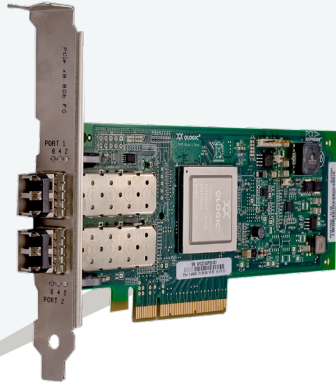


QLogic Fibre Channel Driver Stack

Field-proven as the Most Diverse, Stable,
and Reliable Driver Architecture



QLogic adapters from Marvell are the world's largest installed base of Fibre Channel Adapters with more than 20 million ports shipped.

QLOGIC FIBRE CHANNEL STACK

QLogic® adapters from Marvell are the most established, proven Fibre Channel stack in the industry and has held over ten consecutive years of Fibre Channel market leadership.

KEY BENEFITS

- Field-proven
- Higher uptime
- Superior performance for enterprise applications
- Unmatched scalability for virtualized environments
- Investment protection
- Lower cost of ownership
- Diverse offering of products for SAN (Storage Area Network) deployments

EXECUTIVE SUMMARY

QLogic technology from Marvell is at the forefront of data and storage networking innovation with a multi-faceted product portfolio of Fibre Channel, Fibre Channel with server-based caching, Ethernet, Fibre Channel over Ethernet (FCoE), and iSCSI networking solutions. When it comes to best-in-class interoperability, performance, power optimization, reliability, and ease of use, the top storage area networking companies in the world rely on QLogic adapters from Marvell. With more than 20 years of consistent storage networking expertise, QLogic technology offers market-leading Fibre Channel Adapters that leverage the QLogic Fibre Channel stack with unsurpassed reliability and a diverse offering of products to fit virtually every SAN deployment.

The QLogic Fibre Channel stack from Marvell has been field-proven over years of extensive internal testing, stringent OEM qualifications, and world-class engineering development expertise. QLogic adapters from Marvell offer the most established and proven Fibre Channel stack in the industry and has over ten consecutive years of Fibre Channel market leadership. QLogic adapters from Marvell are the world's largest installed base of Fibre Channel Adapters with more than 20 million ports shipped.

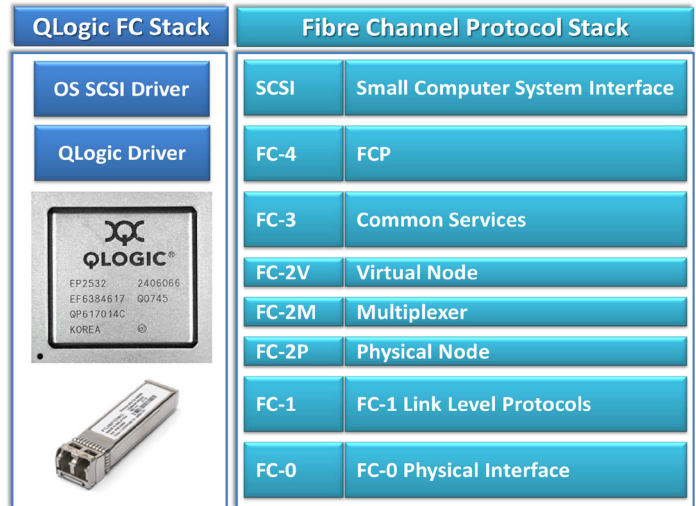
Customers deploying the QLogic Fibre Channel stack benefit from its enterprise-class stability, which provides a higher uptime and investment protection and a lower total cost ownership.

KEY CONTRIBUTORS TO STACK STABILITY

QLogic became a technology leader due to their relentless focus on delivering quality products that exceed the stability and reliability requirements of business-critical enterprise systems. This can be seen in the field-proven Fibre Channel driver stack, which has continued to mature over the past 20+ years. The following are a few of the key contributors to the stability and reliability of the QLogic Fibre Channel stack:

- Market Leadership and Experience:** With more than 20 years of Fibre Channel stack development experience, more than 59 percent of total market share by revenue, and a lead of nearly 18 percentage points over its nearest competitor¹, QLogic technology provides customers with total peace of mind when deploying the company's products.
- QLogic Patented Intellectual Property:** The QLogic Fibre Channel stack leverages patented QLogic IP, such as Overlapping Protection Domains (OPD) and Out of Order Frame Reassembly (OoOFR), that can significantly enhance the integrity and reliability of the Fibre Channel stack.
- Extensive Internal Test Programs:** With multiple interconnected geographically distributed internal test sites that deploy automated test suites for 24x7 quality assurance, QLogic testing methodologies are rigorous and extensive. This translates to a highly reliable and dependable driver.
- Stringent Regression Testing:** The QLogic Fibre Channel stack has been qualified by virtually every Tier-1 OEM and verified by over 10,000 independent partners through interoperability testing, and early access programs along with industry certifications and independent third-party evaluations.
- High Stability Coding:** Marvell's engineering practices provide a complete set of design and instrumentation techniques that enable higher code coverage, efficient error handling, and timely resolution.
- Proactive Diagnostics:** The Marvell QConvergeConsole® (QCC) suite of management applications allow proactive diagnostics of the QLogic stack, resulting in unparalleled operational reliability. Features such as built-in diagnostics, automatic alarm notifications via e-mail, and online software updates significantly enhance the reliability of the enterprise SAN deployment.

The QLogic Fibre Channel stack is the ASIC controlled by the firmware resident on the adapter. The operating system-based QLogic driver controls the interaction between the Fibre Channel stack and the enterprise application.



¹Source: Derived from Dell'Oro 4Q2018 SAN Market Share Report based on CY2018 x86 FC adapter revenue share.



ABOUT MARVELL: Marvell first revolutionized the digital storage industry by moving information at speeds never thought possible. Today, that same breakthrough innovation remains at the heart of the company's storage, processing, networking, security and connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial, and consumer markets. For more information, visit www.marvell.com.

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