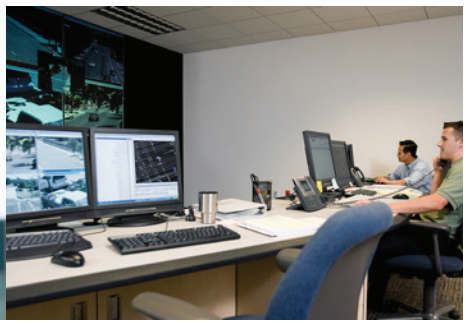
# Cisco Video Surveillance Manager with Cisco UCS

Solution Brief
May 2015





## Highlights

### Comprehensive Video Surveillance Solution

- The Cisco UCS® C-Series Rack Servers combined with Cisco® video surveillance server software offer a complete, virtualized, hyperscale solution that supports thousands of video surveillance cameras.

### Integration with Cisco UCS Rack Servers

- Cisco UCS C-Series Rack Servers running virtualized Cisco Video Surveillance Manager (VSM) offer increased capacity for digital recording and playback at a reduced price.

### Excellent Capacity and Performance

- Cisco UCS servers deliver optimal capacity and performance for large-scale video surveillance deployments, up to 360 TB of storage capacity per Cisco UCS C3160 Rack Server or 3.3 petabytes (PB) in a rack.

### Seamless Integration

- The solution can be integrated into existing or new Cisco UCS and Cisco Nexus® infrastructure solutions.

## When security matters, companies use Cisco's end-to-end solution for their surveillance systems.

A renewed focus on faster threat detection and response requires better ways to monitor and protect people, processes, and property. That's why many organizations are turning to Cisco Unified Computing System™ (Cisco UCS®) servers running Cisco® Video Surveillance Manager (VSM). This powerful solution easily supports thousands of video surveillance cameras so you can stay ahead of intrusions and threats and respond before damage is done.

## Flexible Physical Security Solutions

Keeping your organization safe and secure requires fast threat detection and enhanced collaboration from multiple IP-based surveillance locations. Cisco's physical security solutions give businesses and government agencies network-centric capabilities in threat detection, monitoring, and response. End-to-end solutions combine IP video surveillance, IP camera, electronic access control, and incident response so you can build cost-effective, modular physical security solutions (Figure 1).

Based on Cisco UCS servers and Cisco VSM, Cisco's comprehensive, virtualized video surveillance solutions make it easy for your security staff to remotely monitor, investigate, and respond to incidents. These solutions combine high-performance computing systems, high-density storage, and video surveillance and remote management software.

## Cisco Video Surveillance Software

Cisco's video surveillance software solutions help your network and security teams collaborate effectively. By combining video and network techniques with a secure, policy-based system, your security teams can optimize their productivity across hundreds of thousands of video surveillance cameras. Cisco VSM uses IP technology, making it easy to scale your solution across many sites, cameras, and storage systems and deliver low-latency, high-quality, event-tagged video to viewers. With support for a wide range of network topologies and platforms–from centralized systems to decentralized, highly virtualized environments–you gain simple, effective management for your complex surveillance requirements. In addition, a web-based toolkit provides tools to configure, manage, display, and control video from both Cisco and third-party surveillance endpoints.

Cisco VSM includes Cisco Video Surveillance Media Server, a highly scalable and reliable video management platform that manages, replicates, distributes, and archives video streams. These solutions work with Cisco Video Surveillance Operations Manager, a web-based centralized administration tool that authenticates and manages access to videos, media servers, cameras, encoders, and viewers.

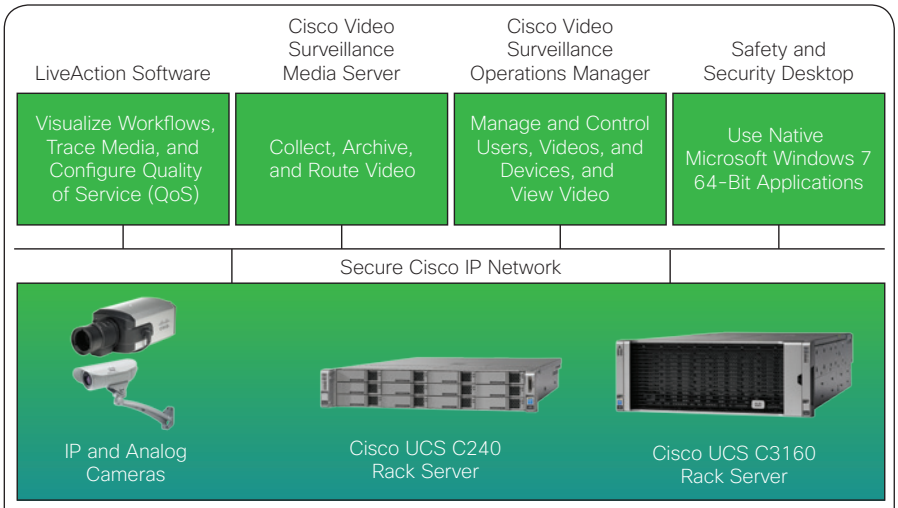



**Figure 1**. Components of Cisco's Physical Security Solutions

## Cisco UCS Rack Servers

Cisco UCS C-Series Rack Servers deliver unique benefits in a familiar, industry-standard form factor to reduce total cost of ownership (TCO) and increase IT agility. For your video surveillance needs, Cisco UCS C3160 and C240 M4 Rack Servers offer a balance of processing, memory, I/O, and internal storage resources so you can deploy what you need where you need it.

### Cisco UCS C3160 Rack Server

The Cisco UCS C3160 is an advanced, modular, high-density-storage rack server. Based on the Intel® Xeon® processor E5-2600 v2 series, it offers up to 360 TB of local storage in a compact 4-rack-unit (4RU) form factor. Internal hard-disk drives (HDDs) are individually hot swappable, and built-in enterprise-class RAID technology helps you achieve high levels of data availability for your video surveillance environments. In addition, the Cisco UCS Virtual Interface Card delivers low-latency, high-speed connectivity. Remote management is provided by the Cisco Integrated Management Controller (IMC), simplifying data center operations and management tasks across geographically distributed locations.

Each Cisco UCS C3160 can host up to four Cisco VSM virtual machines, with each virtual machine capable of sustaining up to 250 IP cameras. The configuration can be scaled to dozens of servers supporting thousands of cameras and petabytes of storage.

- **Value:** Cisco UCS C3160 Rack Servers are part of Cisco's unified computing system, delivering budget efficiency, agile business response, and simplified IT operations.
- **Efficiency:** A modular chassis supports server nodes, storage, and networking components. With an innovative airflow design, improved cooling efficiency, and a short-depth design (less than 32 inches), you can increase the density of your video surveillance computing and storage solutions without excessive power and cooling requirements.
- **Reduced TCO:** Cisco UCS C3160 Rack Servers can be deployed as standalone servers. You can add or upgrade individual components as your video surveillance needs dictate, without having to replace the entire system.

**Cisco UCS C240 M4 Rack Server**

The Cisco UCS C240 M4 is designed for performance and expandability over a wide range of storage-intensive workloads. With a 2RU form factor and computing capabilities based on the Intel Xeon processor E5-2600 v2 and E5-2600 v3 product families, Cisco UCS C240 M4 Rack Servers deliver an outstanding combination of performance, flexibility, and efficiency gains. Up to two processors, 24 DIMM slots, and two 1 Gigabit Ethernet LAN-on-motherboard (LOM) ports are available, delivering exceptional levels of internal memory, storage expandability, and performance. In addition, Cisco UCS Virtual Interface Cards deliver low-latency, high-speed connectivity.

The Cisco UCS C240 M4 Rack Server's disk configuration delivers balanced performance and expandability to meet your unique video surveillance requirements. With up to 12 Large Form Factor (LFF) internal drives, the Cisco UCS C240 M4 can host one Cisco VSM virtual machine, using internal storage for the video repository. In this configuration, the server can deliver up to 250 IP cameras.

Typical deployments run Cisco Video Surveillance Operations Manager on a separate server such as a Cisco UCS C220 M4 Rack Server. When deploying a highly available solution two servers are deployed.

## Reference Architecture

Deployment delays and service disruptions can affect your organization's security. Cisco reference architecture reduces risk and guesswork by giving your architects and administrators a guidebook for implementing solutions. Cisco's video surveillance reference architecture is tested, validated, and documented so that you can get your solutions up and running quickly and with confidence (Table 2).

## Conclusion

Companies around the world use Cisco UCS C-Series Rack Servers running Cisco video surveillance software to increase their security monitoring capacity. If you need to improve your organization's video surveillance capabilities, Cisco's virtualized, hyperscale solution can help you support thousands of video surveillance cameras while reducing TCO.

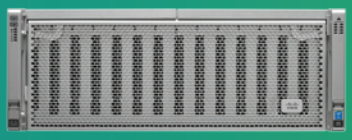
## For More Information

For more information about the Cisco Video Surveillance 7 Documentation Roadmap, visit http://www.cisco.com/c/en/us/td/docs/security/physical_security/video_surveillance/network/vsm/roadmap/vsm_7_roadmap.html.

For more information about Cisco UCS C3160 Rack Servers, visit http://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c3160-rack-server/datasheet-c78-732578.html.

For more information about Cisco UCS C240 M4 Rack Servers, visit http://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c240-m4-rack-server/datasheet-c78-732455.pdf.

Table 2. Components for Video Surveillance Solutions Deployed on Cisco UCS Servers

| Component | Cisco UCS C3160 Rack Server (Large Deployments)  | Cisco UCS C240 M4 Rack Server (Medium Deployments)  |
|---|---|---|
| Software | • Video surveillance solution | • Video surveillance solution |
| Cisco Single SKU Smart Play Offers | • UCS-SA-C3160-D | • UCSC-C240-M4L (12 LFF HDDs) |
| CPU and Memory | • 2 x 2.40-GHz Intel Xeon E5-2695 v2 with 30-MB cache<br>• 256 GB RAM | • 2 x 2.80-GHz Intel Xeon E5-2680 v3 with 30-MB cache<br>• 256 GB RAM |
| Storage Controller and Storage | • Cisco 12-Gbps SAS modular RAID controller with 4-GB flash-based write cache (FBWC)<br>• 2 x 120-GB SATA SSDs<br>• 60 x 4-TB 7200-rpm SAS SFF HDDs | • Cisco 12-Gbps SAS modular RAID controller with 2-GB FBWC<br>• 2 x 120-GB SATA SSDs<br>• 12 x 4-TB 7200-rpm SAS LFF HDDs |
| Network Controller and Network and Cluster Scaling | • 2 x Cisco UCS Virtual Interface Card (VIC) 1227<br>• Integrated into existing or new Cisco UCS and Cisco Nexus® infrastructure solutions | • 1 x Cisco UCS VIC 1227<br>• Integrated into existing or new Cisco UCS and Cisco Nexus® infrastructure solutions |
| Raw Storage Capacity | • 360 TB (3.6 PB per rack) | • 48 TB (768 TB per rack) |
| Recommended Number of Cameras | • 1000 | • 250 |
| Virtual Machines | • 4 Cisco Video Surveillance Media Server (VMS) Software virtual machines<br>• 1 Cisco Video Surveillance Operations Manager (VSOM) virtual machine | • 1 Cisco VMS Software virtual machine<br>• 1 Cisco VSOM virtual machine |
| | • Cisco VMS Software and Cisco VSOM can be deployed on separate servers, such as Cisco C220 M4 Rack Servers, and using Cisco UCS C3160 Rack Servers and Cisco C240 Rack Servers for video storage. | |

**Americas Headquarters**
Cisco Systems, Inc.
San Jose, CA

**Asia Pacific Headquarters**
Cisco Systems (USA) Pte. Ltd.
Singapore

**Europe Headquarters**
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at **www.cisco.com/go/offices**.



LE-48601-00 05/15