RED HAT®
ENTERPRISE LINUX®

DATASHEET

AVAILABILITY ADD-ONS
High Performance Network

RED HAT ENTERPRISE LINUX HIGH PERFORMANCE NETWORK ADD-ON

Improve performance of network clusters and data center storage systems with high network capacity and low network latency for Red Hat Enterprise Linux

High performance computing applications, such as those required for financial transactions, continue to demand faster network transfers between computers in a high performance cluster. Remote Direct Memory Access (RDMA) is a means of transferring data directly over a network from the memory of one computer to the memory of another without involving the operating system kernel or CPU of either computer. This results in very high network throughput and low latency, improving the performance of network clusters and data center storage systems.

Red Hat's High Performance Network Add-On provides RDMA over converged Ethernet (RoCE) for high performance clusters needing high network capacity and low network latency. The RDMA advantage improves performance over traditional networking by providing greater network throughput at reduced CPU load.

RoCE uses existing 10G Ethernet networks so users do not have to build out a totally new network infrastructure, train administrative personnel to manage a new fabric type, or purchase new network management platforms and tools. With RoCE, you receive reliable, low latency networking and full RDMA operations over your well-understood and already managed Ethernet switching network.

The High Performance Network Add-On should be selected when:

- You have a high performance cluster running high speed financial transactions, high performance databases, or high performance cloud computing services
- You are looking for InfiniBand performance but are not willing to incur the installation, training, and maintenance costs of an InfiniBand infrastructure
- You are interested in leveraging existing 10G Ethernet technology to take advantage of future compatibility with 40G and 100G Ethernet

READ ABOUT OTHER ADD-ON OPTIONS AVAILABLE

www.redhat.com/rhel/add-ons/

In conjunction with Red Hat Enterprise Linux, Red Hat offers a portfolio of Add-Ons to extend the features of your Red Hat Enterprise Linux subscription. Add-Ons allow you to tailor your application environment to suit your particular computing requirements. With increased flexibility and choice, you can select the availability, scalability, and management features required by your organization when and where they are needed.

KEY FEATURES

RoCE

In order to further increase the speed and efficiency of your data transfer, the High Performance Network Add-On utilizes RoCE to leverage the existing ethernet infrastructure. This cuts down on numerous unnecessary expensive and saves your company large amounts of bandwidth.

RoCE-capable Networking Cards

An added benefit of the High Performance Network Add-On is that it allows computers to share the same network fabric as RoCE cards. This saves you money by not having to purchase new networking cards for your computers.

COMPATIBILITY OF SERVERS AND RED HAT ENTERPRISE LINUX VERSIONS

The High Performance Network Add-On is fully compatible with other Red Hat Enterprise Linux Add-Ons, including the Load Balancer Add-On (load balancing applications across redundant servers) and the Resilient Storage Add-On (proving the GFS2 Global File System 2). Red Hat reserves the right to exclude additional packages for security reasons.

FEATURE SUMMARIES	
Low Latency, High Capacity Networking	The High Performance Network Add-On provides low latency, high capacity network transport for critical transactions. All existing applications using RDMA verbs can leverage a lower cost infrastructure for low latency workloads, such as message queues, database transactions, and high-frequency trading applications.
Leverage Existing Ethernet Infrastructure	Need copy.
Future Compatibility	Need copy

HIGH PERFORMANCE NETWORK ADD-ON NETWORK REQUIREMENTS

RoCE requires a RoCE-enabled 10G Ethernet host adapter and network switching infrastructure supporting the following protocol standards:

- IEEE 802.10bb PFC Priority-based Flow Control
- IEEE 802.10az ETS Enhanced Transmission Selection
- IEEE 802.10au QCN Congestion Notification

SERVER AND VERSION COMPATIBILITY

Red Hat Enterprise Linux Version	Variants	Releases
Red Hat Enterprise Linux 6	Red Hat Enterprise Linux Server Red Hat Enterprise Linux for HPC Head Node Red Hat Enterprise Linux for HPC Compute Node Red Hat Enterprise Linux for SAP Business Apps	Red Hat Enterprise Linux 6..0 and later

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EXECUTIVE SUMMARY

Red Hat's High Performance Network Add-On enables your most critical applications to be highly available by reducing downtime and ensuring that there is no single point of failure in a cluster. The High Performance Network Add-On also isolates unresponsive applications and nodes so they can't corrupt critical enterprise data. You can read about our additional Add-On offerings by visiting http://www.redhat.com/rhel/add-ons/.

HOW TO ORDER THE HIGH PERFORMANCE NETWORK ADD-ON

The Red Hat Enterprise Linux High Performance Network Add-On is delivered through Red Hat Network, similar to the way regular Red Hat Enterprise Linux content is provided. Customers using the RHN Satellite can make use of Satellite to manage Load-Balancer systems.

To order Red Hat Enterprise Linux High Performance Network Add-On, please contact your local Red Hat Account Representative.

PURCHASING ADD-ON SUPPORT WITH YOUR CURRENT SUBSCRIPTION

The purchase process for Red Hat Add-On products may be materially different than the purchase process for the underlying Red Hat Enterprise Linux subscription. The differences may include both service levels (Standard versus Premium) as well as the channel where they were purchased (OEM partner, VAR or Reseller, directly from Red Hat). These differences may create a mixed support situation for the customer. In such situations, the customer should expect two things: 1) a best effort from their primary support organization to manage their support experience, and 2) that the support organization provide the most appropriate service level to resolve the issue brought forth.

ABOUT RED HAT

Red Hat, the world's leading provider of open source solutions and an S&P 500 company, is headquartered in Raleigh, NC with more than 70 offices spanning the globe. Red Hat provides high-quality, affordable technology with its operating system platform, Red Hat Enterprise Linux, together with cloud, virtualization, management, storage and service-oriented architecture (SOA) solutions, including Red Hat Enterprise Virtualization and JBoss Enterprise Middleware. Red Hat also offers support, training and consulting services to its customers worldwide.

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