



March Networks Command Specification Sheet

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March Networks Command Solution Feature Overview

March Networks Command™ Key Features

E = Enterprise – features available in March Networks Command Enterprise

P = Professional – features available in March Networks Command Professional

L = Lite – features available in March Networks Command Lite

Sophisticated, World-Class Web-Client: E, P, L

The Command Client offers a simple, flexible, yet sophisticated browser-based client interface that is customizable and easy-to-use.

Central Health Monitoring: E

Single-point health monitoring provides a clear view of the health of the enterprise system from within the Command Client.

Encoder Pass-Through (E-Pass): E, P, L

This encoder pass-through feature provides customers with an additional layer of redundancy and significant WAN bandwidth savings by enabling any March Networks Hybrid NVR or Command Recording Server (CRS) to stream to other CRS's in the surveillance network.

Mass Management: E

Video surveillance system deployment and management can be complex. Command Enterprise's mass management capability allows organizations to manage complex surveillance systems with ease.

Shadow Archive Synchronization: E, P, L

March Networks' Shadow Archive™ not only enables users to use the Command Client interface to access video from March Networks IP cameras, encoders and NAS devices when a network fails, it also synchronizes that video seamlessly onto a centralized recording server once the network is back online.

Unparalleled Redundancy and Monitoring: E, P

March Networks Command offers a wide range of redundancy features to ensure maximum availability of recorded video. Recording server redundancy is coupled with Enterprise server VMware high availability and a full set of system overview tools that monitor configuration, recording and streaming status, in addition to relevant data rates right down to the single camera level.

Central User Management: E

Using LDAP and Microsoft® Active Directory credentials offers global user management and controlled access to appropriate functionality and system resources.

Openness and Scalability: E, P, L

Command supports 12 different recording platforms, more than 600 IP edge devices through proprietary protocol, and thousands of IP edge devices through ONVIF Profile S integration. It also supports from 4 to 128 channels of video per recording platform, making it ideal for use in small branch sites up to large corporate buildings and campuses.

Solution Flexibility: E, P, L

Unlike software-only solutions, Command is a highly-flexible offering that allows organizations to choose the right solution for their needs; whether it is a hybrid networked video recorder, IP cameras and encoders recording to NAS, a Command recording server running in a virtualized environment, video wall software, thick-client or easy to use web-client software.

March Networks Command Enterprise Solution Overview

March Networks Command Enterprise is a fully distributed solution designed for large multi-site and multiple recording server/recorder installations. Command Enterprise offers edge device support from various vendors as well as seamless support for March Networks edge devices. Command Enterprise consists of the following main components:

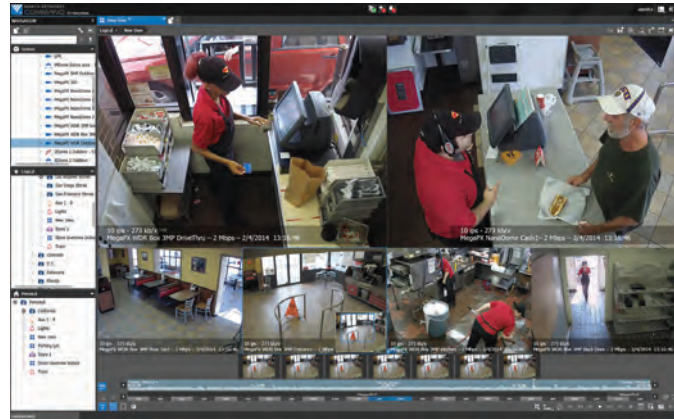
Command Enterprise Server software is the center of the Command solution.

Stores the surveillance system's configuration in a relational database, either on the management server computer itself or on the customer's existing SQL Server on the network. The Enterprise Server also handles global user authentication, user rights and hosts the web services for Command's web client. The Enterprise Server software can run on most commercial-off-the-shelf (COTS) servers from leading server manufacturers or it can run in a VMware® virtual machine.



Command Client is the primary browser-based user interface for Command.

Offers an intuitive user interface that allows administrators and users alike to manage their Command video surveillance network. The user interface is the unified client tool that can be opened on any Windows® 7 or later browser or Mac® OSX browser interface. In the Command Enterprise environment, the Command Client is hosted from the Enterprise Server. Command Client can see video from March Networks' Hybrid NVRs, as well as Command Recording Servers.



Command Recording Server (CRS) software is the primary archive engine for Command Enterprise.

The Recording Server software is the primary archiving component of the Command Enterprise solution. The software is designed to run separately from the Enterprise Server software. It can be installed directly on any COTS servers or can be purchased from March Networks running on Dell® platforms. Another option for the recording server software is to run it on a VMware virtual machine (VM) to support up to 128 cameras per recording server. Command Enterprise can support up to 128,000 camera connected to March Networks hybrid NVRs and DVRs. The maximum number of recorders/recording servers supported in a single system is 10,000. Two types of recording servers include:



- **the Primary Recording Server** is the primary archiving component of the CRS architecture
- **the Redundant Recording Server** is the redundant/failover archiving component of the CRS architecture

Command Config is a browser-based server administration client for configuration and management.

Hosted on Command Recording Servers, Command Config is a 100% browser-based management console for Command Recording Servers. It allows users to manage servers, add cameras, create storage, and perform other important tasks related to a specific recording server.



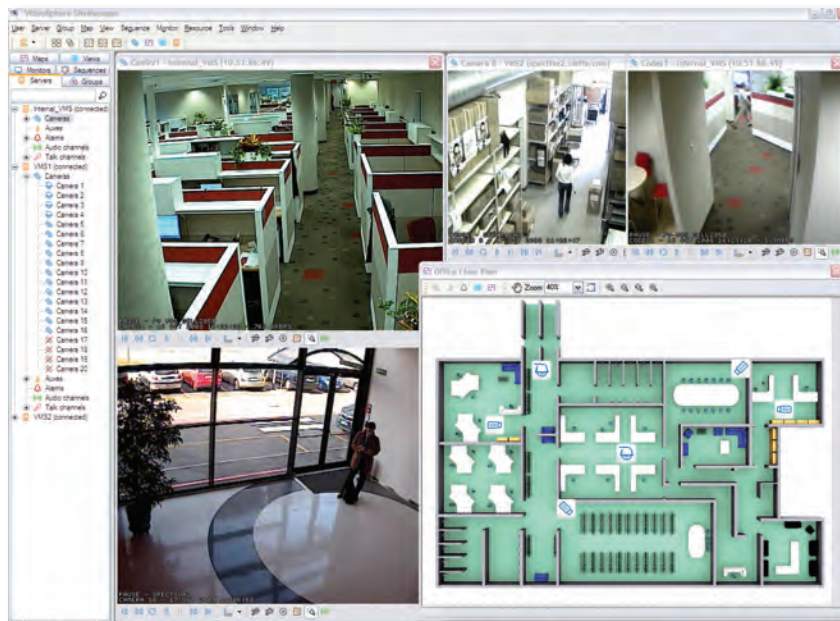
Optional Command Enterprise Components

March Networks' SiteManager is Command's thick-client software option for video management control.

Although not a required component of Command Enterprise, SiteManager software provides support for March Networks DecodeStation VX, video analytics, license plate recognition (LPR), mapping and several other advanced functionalities. SiteManager works with Command Recording Servers and Hybrid NVRs.



SiteManager



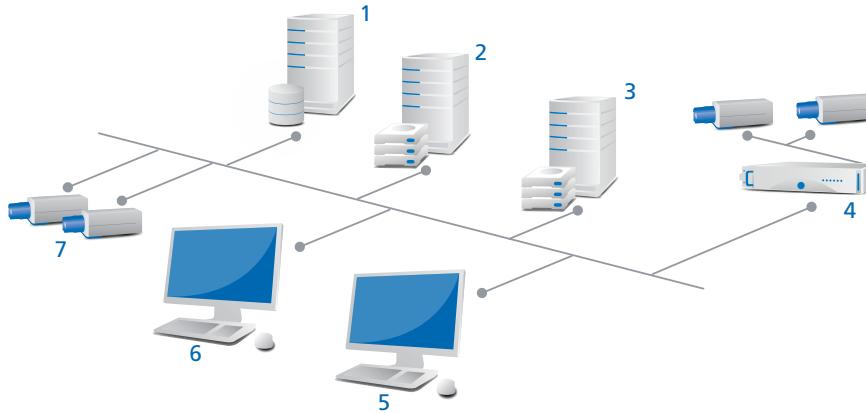
DecodeStation VX is the primary video wall control software for Command solutions.

The DecodeStation VX is a software-based virtual matrix that delivers video transmission, control, monitoring and management for any video surveillance environment. It is supported in the Command solutions environment through SiteManager client software. The DecodeStation VX delivers cost-competitive video wall management in a software-only package that organizations can install on COTS computers.



DecodeStation VX

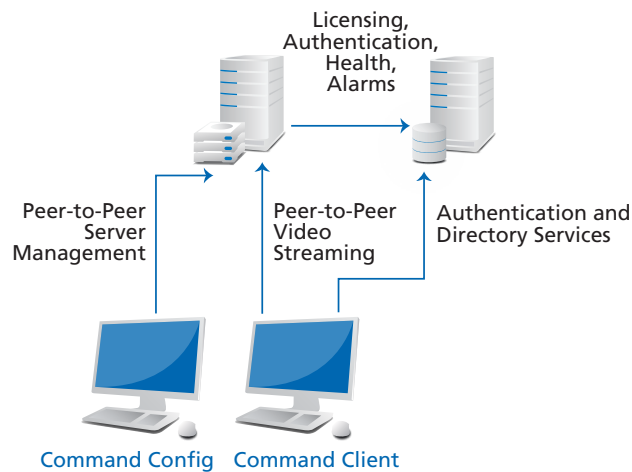
March Networks Command Enterprise Solution Diagram



Command Enterprise Component Legend:

1. Enterprise Server Software (Including SQL Server)
2. Command Recording Server
3. Command Redundant Recording Server
4. March Networks Hybrid Network Video Recorder (NVR) with Analog Cameras
5. Web-Based Command Client and Command Config
6. Optional SiteManager software
7. IP Edge Devices (Encoders and IP Cameras)

March Networks Command Enterprise Application Communications



Benefits of Command Enterprise's Communication Architecture:

- Video streaming connections are made peer-to-peer, reducing unnecessary communication to the Enterprise Server
- Recording Servers DO NOT make constant connections to the Enterprise Server
- Licensing is managed through the Enterprise Server
- Mass Management is made through the Enterprise Server
- Recording Server Management using Command Config is made peer-to-peer

March Networks Command Professional Solution Overview

March Networks Command Professional is a single server solution, designed for small to medium-sized architectures with up to 128 cameras. Command Professional offers edge device support for various vendors as well as seamless support for March Networks edge devices. Command Professional consists of the following main software components:

Command Recording Server (CRS) software is the primary archive engine for Command Professional.

The recording server software is the primary archiving component of the Command Professional solution. The recording server software is designed to run separately from the Enterprise Server software. It can be installed directly on any COTS servers or can be purchased as a bundled solution from March Networks running on Dell platforms. Another option for the recording server software is to run it on a VMware virtual machine (VM). Up to 128 cameras are supported on a single Command Recording Server when operating as part of Command Professional.



- **The Primary Recording Server** is the primary archiving component of the CRS architecture
- **The Redundant Recording Server** is the redundant/failover archiving component of the CRS architecture

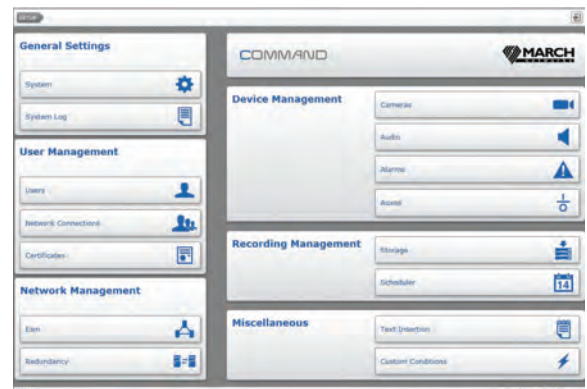
Command Client is the primary browser-based user interface for Command.

Offers an intuitive user interface that allows administrators and users alike to manage their Command video surveillance network. The user interface is the unified client tool that can be opened on any Windows 7 or later browser or Mac OSX browser interface. In the Command Professional environment, the Command Client is hosted from the Command Recording server.



Command Config is a browser-based server administration client for configuration and management.

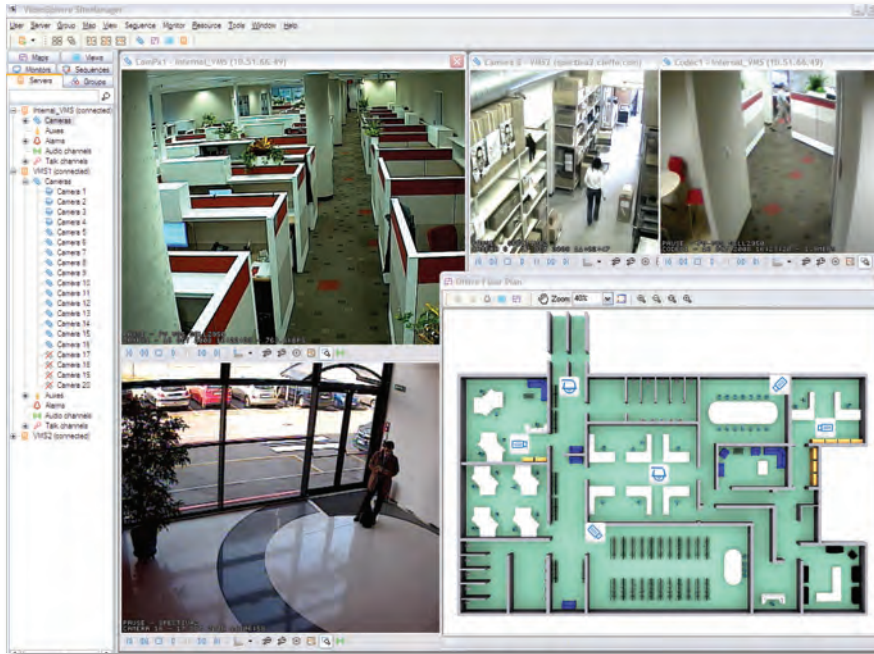
Hosted on Command Recording Servers, this is a 100% browser-based management console for Command Recording Servers. Command Config allows users to manage servers, add cameras, create storage, and perform other important tasks related to a specific recording server.



Optional Command Professional Components

March Networks' SiteManager is Command's thick-client software option for video management control.

Although not a required component of Command Professional, SiteManager software provides support for March Networks' DecodeStation VX, video analytics, license plate recognition (LPR), mapping and several other advanced functionalities.

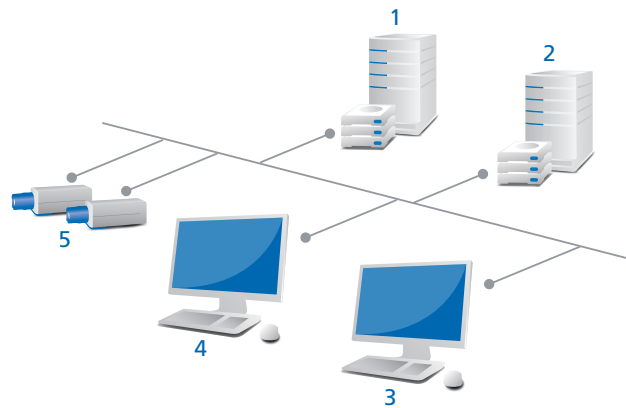


March Networks DecodeStation VX is the primary video wall control software for Command solutions.

The DecodeStation VX is a software-based virtual matrix that delivers video transmission, control, monitoring and management for any video surveillance environment. It is supported in the Command solutions environment through SiteManager software. The DecodeStation VX delivers cost-competitive video wall management in a software-only package that organizations can install on COTS computers.



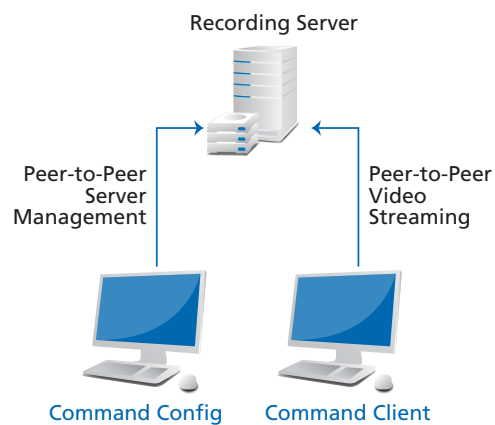
March Networks Command Professional Solution Diagram



Command Professional Component Legend:

1. Command Recording Server (up to 128 cameras)
2. Redundant Command Recording Server (redundant recording for up to 128 cameras)
3. Web-Based Command Client and Command Config
4. SiteManager
5. IP Edge Devices (Encoders and IP Cameras)

How Does Command Professional Communication Work?



Benefits of Command Professional's Communication Architecture:

- All communications are made directly to the Recording Server
- Command Config and Command Client are hosted by the Recording Server
- Video streaming connections are made peer-to-peer
- Recording server management using Command Config is made peer-to-peer

March Networks Command Lite Solution Overview

March Networks Command Lite is a free-of-charge, single server solution designed for small businesses and offices with up to 6 cameras. Command Lite offers edge device support for various vendors as well as seamless support for March Networks edge devices. Command Lite consists of the following main software components:

Command Recording Server (CRS) software is the primary archive engine for Command Lite.

The recording server software is the primary archiving component of the Command Lite solution, and is designed to run as standalone software. It can be installed directly on any COTS servers or high performance personal computer. Another option for the recording server software is to run it on a VMware virtual machine (VM). Up to 6 cameras and seven days of video retention are supported on a single Command Recording Server when operating as part of Command Lite.



Command Client is the primary browser-based user interface for Command.

Offers an intuitive user interface that allows administrators and users alike to manage their Command video surveillance network. The user interface is the unified client tool that can be opened on any Windows 7 or later browser or Mac OSX browser interface. In the Command Lite environment, the Command Client is hosted from the Lite recording server.

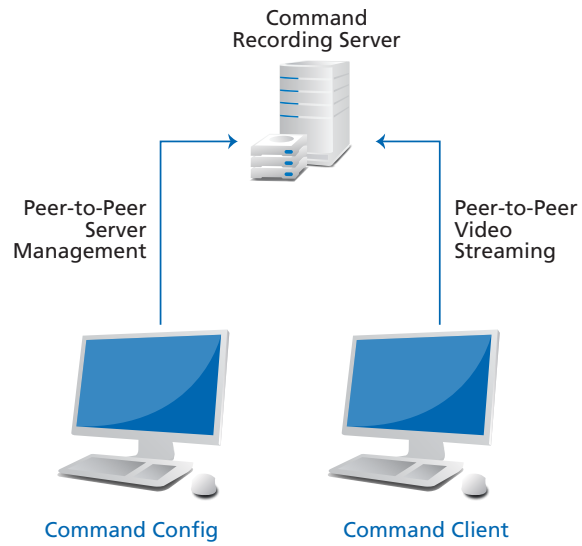


Command Config is a browser-based server administration client for configuration and management.

Hosted on Command Recording Servers, this is a 100% browser-based management console for Command Recording Servers. Command Config allows users to manage servers, add cameras, create storage, and perform other important tasks related to a specific recording server.



How Does Command Lite Communication Work?



Benefits of the Command Lite Communication Architecture:

- All communications are made directly to the Recording Server
- Command Config and Command Client are hosted by the Recording Server
- Video streaming connections are made peer-to-peer
- Licensing is not required
- Recording server management using Command Config is made peer-to-peer
- Command Lite can be easily upgraded to full featured Professional or Enterprise CRS versions

System Strengths and Capabilities

Web-Based Interface

- Cross-platform browser user interface
- Modular interface based on user type
- Up to 36 live and archived streams per screen
- Interface focused on functional tasks
- Central system and user management

Central Health Monitoring

- Monitors for problems on recording platforms
- Device overview
- System diagnostics
- Device connection/communication monitoring

System Security

- Multi-level, user-access privileges
- HTTPS secure web access
- LDAP/Windows Active Directory
- Authenticated user rights
- User activity logs
- Server activity logs

System Deployment

- Device configuration import/export
- NVR firmware management
- Edge device firmware management
- Device miss-match monitoring
- Recorder device discovery

Redundancy

- VMware high availability for Command Enterprise Server
- Command Recording Server redundancy
- Shadow Archive edge failover SDHC
- Shadow Archive edge failover NAS
- Shadow Archive synchronization
- Multi-sector recording capability
- Virtualization support
- Distributed architecture

Live And Recorded Video Monitoring

- H.264, MPEG-4, M-JPEG video compression
- NTSC/PAL resolutions supported
- Side-by-side archived and live video
- Synchronized audio/video playback and export
- Graphical timeline during playback
- Video archive thumbnails
- Digital zoom with intuitive zoom assistant
- Motion histograms
- Graphical interactive mapping
- Save and print video snapshots
- 10 second instant replay
- Multi-sector playback
- Calendar timeline search
- Timeline scale, minutes to months
- 16:9 – 4:3 aspect ratio support
- Alarm monitoring and searching
- MP4, CME, and PDF export options

Command Player

- Proprietary export format (.cme)
- Case management support
- Virtual PTZ capabilities
- Portable and installable versions

PTZ Camera Support

- Network PTZ control
- Presets and tours configuration
- Go to preset
- Joystick and keyboard support

Integrations

- Access control systems
- Third-party IP edge devices
- ONVIF-compliant edge devices
- Virtualized server solutions

Video Recording and Archive

- 128 cameras/512 Mbps per recorder
- COTS server support
- Recording schedules per device
- Multiple sector recording per device
- Continuous video recording
- Recording on motion
- Recording on event/alarm
- Shadow Archive edge recording SDHC
- Shadow Archive edge recording to NAS
- NAS, SAN, iSCSI, SAS recording support

Video Networking and Transmission

- Utilizes standard TCP/IP protocols
- Strong WAN transmission capabilities
- Video multi-streaming
- Support for multi-encoding

DecodeStation VX / SiteManager

- Multiple monitors per DecodeStation VX
- Send resources to monitor/video wall
- Send customized video views
- Send maps to monitor
- Virtual matrix remote/local control
- Graphical mapping
- Event monitoring and management
- License plate recognition search

Licensing

- Central license management
- License fee per video channel
- Server disconnect license policy

Supported Languages

- English
- Spanish
- Chinese
- French
- Italian
- Portuguese

Comparing Command Product Options

System	Command Lite	Command Professional	Command Enterprise
Maximum Number of Concurrent Connections	32	64	Unlimited
Maximum Number of Recording Servers	1	1	10,000
Maximum Number of Cameras	6	128 (32-channel max. on 32-bit OS)	128,000
SQL Database Support	No	No	Yes
Web-Services Support	No	No	Yes
Server Virtualization	•	•	•
Device Discovery	•	•	•
System Management	Command Lite	Command Professional	Command Enterprise
Microsoft Active Directory/LDAP	•	•	•
Central User Management			•
Central Health Monitoring			•
Central License Management			•
Mass Management – Device Configurations			•
Mass Management – Firmware Upgrade			•
Device Overview			•
System Diagnostics	•	•	•
E-Pass (Encoder Pass-Through)	•	•	•
Web-Based Configuration and Management	•	•	•
Logical Navigation Tree			•
Personal Navigation Tree	•	•	•
Integrations	Command Lite	Command Professional	Command Enterprise
Server API/SDK	•	•	•
ONVIF Support	•	•	•
Third Party Cameras Support	•	•	•
Access Control Integration	•	•	•
Text Insertion Support		•	•

Comparing Command Product Options

Live Monitoring	Command Lite	Command Professional	Command Enterprise
PTZ Control	•	•	•
Tours and Presets	•	•	•
Support for CCTV Keyboards		•	•
Text Overlay		•	•
Privacy Masking	•	•	•
Megapixel/HD Video Support	•	•	•
Virtual Matrix		•	•
Video Grids (Views)	•	•	•
Carousel/Sequence		•	•
Interactive Mapping	•	•	•
Multiple Monitors Support		•	•
Video Wall Management		•	•
Alarm Management	Command Lite	Command Professional	Command Enterprise
Alarm Inbox		•	•
Alarms/Outputs Management		•	•
Alarm Acknowledgement Procedure		•	•
Automated Email Notification on Alarm		•	•
March Networks Video Analytics		•	•
Customizable Alarms		•	•
Investigation	Command Lite	Command Professional	Command Enterprise
Alarm Search & Playback		•	•
Graphical Timeline	•	•	•
Timeline Visual Finder	•	•	•
Archive Thumbnails	•	•	•
Frame-by-Frame	•	•	•
Instant Replay	•	•	•
Side-by-Side Live and Archive Viewing	•	•	•
Calendar Archive Search	•	•	•
Motion Histograms	•	•	•
Snapshot of Live/Archived Video	•	•	•
Video Export (MP4, proprietary CME)	•	•	•
Command Player	•	•	•
Synchronized Playback	•	•	•
Snapshot/Exported Video Authentication	•	•	•

Storage & Recording	Command Lite	Command Professional	Command Enterprise
Video Retention Time	Max 7 days	Unlimited	Unlimited
Video Retention Policies	Yes	Yes	Yes
Multi Sector Archiving	•	•	•
Edge Recording (Shadow Archiving™)	•	•	•
Network Storage Support	•	•	•
Edge Recording Synchronization	•	•	•
Synchronized Audio Recording	•	•	•
Recording on Analytics Alarm	•	•	•
Recording on Physical Alarm	•	•	•
Motion Recording	•	•	•
Pre and Post Alarm Recording	•	•	•
Recording on Schedule	•	•	•
Redundant/Failover Recording		•	•
User Management	Command Lite	Command Professional	Command Enterprise
Default User Profiles			•
Restrict Access by Customizable Folders			•
Restrict Access by Camera	•	•	•
Restrict Access by Schedule		•	•
Smartcard/USB Token Support		•	•
Connection Management	•	•	•
IP Address Filtering	•	•	•

General Technical Specifications

Command Client Interface (Thin Client)

Operating Systems Supported	Windows 7, Windows 8, Windows 8.1, Windows 10 Mac OS X 10.10 (Yosemite)
Browsers Supported	Microsoft Internet Explorer 9 (or later, Windows OS only), Firefox (up to version 29.0), Safari 8, Mac OS X 10.10 (Yosemite), with Microsoft Silverlight® 5.x installed.
Multi-Camera Viewing	Up to 36 cameras per browser connection
Active Directory Support	Yes
Web-Based Interface Security	Multi-level password protection via Microsoft® Active Directory authentication, HTTPS encryption

SiteManager (Thick Client)

Operating Systems Supported	Windows 7, Windows 8, Windows 8.1
Multi-Camera Viewing	Up to 64 cameras per monitor, multiple monitors supported
Multi-Monitor Support	Automatic
Security	Multi-level password protection via Microsoft® Active Directory authentication

Enterprise Server Specifications

Operating Systems Supported	Windows Server 2008 R2 SP1, Windows Server 2012, Windows Server 2012 R2
Native Enterprise Database	MS SQL Server Express
Certified SQL Databases	MS SQL 2008, MS SQL 2012, MS SQL 2014
Command Web Server	Glassfish Server (included)
User Management Server	Microsoft® Active Directory

Video

Video Compression	H.264, MPEG-4, M-JPEG
Frame Rate	Up to 30 fps
Maximum Resolution	Device dependant

Recording Redundancy

Recording Server Redundancy	Yes
Shadow Archive with Synchronization	Yes

IP Camera Support

ONVIF-S Compliant Device Support	Yes
Third-Party Device Support	List available on marchnetworks.com

Recommended System Requirements

Enterprise Server Requirements

IMPORTANT: For installations consisting of more than 2500 CRS or recorders, please contact March Networks Sales Engineering or Technical Support for specific system requirements.

	Small < 10 recorders	Mid 10-100 recorders	Large up to 2,500 recorders
Operating System	Windows Server 2008 R2 SP1, Windows Server 2012, Windows Server 2012 R2	Windows Server 2008 R2 SP1, Windows Server 2012, Windows Server 2012 R2	Windows Server 2008 R2 SP1, Windows Server 2012, Windows Server 2012 R2
Processor	Dual Core Intel Xeon or better	Quad Core Intel Xeon or better	Dual Quad Core Intel Xeon or better
HDD Space	4 GB	6 GB	4 GB + 2 GB every 100 recorders
Network Interface	Gigabit Ethernet	2 x Gigabit Ethernet	2 x Gigabit Ethernet
Memory	4 GB	4 GB 1333 MHz	8 GB 1333 MHz

Recording Server Requirements

	Small < 32 cameras	Mid 32 - 64 cameras	Large up to 128 cameras
Operating System	Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, Windows 7, Windows 8, Windows 8.1, Windows 10	Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, Windows 7 (64 bit), Windows 8 (64 bit), Windows 8.1 (64 bit), Windows 10	Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, Windows 7 (64 bit), Windows 8 (64 bit), Windows 8.1 (64 bit), Windows 10
Processor	Dual Core Intel i5	Quad Core Intel i7	Quad Core Intel Xeon
HDD Space	25 GB (minimum)	25 GB (minimum)	25 GB (minimum)
Network Interface	Gigabit Ethernet	2 x Gigabit Ethernet	2 to 4 x Gigabit Ethernet
Memory	4 GB	4 GB	8 GB 1333 MHz