

Solution Overview

Surveillance

Dell EMC Surveillance Validation Matrix

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This document shows how we partner with leading Surveillance providers to configure various Dell EMC arrays, clusters, and cloud storage offerings to easily implement onto a Dell EMC storage system.

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Validation testing

Validation testing determines the performance baseline, including bandwidth specifications and failure and recovery scenarios, for Video Management Software (VMS) providers when using Dell EMC storage systems. Various test scenarios are performed that replicate typical production environment activities related to several different system component failures and normal break fix best practices.

You can use the results presented in this document to determine what specific version of the ISV software, Dell EMC storage platform, model numbers, and Dell EMC storage operating environment have been validated.

The Dell EMC Surveillance Lab team conducts tests in collaboration with the respective ISVs to determine the validated results.

Dell EMC arrays and clusters

Dell EMC storage arrays are ideal for storing video and audio data. Dell EMC offers the following storage options for video and audio data:

- Dell EMC Isilon
- Dell EMC Unity
- Dell EMC SC series
- Dell EMC ECS Object Storage

Storage protocols

NAS storage

Isilon storage cluster tests use SMB except where noted.

SAN storage

Unity and SC series storage array tests use iSCSI and FC except where noted.

ECS Object Storage

ECS object storage tests use S3.

Functional testing

Functional testing differs from validation testing in that functional testing verifies that a VMS is compatible with Dell EMC storage systems. For video management applications the Functional test verifies compatibility for write, read, archive retention policies, and stable connectivity.

This type of testing does not include failure and recovery scenarios and performance benchmarking. Functional testing does not establish sizing guidelines but it may include the results from a single server baseline test.

Current VMS Validations

Major surveillance vendors partner with Dell EMC Surveillance Labs to validate security applications with Dell EMC's portfolio of products and solutions.

The following table shows the most current validations with the latest Dell EMC storage solutions.

- Tier 1 indicates that the array can be used for primary storage for the surveillance workload.

- Tier 2 indicates that the array can be used as a secondary storage platform.

Table 1 VMS Validation testing with Unity, SC series, ECS and Isilon

| VMS | NAS storage | SAN storage | | Object storage | vSAN | | Servers |
|------------------|-------------|-------------|--------|------------------|-------------|-----------------------|---------|
| | Isilon | Unity | SC | ECS via GeoDrive | With Isilon | With ECS via GeoDrive | |
| Airship | Tier 1 | — | — | — | — | — | — |
| Avigilon | Tier 2 | — | — | — | — | — | — |
| Genetec | Tier 1 | Tier 1 | Tier 1 | Tier 1 | — | X | X |
| Godrej IQ Vision | Tier 2 | Tier 1, 2 | | — | — | — | — |
| Honeywell | Tier 1 | — | — | — | — | — | — |
| ISS | Tier 1 | Tier 1 | — | — | — | — | — |
| Milestone | Tier 2 | Tier 1, 2 | Tier 2 | Tier 2 | — | X | X |
| Panasonic | Tier 1 | — | — | — | — | — | — |
| Gognify | Tier 1 | Tier 1 | — | — | — | — | X |
| S-1 Corporation | Tier 1 | — | — | — | — | — | — |
| SeeTec OnSSI | | | | | | | |
| Synectics | Tier 1 | Tier 1 | — | — | — | — | — |
| Verint | Tier 1 | Tier 1 | — | Tier 1 | — | — | X |

Dell EMC storage systems tested

The following table shows the various VMS versions, NAS releases, SAN firmware versions, and ECS releases that have been included in validation testing.

Table 2 VMS and Dell EMC storage system versions tested

| VMS | VMS Versions | NAS | | SAN | | ECS | | VMware |
|----------|--------------|---------|------|----------------|------|---------|----------|----------|
| | | Release | Tier | Firmware | Tier | Release | GeoDrive | |
| Aimetis | 6.12.3.0 | 7.1.0.0 | 1 | OE5.32.000.5.x | 1 | — | — | ESXi 5.5 |
| | | | | OE5.33.000.5.x | | | | |
| | 6.14.5.1 | 7.2.0.1 | — | — | — | — | ESXi 6.0 | |
| 8.0 | | | | | | | | |
| Airship | 5.4.1.290 | 8.1.1.1 | 1 | — | — | — | — | ESXi 6.5 |
| Avigilon | 5.8.2.14 | 8.0.0.2 | 1 | — | — | — | — | ESXi 6.0 |
| | 6.10 | 8.0.1.2 | | — | | | | ESXi 6.5 |
| | 6.12 | 8.1.1.1 | 2 | — | — | — | ESXi 6.5 | |

Table 2 VMS and Dell EMC storage system versions tested (continued)

| VMS | VMS Versions | NAS | | SAN | | ECS | | VMware |
|------------------|--------------|---------|------|------------------|------|---------|----------|----------------------|
| | | Release | Tier | Firmware | Tier | Release | GeoDrive | |
| Bosch | 3.0 | — | | OE5.32.000.5.x | 1 | — | — | ESXi 5.5 |
| | | | | OE5.33.006.3.x | | | | |
| Cisco | 6.7 | — | | OE5.33.000.5.x | 1 | — | — | ESXi 5.5 |
| Digifort | 7.1.0.0 | — | | OE 3.1.3.7141854 | 1 | — | — | ESXi 6.0 |
| FLIR | 6.2 | 6.5.4.4 | 1 | OE5.32.000.5.x | 1 | — | — | ESXi 6.0 |
| Genetec | 5.2 | 7.2.0.0 | 1 | OE5.32.000.5.x | 1 | — | — | ESXi 5.5 |
| | | 7.2.0.1 | | OE5.33.000.5.x | | | | |
| | 5.3 | 7.2.0.0 | 1 | OE5.32.000.5.x | 1 | — | — | ESXi 5.5 |
| | | 7.2.0.1 | | OE5.33.000.5.x | | | | |
| | 5.4 | 7.2.0.0 | 1 | OE5.32.000.5.x | 1 | — | — | ESXi 6.0 ESXi 6.5 |
| | | 7.2.0.1 | | OE5.33.000.5.x | | | | |
| | 5.6 | 8.0.0.2 | 1 | 4.2.0.9392909 | 1 | — | — | ESXi 6.5 |
| | 5.7 | 8.1 | 1 | 4.3.1.1525703027 | 1 | 3.2 | 1.2.2.1 | ESXi 6.5 |
| | | | | 4.2.3.9670635 | | | | |
| | | | | 4.2.1.9535982 | | | | |
| 7.2.30.21 | | | | | | | | |
| 7.2.31.3 | | | | | | | | |
| Godrej IQ Vision | 2014 | — | | 3.1.3.5754151 | 1, 2 | — | — | ESXi 6.0 |
| | | | | OE5.32.000.5.x | | | | |
| | | | | OE5.33.000.5.x | | | | |
| | 2016 | — | | 4.2.0.9392909 | 1, 2 | — | — | ESXi 6.5 |
| Honeywell | 600.1 | 7.2.1 | 1 | — | | — | — | ESXi 5.5 ESXi 6.0 |
| | 700.1 | 8.1.1.1 | 1 | 4.4.1.1539309879 | | — | — | ESXi 6.5 |
| IndigoVision | 13.1 | 8.0 | 1 | — | | — | — | — |
| Infinoa | 17.02.09.08 | 8.0.1.1 | 1 | — | | — | — | — |
| ISS | 8.3 | 7.2.0.0 | 1 | OE5.31.000.5.x | 1 | — | — | ESXi 5.5 |
| | | | | OE5.32.000.5.x | | | | |
| | | | | OE5.33.000.5.x | | | | |
| LENSEC | 2.3.0.1 | 7.1.1.1 | | — | | — | — | — |
| Milestone | 2013 R2 | 7.0 | 2 | 3.0.1.4029529 | 1, 2 | — | — | ESXi 5.5 |
| | | | | OE5.32.000.5.x | | | | |

Table 2 VMS and Dell EMC storage system versions tested (continued)

| VMS | VMS Versions | NAS | | SAN | | ECS | | VMware |
|-------------------------|--------------|---------|------|------------------|------|---------|----------|----------|
| | | Release | Tier | Firmware | Tier | Release | GeoDrive | |
| | | 7.1.1.1 | | OE5.33.000.5.x | | | | |
| | 2014 | 7.0 | 2 | 3.0.1.4029529 | 1, 2 | — | — | ESXi 5.5 |
| | | 7.1.1.1 | | 3.1.3.5754151 | | | | |
| | | 7.2.0.1 | | OE5.32.000.5.x | | | | |
| | | 7.2.1.0 | | OE5.33.000.5.x | | | | |
| | 2016 | 8.0.0.2 | 2 | 3.1.2.5754151 | 1, 2 | — | — | ESXi 6.0 |
| | | 8.0.1 | | | | | | |
| | 2017 | 8.0.1.1 | 2 | 4.2.0.9392909 | 1, 2 | — | — | ESXi 6.5 |
| | 2018 | 8.1.0 | 2 | 4.3.1.1525703027 | 1, 2 | 3.2 | 1.2.2.1 | ESXi 6.5 |
| | | | | 4.2.3.9670635 | | | | |
| | | | | 7.2.30.21 | | | | |
| NUUO | 2.1.0.63 | — | | OE5.33.000.5.x | 1 | — | — | — |
| Panasonic | 7.1 | 8.0.1.2 | 1 | — | | — | — | — |
| Qognify | 2.7up2 | 7.1.0.1 | 1 | OE5.32.000.5.x | 1 | — | — | ESXi 5.5 |
| | | 7.2.0.0 | | OE5.33.000.5.x | | | | |
| | 3.1 | 7.2.1.1 | 1 | — | | — | — | ESXi 6.0 |
| | 4.2 | 8.0.1.1 | 1 | SCV2080 | 1 | — | — | ESXi 6.0 |
| | 4.4 | 8.1.1.1 | 1 | 4.2.1.9535982 | 1 | | | |
| 7.2.30.21 | | | | | | | | |
| S-1 Corporation | 2.65.0.0 | 8.0.1.2 | 1 | — | | — | — | ESXi 6.5 |
| Surveillus ^a | 5.8.25 | 6.5.0.0 | 1 | — | | — | — | ESXi 5.x |
| | | 7.1.0.0 | | | | | | |
| Synectics | 1.17.0.16 | 7.2.1 | 1 | OE5.33.008.5.119 | 1 | — | — | ESXi 6.0 |
| Verint | 6.4 | 7.1.0.0 | 1 | OE5.32.000.5.x | 1 | — | — | ESXi 5.x |
| | | 7.1.1.1 | | OE5.33.000.5.x | | | | |
| | 6.4.1591 | 7.2.1.1 | 1 | 3.1.3.7141854 | 1 | — | — | ESXi 6.0 |
| | 6.4.3.2811 | 8.0.0.2 | 1 | 4.2.0.9392909 | 1 | — | — | ESXi 6.0 |
| | 7.5.1.7623 | 8.1.0.2 | 1 | 4.2.1.9535982 | 1 | 3.2 | 1.2.2.1 | ESXi 6.5 |

a. Isilon storage clusters are tested using the Network File System (NFS) protocol.

Dell EMC servers tested

The following table shows the VMS and server versions that have been included in Validation testing.

Virtualization options (Virt):

- E - VMware ESXi
- B - Bare metal
- H - Microsoft Hypervisor

Table 3 VMS and Dell EMC servers tested

| VMS | Version | Server | Virt | Processor | Bios | Memory | Drives | RAID | NIC |
|-----------|----------------|--------|------|-----------------|--------|--------|----------------|------|--------|
| Genetec | 5.6 | R730xd | — | Xeon E5-2650 V4 | 2.4.3 | 256 GB | 16 x 10 TB | 10 | 10 GbE |
| | | | — | Xeon E5-2650 V4 | 2.4.3 | 256 GB | 8 x 4 TB | 5 | 10 GbE |
| | | R630 | — | Xeon E5-2650 V4 | 2.3.4 | 256 GB | 5 x 1 TB | 6 | 10 GbE |
| | | R430 | — | Xeon E5-2650 V4 | 2.3.5 | 256 GB | 1 x 400 GB SSD | 1 | 10 GbE |
| | | R740xd | — | Xeon Gold 6126 | 1.2.11 | 256 GB | 14X10 TB | 6 | 10 GbE |
| | | FD332 | — | — | — | 256 GB | 14X1.2 TB | 6 | 10 GbE |
| | | FC640 | — | Xeon Gold 6126 | 1.2.11 | 256 GB | — | 6 | 10 GbE |
| Milestone | 2017 | R730xd | — | Xeon E5-2650 V4 | 2.4.3 | 256 GB | 16 x 10 TB | 6 | 10 GbE |
| | | | — | Xeon E5-2650 V4 | 2.4.3 | 256 GB | 16 x 4 TB | 6 | 10 GbE |
| | | | — | Xeon E5-2650 V4 | 2.4.3 | 256 GB | 8 x 4 TB | 6 | 10 GbE |
| | | R630 | — | Xeon E5-2650 V4 | 2.3.4 | 256 GB | 5 x 1 TB | 6 | 10 GbE |
| | | R530 | — | Xeon E5-2650 V4 | 2.4.2 | 256 GB | 6 x 6 TB | 6 | 10 GbE |
| | | R430 | — | Xeon E5-2650 V4 | 2.3.5 | 256 GB | 1 x 400 GB SSD | 1 | 10 GbE |
| Qognify | 4.2 | R730xd | — | Xeon E5-2650 V4 | 2.4.3 | 256 GB | 16 x 4 TB | 6 | 10 GbE |
| | | | — | Xeon E5-2650 V4 | 2.4.3 | 256 GB | 15 x 10 TB | 6 | 10 GbE |
| | | | — | Xeon E5-2650 V4 | 2.4.3 | 256 GB | 14 x 10 TB | 6 | 10 GbE |
| | | R530 | — | Xeon E5-2650 V4 | 2.4.2 | 256 GB | 6 x 6 TB | 6 | 10 GbE |
| | | R430 | — | Xeon E5-2650 V4 | 2.3.5 | 256 GB | 1 x 400 GB SSD | 1 | 10 GbE |
| Verint | 6.4.3.281 1 | R730xd | — | Xeon E5-2650 V4 | 2.4.3 | 256 GB | 16 x 4 TB | 6 | 10 GbE |
| | | R630 | — | Xeon E5-2650 V4 | 2.3.4 | 256 GB | 14 x 10 TB | 6 | 10 GbE |

EVT testing

The following table shows the VMS that have been tested with Dell EMC Efficient Video Transport (EVT). Systems that are larger than 10 total agents might require a dedicated EVT Manager server.

Table 4 EVT Manager with Agent

| Partner | VMS | Version | Server/Service | | | | | |
|------------------------|--------------------------|------------|-------------------------------------|-----|-------------------------------|-----|-----------------------|-----|
| | | | Control | | Record | | Review | |
| Aimetis ^a | Symphony | 6.14.6.2 | N/A | N/A | Symphony Server | No | Symphony Client | No |
| Genetec | Security Center | 5.4 | Directory Server | No | Archiver | No | Security Desk | Yes |
| IQ Vision | Ultimate | 2014 | Management Server | No | Recording Server | No | Prime View | Yes |
| Honeywell | Digital Video Manager | 600.1 | Database Server | No | Camera Server | Yes | DVM Console Client | Yes |
| IndigoVision | Control Center | 13.1 | Control Center | Yes | Network Video Recorder (NVR) | Yes | Control Center Client | Yes |
| Milestone | XProtect | 2016 | Management Server | No | Camera Server | No | Smart Client | Yes |
| Gognify | NiceVision Net | 3.1 | Application Management Server (AMS) | No | SVR | Yes | Control Center | Yes |
| Synectics ^a | Digital Recording System | V1.17.0.16 | N/A | N/A | Digital Recording System PSN3 | No | Synergy 3 | No |
| Verint | Nextiva | 6.4.1591 | Master | No | Recorder | No | Review | Yes |

a. A dedicated EVT Manager server is required.

*

Table 5 EVT Agent only

| Partner | VMS | Version | Server/Service | | | | | |
|--------------|-----------------------|----------|-------------------|-----|------------------------------|-----|-----------------------|-----|
| | | | Control | | Record | | Review | |
| Aimetis | Symphony | 6.14.6.2 | N/A | Yes | Symphony Server | Yes | Symphony Client | Yes |
| Genetec | Security Center | 5.4 | Directory Server | Yes | Archiver | Yes | Security Desk | Yes |
| IQ Vision | Ultimate | 2014 | Management Server | Yes | Recording Server | Yes | Prime View | Yes |
| Honeywell | Digital Video Manager | 600.1 | Database Server | Yes | Camera Server | Yes | DVM Console Client | Yes |
| IndigoVision | Control Center | 13.1 | Control Center | Yes | Network Video Recorder (NVR) | Yes | Control Center Client | Yes |

Table 5 EVT Agent only (continued)

| Partner | VMS | Version | Server/Service | | | | | |
|------------|--------------------------|------------|-------------------------------------|-----|-------------------------------|-----|----------------|-----|
| | | | Control | | Record | | Review | |
| Milestone | XProtect | 2016 | Management Server | Yes | Camera Server | Yes | Smart Client | Yes |
| Gognify | NiceVision Net | 3.1 | Application Management Server (AMS) | N/A | SVR | Yes | Control Center | Yes |
| Synecotics | Digital Recording System | V1.17.0.16 | N/A | N/A | Digital Recording System PSN3 | Yes | Synergy 3 | Yes |
| Verint | Nextiva | 6.4.1591 | Master | No | Recorder | Yes | Review | Yes |

Body-worn and VMS verifications

The following table shows the VMS and Body camera providers that have partnered with Dell EMC for Functional testing.

Table 6 Functional testing

| Partner | Verification Test type | Isilon | VNX | CloudArray Isilon | CloudArray ECS |
|----------------|------------------------|--------|-----|-------------------|----------------|
| Axon Commander | Body Camera | X | X | - | - |
| DutyVue | Body Camera | X | X | X | X |
| Edesix | Body Camera | X | X | X | X |
| IndigoVisionFL | Body Camera | X | X | X | X |
| LenSec | VMS | X | - | - | - |
| NUUO | VMS | - | X | - | - |
| Reveal | Body Camera | X | X | X | X |
| VIEVU | Body Camera | X | X | X | X |

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