NUUO

Tribrid

Video Recording Solution

NUUO advanced video recording and management total solution

...is the combination of Mainconsole & CMS servers system.

CMS

CMS is responsible for backend high capacity video and information management at the central site. It could manage unlimited ***Mainconsoles*** and extend to each camera.

Mainconsole

IP Camera

SD-CCTV Camera

HD-CCTV Camera

Mainconsole is responsible for video recording and data collection service supporting all types of camera including IP , analog , SDI interface.

NUUO all-inclusive Tribrid video surveillance solution

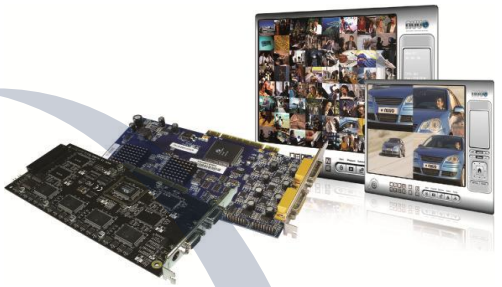
IP+ channel license

+

Mainconsole

PC based DVR software

+



Video compression card

IP Camera

61 Brands, over 1,300 models wel known IP camera supported

Tribrid DVR

Merging IP , composite analog , SDI interface video source into one mainconsole server to support NVR/DVR/NDVR/Hybrid/Tribrid DVR various customer's requirements.

SD / HD-CCTV Camera

Universal NTSC / PAL standard & high definition camera supported.

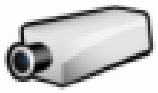
NUUO multi-profile transcoding & recording solution

...is NOT only a video recording server but stream transcoding & relaying server.

Multi-camera with one stream inputs (Up to 64 CH)

IP Camera — 3MP — 15fps

SD-CCTV Camera — 2MP — 30fps



HD-CCTV Camera — D1 — 30fps

Mainconsole

Transcoding & relaying service

Multi-profile recording

Local storage

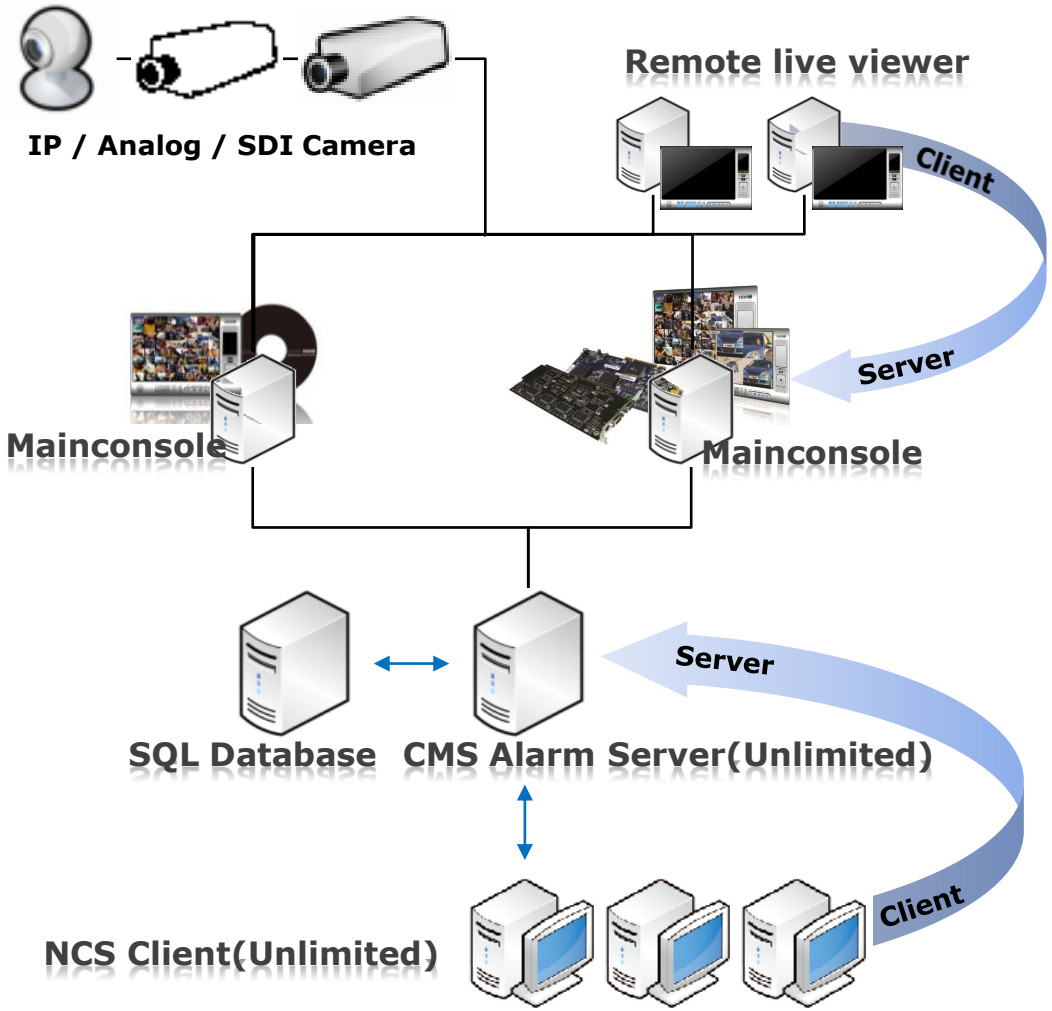
Multi-stream outputs (Up to 128CH)

Remote Live Viewer

Multi-profile streaming

3MP	~15fps
2MP	~30fps
D1	~30fps
CIF	~30fps
QCIF	~30fps

NUUO client/server based system architecture



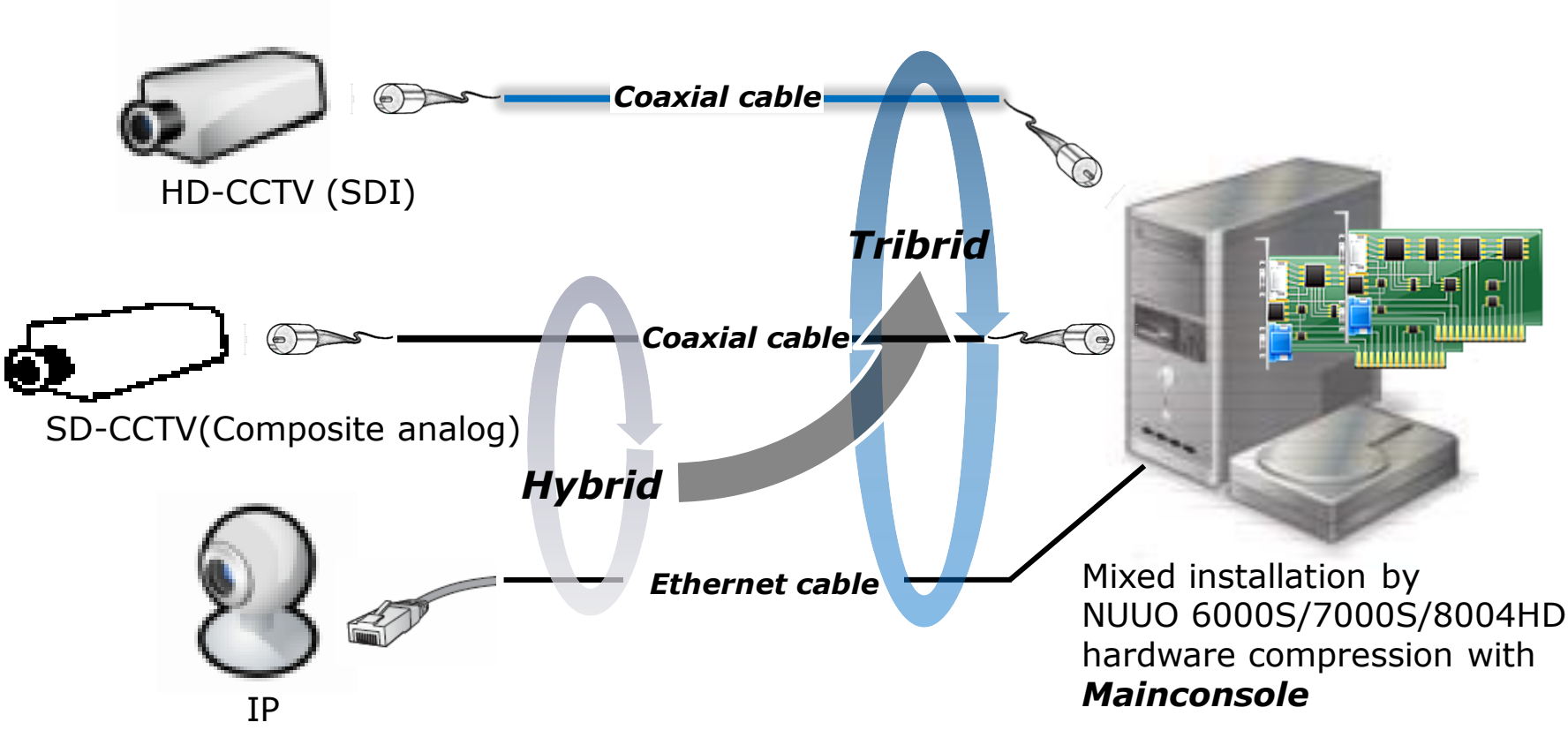
1. ***Mainconsole*** and ***CMS*** systems all are designed based on client/server architecture.
2. It separates data store and query into server/client sides to balance the system loading appropriately and make sure the information security.
3. ***Mainconsole*** provides overall video record/playback , alarm management and system configuration service. ***Remote live viewer*** gives multi-channel real time display/playback and alarm notification service to remote site users.
4. ***CMS*** the central management server collects all the alarm messages and system information from unlimited **Mainconsoles** and delivers to ***NCS*** **client** application noticing operators.
5. ***NCS*** **client** provides video matrix wall, E-map , alarm notification and video playback service for different site operators.

Here comes the ... Tribrid

nuuo

The Intelligent Surveillance Solution

What's Tribrid Solution



With Tribrid solution, users can deploy their cameras freely depending on the field site demand. Most of area they can use SD cameras and part of important entrance use HD cameras. For the remote site they also can use IP cameras.

How to make it “Tribrid”

Step 1 : Running ***Mainconsole*** with SCB-8000 series card for the HD-CCTV video source input.

Step 2 : Mixed installation of SCB-7000S/6000S series card for the composite analog video source input depends on the Max. recording resolution & frame rate you need.

Step 3 : Plus IP+ channel license for the 1,100 models well-known brand IP camera input.

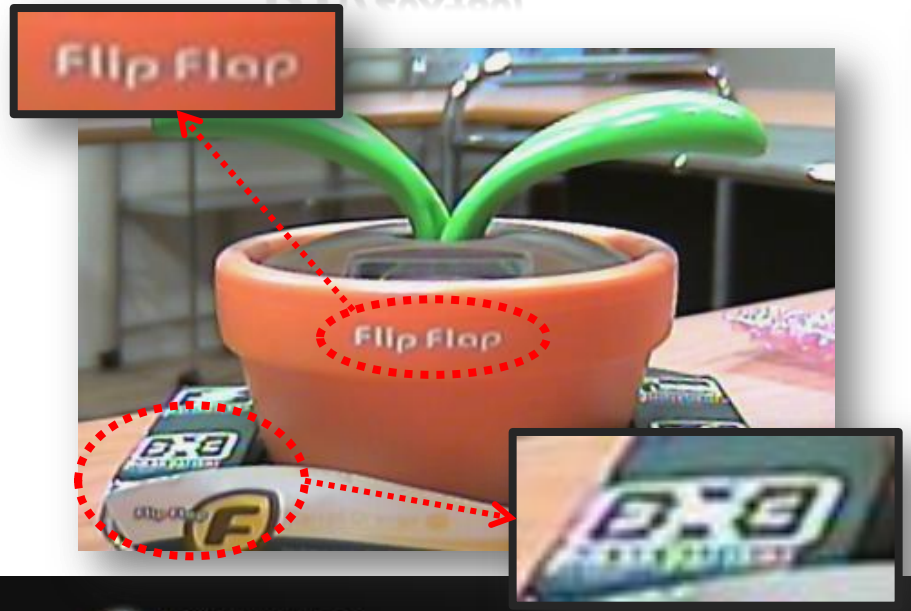
NUUO DVR Card	SCB 8000 series	SCB 7000S series			SCB 6000S series		
Model	8004HD	7004S	7008S	7016S	6004S	6008S	6016S
Input interface	HD-CCTV(SDI)	CCTV(Composite analog)					
Video inputs	4	4	8	16	4	8	16
Max. Cards	2	4	4	4	4	4	4
Max. input per system	8	64			64		
Recording Quality	1080p@30fps	D1@30fps			CIF@30fps		
Mixed with the cards	6000S/7000S/7100	8000/7100/6000S			8000/7100/7000S		
Max. input per system only 32 when mixed with the cards	7016/7108/7116						

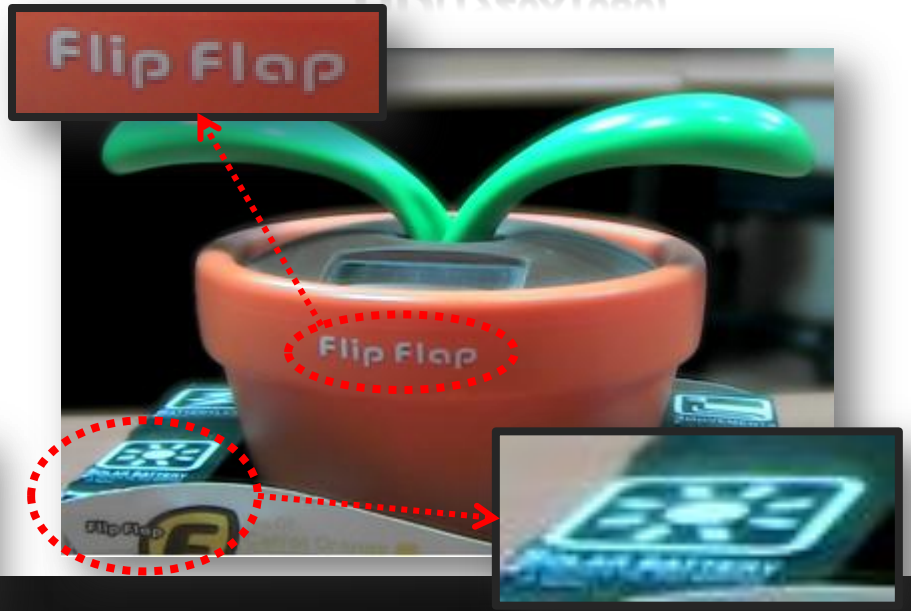
What we gain by HD-CCTV

- H.264 full HD real time encode
- Good efficiency of resolution over bitrate →
- Near zero latency
- Up to 4 channel with 1080p@30fps
- Support NTSC , PAL universal standard
- Compatible to HD-SDI standard cameras

	D1	→ Full HD
Resolution	1	: 6
Bitrate	1	: 4

D1(720X480) ⟶ **HD(1920X1080)**





Excellent use by HD-CCTV

- High definition and real time for gaming table , transaction counter etc…

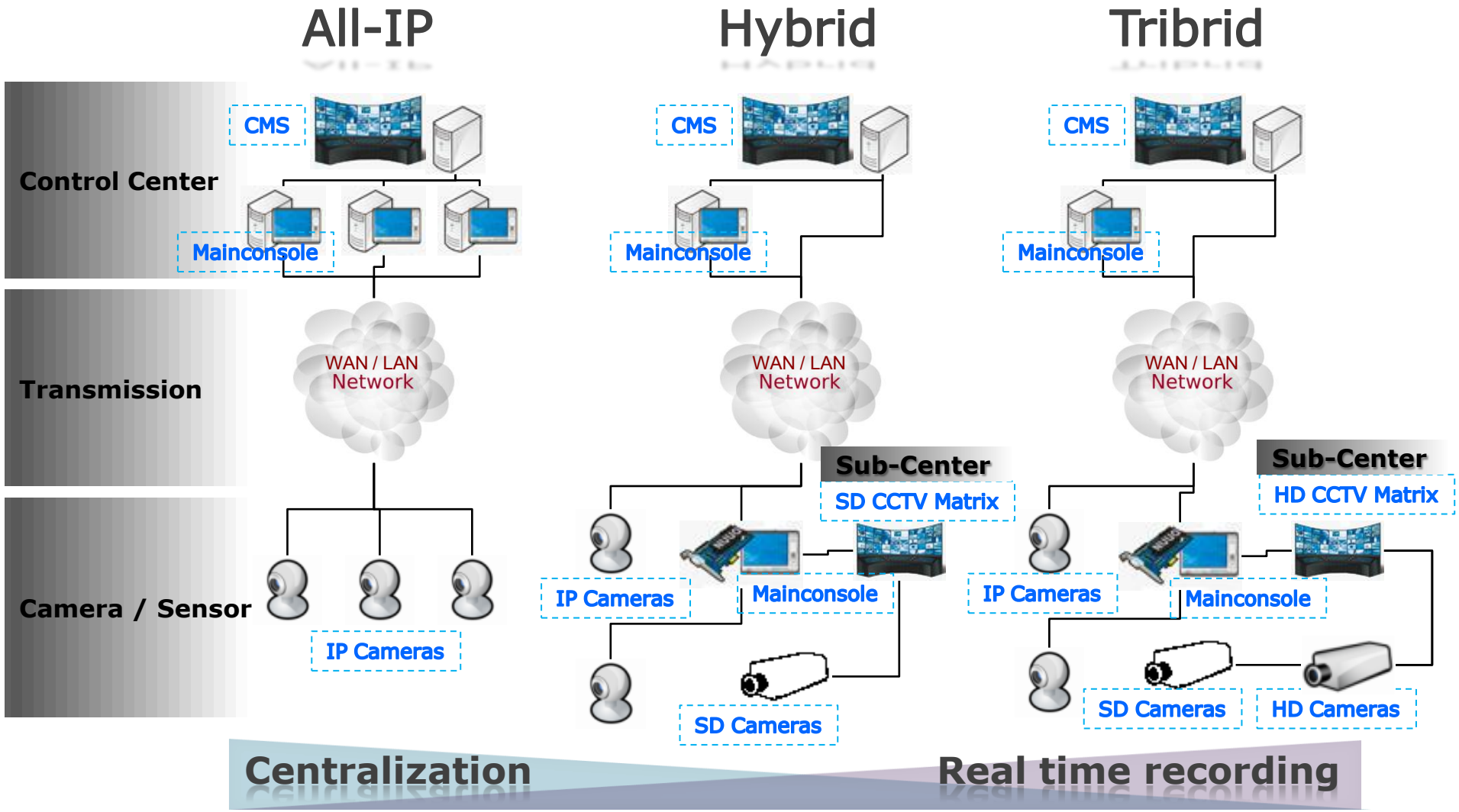
Verify the face of card and money

Get closed look of transaction

Why HD-CCTV , CCTV , IP

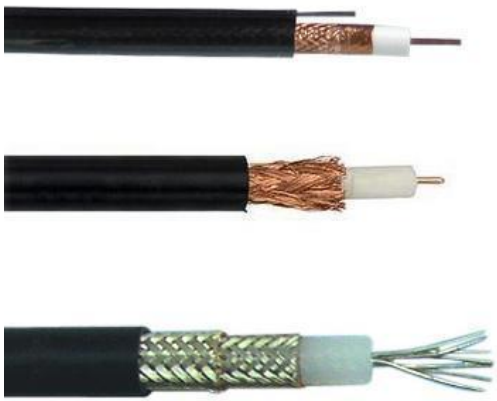
Video Input Interface	HD-CCTV	CCTV	IP camera
Standardization	High	High	Medium
100% plug and play linking to NDVR	Yes	Yes	No
Near zero latency	Yes	Yes	No
Recording Immune to IP LAN failure	Yes	Yes	Usually Not
High definition real time recording	Yes	No	Usually Not
100% digital video source	Uncompressed	No	Compressed
Deliver 720p or 1080p video	Uncompressed	No	Compressed
Deliver over 2MP video	Planned	No	Compressed

How to deploy the Tribrid solution



Coaxial cable recommendation

Cable length	1-20m	20-50m		50-100m
Coaxial cable	3C2V , 5C2V , RG-6	5C2V 5CFB RG-6	7C2V RG59	7C2V , RG59
Camera type	CCTV , HD-SDI	CCTV	HD-SDI	CCTV , HD-SDI



All-inclusive benefits by Tribrid

<table>
<tr><th>Video input interface</th><th>CCTV camera</th><th>HD-CCTV camera</th><th>IP camera</th></tr>
<tr><td>Cost effective</td><td rowspan="3">• Most of area
• New or existing camera</td><td></td><td></td></tr>
<tr><td>various choice</td><td></td><td></td></tr>
<tr><td>Upgrading NDVR directly</td><td></td><td></td></tr>
<tr><td>Real time recording</td><td rowspan="2">Part of area to recognize objects</td><td></td></tr>
<tr><td>High resolution image</td><td></td><td>Part of area to recognize objects</td></tr>
<tr><td>Long distance cabling</td><td>• Local site
• under 50m</td><td>• Local site
• under 100m</td><td>• Remote site
• WAN/LAN infrastructure</td></tr>
<tr><td>Man hour saving</td><td colspan="2">Easy installation & configuration than IP</td><td></td></tr>
<tr><td>Separate storage load & risk</td><td colspan="3">Mega-pixels real time video recorded at front end
Multi-site remote single channel recorded at back end</td></tr>
</table>

NUUO flexibility for you

Mainconsole

Tribrid

Video Recording Server

nuuo

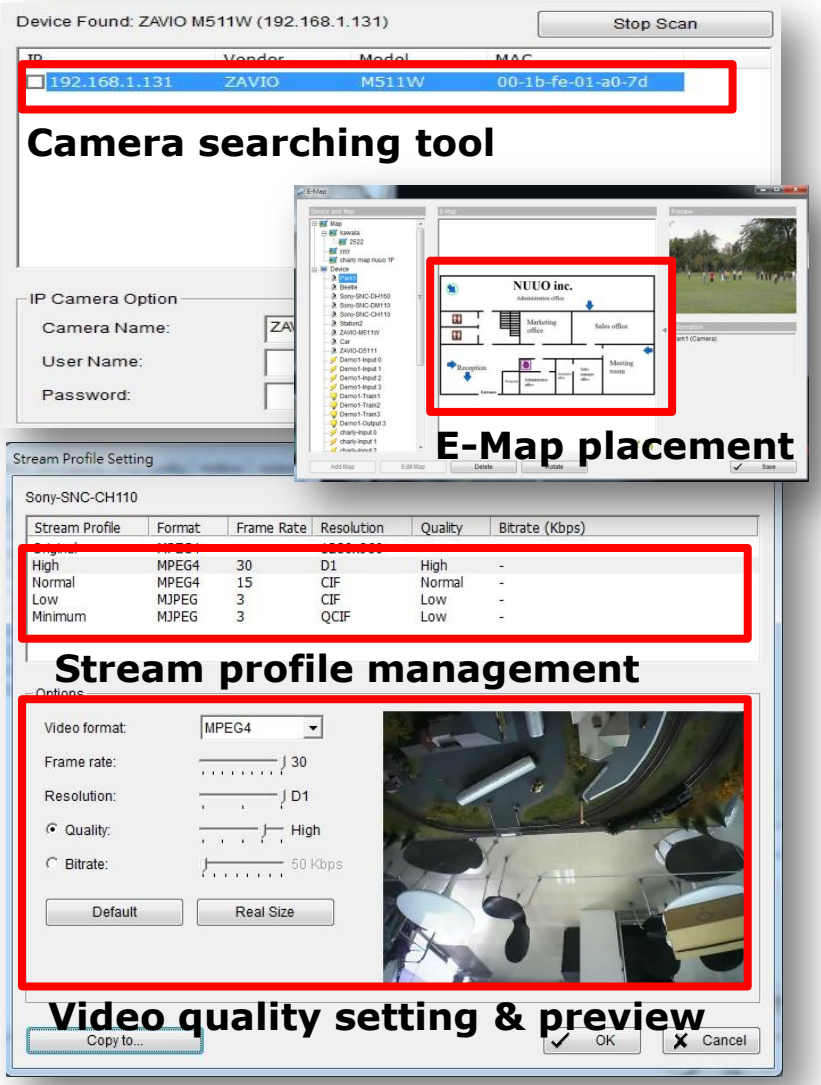
The Intelligent Surveillance Solution

Mainconsole 4 main purposes

- Live view
  - Data collection
    - Event / Notification
      - Recording / Playback

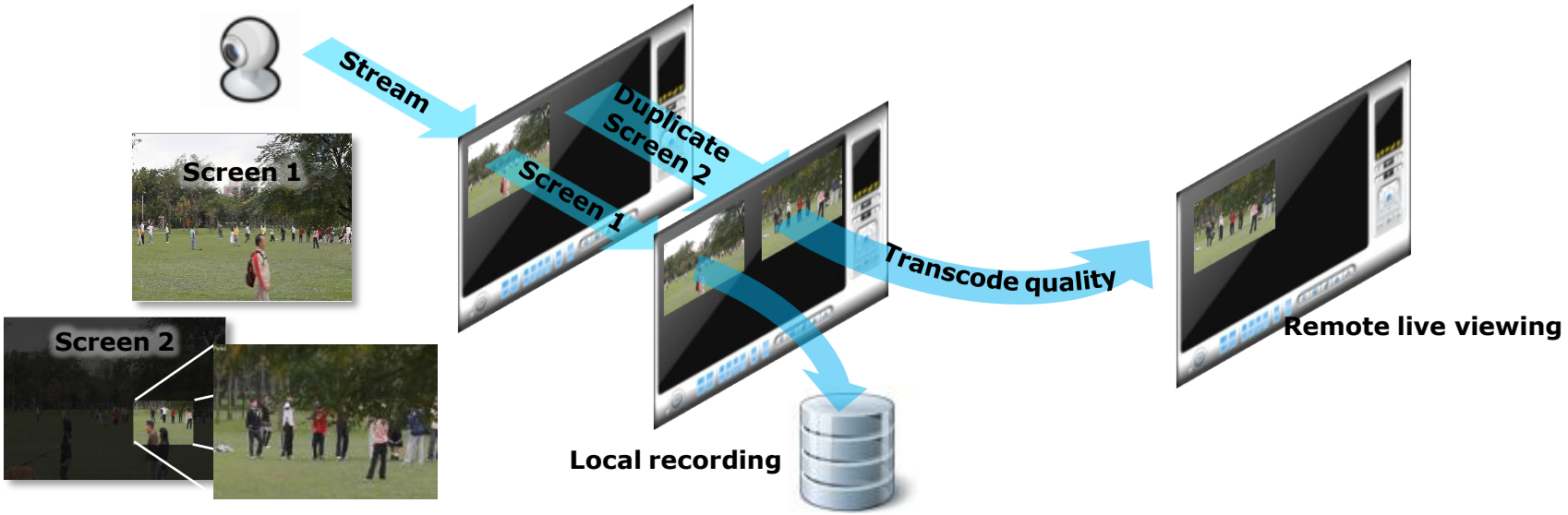
Mainconsole Live view

- **Insert camera easily and quickly**
  - Auto-listing the compression card input channel in sequence.
  - Auto-searching and recognize the IP camera under supported models.
  - Manual place camera label on the E-Map or floor plan.
- **Multiple stream profile setting for different purposes**
  - Multi-profile of resolution & frame rate can be set for recording , local display , remote live viewing demand by channels.
  - No need to double connect to the IP camera for different profile , saves bandwidth and ensures stability.



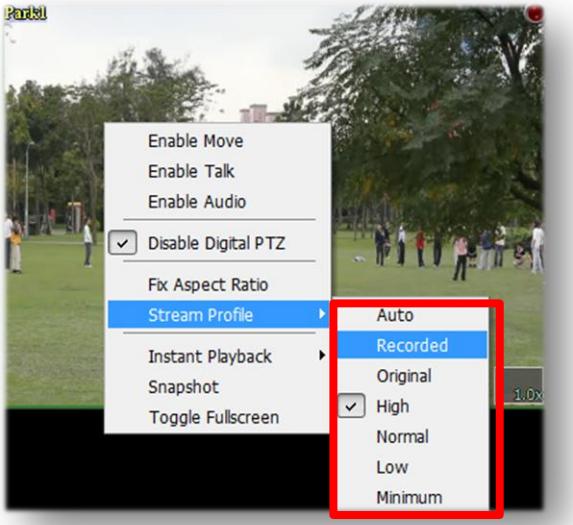
Mainconsole Live view

- **Matrix view display for SMB control center**
  - 1,4,6,9 ~ 64 divided screen viewing freely by user.
  - Triple monitor display in one server.
  - Support remote live viewer , http web client and smart phone access.
- **Stream relaying & transcoding to be a powerful media hub**
  - With stream relay service ***Mainconsole*** can duplicate image by one stream input.
  - Monitor 1 camera by 2 viewing zone separately.

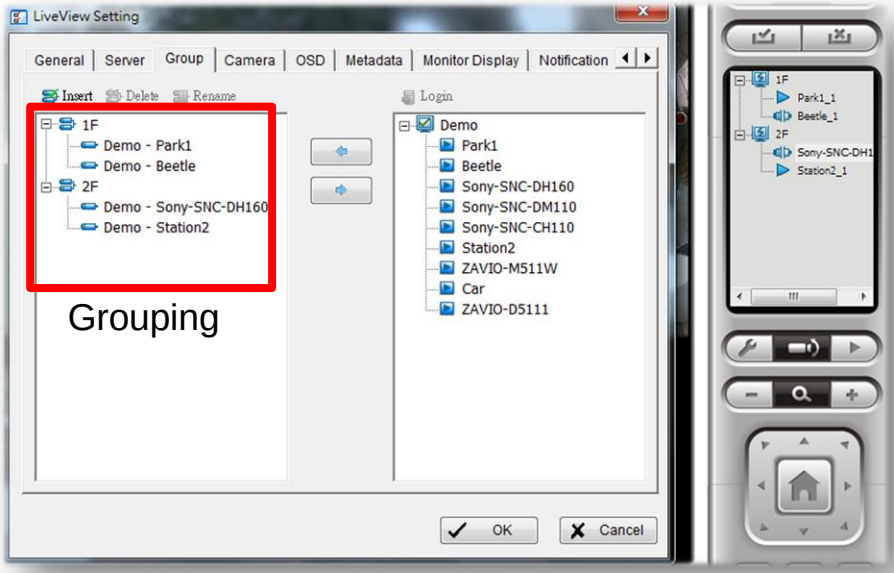


Mainconsole Live view

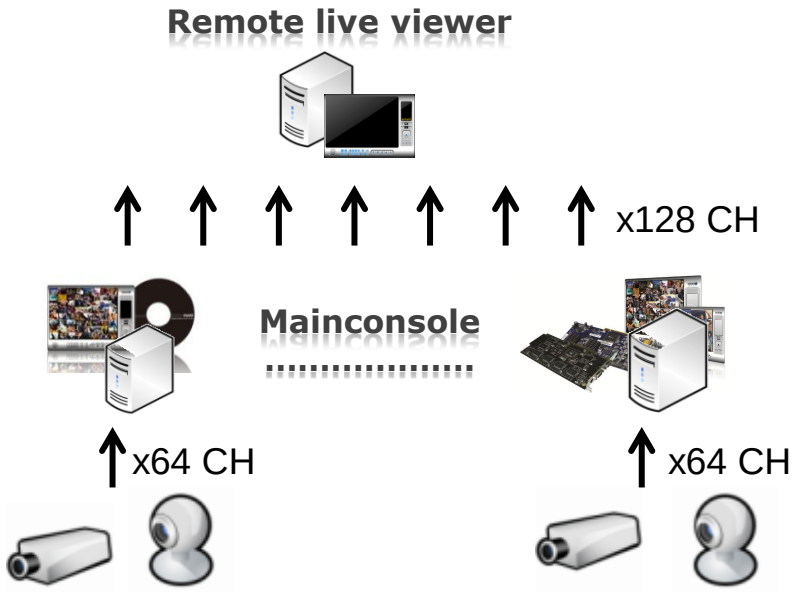
- **Remote live viewer**
  - Multiple sites access and up to 128 live channels.
  - Channel grouping feature.
  - Multi-profile selection on the screen.



Stream profile selection

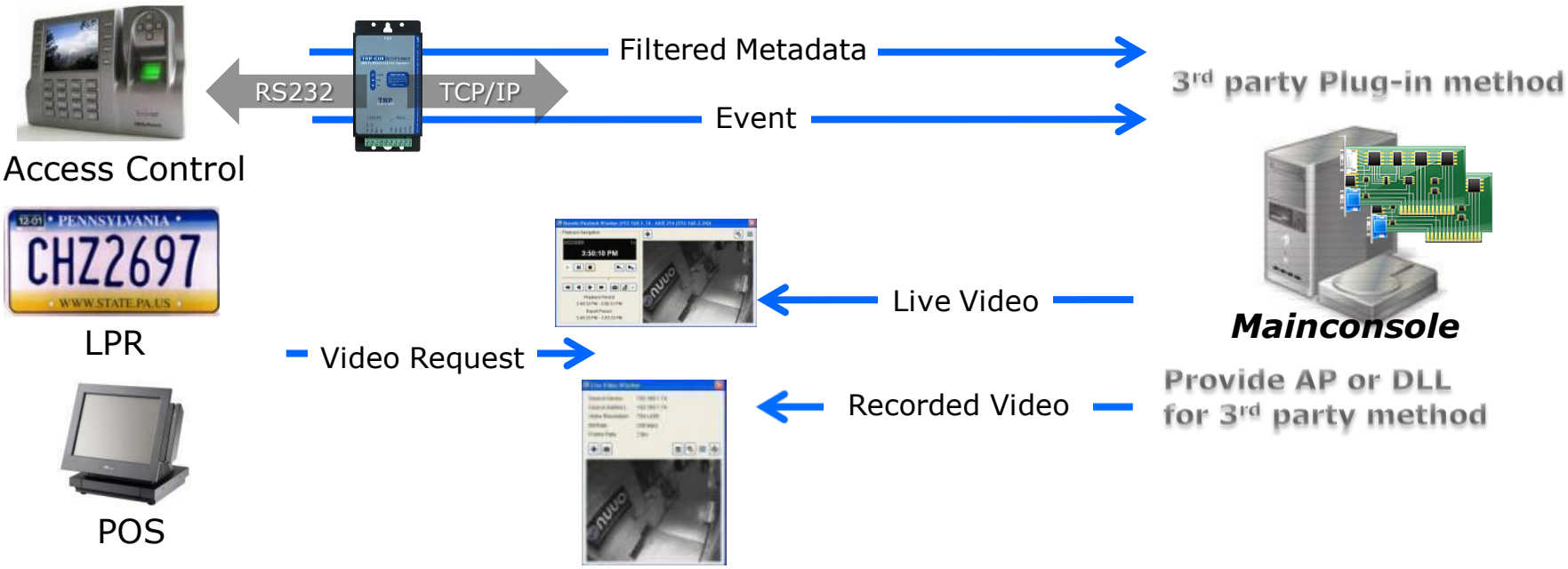


Grouping



Mainconsole Data collection

- **Valuable data marked over video for management benefits**
  - NUUO ***Metadata Applications*** integrate the 3th party's POS register , access control and LPR devices with ***Mainconsole*** to collect transaction , attendance and license plate number record on the real time image .
  - NUUO ***Metadata Solution*** provides C31A , C08 converter box for the external devices connectivity.



Mainconsole Data collection

- **3rd party integration – Manage video and transaction in one platform**

  - Access control

    SOFTWARE HOUSE
    A Tyco International Company

    cardax

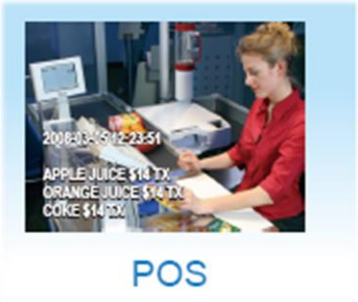
    CDVI

    DSX

  - LPR

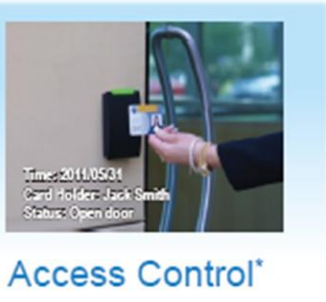
    ViSEC®

  - POS (TCP based must be fully integrated)
    - IBM SurePOS 500



POS

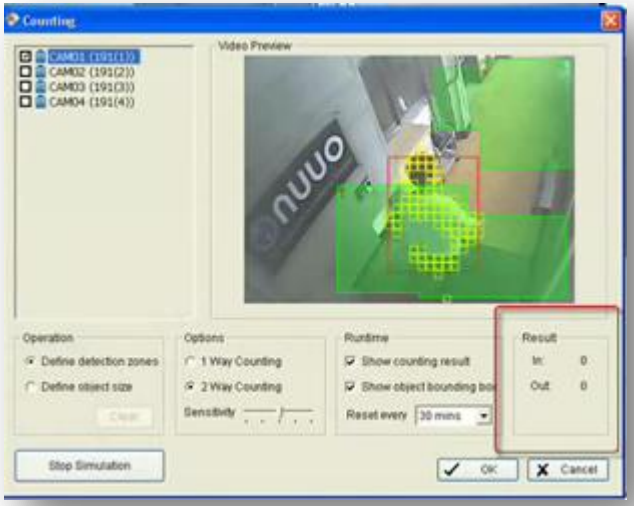
LPR*



Access Control*

Mainconsole Data collection

- **Valuable data marked over video for management benefits**
  - ***Mainconsole*** embed people counting feature to record the enter and exit statistic on the screen.
  - Support 2 ways detection zones with sensitivity parameter setting.

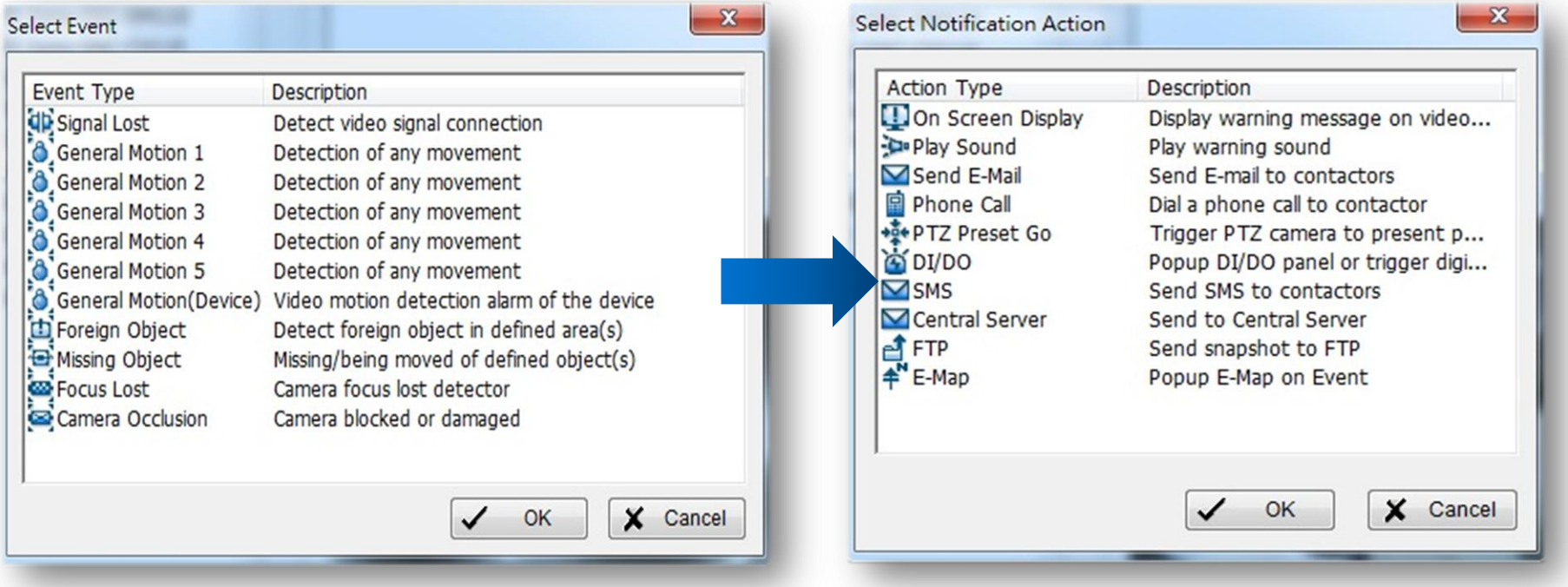


Drawing detection zones and people counting simulation

Live view with people counting statistic

Mainconsole Event / notification

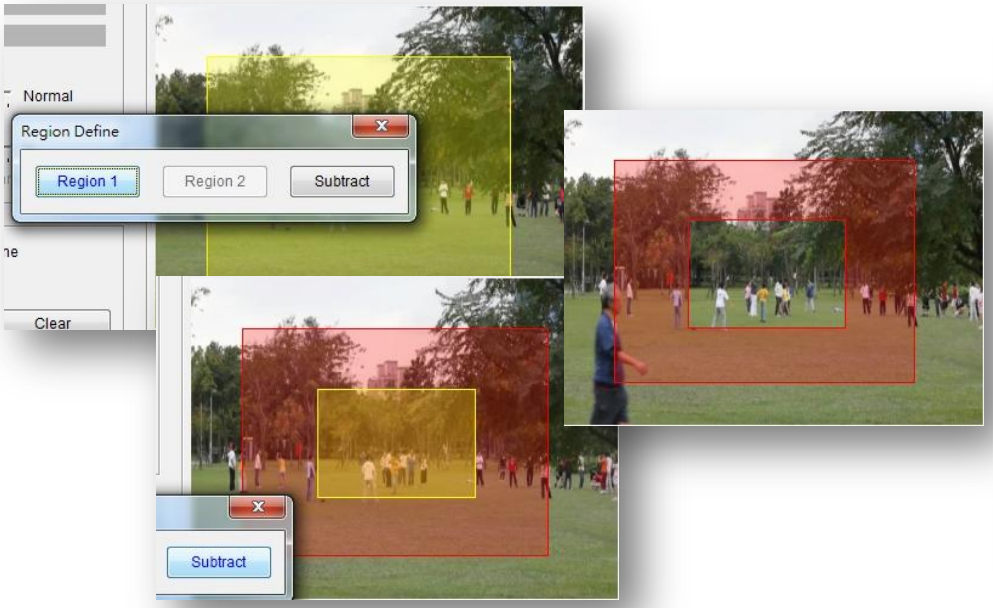
- **NUUO Smart Guard reduces human mistake**
  - With 6 types of event trigger and 10 kinds of notification method ***Mainconsole*** provides perfect early warning safeguard .

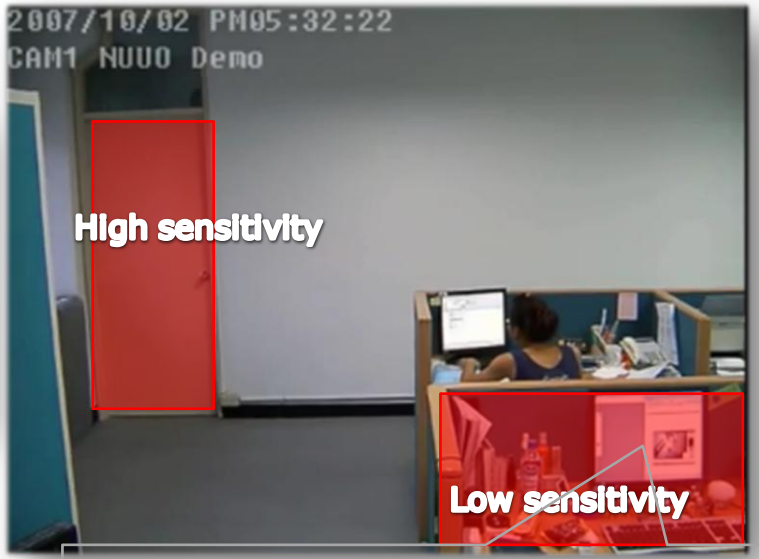


Channels x Events x Notifications

Mainconsole Event / notification

- **Smart Guard – General Motion Detection**
  - Support 5 general motion by ***Mainconsole*** and 1 edge motion from IP cameras.
  - Support multiple regions merging and subtracting drawing on the detection zones in plan against the rest areas' interference.
  - Support 5 detection zones in separate sensitivity for the false alarm reduction.

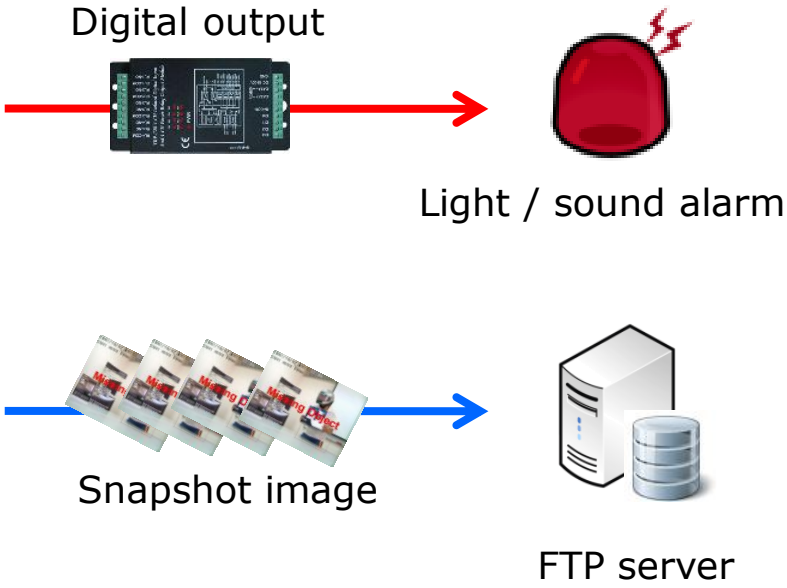




Avoid the false alarm caused by LCD monitor

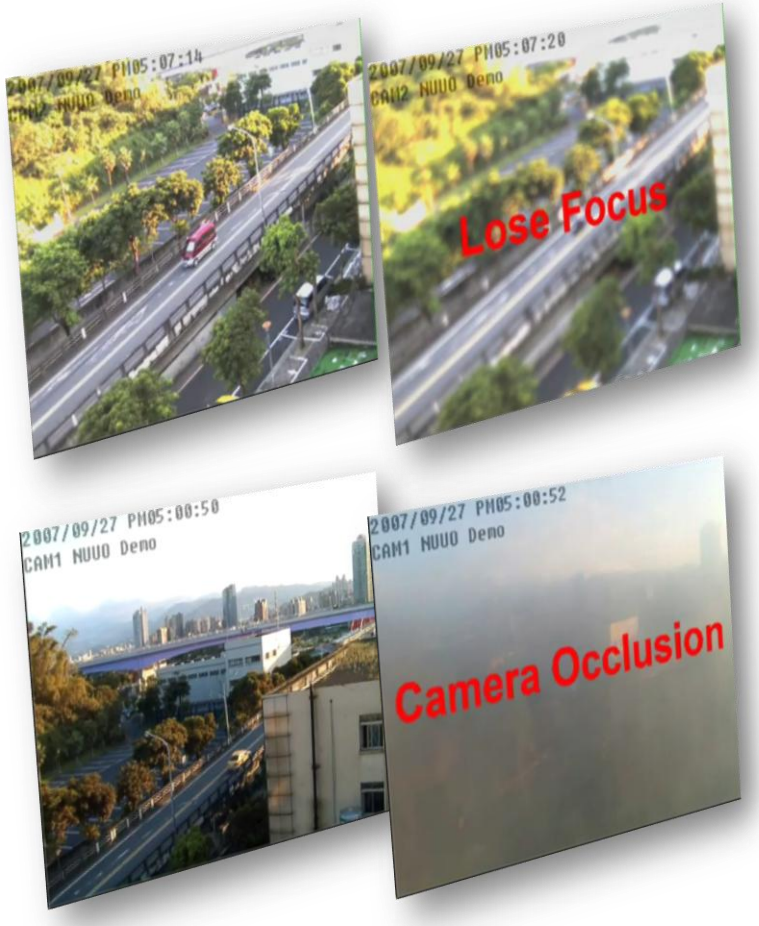
Mainconsole Event / notification

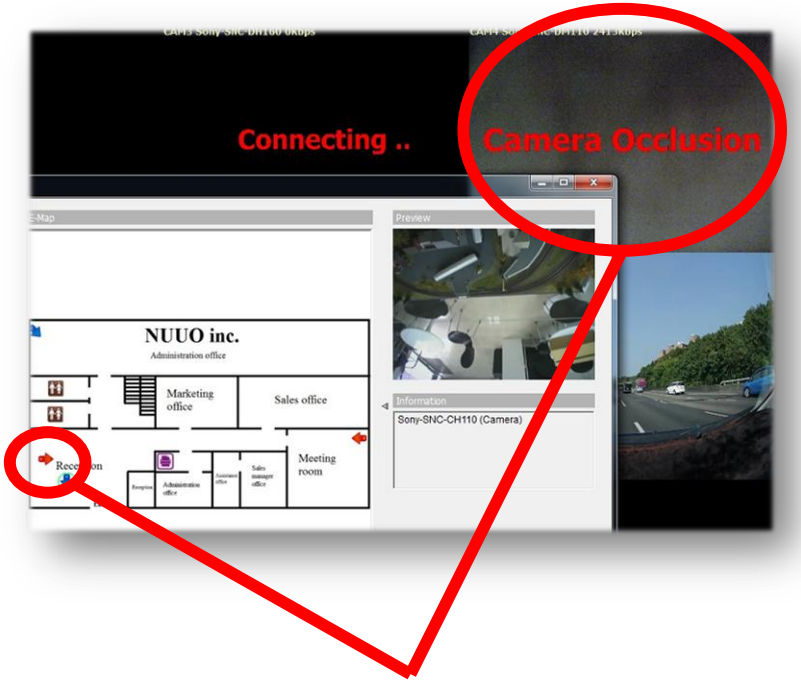
- **Smart Guard – Missing & Foreign Object Detection**
  - Object event trigger snapshot and DO alarm.



Mainconsole Event / notification

- **Smart Guard – Camera Error Detection**
  - Camera occlusion and lose focus event trigger E-Map popup alarm

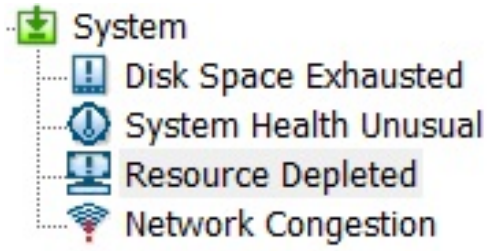




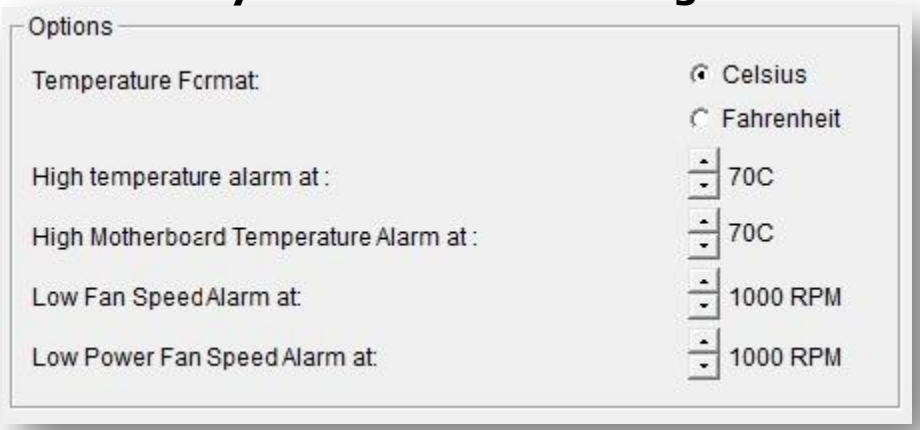
Camera occlusion channel showed on the E-Map popup

Mainconsole Event / notification

- **Smart Guard – System Health Detection**
  - Beside the video event ***Mainconsole*** extra provides system self-checking engine for custom resource and network monitoring.



System health checking

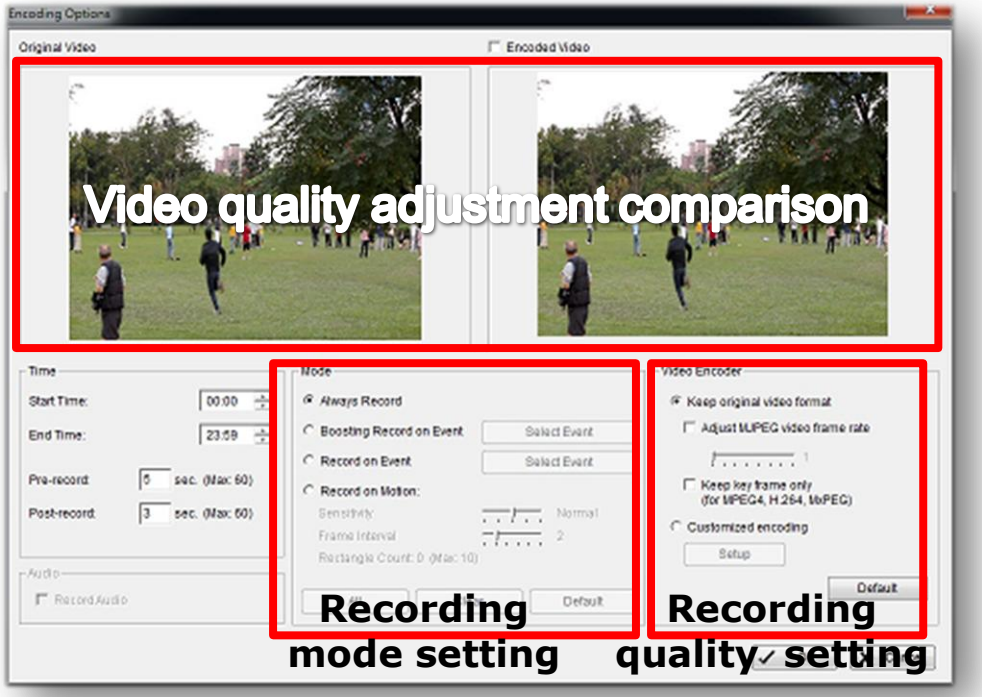


System resource checking

Network checking

Mainconsole Recording / playback

- **Complete recording mode selection**
  - Support ***Always , Event , Motion , boosting*** recording.
  - Support custom encoded video quality considering both quality and resource benefits.



Benefit of boosting record:

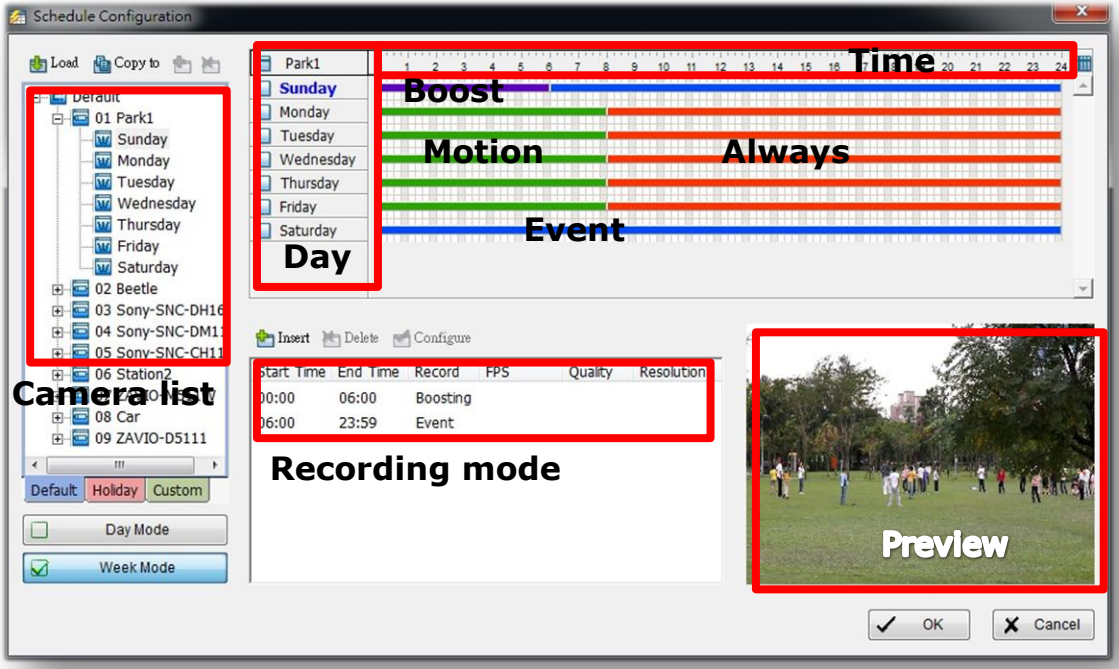
1. Regular recording in normal frame rate.
2. Event recording in higher frame rate.
3. Managing high volume of video data efficiently for storage saving.

Normal: 1 fps

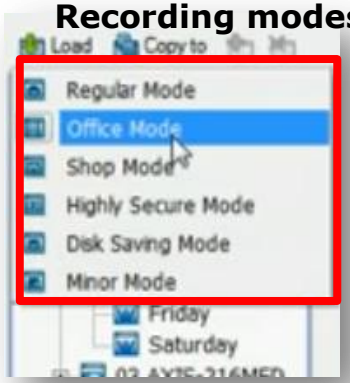
Boosting recording: 30 fps when the event trigger

Mainconsole Recording / playback

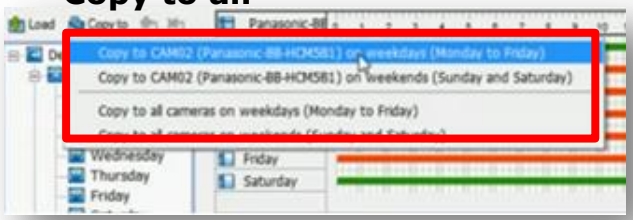
- **GUI recording schedule setting , easy , quick and clear**
  - Support weekly , daily schedule and 6 kinds of scenario recording setting.
  - Support GUI time slot dragging setting.
  - Support setting parameter quickly copy to independent or all cameras.



Recording modes applying

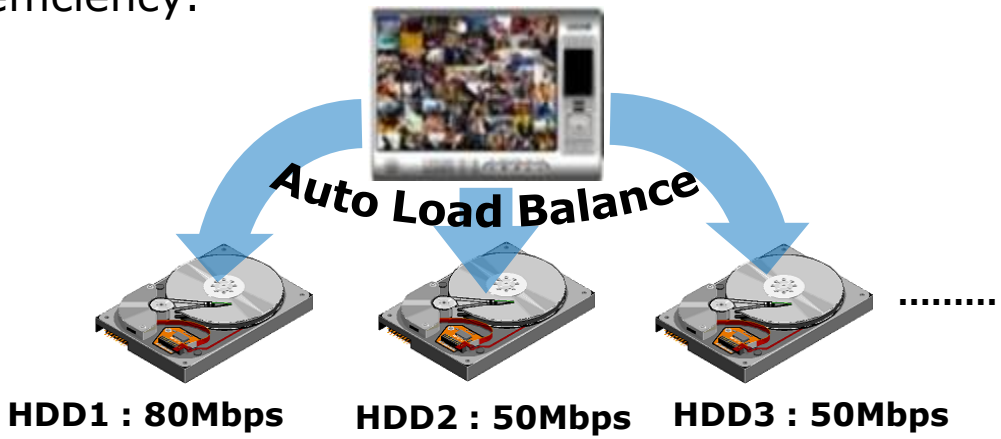


Copy to all

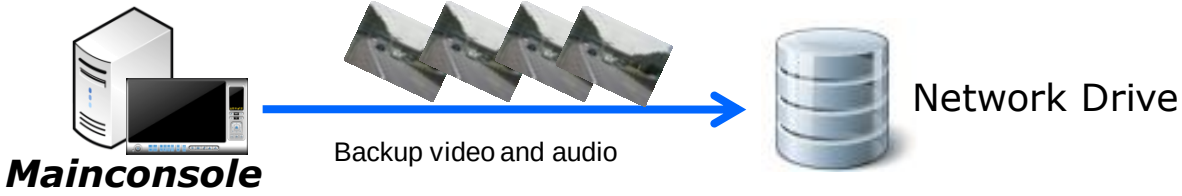


Mainconsole Recording / playback

- **Auto load balance and backup to enhance efficiency and data safety**
  - Auto load balance feature supports multiple hard drives and enhance the data writing efficiency.

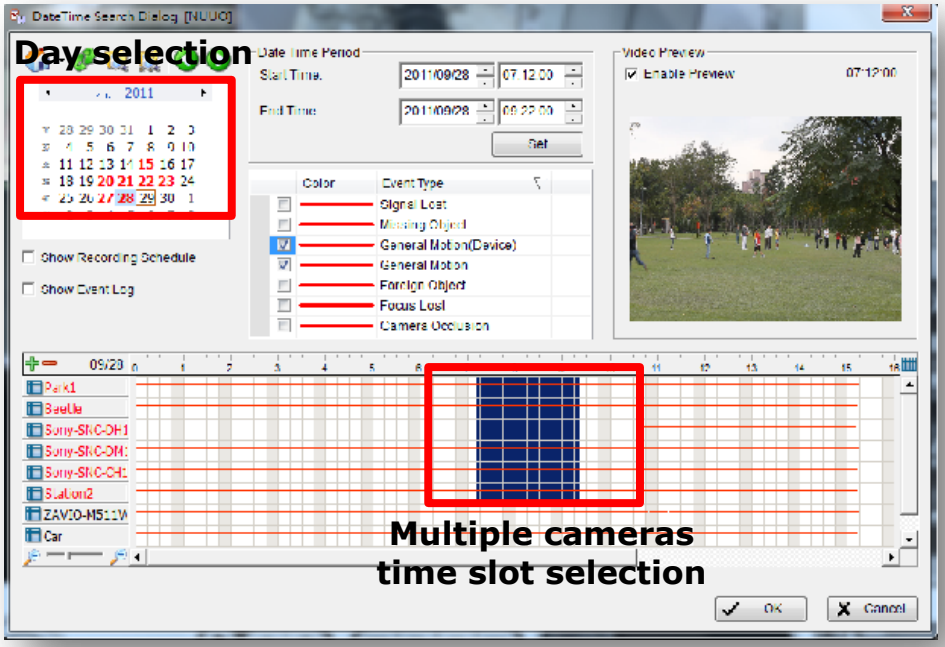


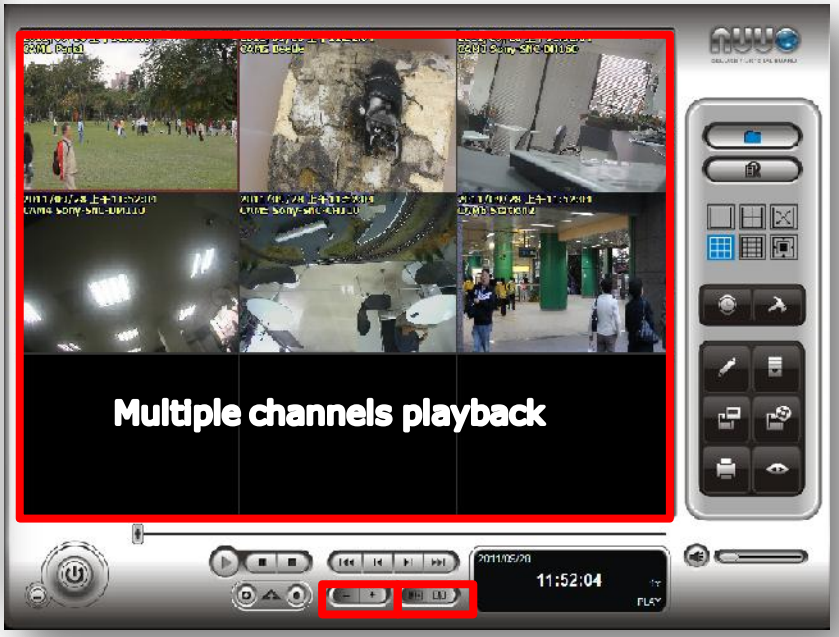
  - Schedule backup in daily or weekly mode
  - Backup to any kinds of network drives, including NAS, SAN, iSCSI, DAS
  - Backup video and audio
  - Backup with playback



Mainconsole Recording / playback

- **GUI playback selection , easy , quick and clear**
  - Support calendar by year , month , week , day selection.
  - Support GUI time slot dragging selection.



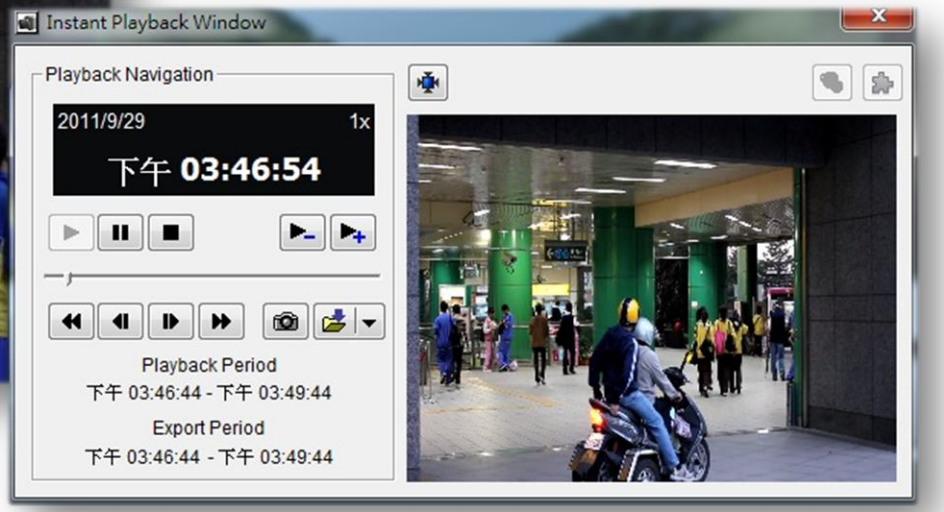


Playback speed + - Playback zoom + -

Mainconsole Recording / playback

- **Instant playback , the least time to watch**
  - Support right click extender on the screen to open the latest 1 , 3 , 5 minutes playback right away without open playback interface.

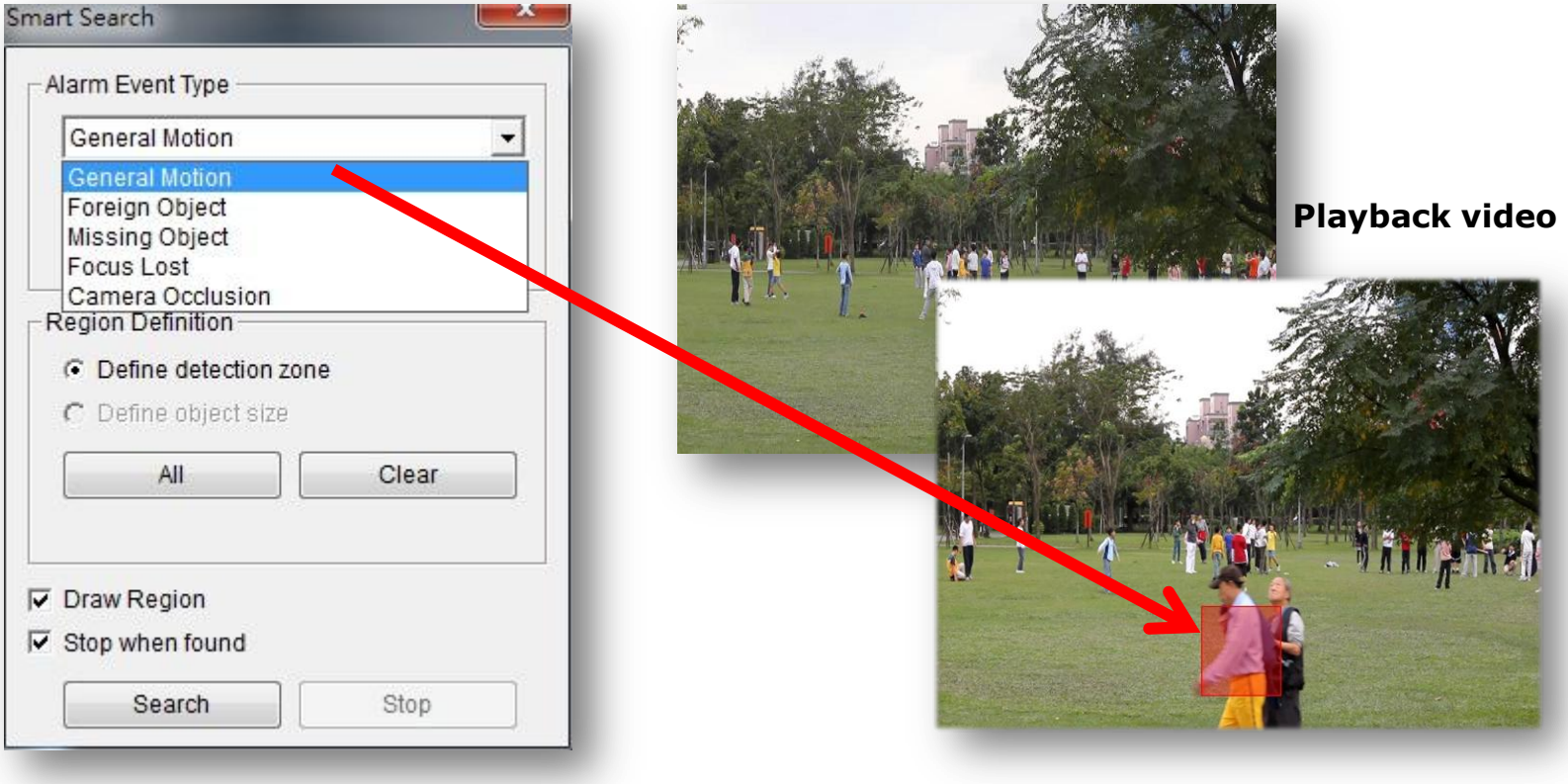
Detect motion event and display the message on screen



Click instant playback to check the event content by a shortcut video clip right away

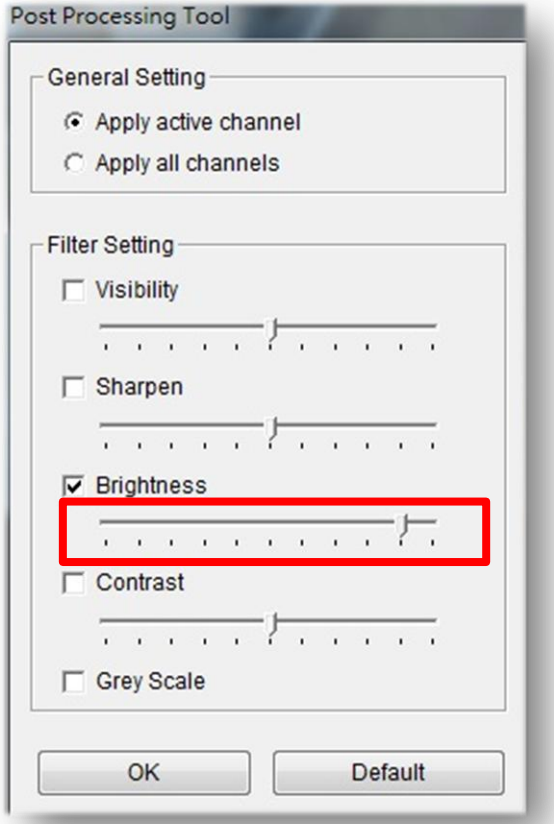
Mainconsole Recording / playback

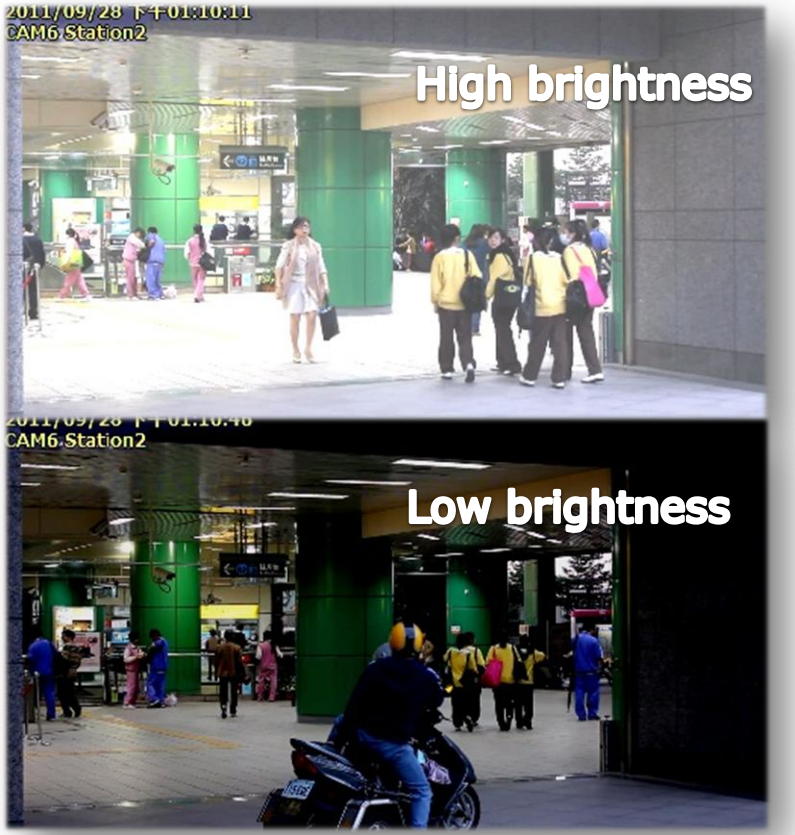
- **Smart search by event**
  - Like ***Smart Guard*** video analysis , ***Smart Search*** can find out the event when real time playback the video.



Mainconsole Recording / playback

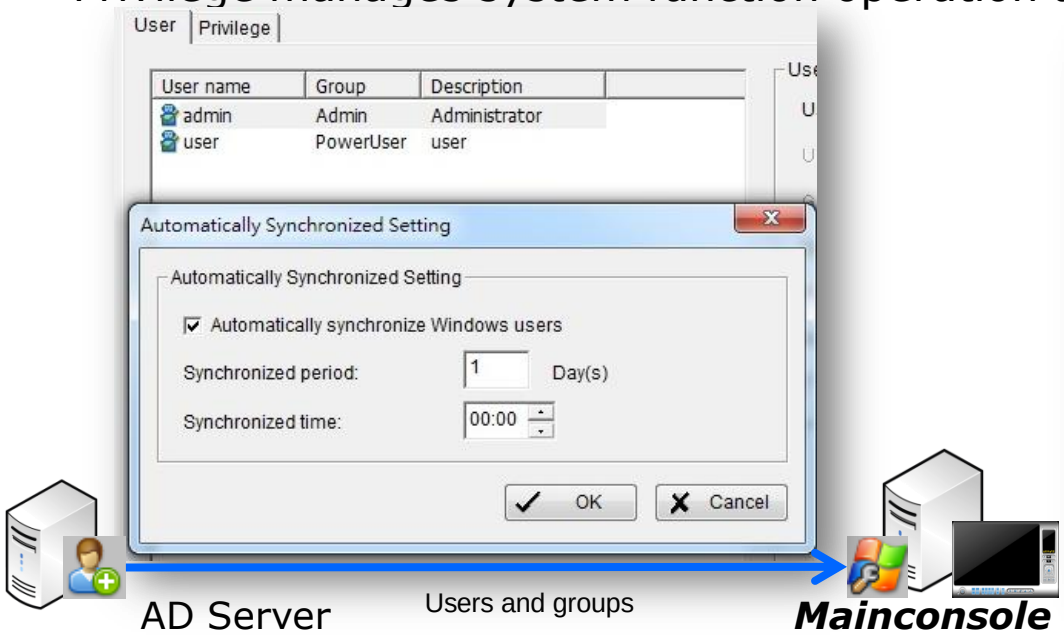
- **Enhance browse**
  - Once the recorded video's visibility is not good enough , enhance browse feature can adjust the playback image following below filter :

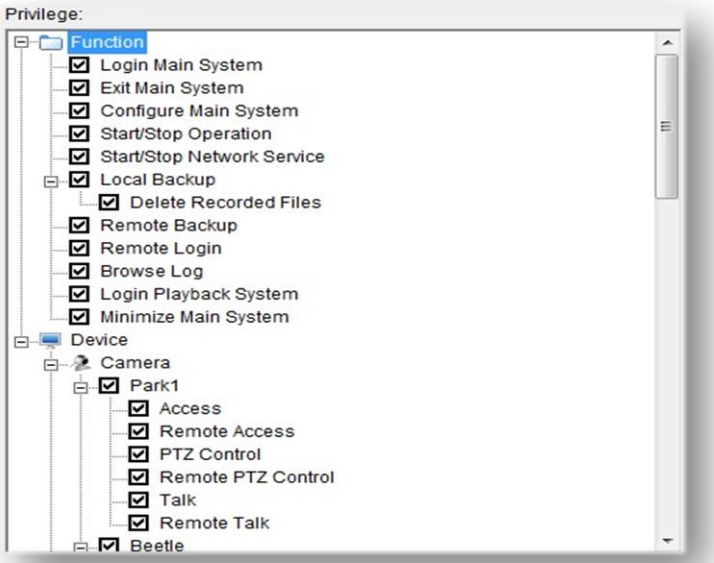




Mainconsole Benefits of management

- **Windows Active Directory supported**
  - Improve centralized management capabilities.
  - Synchronize users and update data from exist AD server of client side.
- **User permission and privilege management**
  - Permission manages device access authority.
  - Privilege manages system function operation authority.





Mainconsole Benefits of management

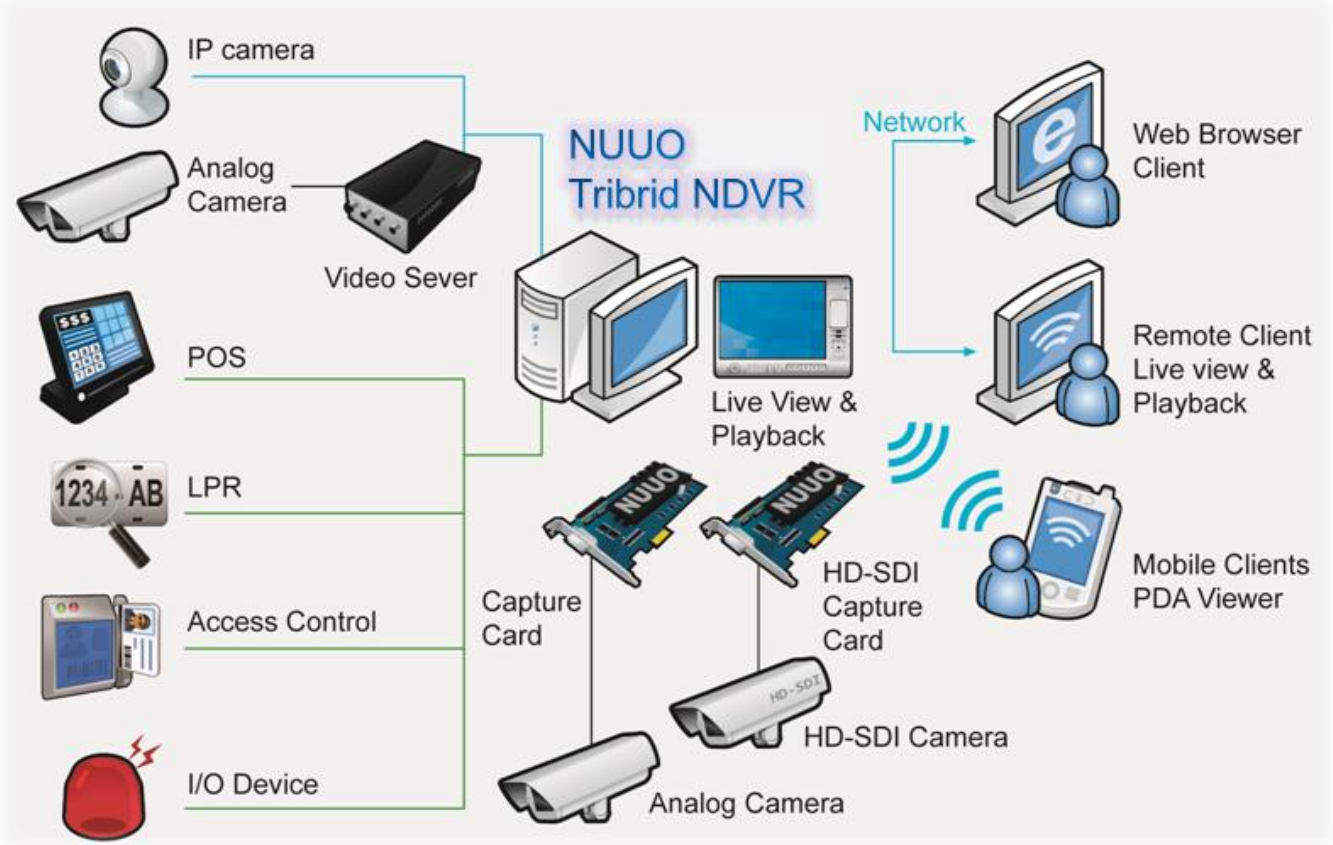
- **Personal privacy protection**
  - Mask particular areas by black block from fixed view.
  - Both live view & recorded video can be protected.

(Bank ATM) Mask password insert

(Access control) Mask the password insert

(Parking lot) Mask the license plate

Mainconsole System block and features summary



H.264

Mega-Pixels

Panomorph PTZ

Stream profile Transcoding

Boosting Record

LPR

POS

Access Control

Remote Live Viewer

Http client

Auto Load Balance

PTZ

Smart Guard

Smart Search

E-Map

CMS

Privacy Mask

Windows AD

Auto backup

Smartphone

Thank you all!

Visit NUUO wiki for more tech info at
http://support.nuuo.com

NUUO official demo videos at
http://www.nuuo.com/faqsort.php?node=501

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