

## Versa Networks for Service Providers

### Company Overview

Versa Networks was founded in 2012 by executives from Juniper Networks with a proven track record of developing and engineering breakthrough software and multi-billion dollar product lines (including the MX Series router). At Versa, these founders have integrated their deep technical expertise in building large service provider networks with core innovation around virtualized network functions (VNF).

Versa has been an early innovator in the network function virtualization (NFV) market, which is poised to grow from \$2.3B in 2015 to \$11.6B by 2019 (Infonetics/IHS), and has more than 35 patents filed around its unique system-level approach to creating VNFs, a core building block of the NFV movement.

Versa's vision is to leverage the rapid advances in VNFs, programmability and agile provisioning, and couple them with proven networking technologies to create an integrated and system-level solution for creating more flexible and profitable managed services.

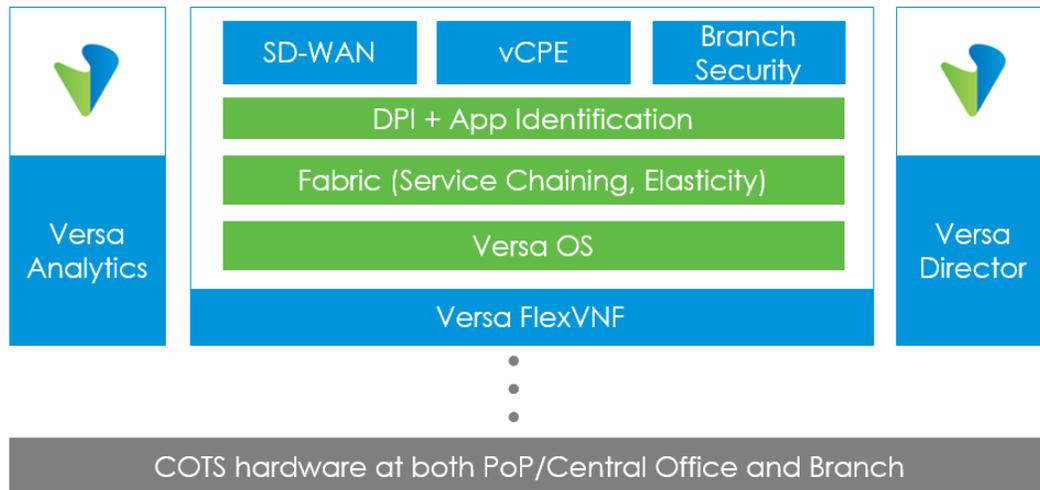
### Why VNFs and Versa Networks

Traditionally, managed network and security service offerings have used a hardware-based approach for CPE which can be slow and expensive to deploy, requires proprietary appliances, and are designed around a closed architecture that can be difficult to scale up and/or integrate with third-party technologies.

By transitioning from hardware-based managed services to a software-based and more DevOps-oriented approach, service providers can harness the power of NFV to provide greater service agility and time-to-revenue, combined with lower Capex and Opex. To make this transition achievable, Versa has created VNFs in software that run on low-cost x86-based servers and appliances that are open and fully programmable.

The Versa solution consists of three software components that work together to deliver highly flexible VNF-based network and security services:

- **Versa FlexVNF:** The core building block for Versa VNF solutions, which includes a broad set of virtualized network and security functions with carrier-grade multi-tenancy, programmability, service chaining, service elasticity and cost-effective deployment choices
- **Versa Director:** Single point of centralized control and management for both connectivity and services
- **Versa Analytics:** A real-time analytics engine that provides control, visibility, prediction and a feedback loop for adaptability



The Versa carrier-grade solution is multi-service and includes a wide range of network and security functions that enable the primary use cases for next generation managed services – virtual CPE (vCPE), SD-WAN and branch security. All Versa VNFs are centrally orchestrated and feature built-in service chaining to enable the creation of rich multi-function managed services.

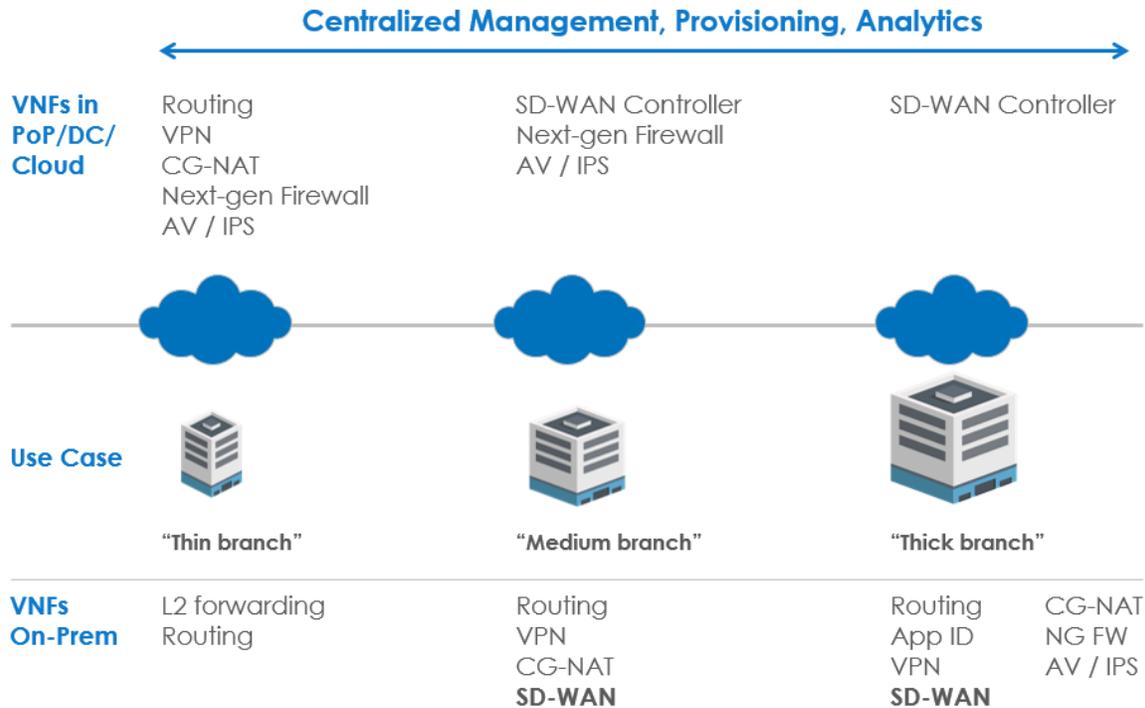
Versa FlexVNF's integrated multi-tenancy allows service providers to achieve faster provisioning and lower Capex by leveraging each Versa head-end deployment at the PoP or data center to provision service for thousands of customers and tens of thousands of branch offices. This is in contrast to traditional hardware-based managed services, which require a dedicated head-end aggregation device per customer.

To maximize service agility and lower providers' operating costs, the Versa solution provides true zero-touch provisioning, automated configuration and centralized management based on programmable, DevOps-ready interfaces and APIs. With the versatile templates supported by Versa Director, an end customer or service provider representative can instantly download and deploy vCPE, SD-WAN and/or virtualized security onto a low-cost appliance (white box, bare metal, VM or container) at one or thousands of branch sites simultaneously.

New services can be added and service-chained across one or more branch offices automatically via a simple configuration change.

### Wide Range of Use Cases

Versa's system-level approach to virtualizing network functions – including multi-service VNFs, service chaining and carrier-grade elasticity – results in a broad set of use cases and potential managed service offerings.



### vCPE (aka "thin branch")

For creating a managed service with minimal branch infrastructure, the Versa vCPE solution provides a flexible and lightweight deployment model. Connectivity options can range from simple Layer 2 forwarding to full routing, and achieved through an on-premises VNF on a local server or dedicated appliance. Versa's multi-VNF capability and service chaining enables additional network and security services to be easily added to a vCPE managed service and delivered from provider premises (PoP, data center or cloud) to create a full-featured offering. Target customers for vCPE services include small-to-medium size businesses (SMB) and businesses with large volumes of branch sites (e.g. retailers).

### Managed SD-WAN (aka "thick branch")

For larger customers that require an on-premises deployment of connectivity services and/or are interested in the benefits of SD-WAN, Versa enables providers to deliver a highly scalable and cost-effective managed SD-WAN service. While most SD-WAN products were developed for single customer enterprise deployments and connectivity only, the Versa solution is multi-tenant and multi-service, enabling both economy of scale as deployments grow and the ability to integrate on-premises security services with SD-WAN connectivity for unique, feature-rich service offerings. Target customers for managed SD-WAN services include mid-market to enterprise businesses, as well as those industries requiring maximum control of IT resources (e.g. financial services).

### Managed Security

For customers looking to increase information security at branch offices, service providers can create managed security services using the Versa solution with multiple security VNFs. Service offerings can be built with security functions on-premises (e.g. next-generation firewall and URL filtering to enable direct Internet access), located at provider premises (e.g. a "virtual UTM" with next-generation firewall, anti-

virus and IPS in the PoP or data center), or a combination. Target customers for managed security services include small, mid-market and enterprise customers, depending on branch architecture and security/compliance requirements.

## Benefits

- **Accelerate time-to-revenue from months to days, and time-to-deployment from weeks to hours**  
Versa enables service providers to roll out new VNF-based managed service offerings quickly without integrating and deploying proprietary appliances – leveraging Versa FlexVNF, Versa Director and low-cost appliances for CPE. As a result, new services can be designed and validated in weeks and deployed to customers in hours – much faster than traditional hardware-based services.
- **80% lower total costs of operations (TCO); increased profits**  
By standardizing on Versa VNF software and commodity hardware, service providers can slash their Capex spend vs. proprietary hardware. Providers can significantly lower their Opex by eliminating truck rolls, shortening troubleshooting time, and easily integrating new services into existing deployments. The result is better operating margins and increased profits from service offerings.
- **Increase revenue by leveraging the broadest set of Layer 3-7 VNFs (including managed SD-WAN)**  
Versa offers the largest set of virtualized network and security functions of any vendor in the industry, including a robust managed SD-WAN capability. Service chaining allows providers to start their customers with a single service (e.g. NG-VPN) and automatically add extra ones (e.g. NG firewall), without a truck roll. Third-party services can easily be integrated into the service chain. The business result is increased revenue and lower operating costs for rich services.
- **Easily scale service offerings up or down based on real-time customer requirements**  
The carrier-grade and highly elastic design of the Versa solution allows for seamless scaling from Mbps to Tbps, so service providers can minimize the need to re-architect their networks, deploy costly load balancers or build out capacity ahead of actual demand. As traffic patterns or customer business requirements change, Versa-based managed services can be on-demand scaled up or down with ease.
- **Simplify support & operations**  
With zero-touch provisioning and centralized management, IT teams can significantly reduce the time required to manage networking and security services at the branch, resulting in up to 50% Opex savings. In addition, Versa Analytics big data analytics software provides customers with deep visibility and real-time intelligence into all networking and security functions to further simplify ongoing operations.

Learn more at <http://www.versa-networks.com> and follow us on Twitter @versanetworks.  
2953 Bunker Hill Lane | Suite 210 | Santa Clara, CA | 95054 | +1-408-385-7660