

NetEffect NE020 Family Overview

1Gb and 10Gb Accelerated Ethernet Adapters, Blade Adapters, and ASICs

Data center networks are being pushed to their limits. Applications are becoming more complex; multi-processor server architectures are adding connections; cluster and grid configurations are becoming more prevalent; and virtualized server environments are increasing the already heavy loads on networking infrastructures. Helping data centers overcome their most demanding networking challenges, the NetEffect® NE020 family of multi-Gb accelerated Ethernet adapters, blade adapters and ASICs are setting new standards in networking performance, power efficiency, and operational simplicity.

Meeting the needs of all data center networks

Whether 'business-critical' means moving more data faster; handling more transactions, supporting more users or shortening response or wall-clock times, innovative NetEffect adapters give companies the performance they need to react more quickly with better information. With latencies under six µsec, wire-saturating bandwidths, and the industry's highest CPU productivity, NE020 solutions deliver predictable, sustained performance in the dense multiple-connection environments common in multi-core, multi-processor configurations, high-performance computing, and virtualized server implementations. In both 1Gb and 10Gb infrastructures, they achieve time-to-completion equal to or better than InfiniBand.

Lower power, more processing per square foot

NE020 adapters consume less than seven watts, half the power required by other 10Gb products. Conserved watts can be put to more productive use, increasing server or blade rack density (achieving more processing per square foot) or lowering energy costs for operations and cooling.

Simplified deployment and infrastructure

Through a unique single adapter/single firmware design, only one NE020 adapter is needed to support simultaneous connectivity to scale-out (clustering), data, and storage networking. This eliminates the need to purchase and spare three dissimilar interfaces as well as the need for fixed application/resource provisioning to specific servers/blades. A single firmware image supports

Highlights

- > Multi-Gb accelerated Ethernet solutions
 - 1Gb and 10Gb PCIe stand-up adapters
 - 10Gb mezzanine cards for IBM BladeCenter H and HP BladeSystem c-Class
 - 1GbE/10GbE ASIC for high-performance controller, LOM and embedded solutions
- > Ultra-low power consumption
- > One adapter handles simultaneous data, storage, and clustering (scale-out) networking
- > Single firmware image for all media, speeds, protocols, and ports
- > Linux and Windows platforms

Applications

- > Demanding applications in financial services, Oil & Gas, CAD/CAE and other industries
 - market data streaming
 - computational fluid dynamics
 - finite element analysis and simulation
 - reservoir simulation and visualization
- > High-performance database, web servers, research clusters
- > Virtualized server environments
- > Applications reliant on fast network access

NE020 1Gb Adapters

	media	ports	interface	standard memory	host bus	form factor
Twisted pair	T	dual, quad	T	256 MB	PCIe`	PCI low-profile

NE020 10Gb Adapters

Copper	CX4*	single, dual	CX4	256 MB	PCIe	PCI low-profile
	direct attached	single, dual	SFP+	256 MB	PCIe	PCI low-profile
Optical	SR, LR	single	XFP, SFP+	256 MB	PCIe	PCI low-profile
	SR, LR	dual	SFP+	256 MB	PCIe	PCI low-profile

NE020 10Gb Mezzanine Cards

IBM BladeCenter H / NE020BCH	KX4 native	dual	KX4	256 MB	PCIe	CFFh
HP BladeSystem c-Class / NE020BSC	KX4 native	dual	KX4	256 MB	PCIe	Type I

* CX4 and Powered CX4

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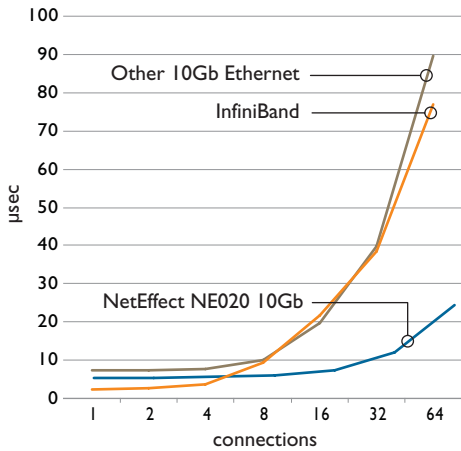
all protocols, speeds, media and ports, dramatically simplifying deployment and reducing ongoing maintenance. Applications using the broad range of NE020-supported industry-standard APIs require no modification or recompilation. The performance benefits of lower latency and higher bandwidth are realized instantly.

Fully accelerated performance by design

NE020 adapters leverage an elegant Virtual Pipeline Architecture to implement all the IETF-approved iWARP extensions to TCP/IP. Every adapter integrates a TCP/IP offload engine (TOE), RDMA over Ethernet, and user level direct access features that work together to improve both performance and overall power efficiency.

The economies of Ethernet ubiquity

By giving data centers a way to standardize on Ethernet, NE020 adapters eliminate the need to deploy multiple, disparate interconnect technologies and separate management tools and personnel to support them. Leveraging existing Ethernet economies, expertise and tools reduces operational and capital equipment costs.



NE020 10Gb adapters sustain ultra-low latency in multi-node configurations when compared to InfiniBand and a competitive 10GbE adapter. Source: OSU

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1 GbE
adapters



NE020 / 1000BASE-T
Dual or quad port
PCIe low-profile form factor

10GbE
adapters &
mezzanine
cards



NE020 / CX4
Single or dual port
PCIe low-profile form factor



NE020 / SFP+
SR or LR optical media
Single or dual port
PCIe low-profile form factor



NE020BCH / KX4
Dual port
CFFh form factor



NE020BSC / KX4
Dual port
Type I form factor

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