Milestone Verified Solution

EonServ 5000 Gen2

Version: 1.0
Updated: November 2020

Summary

The EonServ 5000 Gen2 are entry level enterprise solutions especially designed for light workloads, as their hardware designs adopt Intel Xeon 6-core processors to assist IT personnel efficiently manage all kinds of light workloads

This document provides solution guide and test results for EonServ 5000 Gen2 with MileStone's XProtect Corporate, a VMS (video management software) surveillance system.

Contents

1. Preface

The purpose of this white paper is to provide surveillance bundle solution constructed by EonServ 5000 Gen2 and Milestone VMS. Cooperated with Milestone, EonServ 5000 Gen2 has been proven as the verified solution. Test topology and performance results are shown that EonServ 5000 Gen2 is suitable for surveillance demands. Infortrend continues to develop the best storage solutions to meet the requirements and expectations of our customers and provides support with releases of online hardware and software updates from time to time. Visit our official website to check the latest news and customer support system for the latest firmware and software. In case of problems encountered when using our products, contact our technical support.

2. Audience

This document is intended for Infortrend customers, partners, and employees using EonServ 5000 Gen2 storage servers with Milestone software.

3. What's in This Document

This document contains the following topics:

- **Executive Summary:** Provides brief summary of this white paper.
- **Verified Products:** Introduces EonServ 5000 Gen2 and verified Milestone software.
- **Test Scenarios:** Describes test scopes and topology.
- **Performance Results:** Shows outputs of different scenarios

4. What You Should Know Before Reading

This document expects that you are familiar with basic server, storage, and networking concepts and configurations.

5. Exclusive Summary

This report shows the performance results of verification tests performed on Infortrend's EonServ 5000 Gen2 series. The storage server solution provides long term recording and/or database archiving with Milestone's XProtect Corporate, a VMS (video management software) surveillance system.

XProtect Corporate is designed for large-scale and high-security installations. It is built with innovative technology designed to ensure end-to-end protection of video integrity and boost the overall performance of your system with hardware accelerated video decoding. In addition to central management of all servers, cameras and users in a multi-site set-up, XProtect Corporate includes an integrated video wall for operators demanding supreme situational awareness of any event. The software supports failover recording servers, making it the perfect choice for mission-critical installations that require continued access to live and uninterrupted video recordings.

The Milestone Verification Process is intended to verify the general functionality and compatibility of the partner's solution/product with the Milestone XProtect® VMS. The technical setup, configuration, testing and operations are done by Infortrend.

XProtect® Corporate

XProtect Corporate is IP video management software (VMS) designed for large-scale and high-security installations.

In addition to central management of all servers, cameras and users in a multi-site setup, XProtect Corporate includes an integrated video wall for operators demanding supreme situational awareness of any event.

Running on the industry's best performing recording engine with a recording rate of minimum 3.1 Gbit/s, XProtect Corporate is ideal for installations with 24/7 operation requirements, such as airports and casinos.

Three ways to access your video

| Milestone Mobile | XProtect® Web Client | XProtect® Smart Client |

| Unrestricted number of cameras | Central Management | Multi server/site |

6. Verified Products

Listed products are verified for use with the XProtect product line.

- **EonServ 5000Gen2 series**

EonServ 5016 Gen2

| Front-View | Rear-View |

Model	EonServ 5016 Gen2
Processor	Intel® Xeon® E-2226GE/I3-8100
Memory	64GB DDR4
Network	2 x 10GbE
OS	Microsoft Windows Server 2019

- **Milestone XProtect Corporate 2020 R1**

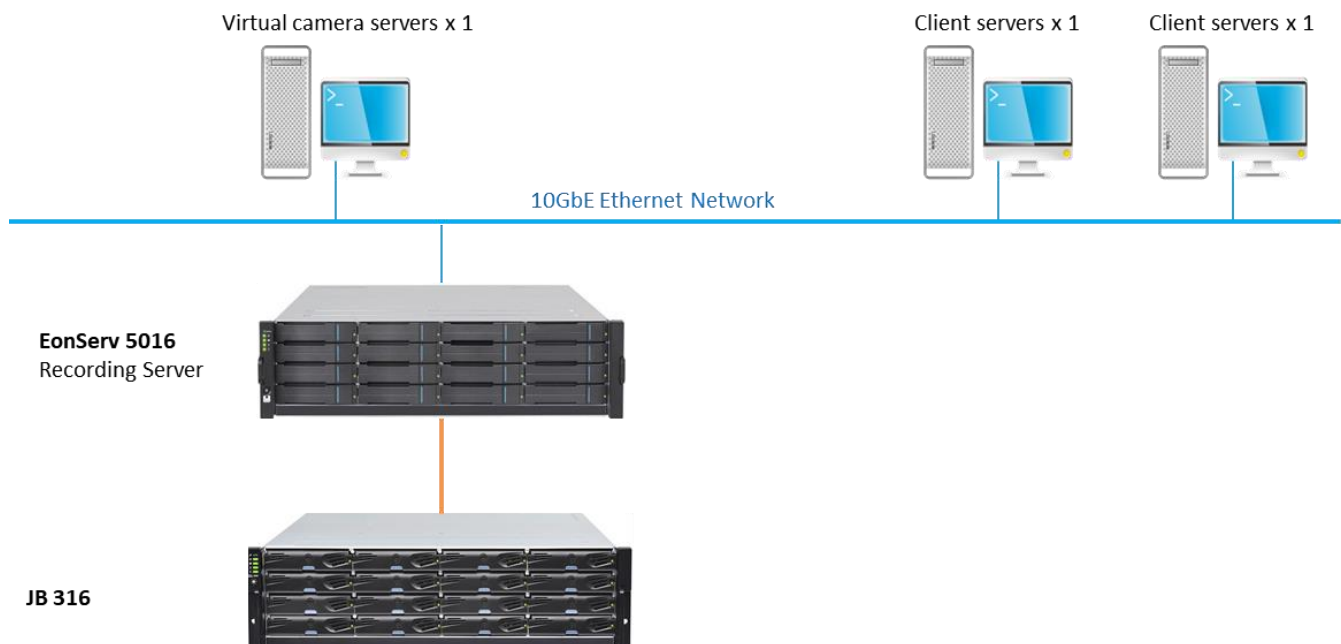- **Milestone XProtect Smart Client 2020 R1**

*Performance of the solution may vary in different XProtect products and/or system components not listed in the tests

details are included.

7. Test Scenarios

All simulated video streams used in this test were configured at 30 frames per second (FPS). All video streams were configured to use the H.264 video codec. The image resolutions used in this test included the following:

- ✓ **FullHD**   **(H264 / 1080p / 3.89 Mbit/s)**
- ✓ **1920x1080**   **(H264 / 1080p / 5.12 Mbit/s)**
- ✓ **2048x1536**   **(H264 / 3MP / 7.78 Mbit/s)**
- ✓ **2592x1944**   **(H264 / 5MP / 12.46 Mbit/s)**
- ✓ **3840x2160**   **(H264 / 8MP / 20.31 Mbit/s)**
- ✓ **1920x1080**   **(H265 / 1080p / 2.38 Mbit/s)**
- ✓ **3840x2160**   **(H265 / 8MP / 3.37 Mbit/s)**

7.1 Topology

7.2 Test Scenarios

Scenario 1 – Milestone Verification Certificate

The data load used in the certificate test scenario included the following parameters:

- H.264 video codec

- 30 frames per second

- 100% recording

- Motion detection sensitivity – default (33)

- Motion detection threshold – default (2000)

- Motion detection resolution – default (12%)

- Live database: 32x 7200 RPM 10 TB SAS drives (32 drives/RAID 50)

Scenario 2 – Recording with Client Playback

The data load used in the benchmark test scenario included the following parameters:

- H.264 video codec

- 30 frames per second

- 100% recording

- Live database: 32x 7200 RPM 10 TB SAS drives (32 drives/RAID 50)

Scenario 3 – Recording (Motion Detection Enabled) with Client Playback

The data load used in the benchmark test scenario included the following parameters:

- H.264 video codec

- 30 frames per second

- 100% recording

- Motion detection sensitivity – default (33)

- Motion detection threshold – default (2000)

- Motion detection resolution – default (12%)

- Live database: 32x 7200 RPM 10 TB SAS drives (32 drives/RAID 50)

8. Performance Results

8.1   Scenario 1

CPU	Image Resolution	Number of Cameras	CPU %	Memory%	Avg. Disk I/O (MBPS)	Number of Playback	Read Latency (ms)	Motion Detection
E2226GE	FullHD	240	59%	49%	132	32	1.7	Enable

8.2 Scenario 2

CPU	Image Resolution	Number of Cameras	CPU %	Memory%	Avg. Disk I/O (MBPS)	Number of Playback	Read Latency (ms)	Motion Detection
E2226GE	H264-1080P	360	68%	21%	245	32	5.9	Disable
	H264-3MP	270	69%	24%	289	32	4.6	Disable
	H264-5MP	140	55%	23%	240	25	1.7	Disable
	H264-8MP	128	66%	20%	361	10	3.5	Disable
	H265-1080P	590	65	19%	184	32	3.6	Disable
	H265-8MP	460	67	20%	195	5	2.9	Disable
I3-8100	H264-1080P	210	63%	14%	154	32	1.1	Disable
	H264-3MP	115	54	17%	143	32	2.3	Disable
	H264-5MP	85	65	18%	160	25	1.1	Disable
	H264-8MP	65	67%	17%	180	10	0.8	Disable
	H265-1080P	270	69	16%	89	32	1.6	Disable
	H265-8MP	215	68	15%	92	5	1.6	Disable

8.3 Scenario 3

CPU	Image Resolution	Number of Cameras	CPU %	Memory%	Avg. Disk I/O (MBPS)	Number of Playback	Read Latency (ms)	Motion Detection
E2226GE	H264-1080P	340	66%	66%	234	32	2.6	Enable
	H264-3MP	230	59%	67%	246	32	3.1	Enable
	H264-5MP	140	56%	63%	240	25	2.1	Enable
	H264-8MP	100	62%	54%	292	10	2.9	Enable
	H265-1080P	345	68	64%	112	32	1.9	Enable
	H265-8MP	150	42	67%	67	9	1.0	Enable
I3-8100	H264-1080P	180	67	39%	134	32	0.9	Enable
	H264-3MP	115	66	39%	128	32	2.2	Enable
	H264-5MP	70	58	37%	137	25	0.7	Enable
	H264-8MP	35	48	28%	114	10	0.8	Enable
	H265-1080P	160	67	37%	57	32	1.3	Enable
	H265-8MP	150	46	63%	66	9	1.1	Enable

9. Conclusion

EonServ 5000 Gen2 with Milestone XProtect Corporate is a surveillance bundle solution that provides high performance with the selected hard drive configurations. As the test result, EonServ 5016 Gen2 supports a large number of cameras depending on the resolution.

Installers, designers, and operators of surveillance systems who use these proposed solutions can say that they can totally rely on their system when it comes to speed, performance, and quality of recording and archiving videos. Clients who want reliable value and performance for their surveillance system can check out our best practices outlined in this document to help design their own system that exceeds the benchmark limitations, which also followed by Milestone Server and Storage Calculator. For more details about Infortrend's products, services, and success stories, visit us at www.infortrend.com or contact our representatives near you.

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