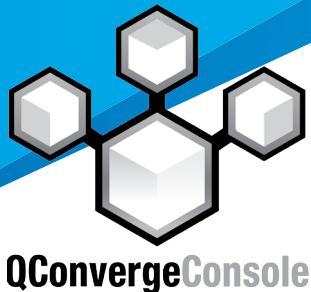


Unified Adapter Management Across the Data Center

QLogic QConvergeConsole from Cavium Simplifies
and Accelerates Deployment and Management
in Windows and Linux



- The QLogic® QConvergeConsole® (QCC) management tool from Cavium™ maximizes application performance and availability.
- Administrators can manage the entire QLogic portfolio using one tool, which provides a single-pane-of-glass view for management of Fibre Channel, FCoE, iSCSI, Universal RDMA (RoCEv1/RoCEv2/iWARP), and IP functions.
- The QCC GUI allows for centralized management and configuration of multiple QLogic adapters within the entire network (LAN and SAN).
- Using the QCC CLI increases productivity by automating manual tasks.¹



EXECUTIVE SUMMARY

IT managers face several ever-growing challenges to manage the data center, including: virtualization; power consumption; reliability, availability, and serviceability (RAS); security; and manageability. One method of addressing these concerns is to implement unified management across the data center, which improves efficiency and saves costs. When taking this approach, it is imperative to select a management solution that is easy to deploy and offers single-pane-of-glass, intelligent, and automated operations management.

Cavium's QLogic QConvergeConsole® (QCC) delivers a broad set of powerful Ethernet and Fibre Channel adapter management features for administrators to maximize application performance and availability. Available in both GUI and CLI options, QCC offers application-based wizards to enable the environment to be quickly and easily provisioned based on published best practices.

The QCC delivers a unified, Web-based, single-pane-of-glass management console across the broad product line of storage, networking, and caching adapters from Cavium.

KEY ADVANTAGES

Exceed Service Level Agreements

The QCC delivers seamless, unified management of multiple LAN and SAN fabrics across the data center, enabling IT administrators to optimize the performance and availability of data and network resources.

Reduce Administration Time

Offering a wizard-driven approach to adapter management, QCC saves time by automating repetitive tasks and providing automatic e-mail notifications on the status of various SAN and LAN components. In addition, a breadth of customized asset management options are also available.

Comply with Data Center Security Policies

QCC allows flexible definitions of administrator roles and responsibilities, providing LAN and SAN administrators with access to the components they own and manage.

¹ The QCC CLI does not support the QLE344x/QLE844x(578xx)/QL41xxx/QL45xxx adapters, which you can manage using the QLogic Control Suite (QCS) CLI utility or QCC PowerKit.

INTRODUCTION TO QLOGIC MANAGEMENT TOOLS

Cavium offers a robust set of QLogic management tools to help organizations simplify management and improve efficiency while reducing costs. Available for a wide range of operating systems and server platforms, QCC is capable of managing all generations and types of QLogic adapters from Cavium. The following tools simplify every step of the QLogic adapter life cycle: deployment, monitoring, troubleshooting, and firmware upgrades.

- **QCC GUI** – A comprehensive, Web-based client and server GUI that allows for centralized management and configuration of multiple QLogic Gen 5/Gen 6 Ready Fibre Channel, FastLinQ Converged Network and Ethernet Adapters across the data center.
- **QCC CLI** – A lightweight, agentless CLI interface for generations of QLogic Fibre Channel, Converged Network, and Ethernet Adapters¹. Available for Windows®, Linux®, and Solaris® environments, the CLI includes both a menu-driven interface for quick operations and a scriptable interface for extensive scripting and integration tasks.
- **SuperInstaller** – Single package to install all required software components for generations of QLogic Fibre Channel, Converged Network, RDMA, and Ethernet Adapters. Available for Windows and Linux environments, the SuperInstaller (SI) package includes all drivers as well as the QCC CLI and QCC GUI management agents.

QCC GUI

The QCC GUI unified adapter management tool can be deployed on a management workstation or virtual machine (VM). It communicates with management agents residing on servers with FastLinQ and QLogic adapters over a secure channel via HTTPS. Access to QCC is available via any of the supported browsers by pointing the browser to the IP address of the management workstation or VM where QCC is installed. The management agents can be installed on servers with QLogic adapters using SI in Windows and Linux environments.



Figure 1. Key Features of the QCC GUI

Web-based Unified Adapter Management

Using a browser-based, intuitive, and easy-to-use interface, the QCC GUI provides a single-pane-of-glass management interface that enables IT organizations to manage generations of QLogic adapters from Cavium. As a result, QCC optimizes technology investments and significantly reduces the overall administrative burden.

Web-based Unified Adapter Management	GUI
Single Tool to Manage ALL QLogic Adapters from Cavium	✓
Heterogeneous and Data Center-Wide Single-Pane-of-Glass Management	✓
Manage Fibre Channel, FCoE, iSCSI, RDMA, and NIC Functions	✓

Wizard-based Approach

The QCC GUI limits decision making and errors by integrating best practices into a wizard-driven approach to most common management functions relating to QLogic adapters from Cavium. Intuitive wizards provide IT administrators with an extensive set of features that enable them to perform key administrative tasks, which could normally take hours to be completed, in less than a few minutes.

Wizard-based Management	GUI
Data Center-wide Firmware Updates	✓
Driver Update Wizards	✓
Driver Parameters Update Wizard	✓
Management Agent Update Wizard	✓
Protected Operations Password Update Wizard	✓

1. The QLE344x/QLE844x(578xx)/QL41xxx/QL45xxx do not use the QCC CLI but instead use the QCS CLI utility and QCC PowerKit.

Role-based Access Control

All critical and disruptive operations that can be performed using the QCC GUI are protected from unauthorized access and erroneous use by using role-based authentication that allows for separate access for SAN and LAN administrators. This approach allows organizations to converge their LAN and SAN infrastructure without changing their organizational structure.

Role-based Access Control	GUI
Password Protected Operations	✓
Segregated Access for LAN and SAN Administrators	✓
Password Update Wizards to Comply with Security Policies	✓

Enterprise-class Management Features – Diagnostics, Inventory, and Call Home

The QCC GUI provides a rich set of features designed for the business needs and SLAs of an enterprise-class deployment. A wide range of proactive and user-initiated diagnostics help detect potential issues in the SAN and LAN before they can affect the enterprise applications that depend on Cavium’s QLogic adapters. This simplifies inventory management of several hundred of these adapters with a wide range of inventory gathering techniques and built-in reports. Administrators can easily configure e-mail alerts for various critical, error, or informational messages to help them quickly resolve problems.

Enterprise-class Management	GUI
Integrated Diagnostics	✓
Inventory Reports	✓
E-mail Alerts	✓
Web-Based Application Updates	✓

QCC CLI

QCC CLI provides a lightweight, text-based interface for managing generations of QLogic adapters from Cavium. Restricted to local mode adapter management for enhanced security, the QCC CLI provides both interactive modes for IT administrators who are unfamiliar with the syntax and a scriptable mode with a rich set of commands and options for scripting. QCC CLI is available for Windows, Linux, and Solaris environments and is available as a standalone package for installation, or it can be installed as part of the SI.

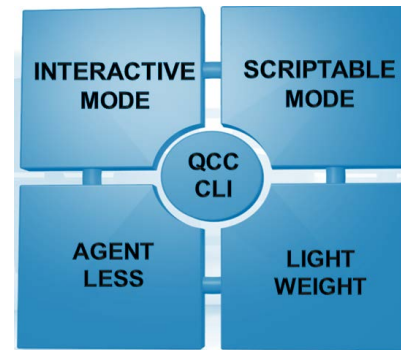


Figure 2. Key Features of the QCC CLI

SUPERINSTALLER

SuperInstaller (SI) is an alternative and highly efficient way to deploy all the required and optional adapter software components. SI is available for supported Windows and Linux platforms and contains all the latest and interoperable software components for generations of QLogic adapters from Cavium. Administrators can deploy SI using either an interactive, menu-driven interface or a scriptable silent installation to install the following components:

- Fibre Channel, FCoE, iSCSI, and Ethernet Networking (NDIS) drivers for QLogic adapters
- VLAN and teaming driver for QLogic 10GbE adapters
- QCC CLI management utility
- Fibre Channel, FCoE, iSCSI, RDMA, and networking management agents to enable remote access using the QCC GUI management utility. Using SI significantly reduces deployment time and enables IT administrators to rapidly deploy their IT infrastructure and save costs.



Figure 3. Components of SuperInstaller (SI)

1. The QLogic Advanced Server Program (QLASP) VLAN Teaming and NIC Teaming driver is for Windows OS's only. QLASP is not available on Windows Server 2016 and later.

CAVIUM ADVANTAGE

While other adapter vendors also offer management tools to monitor and manage their adapters, these tools often lack the ease of use, maturity, and feature set required for the enterprise data center. The QCC leverages decades of experience to understand the IT administrator’s management and monitoring needs and provides them with a seamless, single-pane-of-glass management tool for all QLogic adapters from Cavium.

Adapter Management Features	QCC	Emulex® OneCommand®
Unified LAN and SAN Adapter Management	✓	✓
Fully Featured Ethernet Adapter Management	✓	✗
Menu-Driven CLI	✓	✗
Single-pane-of-glass Management of Physical and Virtual SAN Functions	✓	✗
Physical and Logical Topology Maps	✓	✗

CONCLUSION

Cavium offers a robust management solution to help organizations simplify management and improve efficiency while reducing costs. The management solutions, under the umbrella of QCC, are designed to simplify storage, Ethernet, and converged networking environments. They offer cross-functionality views and support for QLogic Fibre Channel Adapters, Converged Network Adapters, and Intelligent Ethernet Adapters from Cavium. The QCC enables IT departments to standardize on one tool to manage all data, storage, and converged infrastructure.

Related Video: [QLogic KnowHow: QConvergeConsole GUI: Getting Started](#)



Click on the Image to Watch a YouTube Video

ABOUT CAVIUM

Cavium, Inc. (NASDAQ: CAVM), offers a broad portfolio of infrastructure solutions for compute, security, storage, switching, connectivity and baseband processing. Cavium’s highly integrated multi-core SoC products deliver software compatible solutions across low to high performance points enabling secure and intelligent functionality in Enterprise, Data Center and Service Provider Equipment. Cavium processors and solutions are supported by an extensive ecosystem of operating systems, tools, application stacks, hardware reference designs and other products. Cavium is headquartered in San Jose, CA with design centers in California, Massachusetts, India, Israel, China and Taiwan.



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