MARVELL

White Paper

Visualize I/O Connectivity for VMware vSphere

Marvell® QConvergeConsole® Plug-in for VMware® vCenter® simplifies and accelerates deployment and management.

December 2020

Key Benefits

- The QLogic® and FastLinQ® adapter portfolio from Marvell® integrates management into VMware® vCenter® with the QConvergeConsole® (QCC) Plug-in for VMware vCenter.
- The QCC Plug-in is a set of software components delivered through industry-standard CIM providers that allows for the remote management of QLogic and FastLinQ adapters from Marvell via VMware vCenter. Administrators can centrally manage these adapters from a singlepane-of-glass.
- It provides an end-to-end visual representation of network and storage connectivity—from the physical adapter to the virtual machine (VM) for insight into storage and network infrastructure, saving hours of administration time.
- Managing VMware vSphere® servers using the QCC Plug-in and vSphere Web Client enables multi-protocol and multi-fabric management of QLogic and FastLinQ adapters from Marvell, resulting in lower deployment times, faster troubleshooting, and reduced total cost of ownership.

Marvell QConvergeConsole Plug-in for VMware vCenter

Marvell offers a robust set of management tools to help organizations simplify management and improve efficiency while reducing costs under the umbrella of the QCC from Marvell. The QCC Plug-in and Web Client for VMware vCenter provides a rich set of features that include not only full adapter management but key storage and network visualization maps that significantly enhance the overall value of the QLogic and FastLinQ adapters from Marvell. In VMware virtualized environments, the QCC Plugin significantly improves business processes, agility, deployment opportunities, and methods for troubleshooting.

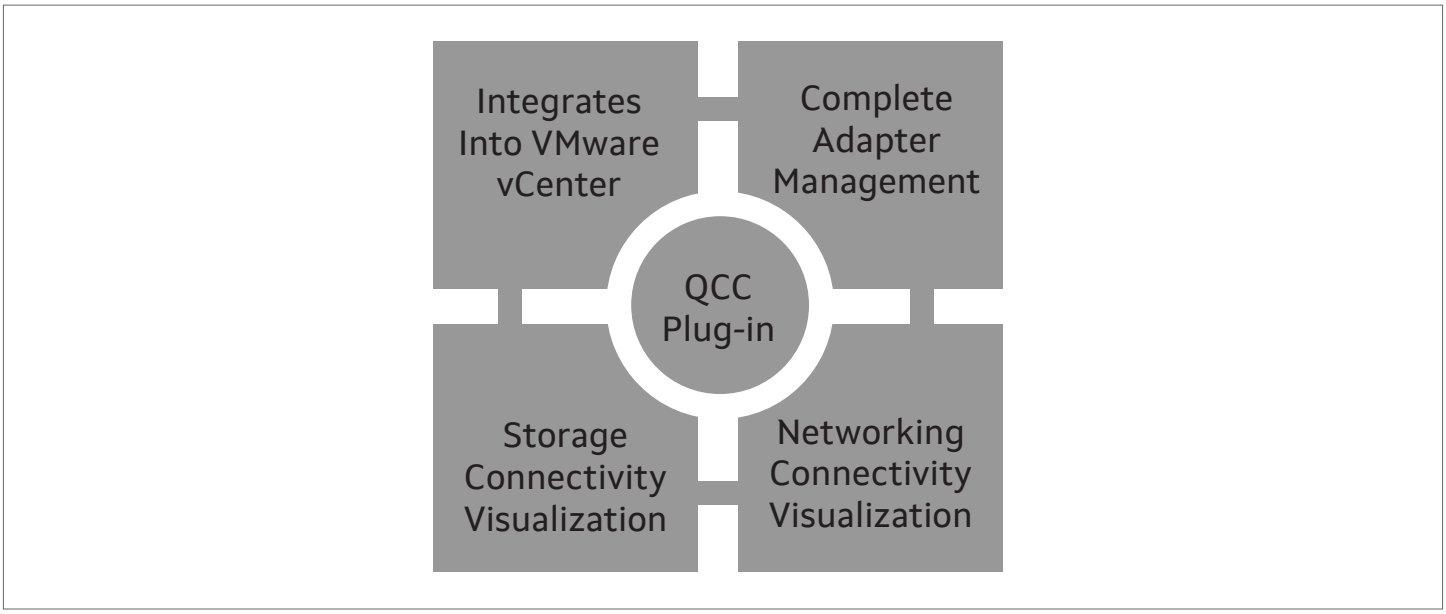


Figure 1. Key Features of the QConvergeConsole Plug-in and Web Client for VMware vCenter

Integrates into VMware vCenter

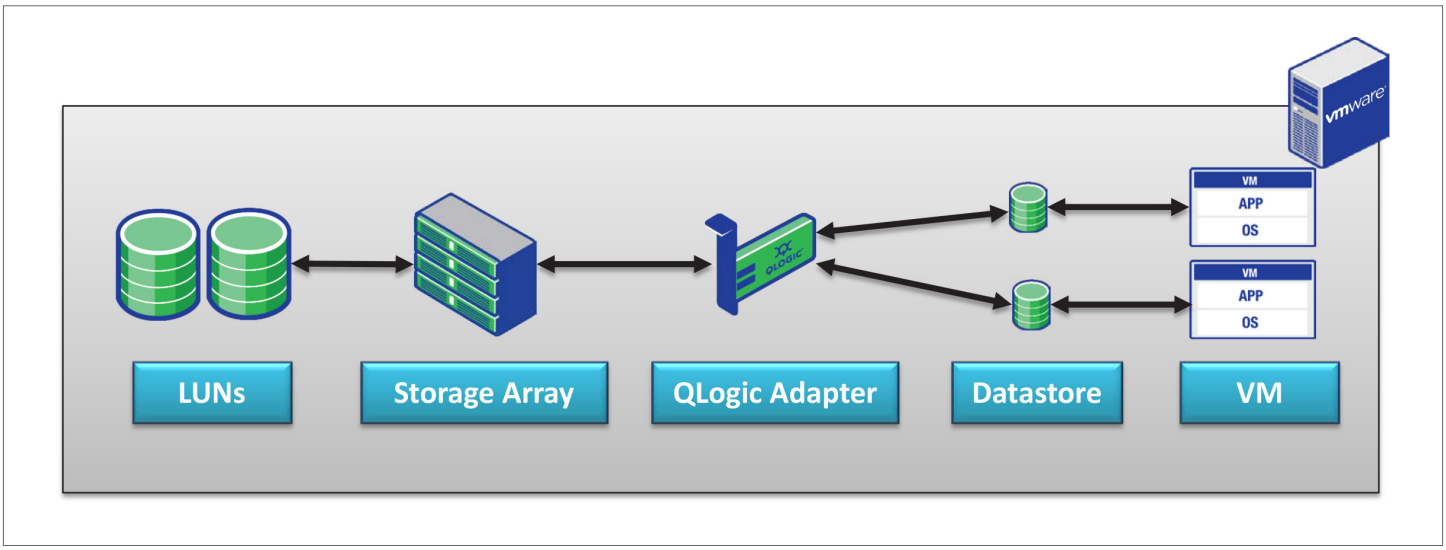
The QCC Plug-in is a set of software components delivered through industry-standard CIM providers that allows for the remote management of Marvell adapters via VMware vCenter. This capability enables administrators to centrally manage these adapters from a single-pane-of-glass view, provided by the VMware vCenter console.

Integrates into VMware vCenter	QCC Plug-in
Manage Marvell Adapters from within VMware vCenter	✓
Heterogeneous and Data Center-Wide Single-Pane-of-Glass Management	✓
Configure FC, FCoE, iSCSI, and Ethernet functions	✓

The vSphere® Web Client Plug-in configures QLogic Enhanced 32GFC/16GFC and 32GFC (Fibre Channel) Adapters from Marvell along with FastLinQ® Intelligent Ethernet and Converged Network Adapters by using a browser within a VMware vSphere environment. 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 Marvell adapters in Windows and Linux environments.

This plug-in is part of the QCC suite of management tools from Marvell, that include the QCC Web-based GUI and CLI, which are used in operating system environments other than vSphere, such as Windows and Linux. The plug-in provides an interactive GUI that is similar to the QCC Web-based tool.

Integrates into VMware vCenter	vSphere Web Client Plug-in
Management for FC, FCoE, iSCSI, and Ethernet Adapters	✓
Storage and Network Maps with End-to-end View	✓
Dynamic Management of FastLinQ NIC Partitioning (NPAR) for Supported Adapters, Including the Ability to Modify Partition and Function Type	✓
Querying and Modifying Driver Parameters for All Supported Protocols	✓
Viewing and Managing Initiators, Targets, and LUNs for FC, FCoE, and iSCSI Ports	✓
Querying Statistics, Running Diagnostics, and Obtaining Transceiver Information	✓



Storage Connectivity Visualization with QConvergeConsole

Figure 2. QConvergeConsole Plug-in Storage Connectivity Maps

Storage Connectivity Visualization

The QCC plug-in delivers advanced technology to improve and enhance the user experience. The QCC plug-in can instantly display how data stores are related to VMs as well as which storage targets and LUNs the data stores reside on. QCC gives administrators an instantaneous view of all those relationships along with a mouse-over feature they can use to view key configuration information for each of the hardware components throughout the fabrics. So regardless of the VM mobility situation, administrators can always see where resources are allocated.

Storage Connectivity Visualization	QCC Plug-in
End-to-end Visual Representation	✓
Health Status Using Color Coding	✓
Mouse Overs Provide Key Device Attributes	✓

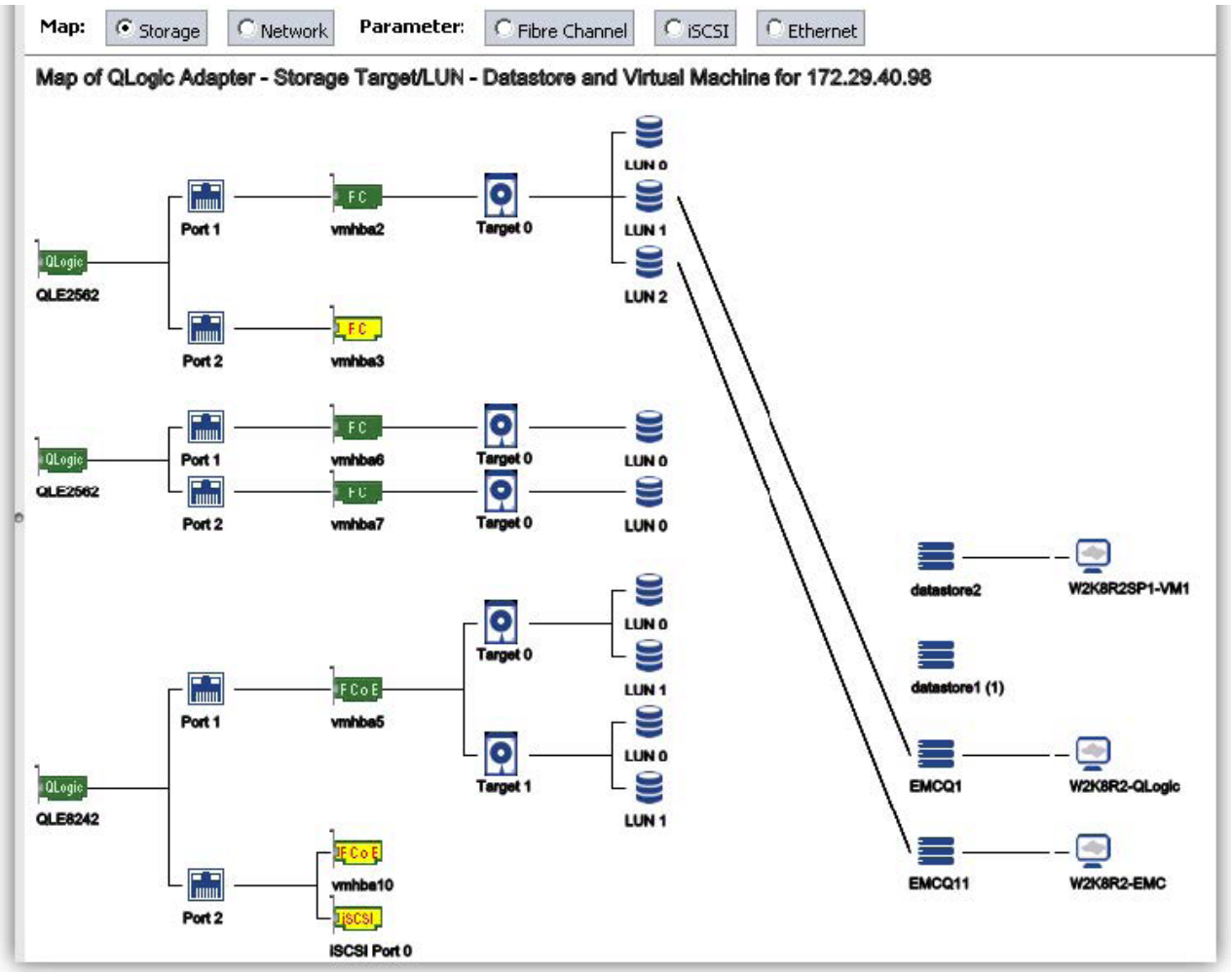


Figure 3. QConvergeConsole Plug-in Storage Connectivity Maps

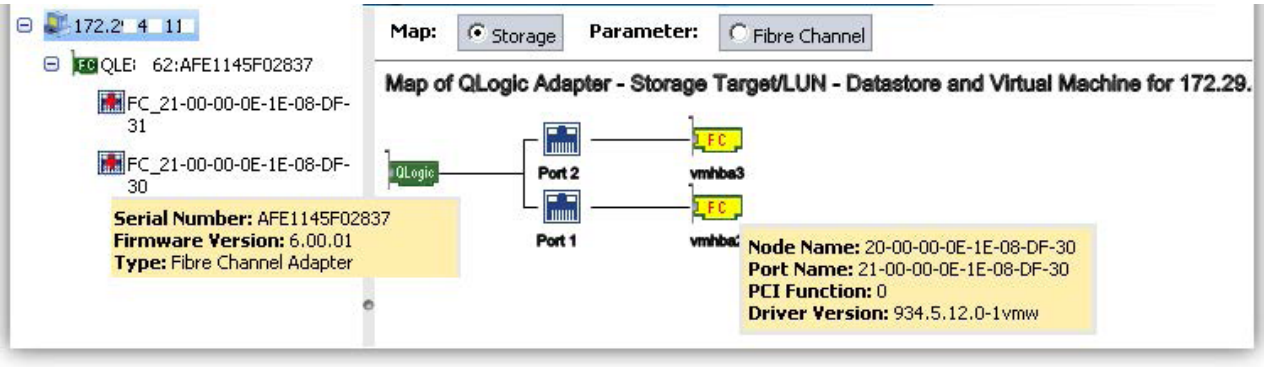


Figure 4. QConvergeConsole Plug-in Mouse Overs Provide Key Information

Network Connectivity Visualization

The QCC Plug-in can instantly display how a QLogic adapter from Marvell and its ports are related to VMs, as well as the VMware vSwitch/dvSwitch and port group to which they are connected. QCC gives an instantaneous view of the relationships in the network. In addition, a mouse-over feature provides key configuration information for each of the hardware components throughout the network internal to the VMware vSphere server.

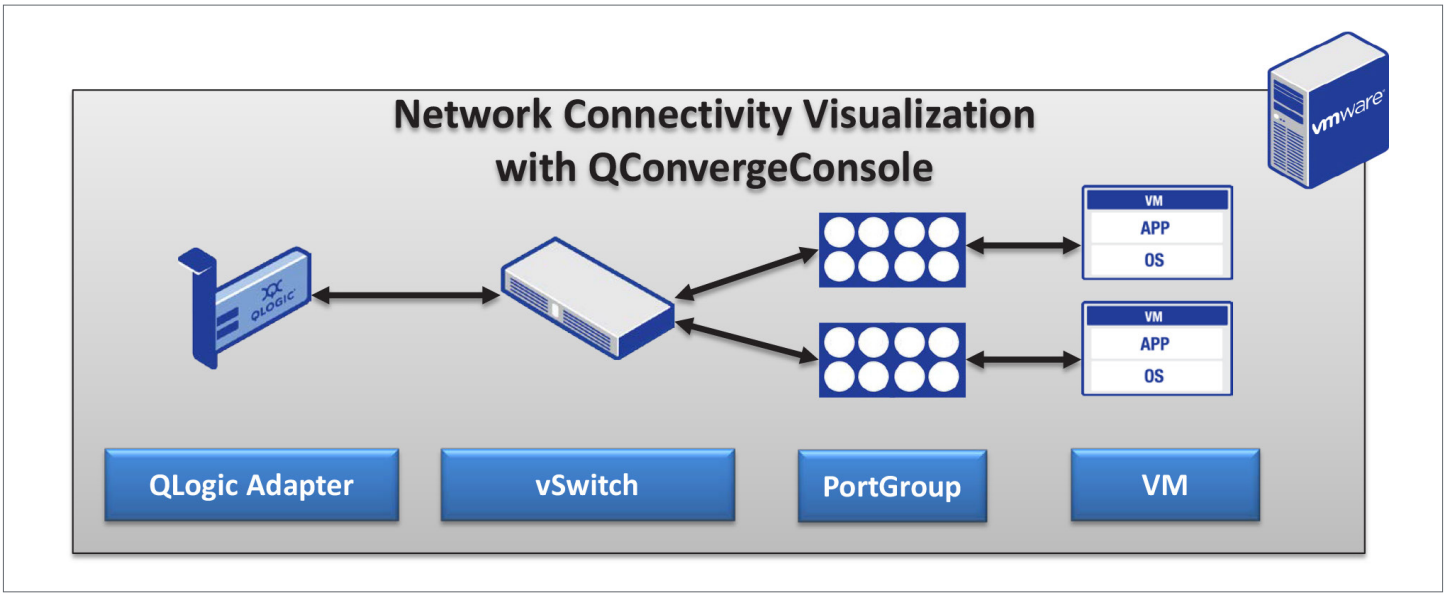


Figure 5. QConvergeConsole Plug-in Network Connectivity Maps

Network Connectivity Visualization	QCC Plug-in
End-to-end Visual Representation	✓
Health Status Using Color Coding	✓
Mouse Overs Provide Key Device Attributes	✓
VLAN and Port Group Information	✓

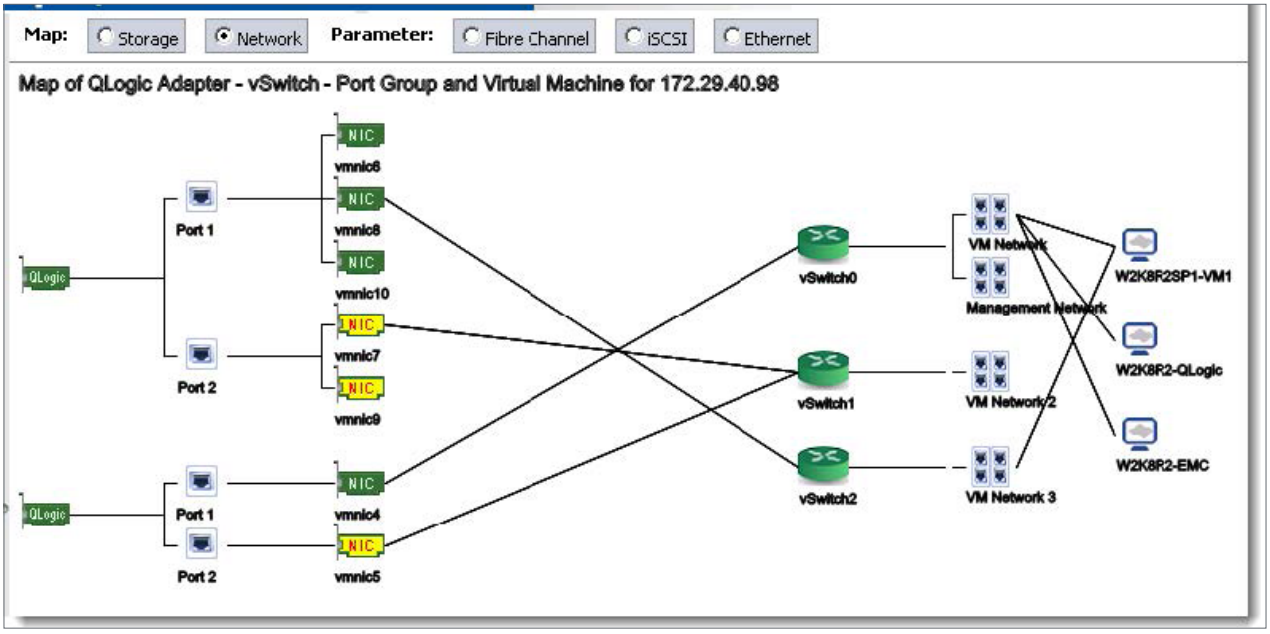


Figure 6. QConvergeConsole Plug-in Network Connectivity Maps

Complete Adapter Management

The QCC Plug-in enables comprehensive management of all aspects and functions of Marvell QLogic Fibre Channel and FastLinQ Converged Network, and Intelligent Ethernet Adapters in a VMware vSphere environment. Capabilities such as the ability to deploy firmware updates remotely, full integration into VMware Update Manager (VUM), and an array of diagnostics allow for a powerful yet intuitive interface while lowering administration costs.

Complete Adapter Management	QCC Plug-in
Network Partitioning (NPAR) Configuration	✓
System-wide Firmware Updates	✓
Integrated Diagnostics	✓
Adapter Parameter Tuning	✓
Boot from SAN Configuration	✓
Transceiver (SFP+) Health Information	✓

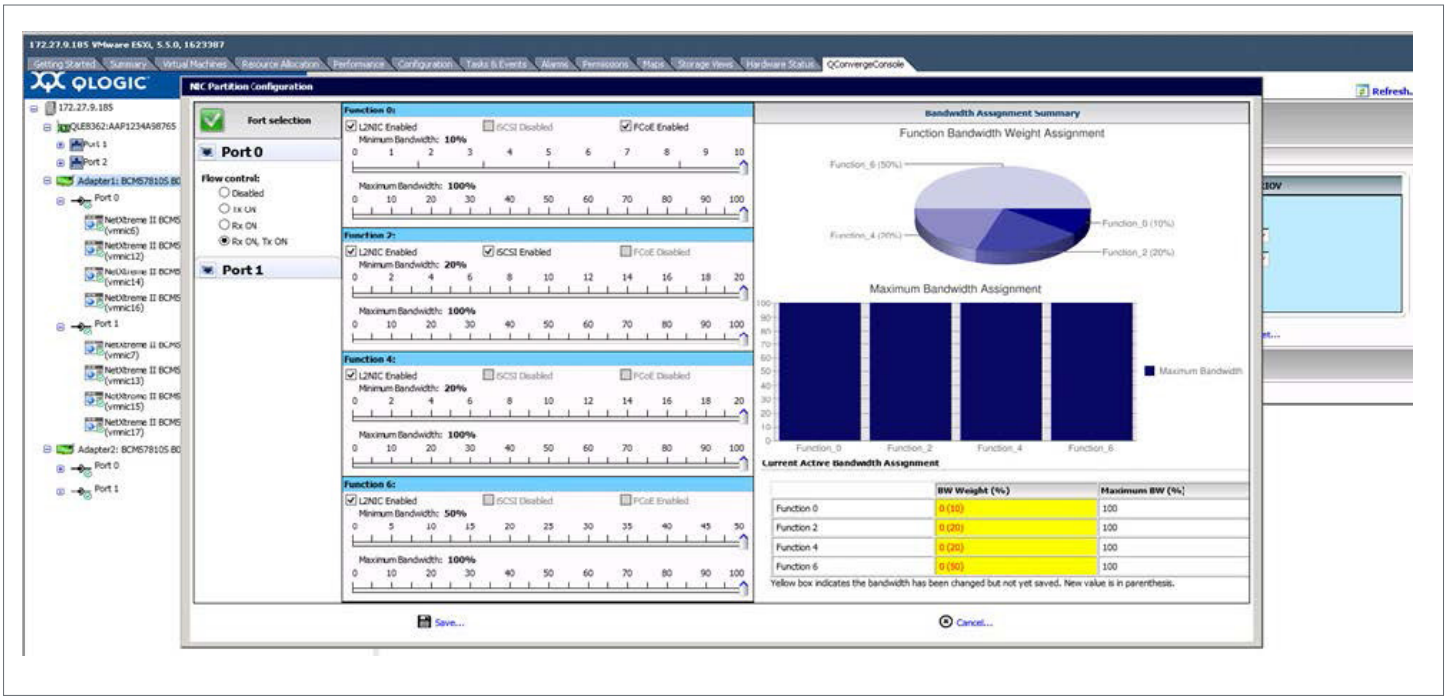


Figure 7. NPAR Configuration

Marvell QCC Advantage

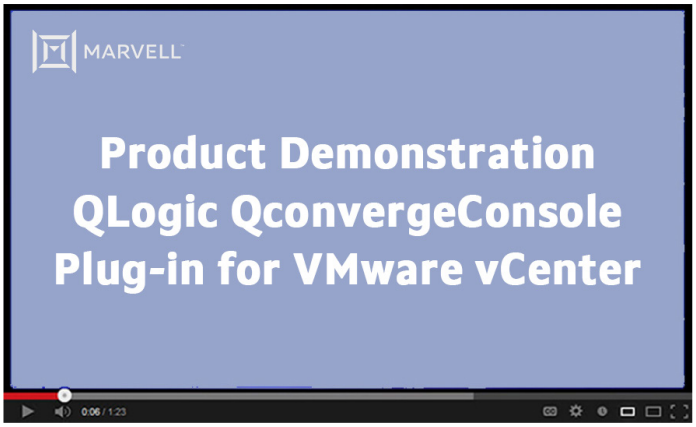
While other adapter vendors also offer a management tool to monitor and manage their adapters, their tools lack the ease of use, maturity, and feature set required for the enterprise data center. Marvell QCC Plug-in for VMware vCenter leverages years of experience and expertise in understanding the management complexity of virtualized environments.

Adapter Management Features	Marvell QCC Plug-in	Broadcom OneCommand®
Adapter Management from within vCenter	✓	✓
Storage Connectivity Visualization	✓	✗
Network Connectivity Visualization	✓	✗
Discover and Display vSphere I/O Path Components – vSwitch, Data stores, and VMs	✓	✗

Conclusion

The Marvell QConvergeConsole (QCC) Plug-in for VMware vCenter gives administrators insight into their virtual environments and provides a flexible and easy-to-manage infrastructure for protocol assignment, connectivity, and data flow management, enhancing the overall virtual experience.

Related Video – Product Demonstration: Marvell QConvergeConsole Plug-in for VMware vCenter



Click on the Image to Watch a YouTube Video

To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.

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