

# Milestone Solution Partner IT Infrastructure Components Certification Summary

Quantum StorNext Storage Solution

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**Quantum**<sup>®</sup>



milestone

The Open Platform Company

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### About Quantum:

Quantum is a leading expert in scale-out storage, archive and data protection, providing solutions for sharing, preserving and accessing digital assets over the entire data lifecycle. From small businesses to major enterprises, more than 100,000 customers have trusted Quantum to address their most demanding data workflow challenges. With Quantum, customers can Be Certain™ they have the end-to-end storage foundation to maximize the value of their data by making it accessible whenever and wherever needed, retaining it indefinitely and reducing total cost and complexity.

### About Milestone Systems:

Milestone Systems is the world's leading provider of open platform IP video surveillance software. Milestone has provided easy-to-use, powerful video management software in more than 100,000 installations worldwide.

Milestone XProtect® products are designed with open architecture and are compatible with more IP cameras, encoders and digital video recorders than any other manufacturer. Because Milestone provides an open platform, you can integrate today's best business solutions and expand what's possible with future innovations. Visit [www.milestonesys.com](http://www.milestonesys.com) for more.

# Introduction:

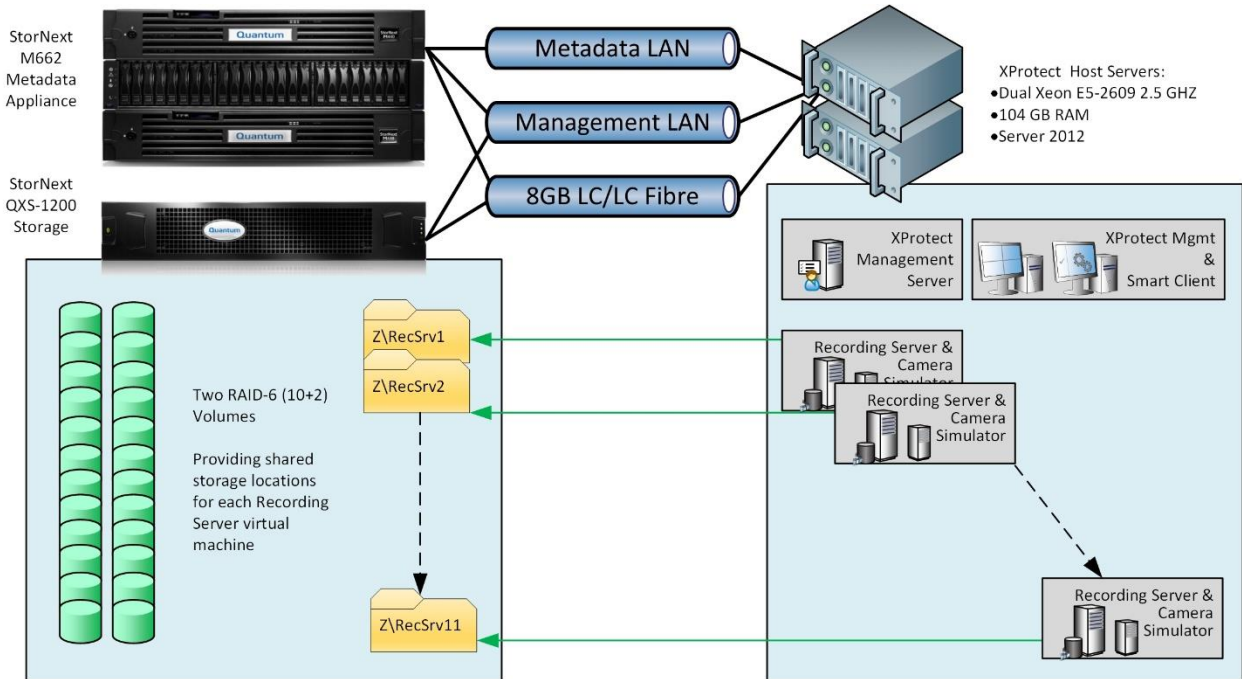
This report presents the results of benchmark and load tests performed on the Quantum StorNext fiber channel SAN storage solution. This product was used as the primary storage location for the video database of an XProtect surveillance system during this certification test. Test scenarios included a system built with five Recording Servers and 250 total video cameras, and a system built with eleven Recording Servers and 935 video cameras. The Milestone Technology Partner (MTP) Certification program seeks to confirm that server, storage and network solutions provided by qualified MTP vendors meet the performance benchmarks required to support the Milestone XProtect VMS applications, and to measure the maximum performance available to Milestone customers if they choose to build a solution using certified MTP products. Certification of the Quantum StorNext solution ensures that any surveillance system built using this product in combination with the Milestone XProtect components will be able to record and archive an amount of video consistent with the recommendations of the Milestone Server and Storage Calculator.

## Quantum StorNext Solution Architecture:

A scalable topology was constructed to serve as the test bed for the full scope of the certification test scenarios. The primary components in this topology included the following:

- Two host servers where all of the XProtect applications and services would be running in a virtual server environment
- The Quantum StorNext QXS-1200 storage solution connected to an 8GB fibre storage network
- The Quantum StorNext M662 Metadata Appliance functioning as controller for the storage volumes created in the QXS-1200

The test topology for both scenarios is shown in the figure below:



## Certified Products:

- Quantum StorNext M662 Metadata Appliance
- Quantum StorNext QXS-1200
- Milestone XProtect Corporate 2014 (7.0c)
  - The listed Quantum storage solutions are certified for use with the entire XProtect product line.

*Performance of the solution may vary if different XProtect products and/or system components not listed in the tests details are included.*

## Key Findings:

The Quantum StorNext solution is a certified storage solution for use with Milestone XProtect. The Quantum StorNext solution is a scalable storage solution which performs at a level twice that indicated by the Milestone Server and Storage Calculator. The StorNext QXS-1200 should support approximately 20 cameras per recording server, and it was able to support 50 cameras per server. In extended testing the system was able to increase the total number of cameras to 85 per server. The system performs at a very high level of data throughput with near zero read/write latency. The maximum performance of the StorNext QXS-1200 is listed below, in each of these scenarios there were five or 11 XProtect Recording Servers installed in the system which were recording video directly to the QXS-1200 storage array.

| Test Scenario – Stream Profile | Number of Cameras | Disk Latency      | Video Stream Size | Video Data Per Server | Total Array Disk I/O |
|--------------------------------|-------------------|-------------------|-------------------|-----------------------|----------------------|
| 1 – H.264, 1280x720, 30 FPS    | 250               | 12.5 milliseconds | 5.13 Mbps         | 32.54 MBps            | 130 MBps             |
| 2 – H.264, 1280x720, 10 FPS    | 935               | 12.5 ms           | 1.95 Mbps         | 20 MBps               | 300 MBps             |

In the first test scenario there were five recording servers recording more than twice as much data per video stream and one third more data per server compared to the second scenario with eleven servers. The increased number of servers, and cameras per server in the second scenario pushed the total array throughput to an impressive average of nearly 300 MBps. Integrators and end users designing, installing and operating surveillance systems which incorporate these solution components should have complete confidence that the system will record large amounts of megapixel resolution video very reliably.

This solution was able to reliably store large amounts of video without impacting the performance of the Milestone system. The solution exceeds the benchmark values indicated by the Milestone server and storage calculator by at least a factor of two. Placed in a real world scenario, outside a lab specifically designed to stress the system, there is no doubt it would be able to exceed the numbers of cameras and Recording Servers documented herein. Quantum storage solutions are ideal for any system that requires high performance video recording using hundreds of multi-megapixel video streams. Quantum StorNext and Milestone XProtect combine to create a solution that is highly scalable, high performance, standards based, and easy to use.