At-a-Glance

Cisco NFV Infrastructure

Accelerate Your Network Infrastructure Transformation with Cisco NFV Infrastructure

The Cisco® NFV Infrastructure Solution provides the compute, storage, networking infrastructure, and management and assurance capabilities to run network function virtualization (NFV) network services. It is a fully integrated solution that is tested and validated by Cisco. It's a carrier-grade and robust solution that delivers high performance, availability, security, and scalability. The Cisco NFVI Solution builds a solid foundation that will improve cost efficiency, enable faster service deployment, and unlock new revenues.

The Foundation of an Agile and Elastic Network

The Shifting Landscape

The combination of market conditions and network constraints is demanding the telecommunications industry to pursue a cloud-based model much like that adopted by the IT industry in order to simplify network operation, foster innovation, and increase long-term profitability. Network function virtualization (NFV) promises to transform the telecommunications industry.

Network Function Virtualization Infrastructure

As defined in ETSI's reference architecture, the Network Function Virtualization infrastructure (NFVI) is a primary building block that enables the implementation environment for NFV. It provides a virtualized infrastructure for virtual network functions (VNF).

Cisco NFV Infrastructure

As the industry leader in cloud infrastructure and cloud services, Cisco has joined forces with number-one enterprise open source software provider Red Hat along with Intel to create a fully open platform to address carriers' biggest business and technology challenges. The Cisco® NFV Infrastructure Solution is ETSI compliant and preintegrated. It offers carrier-grade high availability, reliability, and predictable performance to make sure of high-level customer SLAs.

Cisco NFV Infrastructure Building Blocks

Compute: Cisco Unified Computing System™ (Cisco UCS®) for a carrier class and reliable compute infrastructure.

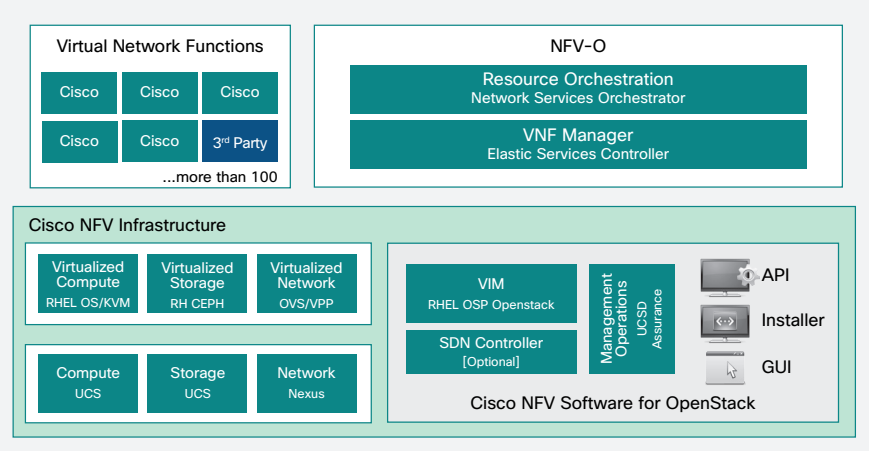
Storage: Cisco UCS hardware and CEPH provide reliable storage. The user has the options to introduce additional storage as capacity needs grow.

Networking: Cisco Nexus® 9000 series hardware provides high throughput, low latency, and rich feature sets.

Virtualized Infrastructure: Fully integrated Red Hat Enterprise Linux and Red Hat OpenStack Platform runs on top of Cisco Unified Computing System™ (Cisco UCS®). It is open source yet hardened and mature.

Management: Cisco UCS Director functions as a unified management tool across multiple virtual environments. SDN controller is optional.

Cisco NFV Infrastructure Architecture



Cisco NFV Infrastructure Platform Benefits

Deployment and Operation	Performance and Security	Manageability and Maintainability
Automated Installer The Cisco OpenStack installer includes user input and configuration validation and is capable of detecting improper parameters before starting installation, thus eliminating unexpected issues during deployment.	**Consistent Performance** The Cisco VPP implementation delivers industry-leading data plane performance (20 Gbit/s Ethernet switching throughput and 2.5 Gbit/s virtual routing throughput per single Haswell or Sandy Bridge core).	**Unified Management** Cisco UCS Director can manage multiple NFV-enabled data centers from a single location. It can function as a unified management point across multiple types of virtual infrastructures.
High Availability Cisco NFV Infrastructure conducts health checks of the cloud environment. It performs high-availability testing of OpenStack services and core infrastructure components.	**Enhanced OpenStack Security** By integrating with OpenStack API rate limiting, secure cloud greatly reduces the chance of DDoS attach against critical infrastructure.	**OpenStack Updates** Continuous integration and continuous deployment allow for faster software bug fixes and software updates.
Centralized Logging Cisco's centralized logging solution offers a holistic overview of the system. Operators can aggregate, monitor, and triage all system logs.	**Security Audit** Cisco offers a valuable toolkit for network operators. It can conduct tests and audit for cloud security.	**OpenStack Upgrade Path** Cisco's implementation enables Service Providers to upgrade from older versions of OpenStack to a newer version. This eliminates the current tedious and highly manual and thus error-prone.
Single Point of Support Cisco understands the carrier's need for predictable and reliable support. By being the single point of contact, Cisco allows customers to enjoy the full benefits of open-source innovation and 24/7 world-class technical support at the same time. With Cisco as your partner, you can focus on business outcomes and profitability.		

More Information

For more information, visit cisco.com/go/nfvi.

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