RED HAT® OPENSTACK® PLATFORM

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IMPROVE VIRTUALIZED NETWORK PERFORMANCE

PARTNER SOLUTION BRIEF

SOLUTION PERFORMANCE

4x

Increase in per-server throughput

5x

Reduction in latency between virtual machines in the same rack

15x

Reduction in latency between virtual machines in the same rack with a virtual router and distributed denial-of-service (DDoS) protection

NETWORK PERFORMANCE IMPACTS COST

Network functions virtualization (NFV) can help communications service providers (CSPs) reduce costs, increase network flexibility, and support growing customer demand. Virtualized network performance is critical for effective NFV implementation. However, running both control plane and data plane functions in compute servers can increase network latency, resulting in delayed service delivery and lower cost efficiency. Red Hat and Kaloom offer a datacenter networking solution that reduces latency and increases throughput of your network for more effective NFV deployment.

BOOST PERFORMANCE WITH SOFTWARE-BASED NETWORKING

By seamlessly integrating Red Hat® Enterprise Linux®, Red Hat OpenStack® Platform, Red Hat OpenShift Container Platform, and the Kaloom Flow Fabric, the Red Hat and Kaloom software-based datacenter networking solution streamlines traffic within your network. Automation capabilities—including network discovery, configuration, and provisioning—improve the scalability of your virtual network. Automated installation and update processes reduce the amount of time required to maintain your network.

Red Hat Enterprise Linux provides a high-performance, secure, and reliable operating platform for the solution. It is installed within the Kaloom Flow Fabric on all leaf and spine networking white boxes. No other changes are required in the configuration or operation of your datacenter.

Comprised of networking white boxes, the Kaloom Flow Fabric is a fully programmable, software-based datacenter fabric that runs virtual network functions (VNFs) efficiently and at scale. The software offloads certain data plane functions from compute servers and executes them within networking white boxes. Control plane functions continue to run on compute servers. Kaloom Flow Fabric supports virtual machines, containers, and native applications.

Red Hat OpenStack Platform, co-engineered with Red Hat Enterprise Linux, is a massively scalable, production-grade cloud foundation ideal for NFV. It integrates with the Kaloom Flow Fabric using the Neutron ML2 plug-in, enabling configuration of the network through Red Hat OpenStack Platform.

Red Hat OpenShift Container Platform is a modern container application platform that encompasses community innovation and an open ecosystem. It provides management capabilities for the container-based Kaloom Flow Fabric. Integration between Red Hat OpenShift Container Platform and the Kaloom Flow Fabric allows custom and third-party VNFs to be easily developed and deployed across your network.

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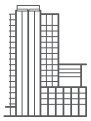

ABOUT RED HAT

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.

NORTH AMERICA
1 888 REDHAT1

EUROPE, MIDDLE EAST, AND AFRICA
00800 7334 2835
europe@redhat.com

ASIA PACIFIC
+65 6490 4200
apac@redhat.com

LATIN AMERICA
+54 11 4329 7300
info-latam@redhat.com

facebook.com/redhatinc
@redhatnews
linkedin.com/company/red-hat

redhat.com
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FEATURES AND BENEFITS

With the Red Hat and Kaloom solution, you can use container-based virtual environments to increase network performance and simplify network management without compromising security, availability, and scalability.

FEATURE	BENEFIT
Control plane and data plane separation	Increase per-server throughput by up to 400%, and reduce latency between virtual machines by up to a factor of 15.[1]
Single operating system distribution	Ensure consistent security, availability, reliability, and serviceability by using a common Red Hat Enterprise Linux distribution on both servers and networking white boxes.
Optimized container networking	Seamlessly support increases in networking endpoints and density and changes in traffic flow with a network fabric optimized for containers.
Networking integration into Red Hat OpenShift Container Platform	Provision and administer networking resources in the same way as compute and storage resources. Build, deploy, and manage applications and network services using a common, secure container platform.
Secure multitenancy	Manage multitenancy at scale with tenant-based container separation and controlled, secure communication between tenants.
Internal monitoring	Simplify compliance with service-level agreements (SLAs) by collecting real-time infrastructure performance data.

1 Based on internal testing by Kaloom.