**DELL**EMC

redhat.

VERSA NETWORKS

Solution Brief

NEXT GENERATION ACCESS SOLUTION WITH DELL EMC, RED HAT AND VERSA NETWORKS

Accelerating revenue velocity for Communications Service Providers by digitally transforming the WAN

Key use cases

Designed for Communications Service Providers ready to digitally transform and modernize their enterprise access solution

- Managed software defined branch
- Managed software defined WAN

Dell EMC + Red Hat + Versa SD-WAN Solution

Versa Director | Versa FlexVNF | Versa Analytics

SD-WAN Infrastructure

redhat Open Stack Platform | redhat Ceph Storage

Virtual Infrastructure

DELLEMC Compute | DELLEMC Storage | DELLEMC Networking

Hardware Resources
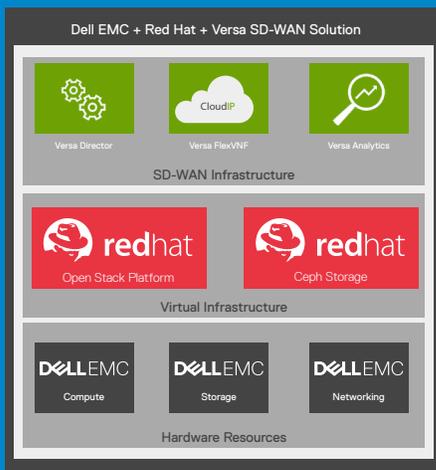
A new managed-service revenue opportunity with SD-WAN

A unique opportunity has opened for Service Providers (SPs) like Communications Service Providers (CSPs) and Managed Service Providers (MSPs) to access new addressable markets by adding new profitable managed services, and, at the same time, to reduce their time-to-revenue for these new services.

Behind this opportunity is the continued competitive pressure on CSPs. Enterprise customers now access more cloud based services than ever before, while also developing native cloud applications. As a result, access bandwidth, reliability, and security requirements have dramatically increased.

The traditional upgrade approach - adding more proprietary hardware and expensive private circuits that are difficult to provision and time consuming to maintain - is ill-suited to meet these new enterprise requirements in a timely or cost-effective manner.

CSPs now have a unique opportunity to create new managed services and dramatically reduce their time-to-revenue by offering a managed SD-WAN service.

The benefits of digitally transforming a WAN are significant, including:

- **Lower capital and operating costs**, through
  - Leveraging lower-cost broadband connections
  - Reducing or eliminating dependence on MPLS

- **Increased application assurance**, through
  - Intelligent "route" selection
  - Increasing bandwidth and lower latency/jitter for business critical applications

- **Improved operational efficiency**, with
  - Zero-touch provisioning & management

- **Stronger service connected offerings**, using
  - Private, Public Cloud & SaaS
  - Direct, cloud-based or backhaul Internet access

Faster time-to-revenue with Validated Choice

Dell EMC provides choice for SPs to build SD-WAN for their customers by offering validated product options for SD-WAN services built on the industry's foremost virtualization infrastructure and hardware platforms. Faster time-to-revenue can be achieved with rapid production by using Dell EMC's validated solutions complete with designs, tested reference architectures, and command lines.

SD-WAN reference architecture

A reference architecture for a validated SD-WAN solution is now available. As the diagram on the following page illustrates, this reference architecture includes the following:

- Dell EMC PowerEdge R630, R730XD and R430 servers for data center controller, computer and storage

- Dell EMC Networking S6010-ON and S4048-ON switches for network infrastructure

- Dell EMC Embedded Box PC 5000 and PowerEdge R430 servers for vCPE

- Red Hat Open Stack Platform for the Virtual Infrastructure Manager (VIM) layer

- Red Hat Ceph for the host attached storage system, and

- Versa Networks Cloud IP Platform for software defined WAN services.

The full version of the above reference architecture is available from your Dell EMC sales representative. Ask for "Dell EMC + Red Hat + Versa SD-WAN NFV Reference Architecture".

The reference architecture offers:

- **Reduced engineering costs and time to production**.

- **Higher confidence in deployability and scalability**.

- **Practical system design** and recommended configurations, complete with actual command lines, and

- **Guidance** to develop networking configurations capable of supporting a production deployment.

The designs and configurations in the architecture have been optimized and tested to verify system functionality and operational robustness.

Validated SD-WAN components

The foundation of this solution is the Dell EMC compute, storage and networking infrastructure, layered with Red Hat virtual infrastructure and Versa Networks SD-WAN infrastructure.

The Dell EMC server infrastructure includes the PowerEdge R630 two-socket rack server, which delivers 2U performance in a compact 1U chassis.

The Dell EMC networking infrastructure uses the Dell EMC Networking S6010-ON and S4048-ON switches for high density and high performance switching. Additional servers and switches are also supported, at difference performance and value points.

Red Hat OpenStack Platform, a massively scalable, fault-tolerant platform for the development of cloud-enabled workloads, gives service providers the capability to build a private or public Infrastructure-as-a-Service (IaaS) cloud on Red Hat Enterprise Linux. The Red Hat OpenStack bundle includes Red Hat Ceph Storage, a scale-out, distributed, software defined storage system.

The Versa Networks Cloud IP Platform enables service providers to build a scalable managed SD-WAN service. This platform includes capabilities such as multi-tenancy, multi-service, elasticity and zero-touch provisioning including Versa FlexVNF, Director, and Analytics.

Versa FlexVNF software covers both the networking and security needs of the branch office, hub site and data center edge node, including SD-WAN functions and full carrier grade routing. It offers a wide range of basic and advanced security functions, such as stateful and next-generation firewall, secure web gateway, unified thread management (UTM), DDOS protection, antivirus intrusion protection, and domain name server security. FlexVNF's rich service offerings are especially impactful when deployed in a thin branch using centralized VMs, allowing SPs to more efficiently provision and maintain managed vCPE services from a centralized location.

Versa Director simplifies and automates the creation, delivery, management and operations of network and security services by providing integrated life-cycle management, orchestration and monitoring in a single application. Versa Analytics provides holistic visibility, base-lining, correlation and predictive analysis for network, application usage and security events.

Conclusion

Working together, Dell EMC, Red Hat and Versa Networks offer SPs a validated choice for developing a managed software defined WAN solution. Our solutions enable SPs to digitally transforming customers WAN to SD-WAN, creating new revenue services and accelerating time-to-revenue.

To learn more about SD-WAN from Dell EMC, contact your Dell EMC, Red Hat, or Versa Networks sales representative.

DELLEMC | (intel)
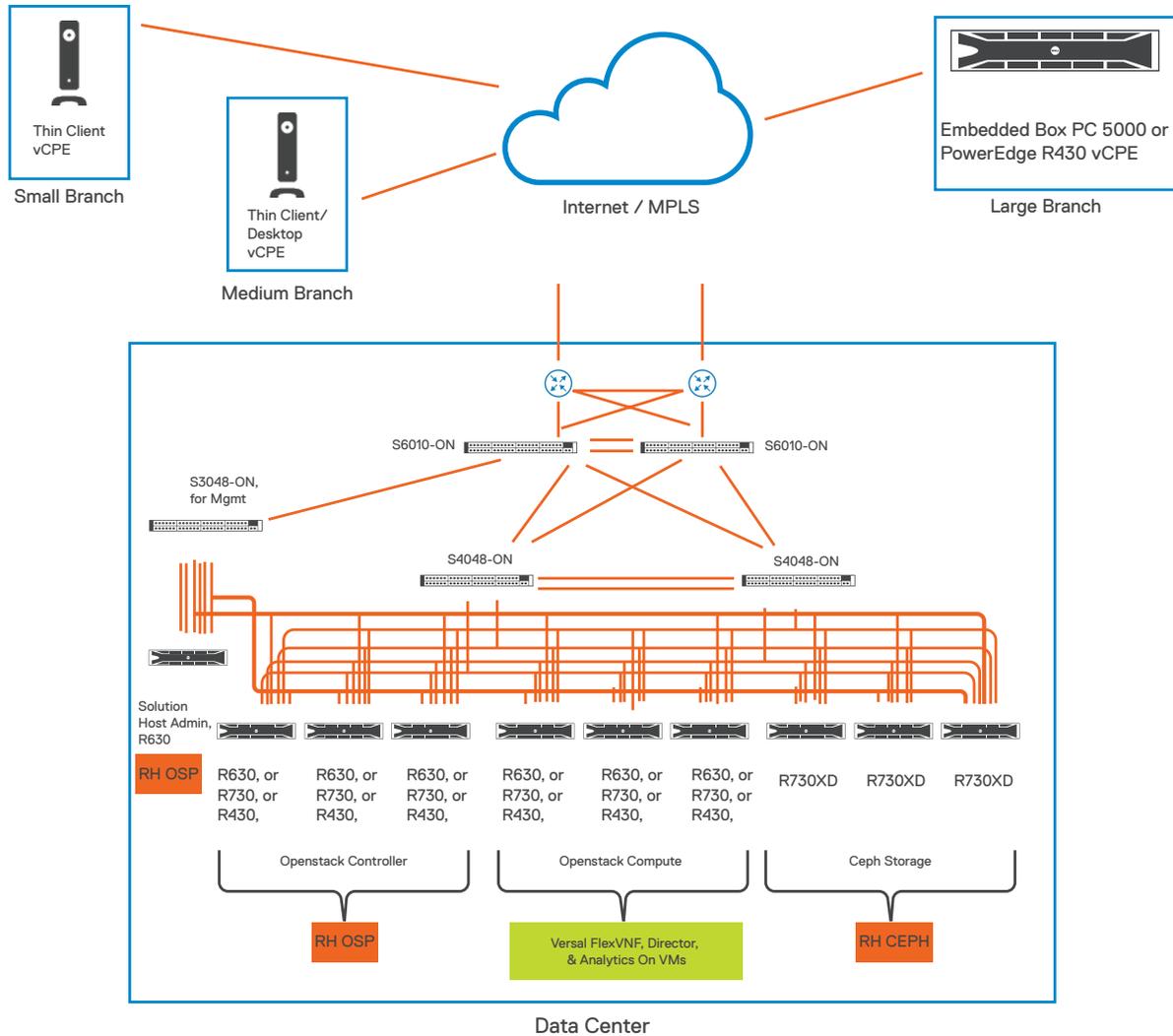
Figure 1: Network diagram for Dell EMC, Red Hat and Versa solution
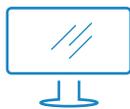
Learn more about Dell EMC Communications Service Provider Solutions

Contact a Dell EMC Expert