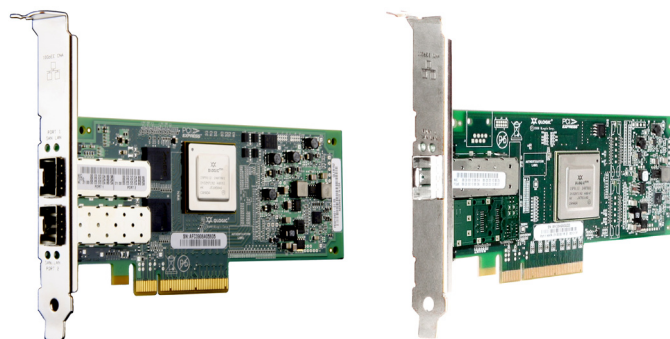


# 8100 Series

## 10Gbps Ethernet-to-PCIe Converged Network Adapters

### Overview

The 8100 Series adapters represent QLogic's second generation of Converged Network Adapters, supporting simultaneous LAN (TCP/IP) and SAN (Fibre Channel over Ethernet (FCoE) and iSCSI) traffic at 10Gbps Ethernet speed. This convergence of networking traffic lowers data center costs by eliminating the need for separate LAN and SAN infrastructure. Data centers now need fewer adapters, cables, and switches, which also means reduced power and cooling costs. In addition, the adapters are fully compatible with existing Fibre Channel and iSCSI storage, providing investment protection for existing infrastructure.



## Highlights

- Dual-port 10Gbps throughput for moving large amounts of data and eliminating server I/O bottlenecks
- Full hardware offload for FCoE, resulting in faster application performance and denser server virtualization
- iSCSI support using software initiators integrated into the operating system (OS)
- Stateless offloads for TCP/IP traffic, resulting in faster networking performance
- Converged LAN and SAN traffic for reduced data center capital and operating expenses
- Compatible with existing Fibre Channel and iSCSI storage infrastructure
- Battle-hardened QLogic Fibre Channel driver stacks ensure the highest level of SAN reliability and uptime
- Unified management utility for LAN and SAN administration that is compatible with QLogic's Ethernet, Fibre Channel, and iSCSI Adapters

**8100 Series.** The 8100 Series of Converged Network Adapters support simultaneous LAN (TCP/IP) and SAN (FCoE and iSCSI) traffic at 10Gbps Ethernet speed.

**FCoE Hardware Offload.** The adapters support full hardware offload for FCoE protocol processing. QLogic's FlexOffload™ features free up the server CPU to perform other tasks. Consequently, server applications can run faster and virtualized servers can support more virtual machines (VMs). Very few adapters in today's market truly support full hardware offload; most rely on the server CPU for FCoE protocol processing.

**iSCSI.** The 8100 Series adapters also support iSCSI storage protocol using iSCSI software initiators that are available with all major operating systems.

**Convergence.** The adapters reduce data center costs by converging data and storage networking. This convergence reduces the number of adapters, cables, and switches that need to be purchased. In addition, convergence offers lower power consumption, reduced cooling, and easier LAN and SAN management.

**Common Drivers.** The 8100 Series adapters are compatible with the same Fibre Channel software driver stacks that have been deployed and battle-hardened in millions of previous installations. These drivers are common across QLogic's lineup of Fibre Channel Adapters, simplifying revision management in heterogeneous environments.

**Management.** Networking, FCoE, and iSCSI management is easy with QLogic's new, unified management application, QConvergeConsole™ (QCC). QCC provides single-pane-of-glass management for QLogic's broad product line of storage and networking adapters. The 8100 Series also has API support so that it can be managed by other popular third-party management tools, including native OS management tools for networking.

**Low Power.** The 8100 Series adapters are designed to consume minimal amounts of power and generate little heat. This feature results in lowered operational expenses for electricity and cooling. Because the adapters generate an insignificant amount of heat, they can operate in low airflow conditions, which increases server uptime and improves reliability, availability, and serviceability (RAS).

**Diskless Boot.** The adapters support booting the server from remote storage over both the LAN and SAN. As a result, data centers can deploy thinner servers, centralize OS image management, increase system availability, and simplify image redeployment.

**Enhanced Ethernet.** Numerous additions to the Ethernet standard enable it to transport lossless, converged LAN and SAN traffic. The adapters support these new Ethernet standards, including 802.1Qbb (Priority-based Flow Control) and 802.1Qaz (Enhanced Transmission Selection/DCBX).

**Unmatched Expertise.** QLogic has an unparalleled advantage in delivering Converged Network Adapter technology. QLogic is the undisputed leader in both Fibre Channel and iSCSI Adapters, and has years of experience providing Fibre Channel and Ethernet-based products.

## Host Bus Interface Specifications

### Bus Interface

- PCI Express® Gen1 x8 or PCI Express Gen2 x4

### Host Interrupts

- INTx, MSI, and MSI-X

### Compliance

- *PCI Express Base Specification, rev. 2.0, PCI Express Card Electromechanical Specification, rev. 2.0, PCI Bus Power Management Interface Specification, rev. 1.2*

## Ethernet Specifications

### Ethernet Frame

- 1500 byte or 9000 byte (jumbo frame)

### Stateless Offload

- IP, TCP, and UDP checksum offloads
- Large sent offload (LSO)
- Receive side scaling (RSS)
- Header-data split
- VMware® NetQueue

### Compliance

- *IEEE: 802.3ae (10Gb Ethernet), 802.1q (VLAN), 802.3ad<sup>1</sup> (Link Aggregation), 802.1p (Priority Encoding), 802.3x (Flow Control), IPv4 Specification (RFC 791), IPv6 Specification (RFC 2460), 802.1Qbb (Priority-based Flow Control), 802.1Qaz (DCBX/Enhanced Transmission Selection)*

## FCoE Specifications

### Logins

- Support for 2048 concurrent logins and 2048 active exchanges

### Port Virtualization

- N\_port ID virtualization (NPV)

### Compliance

- *SCSI-3 Fibre Channel Protocol (SCSI-FCP), Fibre Channel Tape (FC-TAPE) profile, SCSI Fibre Channel Protocol-2 (FCP-2), Second Generation FC Generic Services (FC-GS-2), Third Generation FC Generic Services (FC-GS-3), FCoE and FIP (FC-BB-5)*

## Tools and Utilities

### Management Tools and Device Utilities

- QConvergeConsole: a unified management tool (GUI and CLI) for Fibre Channel/FCoE, iSCSI, and networking
- Native OS management tools for networking

### Boot Support

- PXE and FCoE boot

### APIs

- SNIA HBA API V2 and SMI-S

### Operating Systems

- Microsoft® Windows Server®, Red Hat Linux®, Novell® SLES, VMware® ESX®/ESXi, Oracle® Solaris®, Citrix® XenServer®

## Physical Specifications

### Ports

- QLE8140 and QLE8150: single 10Gbps Ethernet
- QLE8142 and QLE8152: dual 10Gbps Ethernet

### Form Factor

- Low profile PCI Express card: (6.6in. × 2.54in.)
- Custom form factors also available

## Environment and Equipment Specifications

### Airflow

- 100 LFM

### Temperature

- Operating: 0°C/32°F to 55°C/131°F
- Storage: -20°C/-4°F to 70°C/158°F

### Humidity

- Relative (non-condensing): 10% to 90%
- Storage: 5% to 95%

### Power Dissipation

- QLE8142-SR: 7.4W (typical)
- QLE8152-CU: 9.7W (typical)

### Maximum Cable Distances (optical)

- QLE814x-SR: 300m, OM3 multi-mode fibre

## Agency Approvals

### Safety

- US, Canada, Europe

### EMI and EMC (Class A)

- US, Canada, Europe, Australia/New Zealand, Japan, Korea, Taiwan

## Ordering Information

### QLE8140-SR-CK (single port)

### QLE8142-SR-CK (dual port)

- Ships with SR optical transceivers installed

### QLE8150-CU-CK (single port)

### QLE8152-CU-CK (dual port)

- Ships without transceivers. Intended for use with copper cables (not included). A list of approved copper cables is posted at [http://www.qlogic.com/Products/CU\\_Cables.aspx](http://www.qlogic.com/Products/CU_Cables.aspx)

<sup>1</sup> Contact your QLogic sales representative regarding supported configurations



**Corporate Headquarters** QLogic Corporation 26650 Aliso Viejo Parkway Aliso Viejo, CA 92656 949-389-6000 [www.qlogic.com](http://www.qlogic.com)  
**International Offices** UK | Ireland | Germany | France | India | Japan | China | Hong Kong | Singapore | Taiwan

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