Smart TVMS Overview
(TVMS : Traffic Monitoring Live VMS)

AddPac Technology

Sales and Marketing

Contents

- Smart TVMS Solution Overview
- CCTV Control Server
- CCTV Management Server
- CCTV Video Streaming Server (Option)
- CCTV Management UI
- Interworking with Other Solution

Smart TVMS Solution Overview

Smart TVMS Overview

- New Enhanced Scalable Architecture for Traffic Monitoring CCTV Video Camera Deployment (Video Codec, IP Camera)

- System Redundancy Architecture Support for Fault Tolerant and System Stability (Active–Standby)

- 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, VDS(Vehicle Detection System) Server, VMS(Video Messaging Sign) Server, etc.
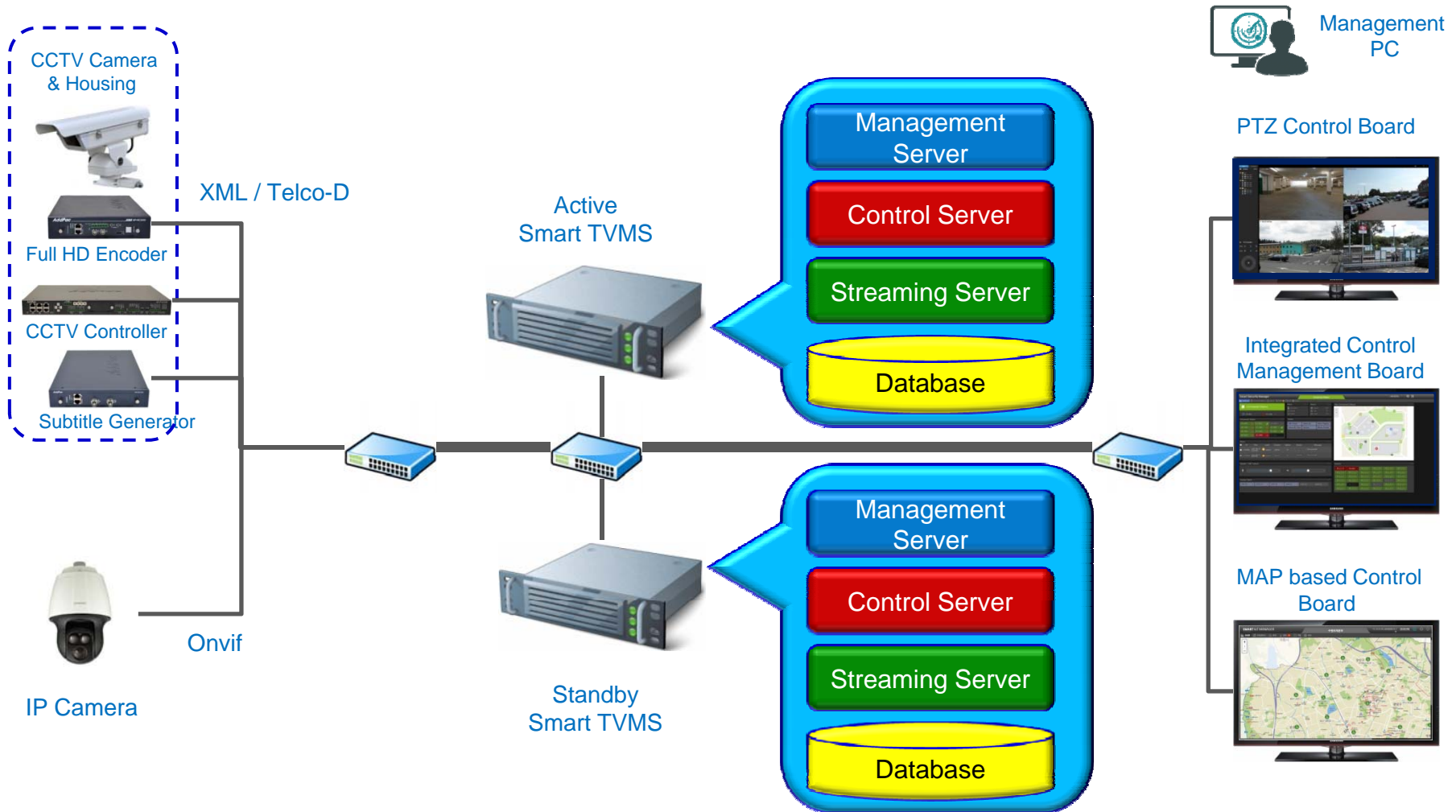
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Smart TVMS Function

Traffic Monitoring CCTV Camera Management and Control
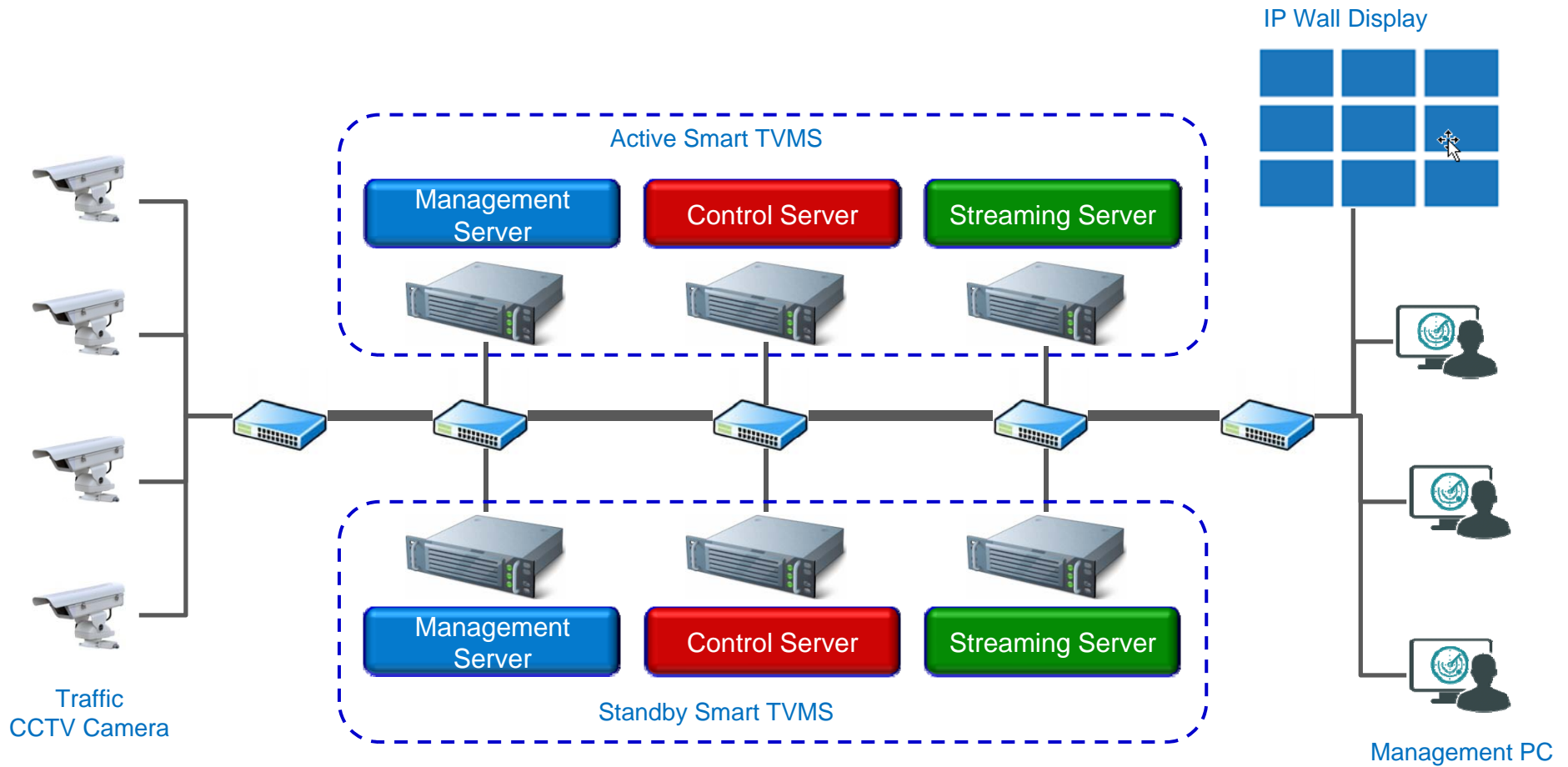- CCTV Video Encoder, PTZ Controller, Subtitle Generator, Housing

PTZ Control and Preset Management, and Subtitle Editing, Live CCTV Camera Monitoring

Support Integrated Status Monitoring Board for CCTV Camera,System Status Monitoring and Alarm Processing

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Smart TVMS Components

CCTV Camera & Housing

Full HD Encoder

CCTV Controller

Subtitle Generator

XML / Telco-D

IP Camera

Onvif

Active Smart TVMS

Standby Smart TVMS

Management Server

Control Server

Streaming Server

Database

Management Server

Control Server

Streaming Server

Database

Management PC

PTZ Control Board

Integrated Control Management Board

MAP based Control Board

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Flexible Architecture for Large Scale Deployment

IP Wall Display

Active Smart TVMS

Management Server | Control Server | Streaming Server

Standby Smart TVMS

Management Server | Control Server | Streaming Server
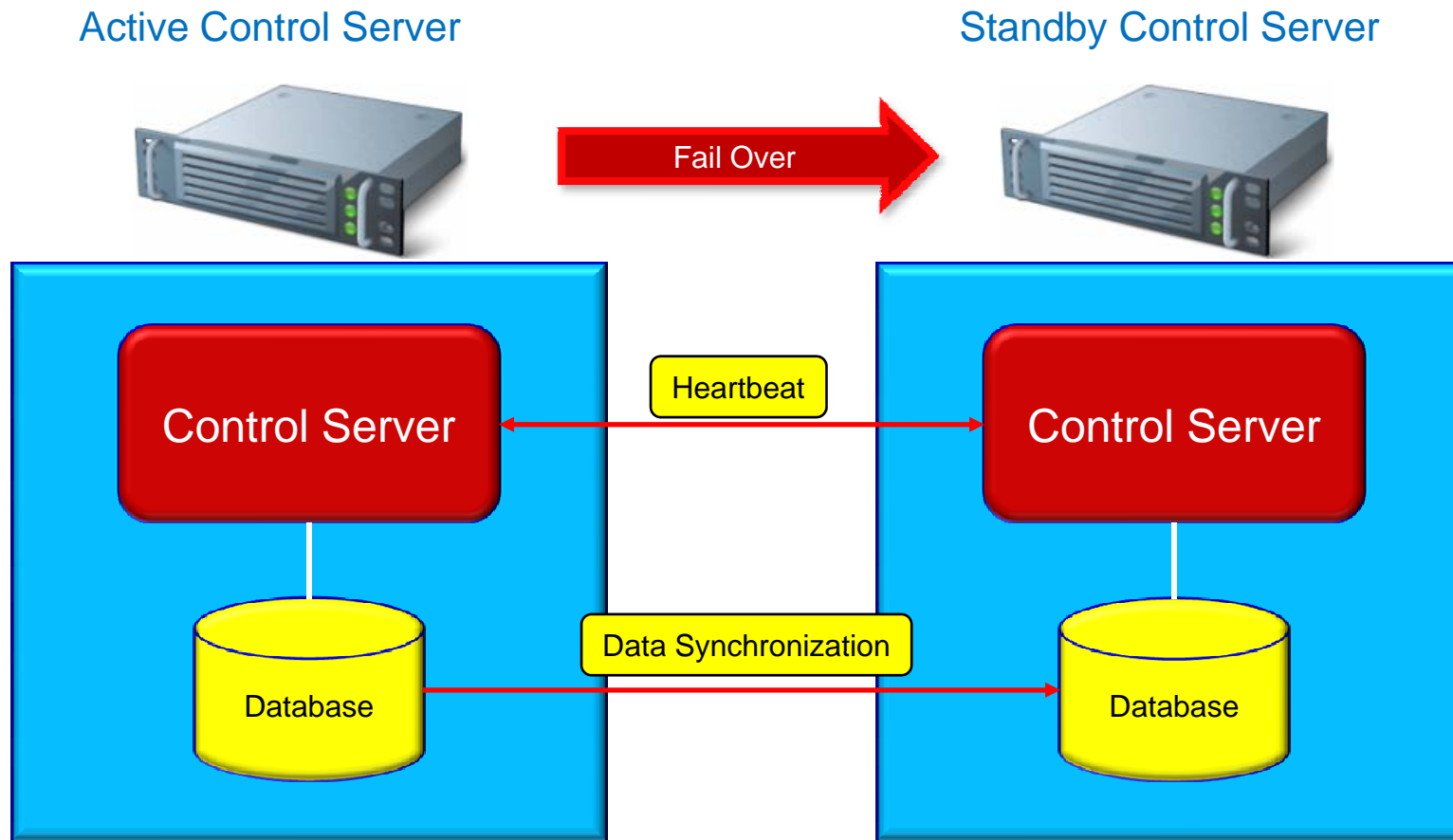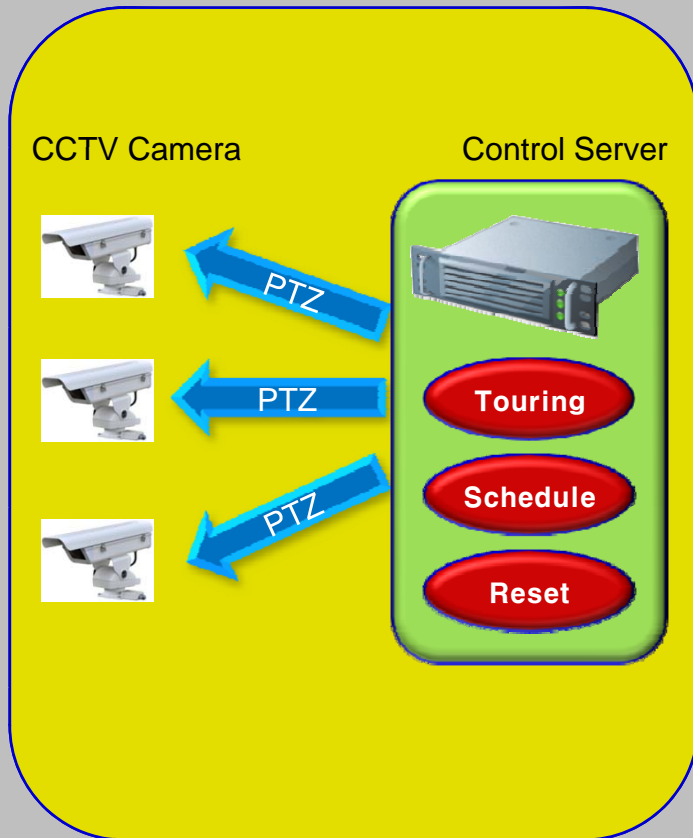
Traffic
CCTV Camera

Management PC

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CCTV Control Server

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

Active Control Server

Standby Control Server

Fail Over

Heartbeat

Control Server

Control Server

Data Synchronization

Database

Database

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Powerful Camera Control Support

CCTV Camera

Control Server

PTZ

PTZ

Touring
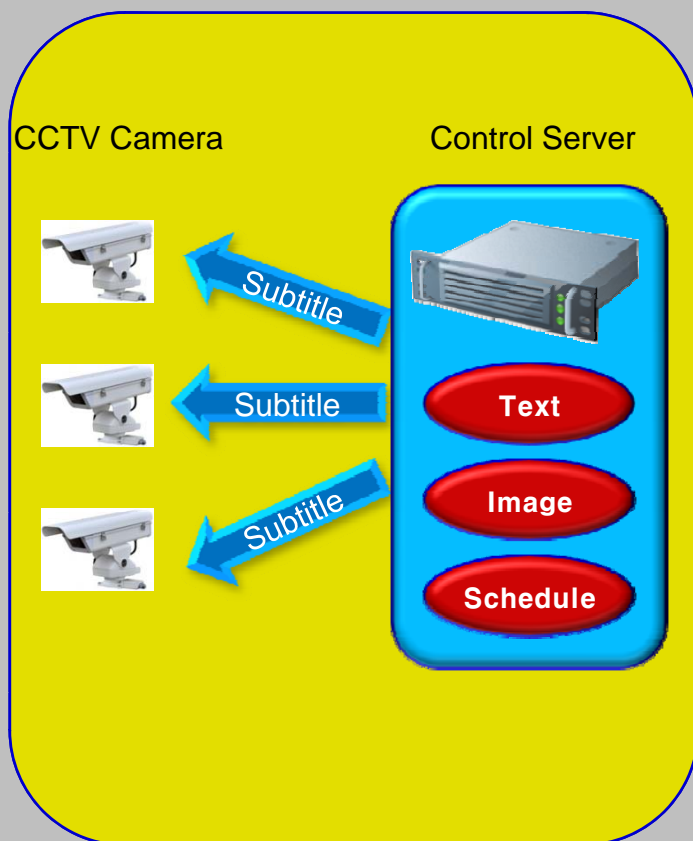
PTZ

Schedule

Reset

Support IP Camera PTZ Control and Touring

Scheduled IP Camera Touring is Possible

Onvif/XML/PELCO-D, Various PTZ Protocol Support

Advanced Subtitle Generation Control Support

CCTV Camera   Control Server

Subtitle

Subtitle   **Text**

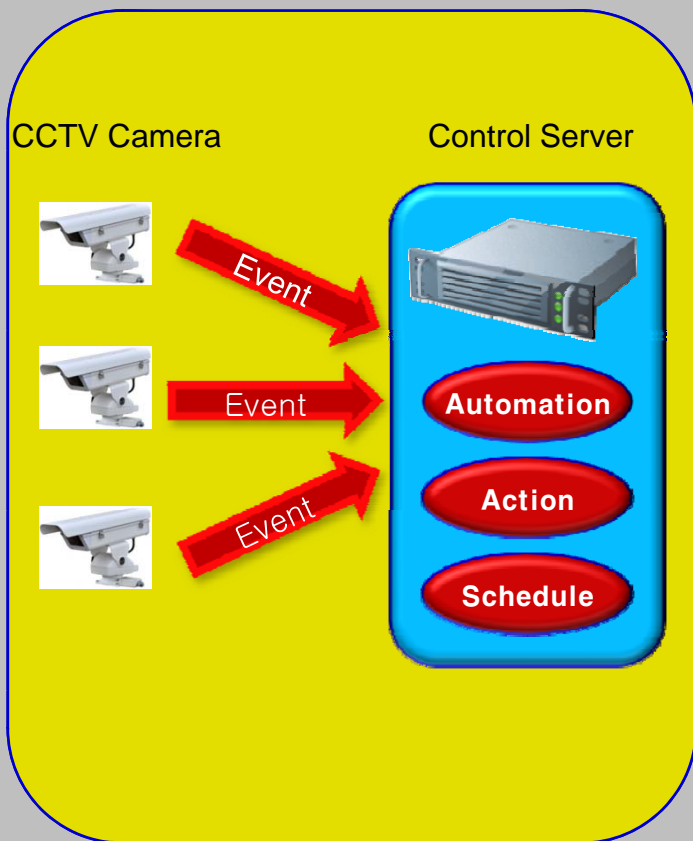Subtitle   **Image**

Schedule

Supports Subtitle like as Text, Image Overlay
for Live Video Dynamically

Various Subtitle Generation according to Camera
PTZ Position, Event and Time

Support Various Subtitle Generation
Protocol like as Onvif / XML, etc

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Powerful Sensor Event Processing Support

CCTV Camera

Control Server

Event

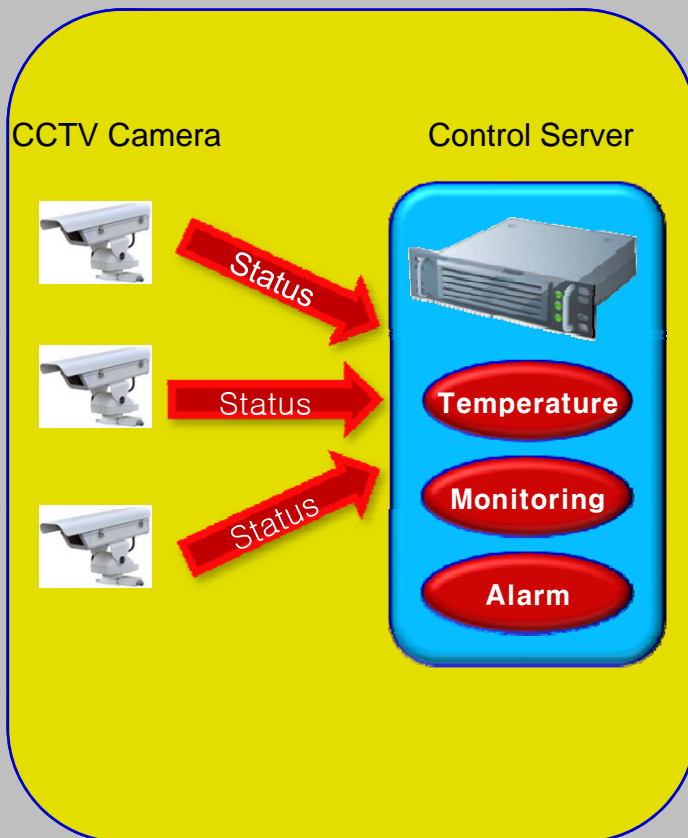Event

Event

Automation

Action

Schedule

Sensor Event based Automation Support

Action Plan Edition Function Support for Automation

Schedule based Automation Support

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Powerful Sensor Control and Monitoring Support

CCTV Camera

Control Server

Status

Status

Status

Temperature

Monitoring

Alarm

Support Monitoring of Temperature, Humidity, etc

Alarm Generation When Temperature, Humidity is over threshold value

Fan, Heater, Wiper Control and Monitoring is Possible

Control Server supports Object Edition Function for Rule based Event Handling

Action

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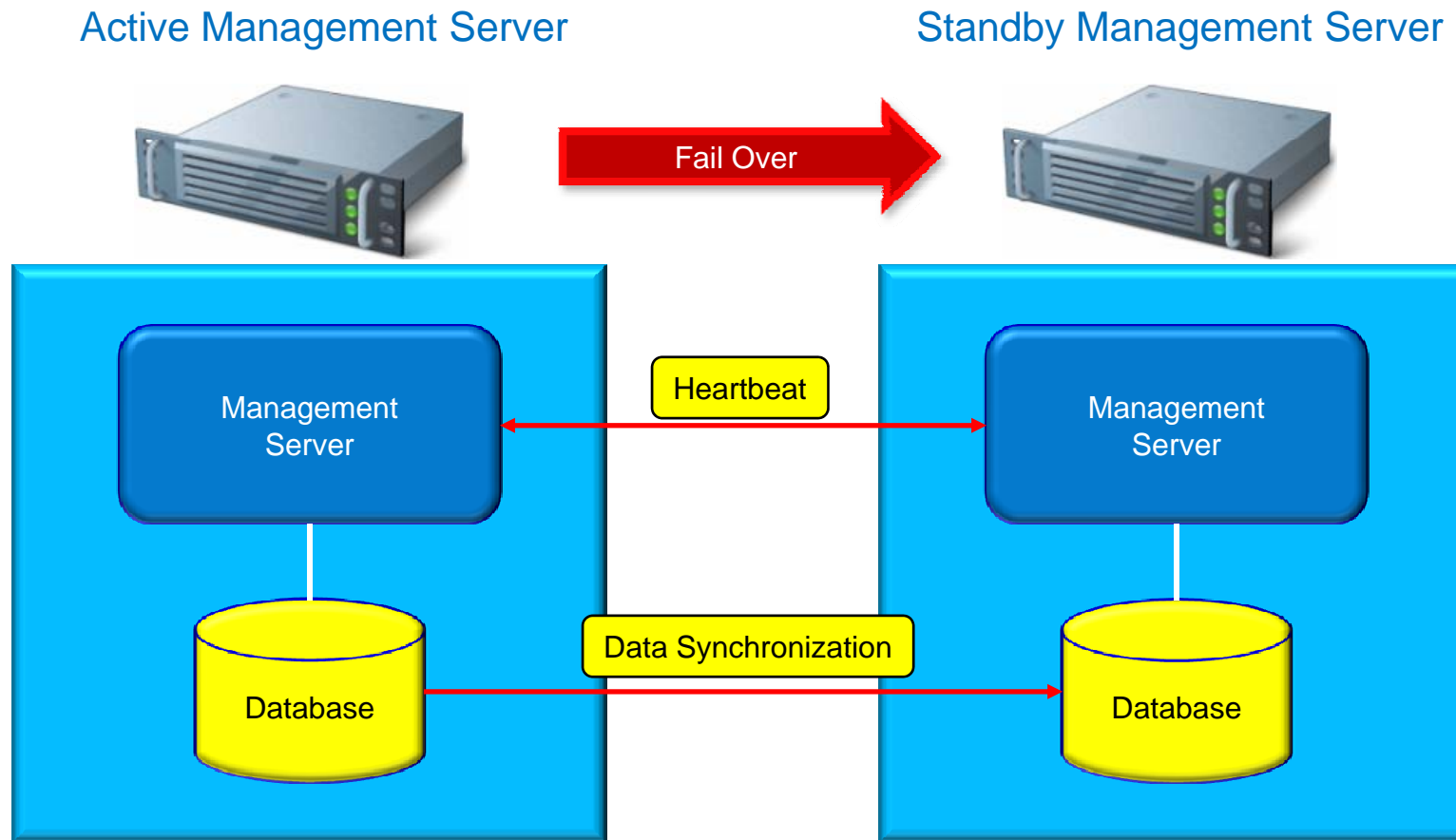◆ What : Do Command to Device(s)

Automation

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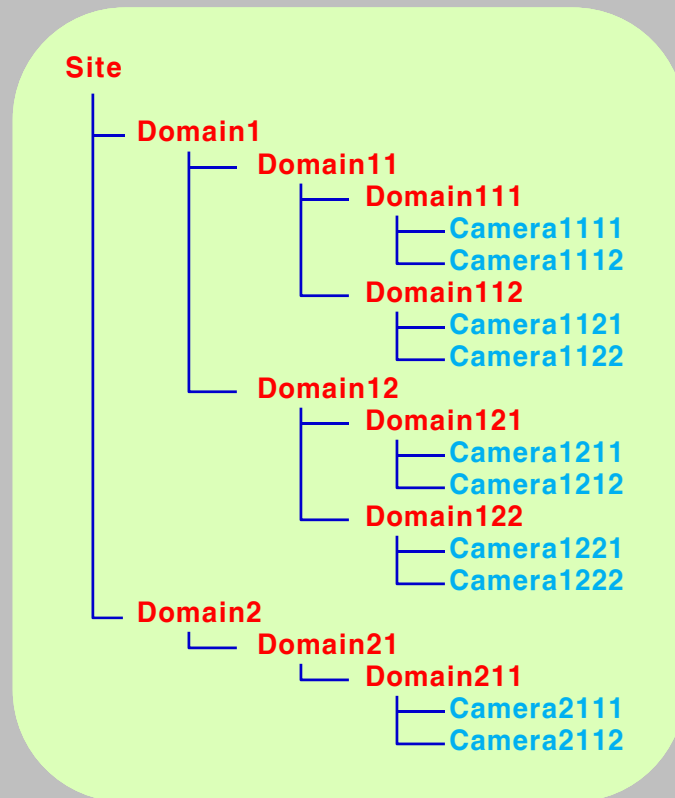◆ What : Do Action(s) by a Triggering Event Always or Scheduled

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CCTV Management Server

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

Active Management Server

Standby Management Server

Fail Over

Management Server

Heartbeat

Management Server

Database

Data Synchronization

Database

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Support Tree based Control Scheme for Large Scale Camera Management

```
Site
│
├── Domain1
│       ├── Domain11
│       │       ├── Domain111
│       │       │       ├── Camera1111
│       │       │       └── Camera1112
│       │       └── Domain112
│       │               ├── Camera1121
│       │               └── Camera1122
│       └── Domain12
│               ├── Domain121
│               │       ├── Camera1211
│               │       └── Camera1212
│               └── Domain122
│                       ├── Camera1221
│                       └── Camera1222
│
└── Domain2
        └── Domain21
                └── Domain211
                        ├── Camera2111
                        └── Camera2112
```
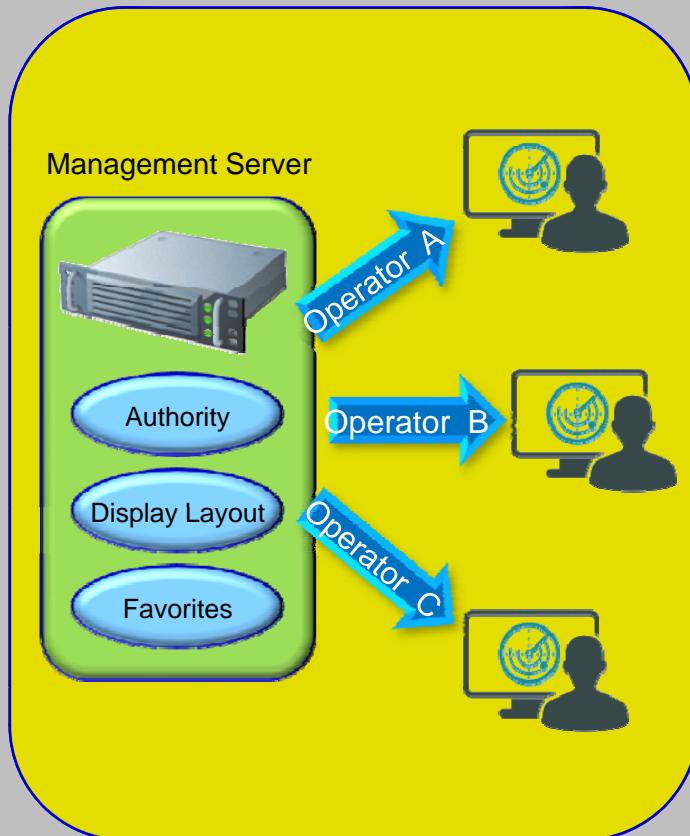
Domain based Camera Group Management in Manager Dashboard for Camera Status Monitoring

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

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

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

Management Server

Authority

Display Layout

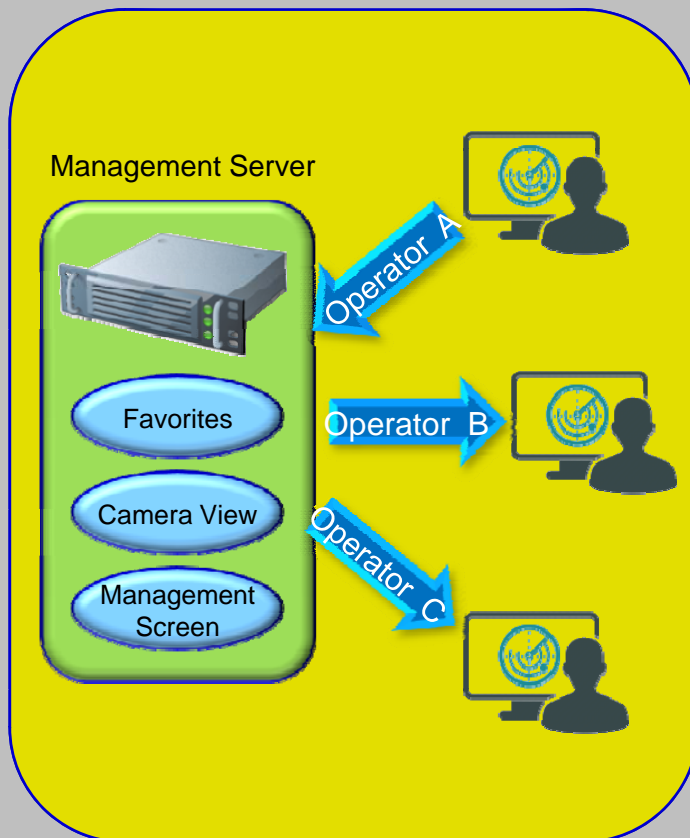Favorites

Operator A

Operator B

Operator C

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

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

Management Server

Favorites

Camera View

Management Screen

Operator A
Operator B
Operator C

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

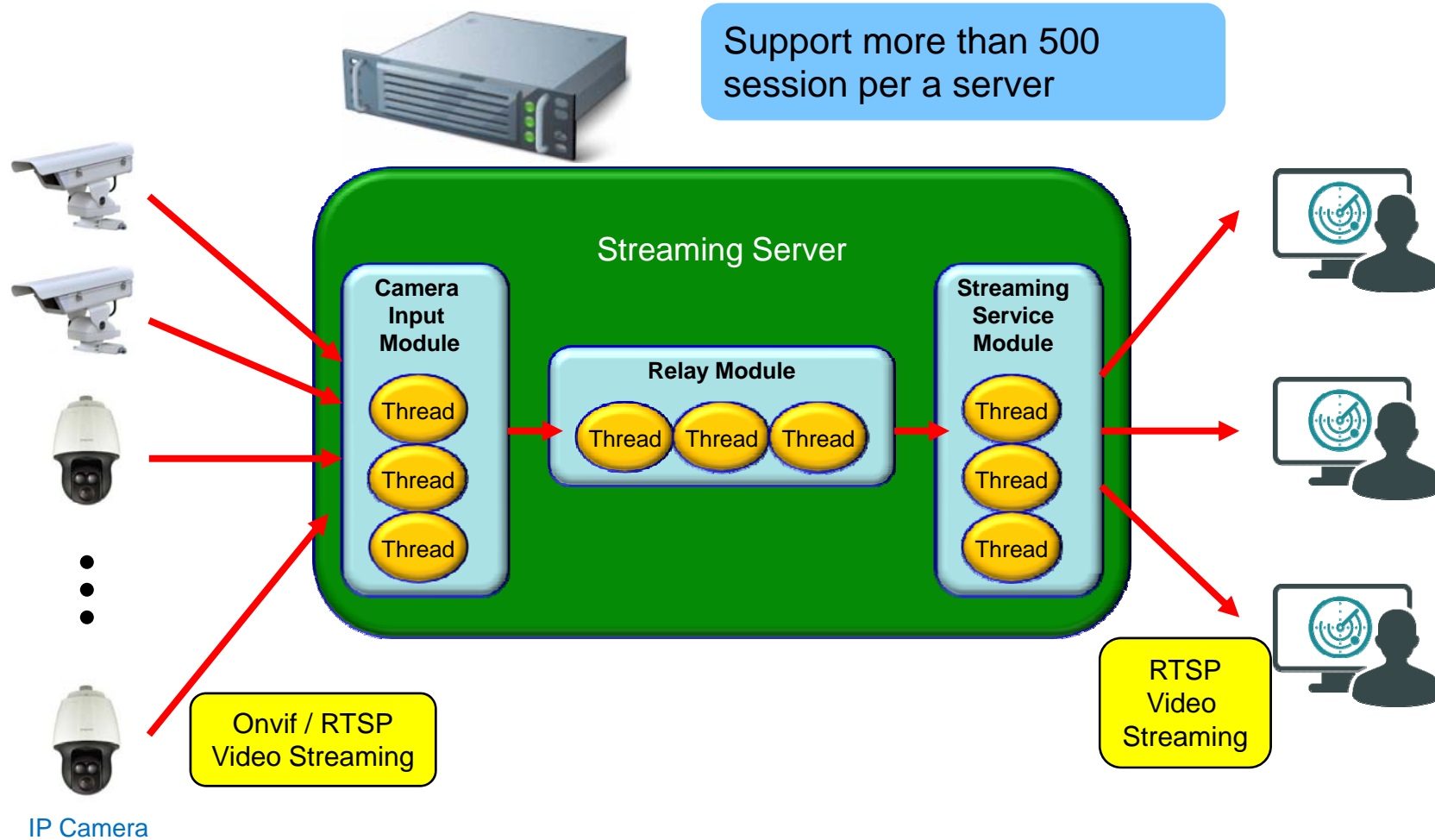Supports System Fault Management and History Management

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

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

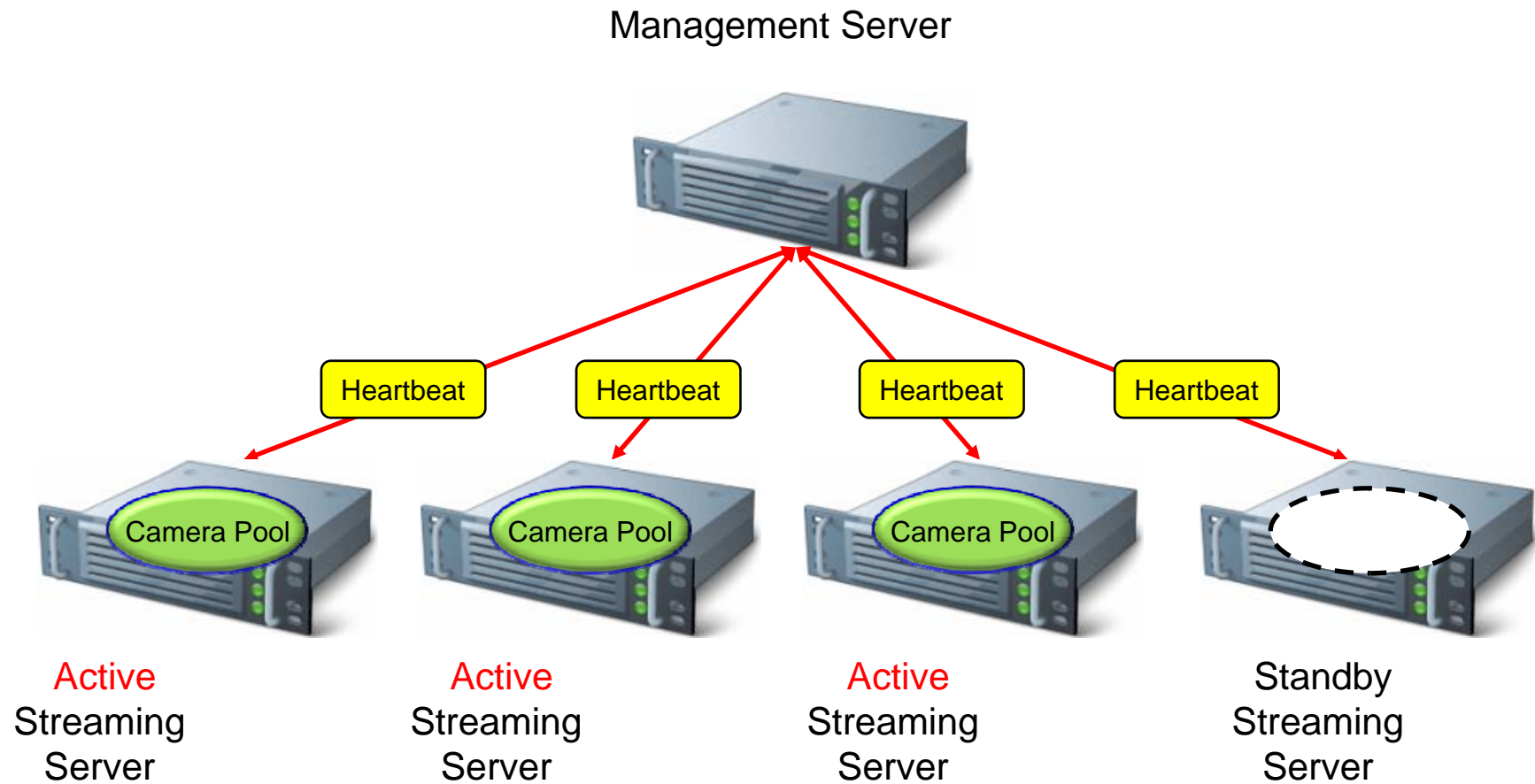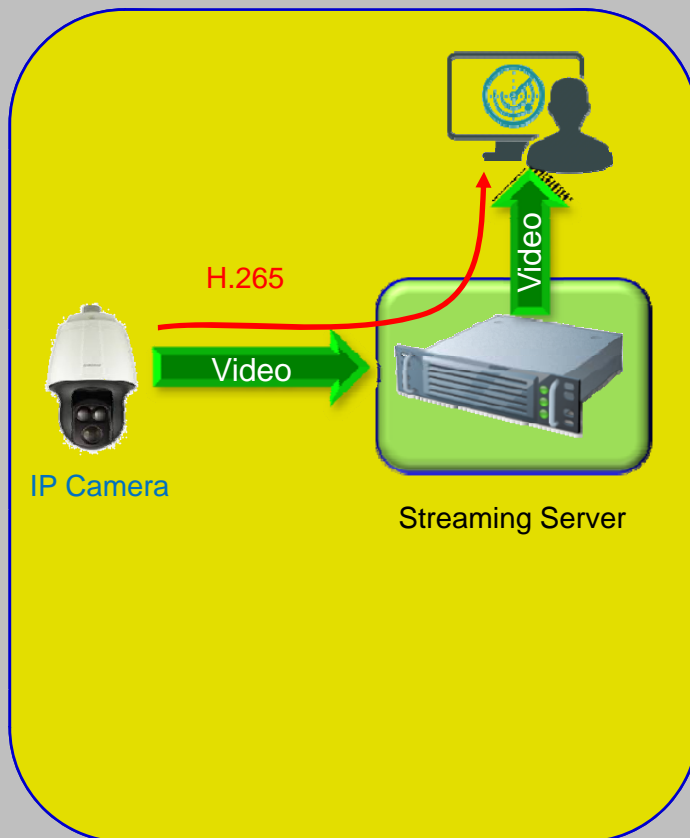# Video Streaming Server
(Option)

Support Live Video by using Resource Efficient Real-time Thread Technology

Support more than 500 session per a server

Streaming Server

Camera Input Module
- Thread
- Thread
- Thread

Relay Module
- Thread
- Thread
- Thread

Streaming Service Module
- Thread
- Thread
- Thread

Onvif / RTSP Video Streaming

RTSP Video Streaming

IP Camera

Streaming Server support IP Camera Pool based System Redundancy

Management Server

Heartbeat Heartbeat Heartbeat Heartbeat

Camera Pool Camera Pool Camera Pool

Active
Streaming
Server

Active
Streaming
Server

Active
Streaming
Server

Standby
Streaming
Server

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Support High Efficiency H.265 Video Codec

H.265

Video

Video

Video

IP Camera

Streaming Server

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

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Management Control Screen UI

Smart TVMS Management UI

What?

PTZ Control Viewer
- Live Video
- PTZ Control
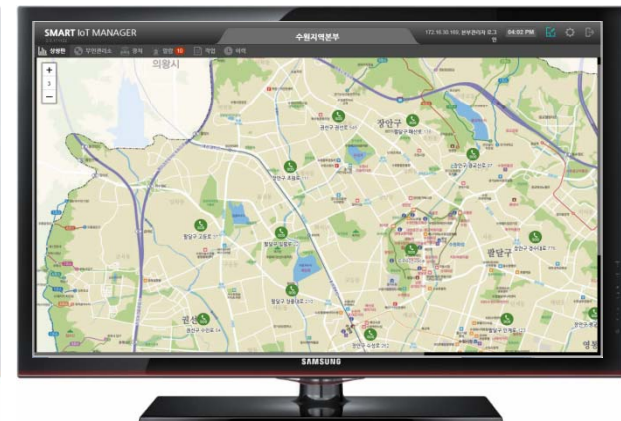- Camera Preset
- Sub Title Editing

How?

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

Where?

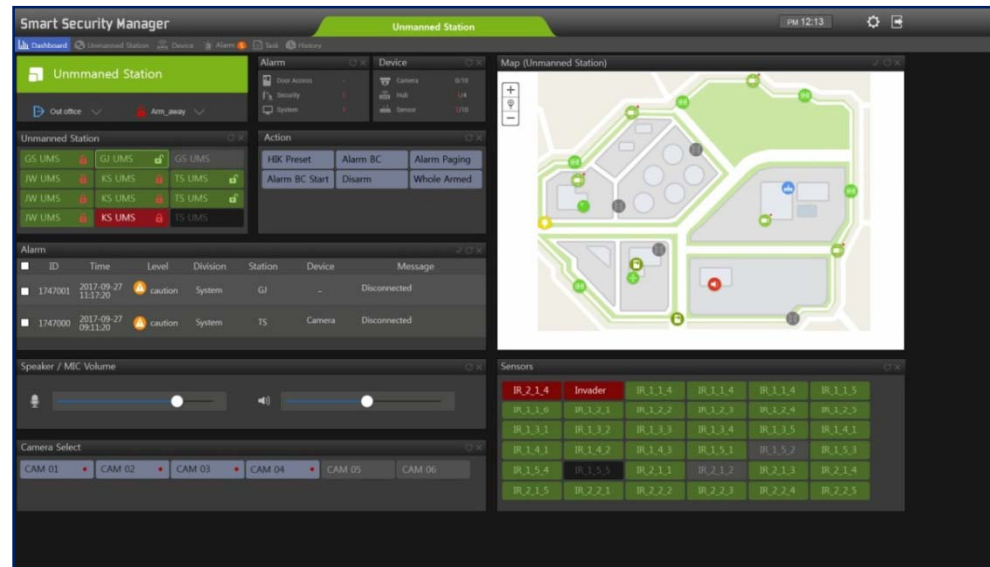**E-Map**
- Show Object (Camera, Sensor) Status
- Blinking Alarm

Support Smart TVMS PTZ Control Viewer

- Easy and Intuitive UI : Supports Drag and Drop and PTZ
- Preset Management : Camera Preset Control and Management
- Sub Title Editing : Supports Camera Sub Title Editing
- Dynamic Video Profile : Supports Dynamic Video Profile Selection according to View Layout Size of Live Stream
- Group / List View Mode : Supports Hierarchical Camera List View and Favorite Camera Group View Mode
- Alarm View : Shows Live Camera(s) which are related to the Alarm

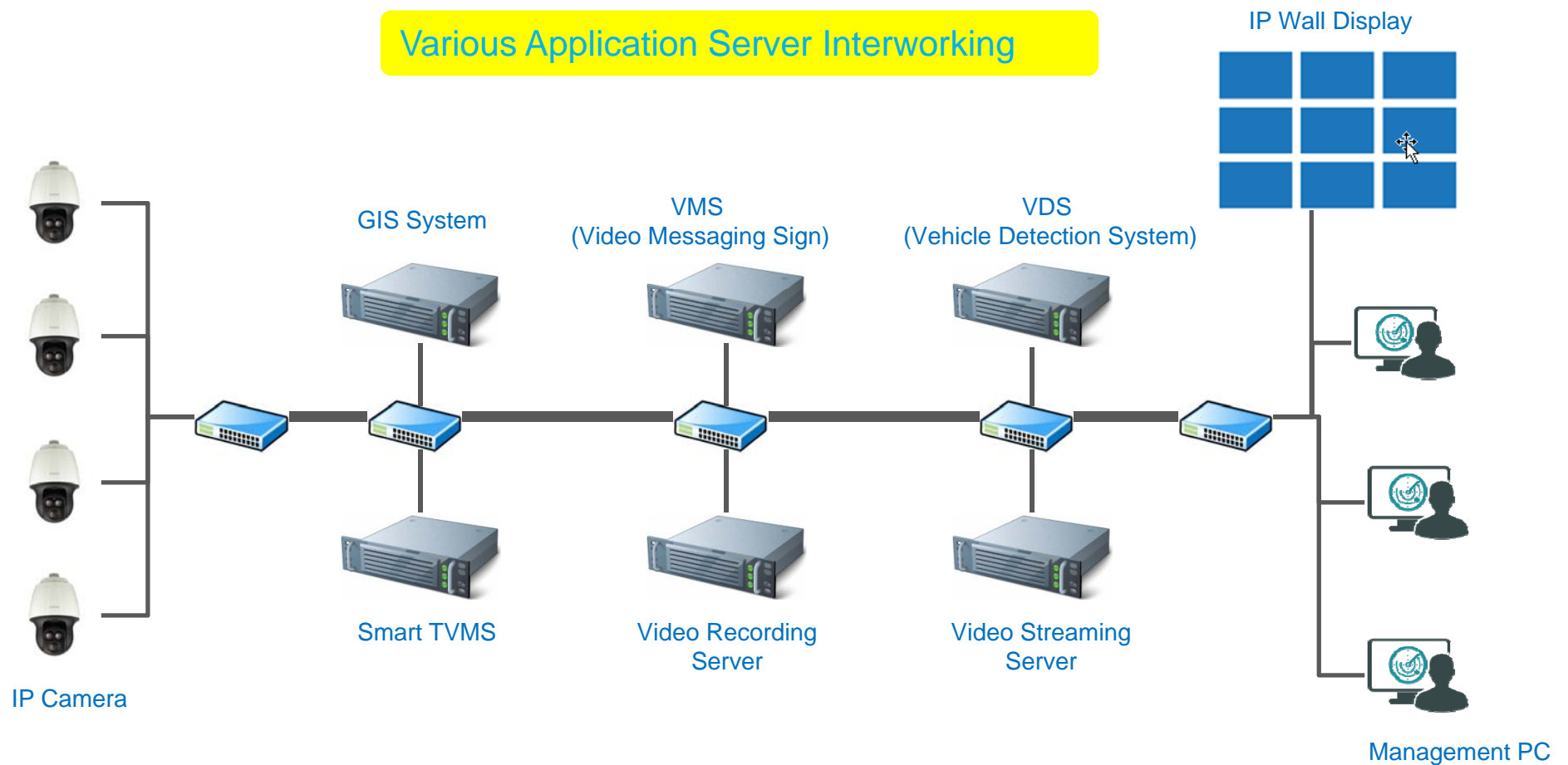**AddPac**

Support Integrated TVMS Status Board by using Manager

- E-Map : Supports 2D E-Map with Sensor Icons and Camera Icon with Status
- Alarm List : Supports Alarm Acknowledge and Clear
- Camera Status : Support Camera Status Monitoring
- System Status : Support System Status Monitoring
- Smart PTZ Controller Interworking (Live) : Shows Live Video when a Camera or Camera Group is Selected

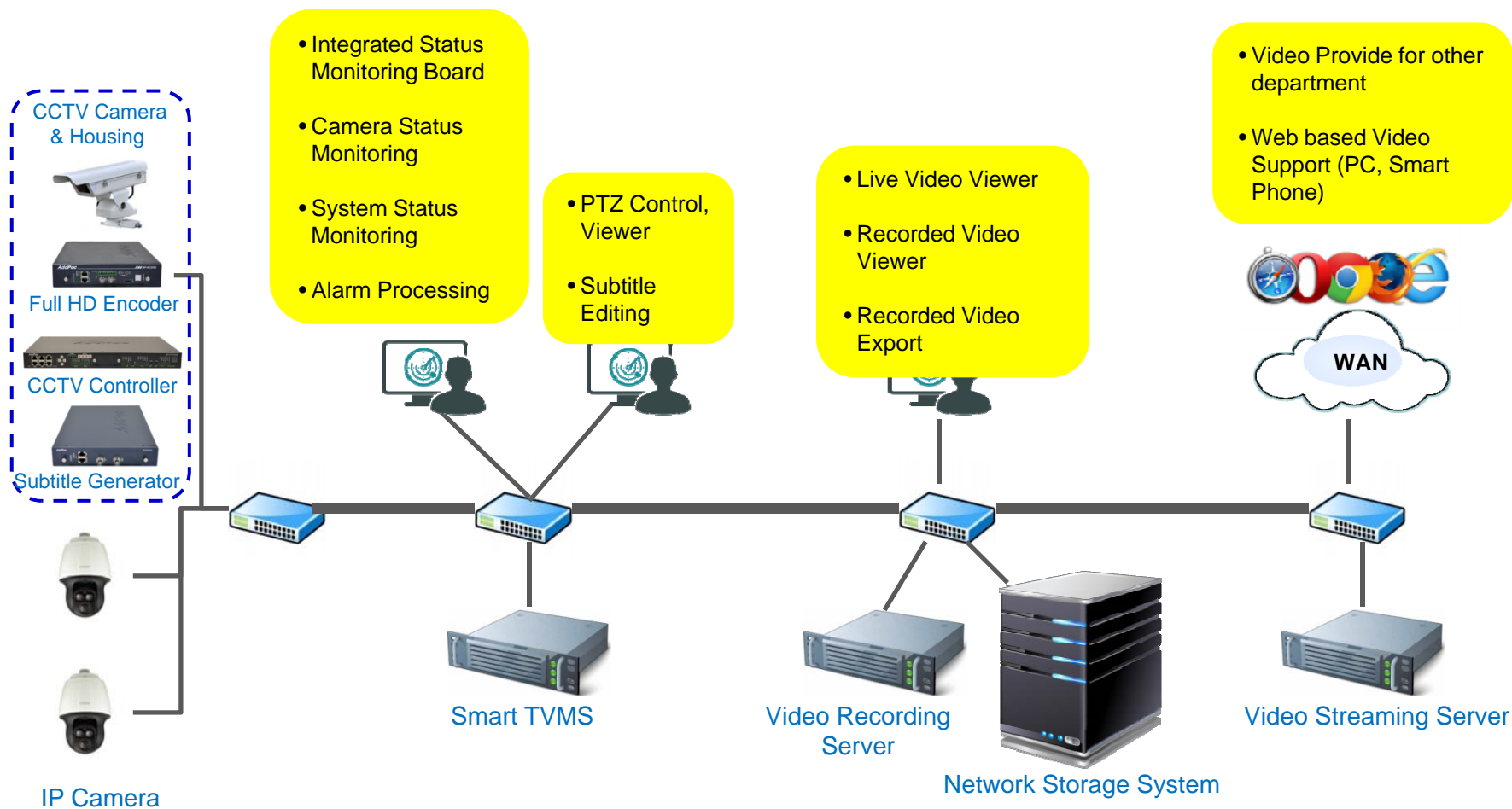# Interworking with Other Application System

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Smart TVMS supports ITS (Intelligent Traffic Monitoring System) total solution via interworking with other Application Server

Various Application Server Interworking

IP Wall Display

GIS System

VMS
(Video Messaging Sign)

VDS
(Vehicle Detection System)

Smart TVMS

Video Recording
Server

Video Streaming
Server

IP Camera

Management PC

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Interworking with Video Streaming and Recording Server

CCTV Camera & Housing

Full HD Encoder

CCTV Controller

Subtitle Generator

IP Camera

- Integrated Status Monitoring Board
- Camera Status Monitoring
- System Status Monitoring
- Alarm Processing

- PTZ Control, Viewer
- Subtitle Editing

- Live Video Viewer
- Recorded Video Viewer
- Recorded Video Export

- Video Provide for other department
- Web based Video Support (PC, Smart Phone)

WAN

Smart TVMS

Video Recording Server

Network Storage System

Video Streaming Server

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Thank you!

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