

# Large Scale Smart VMS Overview



**AddPac**

**AddPac Technology**

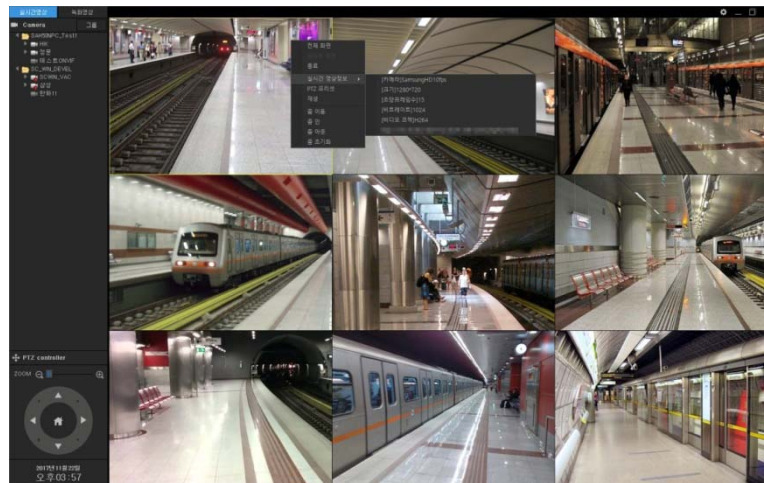
Sales and Marketing

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# Smart VMS Solution Overview

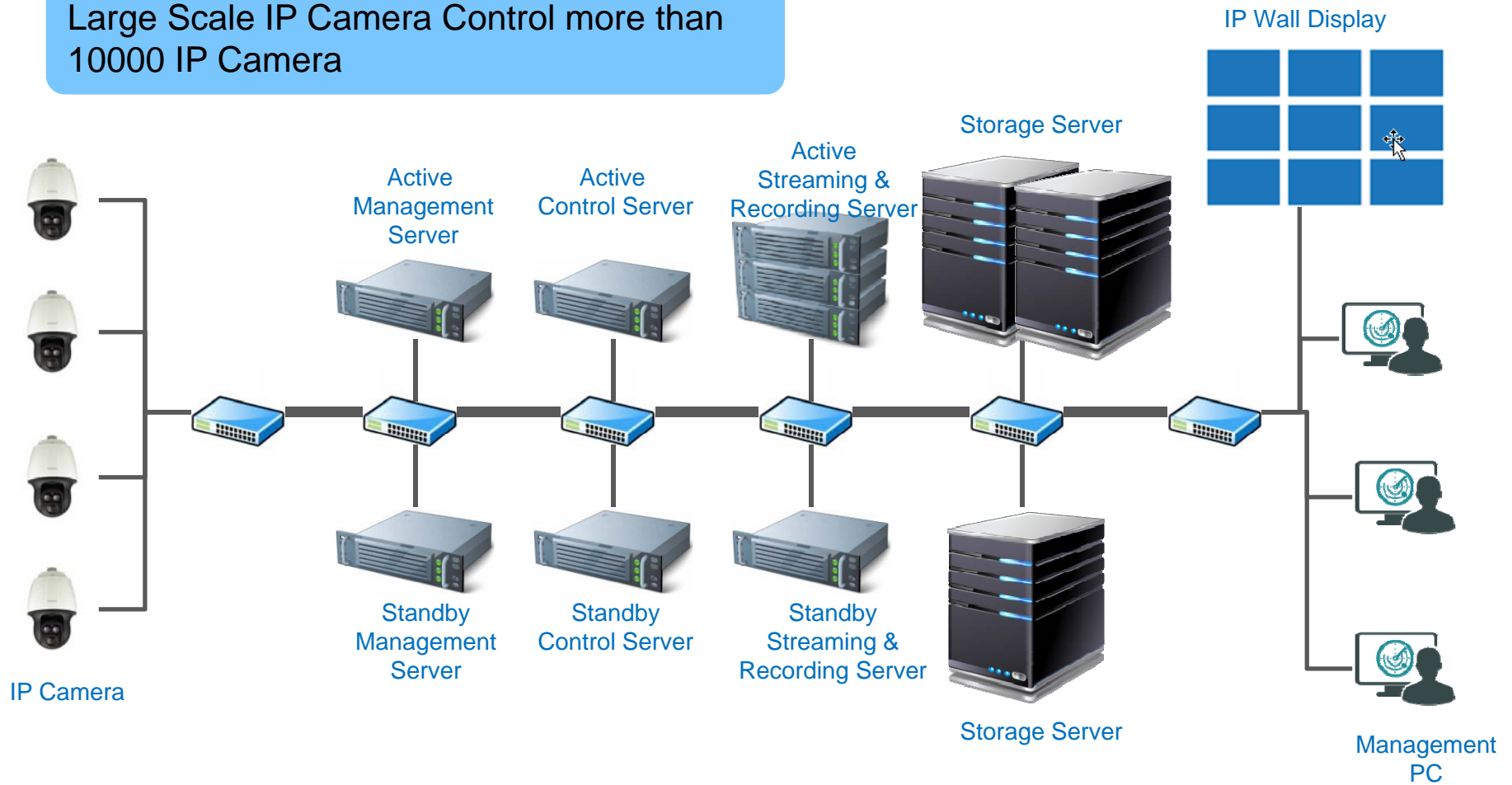


# Main Features

- New Enhanced Scalable Architecture for Large Scale IP Camera or Video Codec Deployment
- System Redundancy Architecture Support for Fault Tolerant and System Stability (Active–Standby)
- Extendable Architecture Support for Integrated Security Service like as Intrusion Detection, Unmanned Security Site.
- Extendable Architecture Support for Traffic Monitoring Specialized VMS like as Powerful PTZ, Subtitle Generation, Web based Live Traffic Monitoring, etc.
- Operator can have Independent Management Scheme via Management Server
- Various Application Server Interworking Structure Support like as GIS, Traffic Violation Detection by LPR(License Plate Recognition), IP Telephony, Push-to-Talk, IP Emergency Phone, etc.

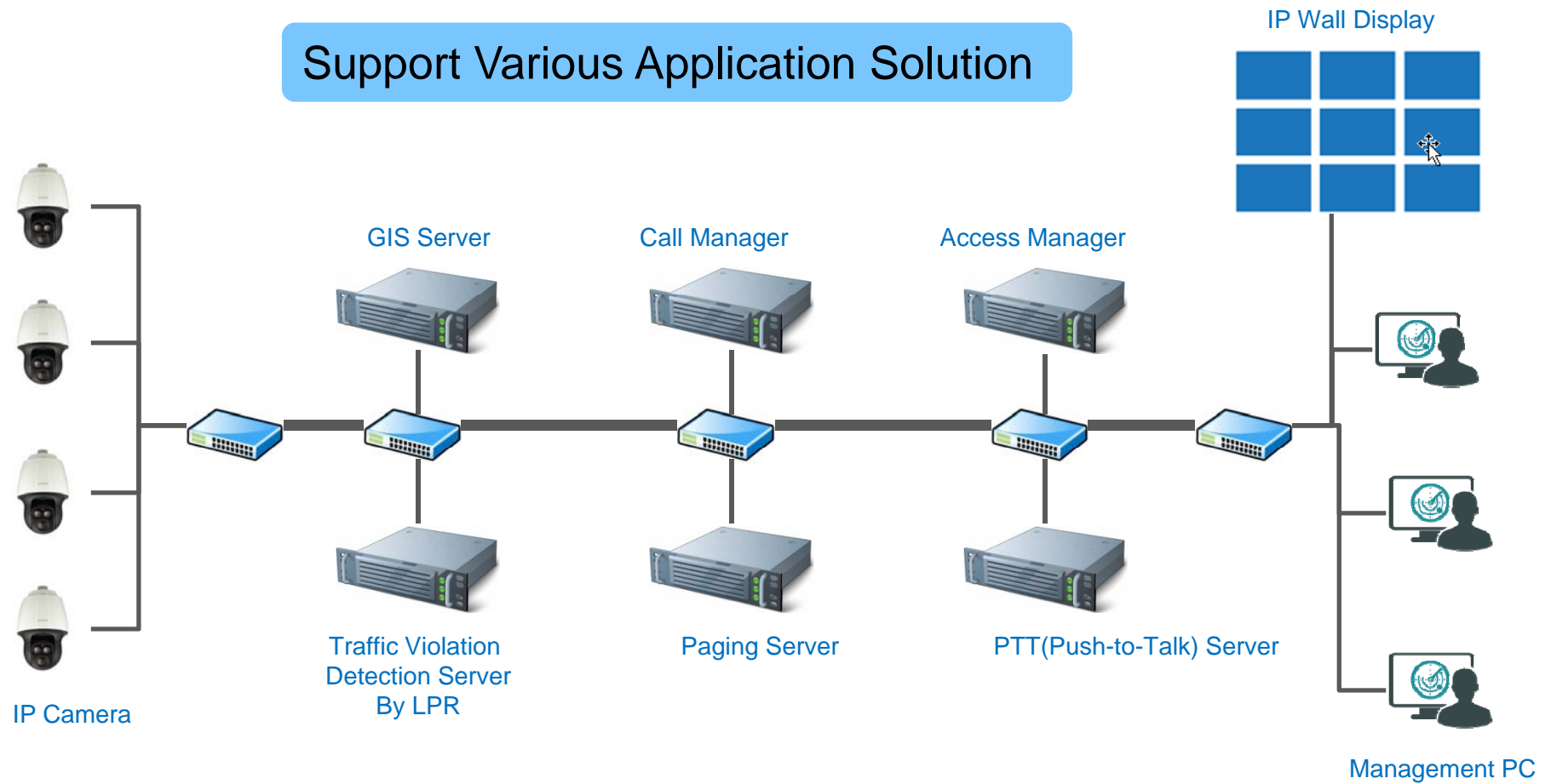
# Network Diagram

Large Scale IP Camera Control more than 10000 IP Camera



# Network Diagram

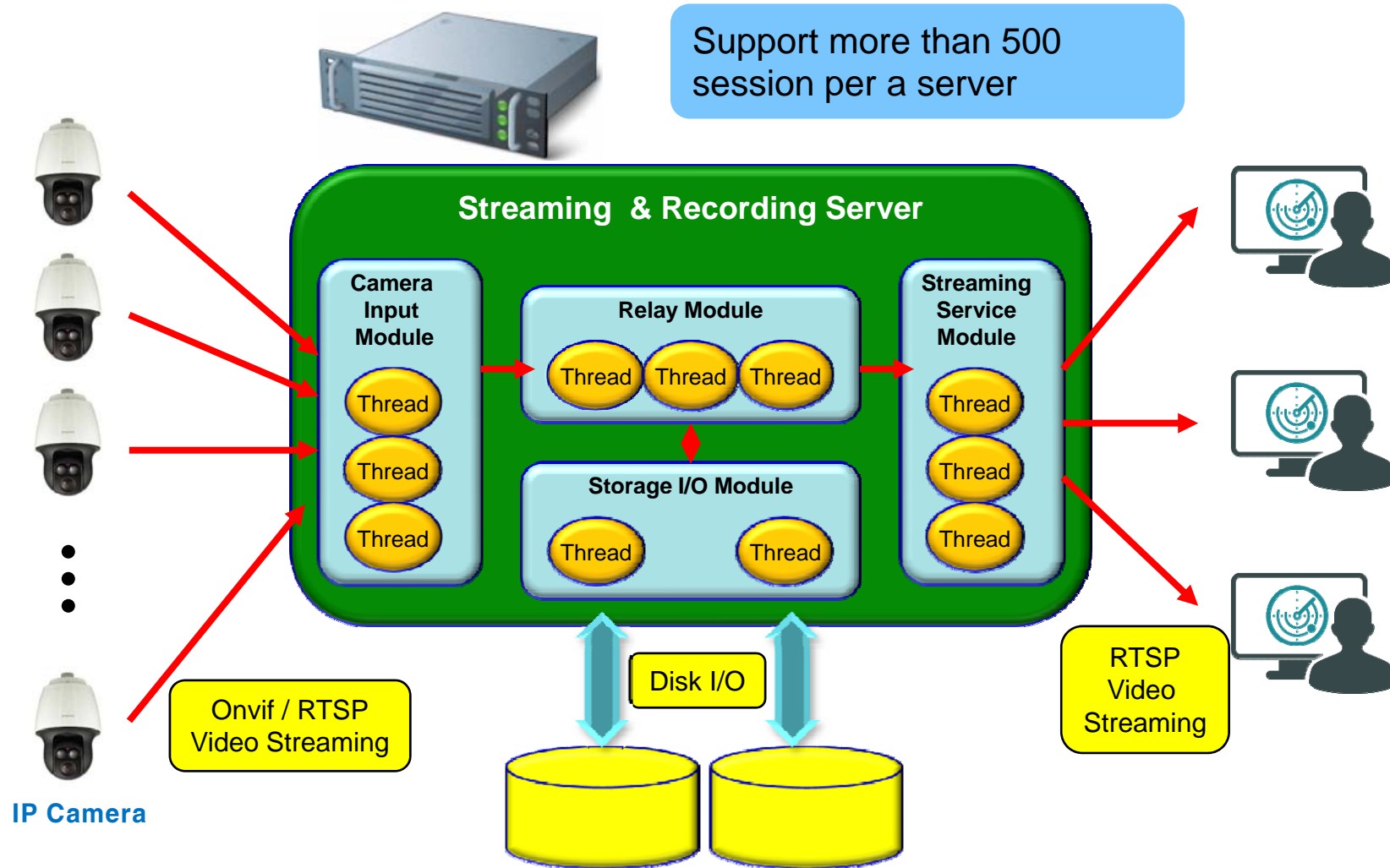
Support Various Application Solution





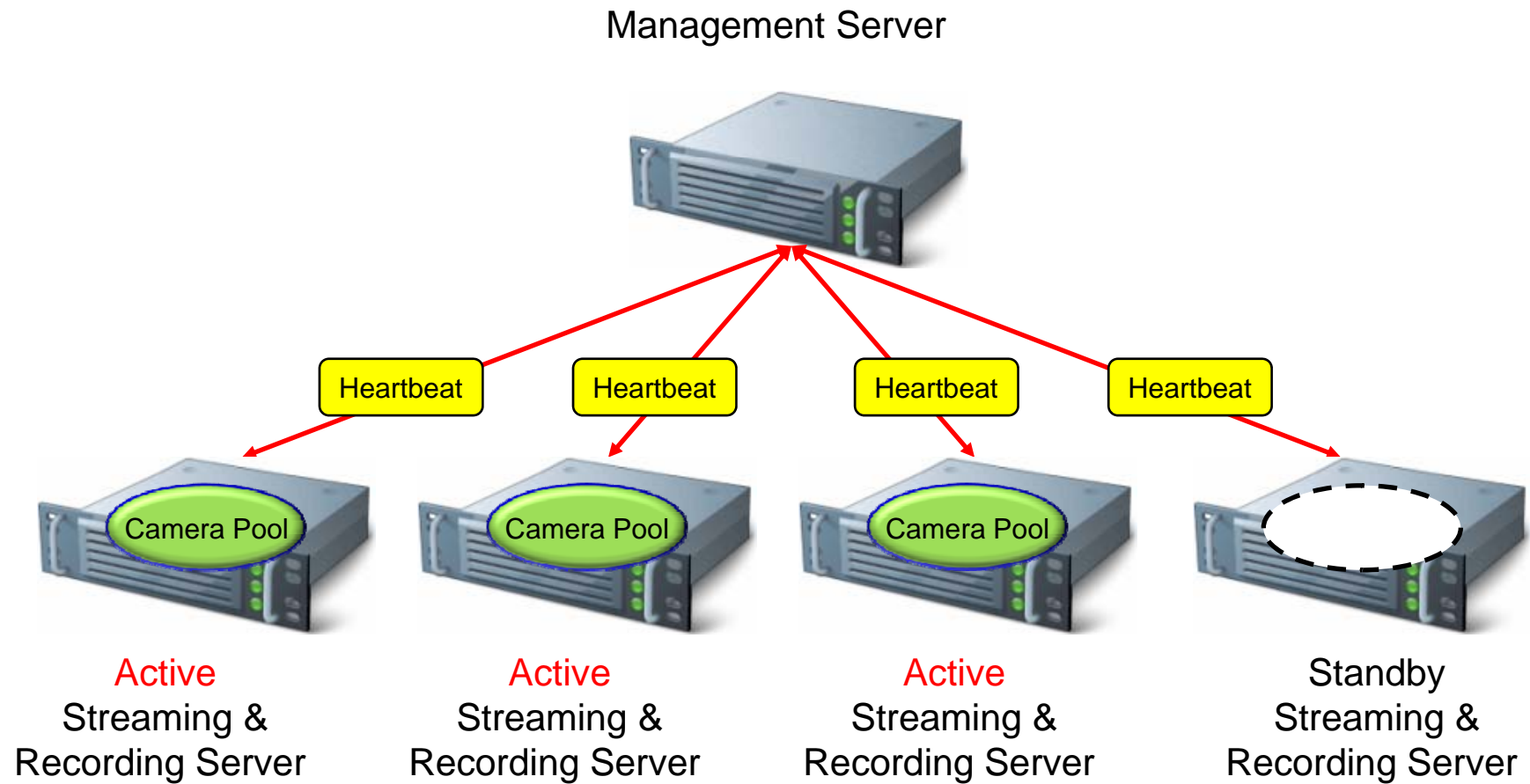
# Video Streaming & Recording Server

# Support Large Scale IP Camera by using Resource Efficient Real-time Thread Technology

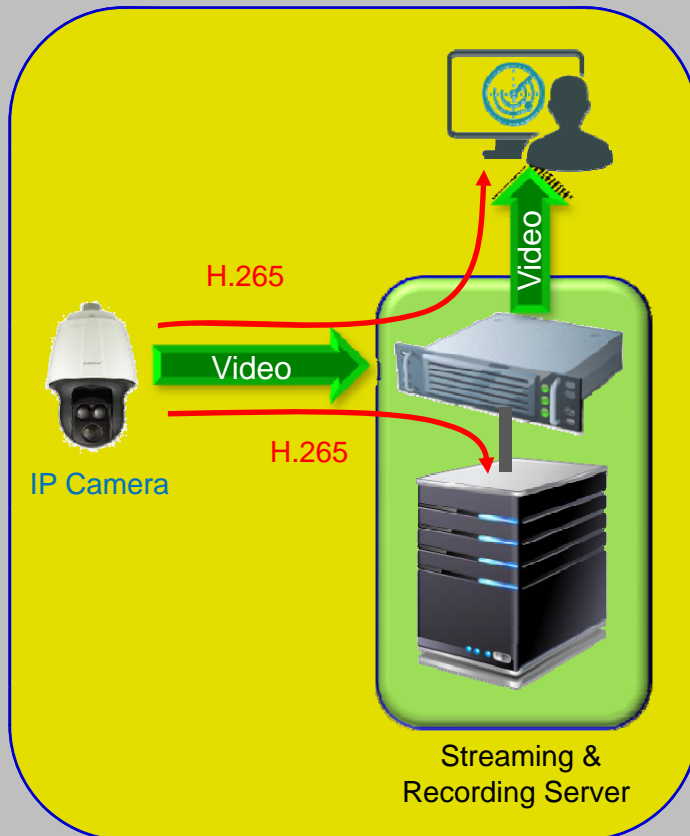




# Streaming & Recording Server support IP Camera Pool based System Redundancy



# Support High Efficiency H.265 Video Codec



Compared with H.264 Video Codec, **Compression Ratio** Up to 50% Increase, 30% increase (at same PSNR). This means save the transmission network bandwidth.

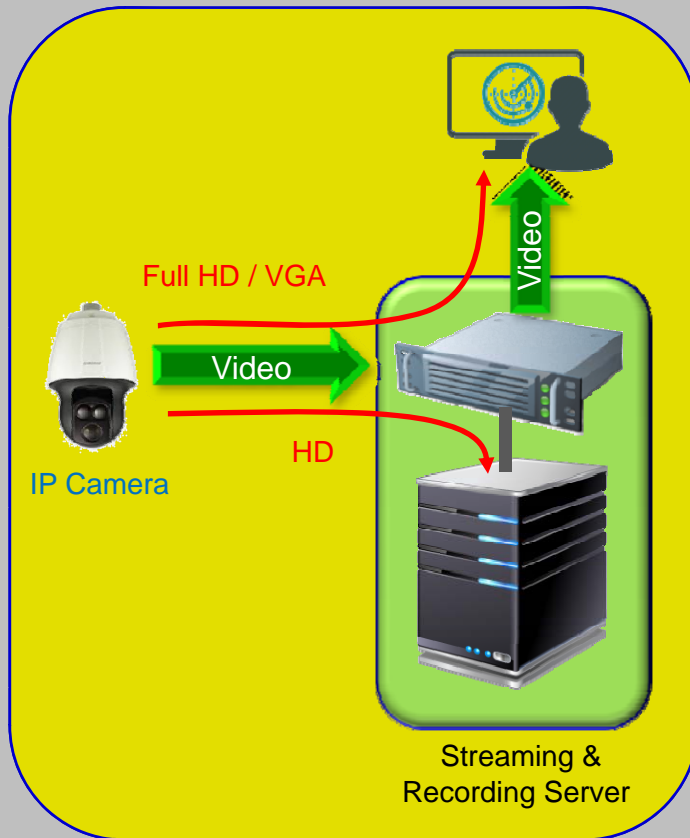
Also, this means save the HDD Storage.

H.265 support 4K UHD

# H.265 vs H.264 Comparison

	H.264	H.265 (HEVC : high efficiency video coding)
Technical Update	8-pel Motion Vector Resolution Adaptive Interpolation Filter Motion Vector Competition Adaptive Prediction Error Coding in Spatial and Frequency Domain Adaptive Quantization Matrix Selection	Extended Macroblock Size (EMS) Large Transform Size (LTS) Internal Bit Depth Increasing (IBDI) Sample Adaptive Offset (SAO) context-adaptive binary arithmetic coding (CABAC)
Key Point	Macro Block Size (16 x 16)	Macro Block Size (64 x 64)
Complexity, Compression Ratio	—	<b>Complexity</b> 50% Increase <b>Compression Ratio</b> Up to 50% Increase, 30% increase (Same PSNR)
Advantage	—	In case of High Resolution or Very Low Bit, H265 HEVC has advantage over H.264.
Resolution	4K UHD	8K 128fps

# Support Multiple Video Profile in an IP camera



Support Several Live Video Profile in an IP camera

Support a Video Profile for Video Recording in an IP camera

Among several live video profile, Viewer select a live Profile according to display layout.

# Support Various IP Camera Video Recording Mode



Always Mode : Always Video Recording Mode

Event Mode : Video Recording at Event Occurred

Schedule Mode : Video Recording based on Schedule

# Support Watermark based Video Export



Support AVI File Type Video Export Function

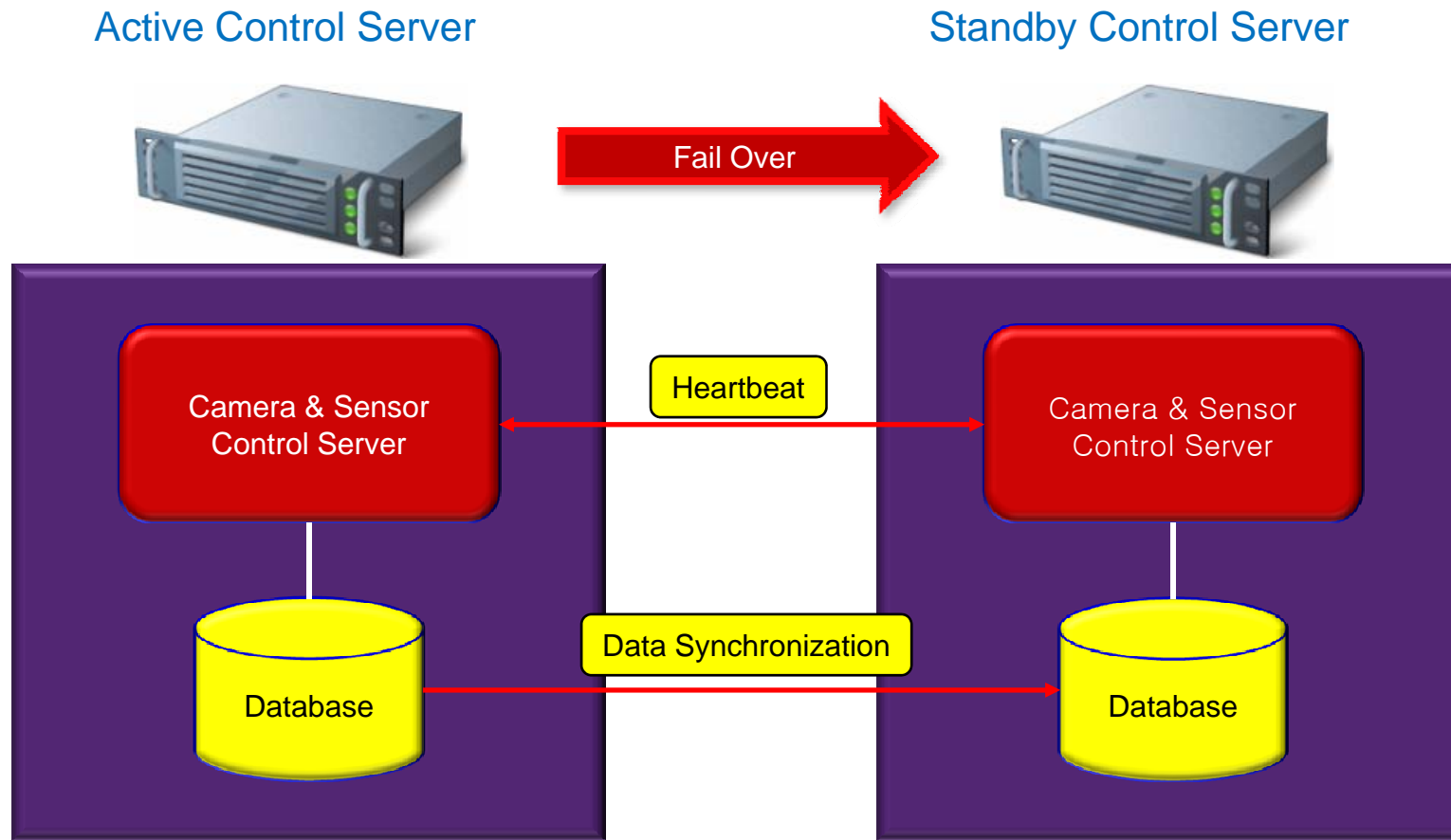
Verify Video Forgery by Watermark

Video Export History Management



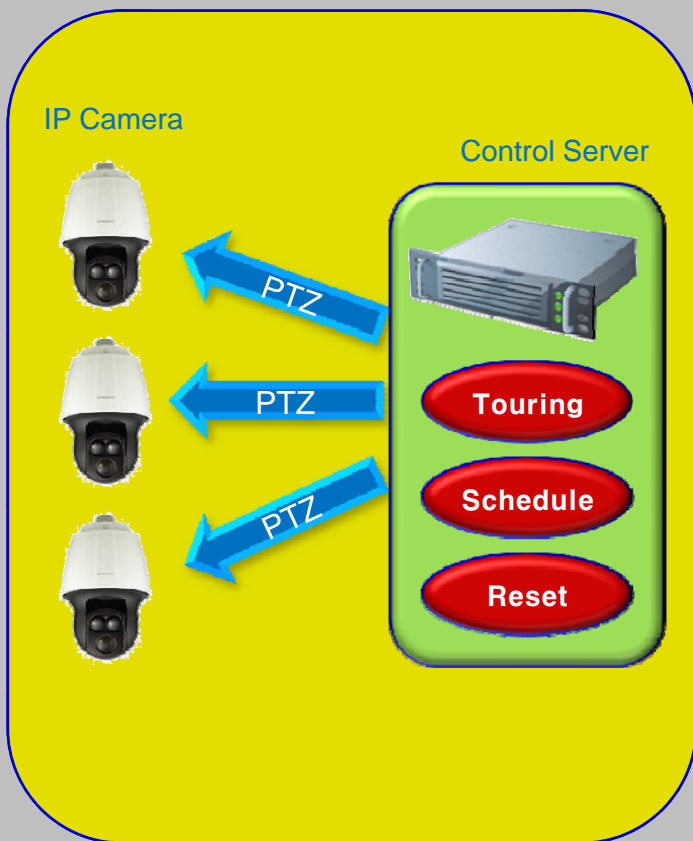
# CCTV Control Server

# Control Server supports Seamless Service by using 1:1 Active-Standby System Redundancy





# Powerful Camera Control Support

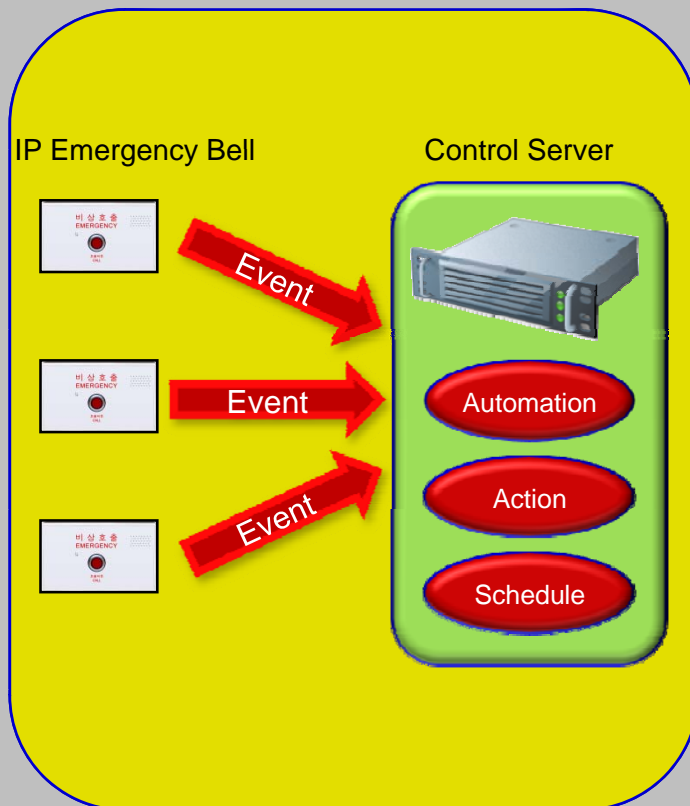


Support IP Camera PTZ Control and Touring

Scheduled IP Camera Touring is Possible

Camera Status Monitoring by using SNMP, Ping

# Powerful Sensor Event Processing Support



Sensor Event based Automation Support

Action Plan Edition Function Support for Automation

Schedule based Automation Support

# Control and Management Server supports Object Edition Function for Rule based Event Handling

## Task

- ◆ Where : Running at Management Server
- ◆ What : Change Mode(s) of Section(s)  
Do Action(s) of Section(s)

## Auto Task

- ◆ Where : Running at Management Server
- ◆ What : Do Server Action by a Triggering Event Always or Scheduled

## Action

- ◆ Where : Running at Sensor Controller
- ◆ What : Do Command to Device(s)

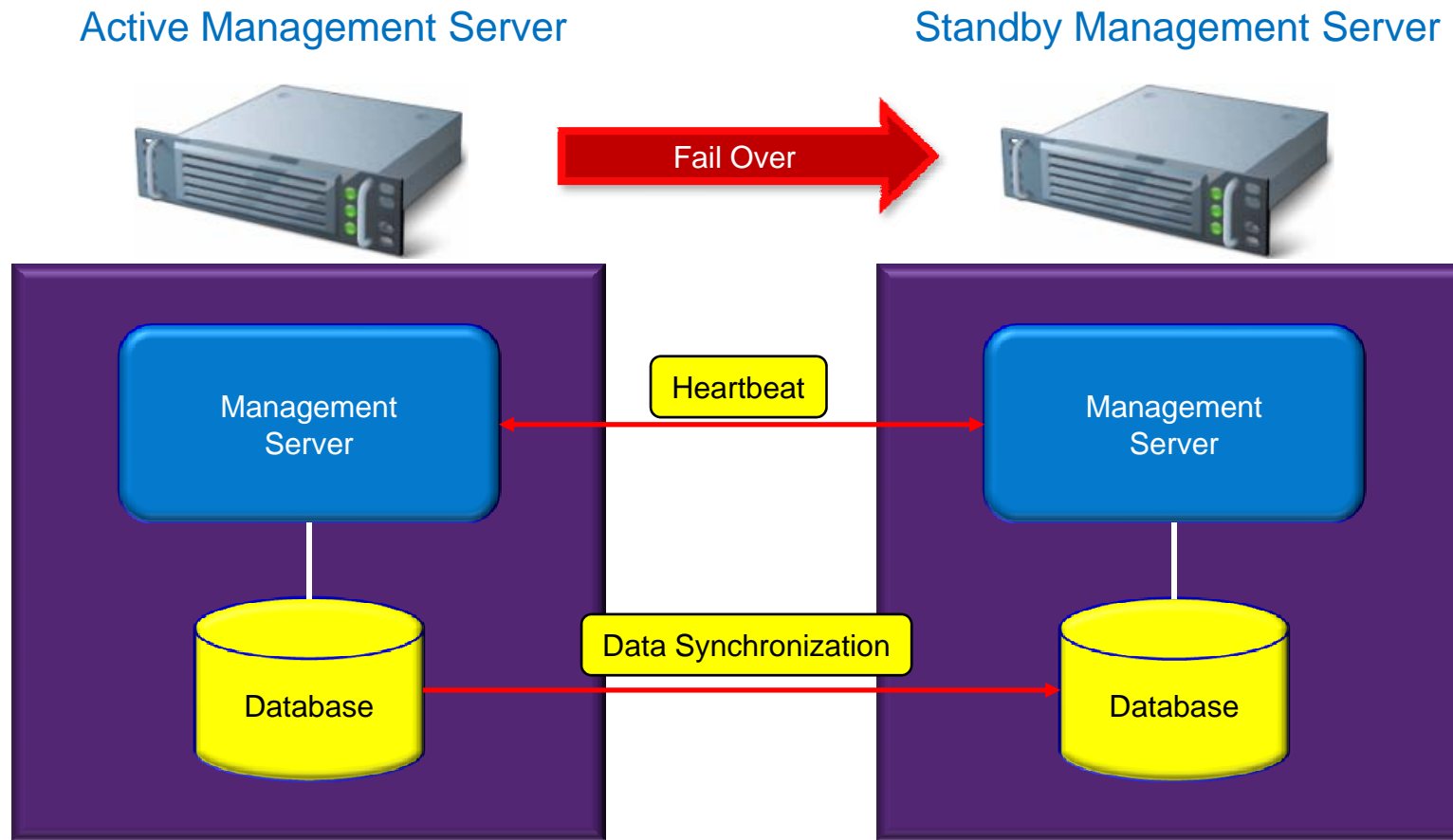
## Automation

- ◆ Where : Running at Sensor Controller
- ◆ What : Do Action(s) by a Triggering Event Always or Scheduled

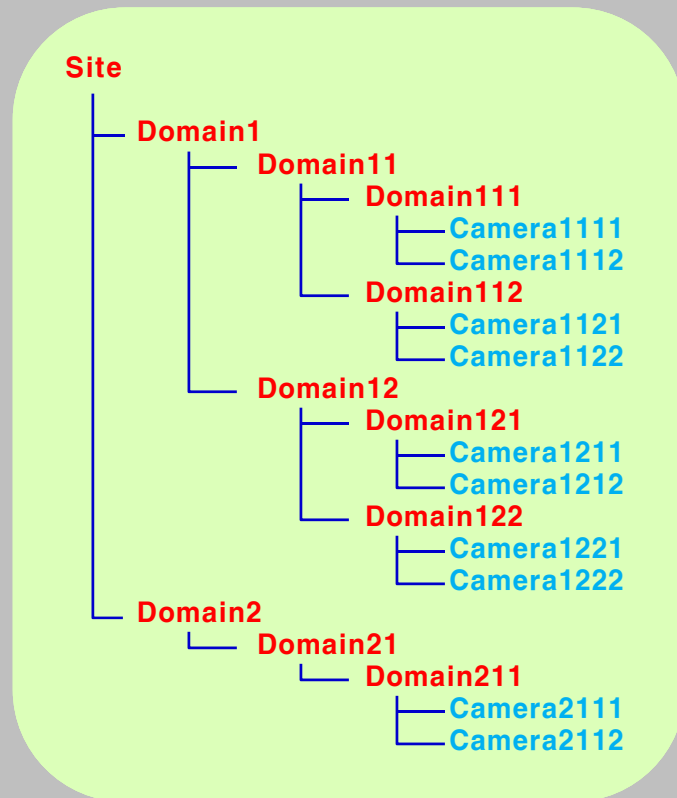


# Management Server

# Management Server supports Seamless Service by using 1:1 Active-Standby System Redundancy



# Support Tree based Control Scheme for Large Scale Camera Management

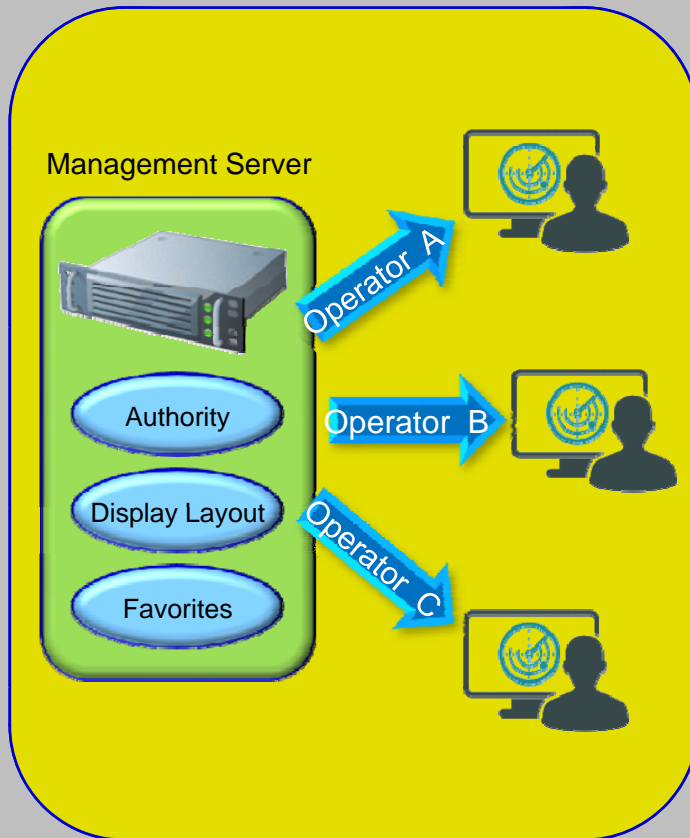


Domain based Camera Group Management in Manager Dashboard for Camera Status Monitoring

Domain based Streaming & Recording Server Assignment. Scalability, Flexibility and System Redundancy Control is domain based.

Domain based Manager Authority Control. Authority Handling is Very Easy.

# Each Operator can have Authority Control, Display Screen Layout Control, Favorite Control.

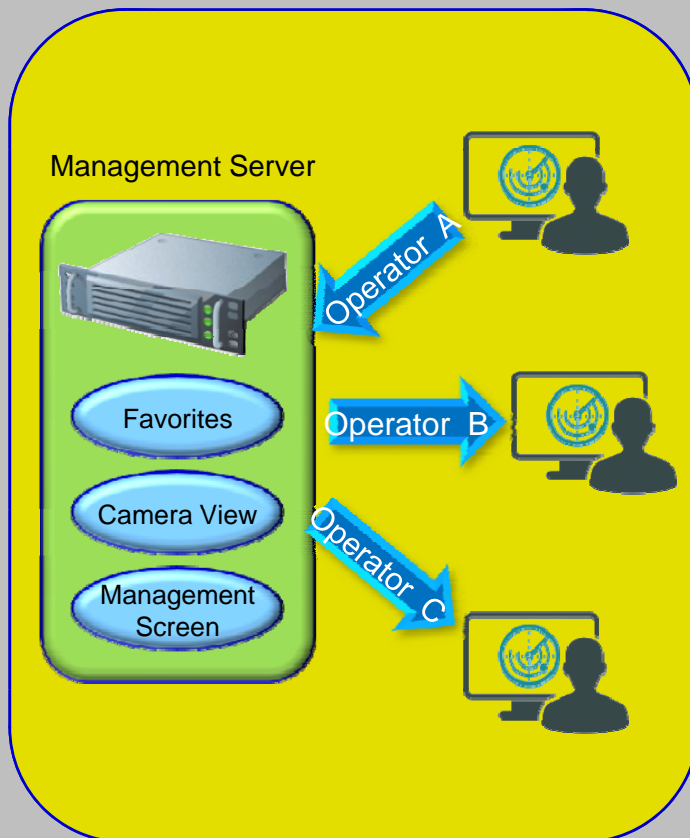


Each operator can have independent a camera Live, PTZ control and video export control authority

Each operator can have independent screen layout

Each operator can have independent favorite came group

For cooperation between operators, supports favorite camera group sharing, camera view sharing, and screen layout sharing.



Favorites Camera Group Sharing between Operators

Current Camera View Sharing between Operators

Display Screen Layout Sharing between Operators



# Supports Camera and System Resource Monitoring and Alarm Event Handling via Intuitive User Interface



Supports System Fault Management and History Management

Supports camera and other device's monitoring and alarm handling based on Group

Supports system resource monitoring and alarm generation by threshold value. (CPU utilization, Memory usage, HDD Storage Space)



# Management Control Screen UI

# Smart VMS Management UI

## What?

### Video Viewer

- Live Video
- Video Playback
- Event Triggered Camera View Change

## How?

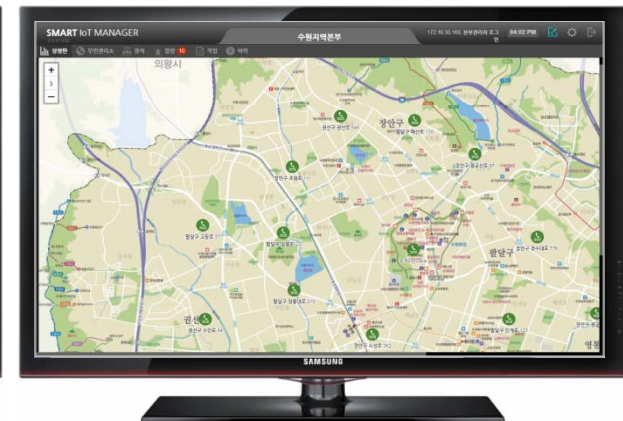
### Alarm Handler

- Alarm & Event Viewer
- Clear Alarm
- Trigger Action
- Configuration

## Where?

### E-Map

- Show Object (Camera, Sensor, Perimeter) Status
- Blinking Alarm

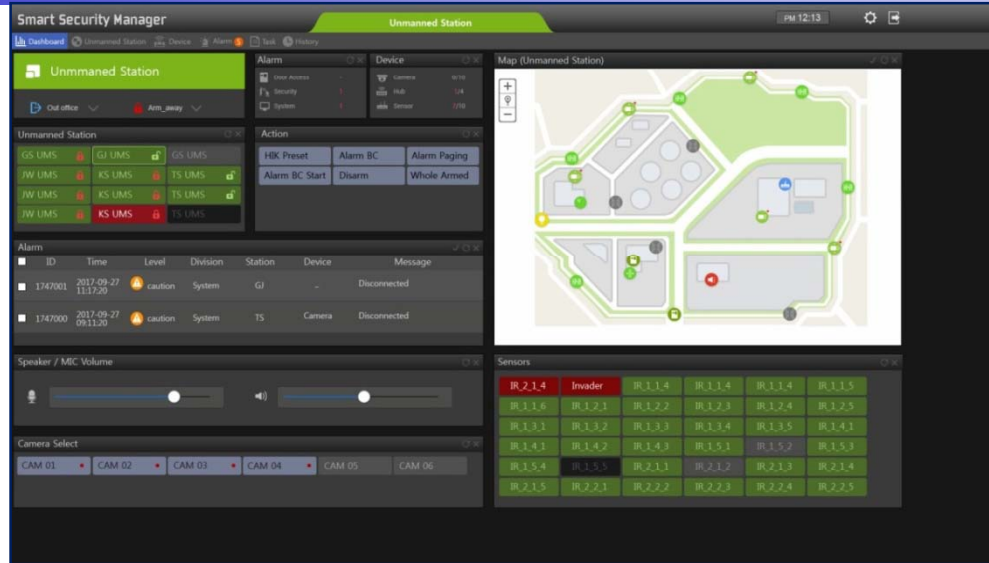


# Support Smart Video Viewer



- **Easy and Intuitive UI** : Supports Drag and Drop and PTZ
- **Dynamic Video Profile** : Supports Dynamic Video Profile Selection according to View Layout Size of Live Stream or Record Stream
- **Group / List View Mode** : Supports Hierarchical Camera List View and Favorite Camera Group View Mode
- **Alarm View** : Shows Live / Recorded Camera(s) which are related to the Alarm
- **Various Speed Playback** : 1/4x, 1/2x, 1x, 2x, 4x, 8x, 16x Forward and Reverse
- **Frame based Playback** : 1 Frame Forward and Reverse
- **Synchronous Playback** : Multi Camera Synchronous Playback

# Support Smart Security Manager for Integrated Security Service



- **E-Map** : Supports 2D E-Map with Sensor Icons and Sensor Group as Line with Status
- **Alarm List** : Supports Alarm Acknowledge and Clear
- **Smart Video Viewer Interworking (Live)** : Shows Live Video when a Camera or Camera Group is Selected
- **Smart Video Viewer Interworking (Record)** : Shows Record Video when a Alarm is Selected
- **Sensor Control** : Arm / Disarm / Alarm Clear / Enable / Disable
- **Actions** : Door Open / Receive Call / Mode Control / Broadcast



# Support Smart VMS GIS

Smart Security Manager PM 12:13

상황판 관리소 장치 알람 5 작업 이력

수원시 지도

구운사거리

상태 : 비상통화 연결중

Link : linked

Last : 2017/02/09 15:20:37

알람	ID	시간	단계	구분	지역	장치	메시지	위치 정보
■	1747001	2017-09-27 11:17:20	주의	시스템	권선구	EIP60	연결 끊김	권선구 탑동 탑동사거리
■	1747000	2017-09-27 09:11:20	주의	시스템	팔달구	EIP60	연결 끊김	팔달구 우만동 효성사거리

장치	Count
Camera	0/0
Emergency Intercom	1/40
Sensor	0/0

# Support Smart VMS MAP Tile

Smart Security Manager PM 12:13

상황판 | 관리자 | 장치 | 알림 5 | 작업 | 이력

팔달구 지도

장안구 지도

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장치

- Camera 0/0
- Emergency Intercom 1/40
- Sensor 0/0



# Support Smart VMS 3D MAP

Smart Security Manager PM 12:13

상황판 관리소 장치 알림 5 작업 이력

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장치

- Camera 0/0
- Emergency Intercom 1/40
- Sensor 0/0





# Thank you!

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