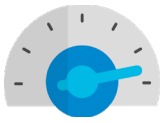
Red Hat | kaloom

Brief

Improve virtualized network performance



Solution performance

2x

Increase in per-server throughput

7x

Reduction in latency between virtual machines in the same rack

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®, and the Kaloom's Software Defined 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 Software Defined 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 Software Defined 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. Software Defined 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 Software Defined Fabric using the Neutron ML2 plug-in, enabling configuration of the network through Red Hat OpenStack Platform.

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

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 a factor of 2, and reduce latency between virtual machines by up to a factor of 7.[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	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.*

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.

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