

Airport Video Surveillance Solution

Zhejiang Uniview Technologies Co., Ltd. is the pioneer and leader of IP video surveillance. Heritages profound IT technologies, we founded independently in December, 2011. We are the third largest manufacturer in the overall video surveillance market in China and 6th in global market. We insist on open cooperation, focusing on high quality and improving innovation ability.

Product Line:
Network Camera, NVR, IP Storage, Decoder, Keyboard, Switch, Monitor and Network Cable



AIRPORT VIDEO SURVEILLANCE

SOLUTION



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SOLUTION BACKGROUND

Since airport is one of the industries which firstly use security system, airport operators pay close attention to the development and applications of security technology. However, to apply video surveillance system in airport is challenging because there is a huge number of passengers, entrances and exits, lounges, corridors, check-in counters and complex scenarios.

Uniview has been dedicating to the surveillance industry for years, accumulated rich experience and knowledge in a lot of big airports. Now, Uniview delivers a new airport surveillance solution which is highly efficient, highly reliable and highly expandable. It provides airport operators with basic database for further applications, such as situation perception, service optimization and intelligent analysis, realizes a better airport operation.

SOLUTION OVERVIEW

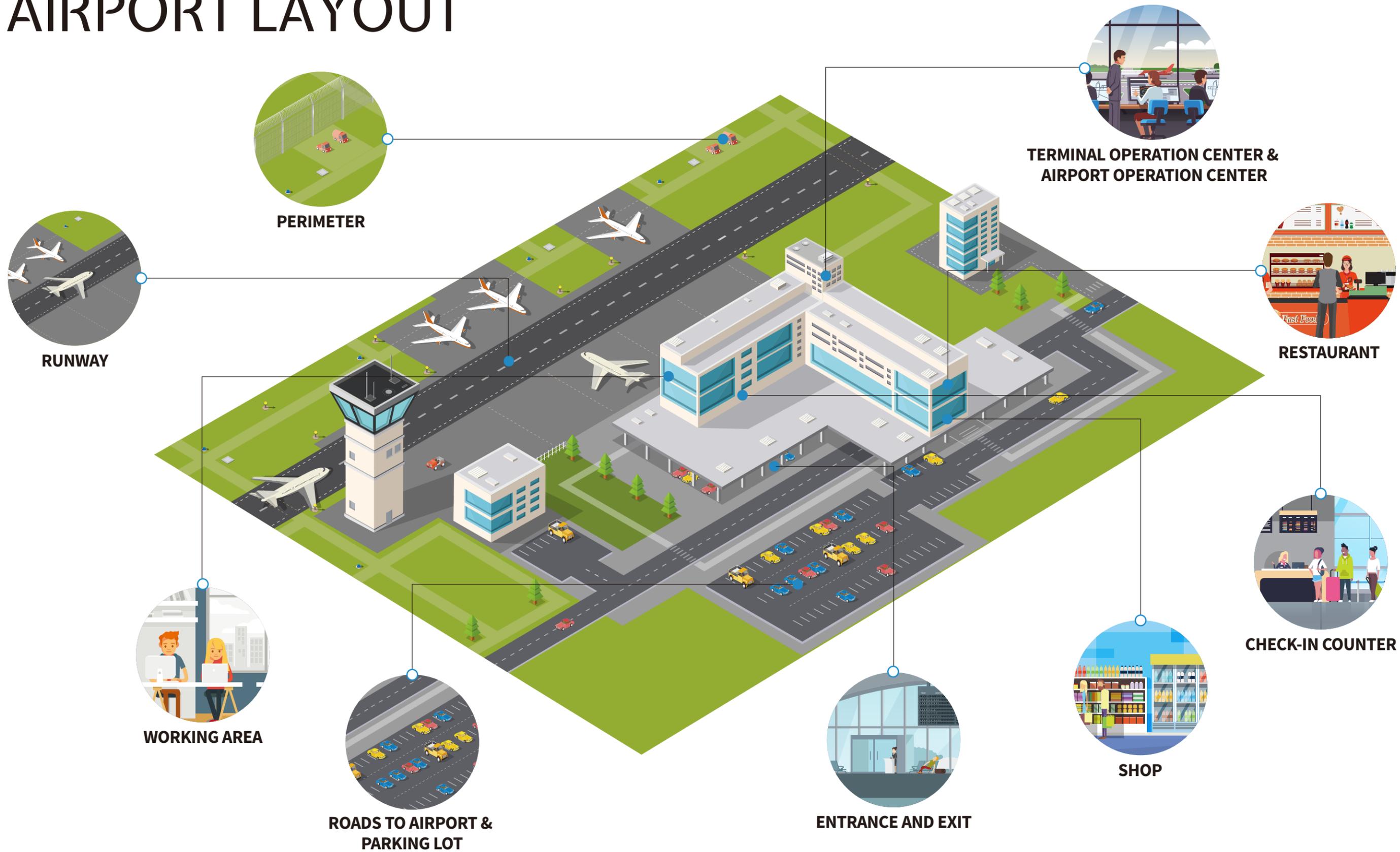
Challenges

- ▶ Perimeter invasion, theft, sabotage
- ▶ High cost of data center and network
- ▶ Require user rights assignment in different departments
- ▶ Need to quickly locate & inspect emergency
- ▶ Poor system expansion capacity

Solutions

- 01 7*24 no-blind HD video surveillance
- 02 Integrate with third party security system
- 03 Unique system network, reliable and efficient solution
- 04 Advanced NGN architecture, easy to expand
- 05 Unified management platform with abundant standard interface
- 06 Reliable and cost-effective design for IP storage device

AIRPORT LAYOUT



AIRPORT SCENARIOS

TERMINAL



Terminal is the most complex place with large flow of people. One side of terminal is connected to airport apron and another side is connected to transportation center on the ground. Passengers and baggage have to receive necessary inspection in the terminal before boarding. Therefore, how to effectively monitor this process is critical.

Entrance and Exit

WDR

- Sony STARVIS sensor with UNV self-developed ISP processing technology
- Deliver clear and visible images in high-contrast lighting scenes



WDR ON

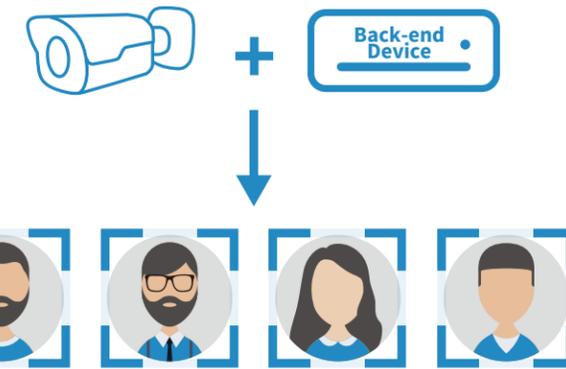


WDR OFF

Check-in Counter

Face Detection & Face Recognition

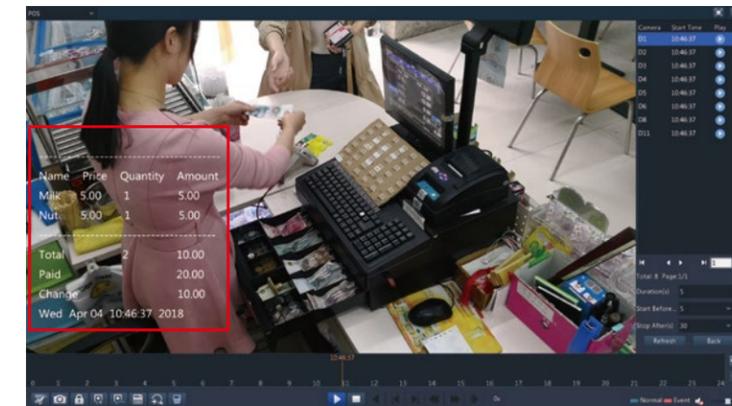
- Face detection & recognition are based on intelligent algorithm in cameras and back-end devices
- Snapshots and videos are stored in back-end devices
- Spot a target person quickly



Shop

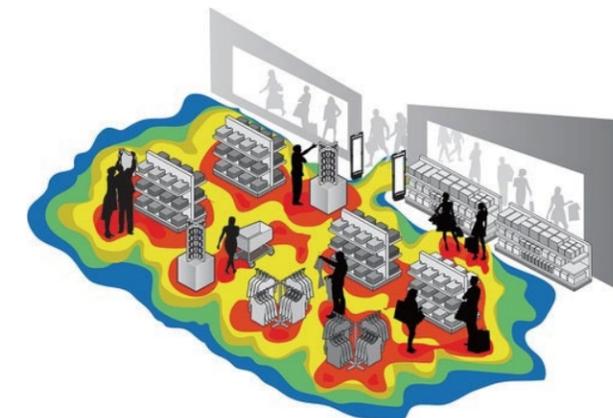
POS Integration

- Video images and corresponding POS information can be combined together through integrating NVR with POS devices
- POS information can be recorded and displayed on the corresponding video footage



Fisheye Heat Map

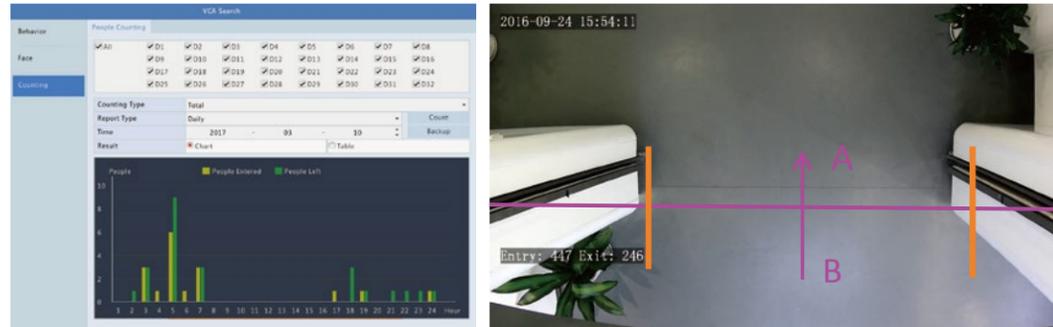
- Extensive range of view and sufficient details could be provided by only one camera
- Multiple installation modes: ceiling, wall and desktop mount
- Heat map function helps to do business analysis



Restaurant

People Counting

- High statistic accuracy, suitable for entrances and exits
- Export daily/weekly/monthly/yearly reports through client



Roads to Airport

HLC

- UNV network cameras support strong light suppression which can produce clear license plate image. And even if the object is in front of the vehicle at night, it would not be blocked by strong light.



HLC Off

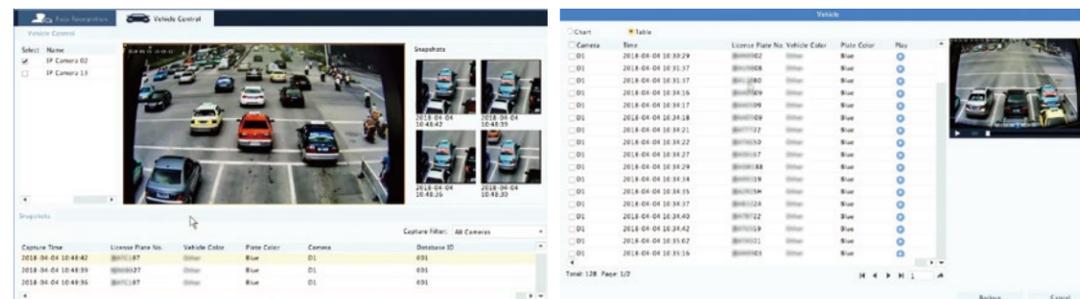


HLC ON

Parking Lot

LPR

- Built-in LPR algorithm, identify and record license plates information
- Vehicle access control and parking management



AIRSIDE

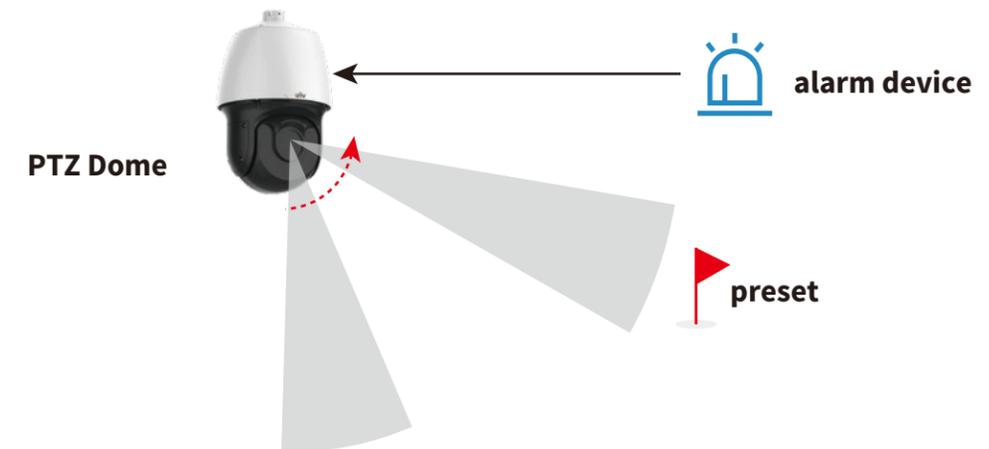


Airside includes departure and arrival area, baggage claiming area, aircraft maintenance area, freight area, flight area and service area. To guarantee the safety, it requires video surveillance system and management to be effective and efficient.

Perimeter

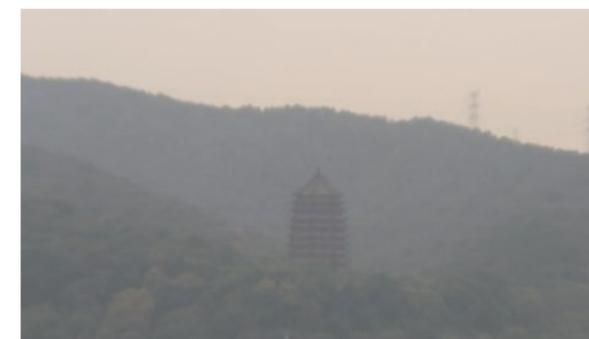
Alarm Linkage & PTZ

- Integrate with 3rd party alarm devices
- PTZ dome will turn to the preset position when an alarm is triggered by 3rd party alarm devices



Optical Defog X44 PTZ Dome Camera

- X44 PTZ dome camera, starlight, HLC
- Support optical defog



No Defog



Optical Defog

Super Starlight

- F1.2 aperture lens and Sony STARVIS image sensor
- Produce colorful video images under ultra-low light conditions (0.0005Lux) without losing details



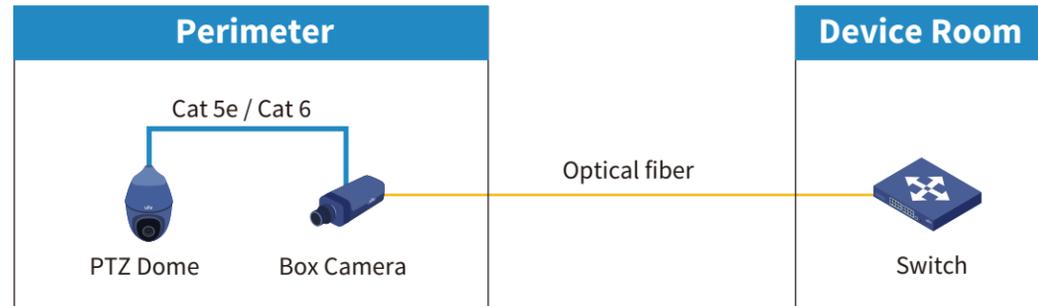
Super Starlight



Common Starlight

1+1 Fiber Sharing

- UNV network cameras support abundant network interfaces – optical fiber port, RJ45 port
- Remote camera access with optical fiber port
- Support 1+1 fiber sharing which saves cable



Runway

Panoramic Camera

- 4*8MP (4*2MP) multi-lens network camera
- 180 degree panoramic view



High Ratio Optical Zoom

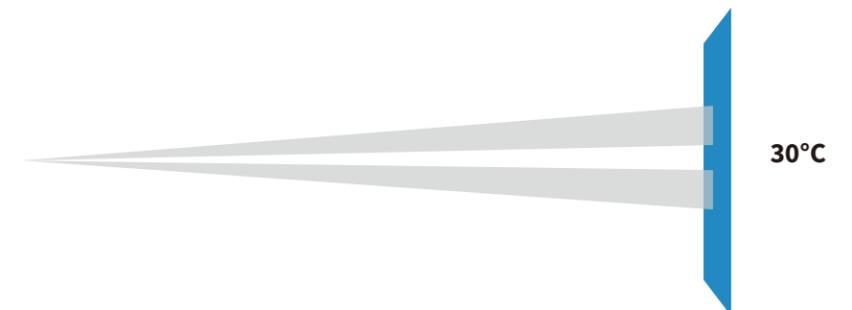
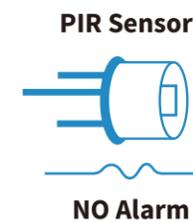
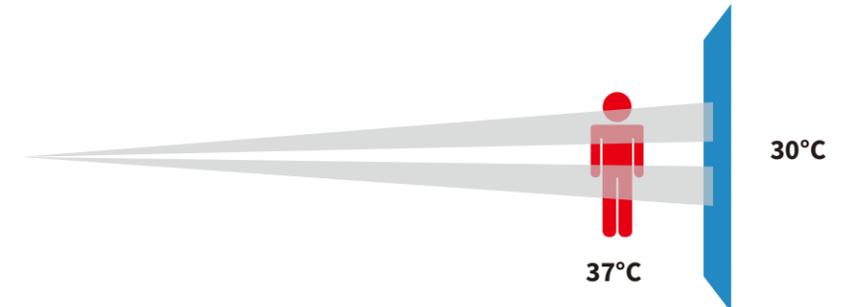
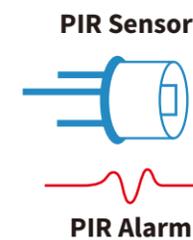
- Long distance monitoring
- Up to 55X optical zoom, 300mm+ motorized lens



Working Area

PIR Alarm

- With PIR function integrated inside, UNV cameras are suitable to monitor important areas at night
- Built-in white light, capture colored image when strangers intruding



OPERATION CENTER

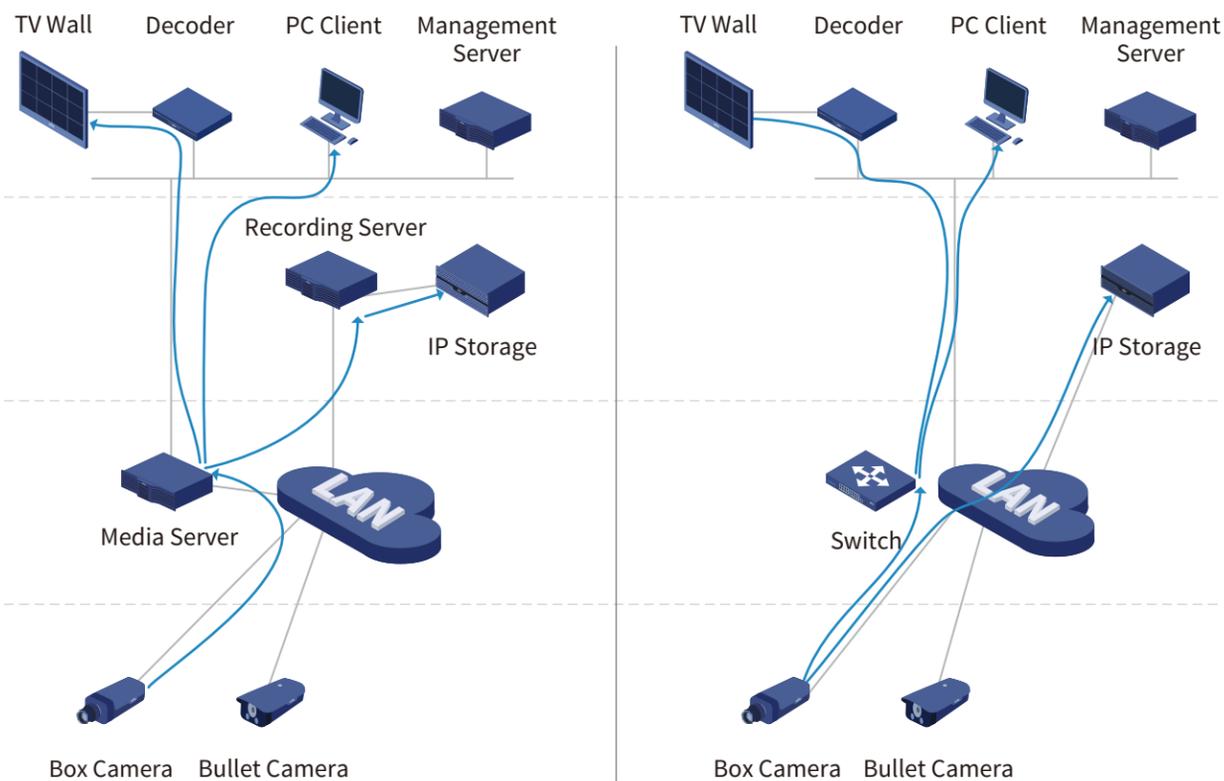


Operation center plays a significant role in the whole CCTV system. Security guards can check live view, playback and do video patrol through monitors or TV wall. In addition, video intelligent analysis, alarm management, and third-party system integration can be realized by VMS.

Data Center & Storage

NGN Architecture

Media streaming and signaling are processed separately. Video management server only handle signaling. The server's failure will not influence the video storage and live view.



Traditional Architecture

NGN Architecture

In traditional architecture, video recording would be lost when recording server stops running. This issue will be overcome in UNV's NGN architecture where network camera sends the stream to IP SAN directly based on iSCSI standard storage protocol. It significantly decreases the investment because there is no media server and recording server in NGN architecture.

VMS 1+1 Hot Spare

UNV VMS supports 1+1 hot spare function. If the Master VMS breaks down, the Standby VMS will take over the service immediately. All service and data will be transferred back to Master VMS when it recovers from failure.



Management Server 1+1

High-Reliable IP Storage

Different kinds of carrier-class hardware designs ensure the high reliability and ability to work 7/24.



Fully Redundant Modular Design



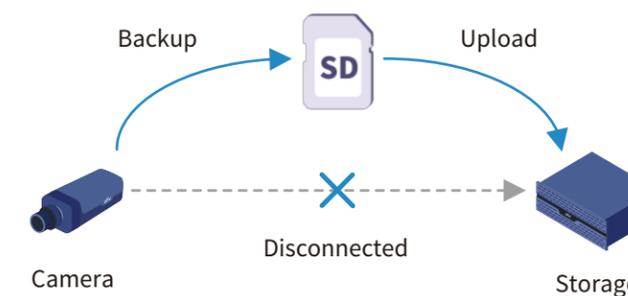
Anti-Dust & Sulfide Alarm Design



Anti-Vibration HDD Module

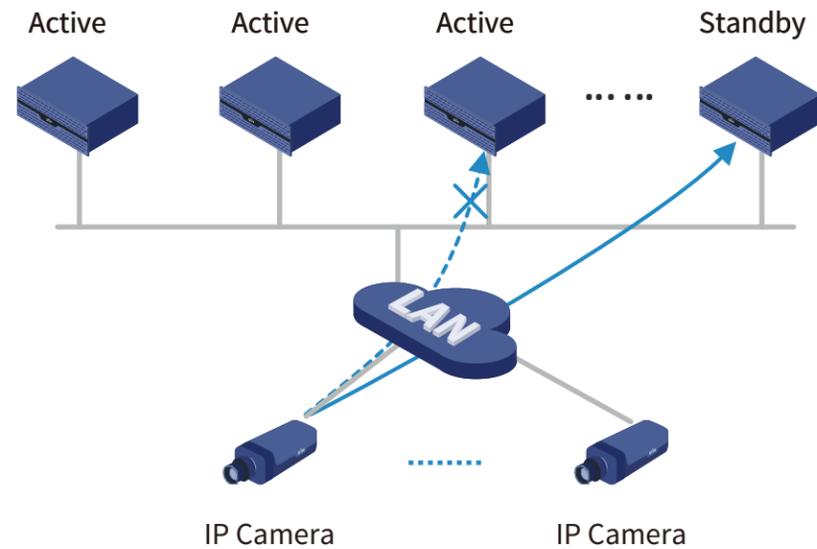
ANR

UNV cameras can automatically store video recordings into camera's SD card when network is disconnected. Once the network is restored, the video recordings will be sent back to storage server. Thus, all of video recordings would be saved even network fails temporarily.



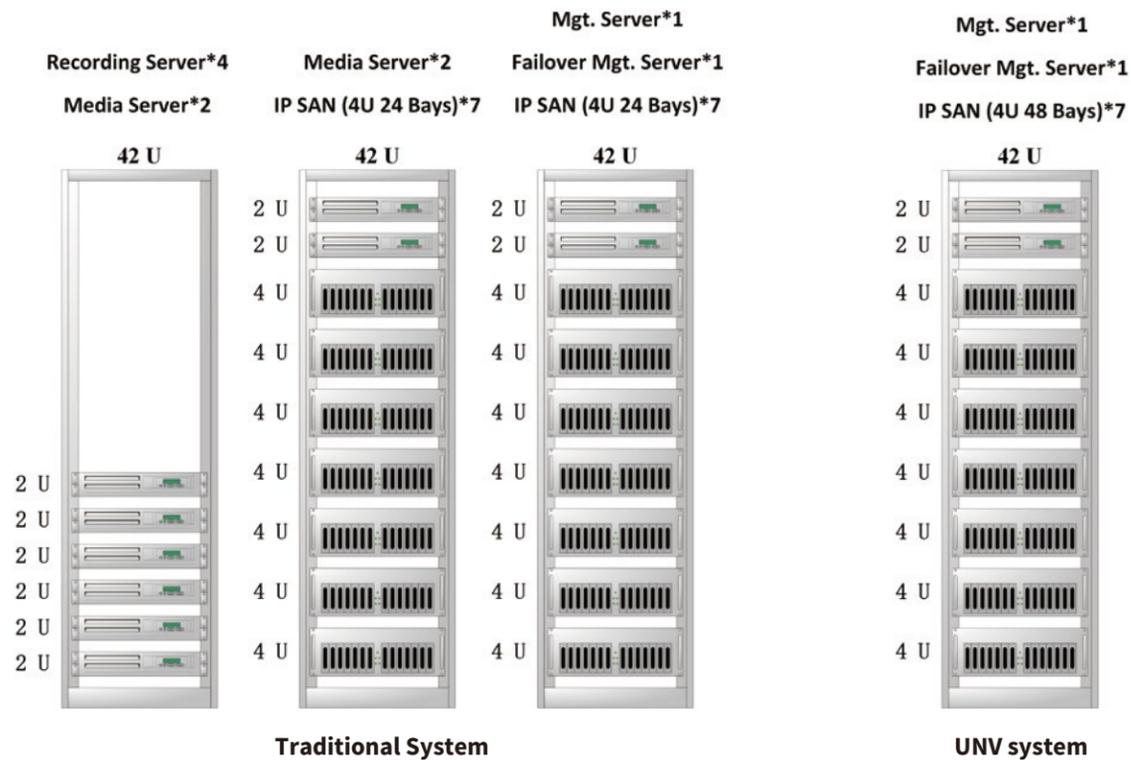
IP Storage N+1

UNV IP SAN supports N+1 hot backup. If any active IP SAN fails, the standby IP SAN will automatically take over the service.



Cost-Effective System

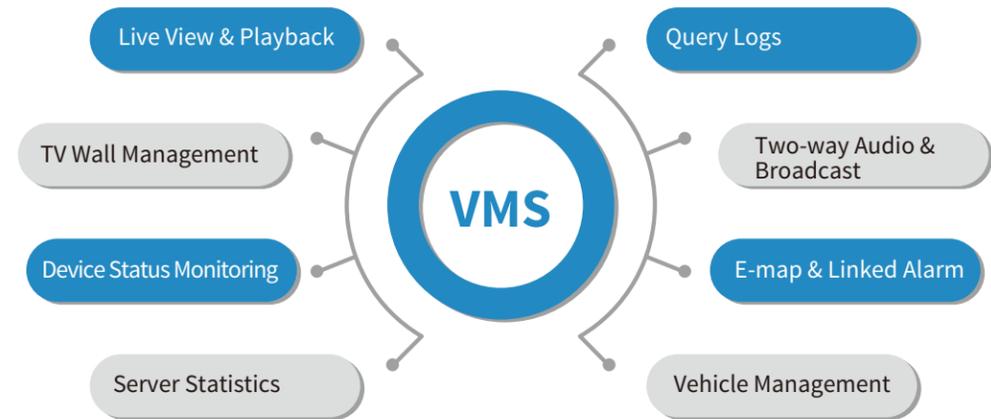
UNV IP storage adopts unique structure allowing 48 bays at a height of 4U with front panel hot swappable. Hence, UNV solution can save more than 50% rack space and much more power consumption under the same condition(1000-ch 2MP IP cameras/ 90 days storage).



Abundant VMS Function

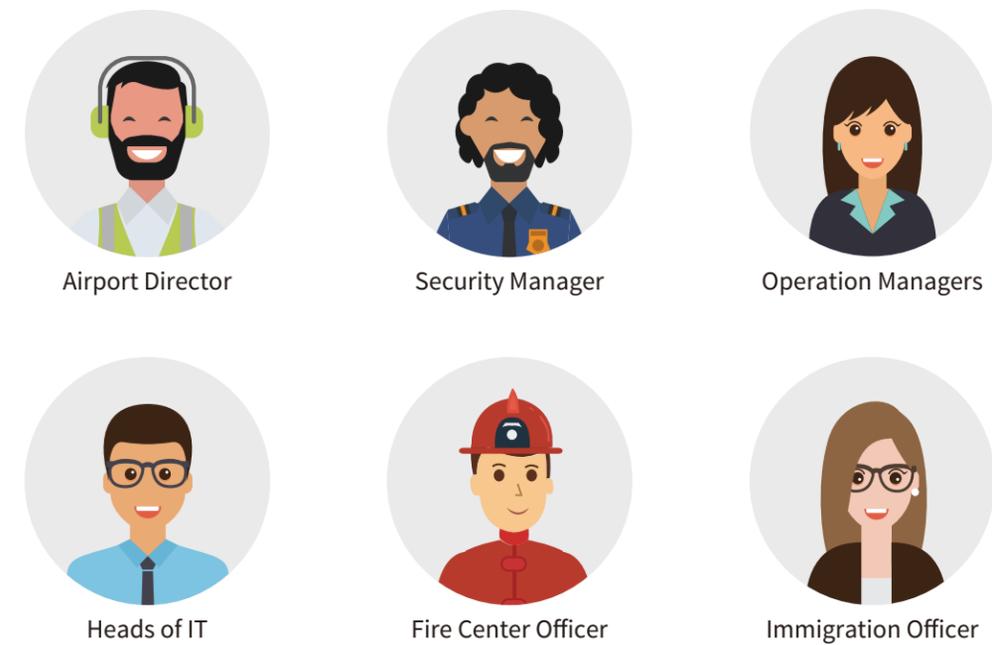
Complete CCTV Function

UNV VMS is a reliable and easy-to-use management platform. Live view/playback, TV wall management, and user role management are all available on VMS client.



User Role Management

In order to meet the different access demands in different departments, UNV VMS can build up a credential system for every departments such as airport management, public security, security check, Immigration, fire center and so on. It improves the efficiency significantly.



Watermark for Data safety

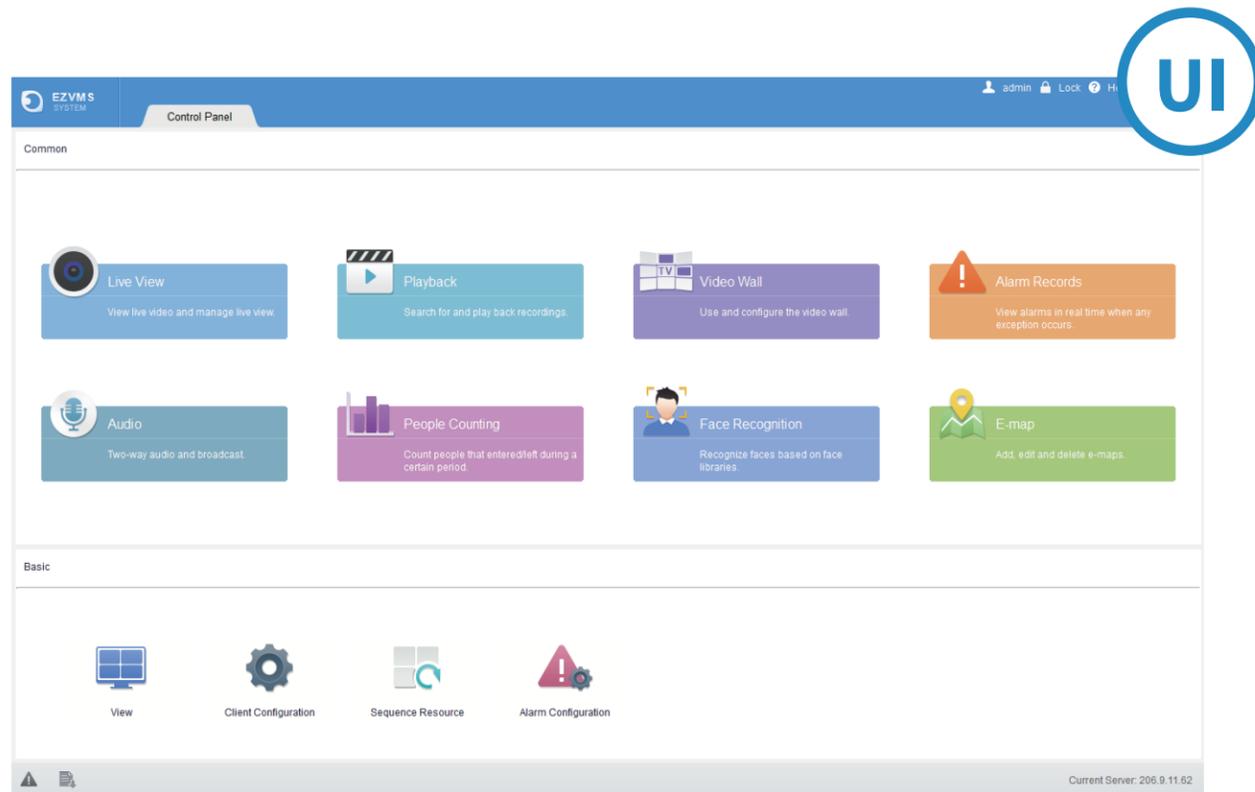
Video recordings can be watermarked with customized content to prevent video recordings from unauthorized editing, which ensures credible video record.



Quickly Locate Emergency

User-friendly Interface

UNV VMS is an easy-to-use management platform designed for CCTV system. Its flexible and feature-rich interface helps security guards easier and more efficiently verify alarms and coordinate a response.



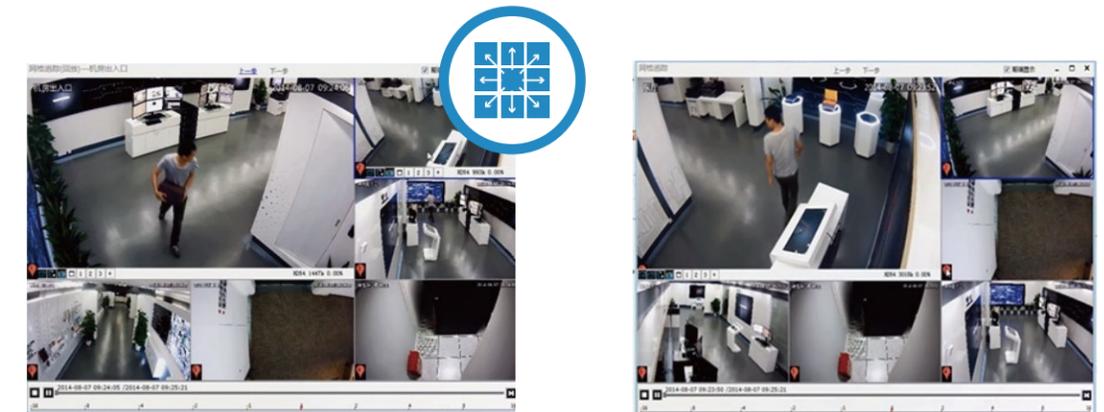
Digital Zoom

UNV cameras support digital zoom function, and it is ideal for large areas where needs high definition cameras such as parking lots and airplane runway. Cameras can provide more details with digital zoom functions.



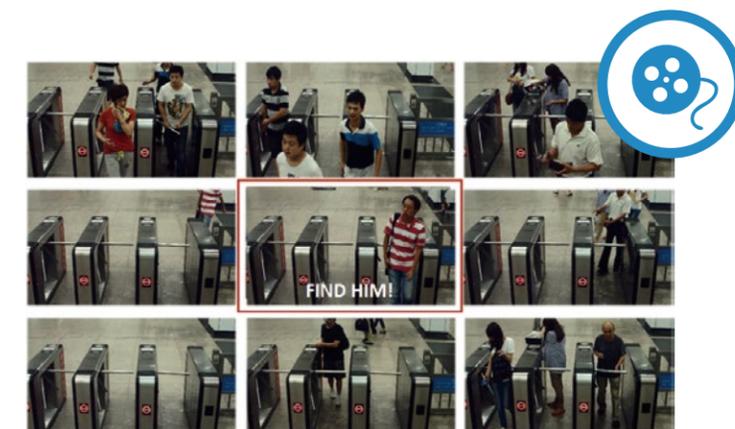
Video Track

When the object is captured by multiple cameras, multiple windows can be displayed on one screen once video track function is activated. Click one of the cameras in the E-map, the live views of both that camera and cameras nearby are displayed, helping to locate the moving object.



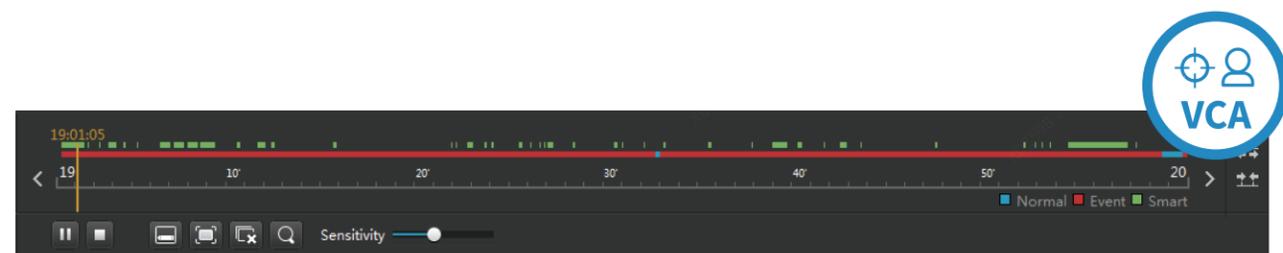
Video Frame Extraction

Video can be divided into several parts with the same time frame, the first frame of each part would be displayed automatically on the screen, forming a group of pictures to help security guards locate the object quickly.



VCA & Intelligent Playback

VCA & Intelligent playback supports to playback video recordings based on event types such as movement detection, video loss, alarm input and so on.



E-Map

VMS client supports flashing alarms on E-maps and links live view on a video wall. It enables security guards to faster locate alarming area, which significantly shortens their reaction time.

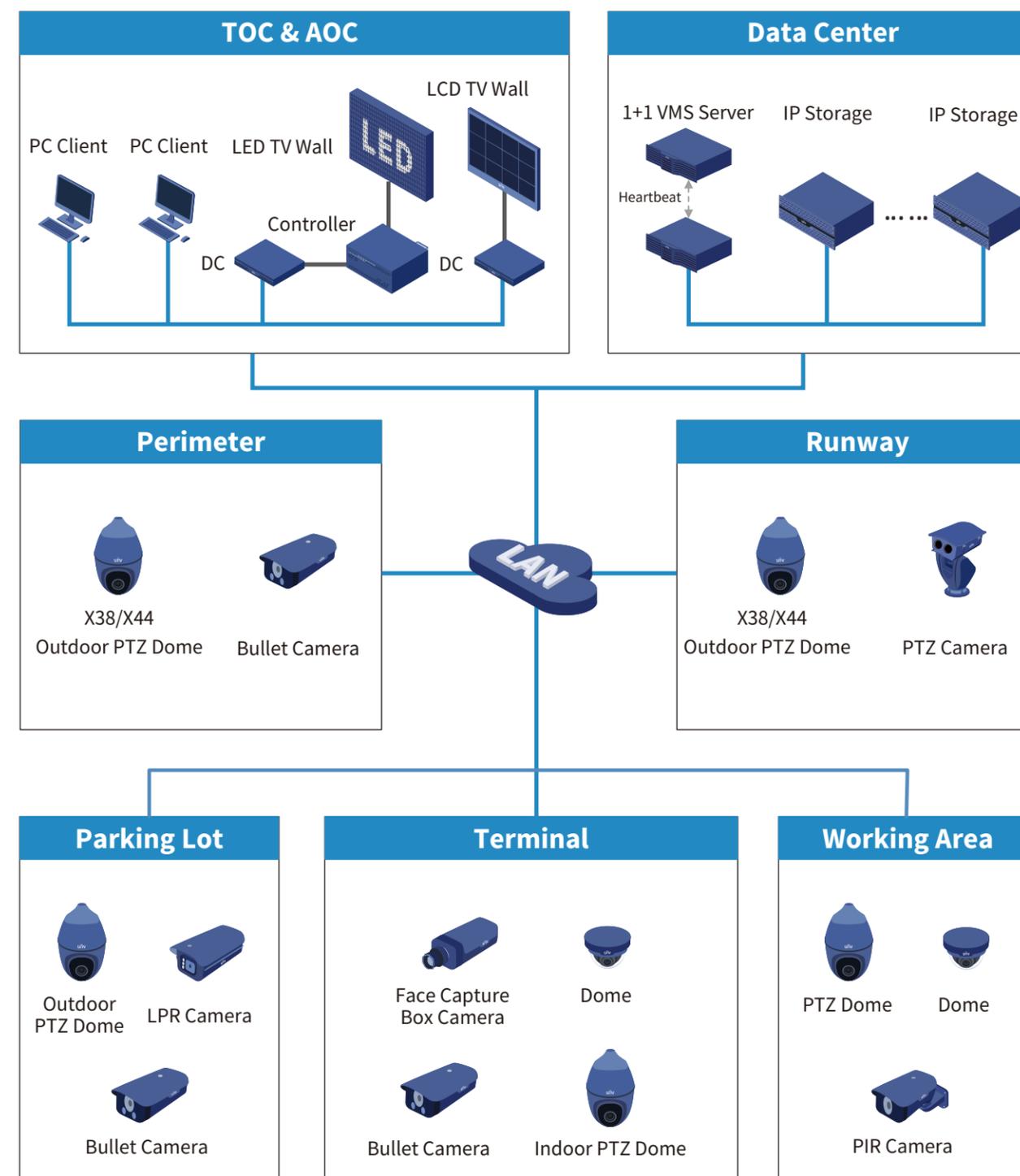


Not Only VMS

Uniview provides a comprehensive security platform which can integrate with other security subsystems such as access control system, alarm system, etc. And UNV management platform also provides interface for other systems to obtain live view, records and other functions through SDK.



SOLUTION TOPOLOGY



SUCCESSFUL CASES



OR Tambo International Airport, South Africa

Uniview provided more than 200 indoor PTZ domes in OR Tambo International Airport. All the 22X optical zoom and starlight PTZ dome cameras were deployed in terminals to ensure the video quality at low light. At the same time, all the network cameras have 120dB WDR function which helped security guards to quickly deal with potential danger around the terminals.



Beijing New International Airport, China

Beijing New International Airport is a new airport in Beijing, which is much bigger than the old one. Uniview provided advanced video management software, including management, transfer, recording, VA (video analysis) and decoding. Hundreds of channels of face recognition and video extraction servers greatly improved the airport safety and created a safer environment for millions of passengers.



Shanghai Pudong International Airport, China

Uniview provided a complete video surveillance solution for Shanghai Pudong International Airport. The whole system includes front-end camera, back-end IP storage and VMS. This project deployed over 200 channels network cameras, Dual controller IP storage and unified video management software. All the dome cameras support corridor mode, which reduced invalid monitoring regions and saved the construction cost.



Guangzhou Baiyun International Airport, China

Uniview delivered a complete IP Surveillance solution for Guangzhou Baiyun International Airport with NGN architecture, which realized the ability of entire network multicast. This project deployed over 700 channels high definition network cameras, VMS, decoder and over 1.5PB reliable centralized storage.