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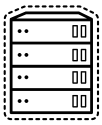
ACCELERATE VIRTUALIZED NETWORK PERFORMANCE WITH 6WIND

BROCHURE



COMMUNICATIONS INDUSTRY: NFV INFRASTRUCTURE ADD-ON

80%

of IT executives consider infrastructure performance to be a critical priority.[1]

Adding 6WINDGate packet processing software to your Red Hat and Intel NFV infrastructure can improve virtual switch and network application performance by up to tenfold.

INTRODUCTION

In the hyper-competitive communications market, service providers must contain costs and operate with agility to be successful. Moving to a network functions virtualization (NFV) environment reduces infrastructure expenses and enhances flexibility, but some applications and workloads require extreme virtual performance to be of value. Adding 6WIND's 6WINDGate packet processing software to your Red Hat® and Intel NFV infrastructure accelerates virtual network function (VNF) performance so you can gain a competitive advantage.

ACCELERATE DATA PLANE PERFORMANCE WITH 6WINDGATE

In many NFV implementations, inefficient network packet routing and processing impede VNF performance. By combining 6WINDGate with the Red Hat and Intel NFV infrastructure, you can eliminate data plane overheads and accelerate VNF performance. 6WINDGate provides fast path processing modules that complement the Data Plane Development Kit (DPDK) library for Intel architectures, allowing network packets to be efficiently and transparently processed outside the Linux® operating system kernel. The result is up to 10-times faster network traffic and increased virtual machine density in an open, cost-effective environment.

As shown in Figure 1, the components of the Red Hat and 6WIND solution work together to accelerate your virtual network.

- **Red Hat and Intel NFV infrastructure.** Built on Red Hat Enterprise Linux OpenStack® Platform—including Red Hat Enterprise Linux and the Kernel-based Virtual Machine (KVM) hypervisor—Open vSwitch (OVS), multi-core Intel processors, and certified Ethernet adapters, the Red Hat and Intel NFV infrastructure provides an innovative, cost-effective, open foundation for your VNFs and network workloads.[2]
- **DPDK.** DPDK provides high-performance Linux network drivers and an optimized run-time environment to enhance packet processing performance within your NFV environment.[3]
- **6WINDGate packet processing software.** Without requiring changes to the Linux operating system or OpenStack, 6WINDGate provides the fast path networking stack technologies that allow network packets to be processed in the user space outside the Linux kernel, accelerating data plane, OVS, Internet Protocol Security (IPsec), Transmission Control Protocol (TCP), firewall, Level 3 forwarding, and VNF performance by up to 10 times. The Fast vNIC driver, included in 6WINDGate, enables a direct, low-latency communication path between virtual machines for faster service chaining and provisioning. And 6WINDGate extends the DPDK library to support network interface cards and crypto-accelerators from a variety of vendors.

Many network applications and workloads can benefit from faster packet processing. Following are examples of what you can do with an accelerated NFV solution from Red Hat and 6WIND.

1 Gatepoint Research, "Communications Industry Technology Survey," September 2012.

2 Red Hat, "Increase business agility with network functions virtualization," August 2014

3 See www.dpdk.org for more information.

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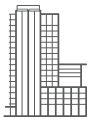

ABOUT RED HAT

Red Hat is the world's leading provider of open source solutions, using a community-powered approach to provide reliable and high-performing cloud, virtualization, storage, Linux, and middleware technologies. Red Hat also offers award-winning support, training, and consulting services. Red Hat is an S&P company with more than 80 offices spanning the globe, empowering its customers' businesses.

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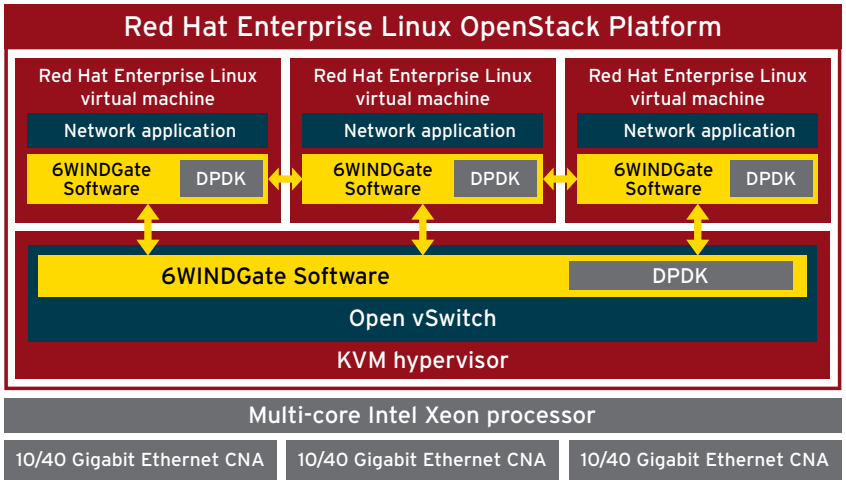

Figure 1. Adding 6WINDGate packet processing software to your Red Hat and Intel NFV infrastructure accelerates Open vSwitch and network application performance and provides direct VM-to-VM communication.

IMPROVE 4G NETWORK PERFORMANCE

Demand for mobile services is growing at an unprecedented rate, creating critical performance and scalability issues for 4G networks. With an accelerated NFV environment from Red Hat and 6WIND, you can scale your virtual Evolved Packet Core (vEPC) infrastructure linearly while ensuring high performance. And, because vEPC workloads are isolated from physical hardware, driver dependencies are eliminated, so you can operate with more agility over time.

INCREASE NETWORK SECURITY

Service provider networks are increasingly exposed to a wide variety of security threats. Implementing Internet Protocol Security (IPsec) gateways can help secure IP communications through authentication and encryption, but they often hinder network performance. A high-performance NFV environment from Red Hat and 6WINDGate accelerates IP encryption so you can secure your network without slowing it down. Plus, with multi-vendor encryption support, you can choose from a variety of encryption products to meet your security needs.

ENHANCE RESIDENTIAL BROADBAND EXPERIENCE

Virtual broadband remote access servers (vBRAS) and virtual broadband network gateways (vBNG) route network traffic between a service provider's core network and residential broadband devices. This processing-intensive operation can reduce network speeds and negatively impact the end user. An accelerated NFV environment from Red Hat and 6WIND overcomes network bottlenecks so you can deliver a better experience to residential broadband customers.

CONCLUSION

Service providers must operate flexibly and cost-effectively to stay ahead of the competition. An accelerated NFV environment from Red Hat and 6WIND gives you all the advantages of a virtualized infrastructure with the high performance needed to deliver the most network-intensive services and applications effectively. Contact your Red Hat sales representative today to learn how you can improve VNF performance and gain a competitive advantage.

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