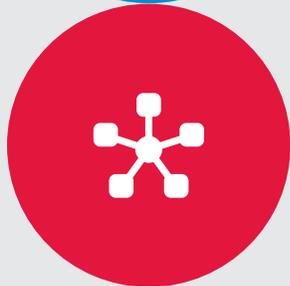


F5 and Nuage Networks Partnership Overview for Enterprises



Automate and accelerate application and network services deployment with F5 and Nuage Networks.

Key benefits

F5 and Nuage Networks enable you to:

- Deploy a flexible, agile, and programmable network that can instantiate new applications and services quickly and seamlessly.
- Improve cost efficiency with an optimized network.
- Enhance scalability and performance to deliver services based on real-time network peaks.
- Deliver a hybrid network with virtual solutions and purpose-built hardware.

In a competitive market, organizations need to deliver applications and services to employees and customers anywhere, anytime, and on any device. Delivering applications and services faster to market leads to improved employee productivity and increased revenue. But it also requires organizations to evolve their rigid, legacy infrastructure to an orchestrated architecture, where server and network programmability are combined to improve business agility.

Together, F5 and Nuage Networks enable organizations to automate and accelerate the delivery of networking and application services by abstracting and simplifying the development and deployment of L2–L7 functions. Delivering on the SDN principles of openness and abstraction, F5 and Nuage Networks can optimize your network by separating how applications and services are defined from how they are instantiated. The joint solution also separates the implementation of required network and application delivery from the constraints of the underlying physical environment.

Network agility and service velocity

Increased demand for new applications and services coupled with legacy network architectures places a significant strain on how efficiently organizations can deploy new services to market. Static, configuration-driven processes lead to increased complexity and more delays in launching new applications and services. The result is lower productivity, quality of experience, and dramatically increased operational costs.

The F5® BIG-IP® Application Delivery Controller (ADC) and the Nuage Networks Virtualized Services Platform (VSP) fully virtualize your infrastructure. This creates a programmable platform that connects the networking and application delivery architectures, transforming your infrastructure into a flexible, agile environment. The combined solution also significantly reduces deployment times for networking functions, such as lower level switching, routing, and network firewalling, as well as application layer acceleration, DNS, security, and availability services—all while simplifying network operations and lowering costs.

Increase network availability and scalability

As the number of connected devices skyrockets and the Internet of Things (IoT) gathers steam, organizations are experiencing unprecedented network infrastructure demand. In turn, this can dramatically increase the potential of running out of network resources—or even lead to overall network failure.

F5 provides a scalable, programmable, high-performance application delivery services platform. Whether you need to scale up through hardware or software licenses within a virtualized environment, or scale out through adding nodes and migrating workloads onto the new capacity, F5 and Nuage Networks provide greater flexibility, reduced risk, and lower costs.

Decrease in configuration errors

Legacy approaches of configuration-driven deployments are also prone to errors that are difficult to diagnose and repair. In fact, the fear of breaking existing working applications is one of the most cited reasons why organizations are afraid of making configurations changes driven by business needs.

Using F5's application services with Nuage Networks VSP, organizations can easily implement complete application isolation, eliminating the risk of cross-application deployments issues.

By automating the deployment of networking and application services, the risk of configuration errors is greatly reduced. In addition, the VSP gives deployment personnel the tools for quickly checking their deployments for any errors and fixing them quickly.

Orchestrating virtualized services with dynamic service chaining

Delivering applications and services based on real-time experience—while efficiently managing fluctuating demand (whether planned or a sudden surge)—requires you to dynamically adapt your network. By leveraging application visibility, the F5 and Nuage Networks solution detects and responds to the spin up and spin down of virtual machines such as virtual ADCs, virtual firewalls, and virtual DNS services. It adapts network services automatically in accordance with established policies, and adapts to the network seamlessly as virtual machines move independently of boundary restrictions (such as racks, clusters, and zones). This enables you to dynamically chain services and respond to moves throughout and across data centers.

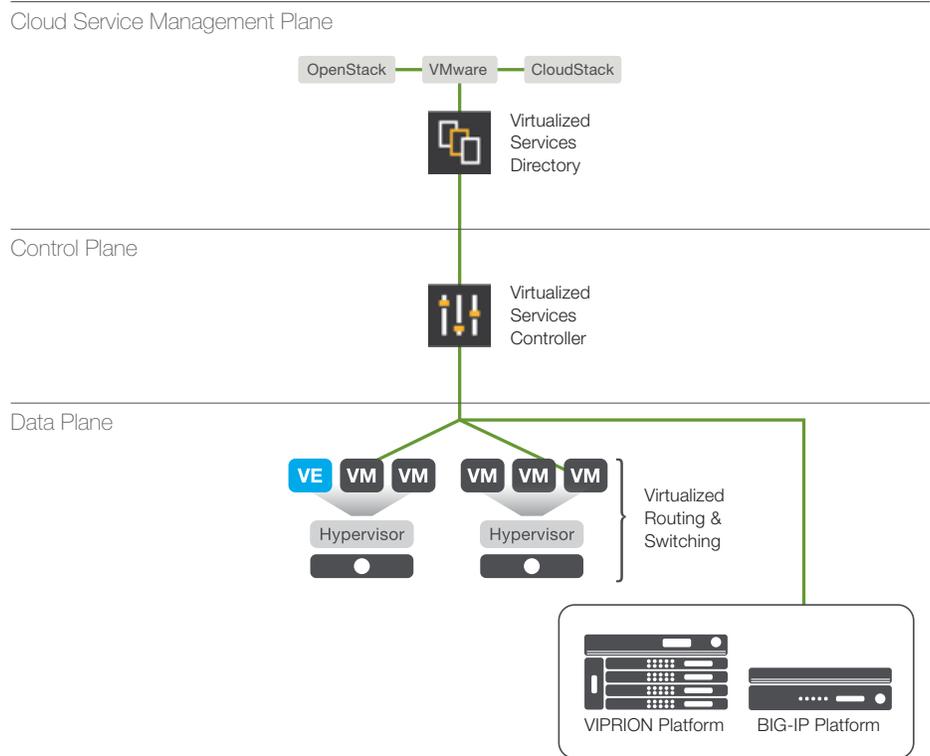
A dynamic, programmable network with open APIs allows instantaneous establishment of network and application connectivity, as well as load balancing and application services across physical and virtual network resources. As a result, you can dramatically increase the flexibility and efficiency of data center resources, providing greater visibility into network services and simplifying the trial and deployment process for new services. The net result is that you get to market faster without impacting network upgrade cycles.

Solution components

Seamlessly migrating to a virtualized network while avoiding service interruption requires an organization's infrastructure to coexist with legacy systems—while preserving existing customers and workloads.

The highly-extensible F5 BIG-IP platform offers organizations the flexibility to deploy application services in any environment, with both hardware and software solutions offerings. F5's application services can be deployed on the purpose-built VIPRION® chassis, BIG-IP appliances, or as virtual editions (VEs) on COTS hardware to support deployments of any size and scale. All BIG-IP solutions (ADC, security, DNS, availability) are built on the same underlying F5 TMOS® operating system and include programmability features, such as iRules®, iControl®, and iApps®, ensuring a seamless migration between legacy and evolving agile environments.

The Nuage Networks Virtualized Services Platform is a comprehensive solution built for open hybrid clouds, making the network as readily consumable and flexible as an enterprise's virtualized compute resources. This flexibility is exactly what you need in highly dynamic application environments. As a software-defined networking (SDN) solution, the Nuage Networks VSP virtualizes any data center network infrastructure and automatically establishes connectivity between compute resources upon their creation. Leveraging programmable business logic and a powerful policy engine, the VSP provides an open and highly responsive solution that scales to meet the stringent needs of massive multi-tenant data centers.



Nuage Networks SDN solution and the F5 Application Services architecture.

With F5 and Nuage Networks, you can automate and accelerate the deployment of networking and application services to move your network forward:

- Virtualize any data center network infrastructure and automatically establish connectivity between compute resources upon their creation.
- Deploy a broad range of L4–L7 services to ensure application performance, high-availability, and security.
- Flexible deployment options with software running on COTS hardware or purpose-built hardware.
- A programmable policy and analytics engine provides a flexible and hierarchical network policy framework to define and enforce resource policies in a scalable, user-friendly manner.

For more information on the F5 and Nuage Networks partnership, visit nuagenetworks.net/partners/application-delivery/.

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