QLogic iSCSI Solution for Transitioning to the Open-iSCSI Model
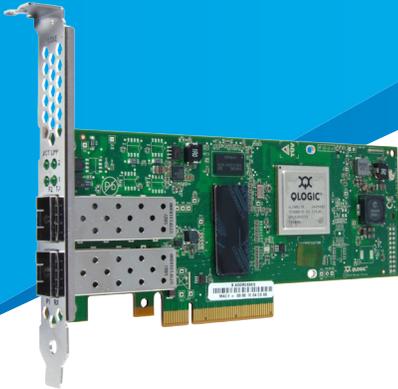
Managing QLogic Hardware Offload-Based iSCSI Adapters Using Open-iSCSI (iscsiadm)

OVERVIEW

Cavium's QLogic® 4000 Series 1GbE iSCSI Adapters and the QLogic 8200 Series 10Gb Converged Network Adapters provide SAN connectivity over Ethernet and TCP/IP network infrastructures. Both the iSCSI and TCP/IP processing functions are performed on the adapters and not on the host server CPU. By offloading these functions to the adapters, more host server CPU processing power is available to server applications, thus increasing overall iSCSI SAN performance.

Cavium™ embraces and fully supports the Open-iSCSI initiative supported by the open Linux® community. With the release of RHEL® 6.2 and SLES™ 11 SP2, QLogic technology from Cavium supports Open-iSCSI for the QLogic 4000 Series and the QLogic 8200 Series drivers. Supporting Open-iSCSI enables the QLE4xxx Adapter initiator configuration and iSCSI target management to be done in the Linux environment using the Open-iSCSI tool. Open-iSCSI is a widely used tool in Linux distributions for configuring a hardware offload-based solution.

To support Open-iSCSI, the I/O control (ioctl) hooks were removed from the in-box driver starting with the RHEL 6.0 release time frame. Therefore, the in-box (QLE4xxx) does not support the QConvergeConsole® (QCC) or any other administration tool, such as isciadm for adapter configuration or target management. To simplify management and receive the best support, customers should move to the latest versions of Linux distributions.

CUSTOMER BENEFIT

The RHEL 6.0 QLogic in-box driver did not support QLogic management applications or Open-iSCSI tools. With the release of RHEL 6.2, SLES 11 SP2, and the transition to the Open-iSCSI model, configuration and target management can be completed with QLogic adapters using iscsiadm. The iscsiadm is used to configure both software iSCSI initiators and QLE4xxx hardware offload initiators. Open-iSCSI is maintained by the Linux community and provides all the benefits of an open source community.

CUSTOMER IMPACT

For customers adopting RHEL 6.2 or SLES 11 SP2, an out-of-box driver is no longer required for using QCC to manage adapters and targets. The user guide for QLE4xxx drivers explains in detail about the functionality for features such as boot from SAN, QCC, and iscsiadm.

For customers using RHEL 6.0 or 6.1, the in-box driver does not support ioctl. Running the management tools on these distribution versions requires an out-of-box driver. This out-of-box driver allows the management applications to properly configure and manage the adapters and targets. However, this driver is no longer supported. We encourage customers to update to the latest version of Linux for the highest level of support and simplified manageability.

SUMMARY – NEXT STEPS

Cavium is committed to supporting the open-source Linux community. Development cycles require updates to both in-box and out-of-box drivers and patches. Cavium always looks for ways to simplify and reduce administration time. The in-box tool (iscsiadm) provides ease of use and simplified manageability for system administrators to manage QLogic iSCSI adapters.

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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