperscale infrastructure that is based on open standards and readily optimized to run multiple workloads. The platform also meets all of the aforementioned technology considerations.

- **Hyperscale Architecture**. At its core, the DSS 9000 provides compute, storage, networking, power and cooling with open management in a pre-integrated rack built to a specific customer's requirement. Available in a number of rack heights, the rack-scale infrastructure can be rolled into the datacenter or edge environment, plugged into facility power and networking, and managed at the rack level across the entire infrastructure via an open, industry-standard API. With the DSS 9000, customers can provision and manage at the rack level as well as across the entire infrastructure with a single interface to enable new levels of efficiency.
- **Network Functions Virtualization (NFV) & Software-Defined Networking (SDN)**. An open approach to any technology deployment typically brings with it faster implementation and lower cost. To accomplish the objective of creating an open platform, the ESI division built the DSS 9000 based on an open architecture leveraging modular Dell PowerEdge server components. Furthermore, the DSS 9000 is recognized by the Open Compute Project as OCP-INSPIRED. It is

designed with an open networking approach, allowing customers to select a network fabric of their choosing to support both NFV and SDN initiatives.

- **Edge Computing**. With respect to edge computing, the DSS 9000 can be configured in a variety of rack heights to meet edge requirements. Additionally, Dell EMC offers a micro Modular Data Center (MDC) solution that is complimentary to the DSS 9000. Designed to a specific set of customer requirements, micro MDCs deliver pre-integrated IT (such as the DSS 9000), power and cooling in a pre-integrated solution. It comes equipped with software that monitors and manages multiple MDCs and the associated IT from a single portal. With a compact footprint, these micro MDCs are easily deployable solutions that can be placed virtually anywhere.
- **Composability**. The power of hyperscale architectures is their ability to manage at scale and quickly deploy compute, storage and fabric based on changing workload needs. With carriers and service providers, workload requirements can change quickly, driving the need to turn hardware capacity on and off in real time. With the DSS 9000, organizations can leverage such capabilities with composability. Intel Rack Scale Design (RSD) provides IT with the ability to disaggregate hardware resources that can subsequently be pooled, provisioned, deployed and decommissioned at the rack or pod level and across the larger infrastructure. Customers can create composable systems in the cloud environment of their choice, delivering simple yet solid provisioning of resources. Dell EMC leverages the Intel RSD topology to offer this highly utilitarian capability with the DSS 9000.

CUSTOMER TESTIMONIALS: TELEFÓNICA

Through its UNICA program, Telefónica is building a more automated, software-based global network that will reduce costs, increase service development and fuel innovation. The DSS 9000 is one of the solutions that is being tested in Telefónica NFV labs for supporting future networks based on NFV/SDN technologies.

“UNICA is one of the industry’s most ambitious virtualization projects. It’s designed to meet the stringent requirements of the network environment, including carrier-grade, performance and operational capabilities – while being as open as possible,” said Antonio Elizondo, Network Virtualization Senior Manager at Telefónica Systems and Network Global Direction. “We became interested in testing the DSS 9000 because it's built on open principles and aligns with our mission to make the project as future-proof as possible. Leveraging the DSS 9000’s flexible design and management capabilities,

we are able to prove the automation of network services across multiple NFV and SDN infrastructures."

CALL TO ACTION

Carriers and service providers are faced with mounting pressure to innovate, operate more efficiently and determine how to specifically address digital IT transformation given a rapidly changing market landscape. Innovation will translate to increased customer value, and, given the expected demand for new consumer and commercial wireless broadband services, it will also serve to create customer "stickiness" for these stakeholders.

The Dell EMC DSS 9000 has the capability to help IT solve both innovation and efficiency challenges through a simplified rack-scale infrastructure. It addresses the key technology vectors around hyperscale architecture, network functions virtualization and software-defined networking, edge computing and composability. The infrastructure also addresses C-level leadership priorities while also reducing TCO.

For those interested in reducing OpEx, CapEx and achieving digital transformation, the Dell EMC DSS 9000 warrants serious consideration. The transition from a legacy IT environment involving manual intervention, inefficiency and higher expense to one of software-defined, automation and simplicity can be complex. Many carriers and service providers need assistance to implement such a topology. Given the capability of the DSS 9000 and the Extreme Scale Infrastructure division's legacy to function as a trusted advisor, Dell EMC can facilitate digital IT transformation and accelerate the shift towards software-defined data centers.

IMPORTANT INFORMATION ABOUT THIS PAPER

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