



QLogic:

The Intelligent
Adapter Choice



Outperform.

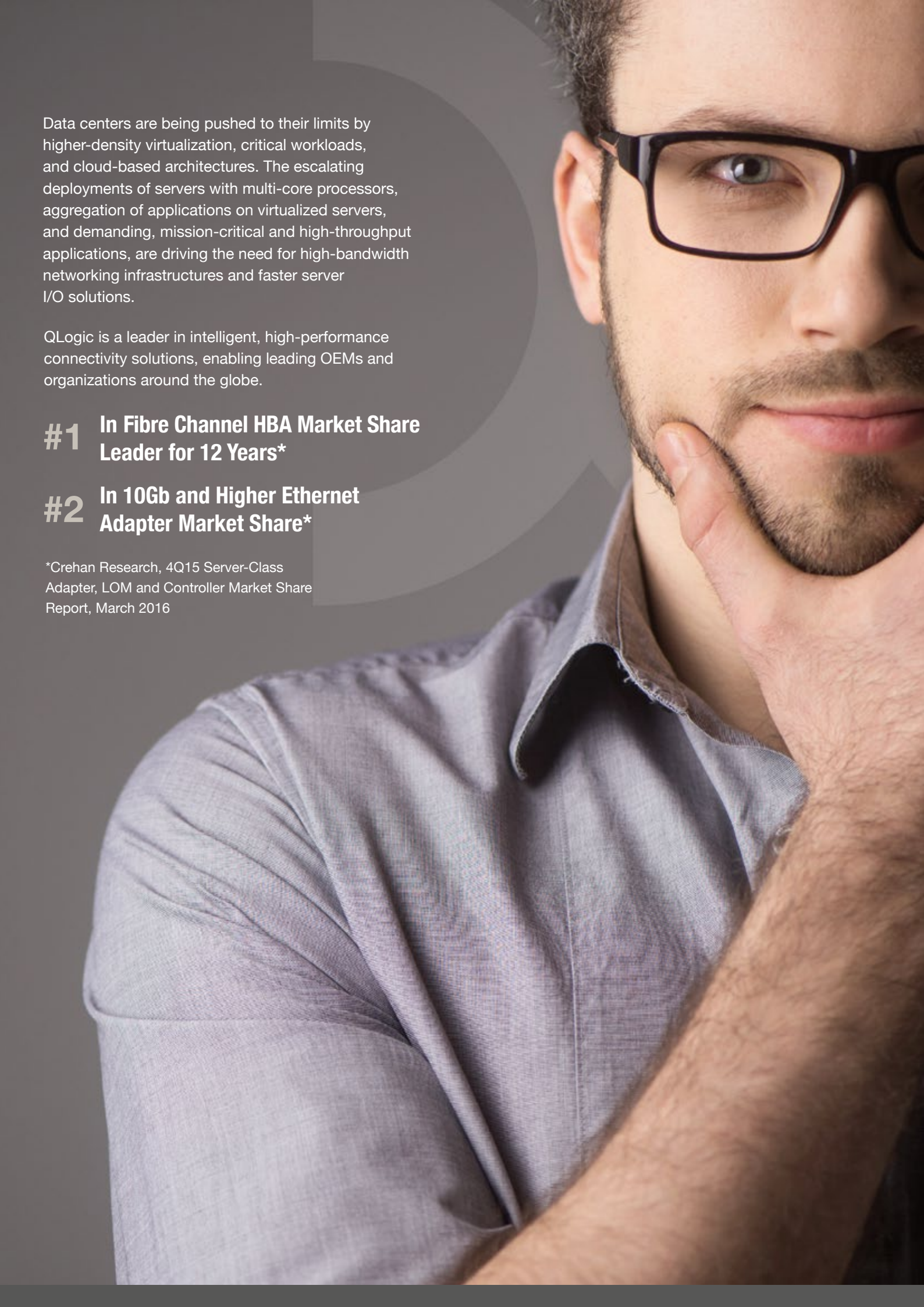


Outsmart.



Outlast.

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Data centers are being pushed to their limits by higher-density virtualization, critical workloads, and cloud-based architectures. The escalating deployments of servers with multi-core processors, aggregation of applications on virtualized servers, and demanding, mission-critical and high-throughput applications, are driving the need for high-bandwidth networking infrastructures and faster server I/O solutions.

QLogic is a leader in intelligent, high-performance connectivity solutions, enabling leading OEMs and organizations around the globe.

#1 In Fibre Channel HBA Market Share Leader for 12 Years*

#2 In 10Gb and Higher Ethernet Adapter Market Share*

*Crehan Research, 4Q15 Server-Class Adapter, LOM and Controller Market Share Report, March 2016

Building your network around QLogic Ethernet and Fibre Channel intelligent, high performance adapters lets you:



Outperform.

Increasing the speed of business

- QLogic adapters offload more network processing, freeing up more CPU cycles, increasing server efficiency and lowering CAPEX.
- QLogic delivers a new way to increase performance in a virtualized world, through tighter integration with virtualized operating environments.
- QLogic leads the industry with functionality that improves performance with hypervisors, databases, network function virtualization, software-defined networking and the cloud.



Outsmart.

Improving agility and competitiveness

- QLogic QConvergeConsole™ (QCC) lets you deploy, diagnose and manage all your adapters from anywhere in the network, improving staff efficiency. Manageability is enhanced with plug-ins for VMware® vCenter™ and OpenStack®.
- QLogic StorFusion™ provides integration with Brocade® management to further speed up deployment, diagnostics and improved quality of service.



Outlast.

Infusing long-term value into the infrastructure

- QLogic intelligent, high-performance connectivity solutions are programmable and configurable so that they can be easily upgraded to take advantage of new standards, software and optimizations.
- QLogic adapters ensure unlimited bandwidth for future growth with 10GbE / 25GbE / 40GbE / 50GbE / 100GbE networking and commitment to evolving generations of Fibre Channel (FC).

The Intelligent **Ethernet** Adapter Choice

Outperform

High Performance

- Optimized host and VM performance with up to 100Gbps line rate performance.
- Accelerated network function virtualization applications with support for NFV in telco environments.
- Low latency and high throughput with multi-protocol RDMA.

Outsmart

Flexibility and Compatibility

- Better slot utilization and deployment flexibility with NPAR.
- QoS guarantees for critical business applications with 100% control over VMware® vMotion®.
- Industry-leading compatibility with Ethernet switching solutions.

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Highly Scalable and Adaptable

- Expanded vLANS from 4096 to 16 million with network virtualization features.
- Enterprise-class data center scalability using overlay networks to carry VM traffic over a logical tunnel.

CPU Efficiency

- Improved host CPU efficiency with support for network virtualization tunneling offloads (VXLAN, NVGRE and GENEVE).
- Increased VM application performance with server virtualization features (SR-IOV)
- High performance network storage with full protocol offloads for iSCSI, iSER and FCoE.

Increased Productivity

- Simplified deployment, troubleshooting and lifecycle management using the QLogic QCC® GUI, QLogic Control Suite™ CLI and vCenter Plug-in.
- Accelerated OpenStack deployment with Mirantis Fuel integration and OpenStack network visibility with the QCC utility.

Investment Protection

- Unlimited bandwidth for future growth with 10 / 25 / 40 / 50 / 100GbE networking.
- Support for more storage protocols as network infrastructure evolves.
- Powerful scale-out storage systems with multiple RDMA support (RoCE, RoCEv2, iWARP and iSER).
- Easier upgrades to 10GbE switch connectivity with 10GBASE-T support and backward compatibility to 1GbE networks.

QLogic Intelligent Ethernet Adapters	FastLinQ QLE3400 Series	FastLinQ QLE8400 Series	FastLinQ QL45000 Series
Ethernet Speed Support	10GbE	10GbE	10GbE, 25GbE, 40GbE, 50GbE, 100GbE
Server Virtualization	NPAR, SR-IOV (concurrently)	NPAR, SR-IOV (concurrently)	NPAR, SR-IOV (concurrently)
Layer 2 Network Virtualization / Overlay Networks (Tunneling) Offloads	VXLAN, NVGRE, GENEVE	VXLAN, NVGRE, GENEVE	VXLAN, NVGRE, GENEVE
Network Storage Offloads	✗	iSCSI, FCoE	iSCSI*, FCoE*, iSER
Low Latency Protocols	✗	✗	RoCE, RoCEv2, iWARP*
Applications / Workloads	Moderate to heavy I/O	Moderate to heavy I/O	Heavy I/O
Remote Multi-adapter Management	✓	✓	✓
OpenStack Aware Management	✓	✓	✓
PCIe 3.0	✓	✓	✓

*Note: All advertised features are enabled in the hardware.

Actual feature availability is dependent on software driver releases. See the release notes.

The Intelligent **Fibre Channel** Adapter Choice

Outperform

High Performance

- Improved performance of database applications connected to AFAs with 32GFC.
- Higher per-port performance with up to 2.6 million total IOPS for high-density virtualized environments.

CPU Efficiency

- Unmatched native FC performance with extremely low CPU usage and full hardware offloads.
- Support for more users and larger applications by offloading protocol processing from host CPU.

Outsmart

Flexibility and Reliability

- Unparalleled stability and 100% predictable performance with port isolation design.
- Increased reliability and resiliency for critical workloads with FEC, BB_CR and CS_CTL-based QoS.

Increased Productivity

- Simplified deployment, troubleshooting and lifecycle management using the QLogic QCC GUI, QLogic Control Suite™ CLI and vCenter Plug-In.
- Smarter SAN management with QLogic StorFusion and Brocade fabric integration.

Outlast

Highly Scalable and Adaptable

- Increased network scalability with NPIV support.
- Improved VM density with support for up to 255 vPorts.

Investment Protection

- Complete investment protection for legacy FC with three generations of interoperability.
- Field-upgradeability to add features and support new software releases.

QLogic Fibre Channel Adapters	QLE2500 Series of 8Gb FC HBAs	QLE2690 Series of Enhanced Gen 5 (16Gb) FC HBAs	QLE2700 Series of Gen 6 (32Gb) FC HBAs
FC Speeds Negotiated	8Gb, 4Gb, and 2Gb	16Gb, 8Gb, and 4Gb*	32Gb, 16Gb, and 8Gb
Server Class	Single socket 4-6 cores per socket	Dual socket 6-12 cores per socket	Dual or quad socket 8-16 cores per socket
I/O Bus	PCIe 2.0 x4 or x8	PCIe 3.0 x8 or x16**	PCIe 3.0 x8 or x16**
Virtualization Density	6-10 VMs per server	8-20 VMs per server	15-40+ VMs per server
Performance	200K IOPS per port (800MBps throughput per port)	650K IOPS per port (1600MBps throughput per port)	650K IOPS per port (3000MBps throughput per port)
Applications/ Workloads	Low to moderate I/O: <ul style="list-style-type: none"> Transactional/SMB Price-sensitive Legacy SANS 4GFC targets Non-virtualized or low VM density Workloads: email, file and print 	Moderate to heavy I/O: <ul style="list-style-type: none"> Enterprise customer Critical performance needs Hybrid flash arrays Backup/recovery/archive customers with shrinking recovery time objective limits Medium VM density Workloads: database, CRM 	Heavy I/O: <ul style="list-style-type: none"> Enterprise customer Critical performance needs All-flash arrays Backup/recovery/archive customers with shrinking recovery time objective limits High VM density Workloads: database, CRM
Business Criticality	Enterprise (port isolation, T10-PI)	Enterprise (port isolation, T10-PI, StorFusion, FEC)	Mission-critical (port isolation, T10-PI, StorFusion, FEC)
Management	QCC, QCC plug-in for vCenter	QCC, QCC plug-in for vCenter, StorFusion	QCC, QCC plug-in for vCenter, StorFusion
Storage Array	Hard disk drive	Hybrid/AFA	AFA
SAN Fabric	Brocade 800, Cisco® MDS 9000 QLogic 3000, QLogic 5000	Brocade 6510, Brocade 6520, Cisco MDS 9000	Brocade G620, Cisco MDS 9000

* The QLE2694U does not support 4GFC.

** QLE2764 is a quad-port Gen 6 (32Gb) FC PCIe 3.0 x16 HBA; QLE2694U is a quad-port Gen 6-ready PCIe 3.0 x16 HBA



For more information visit:

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