Betting on OpenStack to Evolve Service Provider Infrastructures

Patricia Du, 2016-16-06

In an effort to sustain a profitable business model while experiencing tremendous growth in traffic, the world's largest service providers are adopting OpenStack for network functions virtualization (NFV). Service providers want to evolve and scale their networks with *virtual functions* to lower cost, reduce time to market, and improve operational efficiencies.

Market driver

OpenStack is an open-source, cloud-computing software platform, the primary components of which are well documented. Service providers looking for an open, multi-vendor NFV platform are using OpenStack as virtual infrastructure manager (VIM) to help realize the benefits of virtualizing functions in their networks. In particular, operators need an NFV platform that supports distributed services in the cloud, enhances network control, and provides high performance data planes with high operational efficiency.

Because OpenStack is rapidly becoming the dominant cloud platform for delivering Infrastructure as a Service (IaaS), service providers are looking to it as the de facto standard for private, public, and managed private clouds.

Service providers need a horizontal NFV platform that provides:

- Compute, storage, and networking resources for virtual network functions (VNFs).
- A centralized platform for NFV orchestration (NFVO).
- A centralized VNF manager (VNFM) that manages the lifecycles of the VNFs

Meeting service providers' requirements

The OpenStack community has recently started to focus on some of service providers' NFV requirements, such as integration of security with networking, data plane, and operational optimization. Integrating these various OpenStack components into products can be done either by the service providers themselves or by a vendor. A pre-validated NFV product solution from vendors such as F5 and its partners can help providers realize the promise of NFV—from reducing CapEx and OpEx to improving service agility for faster paths to revenue.

OpenStack components or projects are continuously being developed and improved by the community. As a collection of highly configurable software projects, OpenStack enables service providers to create the solutions that best meets their specific needs. There is ample opportunity for F5 to work closely with the OpenStack community and with partners to develop the functionalities that will make OpenStack a more complete NFV solution for service providers. F5 is committed to working with these partners to integrate with OpenStack and help service providers deploy and orchestrate F5 application delivery services in public, private, or a hybrid cloud environments.

Recent releases

F5 has recently released a number of OpenStack components, including an open source plug-in for the LBaaSv2 service; a Heat plug-in library that introduces F5 objects into the OpenStack infrastructure; and Heat templates that can easily orchestrate F5 services in OpenStack. Taking advantage of these F5 offerings enables customers to extend the F5® TMOS® architecture into OpenStack clouds and NFV infrastructure. The F5 solution dynamically inserts critical and consistent L4 to L7 services into the OpenStack cloud, helping service providers ensure application availability, performance, and security while improving operational efficiency.

Resources

To learn more about F5 VNF integrations with OpenStack, see these resources:

White paper: How to Add F5 Application Delivery Services to OpenStack

Video: Technically Speaking...Are You In or Are You Out? (from OpenStack Summit 2016)

F5 Networks, Inc. | 401 Elliot Avenue West, Seattle, WA 98119 | 888-882-4447 | wwww.f5.com

F5 Networks, Inc.
Corporate Headquarters
info@f5.com

F5 Networks
Asia-Pacific
apacinfo@f5.com

F5 Networks Ltd.
Europe/Middle-East/Africa
emeainfo@f5.com

F5 Networks
Japan K.K.
f5j-info@f5.com