Versa FlexVNF

Product Description

Highly flexible Versa FlexVNF software allows customers to deploy a broad spectrum of software-defined solutions from SD-Routing, SD-Security, and Secure SD-WAN. Regardless of where each function is deployed, all network and security functions are provisioned and managed centrally through the Versa Director single-pane-of-management platform.

Versa FlexVNF includes the broadest set of VNFs in the industry – from a full set of networking capabilities, including SD-WAN, to a wide range of basic and advanced security functions – making it possible to seamlessly design rich managed services and enterprise architectures software-defining the enterprise branch with agility.

Versa FlexVNF is purpose-built with many carrier-grade operational capabilities, including a distributed control and data plane fabric with built-in elasticity and capacity on-demand. Powerful service chaining for both Versa and third party services, including appliances, enables providers and enterprises to easily integrate multiple network and security functions into complex managed services and enterprise architectures.

Another key Versa capability for improving operational efficiency and service agility, as well as lowering total costs, is multi-tenancy. Versa FlexVNF has built-in multi-tenancy that enables service for thousands of customers, segments and organizations providing deployment flexibility, security and economy of scale.
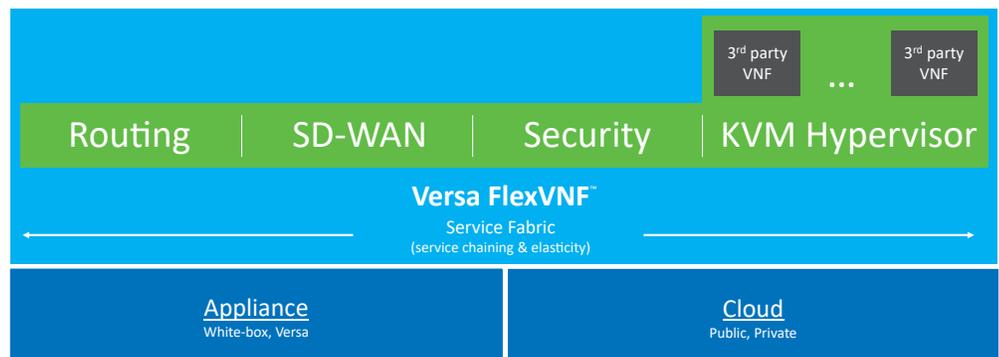
Versa FlexVNF is fundamentally different than proprietary and expensive network equipment. Deployed on low-cost Intel-based servers and appliances

utilizing advances in the latest processors and virtualized infrastructure, Versa FlexVNF radically reduces capital purchases and expensive upgrades/refreshes that are common with legacy network hardware devices.

Versa FlexVNF supports the widest set of deployment options in the industry, and can be deployed in both legacy networks, cloud and new SDN environments. It can run on bare metal servers and white box appliances, hypervisor VMs (VMware ESXi & KVM), IaaS platforms (Amazon and Google) or Linux containers. FlexVNF takes full advantage of multi-socket and multi-core processors and Intel DPDK support for maximum use of the underlying compute resources, resulting in excellent performance and throughput.

Versa FlexVNF is operations-ready and supports standard protocols and log formats, including Syslog, IPFIX, SNMP and Netconf, making it compatible with existing network management, monitoring, and reporting systems.

The result is multi-tenant cloud IP software services platform with integrated networking and security services that can scale out and in on-demand, while maintaining service continuity and delivery of both Versa and third party network and security functions – all with significantly reduced hardware costs and better service agility.

Product Features

Platform	
Form Factor	Bare metal (ISO), Virtual Appliance (OVA, QCOW2)
Hypervisor	VMware ESXi 5.1 & above, KVM
Ethernet	Virtual Wire support, 802.1Q (VLAN Tagging), 802.3ad Link Aggregation (LACP) – Active or Standby, 802.1ag CFM (Connectivity and Fault Management)
Resiliency	HA: Active-Standby, Multiple controller per FlexVNF, CPE fallback using Out-of-Band IPsec, Inter-VNF High Availability (Control and Data Plane replication)
Operations and APIs	CLI, Telnet/SSH, Syslog, IPFIX, Flow mirroring, SNMPv1, SNMPv2, SNMPv3, Netconf/Yang, Packet capture utility

Network & Security Functions		
DHCP IPv4 & IPv6	Client, Relay and Server	
Routing IPv4 & IPv6	Static routing, BFD, VRRP, VRF/Multi-VRF, OSPF, BGP, MP-BGP, ECMP, Route redistribution	
Policy Based Forwarding (L3-L7)	**Match Conditions**	Source Address, Source Zone, Source Region, Destination Address, Destination Zone, Destination region, Application of stream, Schedule, IP version, IP-Flags, DSCP, IEEE 802.1P
	Actions	Permit, Drop, Set Nexthop
QoS	Whitelist/Blacklist on any L2-L4 field, Tenant level policing, Control plane protection, Traffic Classification & Profiles, DSCP/802.1P Marking, Rate-Limiting, Scheduling, Queuing, Shaping, HQoS: PIR & CIR	
CG-NAT	Static NAT, Dynamic NAT, NAPT, Destination NAT, Static NAT with Port Translation, Inter-Tenant NAT, ALG support; FTP, TFTP, PPTP, SIP, ICMP, IKE, Endpoint Independent Mapping (EIM) support, Endpoint Independent Filtering (EIF) support, Port Parity, Port Block Allocation (PBA) support, Random Port Allocation (RPA) support, Syslog and IPIX logging	
Stateful Firewall	Zone-based, Address Objects, Address Groups, Rules, Policies, DDoS (TCP/UDP/ICMP Flood), Syn-cookies, Port-scans, ALG support; SIP, FTP, PPTP, TFTP, ICMP	
Application Visibility	Identify more than 2000+ applications and protocols, Application group support, Application filter support, Application visibility and log support	
Next-Generation Firewall	Policy Match Triggers: Applications, App filters, App Groups, URL Categories, Geo Location, Application Identity (AppID) based policy rules, Application Groups and Filters, Packet capture on AppID, IP Blacklisting, Whitelisting, Customer App-ID signatures, SSL Certificate-based protection, Expired certificates, Untrusted CAs, Unsupported cyphers and key lengths	
Anti-Virus	Network/Flow based protection with auto signature updates. HTTP, FTP, SMTP, POP3, IMAP, MAPI support, 35+ file types supported (exe, dll, office, pdf & flash file types), Decompression support, Storage profile support, Auto signature updates	
URL Categorization & Filtering	URL categories & reputation, including customer-defined, Cloud-based lookups, Policy trigger based on URL category, URL profile (blacklist, whitelist, category reputation), Captive portal response including customer defined, Actions include block, inform, ask, justify, and override	
IDS/IPS	Default & customer defined signatures & profiles, Versa & Snort rule formats, L7 DDoS, Layer 7 Anomaly detection, Support for JavaScript attacks, Security package with incremental updates, Full, incremental (daily) & real-time threat (every hour)	
SD-WAN	Secure, zero touch branch provisioning, Template-based policies with parameterization, Centralized route and policy enforcement, L7 Application SLA enforcement, SLAs with QoS, Intelligent path selection – default and user-defined, Support Active/Active and load balancing of Transport, Overlay encapsulation: MPLS over VXLAN, IPsec over VXLAN, Redundant SD-WAN controller, Integration and support for 3rd party legacy appliances, Flexible topology support – Full-Mesh, Partial-Mesh, Hub-Spoke	

Network & Security Functions

Advanced SD-WAN Features	Packet Striping for best throughout across bundle of low speed interfaces, Packet Cloning / De-cloning for replicating, important flows to ensure best performance and availability, Forward Error Correction to restore traffic in lossy and over-congested links, MOS Based Traffic Steering to measure VoIP flows quality and to steer VoIP flows to achieve best voice session qualities, Cloud Provider DIA Traffic Optimizations; Probe based, as well as Inline Traffic Measurements and more
IPsec VPN	Site-to-site, route/policy-based VPN, IKEv1, IKEv2, DPD, PFS, ESP and ESP-HMAC support, Symmetric Cipher support (IKE/ESP): AES-128 and AES-256 modes: CBC, CNTR, XCBC, GCM, Pre-shared and PKI authentication with RSA certificates, Diffie-Hellman key exchange (Group 1,2,5), Per-tenant and VRF aware, MD5 and SHA1 based HMAC
Load Balancing	Virtual Server support, Load Balancing algorithms: RR, WRR, Src. IP, Dest. IP, IP Hash, Least connections, Layer 4 load balancing, monitoring, persistence (Src, Dst,Src-Dest, Mac), Deployment modes: Transparent, Routed and Direct Server Return
SSL Inspection	HTTPS proxy (forward & reverse), SSL v3, TLS 1.2 proxy, Captive Portal for HTTPS requests
DNS Proxy	DNS Split Proxy
User & Group Level Authentication	Support for Active Directory, LDAP, Kerberos, Captive Portal Form for LDAP
Service Function Chaining (SFC)	Encapsulation and tagging types: VLAN, VXLAN, MPLS, MPLS over GRE, NSH, SFC

System Requirements

Hypervisor Supported	VMware vSphere 5.5 & 6.0, KVM – RHEL/CentOS 6.4, Ubuntu 12.04, 14.04
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VMware vCloud Director Support	vCloud Director 5.5 & 6.0
OpenStack Version Support	Havana, Icehouse, Juno, Kilo
OpenStack Distro Support	Red Hat, Canonical Ubuntu, Piston CloudOS
Cloud Platform Images	Amazon Machine Image (AMI), Google Compute Engine (GCE)
Virtual Machine Deployment Minimum Requirements	CPU: 2 cores (Intel Atom Rangeley or Intel Xeon), Memory: 4 GB, Disk: 20GB

**Please refer to the latest Versa FlexVNF release and product documentation for the latest information on product supported features, limitations, performance and best practices.

Versa-Specified Appliance Configurations

Versa-specified appliance configurations provide a wide range of price and performance points to cover diverse business needs

Hardware Appliances			
Family Model	100	800	1000
Deployment	Branch	Branch/Hub	Hub/Data center
Expected Performance	1.5 Gbps	6 Gbps	14+ Gbps
Processor	Intel Atom	Intel Xeon-D	Intel Xeon
Cores	2/4/8	6/8	14
Memory	4/8/16 GB ECC DRAM	32/64 GB ECC DRAM	64 GB ECC DRAM
Storage	64/128 GB SSD	128/256 GB SSD	512 GB SSD
Built-in Interfaces	2x Cu/SFP 4 x Cu GbE	2x 10Gbe SFP+ 6x Cu GbE	2x 10GbE SFP+ 6x Cu GbE
Wireless Options	Wi-Fi and LTE	Wi-Fi and LTE	N/A
NIC Module Add-on	N/A	2x slots Max 16 ports	2x slots Max 16 ports
Quick Assist	Yes	Yes (optional)	Yes (optional)
TPM	Yes	Yes	Yes
Power	External AC	Internal AC/DC	Internal AC/DC
Cooling	Side-to-Side	Front-to-Back	Front-to-Back
Rack Units	Desktop and rack mountable	1RU	1RU

**Note: Please contact Versa or Versa-approved whitebox appliance vendors for more details of the approved appliances, associated modules and performance.

About Versa Networks

Founded by network industry veterans, Versa Networks is an innovative vendor in the SD-WAN and SD-Security market. Versa's solutions enable service providers and large enterprises to transform the WAN and branch networks to achieve unprecedented business advantages. Versa's carrier-grade NFV software provides unmatched agility, cost savings, and flexibility, compared to traditional network hardware. The company is backed by premier venture investors Sequoia, Mayfield, Artis Ventures and Verizon Ventures.

For more information visit http://www.versa-networks.com and follow us 🐦 @versanetworks.