Milestone Solution Partner IT Infrastructure Components Certification Summary

Surveon Technologies NVR7800 Series NVR

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The Open Platform Company

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About Surveon Technology Inc.:

Surveon Technology offers end-to-end network video surveillance solutions that showcase our expertise in professional camera design, RAID NVR, high-availability video storage, embedded firmware and video management software. All Surveon products are designed in-house and manufactured on our ISO 9001 and ISO 14001 certified production site to ensure the highest quality for our partners. For more information about Surveon, please visit our website at www.surveon.com.

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 for more.

Introduction:

This report highlights the performance results of certification tests performed on the Surveon NVR7800 Series NVR solutions. Specifically the NVR7812 and NVR7816 NVR platforms with major three different Intel new generation processors which hosted XProtect Recording Servers and provided hard disk space for both the long term archive and live video database storage within a Milestone XProtect® video management software (VMS) surveillance system. Milestone Technology Partner (MTP) certification efforts include building a test surveillance system using the subject MTP product and gathering performance data while the system is in operation at the benchmark levels, and capacity testing to determine the upper limits of performance for the certified MTP solution. Certification of the NVR7800 Series will ensure 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.

Certified Products:

- NVR7800 Series
    - NVR7812(2U12)
    - NVR7816(3U16)
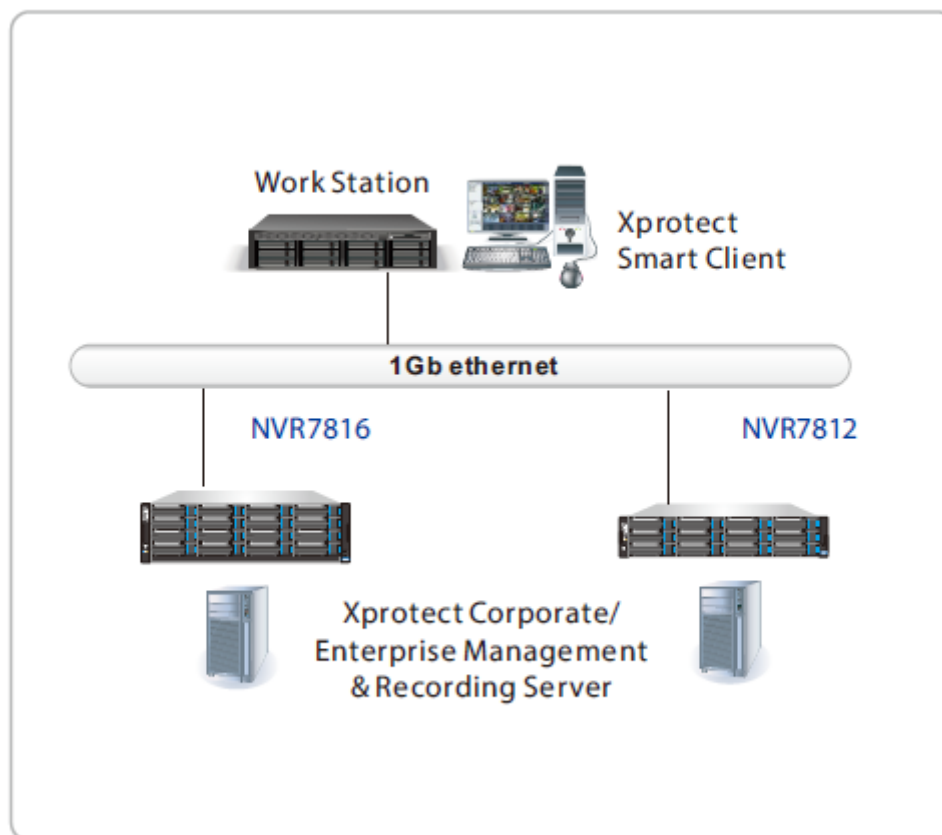- Milestone XProtect Corporate 2016 10.0a

(Front-View)

NVR7812

NVR7816

(Back-View)

Hot-swappable redundant 80+ PSU

Highly integrated controller with cableless design that is easy to deploy

Solution Architecture:

The test surveillance system topology included one Surveon NVR7800 Series (NVR7812 or NVR7816) storage server running a Microsoft Windows x64 based Server 2012 R2 operating system hosting the XProtect VMS. One workstation was hosting the Milestone XProtect Smart Client 2014 to display a 5x5 view of recorded video. The test topology is shown below:

The specific configurations detailed above were chosen in order to conform to the recommended Milestone storage configuration; providing a live database and an archive database for each recording server.

Key Findings:

The Surveon Technology NVR7800 Series NVR solution performs as a video recording and archiving platform with the Milestone XProtect VMS system at a level that is two times higher than the benchmark levels determined by the Milestone Server and Storage Calculator. The calculator indicates that the NVR7812/7816 should support 60 cameras at the benchmark level based on scenario 1, and it was able to support a maximum of 110,145 and 150 cameras based on i3-4330, E3-1225 and E3-1275 Intel processors. Meanwhile, the calculator indicates that the NVR7812/7816 should support 30 cameras at the benchmark level based on scenario 2, and it was able to support a maximum of 70,110 and 140 cameras based on i3-4330, E3-1225 and E3-1275 Intel processors.

Scenario 1	NVR	CPU	Cameras / Compression %	Read Latency (ms)	Stream Size (Mbps)	Disk I/O (MBps)
Benchmark	NVR7812/7816	i3-4330	60 / 30%	2	10.17	120.64
		e3-1225	60 / 30%	2	10.17	375.92
		e3-1275	60 / 30%	9	10.65	119.98
Maximum	NVR7812/7816	i3-4330	110 / 60%	4	13.94	293.71
		e3-1225	145 / 60%	7	9.91	267.61
		e3-1275	150 / 60%	10	14.41	498.1

Scenario 2	NVR	CPU	Cameras / Compression % / Motion %	Read Latency (ms)	Stream Size (Mbps)	Disk I/O (MBps)
Benchmark	NVR7812/7816	i3-4330	30 / 30% / 30%	3	10.06	493.41
		e3-1225	30 / 30% / 30%	2	5.2	486.79
		e3-1275	30 / 30% / 30%	1	10.23	557.91
Maximum	NVR7812/7816	i3-4330	70 / 60% / 30%	1	5.09	445.29
		e3-1225	110 / 60% / 30%	2	5.07	631.17
		e3-1275	140 / 60% / 30%	2	5.18	516.83

Conclusion:

The NVR7800 Series is a certified storage server as NVR platform for use with the Milestone XProtect VMS. With the chosen hard disk configuration used in the test, the NVR7800 Series easily supported the benchmark level of performance. In the first scenario, using continuous recording and a two tier storage architecture, the system outperformed the estimates of the Milestone Server and Storage Calculator by 200%. After enabling 30% motion with Video Motion Detection based recording, and archiving to the Infortrend JBODs in the second scenario, the system supported more than four times the number of IP cameras compared to the benchmark.

Integrators and end users designing, installing and operating surveillance systems which incorporate these solution components can have confidence that the system will record and archive video reliably. Customers who wish to gain the maximum value and performance out of their surveillance system can also refer to the best practices and performance limitations outlined in this document to help design a system that exceeds the benchmark limitations for video recording which are followed by the Milestone Server and Storage Calculator.