

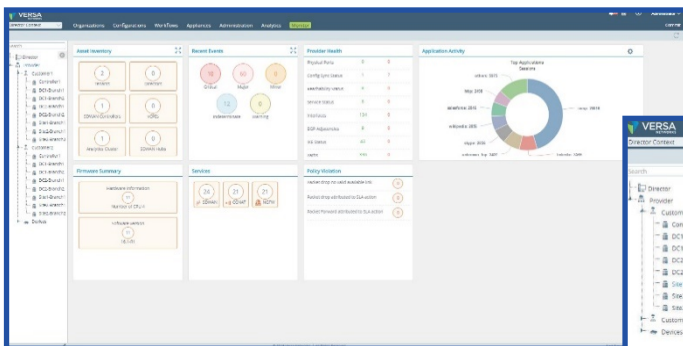


Director

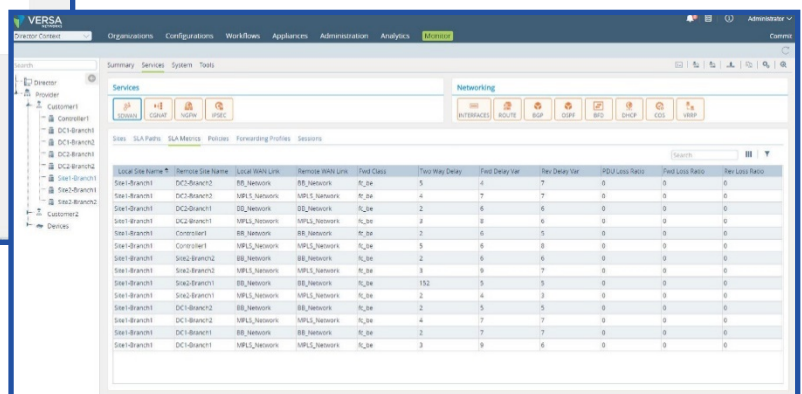
The Director is the virtualization and service creation platform that simplifies the creation, automation and delivery of services using FlexVNF. The Director provides the essential management, monitoring and orchestration capabilities needed to deliver VNF-based network and security services including routing and connectivity to direct Internet access and control and SD- WAN with layered advanced security.

The Director provides single-pane-of-glass management for connectivity and services. It scales to thousands of end customers or organizations through hierarchical multi-tenancy and role-based administrative capabilities. Combined with FlexVNF software, the Director provides complete VNF infrastructure lifecycle management for bare metal and virtual machine environments, from deployment and configuration to ongoing monitoring and change management of third party VNF-based services with automatic actions such as auto-healing and auto-scaling.

The Director also provides a rich set of interfaces for effective integration with third party products. It also supports service definitions including third party service components, enabling flexible service chain creation and deployment. In addition, utilizing open and widely available protocol and API formats allows for tight integration with operations and business systems. The result is rapid delivery and simplified ongoing management of the services, from basic connectivity to advanced SD-WAN and branch security.



Provider Level Monitor Dashboard





Feature Support Details

Policy	<ul style="list-style-type: none"> Centralized policy management – policy locking, versioning CRUD operations on users, roles, capabilities VNF placement support using resource pools
Operations	<ul style="list-style-type: none"> VNF life cycle management Template based provisioning FlexVNF configuration management, backup, restore, archive, rollback Hierarchical multi-tenancy support and tenant management Service catalogs, subscription plans for tenants – specify flavors, policies Service orchestration RestAPIs for all operations FlexVNF management using industry standard NetConf (RFC 6241) Web-based graphical user interface (GUI)
Administration	<ul style="list-style-type: none"> Inventory management Software management/upgrades Client and secure API management for third party integration User Management and AAA integration – Radius/LDAP/TACACS+ Role-based access control High availability and disaster recovery Configuration audit logs Licensing and usage reporting SSO (Single-Sign-On) support via SAML Licensing and Entitlement management
Monitoring	<ul style="list-style-type: none"> FlexVNF monitoring – System, Cluster, Interface, Alarms Service monitoring – SNMP MIBs, counters, statistics Auto healing AMQP based notifications
Elasticity Support	<ul style="list-style-type: none"> Policy based auto and administrative scale-out/scale-in of FlexVNFs
Service Chaining Support	<ul style="list-style-type: none"> Service chaining FlexVNFs and third party VNFs
Deployment Options	<ul style="list-style-type: none"> Whitebox Baremetal Virtual machine Containers
Cloud Management Systems	<ul style="list-style-type: none"> VMware vCloud Director, vCenter OpenStack, VMware Integrated OpenStack Bare Metal services with Local Cloud abstraction
Third Party Overlay	<ul style="list-style-type: none"> VMware NSX, Nokia Nuage, Open Contrail, OpenDaylight (ODL)
OSS/BSS and Orchestration	<ul style="list-style-type: none"> Ciena BluePlanet, Ubiquite, Cisco NSO, Ericsson ECM, Alcatel Cloudband, NEC Net- Cracker