DELL EMC READY ARCHITECTURE FOR RED HAT OPENSTACK PLATFORM

THE CHANGING COMMUNICATIONS MARKET

107 exabytes per month

Total mobile data traffic is forecast to rise at a compound annual growth rate (CAGR) of 39 percent, reaching close to 107 exabytes (EB) per month by the end of 2023. Also, it is expected that 20 percent of mobile data traffic worldwide will be carried by 5G networks[1]. Service providers need to rapidly scale up their capability and meet this growing demand. However, the current network architecture comprises of expensive hardware-based appliances with software tightly embedded into them. This not only makes the network rigid and fragmented, but also expensive with limited scalability.

Network functions virtualization (NFV) can help you overcome these issues by increasing infrastructure flexibility, efficiency, and scalability — while also reducing costs and lowering innovation risks. Dell EMC and Red Hat provide a proven, adaptable infrastructure for NFV environments. Based on open standards and engineering collaboration, the Dell EMC Ready Architecture for Red Hat OpenStack Platform delivers exceptional scalability and agility in an integrated, optimized, and cost-effective package.

Dell EMC Ready Architecture for Red Hat OpenStack Platform Overview

The Dell EMC Ready Architecture for Red Hat OpenStack Platform is a reference architecture to help simplify and accelerate production deployments. With this reference architecture, Dell EMC delivers tested design guidance to help customers rapidly deploy Red Hat® OpenStack® Platform on Dell EMC infrastructure and minimizes engineering time needed to deploy NFV.

The Dell EMC Ready Architecture for Red Hat OpenStack Platform validates open standards-based Dell EMC cloud infrastructure hardware (compute, networking) and Red Hat OpenStack Platform (RHOSP). The architecture also includes support for Dell EMC R640, R740xd PowerEdge servers based on Intel® Xeon® Scalable Processors.

The reference architecture is pre-validated with Red Hat OpenStack Platform software. By doing this validation, the solution helps customers minimize adoption time and significantly reduces time to service to deploy services on this NFV infrastructure.

In addition, Dell EMC Service Provider Consulting Services and Professional Services are available to help customers deploy and customize Red Hat OpenStack Platform on Dell EMC infrastructure.

Dell EMC Ready Architecture for Red Hat OpenStack Platform v13.1 includes the following new enhancements:

- Support for Dell EMC S5232F-ON, S3048-ON and S4048-ON Switches using Dell EMC Networking OS9 and OS10 software
- Dell EMC Unity external storage support for OVS offload feature with Mellanox ConnectX-5 EN 100GbE NICs, Intel XXV710 25GbE
- Unity for Cinder, Glance and Manila support
- RHOSP 13 (z6) release, Red Hat Enterprise Linux 7.6, Ceph 3.2 support

1 Ericsson Mobility Report, June 2018

At its core, Red Hat OpenStack Platform includes the Kernel-based Virtual Machine (KVM) hypervisor, Open vSwitch (OVS) and Neutron plugins as well as Cinder, Glance, and Swift OpenStack storage modules. Deploying Red Hat Enterprise Linux® (RHEL) as host nodes and virtual machines will allow the gaining performance, security, and operational advantages.

A Proven, Optimized NFV Infrastructure

To promote cost-effectiveness, agility, innovation and interoperability, the European Telecommunications Standards Institute (ETSI) has proposed a modern NFV Infrastructure based on open technologies and architectures.

In Figure 1, the Dell EMC Ready Architecture for Red Hat OpenStack Platform shows how these components work in a flexible, customizable building block. Dell EMC and Red Hat co-engineered this infrastructure for optimized performance, security, and stability. Plus, the companies continue to work together to incorporate the newest technology and business innovations into the solution so you can confidently keep pace with your evolving requirements.

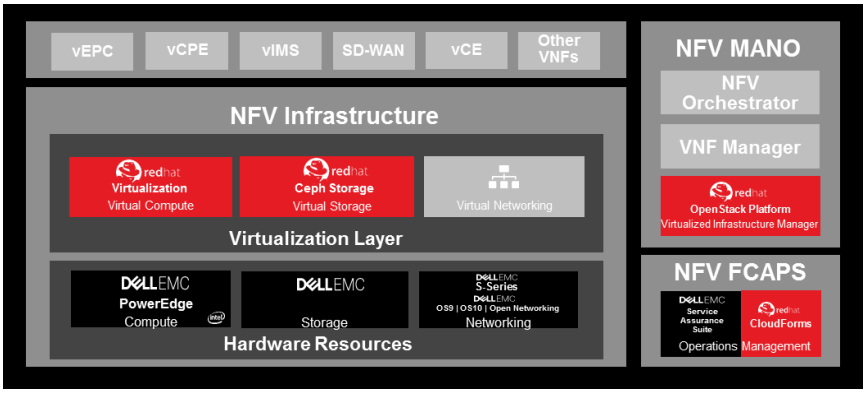

Figure 1: Dell EMC Ready Architecture for Red Hat OpenStack Platform

Why Choose Dell EMC Ready Architecture for Red Hat OpenStack Platform?

The Dell EMC Ready Architecture for Red Hat OpenStack Platform offers several benefits to help service providers and high-end enterprises rapidly implement Dell EMC hardware and Red Hat OpenStack Platform software jointly:

- **Ready-to-use solution**: The reference architecture has been fully engineered, validated, tested and documented by Dell EMC. This decreases your investment and deployment risk, and it enables faster deployment time.
- **Long lifecycle deployment**: Dell EMC PowerEdge Servers, recommended in the architecture, include long-life Intel® Xeon® processors which reduces your investment risk and protects your investment for the long-term.
- **World-class professional services**: The reference architecture includes Dell EMC professional services that spans consulting, deployment, and design support to guide your deployment needs.
- **Customizable solution**: The architecture is prescriptive, but it can be customized to address each customer's unique virtual network function (VNF) workload requirements.

Conclusion

The Dell EMC Ready Architecture for Red Hat OpenStack Platform is a proven, adaptable reference architecture for NFV deployments. Pre-validated with Dell EMC cloud infrastructure hardware and Red Hat OpenStack Platform, service providers and high-end enterprises can accelerate infrastructure virtualization and NFV adoption while reducing their deployment risk with this reference architecture.

Dell EMC Ready Solutions for Service Providers

The Dell EMC Ready Solutions for Service Providers offer a simple and reliable path to identify and acquire tested and validated solutions aligned to service provider workloads so that you can accelerate innovation, reduce risk and lower the total cost of ownership. The Dell EMC Ready Solutions for Service Providers delivers hassle-free, confidence-inducing, packaging of best-of-breed disaggregated components to help service providers get up and running quickly.

From fully systems delivered with full lifecycle support, to reference architectures with pre-constructed templates, tools and documentation that serve as starting points for your own custom built solutions, you can count on Dell EMC to help you deliver better outcomes. Services and support from Dell EMC and channel partners complement your resources, while agile options from Dell Financial Services remove traditional capital budget bottlenecks.