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# OpenStack

Enterprises are using OpenStack to build private clouds, and service providers are using OpenStack in Network Functions Virtualization Infrastructure (NFVI) environments to increase agility. While OpenStack Neutron networking services provide basic load balancing functionality, they lack important application delivery features, putting the performance, availability, and security of applications at risk.

With F5 OpenStack integrations, organizations can use F5 BIG-IP Application Delivery Controllers (ADC) in OpenStack cloud environments. BIG-IP ADC provides consistent availability, performance, and security for all applications, across public, private, and hybrid cloud environments.

## BENEFITS

### Cloud agility

Drive greater agility with automated deployment of comprehensive L4–L7 application delivery networking and security services through OpenStack Heat orchestration templates. Improve time to market with faster deployments by using validated and certified integrations with leading OpenStack distributions, SDN, and orchestration solutions.

### Cloud confidence

Deploy production workloads confidently by using open-source libraries for integrating Neutron and Heat templates with the F5 app delivery infrastructure. Customize how application services are configured and deployed in your cloud by leveraging collaboration between F5 and the OpenStack community via an LBaaS driver in Neutron and open source Heat templates on GitHub. This library of Heat templates has been rigorously tested and validated with BIG-IP ADC devices.

## DEPLOYMENT SCENARIOS

### Core LBaaS Neutron service

Neutron Load Balancing-as-a-Service (LBaaS) enables basic load balancing services for compute and application instances. These services include a core subset of functions and features that are common across a wide range of load balancing platforms. F5 provides a LBaaS plug-in to provision and manage F5 load balancing services on BIG-IP and /IPRION hardware or virtual edition (VE) platforms. Purpose-built BIG-IP hardware ADCs provide multi-tenant capabilities and connection rate SLAs.

[Learn about and download F5 LBaaS driver on GitHub](#)

### Advanced networking services using Heat orchestration

Use Heat templates to create comprehensive application delivery and security services. When combined with the BIG-IP Apps template system, you can create repeatable application delivery configurations by passing in the required template and instance-specific values. Implement complex delivery configurations using advanced features like web

application firewall (WAF) services, application acceleration, DNS, and L7 content switching and redirection with simple API calls.

Go to [F5 Heat Templates on GitHub](#)

## Network Functions Virtualization Infrastructure

Communication Service Providers (CSPs) and enterprise network operators migrating to Network Functions Virtualization (NFV) architectures using OpenStack now have the flexibility to optimize new service delivery models and elastic scaling. CSPs can seamlessly integrate F5 virtualized network functions (via BIG-IP VE's) within existing network architectures, align costs with revenue, and centralize management.

[Learn more about F5 and Network Functions Virtualization](#)

## OpenStack Partnerships

F5 has tested and certified its integration with OpenStack distribution platform vendors such as Red Hat and Mirantis, as well as SDN partners Cisco, PLUMgrid, and Nuage. That means you can count on fully supported, validated OpenStack implementations.



### Mirantis

Mirantis provides all the software, services, training, and support you need to run a production deployment of OpenStack at scale. F5 has certified the LBaaS plugin on Mirantis OpenStack to simplify the deployment of private clouds.

Go to the [Installation Runbook for F5 Networks BIG-IP LBaaS Plugin for OpenStack Kilo](#)



### RedHat

F5 has partnered with RedHat to certify the LBaaS plug-in and enable you to accelerate your OpenStack deployments. Using iApps, you can provision F5 application delivery services via the console in the RedHat Enterprise Linux OpenStack Platform.

[Read How F5 and RedHat Work Together](#)

[Read About Accelerate Development and Application Delivery with F5 and Red Hat](#)

## HOW TO ADD F5 APPLICATION DELIVERY SERVICES TO OPENSTACK

Advanced F5 application delivery services can be flexibly designed into an OpenStack cloud architecture with a variety of deployment and orchestration options.

[Read the White Paper](#)

## OPENSTACK RESOURCES

[F5 on GitHub](#)

[Deliver Complete Application Services in OpenStack](#)

[Take F5 to the Cloud](#)

[Deployment Options for F5 Products](#)

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