INTEGRATED SECURITY SOLUTION FOR BANKING & FINANCE

-Security
-Smart
-End to End

Personal Safety
• 4K UHD
• Ultra Smart

Property Safety
• Behavior Analytics
• Smart Transaction Record

Business Integration
• Face Recognition
• Remote Inspection

Management Efficiency
• Remote Authorization
• Customer Traffic Statistics
• Centralized Management

INDUSTRY CHALLENGES AND SOLUTION

Challenges

Personal Safety Issues
Robbery
Mugging
Kidnapping

Business Issues
Data safety
Manual inspection
Poor VIP experience

Challenges

Property Safety Issues
Theft
Fraud
Sabotage

Management Issues
Isolated information
Manual authorization
Customer traffic statistics

How to address the challenges

SOLUTION

How to guarantee personal security?
• Capture clear facial image with 4K cameras
• Prevent critical events with ultra-smart cameras

How to guarantee property security?
• Identify risks and activate alarm in time by intelligent behavior analysis
• Overlay the transaction information on the video to guarantee property safety

How to combine with business?
• Inspect the key areas by system
• Identify VIP customers by face recognition

How to improve management?
• Remote authorization
• People counting
• Centralized management platform

SOLUTION OVERVIEW

ATM
- Prevent security risks from robberies, muggings, ram raids
- Comprehensive monitoring
- Video footage

Security Center
- Data safety
- System stability and reliability
- Abundant alarm mechanism

Cash Transaction Area
Large volume of cash transaction, high-definition facial picture and recorded transaction information is necessary to avoid potential disputes.

Lobby
Large areas with lots of customers, require high-definition and no blind spots video.

Outdoor
Complicate environment, rapidly changing sunlight conditions require high-definition, ultra wide angle, starlight technology.

Entrance
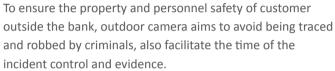Clear facial image in sharp sunlight, VIP recognition improve customer's experience.

APPLICATION AREA

To ensure the property and personnel safety of customer outside the bank, outdoor camera aims to avoid being traced and robbed by criminals, also facilitate the time of the incident control and evidence.

• Multi-lens with 180 degree panoramic view

• No loss under no lux, outstanding visibility under the starlights.

• 4K real time monitoring, excellent image performance:

Within **20** meters, clear face features and license plate numbers of the car can be captured.

Within 50 meters, the characteristics of the physical appearance of the person and the car can be captured.

Lots of people go in and out frequently with intense sunlight contrast, a camera with true WDR and smart function is must-have.

• Super WDR Camera:
Dahua ultra smart series cameras can reach up to 140dB wide dynamic range for obtaining a crystal clear image quality even in high contrast sunshine environment.

WDR Off

WDR On

• People Counting:
People counting can show the people flow in the entrance, and export the daily or monthly report.

• Face Recognition:
Recognize the VIP identity by arithmetic comparison of the unique features, greatly improves VIP customer experience.

Lobby

The lobby areas are the most visited locations that require high detailed facial images and no blind spots.
• 4K ultra smart fisheye with 360 degree overview and high definition to get the best coverage

Cash Transaction Area

High volumes of financial transactions each day – from signing documents to approving loans – may leave institutions vulnerable to customer misunderstandings or disputes.

• Using built-in pinhole camera, close-up face images captured by picture in picture function while transaction information overlays in the video to avoid disputes or misunderstandings from customer.
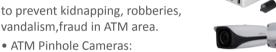
• 1+1 panic button
The alarm can be triggered in time if there is an emergency

ATM Area

As an important and vulnerable part, Dahua offers an end to end solution to prevent kidnapping, robberies, vandalism,fraud in ATM area.

• ATM Pinhole Cameras:
  Modular and compact design, provide smart detection and easy to install in any indoor environment.
• ATM DVR:
  Dedicated hybrid DVR for ATM, support IP and Analog camera input
• Cabin Camera:
  Only one wide angle camera to cover the whole cabin area

Security Center

VMS7016 video management platform is the CCTV system core that manages, views, plays back, and controls all the daily operations among all devices, the system works in master-slave mode and unified management of whole system resources.

• Embedded NVR:
  Dahua has the richest embedded network recorder product line – from 4 channels to 256 channels – for every level of needs
• Network Storage:
  A must-have product line for total secure data storage
• Decoder:
  Abundant 4k resolution decoders provide connection to the TV wall
• Display:
  Dahua has a variety of display devices, from standalone monitors to large TV walls
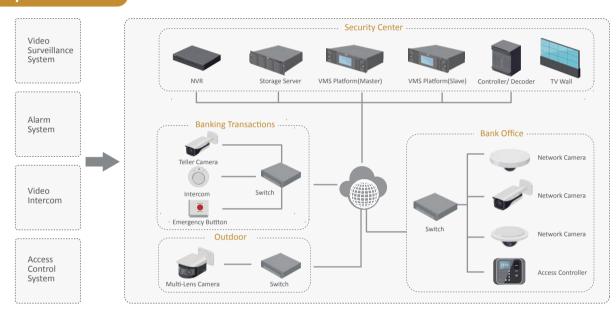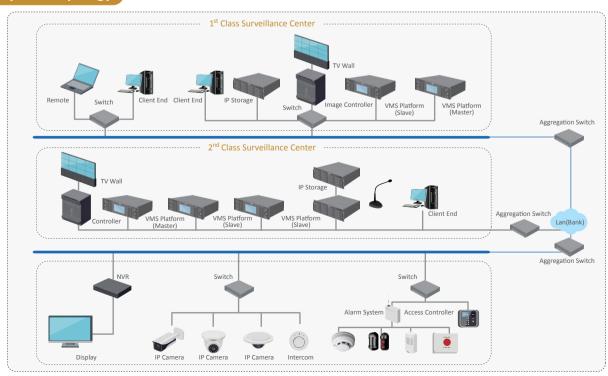
SOLUTION STRUCTURE & TOPOLOGY

Highlights:

- **High Definition:** High resolution of 4K, improve image quality greatly.
- **High Cost-Efficiency:** Multi-function product, reuse the existing cable and easy to install, greatly save the investment.
- **VIP Service:** Through face recognition function, enhance the VIP customer experience.
- **Flow Statics:** Output flow traffic statistics in premises by period, provide decision-making basis for management.
- **Integrated and Compatibility:** End to end system, compatible with third-party system.
- **Smart Transaction Record:** Record the transaction information and clear facial picture, provide strong proof if disputes or misunderstandings from the customer.

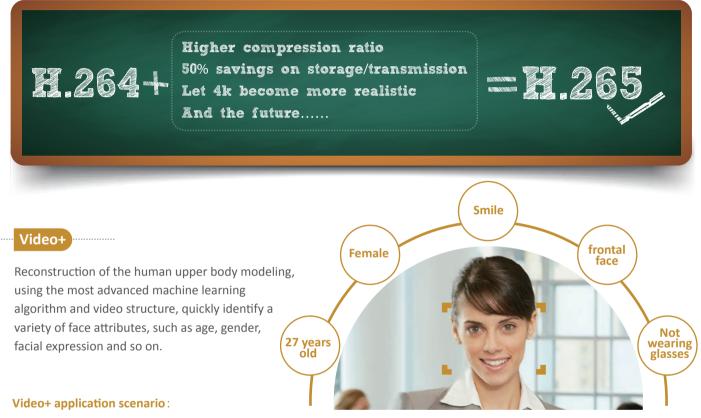## System Structure

System Topology

KEY TECHNOLOGY

H.265

H.265 = H.264 + ?

Dahua is the pioneer of H.265 implementation in surveillance industry. The adoption of H.265 can greatly reduce the transmission bandwidth and storage capacity while maintaining the same video image quality.
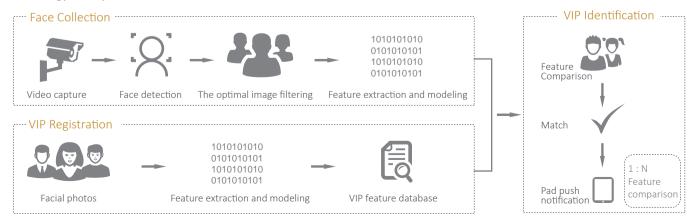
The full adoption of H.265 can best protect your investment and be an important enabler for Ultra High Definition (4K) surveillance in a reasonable cost.

$$H.264+ \quad \begin{array}{l} \text{Higher compression ratio} \\ \text{50\% savings on storage/transmission} \\ \text{Let 4k become more realistic} \\ \text{And the future......} \end{array} \quad = H.265$$

Video+

Reconstruction of the human upper body modeling, using the most advanced machine learning algorithm and video structure, quickly identify a variety of face attributes, such as age, gender, facial expression and so on.

Smile · Female · frontal face · 27 years old · Not wearing glasses

Video+ application scenario:

VIP Recognition

When the VIP customers arrive at the business hall, the account manager can be promptly notified and provide proper service, to improve VIP customers experience.

Technology Principle:

Face Collection

Video capture → Face detection → The optimal image filtering → Feature extraction and modeling

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VIP Registration

Facial photos →

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Feature extraction and modeling → VIP feature database

VIP Identification

Feature Comparison

Match

Pad push notification

1 : N Feature comparison

Advantage Analysis :

Millions of gallery with second level response

Beyond the human eye recognition

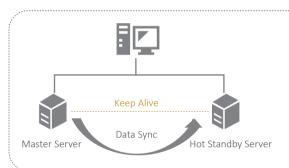Non-contact, multi-angle recognition

Customer Value:

Timely notify the lobby manager, enhance the quality of VIP services
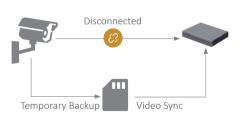
Reduce VIP waiting time, improve VIP satisfaction

Data Safety

Data safety is paramount part in Bank, Dahua's data safety technology gurantees the data safety if there are some unexpected incidents,such as device break down, network connection fails and so on.

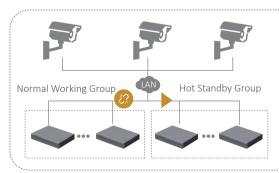Keep Alive

Data Sync

Master Server

Hot Standby Server

Server Redundancy Design
- Master & Hot Stand-by servers.
- "Keep Alive" function automatically backs up users' information if one server is interrupted.
- When the master server fails or disconnects, the hot stand-by server switches to active mode automatically to keep the whole system running properly.

Disconnected

Temporary Backup   Video Sync

Auto Network Recovery(ANR)
- Auto backup if network connection fails.
- Data moves from SD card to back-end device while network connection is restored.
- We recommend using Dahua brand SD card.

Normal Working Group   Hot Standby Group

LAN

N+M Hot Standby
- N master NVRs in running mode.
- M slave NVRs in standby mode.
- No data lost, when any active NVR is out of service, the hot standby NVR can take over recording automatically.

PRODUCT SHOWCASE

IPC-PFW8808-A180-E4

- Four 1/2.8" 2MP progressive scan Exmor R CMOS
- Smart triple streams supported
- Max 25fps@4096x1800
- Support not less than 180-degree panoramic view
- Intelligent Function
- Max. IR LEDs length 30m
- Support IP67, IK10

IPC-HDBW5231E-Z

- 1/2.8" 2Megapixel progressive scan Exmor CMOS
- 50/60fps@1080(1920×1080)
- Smart Detection supported
- 2.7mm ~12mm motorized lens
- Max. IR LEDs Length 50m
- Micro SD memory, IP67, IK10, PoE

IPC-EBW8600

- 1/1.8" 6Megapixel progressive scan CMOS
- Max 25/30fps@6.0M(3072x2048)
- Multiple De-wrap Mode: Original ,Panoramic
- Max.IR LEDs Length 10m
- 1/1 Audio in/out(Built in Mic)
- Micro SD memery,IP67,IK10,PoE

IPC-HF5231-Z

- 1/2.8" 2Megapixel progressive scan Exmor CMOS
- 50/60fps@1080P(1920×1080)
- Smart Detection supported
- WDR(120dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- 2/1 Alarm in/out, 1/1 audio in/out(Built-in Mic)
- Auto back focus(ABF)
- Micro SD memory, PoE

IPC-HUM8230

- 1/2.8" 2Megapixel progressive scan Exmor R CMOS
- H.265&H.264 triple-stream encoding
- 25/30fps@1080P(1920×1080)
- Day/Night(Electronic), 3DNR,AWB,AGC,BLC
- Smart detection
- 2.8mm Pinhole Lens
- Micro SD memory, PoE

HVR0404AH

- Up to 8 cameras with SXGA(1280×1024) display
- IP: Max 60fps@1080p, 120fps@720p
- Analog: 4 channel@960H(960×576/960×480)
- Full channel synchronous real-time playback
- ONVIF Version 2.0 conformance
- Built-in 7 inch screen(-VD)

PRODUCT SHOWCASE

NVR608-32-4KS2

- Intel Processor
- Max 32 IP Camera Inputs
- Max 384Mbps Incoming Bandwidth
- Up to 12MP Resolution for Preview and Playback
- Supports RAID 0/1/5/6/10/50/60
- Smart Tracking and Intelligent Video

DSS7016

- High-performance stream media transfer and storage capability
- Support local storage and IP-SAN storage
- Front panel can displays system service status
- Max support 2000 channels
- Support 10000 accounts management
- Support 700M transfer capability

NVD0405DH-4K

- H.265/H.264/MPEG4 video decoding
- 4ch@12M/4ch@4K/16ch@1080P/64ch@D1 decoding ability
- 1ch HDMI input, 4ch HDMI/VGA/BNC output, HDMI support Ultra HD 4K output
- Support up to 4 video-wall display units, support configuration of 1×1,2×1,2×2
- Support audio, alarm, bi-directional talk, RS485

EVS5016S-R

- Intel Processor
- Max 512 IP Camera Inputs
- Max 1024Mbps Incoming/recording Bandwidth
- 16 HDDs, SATA, Hot-Swap
- Supports RAID 0/1/3/4/5/6/10/50/60/JBOD, Hotspare
- iSCSI and Mini SAS for Expanded Storage Space
- Support standard iSCSI Protocol Storage
- Modular&Cableless Design
- Redundant Power

IVS-F7200

- Combine the face detection, face image comparison, face image search and database functions together.
- Detect the face in designated region, tracking the move track.
- Search the capture image according to time or location.
- Real time compare the capture face image with the image in register library.
- Dynamic comparison register library support up to 100,000 images.
- Detect the face from image automatically, and compare with register face library.
- A server can support up to 4 channels 1080P detection and comparison at the same time.
- Detect face of the designated image, and compare with capture face library.

DHL460UTS-E

- Industrial level DID LCD panel, suitable for extensive 7×24 continuous works.
- High contrast and high brightness
- High fidelity digital processing and vivid video.
- Built-in 3D COMB filter and 3D Noise Reduction
- Brightness smart detection, power-saving
- Using Tamper-proof metal housing, no radiation

PRODUCT OVERVIEW

Product	Description	Outdoor	Entrance	Lobby	Counter	ATM area	Security Center
IPC-PFW8808-A180-E4	Multi-Lens Panoramic Network IR Bullet Camera	●					
IPC-HDBW5231E-Z	2MP WDR IR Dome Network Camera		●				
IPC-EBW8600	360° panomorph camera			●			
IPC-HF5231E	2MP WDR Box Network Camera				●		
IPC-HUM8230	2MP Covert Pinhole Network Camera					●	
HVR0404AH	8 Channel 960H & IP 4HDD Hybrid ATM DVR					●	
NVR608-32-4KS2	32 Channel Ultra 4K H.265 Network Video Recorder						●
DSS7016	General Surveillance Management Centre						●
NVD0405DH-4K	Ultra-HD Network Video Decoder						●
EVS5016S-R	16-HDD Enterprise Video Storage						●
IVS-F7200	Intelligent Face Analysis Server						●
DHL460UTS-E	46" Full-HD Video Wall Display Unit (Ultra Narrow Bezel 3.5mm)						●

SUCCESS CASE

Bank of China

All the branches connect to the headquarter of Bank of China by national network, the solution integrated video, alarm, access control, intercom, and other important large-screen display subsystem, Dahua solution using three cascaded architecture, consist of headquarter, branches and sub-branches, involving 360 monitoring and control center, access to more than 60,000,000 cameras, more than 10,000,000 alarm devices.

SANASA Development Bank, Sri Lanka

Dahua provided the bank with a cost-effective, customized, high-definition IP security solution, designed for stability and reliability. The new system includes surveillance cameras and DVRs, as well as intelligent security software. A number of different camera models were chosen to cover all areas of the bank, including offices, counters, and ATM.

Alkuraimi Islamic Microfinance Bank, Yemen

Dahua provided a high-end upgrade solution which includes cameras, storage devices and control management software, More than 97 branches that scattered around the country are applied with thousands of Dahua cameras and hundreds of NVRs.

EcoIslamic Bank, Kyrgyzstan

Dahua provided 150 units of network camera, 129 units of 800TVL analog camera, and 124 units of Hybrid DVR for EcoIslamic Bank. The hybrid DVR turned out to be a right solution on addressing problems of mixed systems where both analog and network cameras have been applied.

Bank of Brazil

Dahua upgrades the whole monitor system in the bank very successfully, the system is not only involves many cities in Brazil but also uses more than 20,000 units of analog camera and 1,500 units of DVR.

Bank BMCI, Morocco

Concerning that the bank has already covered with analog structure, Dahua offered a hybrid solution — megapixel cameras with higher image quality, easier management and hybrid DVRs.The solution selected megapixel HD network cameras for more than a thousand units as a total and three to four camera units with a hybrid DVR per branch. "With Dahua's good quality and services, BMCI is confident to handle with emergency and standardize the internal management," said Afaf Raid, the manager of Bank BMCI.

QUALITY BY DESIGN

www.dahuasecurity.com

DAHUA TECHNOLOGY CO., LTD.
No.1199 Bin'an Road, Binjiang District, Hangzhou, China. 310053
Tel: +86-571-87688883   Fax: +86-571-87688815
Email: overseas@dahuatech.com
www.dahuasecurity.com

alhua
TECHNOLOGY