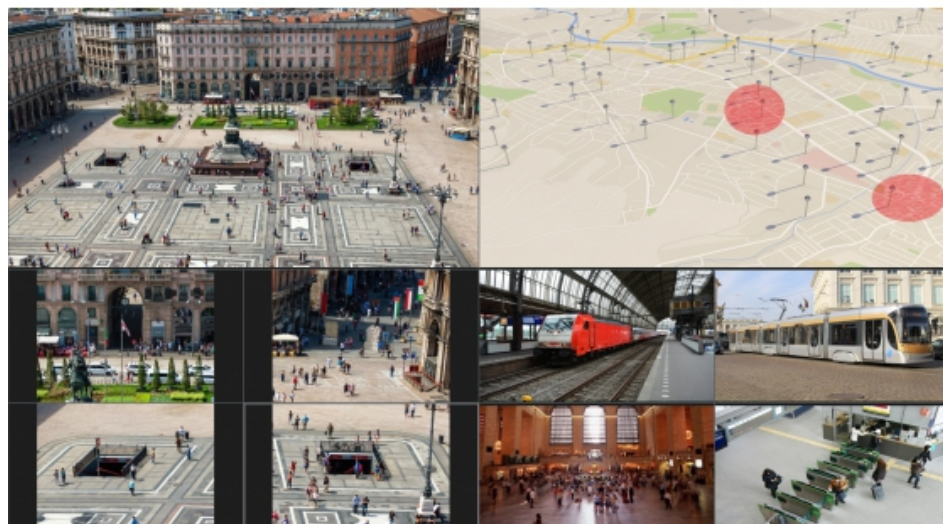# SONY

SOW-E Series

Network Video Management Software – Enterprise Edition

Overview

Highly-scalable, feature-rich, network video management software for monitoring systems with up to 4096 cameras
This versatile, highly scalable video management software supports monitoring systems with up to 4096 cameras, which is ideal for large-scale monitoring and recording applications such as school districts, cities, and transportation. The SOW-E Series is the first 4K-ready VMS application from Sony with 4K recording and playback capability. It's ideal for use with Sony 4K cameras, supporting unique image output functions like Intelligent Cropping. Recording 4K image data with four times the resolution of Full HD, the SOW-E Series supports more effective, efficient video monitoring by providing excellent situational awareness plus the ability to recognise fine details in a scene and quick, accurate searches. Multiple users can simultaneously and securely access live or recorded video via their smartphone or tablet from any location. In addition remote PC clients can securely access system functions via a web browser, with no need to install application software. Multi-vendor support allows easy expansion through the addition of a growing choice of third party cameras and other devices to create a powerful, versatile monitoring system. Regular software updates give monitoring professionals the reassurance of top-flight performance and the addition of new features to expand system capabilities even further. Monitoring workflow is enhanced with support for a wide range of smart analytical and automation functions. This software-based solution gives system designers and integrators the freedom to select server hardware from the marketplace with CPU and operational specifications to meet their customers' precise needs. Note The SOW-S and SOW-E Series network video management software and HAW-S and HAW-E Series network video recorders are not compatible with each other and cannot be used in the same system.

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Features

- **Compatible with Sony 4K cameras**

  Sony 4K cameras provide powerful new ways to get the whole picture, allowing detailed analysis of specific areas in a scene, together with a wide-area situational overview. They offer a range of video output functions, including Intelligent Cropping and Multi Tracking, plus Evidence Shot, high resolution still image capture that's ideal for evidence. The SOW-E Series supports the video output functions unique to Sony 4K cameras, including a single real-time 4K/30 fps video stream and Intelligent Cropping that provides a Full HD overview video plus up to four VGA close-up video streams at the same time.

- **Multi-client access via smartphone or PC**

  Multiple users can simultaneously and securely access live or recorded video via their smartphone or tablet from any location. In addition remote PC clients can securely access system functions via a web browser*, with no need to install application software. Live images captured with a smartphone or tablet by on-site staff can be transferred to the system, shared among users in the operations room and recorded to the central server. This supports timely monitoring of events, even in extreme environments where installing cameras is difficult. * Web browser supports limited functions, while client application software installed on a PC supports full system functions.

- **Get a more intelligent viewpoint**

  Smart Wall integrates a large number of monitors installed on the video wall. This advanced optional add-on video wall product improves operator's response time by displaying all video data to provide a complete overview of large monitoring centres. Operators can focus on the most critical matters and coordinate response activities because multiple users can be shown the same view.

- **All-round awareness**

  Interactive, multi-layered maps offer a situational overview plus control of cameras and other integrated systems. Icons are displayed in a map image showing the location of each camera: operators can instantly view live video by clicking on an icon. When an alarm event occurs, the associated camera icon is displayed prominently, helping the operator understand the situation and take appropriate action.

- **Fail-over data backup with Edge Storage**

  Video and audio data can be recorded directly onto a SD/microSD card attached to the camera. This can be used for fail-over data backup if the network connection is temporarily disconnected. Recorded data can be transmitted to network video recorders (NVR)/video management software (VMS) and merged with data saved on the NVR/VMS storage.

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System components (software modules)

● Recording Server	Yes
● Number of connected cameras per system	4096
● Maximum number of cameras per recording server	depends on a machine spec
● Recording Server manager	Yes
● Management Server	Yes
● Management Failover Server (redundant cluster)	Yes
● Management Client(2) (dedicated client application for local or remote management)	Yes
● Event Server (for handling of events and alarms)	Yes
● Failover Event Server (redundant cluster)	Yes
● NVMS Mobile Client	Yes
● Network Video Management System Smart Client	Yes
● Network Video Management System Web Client	Yes
● Network Video Management System Smart Client - Player (local playback/export)	Yes

Device support

● Support for ONVIF™ compliant devices	Yes
● Generic device support via universal driver	Yes
● Metadata from camera embedded analytics	Yes
● Number of IP device brands supported via dedicated device integration	131
● Number of supported IP camera models	4844
● Number of supported video encoder models	268
● Number of dedicated IP input/output models	14
● Number of supported DVRs	72
● Number of supported IP audio devices	8
● Number of supported perimeter detectors	18
● Secure HTTPS camera connectivity (on supported devices)	Yes

Video processing

● MJPEG, MPEG-4, MPEG-4 ASP and MxPEG support	Yes
● H.264 support	Yes
● Metadata support	Yes
● Dual stream (live and recording) per camera	Yes
● Multi-live streaming	Yes

● Client video stream down sampling (resolution and FPS) option	Yes
● Adjustable GOP size (MPEG4/H.264)	Yes
● Edge Storage support with flexible retrieval	Yes
● Send camera pre-alarm images (pre-recording buffer) to recording server	Yes
● Video recording speed up on motion, event or time schedule	Yes
● Built-in Video Motion Detection (VMD)	Yes
● Auto adjustable VMD sensitivity	Yes
● VMD exclusion zones	Yes
● Video motion detections per server	All connected cameras

Audio	
● One-way audio support	Yes
● Two-way audio support	Yes
● One-way audio recording	Yes
● Two-way audio recording	Yes
● Maximum number of supported audio channels	Unlimited

Pan-tilt-zoom (PTZ)	
● Preset positions per camera	Unlimited
● Go-to preset on event	Yes
● Preset patrolling	Yes
● Combine patrolling and go-to preset on event	Yes
● Scanning/transition speed	Yes
● Number of PTZ priority levels for prioritized PTZ control	3

I/O and events	
● Hardware configurable events (such as I/O input,motion,tampering,temperature,communication failure)	Yes
● Motion detection events (VMD in Recording Server)	Yes
● System error events (for example disk full)	Yes
● Manual / User defined events	Yes
● Generic events from external systems	Yes
● Event-based device configuration	Yes
● Event-based notification	Yes
● Event-based output control	Yes
● Event-based device start/stop	Yes
● Event-based matrix control	Yes

● Flexible event rule engine for definition of actions on events	Yes

Alarm Manager

● Alarm description and work instructions	Yes
● Ability to assign initial owner of an alarm	Yes
● Time profiles for alarms	Yes
● View triggered alarms	Yes
● Manage alarms (reassign, change status, comment)	Yes
● Maximum number of related cameras in alarm preview window	15
● Number of alarm priority levels	32000
● Customizable alarm priority levels	Yes
● Customizable sound notification	Yes
● Customizable alarm categories	Yes
● Customizable alarm statuses	Yes
● Customizable alarm result codes	Yes
● Alarm handling reporting	Yes
● Alarm logging	Yes
● Redundancy option for high availability	Yes

Storage and archiving

● Video retention time	Unlimited
● Recording capacity per device/day	Unlimited
● Archiving of recordings	Yes
● Archiving to network drives	Yes
● Dynamic archiving (disk spanning)	-
● Online access to archives	Yes
● Archiving schedules	Hourly
● Automatic storage distribution	-
● Storage definition and retention time per device	Yes
● Storage definition and retention time that can be applied to individual cameras	Yes
● Common for multiple devices	Yes
● Storage overview (used vs. available space) of available storage drives	Yes

Integration

● Plug-in, Protocol, Component integration via MIP SDK	Yes
● System Configuration via MIP SDK	Yes

● Metadata integration	Yes
● Event integration	Yes
● Event and action rule engine integration via MIP SDK	Yes

Support for Add-on products	
● Supports Smart Wall	Option
● Supports Screen Recorder	Yes

Management	
● Automatic initial configuration wizard	-
● Configuration wizards for aided system setup	Yes
● Automatic camera discovery	-
● Device scanning with device model detection	Yes
● Automatic camera time syncronization	Yes
● Device replacement wizard	Yes
● Move device wizard for moving hardware devices (e.g. cameras) between recording servers in runtime	Yes
● Centralized device management	Yes
● Device group support	Yes
● Centralized recording server management	Yes
● Centralized management of Smart Client application options(Number of supported Smart Client profile)	3
● Day length time profile	-
● On-the-fly configuration changes	Yes
● Run servers as Windows Services	Yes
● Scheduled start/stop of devices	Yes
● Configuration reporting	Yes
● System configuration restore points	-
● Export and import of configuration data	-
● Built-in backup-restore support	Yes
● Offline license activation	Yes
● Dual authorization (Smart Client users)	Yes
● Dual authorization (Management Client users)	Yes

System Monitoring	
● Customizable dashboard for task or component specific live monitoring	Yes
● Customizable event trigger thresholds for Normal, Warning and Critical levels	Yes
● Real-time and historical system status of Management Server	Yes

● Real-time and historical system status of Recording Servers	Yes
● Real-time and historical system status of other NVMS servers	Yes
● Real-time and historical system status of individual cameras	Yes
● Dedicated System Monitor tab that can be displayed as floating window	Yes

Viewing clients	
● Maximum number of clients	Unlimited
● Customizable access port with NAT support	Yes
● Multicast support	Yes
● Basic User (Network Video Management System application accounts)	Yes
● Windows User (local Windows accounts)	Yes
● Microsoft Active Directory User (central Active Directory accounts)	Yes
● Single step installer (installs Smart Client together with server)	Yes

Smart Wall	
● Supports Smart Wall video wall add-on	Option
● Number of Smart Walls and Smart Wall displays	Unlimited
● Number of concurrent video streams	Unlimited
● Maximum number of content positions per display	100
● Presets for display layouts and camera content	Yes
● Live video stream content	Yes
● Smart Client controlled playback of video	Yes
● Support for rich video wall content, including:	Maps, still images, http pages, alarms, texts, bookmarks, system monitor, etc. - Yes
● Rule-based control of layout and content (including text messages)	Yes

Alarms and notification	
● Email notification	Yes
● Multiple notification profiles	Yes
● SNMP trap	Yes

Logging	
● System logging	Yes
● Audit logging	Yes
● Rule logging	Yes

Languages (Management Interface)	
● English	Yes
● French	Yes

• German		Yes
• Japanese		Yes
• Spanish		Yes

General view handling (Client)	
• Number of view layouts	2 (Mobile/Web Client), 41 (Smart Client)
• Maximum view Items per view	100 (Smart/Web/Mobile Client)
• Optimized view layouts for 4:3 and 16:9 display ratios	Yes (Smart Client)
• Corridor optimized view layouts	Yes (Smart Client)
• Optimized view layouts for landscape and portrait displays	Yes (Smart/Mobile Client)
• Cameras from multiple servers	Yes (Smart/Web/Mobile Client)
• Support for Shared Views and Private Views	Yes (Smart/Web/Mobile Client)
• Smart Wall views	Yes (Smart Client)
• Images in views	Yes (Smart Client)
• Active HTML pages in views	Yes (Smart Client)
• Hotspot in views	Yes (Smart Client)
• Carousel in views (controllable)	Yes (Smart Client)
• Virtual Matrix in views	Yes (Smart Client)
• Display bounding boxes based on metadata	Yes (Smart Client)
• Full screen mode	Yes (Smart/Web/Mobile Client)
• Display views as floating window	Yes (Smart Client)
• Display views on multiple monitors	Yes (Smart Client)
• Advanced multi window support with synchronized or independent operation	Yes (Smart Client)
• Switch to view by number	Yes (Smart Client)
• Initial default view	Yes (Mobile/Web Client)
• Camera Navigator	Yes (Mobile Client)
• Camera search	Yes (Smart/Web/Mobile Client)
• Automatic restore views and windows at login	Yes (Smart/Web/Mobile Client)

Live view (Client)	
• Update on motion only	Yes (Smart Client)
• One-way audio support	Yes (Smart Client)
• Two-way audio support	Yes (Smart Client)
• Start/stop recording in view	-
• Independent playback in live mode	Yes (Smart Client)

● Replace cameras in view without changing view setup	Yes (Smart Client)
● Send camera to Virtual Matrix	Yes (Smart Client)
● Share video image	Yes (Smart/Mobile Client)
● Switch to camera by number	Yes (Smart Client)

PTZ support (Client)

● Define presets in the client application	-
● View who have PTZ control and time to automatic release	Yes (Smart Client)
● Go to preset position	Yes (Smart/Web/Mobile Client)
● Pause patrolling at manual operation	Yes (Smart/Web/Mobile Client)
● Grandeye 360° Quad View	Yes (Smart Client)
● Immervision Enables® panomorph lens support	Yes (Smart Client)
● Joystick support	Yes (Smart Client)
● Assign commands to keyboard shortcuts and joystick buttons	Yes (Smart Client)
● Auxiliary commands (wash and wipe)	Yes (Smart Client)

I/O and events control (Client)

● Camera overlay buttons	Yes (Smart Client)
● Manually activate events and trigger outputs	Yes (Smart/Web/Mobile Client)

Playback (Client)

● Maximum view items per view	1 (Mobile/Web Client), 100 (Smart Client)
● Playback mode	Multi Camera(Smart/Web Client), Single Camera(Mobile Client)
● Recording search	Yes (Smart/Web/Mobile Client)
● Recent history of recording sequences per camera	Yes (Mobile Client)
● Time/date search	Yes (Smart/Web/Mobile Client)
● Independent playback in playback mode	Yes (Smart Client)
● Event/alert list in recording	Yes (Smart Client)
● Graphical timeline	Yes (Smart Client)
● Adjust playback speed	Yes (Smart/Web/Mobile Client)
● Single frame step (forward/backward)	Yes (Smart/Web/Mobile Client)
● One-way audio support	Yes (Smart Client)
● Two-way audio support	Yes (Smart Client)
● Digital zoom	Yes (Smart/Web/Mobile Client)
● Share video image	Yes (Smart/Web/Mobile Client)
● Print report with comments	Yes (Smart Client)

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● Privacy masking	Yes (Smart/Web/Mobile Client)

Smart Search (Client)	
● Smart Search based on VMD metadata	Yes (Smart Client)

Sequence Explorer (Client)	
● Listing of sequences	Yes (Smart Client)
● Listing of time intervals	Yes (Smart Client)
● Smart Search integrated with Sequence Explorer	Yes (Smart Client)
● Dedicated Sequence Explorer tab that can be displayed as floating window	Yes (Smart Client)

Alarm Manager (Client)	
● Alarm list and alarm preview view items in normal camera views	Yes (Smart Client)
● Sort and filtering functions	Yes (Smart/Mobile Client)
● Instant preview of primary and related cameras	Yes (Smart Client)
● Manage alarms (reassign, change status, comment)	Yes (Smart/Mobile Client)
● Integration with map function	Yes (Smart Client)
● Alarm description/work instructions	Yes (Smart/Mobile Client)
● Escalation and forwarding handling	Yes (Smart Client)
● Print alarm report	Yes (Smart Client)
● Alarm location maps in alarm list	Yes (Smart Client)
● Combined access to live and playback video	Yes (Smart Client)
● Audio notification at new alarm (configurable per priority level)	Yes (Smart Client)
● Alarm handling reporting	Yes (Smart Client)
● Dedicated Alarm Manager tab that can be displayed as floating window	Yes (Smart Client)

Map function (Client)	
● Standard graphical file formats supported for maps	Yes (Smart Client)
● Number of linked map layers supported	Unlimited (Smart Client)
● Video preview	Yes (Smart Client)
● Integrated control of speakers, microphones and I/O devices	Yes (Smart Client)
● Drag-and-drop and point-and-click definition of map elements	Yes (Smart Client)
● Integrated PTZ control	Yes (Smart Client)
● Real-time system integrity overview and system performance	Yes (Smart Client)

Smart Wall support (Client)	
● User control of layout and content	Yes (Smart Client)
● User control playback of video in Smart Wall	Yes (Smart Client)

● Local subscription to Smart Wall views for local display	Yes (Smart Client)
● Push rich content to Smart Wall, such as maps, still images, http pages, alarms, bookmarks	Yes (Smart Client)

Export (Client)	
● Export in still image format (JPEG)	Yes (Smart/Web/Mobile Client)
● Export in media player format (AVI)	Yes (Smart/Web/Mobile Client)
● Export with audio in media player format (AVI)	Yes (Smart Client)
● Export with audio in media player format (MKV)	Yes (Smart Client)
● Export in Network Video Management System format	Yes (Smart Client)
● Export in Original format	Yes (Smart/Web Client)
● Server side export	Yes (Smart/Web Client)
● Encrypted export with password	Yes (Smart Client)
● Digital signing of exported video	Yes (Smart Client)
● Re-export prevention	Yes (Smart Client)
● Auto-export of Smart Client – Player	Yes (Smart Client)
● Preserve system defined privacy masks	Yes (Smart/Web/Mobile Client)
● Additional export specific privacy masks	Yes (Smart Client)
● Direct export to optical media	Yes (Smart Client)
● Flexible camera selection for export	Yes (Smart Client)
● Bulk export to multiple media formats	Yes (Smart Client)
● General and camera specific export comments	Yes (Smart Client)
● Pre/post comment slides (media player format only)	Yes (Smart Client)
● Verification of digital video signatures in Smart Client – Player	Yes (Smart Client)

Video Push (Client)	
● Video Push	Yes (Mobile Client)
● Include location metadata with Video Push	Yes (Mobile Client)

System Monitoring (Client)	
● Access real-time and historical system performance information (refer to System Monitor section for	Yes (Smart Client)

Installation (Client)	
● Run without installation	Yes (Web Client)
● Optional browser plug-ins for enhance viewing performance	Yes (Web Client)
● Single step installer (installs client together with server)	Yes (Smart Client)
● Initial and update installations from Management Server	Yes (Smart Client)

System access (Client)	

• Auto-login	Yes (Smart/Mobile Client)
• Dual authorization	Yes (Smart Client)
• Secure (HTTPS) client-server connection	Yes (Smart/Web Client)
• Dynamic bandwidth adaptation	Yes (Smart/Web Client)
• Bandwidth threshold	Yes (Smart/Web Client)

Authorization (Client)	
• Restrict user access by devices (cameras, microphones, I/O devices, etc.)	Yes (Smart/Web/Mobile Client)
• Restrict access to live view	Yes (Smart/Web/Mobile Client)
• Restrict access to PTZ	Yes (Smart/Web/Mobile Client)
• Restrict access to playback	Yes (Smart/Web/Mobile Client)
• Restrict access to export	Yes (Smart/Web/Mobile Client)
• Restrict access to setup	Yes (Smart Client)

Personalization (Client)	
• Application options	Yes (Smart/Mobile Client)
• Centralized management of application options	Yes (Smart/Web/Mobile Client)
• Application theme support	Yes (Smart Client)
• Task oriented tabs	Yes (Smart Client)
• "Toggle between Advanced mode and Simplified mode. Default mode: A – Advanced, S - Simplified"	S

System (Client)	
• Hardware accelerated video decoding (Intel Quick Sync video)	Yes (Smart Client)

Languages (Installation, UI and help function) (Client)		
• Arabic	Yes (Smart/Web/Mobile Client)	
• English	Yes (Smart/Web/Mobile Client)	
• French	Yes (Smart/Web/Mobile Client)	
• German	Yes (Smart/Web/Mobile Client)	
• Japanese	Yes (Smart/Web/Mobile Client)	
• Spanish	Yes (Smart/Web/Mobile Client)	
• Turkish	Yes (Smart/Web/Mobile Client)	

Computer running management server (System Requirements)	
• CPU	Intel® Core™2 Duo
• RAM	Minimum 2 GB
• Network	Ethernet 100 Mbit
• Graphics Adapter	Onboard GFX, AGP or PCI-Express, minimum 1024 x 768, 16-bit color

●	Hard Disk Space	Minimum 50 GB free (depends on number of servers, cameras, rules, and logging settings)
●	Operating System	Microsoft® Windows® 7 Professional SP1 (64-bit) Microsoft® Windows® 7 Enterprise SP1 (64-bit) Microsoft® Windows® 7 Ultimate SP1 (64-bit) Microsoft® Windows® 8 Pro (64-bit) Microsoft® Windows® 8 Enterprise (64-bit) Microsoft® Windows® 8.1 Pro (64 bit) Microsoft® Windows® 8.1 Enterprise (64 bit) Microsoft® Windows® 10 Pro (64 bit) Microsoft® Windows® 10 Enterprise (64 bit)
●	Operating System (contd)	Microsoft® Windows® Server 2008 R2 (64 bit): Standard, Web, High Performance Computing (HPC), Enterprise, and Datacenter Microsoft® Windows® Server 2012 (64 bit): Standard and Datacenter Microsoft® Windows® Server 2012 R2 (64 bit): Standard and Datacenter To run clustering/failover management servers, you need a Microsoft® Windows® Server 2008 R2 Enterprise or Datacenter edition, or a Microsoft® Windows® Server 2012/2012 R2 Standard or Datacenter edition
●	SQL Versions	Microsoft SQL Server® 2008 SP3 Microsoft SQL Server® 2008 R2 SP2 Microsoft SQL Server® 2012 SP1 Microsoft SQL Server® 2014
●	Software	Microsoft® .NET 3.5 SP1 and .NET 4.5.1 Framework

Computer running Management Client (System Requirements

●	CPU	Intel® Core™2 Duo
●	RAM	Minimum 2 GB
●	Network	Ethernet 100 Mbit
●	Graphics Adapter	Onboard GFX, AGP or PCI-Express, minimum 1024 x 768 (1280 x 1024 recommended), 16-bit color
●	Hard Disk Space	Minimum 1 GB free
●	Operating System	Microsoft® Windows® 7 Professional SP1 (64-bit) Microsoft® Windows® 7 Enterprise SP1 (64-bit) Microsoft® Windows® 7 Ultimate SP1 (64-bit) Microsoft® Windows® 8 Pro (64-bit) Microsoft® Windows® 8 Enterprise (64-bit) Microsoft® Windows® 8.1 Pro (64 bit) Microsoft® Windows® 8.1 Enterprise (64 bit) Microsoft® Windows® 10 Pro (64 bit) Microsoft® Windows® 10 Enterprise (64 bit) Microsoft® Windows® Server 2008 R2 (64 bit): Standard, Web, High Performance Computing (HPC), Enterprise, and Datacenter Microsoft® Windows® Server 2012 (64 bit): Standard and Datacenter Microsoft® Windows® Server 2012 R2 (64 bit): Standard and Datacenter
●	Software	Microsoft® .NET 4.5.1 Framework, DirectX 9 or newer

Computer running Mobile Server - Using software transcoding (System Requirements)

●	CPU	Intel® Core™2 Duo
●	RAM	Minimum 2 GB
●	Network	Ethernet 100 Mbit
●	Graphics Adapter	Onboard GFX, AGP, or PCI-Express, minimum 1024 x 768, 16-bit color
●	Hard Disk Space	Minimum 10 GB free (depends on number of cameras and recording settings)
●	Operating System	Microsoft® Windows® 7 Professional SP1 (64-bit) Microsoft® Windows® 7 Enterprise SP1 (64-bit) Microsoft® Windows® 7 Ultimate SP1 (64-bit) Microsoft® Windows® 8 Pro (64-bit) Microsoft® Windows® 8 Enterprise (64-bit) Microsoft® Windows® 8.1 Pro (64 bit) Microsoft® Windows® 8.1 Enterprise (64 bit) Microsoft® Windows® 10 Pro (64 bit) Microsoft® Windows® 10 Enterprise (64 bit) Microsoft® Windows® Server 2008 R2 (64 bit): Standard, Web, High Performance Computing (HPC), Enterprise, and Datacenter Microsoft® Windows® Server 2012 (64 bit): Standard and Datacenter Microsoft® Windows® Server 2012 R2 (64 bit): Standard and Datacenter

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● Software	Microsoft® .NET 4.5.1 Framework	

Computer running Mobile Server - Using hardware transcoding (System Requirements)

● CPU	Intel CPU supporting Intel QuickSync, Intel GPU enabled in BIOS
● RAM	Minimum 2 GB
● Network	Ethernet 100 Mbit
● Graphics Adapter	Onboard GFX, AGP, or PCI-Express, minimum 1024 x 768, 16-bit color
● Hard Disk Space	Minimum 10 GB free (depends on number of cameras and recording settings)
● Operating System	Microsoft® Windows® 8.1 Pro (64 bit) Microsoft® Windows® 8.1 Enterprise (64 bit) Microsoft® Windows® 10 Pro (64 bit) Microsoft® Windows® 10 Enterprise (64 bit) Microsoft® Windows® Server 2012 (64 bit): Standard and Datacenter Microsoft® Windows® Server 2012 R2 (64 bit): Standard and Datacenter
● Software	Microsoft® .Net 4.5.1 Framework DirectX 11 or newer

Computer running Smart Client, Smart Client - Player and Smart Wall - Using Software Decoding (System Requirements)

● CPU	Intel® Core™2 Duo
● RAM	Minimum 1 GB
● Network	Ethernet 100 Mbit
● Graphics Adapter	Onboard GFX, AGP or PCI-Express, minimum 1280 x 1024, 16-bit colors, DirectX 9.0 or newer
● Hard Disk Space	1 GB free
● Operating system	Microsoft® Windows® 7 Professional SP1 (32-bit or 64-bit) * Microsoft® Windows® 7 Enterprise SP1 (32-bit or 64-bit) * Microsoft® Windows® 7 Ultimate SP1 (32-bit or 64-bit) * Microsoft® Windows® 8 Pro (32-bit or 64-bit) Microsoft® Windows® 8 Enterprise (32-bit or 64-bit) Microsoft® Windows® 8.1 Pro (32-bit or 64-bit) Microsoft® Windows® 8.1 Enterprise (32-bit or 64-bit) Microsoft® Windows® 10 Pro (32-bit or 64-bit) Microsoft® Windows® 10 Enterprise (32-bit or 64-bit)
● Operating system (contd)	Microsoft® Windows® Server 2008 R2 (32-bit or 64-bit): Standard, Web, High Performance Computing (HPC), Enterprise, and Datacenter Microsoft® Windows® Server 2012 (32-bit or 64-bit): Standard and Datacenter Microsoft® Windows® Server 2012 R2 (32-bit or 64-bit): Standard and Datacenter Microsoft® Windows® 7 and Server 2008 R2 are only supported on physical PC's not on virtual machines
● Software	Microsoft® .Net 4.5.1 Framework Requires Operating System and Graphic Adaptor support for DirectX 9.0 or newer

Computer running Smart Client, Smart Client - Player and Smart Wall - Using Hardware Decoding (System Requirements)

● CPU	Intel CPU supporting Intel QuickSync, Intel GPU enabled in BIOS
● RAM	Minimum 1 GB
● Network	Ethernet 100 Mbit
● Graphics Adapter	AGP or PCI-Express, minimum 1280 x 1024, 32-bit colors, DirectX 11.0 or newer
● Hard Disk Space	1 GB free
● Operating system	Microsoft® Windows® 8.1 Pro (32-bit or 64-bit) Microsoft® Windows® 8.1 Enterprise (32-bit or 64-bit) Microsoft® Windows® 10 Pro (32-bit or 64-bit) Microsoft® Windows® 10 Enterprise (32-bit or 64-bit) Microsoft® Windows® Server 2012 (32-bit or 64-bit): Standard and Datacenter Microsoft® Windows® Server 2012 R2 (32-bit or 64-bit): Standard and Datacenter
● Software	Microsoft® .Net 4.5.1 Framework Requires Operating System and Graphic Adaptor support for DirectX 11.0 or newer

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Computer running Web Client (System Requirements)

● CPU	Intel Core2 Duo, 2.0 GHz Intel Core i3-5010U 2.1 Ghz*
● RAM	1 GB 4 GB*
● Network	Ethernet 100Mbit / WiFi 2Mbit
● Graphics Adapter	AGP or PCI-Express, minimum 1280 x 1024, 16 bit colors
● Hard Disk Space	500 MB free
● Operating System	Any capable of running the below browsers
● Browser	Microsoft Internet Explorer® 9 or later** Safari® 5 or later** Google Chrome™ 16 or later Google Chrome™ 48 or later (recommended)* Mozilla® Firefox® 11 or later Mozilla® Firefox® 43 or later (recommended)*

Device running Mobile Client (System Requirements)

● RAM	2GB*
● Operating System	Android 4.0 or higher iOS 9.2 or higher
● Network	2G/3G (4G or WiFi)*

Notes

● *		Required for using Direct Streaming
● **		Not supported when using Direct Streaming

SOW-E Series