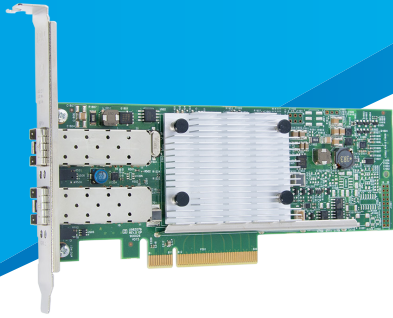


# Superior Performance in Microsoft Exchange Server Environments

QLogic Adapters Deliver More Mailboxes and Faster Response Times Than the Competition



Whether deploying Microsoft Exchange 2003, 2007, or 2010, QLogic Fibre Channel and Converged Network Adapters deliver higher application performance, faster access times, and greater reliability per mailbox than Emulex.

## EXECUTIVE SUMMARY

E-mail has grown to be one of the most important communication and collaboration applications for worldwide businesses. Today, it is a business-critical company resource. E-mail is tightly integrated into business processes—many applications use it as part of process workflows, and at least part of the communication between employees, vendors, and customers is typically done by e-mail. To build the best infrastructure to support your organization's e-mail system, business and IT factors need to be considered when choosing the components of the e-mail platform.

- Business Factors: integrating systems from mergers and acquisitions, addressing aging infrastructure, and finding ways to contain cost
- IT Factors: providing business-critical performance and reliability, adequate storage solutions, and secure environments for an ever-growing, mobile workforce

The Microsoft Exchange® Server platform is the dominant enterprise-class e-mail product on the market. Microsoft Exchange Server has positive momentum in the e-mail market. Migration to Microsoft Exchange Server 2010 has been steady. According to Gartner<sup>1</sup>, Exchange 2010 will peak at about 45 percent of the Microsoft® installed base in 2013. Integrating the Microsoft Exchange Server with the QLogic® 10GbE Converged Network Adapter and 8Gb Fibre Channel Adapter solutions for network and storage can optimize the e-mail infrastructure to provide enterprise-class LAN and SAN connectivity for e-mail servers today, including both front and back-end connections.

## BENEFITS OF THE JOINT QLOGIC AND MICROSOFT EXCHANGE SERVER SOLUTION

- Delivers the highest number of mailboxes, up to two times more than Emulex's® 8Gb Fibre Channel Adapters<sup>2</sup>
- Enables faster e-mail access using QLogic technologies, such as VMflex®, FlexOffload®, and ConvergeFlex®
- Decreases response times, especially for mobile users
- Offers higher levels of availability and reliability than the competition
- Provides proven interoperability through standards-based integration and a long-standing partnership with Microsoft

## SUCCESSFUL MICROSOFT EXCHANGE SERVER DEPLOYMENTS

Microsoft Exchange Server supports three main platforms: 2003, 2007, and 2010 (see Figure 1). One of Microsoft's main enhancements to Exchange Server was to improve the user experience by changing the I/O requirements. Microsoft has reduced the number of IOPS required per mailbox, introduced support for various storage configurations, and eliminated the database maintenance window. These enhancements provide greater flexibility for end users, a larger mailbox size, improved database performance, and lower storage and maintenance costs. The business result is an improvement in collaboration between employees and their customers, while providing a reduction in overall IT costs.

1. MarketScope for Email Systems, 2011, Matthew W. Cain, 22 June 2011. Gartner, Inc.  
2. White Paper – The 8Gb Fibre Channel Adapter of Choice in MS-Exchange Environments

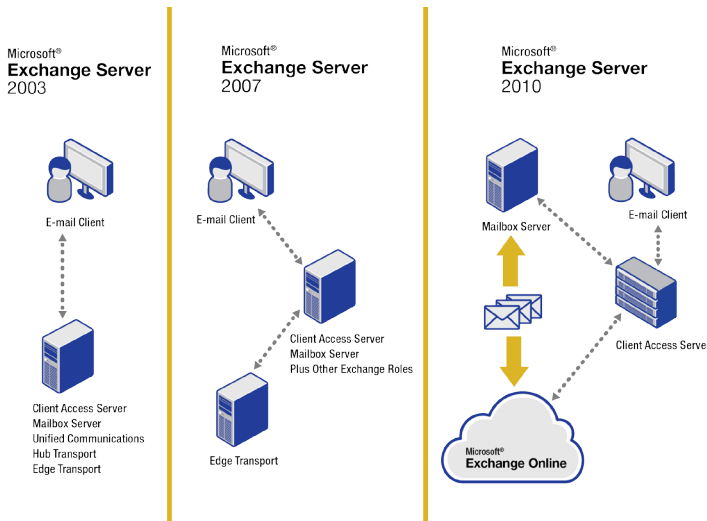


Figure 1. Microsoft Exchange Server

## THE QLOGIC SOLUTION

Whether deploying Microsoft Exchange 2003, 2007, or 2010, QLogic Fibre Channel and Converged Network Adapters deliver higher application performance, faster access times, and greater reliability per mailbox than Emulex. A typical deployment is shown in Figure 2. Various QLogic I/O technologies, such as FlexOffload, ConvergeFlex, and VMflex, are especially suited for achieving an efficient and responsive Microsoft Exchange deployment.

FlexOffload enables network protocol processing in the adapter's hardware, which lowers the CPU utilization required for processing e-mail traffic. As a result, more resources are available for applications and operating systems, increasing overall application performance. The ability to offload the protocol processing is enhanced by QLogic ConvergeFlex, which enables concurrent support of both network and storage (Fibre Channel over Ethernet and iSCSI) traffic on the same adapter (available with QLogic 8200 Series Converged Network Adapters). ConvergeFlex significantly simplifies storage deployment and reduces administration times.

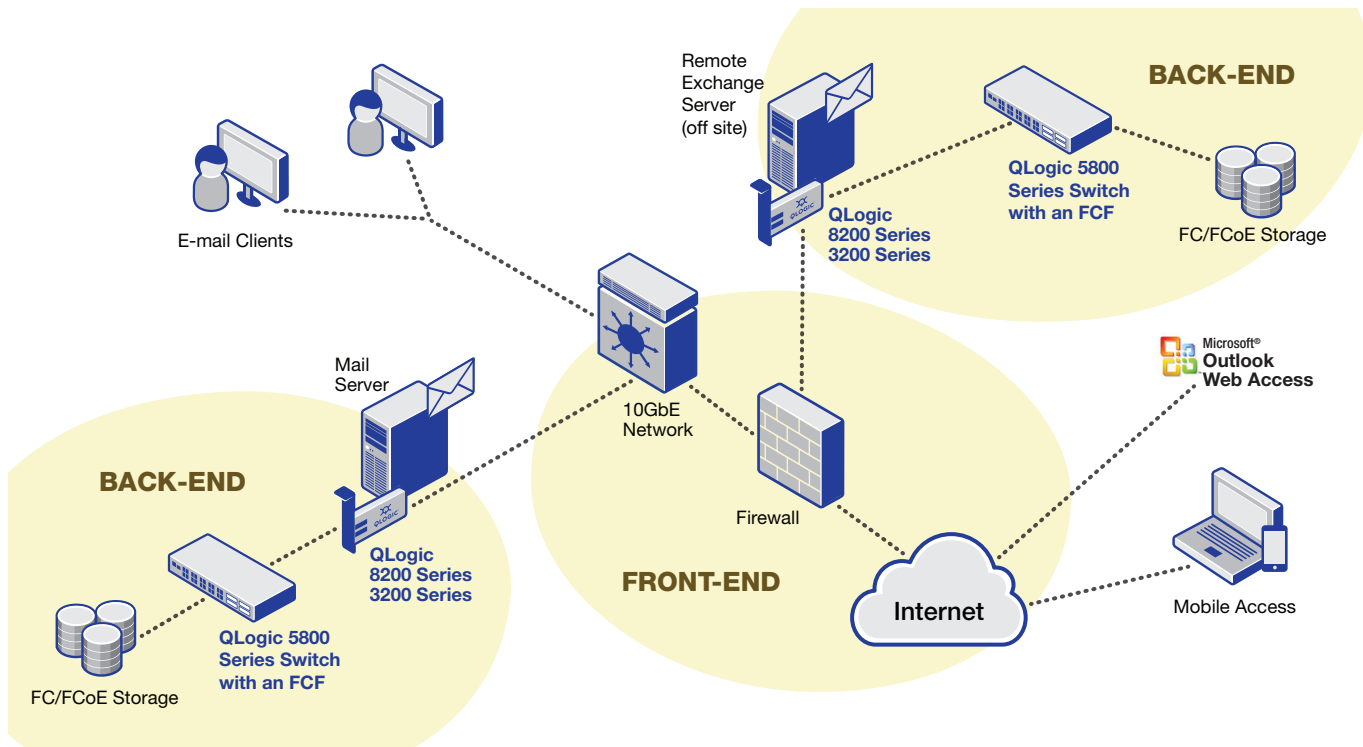


Figure 2. Typical Microsoft Exchange Server Deployment with QLogic Adapters

For customers deploying a Microsoft Exchange Server in a virtualized environment, where the e-mail application must compete for host server resources, QLogic's technology solution delivers the best CPU efficiency and the ability to dedicate resources to e-mail and management applications, such as backup and VMware's® vMotion®. The result is the most efficient, unconstrained virtualized deployment for e-mail.

Together, QLogic and Microsoft Exchange Server provide the most robust e-mail solution available. The QLogic 8200 Series Converged Network Adapters provide Ethernet functionality, including high availability and failover capabilities. In addition, the adapters deliver 30 percent greater Fibre Channel over Ethernet (FCoE) performance efficiency (IOPS/CPU percentage) and faster network throughput. The QLogic 2500 Series Fibre Channel Adapters provide superior workload scalability and higher performance (twice the number of mailboxes) using lower power in 8Gb Fibre Channel SANs.

## SUMMARY

By deploying QLogic and Microsoft Exchange Server together, customers build the highest performing and most powerful e-mail solution available. As a result, clients will have the best possible user experience, and IT administrators will save time on maintenance and reduce infrastructure costs. By using the joint e-mail solution, customers will achieve improved processes, better communication, a more mobile workforce, and enhanced productivity.

## 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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