SSM
Total Management Software

Professional / Enterprise

- System Manager
- Media Gateway
- Recording Server
- Virtual Matrix
- Screen Mirroring
- Transaction Server
- Transcoder
- Federation
- Failover Server

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SSM Features

SSM is a one-stop management software platform that maximizes the efficiency of Wisenet network products.

- **Centralized Management**
  The system manager can configure all servers, cameras, recorders as one system in one UI and setup user/group policy for all systems.

- **Distributed Computing Architecture**
  By module-based system architecture, SSM can fit on from small to large system because various combinations of modules can meet any end-user needs and system requirements.

- **Extended Scalability**
  In addition to small biz site, SSM provides a suitable solution for enterprise site with numerous features for high-end market such as federation, failover, 3rd party integration and so on.

- **Guaranteed Reliability**
  Because reliability is the key of surveillance system, SSM will keep your system alive at any time through 1-n failover system, auto network-fail recovery (ARB) and full system dashboard.

- **Flexible System Integration**
  With Transaction server, 3rd party system like access control and intrusion detection will be easily integrated with SSM as one solution.

- **Efficient Monitoring**
  Event action triggered by rule, event-centered monitoring and processing support make operators to focus only on a meaningful subject.

- **Powerful Search Engine**
  9 types of search methods make operators find evidences very quickly and easily. Especially Video Summary feature shows 1 minute video clip for 24 hours.
SSM System Overview

**System Manager**
- **Centralized System/User Management**: Configures all servers, cameras as one system and sets up user/group policy for all systems.
- **Event Handling**: Collects events from all devices and handles events according to customized event handling rules.
- **System Health Monitoring**: Monitors the system health status of all cameras and servers.
- **Federation**: Manages multiple sites as one solution at the upper level site.

**Transaction Server**
- **3rd party Integration**: Integrates 3rd party access control or intrusion alarm devices as an SSM solution.

**Virtual Matrix**
- **Video Wall Display**: Makes a video wall display in the CCTV control center.
  - *VMG: Virtual Matrix Gateway
  - *VMD: Virtual Matrix Decoder

**Screen Mirroring**
- **PC Screen Recording**: Sends captured screen video to RS for recording.

**Media Gateway**
- **Video Stream Distribution**: Distributes video streams from the camera to clients.
- **Transcoding**: Sends video data to a mobile phone with reduced bandwidth data.

**Recording Server**
- **Video Recording**: Records video data from cameras.
- **Search & Playback**: Retrieves video data with several methods and sends video data to the user.

**High Availability**
- **System Failover**: Alternative system in case of system failure for RS, MG, and VM.

**Network Cameras**

**PC with SC**

**Switch**

**CS**

**CS**

**TS**

**CS**

**SM**

**VMG+VMD**

**HA**

**MG+RS**

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*VMG: Virtual Matrix Gateway
VMD: Virtual Matrix Decoder*
TOTAL MANAGEMENT SOFTWARE

Small System

Up to 100 cameras, suitable for applications such as Commercial Building, Education, Government Offices (City Hall, Museum, Library and more)

Network Camera + Server Recording System
- Only one SM needs to be installed for a surveillance solution.
- If a server is used, SM and MG is preferred to be installed to that server.
- Even though it depends on performance of the server, one server can handle a solution under 100 cameras.

Mid System

Up to 300 cameras, suitable for applications such as Industrial Factory, Public Utilities, Commercial Building, Healthcare, Sports Complex, Prison

Network Camera + Server Recording + Video Wall System
- Only one SM needs to be installed on site.
- SM is not needed to be installed to a separated server but can be installed with a recording server.
- MG and RS can be installed to a server.
- Only one VMG needs to be installed on site and it can be installed with VMD.
- For video wall system, a display server with 4 or more monitor output is commonly used instead of the expensive server that has RAID storage system.
Enterprise System

More than 300 cameras, suitable for applications such as Airport, Convention Center, Railway, Port, Casino

Network Camera + Server Recording + Video Wall + Failover + Access Control System

- SM is recommended to be installed at a separated server because it might need more performance for handling a mid to high site which may cause unstable recording.
- Failover system for SM and RS is recommended for stable system operation and redundancy for video data.
- TS is needed for integration with a 3rd party access control or intruder alarm system.
Multi-site / Multi-client monitoring

Conventional monitoring solutions have an on-site administrator to control the local devices; this can limit the scope when expanding the monitoring system. The SSM supports multi-site / multi-client monitoring that removes this limitation making it suited for mid to large sized monitoring applications.

Expandability

Wisenet network connected products are registered and managed by SSM server. The server can search the connected equipment, support health checks and upgrade each device to ensure that they are maintained in the best condition.

Reliability and Security

Individual sites, users and user group management is controlled by the system manager. With this level of authorization access and management, certain sites or devices and management function can be controlled at the user level.

Virtual Matrix

SSM Virtual Matrix is designed to controll wall-monitors and ensures that operators maintain a complete control of all monitors, allowing immediate video view control and switching event video to resolve incidents fast.

- Provide sequence, event and map monitoring mode for more efficient monitoring.
- Multi monitors can be merged as one monitor without any additional devices.
Transcoder

In mobile environment, recorded video with high resolution and framerate cannot be played because of bandwidth limitation. Transcoder transcodes the recorded video to a lower bandwidth steam for more reliable monitoring.

Federation

SSM’s Federation feature makes it possible to connect geographically distributed, independent SSM systems to mimic a larger system. All systems are managed independently, easing the problem of managing a single, centralized system, yet providing the benefits of centralized systems. Connecting two SSM systems takes less than a minute and users will be able to access the remote system’s live and recorded video as if it is a local system.
**SERVER FEATURES**

**Transaction Server**

Transaction Server is an interface between SSM and a third-party system such as access control or intrusion alarm system. It makes SSM be an enterprise system that generally needs system integration with those systems.

**HA (Failover) Server**

For the sustainable system operation, HA server acts like a watchdog for SSM servers and if a server is corrupted by the network or system itself, HA takes over the role of the system. After recovering the corrupted system, HA will automatically hand over vice versa.

- HA is ready for Recording Server, Media Gateway and Virtual Matrix.
- For cost reduction, a single HA can watch multi servers because all servers are seldom corrupted simultaneously.
**Screen Mirroring**

The screen of a PC with Screen Mirroring can be displayed on a console or video wall with Virtual Matrix Server and can be recorded in Recording server. This is used for making video evidence of third party software like building management software, energy system, PoS system and so on.

**Recording Server**

SSM RS is designed for easy and efficient recording of network cameras. It supports simultaneous 16CH live stream and real-time recording. SSM Professional version offers a free promotional SW license.

*Promotional SW license can store up to 16 cameras for free. The maximum storage period is 15 days.*

**Video Summary**

For rapid video evidence search, Video Summary provides several minute-long video clips for several hours-long video data. It shows only meaning moving objects at extremely reduced time.
**SERVER FEATURES**

### Auto Recovery Backup

In case of network failure, video data from a camera cannot be streamed to Recording Server so important evidence may be missed. However Auto Recovery Backup feature enables the camera to store video data to the SD Card on the camera and when the network comes up the camera sends the stored data to the Recording Server for recording reliability.

### LDAP Integration

Companies usually use their own user authority policy so additional user setup for SSM could be time consuming job. SSM support LDAP so that it can utilize company’s pre-defined user authority system such as MS Active Directory.
CONSOLE FEATURES

Bandwidth and performance optimized live monitoring

For efficient and reliable monitoring, SSM provide automatic profile change feature in which a high profile video stream is displayed on a big picture screen format such as 1x1, 2x2 and low profile is displayed on a small picture screen format automatically. This is very effective because high profile video quality is not needed on a small picture screen. For screen format like 6x6 or 8x8, ‘I-frame only’ can be a more comprehensive option because of PC performance limitation.

Efficient monitoring through powerful event management

All event related features such as event priority, event coloring, rule-based event action setup, real-time event thumbnail display and so on are for more efficient monitoring, which means more surveillance coverage is possible with lower budgets. Furthermore, SSM provides a separated event viewer that provides real-time event log with a single channel preview.

- Each event could be acknowledged by operator with some notes.
- Audio broadcasting for warning people in a dangerous event situation.
GPU video decoding

By utilizing GPU processing power of Nvidia graphic card, workstation can display almost doubled channels without any additional hardware equipment. For example, a workstation can display 21 channels Full HD real-time streams if only with CPU but with CPU and GPU, 39 channels can be displayed. (Tested with Intel Xeon CPU E3-1270 3.60GHz, NVIDIA Geforce GTX 960, Win10 64bit, 8G RAM)

Map monitoring with Google Map

With SSM, an administrator can set a map-based layout to match with the live videos in real-time. Overlaying camera or sensor icons means the resolving of issues becomes extremely easy. By utilizing map based monitoring together with live monitoring, an event pop-up window will appear on the location where the event has happened helping towards a quick resolution to the event. As well as 2D map image, Google map can be used for wide area surveillance.

Various searching mode

SSM provides totally 9 types of search modes for quick evidence retrieval.
- Date/time, event, bookmark, and local folder search are the basic search features.
- POS, heat-map is one of business intelligence features for retail shop owners.
- Motion search and smart search make it possible to retrieve evidence within a very short period of time.
- Video Summary is one of key features of SSM that provides 1 minute video clip for 24 hours.
System Dashboard

All system devices that include servers, cameras and recorders can be monitored with a single dashboard. It shows detailed system information such as device and component status, CPU performance, memory usage, network bandwidth and HDD consumption. It also gives event statistics for efficient event management. For mobile accessibility such as tablet PC and smartphone, Dashboard provides plug-in free web access feature for any browsers like Google Chrome, Safari, Firefox and IE.

SSM Mobile

Security guard can access to SSM system via a SSM mobile with very intuitive user interface. With SSM mobile, the guard can monitor live video and playback recorded video also. If mobile bandwidth is not enough, SSM transcoder can make a stable streaming environment.
# SSM Specifications

## General
- **Maximum number of cameras**: 288 (Professional), Unlimited (Enterprise)
- **Centralized management**: Yes (Professional), Yes (Enterprise)
- **Architecture**: Multi-server (Professional), Multi-server (Enterprise)
- **Clients**: SSM Console, Configuration Manager, SSM Mobile (Professional), SSM Console, Configuration Manager, SSM Mobile (Enterprise)
- **Supported devices**: Network camera/encoder/decoder, DVR/NVR (Professional), Network camera/encoder/decoder, DVR/NVR (Enterprise)

## Summary
### Basic Component
- **System Manager**: Yes (Professional), Yes (Enterprise)
- **Recording Server**: Yes (Professional), Yes (Enterprise)
- **Virtual Matrix**: Yes (Professional), Yes (Enterprise)
- **Failover Server**: - (Professional), Yes (Enterprise)

### Add-on Component
- **Live Monitoring**: Yes (Professional), Yes (Enterprise)
- **Search Playback**: Yes (Professional), Yes (Enterprise)
- **Map Monitoring**: Yes (Professional), Yes (Enterprise)
- **PDI/AIM Monitoring**: Yes (Professional), Yes (Enterprise)
- **Wall Management**: Yes (Professional), Yes (Enterprise)
- **Google Map Monitoring**: - (Professional), Yes (Enterprise)
- **Video Analytics Monitoring**: - (Professional), Yes (Enterprise)
- **Advanced Health Monitoring**: - (Professional), Yes (Enterprise)
- **Access Control Monitoring**: - (Professional), Yes (Enterprise)
- **Video Summary Search**: - (Professional), Yes (Enterprise)
- **Active Directory Integration**: - (Professional), Yes (Enterprise)
- **Site Federation**: - (Professional), Yes (Enterprise)

### Features
- **Wall Management**: Yes (Professional), Yes (Enterprise)
- **Google Map Monitoring**: - (Professional), Yes (Enterprise)
- **Video Analytics Monitoring**: - (Professional), Yes (Enterprise)
- **Advanced Health Monitoring**: - (Professional), Yes (Enterprise)
- **Access Control Monitoring**: - (Professional), Yes (Enterprise)
- **Video Summary Search**: - (Professional), Yes (Enterprise)
- **Active Directory Integration**: - (Professional), Yes (Enterprise)
- **Site Federation**: - (Professional), Yes (Enterprise)

## Component
### Media Gateway
- Max. Media Gateway: 4 (Professional), Unlimited (Enterprise)
- Max. Bandwidth(in/out): 400/600Mbps (Professional), 400/600Mbps* (Enterprise)
- Max. devices per server: 128 network cameras or 288 cameras of recorders (Professional), 128 network cameras or 288 cameras of recorders* (Enterprise)

### Recording Server
- Max. cameras: 128 (Professional), 128 (Enterprise)
- Recording performance: 400Mbps (Professional), 400Mbps* (Enterprise)
- Playback performance: 1000Mbps (Professional), 1000Mbps (Enterprise)
- Mode: Manual, Continuous, Event(Pre/Post), Schedule (Professional), Manual, Continuous, Pre/Post Event, Schedule (Enterprise)
- Auto Recovery Backup: Yes (Professional), Yes (Enterprise)
- Video Summary: Yes (Professional), Yes (Enterprise)
- Event Profile Recording: Yes (Professional), Yes (Enterprise)
- ONVIF protocol: Profile S (except SSM-RS00L) (Professional), Profile S (except SSM-RS00L) (Enterprise)

### Screen Mirroring
- Max. monitors: 4 (Professional), 4 (Enterprise)
- Max. streaming: 5 (Professional), 5 (Enterprise)
- Frame rate: Up to 30fps (Professional), Up to 30fps (Enterprise)

### Virtual Matrix
- Max. monitors: 48 (Professional), - (Enterprise)
- Modules: - (Professional), VM Manager, VM Gateway, VM Decoder (Enterprise)
- Sequence monitoring: - (Professional), Yes (Enterprise)
- Event monitoring: - (Professional), Yes (Enterprise)
- Map monitoring: - (Professional), Yes (Enterprise)
- Playback on wall monitor: - (Professional), Yes (Enterprise)
- Screen merge: - (Professional), Yes (Enterprise)

### Transaction Server
- Access Control: - (Professional), Samsung, Honeywell, JCI, Gallagher, Siemens (Enterprise)
- Intrusion Detection: - (Professional), Bosch, Honeywell (Enterprise)
- Intercom: - (Professional), Samsung, Stentofon (Enterprise)
- Video Analytics: - (Professional), Agent Vi (Enterprise)

### Transcoder
- Max. input resolution: 5M (Professional), SD (Enterprise)
- Max. output resolution: 10 (Professional), - (Enterprise)
- Max. transcoding channels: 10 (Professional), - (Enterprise)

### Federation
- Max. site hierarchy level: 4* (Professional), - (Enterprise)
- Max. sites: 25* (Professional), - (Enterprise)
- Cameras per site: 288* (Professional), - (Enterprise)

### Failover Server
- Auto system failover: Yes (Professional), - (Enterprise)
- Target server: MG, RS, VM (Professional), - (Enterprise)
- Architecture: Active / Standby (Professional), - (Enterprise)

## Configuration & Maintenance
### General
- Setup file backup/restore: Yes (Professional), Yes (Enterprise)
- Login fail time limitation: Yes (Professional), Yes (Enterprise)
- Time sync: with NTP or a server component (Professional), with NTP or a server component (Enterprise)
- Data Security: SSL (Professional), SSL (Enterprise)

### System Management
- Device discovery: Auto / Manual (Professional), Auto / Manual (Enterprise)
- Device name synchronization: Server, Recorder to SSM (Professional), Server, Recorder to SSM (Enterprise)
- Edits multi-device names: Yes (Professional), Yes (Enterprise)
- Server setup file import/export: Yes (Professional), Yes (Enterprise)
- Device firmware update: Yes (Professional), Yes (Enterprise)

### User Management
- Device access authority setup: Yes (Professional), Yes (Enterprise)
- Feature level authority setup: Yes (Professional), Yes (Enterprise)
- LDAP Integration: Yes (Professional), Yes (Enterprise)

### Event Management
- Event priority setup: From 1 to 10 with color (Professional), From 1 to 10 with color (Enterprise)
- External event integration: Yes (Professional), Yes (Enterprise)
- Rule-based event action setup: Yes (Professional), Yes (Enterprise)

### System Dashboard
- Real-time system monitoring: Yes (Professional), Yes (Enterprise)
- System status summary: - (Professional), - (Enterprise)
- Detailed system status: - (Professional), - (Enterprise)
- Event statistics graph: - (Professional), - (Enterprise)
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<tr>
<th>Operation</th>
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<th>Enterprise</th>
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<tr>
<td><strong>General</strong></td>
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<td>Viewers</td>
<td>Live, Search, Event</td>
<td>Live, Search, Event, Google Map, Plug-in</td>
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<td>Nvidia CUDA processor</td>
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<td>Changes camera profile, I-frame mode and deblocking by split format automatically</td>
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<td><strong>Live Monitoring</strong></td>
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<td>Event thumbnail image on live</td>
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<td>Instant viewer</td>
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<td>Instant player</td>
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<td>Yes</td>
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<tr>
<td>Event search</td>
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<td>Yes</td>
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<td>Event sequential playback</td>
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<td>Rule based event setup</td>
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<td>Event handling history</td>
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<td>PDF file with chart and graph</td>
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<td>Smart search</td>
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<td>Video Summary</td>
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<td>Heat map (for NVR)</td>
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<td>Motion search (for DVR)</td>
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<td>Multi-channel timeline</td>
<td>Yes with color variation per recording type</td>
<td>Yes with color variation per recording type</td>
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<td>Synchronous playback</td>
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<td>SEC, AV</td>
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<td><strong>Monitoring with Map</strong></td>
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<td>Map link on map</td>
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<td>Yes</td>
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<td>Set coordinates for 2D map</td>
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<td>Export image</td>
<td>Capture, Print</td>
<td>Capture, Print</td>
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<td>Google map monitoring</td>
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<td>Measure distance on Google map</td>
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<td><strong>PoS integration</strong></td>
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<td>PoS receipt display on live</td>
<td>Yes</td>
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<td>PoS instant viewer</td>
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