HikCentral Professional

AE Spec

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Chapter 1 Disclaimer

ALL TRADEMARKS ARE THE PROPERTIES OF THEIR RESPECTIVE OWNERS
Division 28 - Electronic Safety and Security
Section 28 01 00 - Operation and Maintenance of Electronic Safety and Security
Section 28 01 10 - Operation and Maintenance of Access Control

Chapter 2 General

2.1 Summary of Requirements

HikCentral Professional Platform

The System Management Service (SYS) provides unified authentication service for connecting with the clients and servers.

Related Requirements

1. Section 27 20 00 - Data Communications
2. Section 28 05 00 - Common Work Results for Electronic Safety and Security
3. Section 28 05 19 - Storage Appliances for Electronic Safety and Security
4. Section 28 05 19.11 - Digital Video Recorders
5. Section 28 05 19.13 - Hybrid Digital Video Recorders
6. Section 28 05 19.15 - Network Video Recorders
7. Section 28 06 20 - Schedules for Video Security
8. Section 28 21 00 - Security Cameras
9. Section 28 21 13 - IP Cameras
10. Section 28 27 00 - Video Security Sensors
11. Section 28 33 00 - Video Security - Security Monitoring and Control
12. Section 28 51 19.15 - Smart Walls

2.2 References

Abbreviations

1. AD - Active Directory
2. AGC - Automatic Gain Control
3. AWB - Automatic White Balance
4. BLC - Back Light Compensation
5. CIF - Common Intermediate Format
6. CD - Client Device
7. DDNS - Dynamic Domain Name Server
8. DHCP - Dynamic Host Configuration Protocol
9. DNR - Digital Noise Reduction
10. DNS - Domain Name Server
11. DSCP - Differentiated Services Code Point
12. DVR - Digital Video Recorder
13. FPS - frames per second
14. FTP - File Transfer Protocol
15. GIS - Geographic Information System

16. GUI - Graphical User Interface
17. HLC - High Light Compression
18. HTTP - Hypertext Transfer Protocol
19. HTTPS - Secure HTTP
20. Hybrid SAN - Hybrid Storage Area Network
21. ICMP - Internet Control Message Protocol
22. IGMP - Internet Group Management Protocol
23. IP - Internet Protocol
24. JPEG - Joint Photographic Experts Group
25. LPR - License Plate Recognition
26. MicroSD - Removable Miniaturized Secure Digital Flash Memory Card
27. MPEG - Moving Pictures Experts Group
28. MWB - Manual White Balance
29. NAS - Network Attached Storage
30. NIC - Network Interface Controller
31. NTP - Network Time Protocol over Ethernet
32. NVR - Network Video Recorder
33. PIR - Passive Infrared Sensor
34. PoE - Power over Ethernet
35. POS - Point of Sale
36. PPPoE - Point-to-Point Protocol over Ethernet
37. PTZ - Pan Tilt Zoom
38. QoS - Quality of Service
39. ROI - Region of Interest
40. RSM - Remote Site Management
41. RTP - Real-Time Transport Protocol
42. RTSP - Real-Time Streaming Protocol
43. SD Card - Secure Digital Flash Memory Card
44. SMTP - Simple Mail Transfer Protocol
45. TCP - Transmission Control Protocol
46. UDP - User Datagram Protocol
47. UPnP - Universal Plug and Play
48. UVSS - Under Vehicle Surveillance System
49. VCA - Video Content Analysis
50. VMS - Video Management System
51. WB - White Balance
52. WDR - Wide Dynamic Range
53. SYS - System Management Service

2.3 Certifications, Standards and Ratings

Reference Standards

1. Network Standard:
   IEEE – 802.3 Ethernet Standards
2. Video Compression:
   ITU-T H.264 standard and ISO/IEC MPEG-4 AVC standard (formally, ISO/IEC 14496-10 – MPEG-4 Part 10, Advanced Video Coding), H.264+, H.265, and H.265+ encoding formats

2.4 Submittals

Product Data

1. Manufacturer's hard (physical) or soft (electronic) datasheets
2. Installation and operating manuals for any and all equipment required for a SYS (System Management System)
3. Manufacturer's warranty documentation

2.5 Qualifications

Requirements

1. This product shall be manufactured by an enterprise whose quality systems are in direct compliance with ISO-9001 protocols.
2. All installations, integration, testing, programming, system commission, and related work shall be done by installers who are trained, authorized, and certified by the manufacturer.

2.6 Delivery, Storage, and Handling

General

The product shall be delivered in accordance with the manufacturer's recommendations.

2.7 Licensing and Support Agreements

Requires no Software Support Agreements with the manufacturer.

2.8 Tech Support (STAYS THE SAME UNLESS WARRANTY TERMS HAVE CHANGED)

Support

Technical support shall be based in each area.

Chapter 3 Product

3.1 Manufacturer

Manufacturer:
No.555 Qianmo Road, Binjiang District, Hangzhou 310051, China
Phone: +86-0571-8807-5998
Web: www.hikvision.com

3.2 Service Description

HikCentral Professional System Management Service

SYS maximum capacity for devices management and event handling:

1. Manages up to 2,048 resources, including Encoding Devices, Access Control Devices, Elevator Control Devices, Security Control Device, Digital Signage Terminal, and Remote Sites
2. Imports up to 100,000 video channels (Network Camera or analogue/TVI)
3. Manages up to 64 Recording Servers per SYS
4. Imports up to 3,000 alarm inputs/outputs respectively per SYS.

Service Manager: An application that manages the following Services

1. System Management Service is the core component of HikCentral Professional, providing authentication, permission granting, and management services. It authenticates the Control Client access, manages the users, roles, permissions and monitors devices, and provides the interface for third-party system integration. It includes the following service:
   a. 3rd Party Device Access Gateway: Communication between SYS and third-party device
   b. System Management Service
      - Provide the unified authentication service for connecting with the clients and servers
      - Provides the centralized management for the users, roles, permissions, devices, and services.
      - Provides the configuration interface for security and management module.
   c. Management Service
      - The content server and signaling gateway of HikCentral Professional
      - Mainly responsible for storage of static pages and reverse proxy of device configuration
   d. Streaming Gateway
      - A component of SYS which forwards and distributes the video and audio data
      - Shall support up to 200 video channels @ 2 Mbps input and 200 video channels @ 2 Mbps output. It is used for concurrent live view or playback
      - Shall not be added to the web client as Streaming Server
2. Keyboard Proxy Service

   a. Used with network keyboard to access the Keyboard Proxy Service
   b. Network keyboard can be used for the live view operations on the smart wall
3. Smart Wall Management Service
   a. Manage smart wall for displaying decoded video on smart wall
   b. Responds to Control Client's request and sends real-time messages to Control Client

3.3 Accessibility and Management Capabilities

1. Up to 100 simultaneous Client Devices (CDs) shall be able to connect using a thin or full client via a Windows-based PC and 100 via an App on a smart phone (iOS or Android). There is no licensable client software or client software connection licenses required
2. Shall support Active Directory integration for user management of Control Client and Mobile Apps (iOS and Android mobile operating systems)
3. Administration functions and operation functions are performed separately in the following clients:
   a. Web Client: All administration of SYS shall be performed using a web browser client via LAN, WAN or Internet. No client software is required for administration of the system
   b. Control Client: All security operator features shall be accessed through the Control Client connected to SYS via LAN, WAN, or Internet
   c. Mobile Client: Basic security operator features shall be accessed through the Mobile Client connected to SYS via LAN, WAN, or Internet
4. Shall support H.264, H.264+, H.265, and H.265+ encoding formats
5. Shall support SUP management of license to ensure smooth upgrade of HikCentral Professional
6. Shall support Downloading logs from the Service Manager
7. Shall support multi-time zone and DST

3.4 Network

Security Access

1. Shall have a built-in password protection not dependent on server
2. The System shall have User Authentication
3. Secure Activation
   a. A system algorithm shall check the user defined password for strength, based on the manufacturer’s criteria.
   b. System shall determine and display password security level as “weak”, “medium”, or “strong”.
   c. Password shall contain a minimum of two kinds of characters (lowercase letters, uppercase letters, numbers and special characters).
   d. Only ASCII characters shall be allowed.
   e. Password length shall be eight characters minimum.

3.5 PC Requirements

For HikCentral Professional Control Client

- Minimum PC: Intel® Core™ i7-9700k @ 3.60 GHz
- RAM: 16 GB
- Network: GbE network interface card
- Graphics Card: NVIDIA® GeForce GTX 970
- Hard Disk Type: SATA-II Hard Drive or better
- Hard Drive Capacity: 60 GB for OS and HikCentral Professional Control Client
- Other: Microsoft® Windows 10 (64-bit)

HikCentral Professional SYS without RSM

- Minimum PC: Intel® Core™ i5-8500 @3.0 GHz
- RAM: 8 GB
- Network: GbE network interface card
- Graphics Card: NVIDIA® GeForce® GTX
- Hard Disk Type: SATA-II 7200 RPM Enterprise Class HDD
- Hard Drive Capacity: 650 GB for the HDD where SYS service is installed
- Other: Microsoft® Windows 8.1 (64-bit)

For HikCentral Professional SYS with RSM

- Minimum PC: Intel® Xeon® E-2314 @2.80 GHz
- RAM: 16 GB
- Network: GbE network interface card
- Hard Disk Type: SATA-II 7200 RPM Enterprise Class HDD
- Hard Drive Capacity: 650 GB for the HDD where SYS is installed
- Other: Microsoft® Windows Server 2012 (R2) (64-bit)

For Streaming Server

- Minimum PC: Intel® Core™ i5-4590 @3.3 GHz
- RAM: 8 GB
- Network: GbE network interface card
- Hard Disk Type: SATA-II 7200 RPM Enterprise Class HDD
- Hard Drive Capacity: 10 GB for storing log files

3.6 Signal Flow

3.6.1 Login

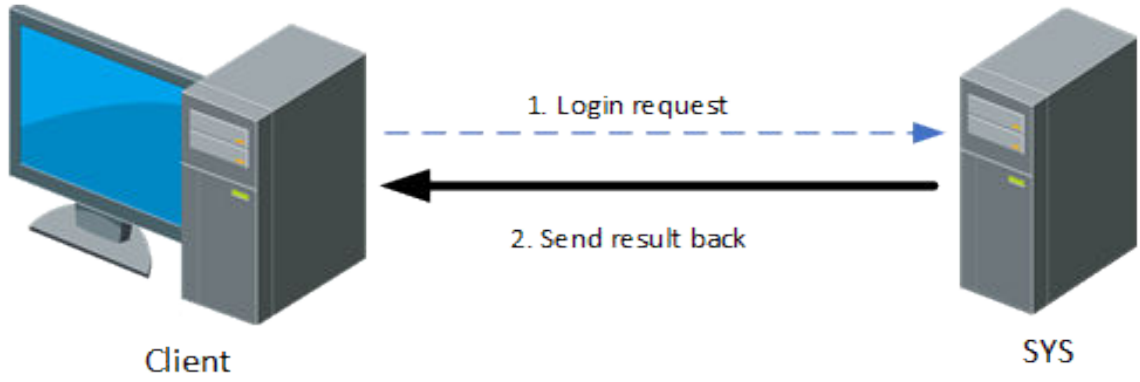


Figure 3-1 Login Flow

During the login, the signaling shall be exchanged between the client (Web Client/Control Client/ Mobile Client) and the SYS.

The signaling interaction process is as follows:

1. Enter the user name and password (domain name) on the client, which shall be sent to the SYS server.
2. The SYS shall receive the information, check whether the user name and password (domain name) are correct, and send the result to the client.

3.6.2 Live View

Live View for Directly Connected Device

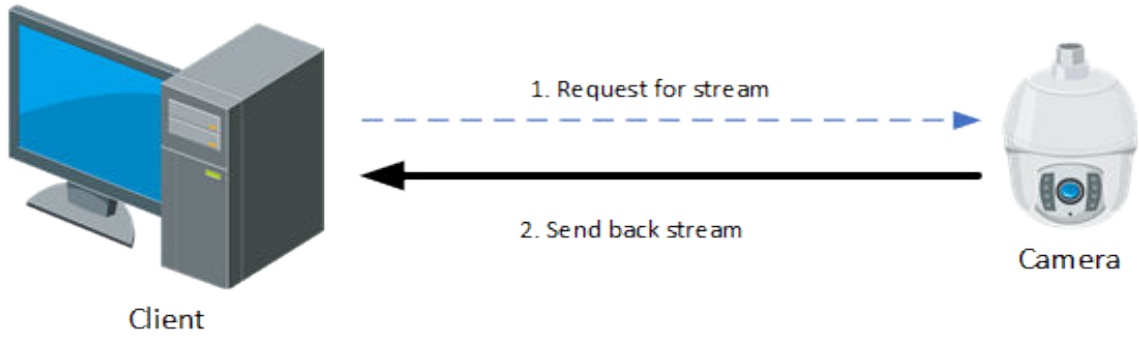


Figure 3-2 Flow of Live View for Directly Connected Device

If the SYS, devices, and the client are deployed in the same LAN network, the client can directly obtain the stream. The signaling process is as follows:

1. The client shall send a request to the device for obtaining the stream.
2. The device shall send back the corresponding stream to the client.

Live View via Streaming Server

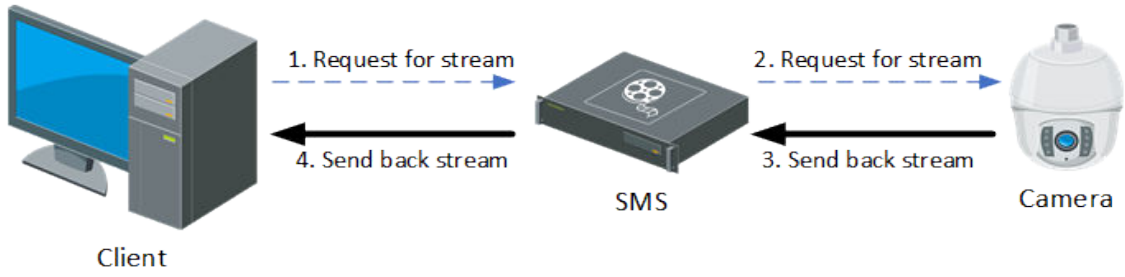


Figure 3-3 Flow of Live View via Streaming Server

In the following situations, the SMS (Streaming Server) shall be deployed:
The client shall obtain streams from third-party devices.
Multiple clients shall request the same stream from the same device. To reduce the bandwidth for obtaining the stream, the stream shall be forwarded via SMS to solve this problem.
The signaling process is as follows:

1. The client shall send a request to the SMS for obtaining the stream.
2. The SMS shall forward the request to the device for obtaining the stream.
3. The device shall send back the corresponding stream to the SMS.
4. The SMS shall forward the obtained stream to the client.

Live View via VSM Server

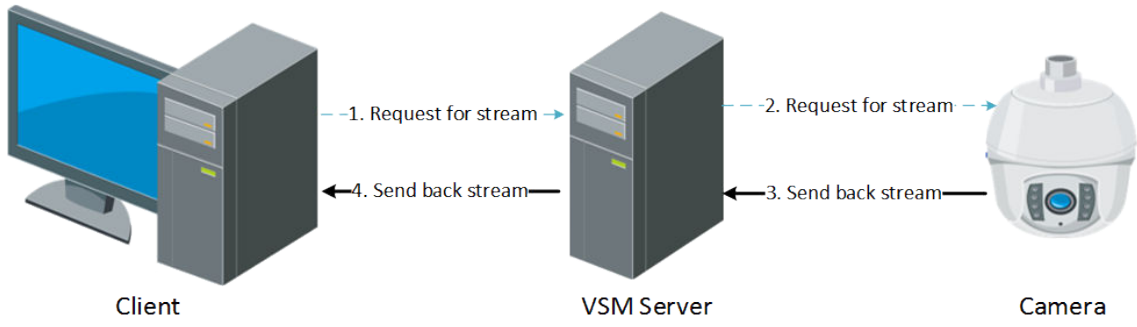


Figure 3-4 Flow of Live View via VSM Server

The signaling process is as follows:

1. The client shall send a request to the VSM Server for obtaining the stream.
2. The VSM Sever shall forward the request to the device for obtaining the stream.

3. The device shall send back the corresponding stream to the VSM Server.
4. The VSM Server shall forward the obtained stream to the client.

PTZ Control

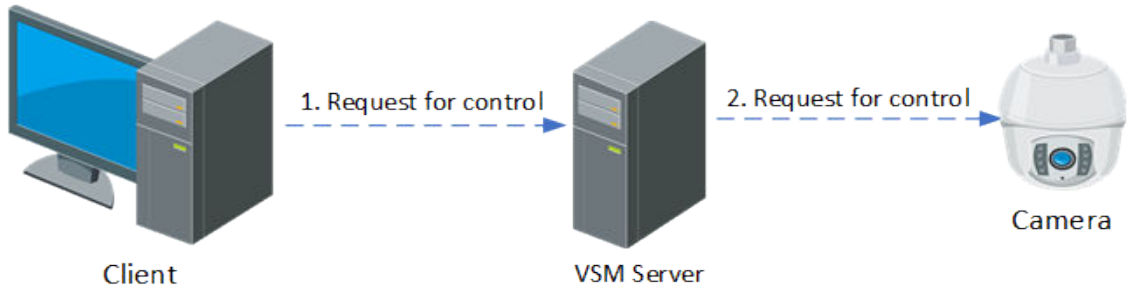


Figure 3-5 Flow of PTZ Control

The platform shall control the PTZ camera via the SYS.
The signaling process is as follows:

1. The client shall send a request to the SYS to control the PTZ camera.
2. The SYS shall forward the request to the corresponding device for PTZ control.

3.6.3 Video Storage and Playback

Device storage and playback shall include: video stream storage, video file retrieval and playback.

Video Storage in NVR/DVR

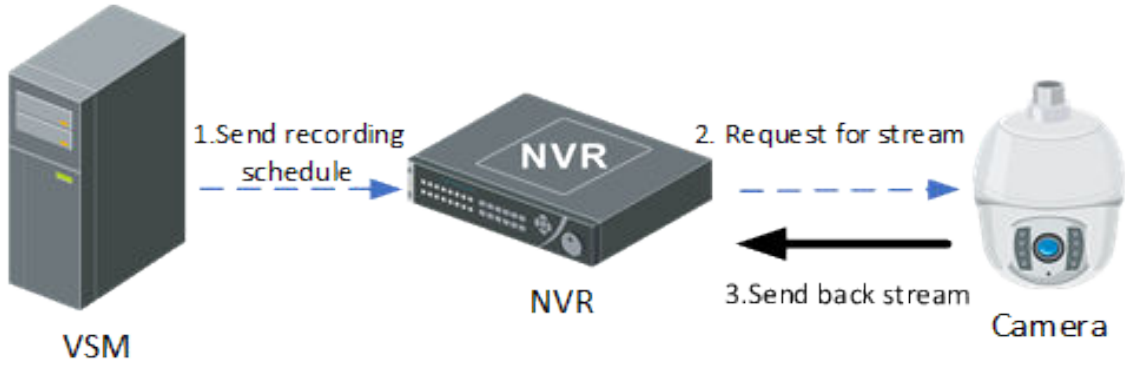


Figure 3-6 Flow of Video Storage in NVR/DVR

As shown in the figure above, the signaling process is as follows:

1. The SYS shall send the recording schedule (event-based recording schedule and time-based recording schedule) to the NVR.
2. When the recording schedule condition is met (within the time segment or an event is triggered), the NVR shall send a request to the camera for obtaining the stream.
3. The camera shall send back the corresponding stream to the NVR.

Note

When manual recording is performed on the Control Client, the preceding steps shall be triggered manually, but not triggered by recording schedule.

Video Storage in Recording Server

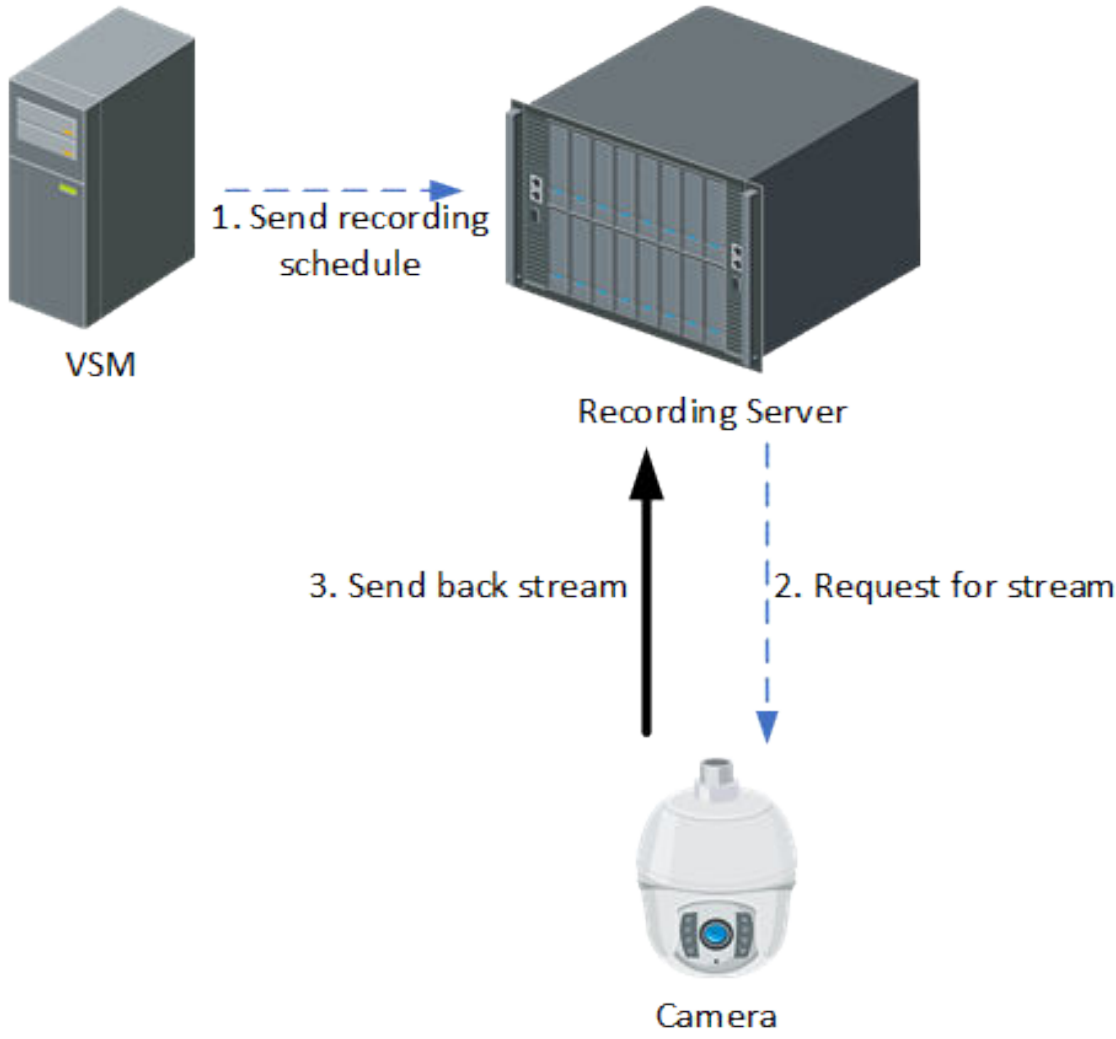


Figure 3-7 Flow of Video Storage in Recording Server

Recording Servers shall include: Hybrid SAN, cloud storage, and pStor. If the video is stored on the recording server, the signaling process is as follows:

1. The SYS shall send the recording schedule (time-based recording schedule and event-based recording schedule) to the Recording Server.
2. The Recording Server shall send a request to the camera for obtaining the stream according to the recording schedule.
3. The camera shall send back the corresponding stream to the recording server according to the request.

Note

When manual recording is performed on the Control Client, the preceding steps shall be triggered manually, but not triggered by recording schedule.

Playback of Video in NVR/DVR

There are two modes for playing back video in NVR/DVR: The client obtains the stream directly from the NVR/DVR, and the client obtains the stream from the NVR/DVR via SMS. The signaling processes are as follows:

1. Playback of Video in Directly Connected NVR/DVR

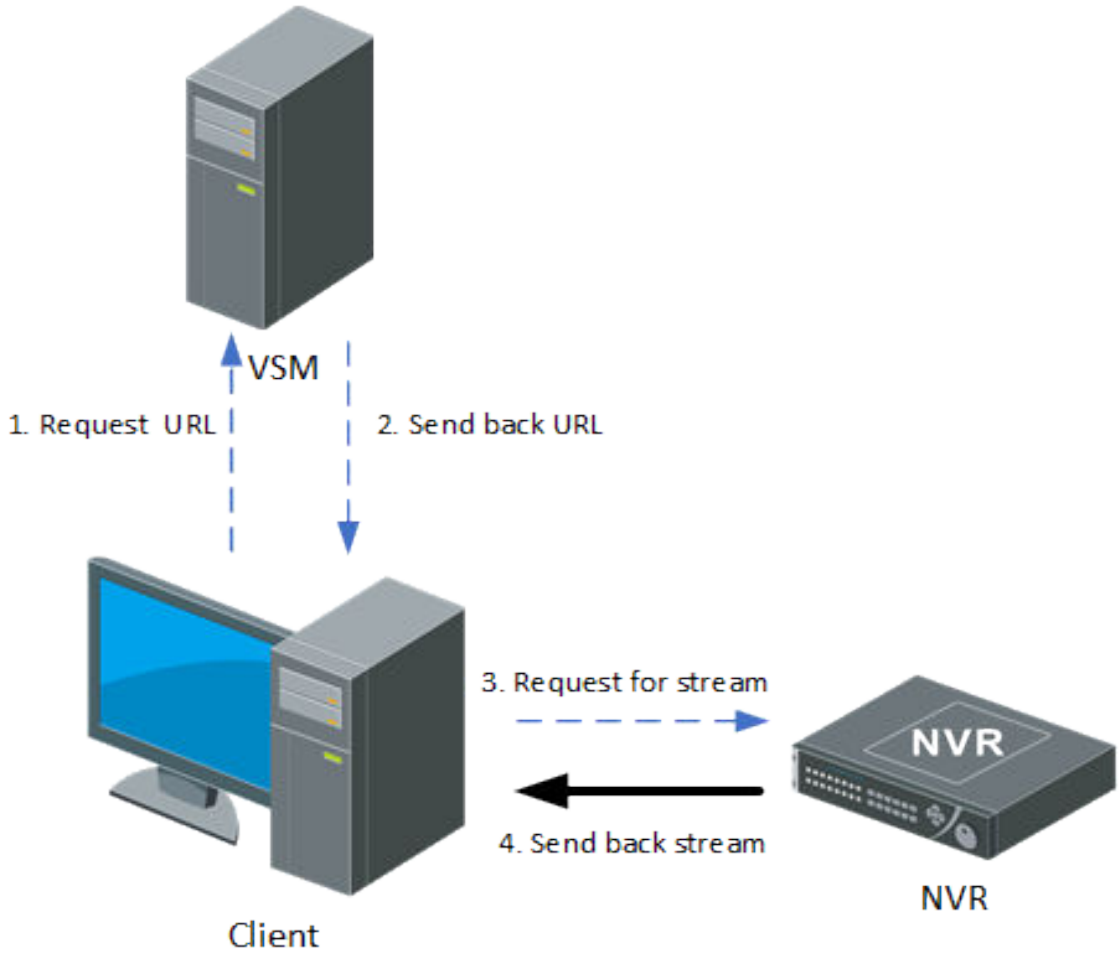


Figure 3-8 Flow of Playing Back Video Stored in Directly Connected NVR/DVR

a. The client shall send a request to the SYS server for obtaining the stream URL.
b. The SYS shall send back the stream URL to the client.
c. The client shall send a request to the NVR for obtaining the stream.
d. The NVR shall send back the corresponding stream to the client according to the request.

2. Playback of Video in NVR/DVR via Streaming Server

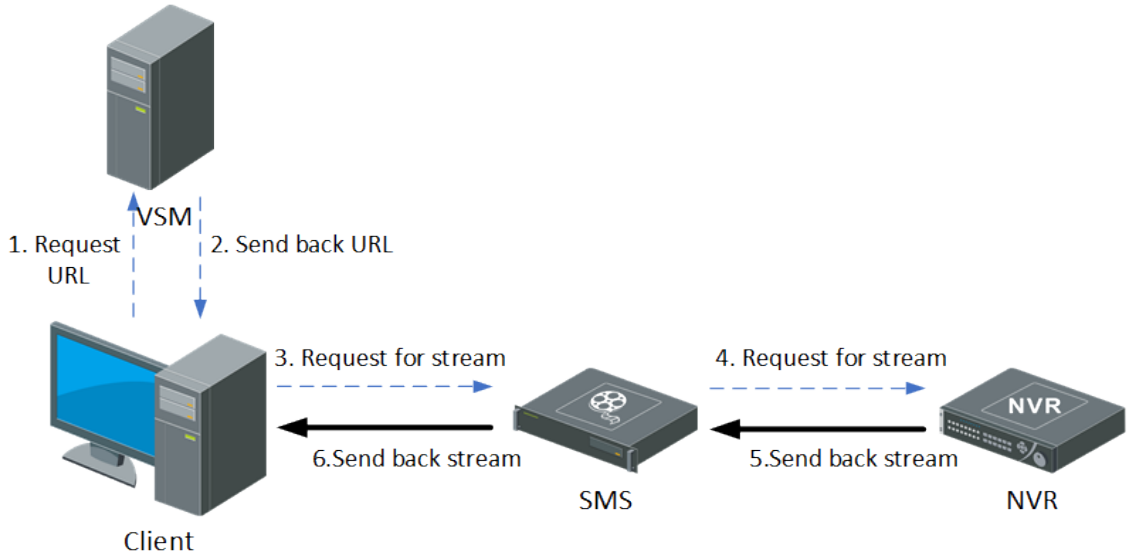


Figure 3-9 Flow of Playing Back Video Stored in NVR/DVR via Streaming Server

a. The client shall send a request to the SYS for obtaining the stream URL.
b. The SYS shall send back the stream URL to the client.
c. The client shall send a request to the SMS (Streaming Server) for obtaining the stream.
d. The SMS shall forward the request to the NVR for obtaining the stream.
e. The NVR shall send back the corresponding stream to the SMS according to the request.
f. The SMS shall forward the corresponding stream to the client.

Playback of Video in Recording Sever

1. Playback of Video in Directly Connected Recording Server

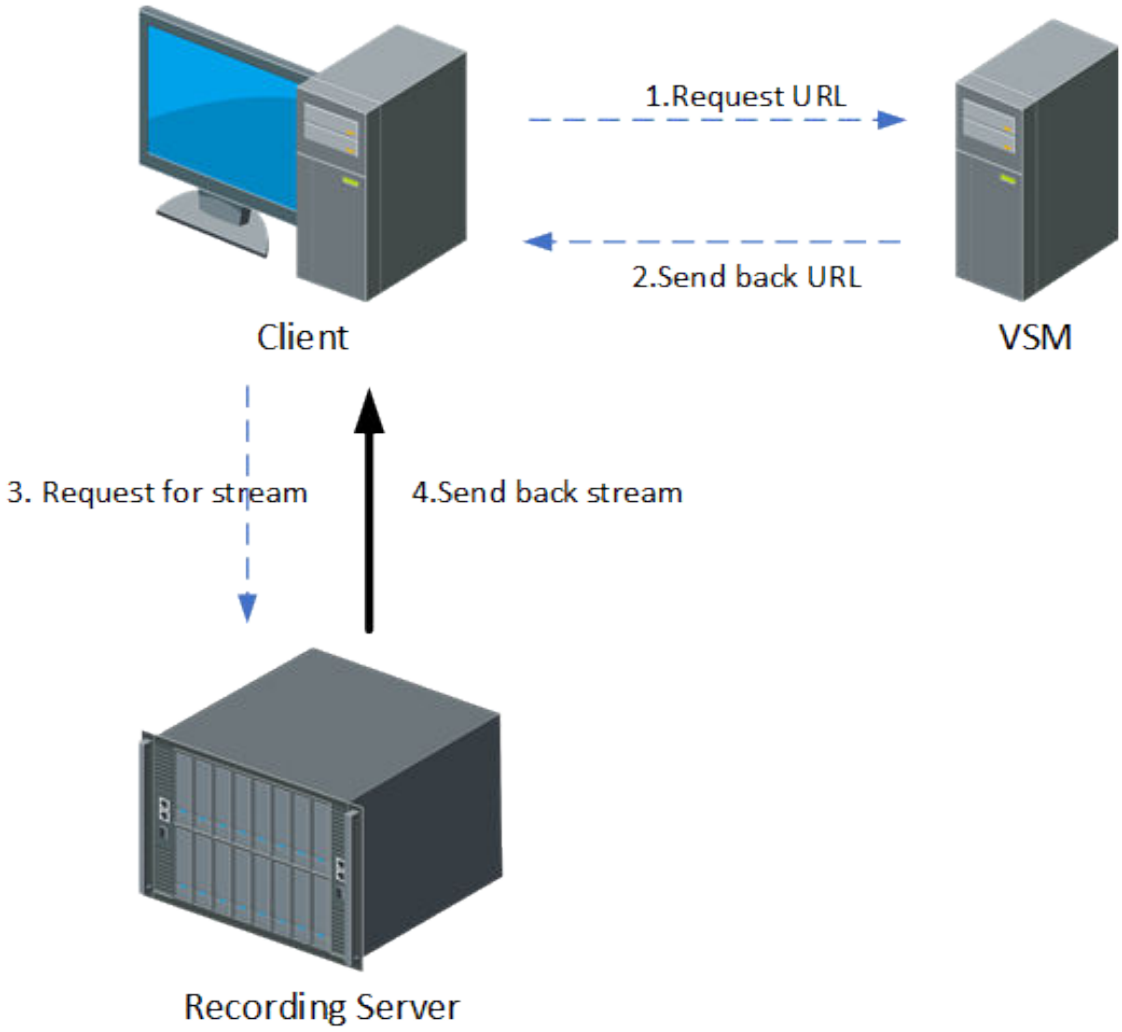


Figure 3-10 Flow of Playing Back Video Stored in Directly Connected Recording Server

a. The client shall send a request to the SYS for obtaining the stream URL.
b. The SYS shall send back the stream URL to the client.
c. The client shall send a request to the recording server for obtaining the stream.
d. The recording server shall send back the corresponding stream to the client according to the request.

2. Playback of Videos in Recording Server via Streaming Server

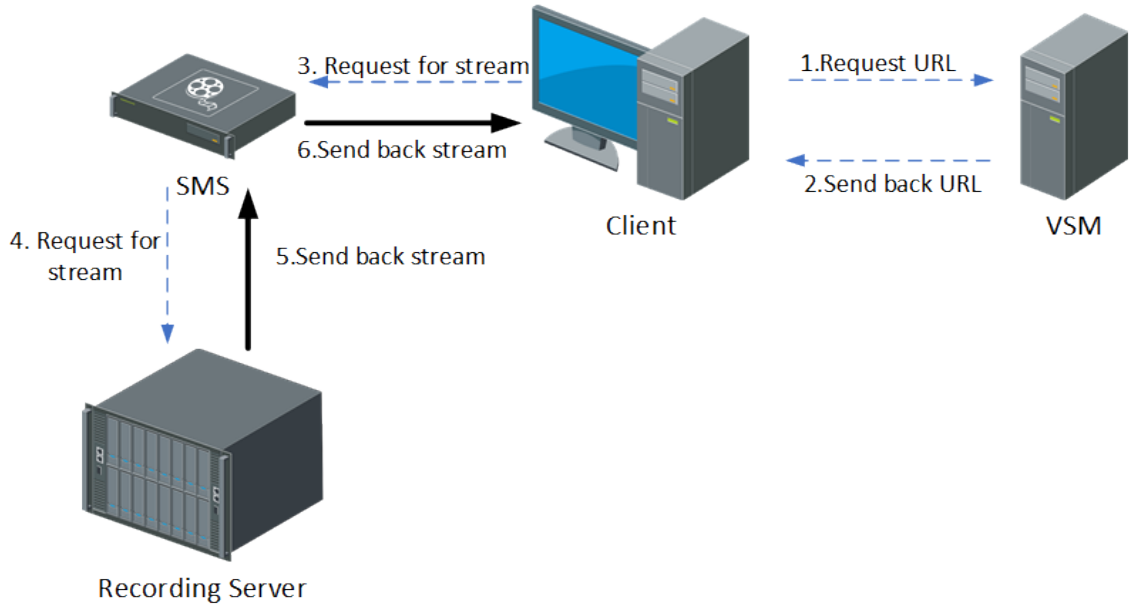


Figure 3-11 Flow of Playing Back Video Stored in Recording Server via Streaming Server

a. The client shall send a request to the SYS for obtaining the stream URL.
b. The SYS shall send back the stream URL to the client.
c. The client shall send a request to SMS for obtaining the stream.
d. The SMS shall forward the request to the Recording Server for obtaining the stream.
e. The Recording Server shall send back the corresponding stream to the SMS according to request.
f. The SMS shall forward the corresponding stream to the client.

3.6.4 Alarm

When an alarm is triggered, there are two modes for the Control Client to obtain the alarm related stream from the device: Obtain the stream via directly connected device and obtain the stream via SMS. The signaling processes are as follows:

Obtain Alarm Related Stream Directly

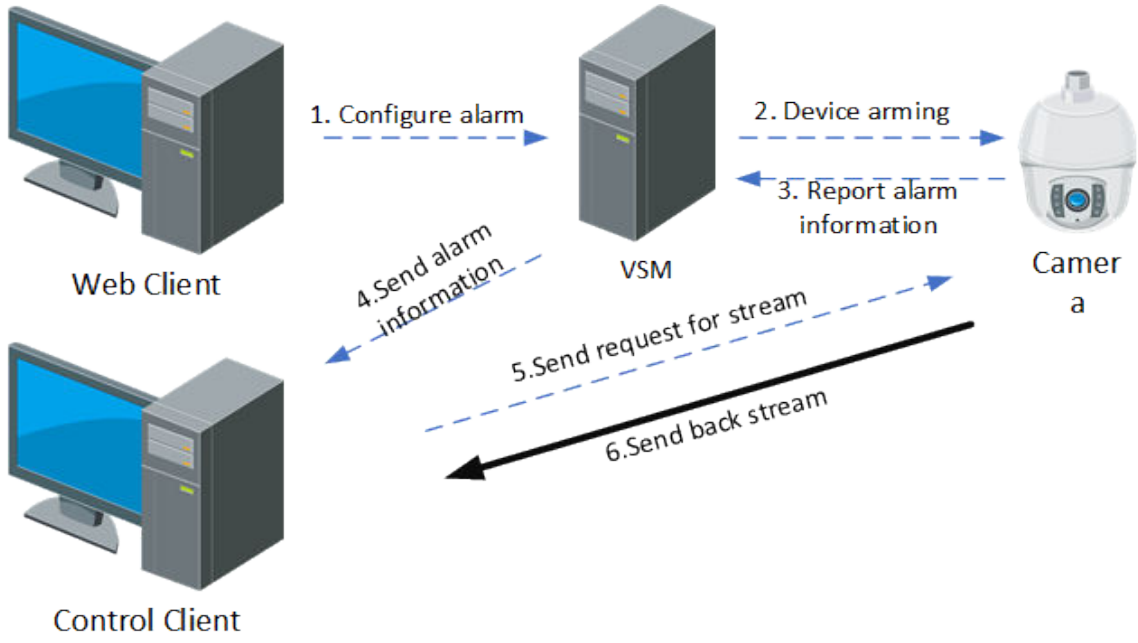


Figure 3-12 Flow of Obtaining Alarm Related Stream Directly

The process of alarm configuration is as follows:

1. Configure alarm via the Web Client, and the alarm configuration shall be sent to the SYS.
2. The device shall be armed by the SYS according the arming schedule.

The process of reporting an alarm is as follows:

1. The device shall analyze the obtained stream. If an alarm is triggered, the device shall report the alarm to the SYS.
2. The SYS shall send the alarm information to the Control Client.
3. If the linkage of live view for the alarm is configured, the Control Client shall send a request to the device for obtaining the stream.
4. The device shall send back the corresponding stream to the Control Client according to the request.

Obtain Alarm Related Stream via Streaming Server

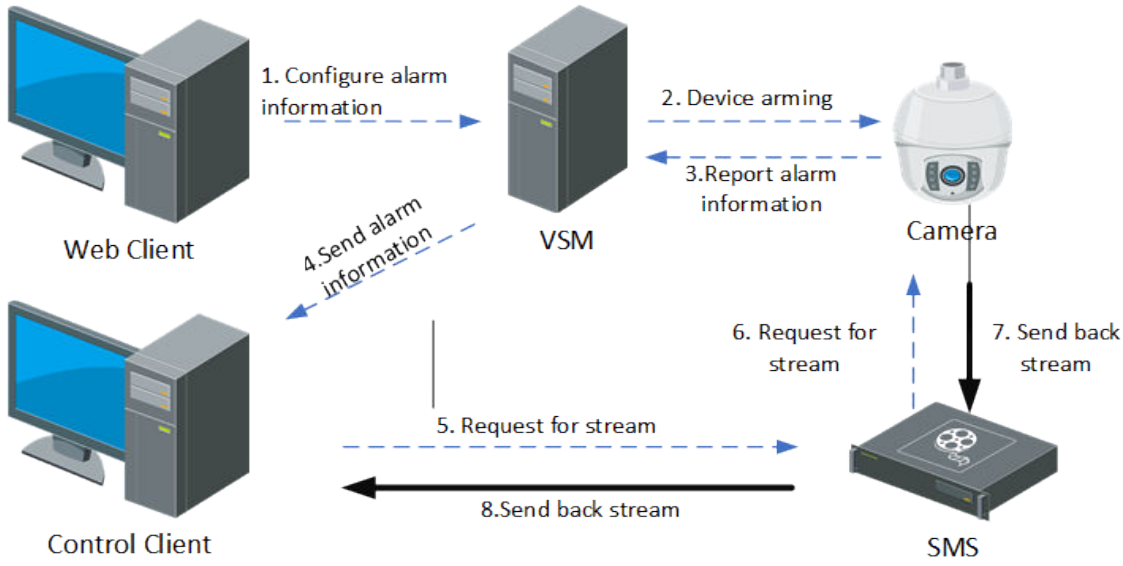


Figure 3-13 Flow of Obtaining Alarm Related Stream via Streaming Server

The process of alarm configuration is as follows:

1. Configure the alarm via the Web Client, and the alarm configuration shall be sent to the SYS.
2. The device shall be armed by the SYS according the arming schedule.

The process of reporting an alarm is as follows:

1. The device shall analyze the obtained stream. If an alarm is triggered, the device shall report an alarm to the SYS.
2. The SYS shall send the alarm information to the Control Client.
3. If the linkage of live view or playback for the alarm is configured, the Control Client shall send a request to the SMS for obtaining the stream.
4. The SMS shall forward the request to the camera for obtaining the stream.
5. The camera shall send back the corresponding stream to the SMS according to the request.
6. The SMS shall forward the stream to the Control Client.

3.6.5 Smart Wall

Display Video on Smart Wall

1. Display Video of Directly Connected Device on Smart Wall

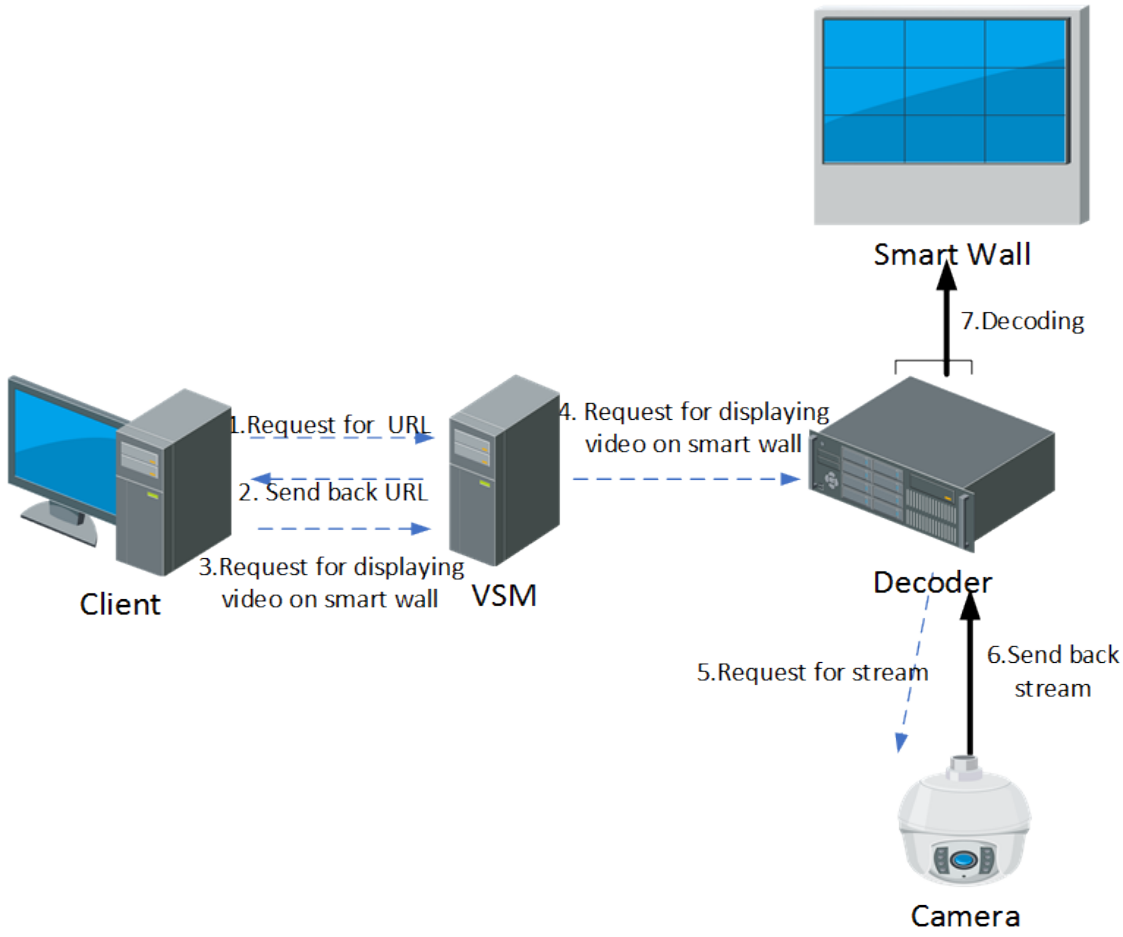


Figure 3-14 Flow of Displaying Video of Directly Connected Device on Smart Wall

When the decoder obtains the stream directly from the device, the signaling process is as follows:

a. The Smart Wall Client shall send a request to the SYS for obtaining the URL information (including the smart wall information and device information).
b. The SYS shall send back the URL information to the Smart Wall Client.
c. The Smart Wall Client shall send a request to the SYS to display the video on the smart wall.
d. The SYS shall forward the request to the decoder to display the video on the smart wall.
e. The decoder shall send a request to the device for obtaining the stream.
f. The device shall send back the corresponding stream to the decoder.
g. The decoder shall decode the obtained stream and display the video on the smart wall.

2. Display Video on Smart Wall via Streaming Server

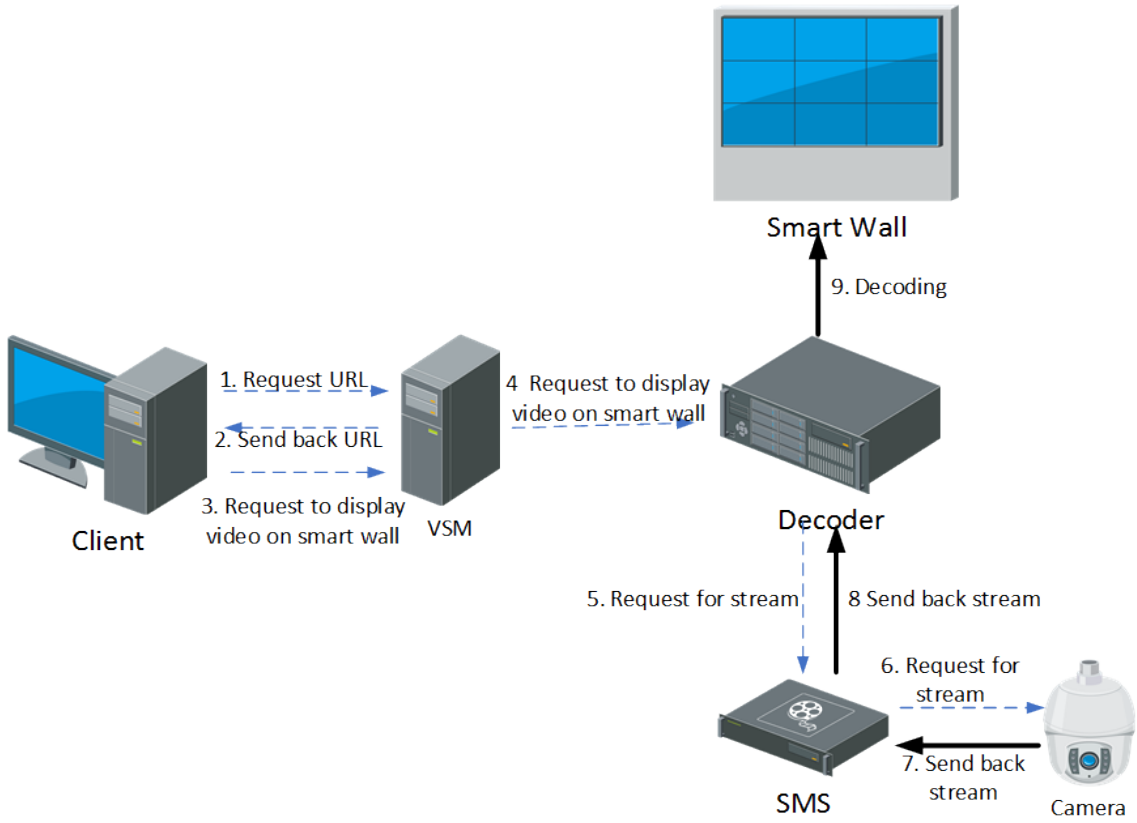


Figure 3-15 Flow of Displaying Video on Smart Wall via Streaming Server

If the decoder obtains the stream via SMS, the signaling process is as follows:

a. The Smart Wall Client shall send a request to the SYS for obtaining the URL information (including the smart wall information and device information).
b. The SYS shall send back the URL information to the Smart Wall Client.
c. The Smart Wall Client shall send a request to the SYS to display the video on the smart wall.
d. The SYS shall forward the request to the decoder to display the video on the smart wall.
e. The decoder shall send a request to the SMS (Streaming Server) for obtaining the stream.
f. The SMS shall forward the request to the device for obtaining the stream.
g. The device shall send back the corresponding stream to the SMS.
h. The SMS shall forward the stream to the decoder.
i. The decoder shall decode the obtained stream and display the video on the smart wall.

Display Alarm Video on Smart Wall

1. Display Alarm Video of Directly Connected Device on Smart Wall

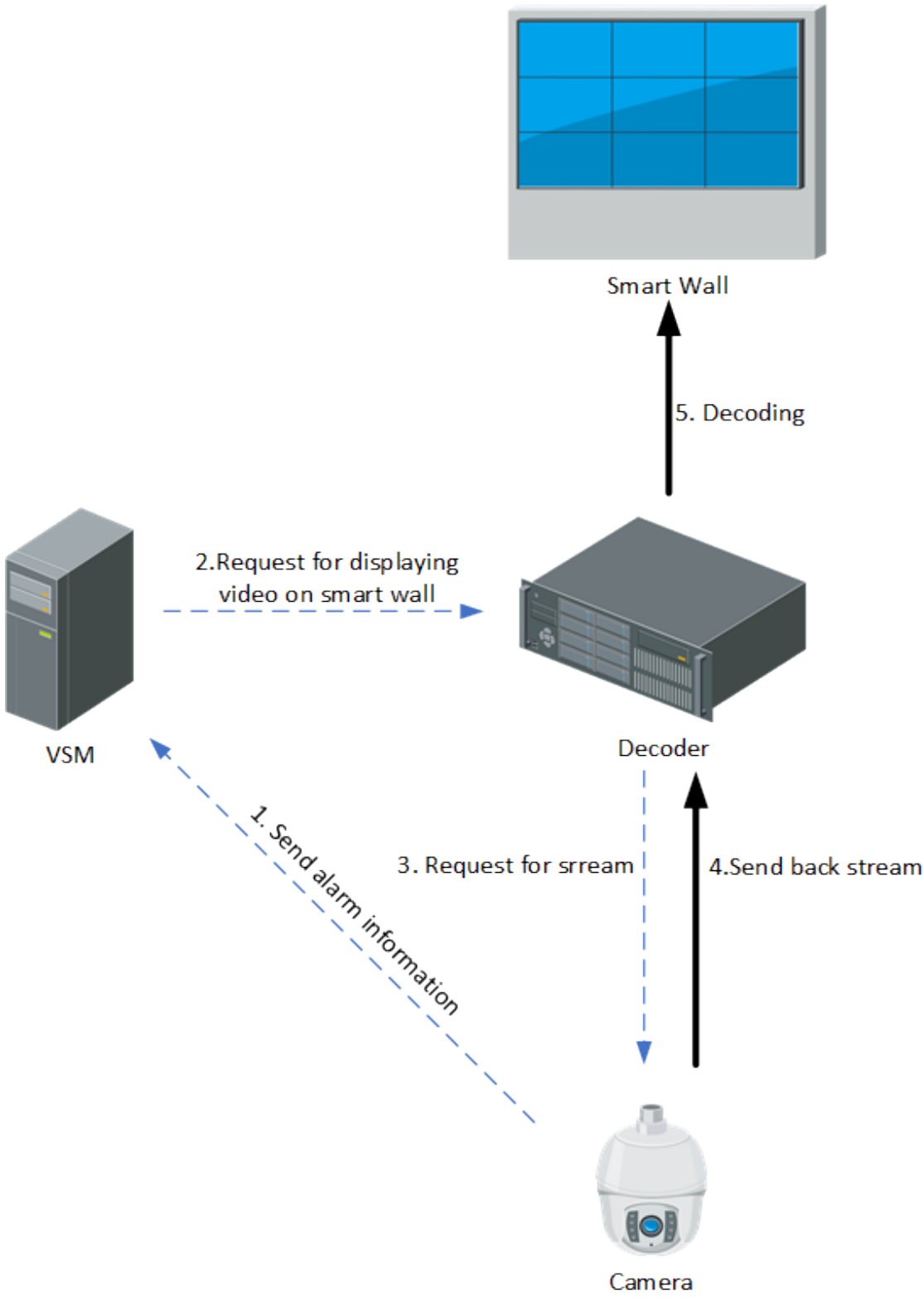


Figure 3-16 Flow of Displaying Alarm Video of Directly Connected Device on Smart Wall

The process of displaying alarm video of directly connected device on smart wall is as follows:

a. The camera shall analyze the obtained streams. If an alarm is triggered, the camera shall send the alarm to the SYS.
b. According to the alarm, the SYS shall estimate whether the video of the camera need to be displayed on the smart wall. If yes, the SYS shall send a request to the decoder to display video on smart wall.
c. The decoder shall send a request to the corresponding camera for obtaining the alarm video stream.
d. The camera shall send back the stream according to the corresponding request.
e. The decoder shall decode the obtained stream and displays the video on the smart wall.

2. Display Alarm Video on Smart Wall via Streaming Server

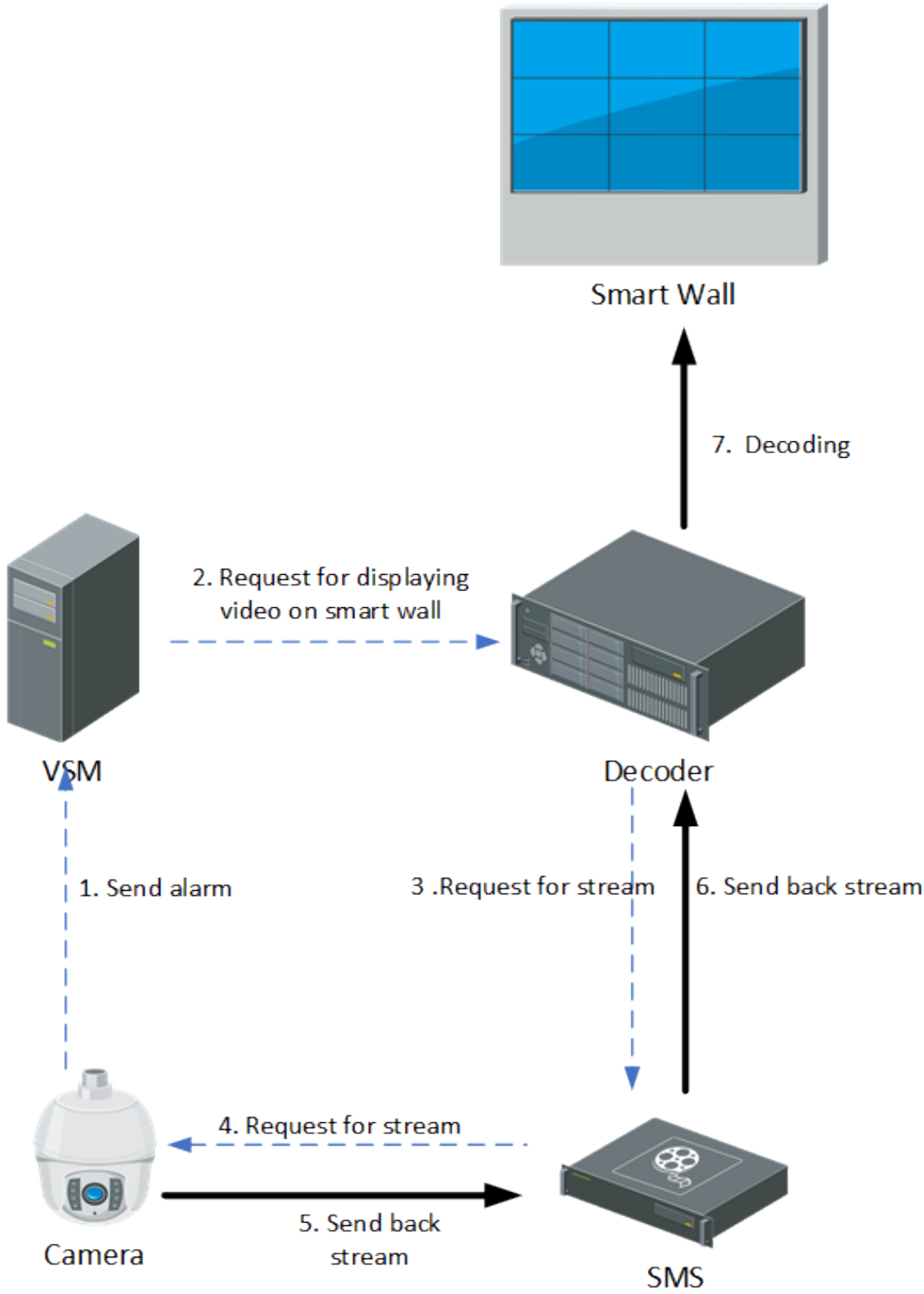


Figure 3-17 Flow of Displaying Alarm Video on Smart Wall via Streaming Server

The process of displaying alarm video of device on smart wall via SMS is as follows:

a. The camera shall analyze the obtained streams. If an alarm is triggered, the camera shall send the alarm to the SYS.
b. According to the alarm, the SYS shall estimate whether the video of the camera need to be displayed on the smart wall. If yes, the SYS shall send a request to the decoder to display video on smart wall.
c. The decoder shall send a request to the SMS (Streaming Server) for obtaining the stream.
d. The SMS shall forward the request to the corresponding camera for obtaining the stream.
e. The camera shall send back the stream to the SMS according to the corresponding request.
f. The SMS shall forward the obtained streams to the decoder.
g. The decoder shall decode the obtained stream and display the video on the smart wall.

Display Video Controlled by Keyboard on Smart Wall

1. Display Video of Directly Connected Device Controlled by Keyboard on Smart Wall

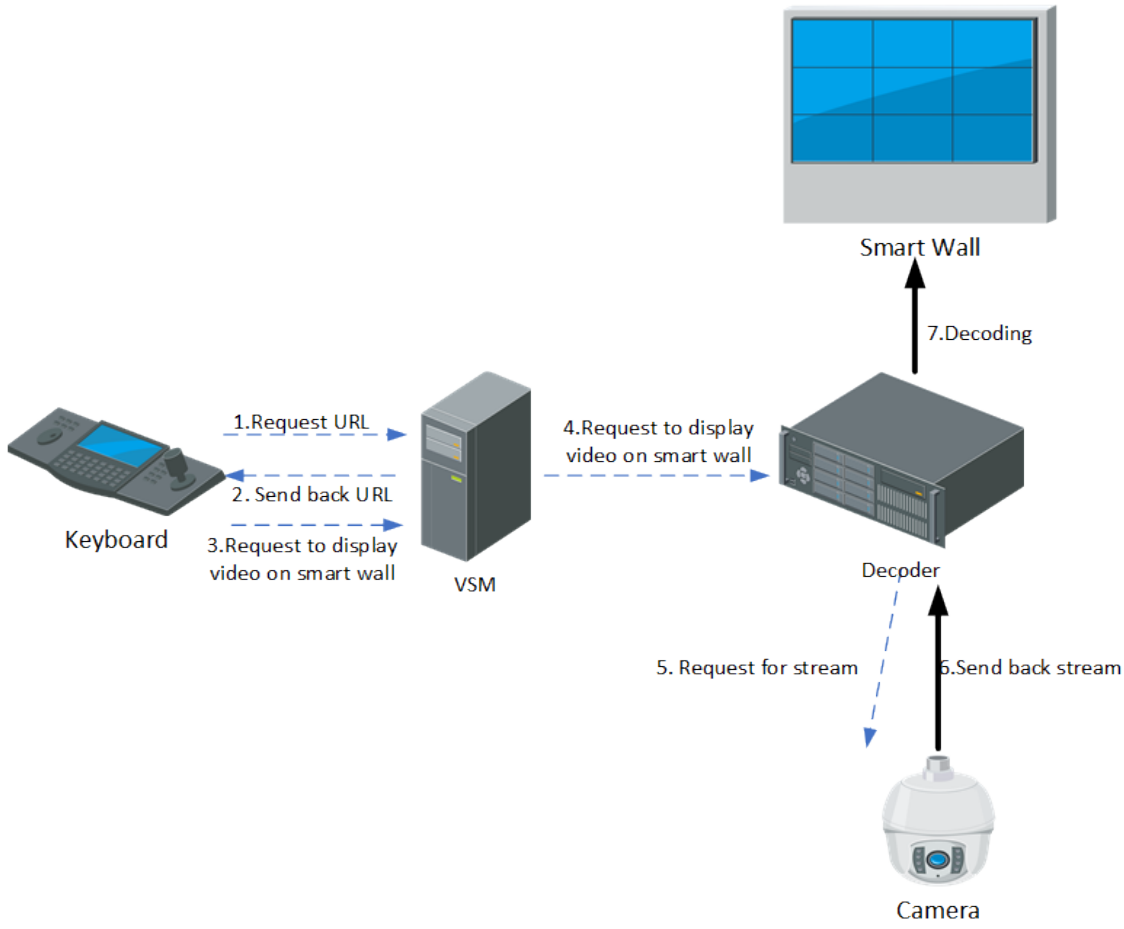


Figure 3-18 Flow of Displaying Video of Directly Connected Device Controlled by Keyboard on Smart Wall

If the decoder obtains the stream directly from the device, the signaling process is as follows:

a. The keyboard shall send a request to the SYS for obtaining the URL information (including the smart wall information and device information).
b. The SYS shall send back the URL information to the keyboard.
c. The keyboard shall send a request to the SYS to display the video on the smart wall.
d. The SYS shall forward the request to the decoder to display the video on the smart wall.
e. The decoder shall send a request to the device for obtaining the stream.
f. The device shall send back the corresponding stream to the decoder.
g. The decoder shall decode the obtained stream and display the video on the smart wall.

2. Display Video Controlled by Keyboard on Smart Wall via Streaming Server

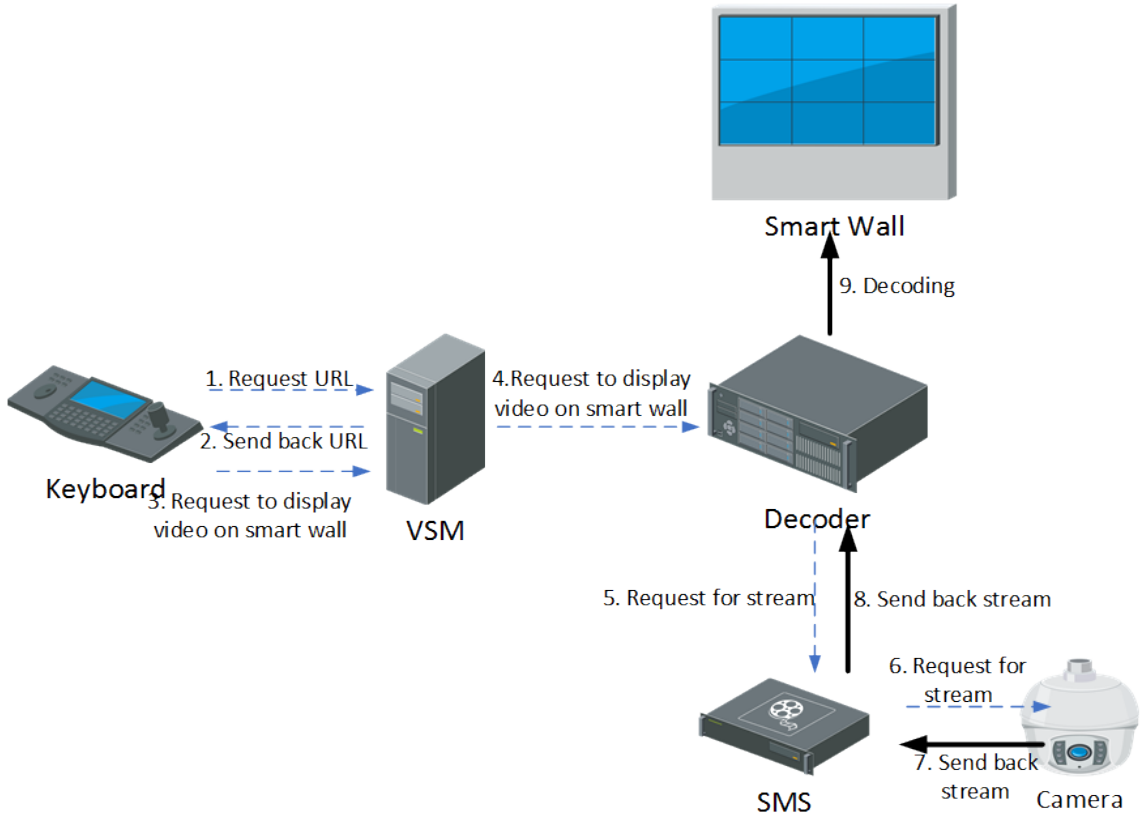


Figure 3-19 Flow of Displaying Video Controlled by Keyboard on Smart Wall via Streaming Server

If the decoder obtains the stream via SMS, the signaling process is as follows:

a. The keyboard shall send a request to the SYS for obtaining the URL information (including the smart wall information and device information).
b. The SYS shall send back the URL information to the Smart Wall Client.
c. The keyboard shall send a request to the SYS to display the video on the smart wall.
d. The SYS shall forward the request to the decoder to display the video on the smart wall.
e. The decoder shall send a request to the SMS (Streaming Server) for obtaining the stream.
f. The SMS shall forward the request to the device for obtaining the stream.
g. The device shall send back the corresponding stream to the SMS.

h. The SMS shall forward the stream to the decoder.
i. The decoder shall decode the obtained stream and display the video on the smart wall.

Display Video on Smart Wall (Graphic Card)

1. Display Video of Directly Connected Device on Smart Wall (Graphic Card)

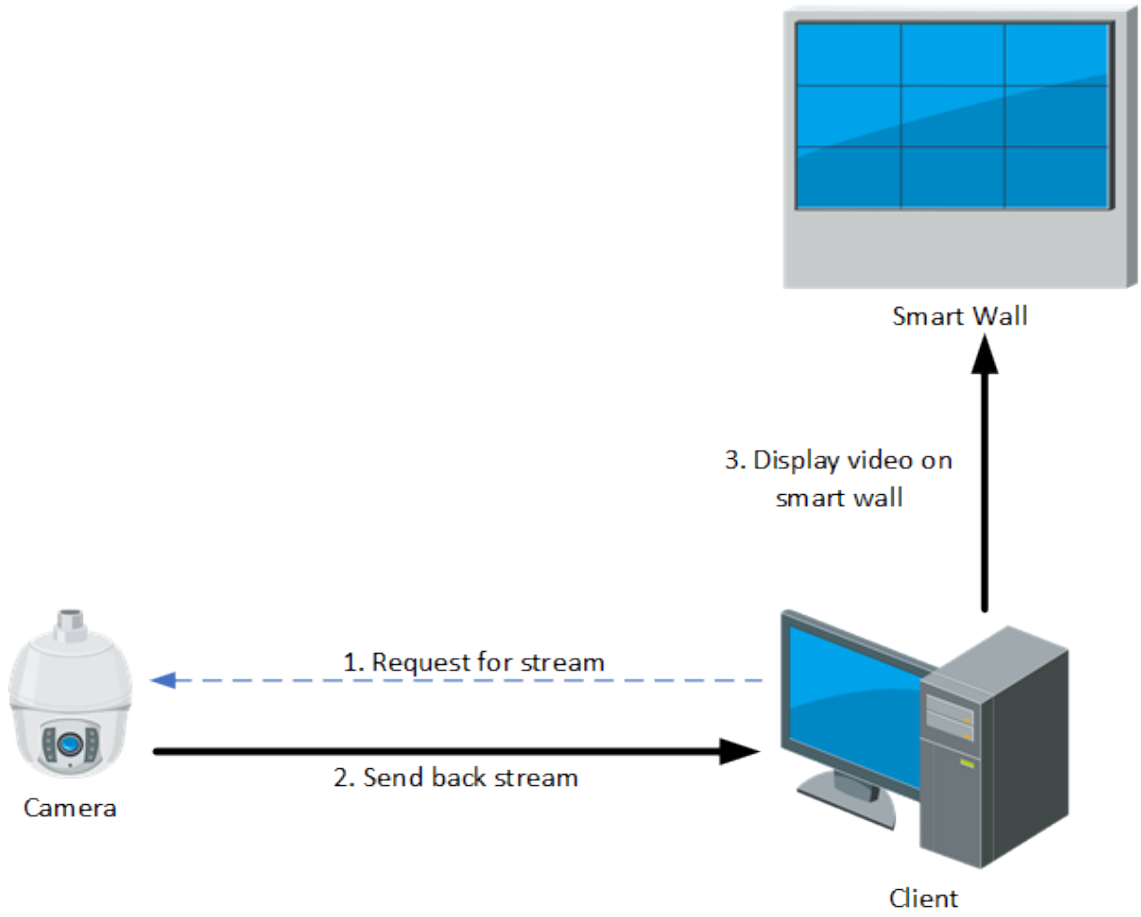


Figure 3-20 Flow of Displaying Video of Directly Connected Device on Smart Wall (Graphic Card)

a. The client shall send a request to the camera for obtaining the stream.
b. The camera shall send back the corresponding stream to the client.
c. The client shall send the stream to display on the Smart Wall (Graphic Card).

2. Display Video on Smart Wall (Graphic Card) via Streaming Server

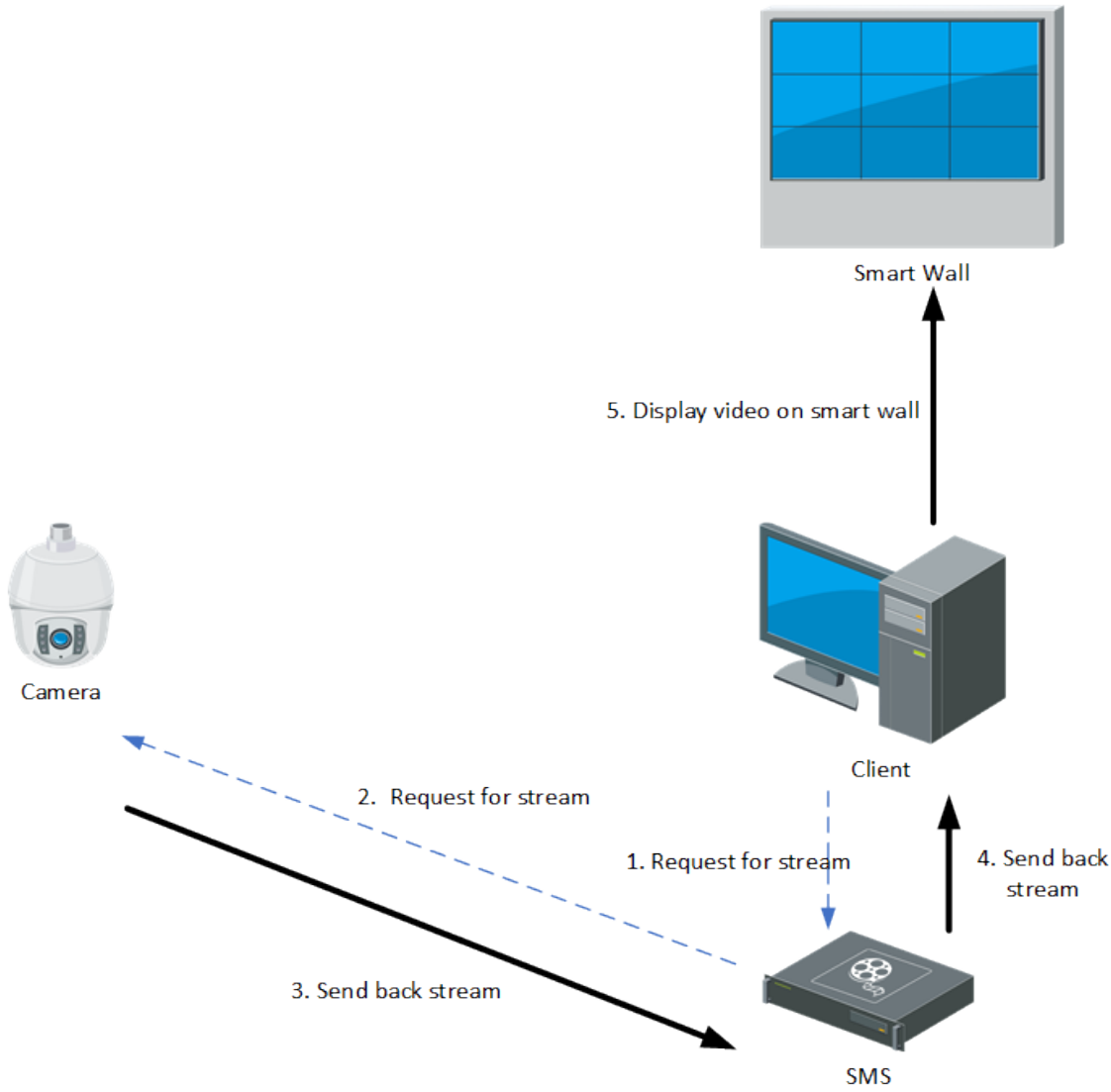


Figure 3-21 Flow of Displaying Video on Smart Wall (Graphic Card) via Streaming Server

a. The client shall send a request to the SMS (Streaming Server) for obtaining the stream.
b. The SMS shall forward the request to the camera for obtaining the stream.
c. The camera shall send back the corresponding stream to the SMS.
d. The SMS shall forward the obtained stream to the client.
e. The Client shall send the stream to display on the Smart Wall (Graphic Card).

3.6.6 Access Control

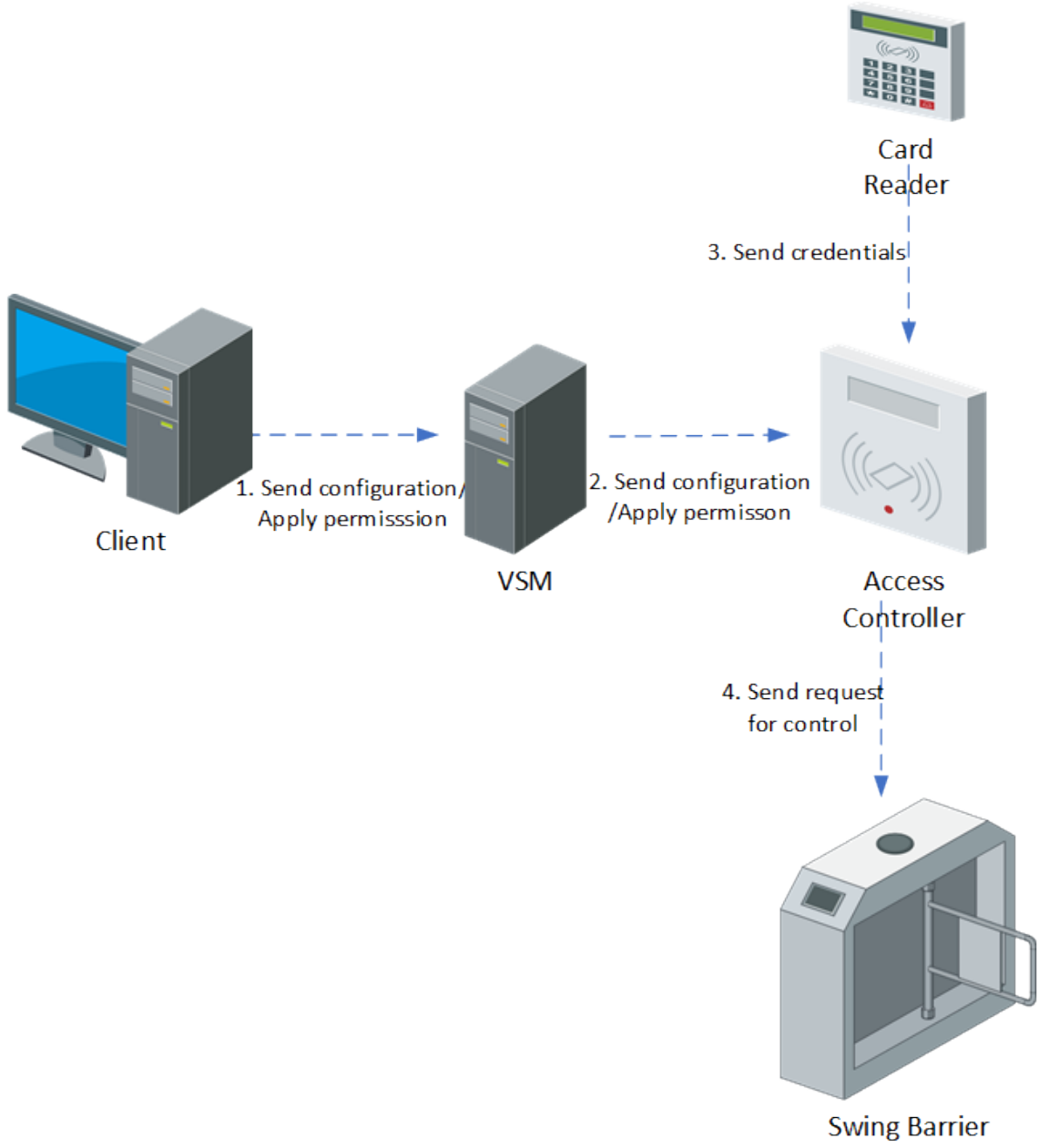


Figure 3-22 Access Control Flow

The signaling process of access control and management is as follows:

1. The Web Client shall send an access control configuration command (including personnel permission, device configuration and event configuration) to the SYS.
2. The SY shall send the configuration command to the device.

3. The card reader shall obtain the corresponding instruction, and send the credential information to the access controller.
4. The access controller shall send the control request to the swing barrier according to the obtained instruction to control the switch status of the swing barrier.

3.6.7 ANPR

View Pictures Captured by ANPR Camera

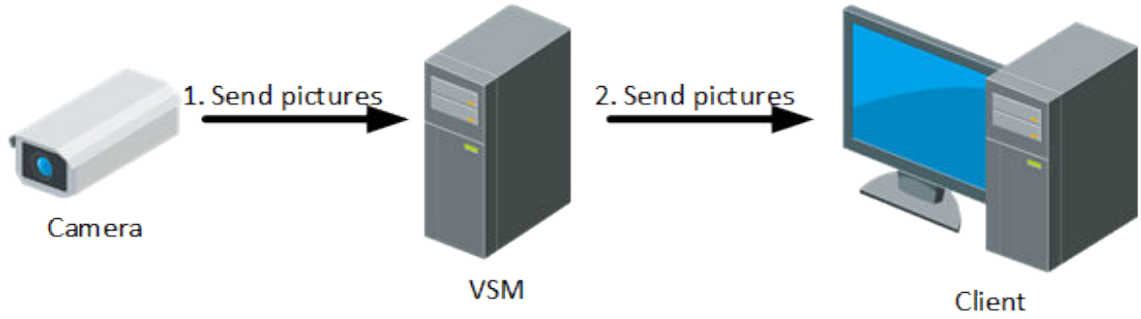


Figure 3-23 Flow of Viewing Pictures Captured by ANPR Camera

According to the settings of the platform, the pictures can be stored in the SYS locally or in the picture storage server.

If the picture is stored in the SYS, the signaling process is as follows:

1. The ANPR camera shall capture the picture, and uploads the picture to the SYS.
2. The SYS shall send the obtained picture to the Control Client for display.

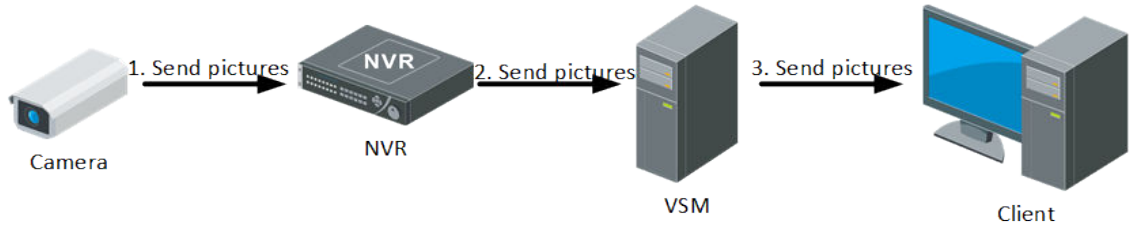


Figure 3-24 Flow of Viewing Pictures Stored in Recording Server and Captured by ANPR Camera

If the picture is stored in the picture storage server (e.g. NVR), the signaling process is as follows:

1. The ANPR camera shall capture the picture, and uploads the picture to the NVR.
2. The NVR shall send the obtained picture to the SYS.
3. The SYS shall send the obtained picture to the Control Client for display.

Retrieval Pictures Stored in SYS

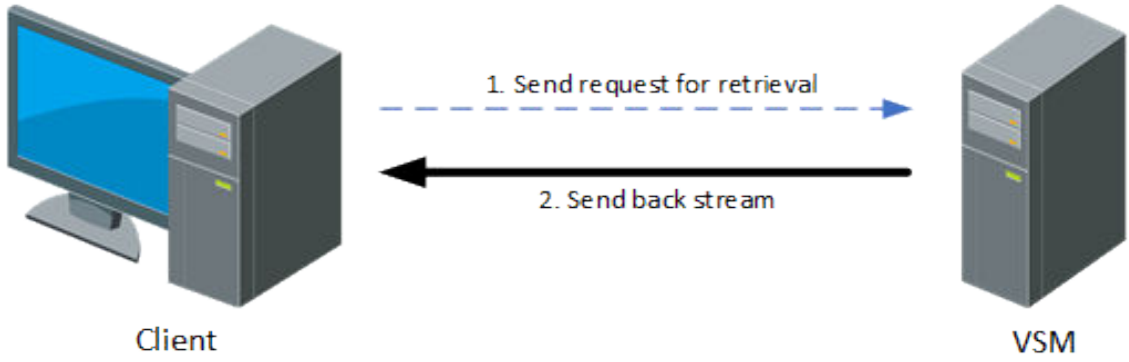


Figure 3-25 Flow of Searching Pictures Stored in SYS

If the ANPR pictures is stored in the SYS, the signaling process of ANPR picture retrieval and display is as follows:

1. The Control Client shall send a picture retrieval instruction to the SYS.
2. The SYS shall search the required picture(s) and send back the result to the Control Client.

Retrieval Pictures Stored in NVR

1. Client and NVR are in the Same LAN

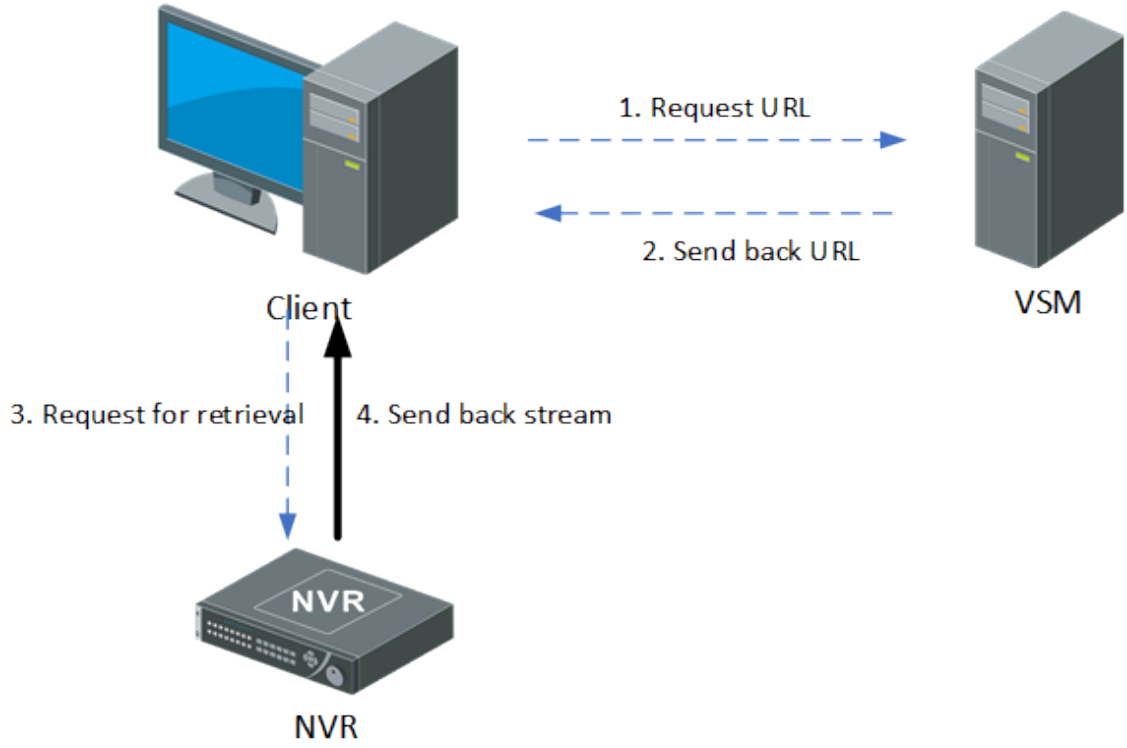


Figure 3-26 Flow of Searching Pictures Stored in NVR When Client and NVR are in Same LAN

If the video is stored in the NVR that is in the same network with the Control Client, the process of obtaining the pictures captured by ANPR cameras is as follows:

a. The Control Client shall send a request to the SYS for obtaining the NVR URL information.
b. The SYS shall send the corresponding URL information to the Control Client.
c. According to the obtained URL information, the Control Client shall send an instruction to the NVR for obtaining the pictures captured by ANPR camera.
d. The NVR shall send back the corresponding pictures to the Control Client according to the obtained instruction.

2. Client and NVR are in Different LANs

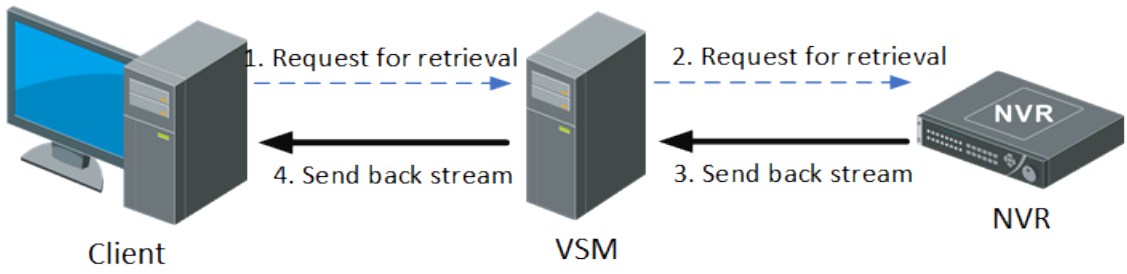


Figure 3-27 Flow of Searching Pictures Stored in NVR When Client and NVR are in Different LANs

If the video is stored in the NVR that is not in the same network with the Control Client, the process of obtaining the pictures captured by ANPR cameras is as follows:

a. The Control Client shall send a request to the SYS for picture retrieval.
b. The SYS shall send the retrieval request to the NVR.
c. The NVR shall send back the picture captured by ANPR camera to SYS according to the request.
d. The SYS shall forward the obtained picture to the Control Client according to the actual instruction.

3.6.8 Mobile Client

Live View

The Mobile Client, like other clients, shall belong to the HikCentral Professional client. Therefore, the process of obtaining streams is the same as that of other clients.

1. Live View for Directly Connected Device

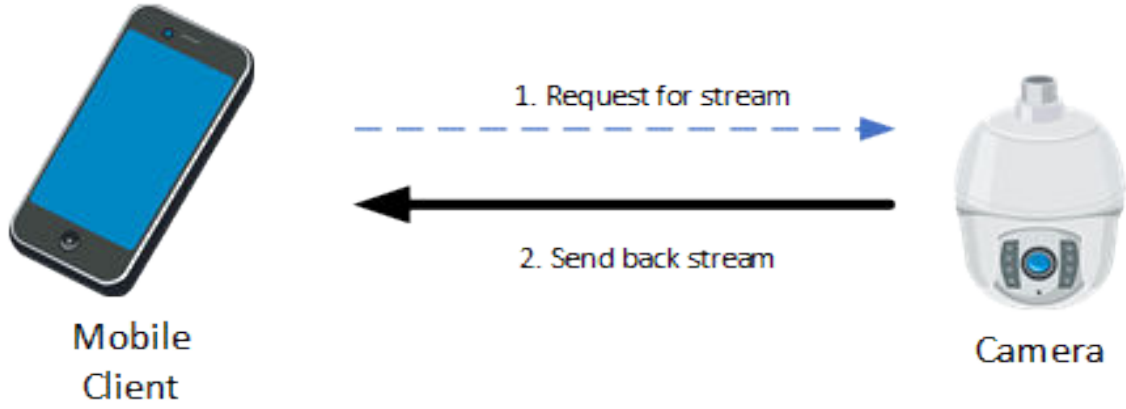


Figure 3-28 Flow of Live View for Directly Connected Device on Mobile Client

If the Mobile Client and device are directly connected, the process of live view on the Mobile Client is as follows:

a. The Mobile Client shall send a request to the device for obtaining the stream.
b. The device shall send back the corresponding stream to the Mobile Client.

2. Live View via Streaming Server

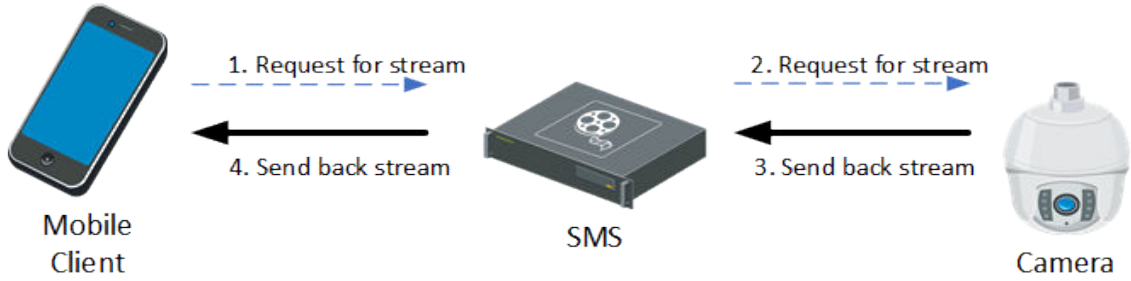


Figure 3-29 Flow of Live View via Streaming Server on Mobile Client

If the Mobile Client obtains the stream from the device via SMS (Streaming Server), the process is as follows:

a. The Mobile Client shall send a request to the SMS for obtaining the stream.
b. The SMS shall forward the request to the device for obtaining the stream.
c. The device shall send back the corresponding stream to the SMS according to the request.
d. The SMS shall send back the stream to the Mobile Client.

Playback

1. Playback of Video in Directly Connected Device

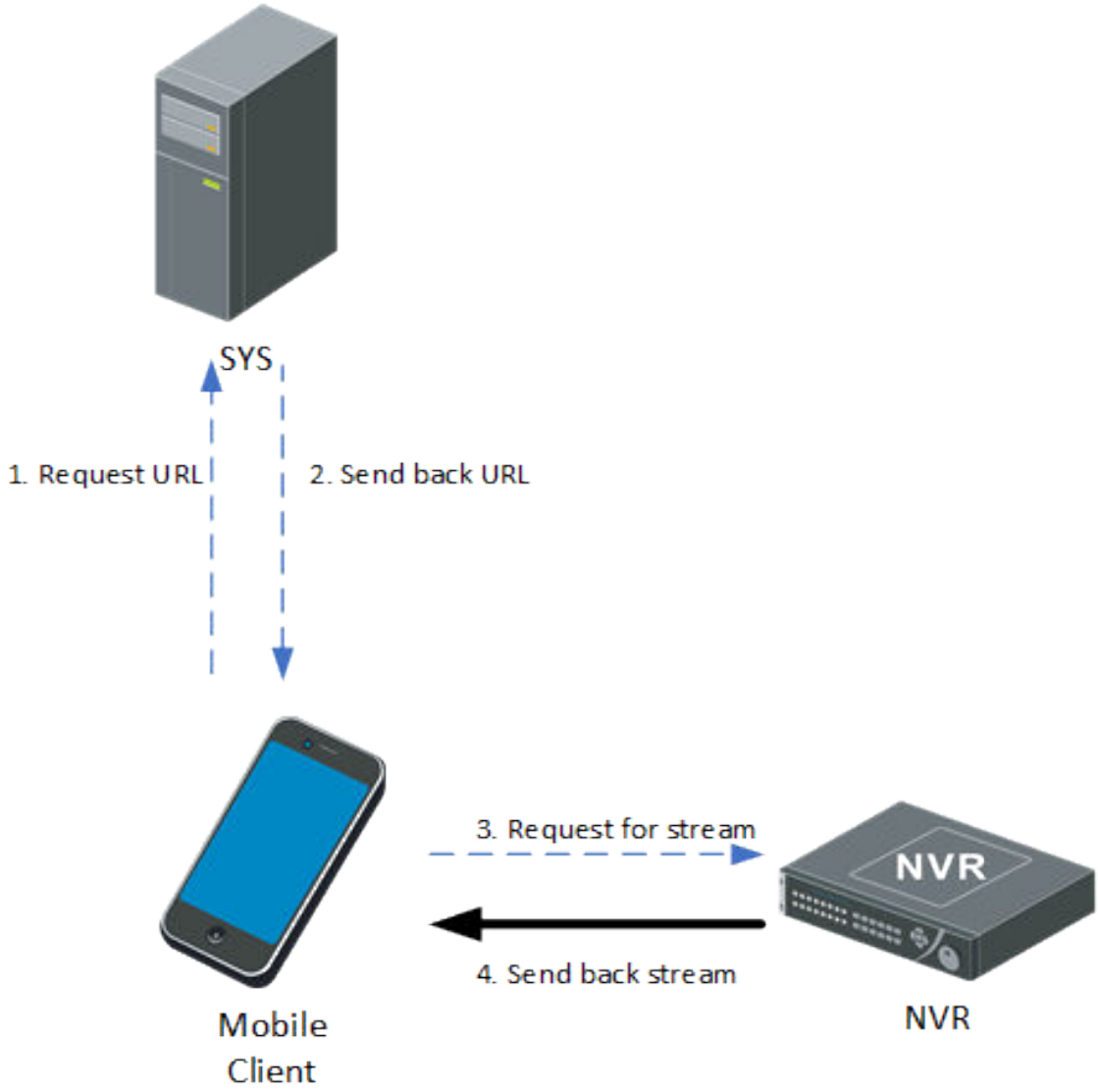


Figure 3-30 Flow of Playback of Video in Directly Connected Device on Mobile Client

If the video file is stored in the directly device, the process is as follows:

a. The Mobile Client shall send a request to the SYS for obtaining the stream URL.
b. The SYS shall send the stream URL information to the Mobile Client.
c. The Mobile Client shall send a request to the directly connected storage device for obtaining the stream.
d. The storage device shall send back the corresponding stream of playback to the Mobile Client.

2. Playback via Streaming Server

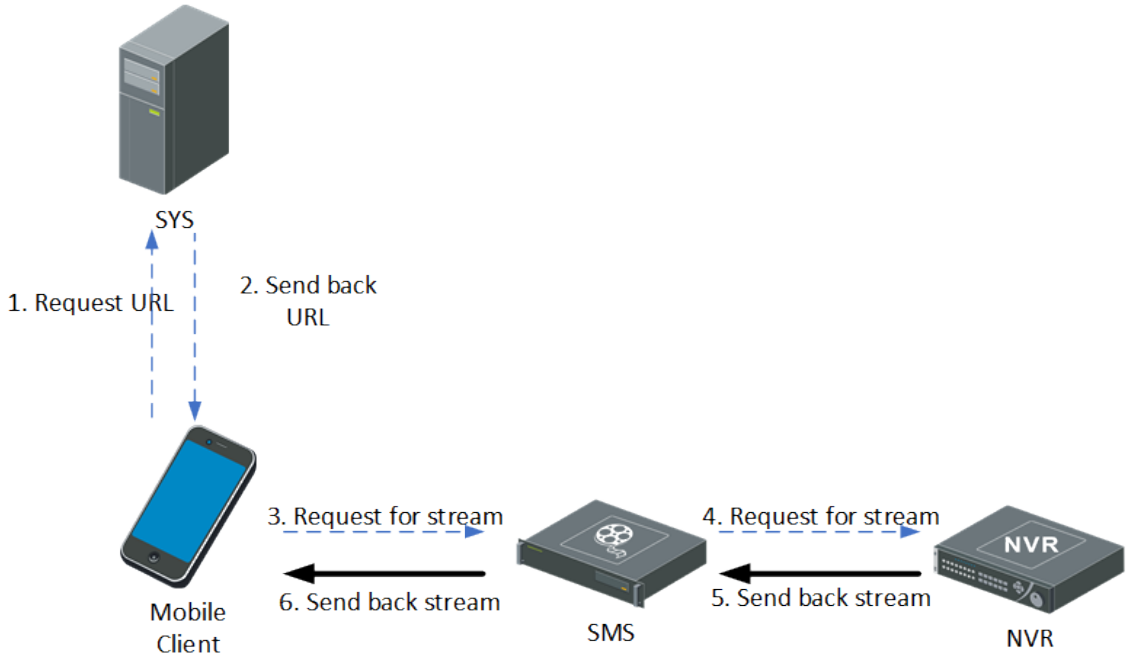
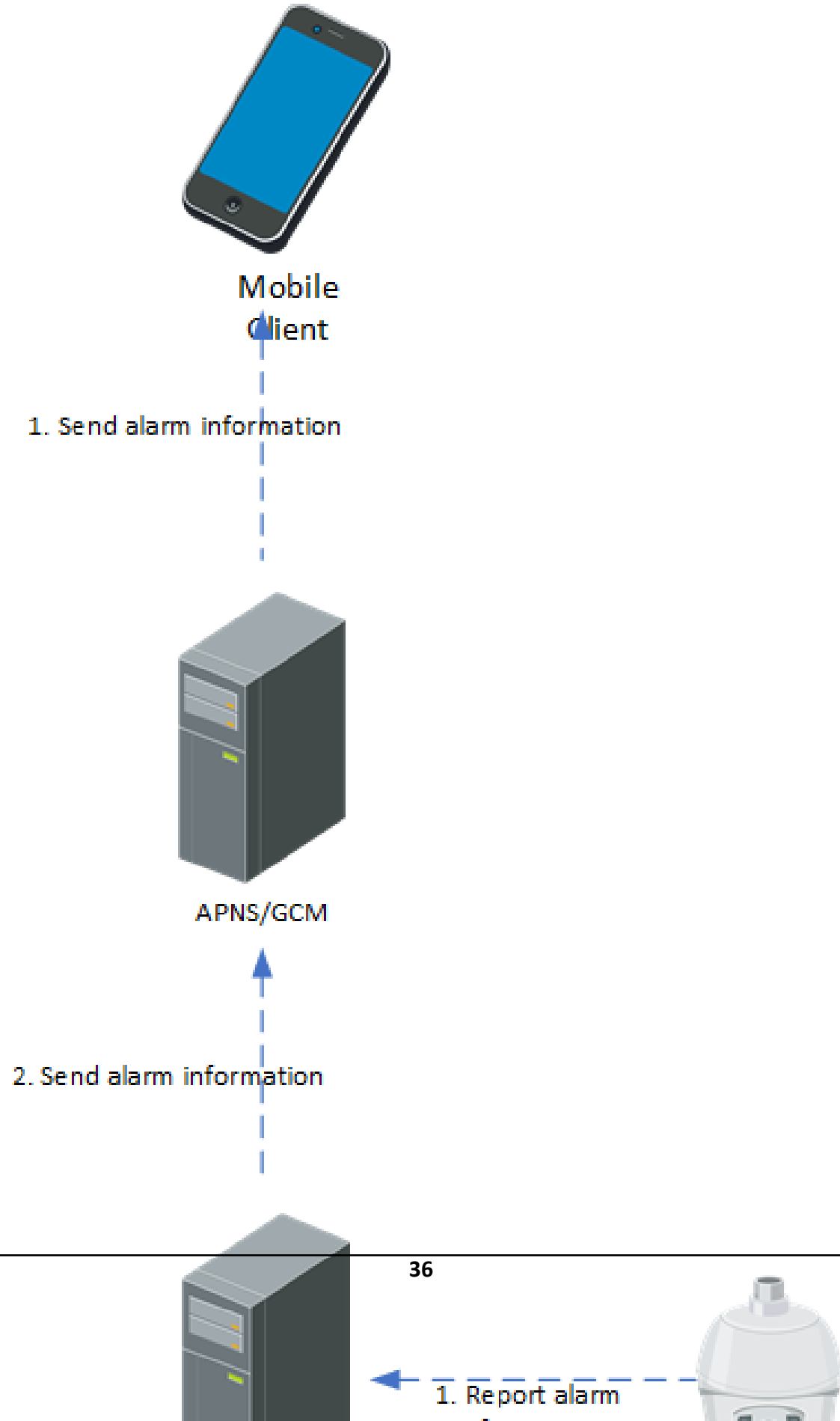


Figure 3-31 Flow of Playback via Streaming Server on Mobile Client

If the Mobile Client obtains stream via SMS, the process is as follows:

a. The Mobile Client shall send a request to the SYS for obtaining the stream URL.
b. The SYS shall send the stream URL information to the Mobile Client.
c. The Mobile Client shall send a request to the SMS for obtaining the stream.
d. The SMS shall forward the request to the NVR for obtaining the stream.
e. The NVR shall send back the stream of playback to the SMS.
f. The SMS shall forward the obtained stream to the Mobile Client.

Alarm


Mobile Client
1. Send alarm information
APNS/GCM
2. Send alarm information
1. Report alarm

Similar to the other clients, the process of receiving alarm video on Mobile Client is as follows:

1. The device shall report an alarm to the SYS.
2. The SYS shall send the obtained alarm information to the APNS/GCM server.
3. The APNS/GCM server shall send the corresponding alarm information to the Mobile Client.

3.6.9 Status Monitoring

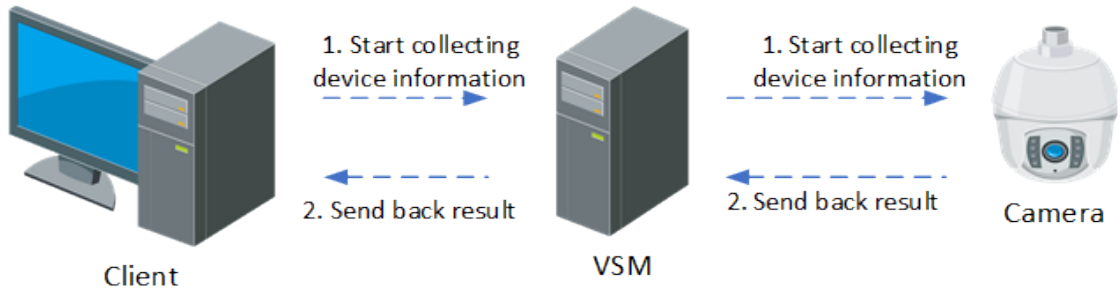


Figure 3-33 Flow of Status Monitoring

The device status inspection shall consist of the following two situations: interaction between the client and the SYS, and between the device and the SYS.

The platform shall initiate inspection information every 3 minutes.

Interaction Between SYS and Device

1. The SYS shall send an inspection command to the device.
2. The device shall send back the status of the device to the SYS.

Interaction Between Client and SYS

1. The Control Client shall send an inspection command to the SYS.
2. The SYS shall send the current status of the device to the Control Client.

3.7 System Security

3.7.1 Security Design Overview

The HikCentral Professional platform shall consist of the server, client, service component, and platform SDK. The interaction between server and client, server and service component, server and platform SDK shall support HTTP and HTTPS.

To ensure the security of data storage, all the sensitive data stored in the server shall be encrypted. All the sensitive information that does not need to be decrypted shall be encrypted by irreversible

encryption scheme. All sensitive information that needs to be decrypted shall be encrypted by encryption scheme that can be decrypted.

The HikCentral Professional shall adopt the following encryption algorithms: RSA, AES, SHA, and MD5. All the encryption algorithms shall come from the standard open-source library OpenSSL-1.0.2K. The OpenSSL version shall be updated according to the policies of Hikvision security lab.

3.7.2 System Security Solution

Access Protocol

By default, the HTTP protocol is used for web access. By optional, users can enable the HTTPS protocol.
HTTPS: Users can import the HTTPS certificate to improve the security of data transmission.
HTTP: In HTTP mode, the platform shall provide an independent security solution to prevent replay attacks.

Streaming Server Authentication

To ensure the overall security of the platform, when the clients obtain live view or playback streams from devices via SMS (Streaming Server), the device shall be authenticated by the SMS first.

Login Authentication

The platform authenticates users based on user name and password. The password strength and expiration time can be configured separately on the platform. If the administrator forgets the login password, the platform shall allow users to reset the password by license. To ensure the system security, the input information shall be hidden during password input.
During the transmission, the password shall be encrypted by RSA algorithm in HTTP mode, and the HTTPS internal encryption mechanism shall be used in HTTPS mode. In platform login authentication, the verification code + user lock + IP address lock shall be used to prevent brute force cracking from malicious user, to improve the platform security level.
Man-Machine Authentication: If an incorrect password is entered during the login, users shall manually enter the verification code.
User Lock: This parameter is mandatory enabled. If the password is entered incorrectly for five consecutive times, the user cannot log in to the system within 30 minutes.
IP Address Lock: This parameter is enabled by default. Users can manually configure the number of error times and lock period. If the number of incorrect login attempts for the same IP address exceeds the specified value, the IP address cannot be used to log in to the system within the specified lock period.

Platform Access

After the client successfully logs in to the system, the server shall randomly generate a session for each client. The session can effectively reduce the cracking risks caused by the frequent user name

and password interaction verification during the business. Each session shall have a fixed lifetime. When a session carried by a client expires, the user shall log in to the platform again.
In HTTP mode, to ensure that the platform is not attacked by replay attacks, each session shall carry an anti-replay token, which is unique in each session. The token is invalid immediately after each request to prevent repeated token attacks. The token shall be encrypted using AES.

Sensitive Information Processing

For sensitive information such as user name and password that are daily used, HikCentral Professional shall provide security solutions based on the actual service scenarios.
All sensitive information is encrypted during the interaction between the client and server. In HTTP mode, the AES encryption shall be used to generate a random AES key for each login, to ensure that data is not easily stolen. In HTTPS mode, SSL certificate encryption shall be used.
For the sensitive information storage, HikCentral Professional shall provide different storage scheme according to the different business requirements. To prevent the leakage of the encryption key of a platform from affecting other platforms, HikCentral Professional shall adopt the dynamic AES encryption scheme for sensitive information (such as the database access password and device access password) that needs to be locally stored. To prevent system user password leakage caused by system data file leakage, the platform user password shall be encrypted by SHA algorithm and stored in cipher text.

3.7.3 Security Audit Server

The platform shall support access of Security Audit Server, which is used to monitor the logs of the managed devices in the system. Users can set event and alarm rules for the security audit server via the Web Client. When the logs of the managed devices are regarded as abnormal, an event or alarm shall be triggered and users can receive the alarm via the Control Client. In this way, the platform can monitor the running status of the managed devices by the security audit server, reaching the system security requirements.

Chapter 4 Function

The platform shall support the functions below.

4.1 Person Management

- ***Person Management***
- ***Credential Management***
-
-

4.1.1 Person Management

Person Information

- The platform shall support entering person information, including basic information, access level, shift schedule, face comparison group, dock station group, resident information, and custom public information. Basic Information: ID (16 digits and letters); Person group; first name (up to 128 characters); last name (128 characters); skin-surface temperature and status; effective period (10 years from the current time); e-mail; phone No.; super user; extended access; device administrator; PIN code; remark; custom private information.
- The platform shall support changing a person's organization.
- The platform shall support exporting all the added person information as a ZIP file and setting a password for decompressing the ZIP file.
- The platform shall support segmenting person information by tabs on the Add Person page.
- The platform shall support exporting person information with additional items.
- The platform shall support importing person information via template with additional items.
- The platform shall support adding a person to the emergency counting group.
- The platform shall support editing credentials (including card, print, face, and iris) in the person list.

Batch Person Management

- The platform shall support batch adjusting the effective period for persons.
- The platform shall support filtering and batch exporting the expired person information.
- The platform shall support batch reporting cards loss.
- The platform shall support disabling and restoring access levels of persons temporarily.

Customize Person Information

- The platform shall support customizing up to 20 private information items and 4 types per information item including text, value, date, and single selection (limited by the permission of the platform).
- The platform shall support customizing up to 20 public information items and one type (only text) per information item (limited by the permission of the platform).

Login

- The platform shall support administrator enabling employees' self-service login (enabled by default) and setting employees' password (employee ID by default).
- The platform shall support employees' self-service login to the platform.
- The platform shall support locking IP address for a specified period of time after specific number of failed password attempts.
- The platform shall support setting maximum password age.
- The platform shall support requiring employees to change the password upon the first login, sending notes when the password expires, and resetting new password if employees forgot the password.
- The platform shall support login expiring after a period during which no action happens.

Self-Service Uploading Person Information

- The platform shall support entering the Self-Registration page by scanning the self-registration QR code, entering, and submitting person information to the platform.
- The platform shall support enabling the face picture quality verification of the device. After it is enabled, you can choose any device with the face picture quality verification function as a device for verification. It is disabled by default.
- The platform shall support enabling Review Self-Registered Persons function. After it is enabled, all person information submitted in a self-service manner must be reviewed and approved by the Administrator before being imported to the platform.
- The platform shall support importing person information added in a self-service manner into a specific organization (root organization is the default).
- The platform shall support administrators verifying person information uploaded by self-service: approve, reject, and delete.

Import Persons

- The platform shall support importing person information via Excel file and setting parameters about whether to replace duplicate persons and card numbers.
- The platform shall support importing profile pictures in ZIP format and enabling/disabling face picture quality evaluation.
- The platform shall support importing persons from devices.

AD Domain Synchronization

- The platform shall support configuring the mapping relation between the AD domain and the person.
- The platform shall support synchronizing the AD domain with the person or the person group.
- The platform shall support synchronizing the AD domain with the security group.

Handling Persons' Permissions Quickly

- The platform shall support clearing permissions.
- The platform shall support detecting permission status.
- The platform shall support disabling access levels and restoring access levels in a batch.

Person Resignation

- The platform shall support resignation management.
- The platform shall support deleting the resigned persons' access levels at the resignation date.
- The platform shall support enabling/disabling attendance calculation during the period between applying for resignation and resignation date.
- The platform shall support searching for access and attendance records of resigned persons.

4.1.2 Credential Management

Card Management

1. Support up to 20 digits for one card number.
2. Support adding up to five cards to a person.
3. Support entering the card number manually.
4. Support card enrollment stations reading card numbers.
5. Support encrypting card sectors (one sector for a time) only when the encryption is via the card enrollment station(communicating with the platform via USB).
6. Support enrollment station (communicating with the platform via network) reading card numbers (supported card types including EM, M1, ID, DESfire, FeliCa, and CPU).
7. Support enrollment station (communicating with the platform via USB) reading card numbers (supported card types including EM, M1, ID, DESfire, FeliCa, and CPU).
8. Support any card reader of remote access control devices reading card numbers .
9. Card types: common, duress, and dismiss.
10. Support issuing cards in a batch.
11. Support reporting card loss and canceling the card loss report.

Fingerprint Management

1. Support up to 10 fingerprints per person.
2. Support fingerprint enrollment devices enrolling fingerprints.

3. Support enrolling fingerprints via enrollment station(communicating with the platform via network).
4. Support enrolling fingerprints via enrollment station(communicating with the platform via USB).
5. Support any card reader of remote access control devices enrolling fingerprints.
6. Fingerprint types: common, duress, and dismiss.
7. Support fingerprint duplicate checking and fingerprint quality grading.

Face Picture Management

1. Support only one face picture per person.
2. Support uploading local face pictures.
3. Support using a USB camera or a laptop with a camera enrolling face pictures.
4. Support enrolling face pictures via enrollment station (communicating with the platform via network).
5. Support enrolling face pictures via enrollment station (communicating with the platform via USB).
6. Support collecting face pictures via remote access control devices.
7. Support exporting all face pictures of all added persons as a ZIP file and setting a password for decompressing the ZIP file.
8. Support deleting a facial credential or batch deleting facial credentials.

Password Management

Support setting the password (unique, containing 4 to 8 digits, and only one password per person)

Iris Management

1. Support collecting 2 irises for each person.
2. Support collecting irises by device remotely as person credentials and applying irises to devices.

4.2 Vehicle

Vehicle Management

1. Move the contents related to vehicle management from the original Vehicle Parking Management module to be an independent module.
2. Support adding, editing, and deleting vehicles, including registered vehicles, temporary vehicles, and visitor vehicles. The editable information includes vehicle information and vehicle owner information (name, phone number).
3. Support adding custom vehicle information.
4. Support importing vehicles by vehicle list for configuration.
5. Support adding vehicles to the blocklist, editing the vehicles in the blocklist, and removing vehicles from the blocklist.
6. Support topping up the parking passes for registered vehicles, and topping up the vehicle owners' accounts.

ANPR (Automatic Number Plate Recognition)

1. Add an independent module for searching for passing vehicles and generating vehicle analysis reports.
2. Support searching for passing vehicles only detected by ANPR cameras and UVSSs (Under Vehicle Surveillance Systems).
3. Support generating vehicle analysis reports to show the number of passing vehicles detected by specified ANPR cameras during specified time periods (which is moved from the Intelligent Analysis module to the ANPR module).
4. Support setting a rule of regularly sending vehicle analysis reports to the target recipients.

4.3 System Management

- ***General Settings***
- ***System Security***
- ***License Management***
- ***Others***
-

4.3.1 General Settings

Quick Start

- The Home page displays instructions of new features and release notes.
- Totally new navigation bar (The first-level menu is displayed on the top; the second-level and third-level menu is displayed on the left; the tab pages are displayed on the right).
- Support quick configuration guide for Access Control and Time & Attendance.
- Support up to 20 quick starts for different functions.
- Support downloading center.

Dashboard

- Support displaying the statistics of persons, devices, and attendance results.
- Support displaying pending tasks of attendance application flow.
- Support displaying real-time events and alarm notifications.
- The Person Credential Status, Device Status, and Attendance Report on the Home page supports click the pie chart for details.

User Preference

1. Support setting the site name
2. Support setting the first day of the week
3. Support setting the displayed temperature unit for the platform, including Celsius, Fahrenheit, and Kelvin

4. Support setting whether to display the mask related functions
5. Support setting the displayed calendar type for the platform, including Gregorian Calendar, Thai Calendar, and Nepal Calendar

Printer Settings

Support adding printers to the platform

Card Template

Support setting templates for printing cards

Network Settings

1. Support setting the NTP server for time synchronization
2. Support setting AD (Active Directory) domain for synchronizing person information
3. Support protocols for devices accessing the platform. The supported protocol types include the Open Video Network Interface protocol and ISUP v5.0 or below.
4. Support setting ports for WAN access
5. Support resetting device network information

Storage Settings

1. Support setting the local storage location, the picture or file quota, and the overwriting strategy for pictures and files
2. Support setting the retention period (unit: year) for the general data (such as events, logs) and the function data (such as card swiping records)

Other Settings

1. Support setting holidays and the repeating strategy. The holiday type includes regular holiday (e.g., May Day) and irregular holiday (e.g., Mother's Day)
2. Support setting email templates (including recipients, subject, and content) for regularly sending reports or events/alarms to the related persons

Time Zone Settings

1. Support reading time zone list from the operating system
2. Support setting the time zone for devices and getting the device's time zone

Multi-Level Organization Management

1. Support up to 10 lower-levels of an organization displayed as a tree structure
2. Basic information: parent group, organization name, and description

4.3.2 System Security

System Security

1. Support setting transfer protocol to HTTPS, and setting the IP address for receiving device information
2. Support setting the password for the local database
3. Support viewing the service component certificate, including Streaming Service and Cloud Storage Service.
4. Support setting security strategy for login, including locking IP address if the failed login attempts exceeded the limit, enabling maximum password age, automatically locking the Control Client after the defined time period of inactivity, and setting double authentications

User Security

1. Support setting permissions for roles, including resource access permissions, resource permissions, configuration and operation permissions, user status (inactivate or activate), and role effective period
2. Support manually adding users and user groups, importing AD (Activate Directory) domain users, activating or inactivating users, forcing logout, and so on

4.3.3 System Hot Spare

Rose Hot Spare

Support enabling the hot spare function and setting the hot spare property (host server and spare server).

4.3.4 License Management

Basic Management

1. Support activating Licenses in online or offline mode
2. Support updating Licenses in online or offline mode
3. Support deactivating Licenses in online or offline mode
4. Support viewing the License details

SSP Expiration Prompt Settings

Support setting the expiration prompt (upgrading or adding values) for SSP (Software Service Program)

Camera License Settings

Support setting the Licenses of facial recognition camera, ANPR camera, and thermal camera for facial recognition, plate recognition, and temperature report

License Exception Detection

1. Support detecting whether the License file is damaged
2. Support detecting whether the number of resources exceeded limit
3. Support detecting whether the basic activation code is available
4. Support detecting whether there are multiple abnormal basic activation codes
5. Support detecting whether the update is limited
6. Support detecting whether the exception occurred when updating the License
7. Support restoring the server after the exception occurred

Cloud Computing Service Activation

1. Support activating the Amazon Web Service (AWS) and Microsoft Azure
2. Support activating cloud service except Amazon Web Service (AWS) and Microsoft Azure

4.3.5 Others

SSP Expiration Prompt

Support setting SSP expiration prompt for sending a reminding email to the user when the SSP or SUP is going to expire

Company Information

Support setting the company information

4.4 Maintenance

- ***Scheduled Report***
- ***Server Network Management***
- ***Health Monitoring***
- ***Resource Status***
- ***System Log***

4.4.1 Scheduled Report

Support regularly calculating resource logs and device logs, and support sending reports to email.

4.4.2 Server Network Management

Server Usage Threshold

1. Support configuring usage thresholds of CPU and RAM of the whole server.
2. Support monitoring the usage of CPU and RAM in real time.

Network Timeout

Support configuring interaction request timeout according to the network status. The default timeout is 60s, which can be configured as 90s or 120s.

Health Check Frequency

1. Support checking device and service status.
   a. Device: encoding device, access control device, elevator control device, video intercom device, security control device, dock station, and network device.
   b. Server: recording server and DeepinMind server.
   c. Checking frequency: minute, hour, day (minimum: 1 minute ; maximum : 30 days; default: 3 minutes).
2. Support checking device capabilities.
   Checking frequency: minute, hour, day (minimum: 1 minute; maximum; 30 days; default: 3 minutes).
3. Support checking recording status.
   Checking frequency: minute, hour, day (minimum: 1 minute ; maximum; 30 days; default: 3 minutes).
4. Support enabling alarm/event.
   Checking frequency: minute, hour, day (minimum: 1 minute ; maximum: 30 days; default: 3 minutes).

4.4.3 Health Monitoring

Real-time Overview

1. Support displaying device status (normal and exception), displaying server and resource status (normal, exception and warning). (Camera status details: camera offline, video loss, communication exception, recording exception, no recording schedule configured and arming exception).
2. Support refreshing manually and refreshing regularly the status of device, resource and server.
3. Support configuring refreshing regularly on the Mobile Client (by default, refreshing regularly on the web client every 3 minutes).
4. Support exporting data of all device status and resource status as EXCEL or CSV format.
5. Support exporting the selected data (all or exception data).
6. Support exporting only topology or topology with data when there is topology.
7. Support showing and refreshing topology hierarchy of network.
8. Support zooming in and out the topology, enlarging view, full screen, and self-adaptive.
9. Support searching for resource location and connection path.

10. Support viewing details, remote configuration and device logs.
11. Support displaying normal and exception data of System Management Server.
12. Support displaying real-time CPU, RAM, picture storage space, network(sending and receiving), and streaming gateway.
13. Supports batch displaying status of cameras, encoders, and decoders on RSM remote sites.
14. Support displaying network status (poor to good) for Smart Managed Switch.

History Overview

1. Support viewing the resource online rate.
2. Support sorting resource by total offline and offline times.
3. Support viewing device online rate.
4. Support sorting devices by total offline and offline times.
5. Support redirecting to the Device Logs page.
6. Support viewing recording integrity rate.
7. Support refreshing manually.
8. Support exporting data (all or exception data) as EXCEL or CSV format.
9. Support exporting the selected data (all or exception data).

4.4.4 Resource Status

Door

1. Support door status (network status, face recognition terminal network status, door status, configured door status, and card reader status) and checking time.
2. Support refreshing manually and refreshing regularly
3. Support exporting door status data.
4. Support viewing door details.
5. Supports viewing status of face recognition terminals.
6. Supports viewing card reader status.
7. Supports controlling door status remotely.

Elevator

1. Support viewing door status (network status and card reader status) and checking time.
2. Support refreshing manually and refreshing regularly
3. Support exporting elevator status data.
4. Supports viewing elevator resource status.
5. Supports viewing card reader status.

Camera

1. Support viewing camera status (video signal, recording status and arming status).
2. Support refreshing manually and refreshing regularly.
3. Support exporting camera status data.

4. Support viewing camera resource details.
5. Support viewing camera status on Remote Site.
6. Support viewing camera's image diagnosis result.
7. Support viewing solar camera's mobile data report.

Access Control Device

1. Support viewing access control device status (network status, main/sub lane controller network, component, arming, tampering status and calling center from device) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting access control device status data.
4. Support viewing device details and the detailed information of linked resources (door and camera).

Elevator Control Device

1. Support viewing elevator control device status (network status, battery status, arming status and distributed elevator control device status) and checking time.
2. Support manual refresh and scheduled refresh
3. Support exporting data of elevator control device status.
4. Support viewing details of elevator control device.
5. Support controlling the elevator remotely.

Video Intercom Device

1. Support viewing video intercom device status (network status, arming status and calling center from device) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting data of video intercom device status.
4. Support viewing details of video intercom device.
5. Support dialing on the Mobile Client for indoor station.

Alarm Input

1. Support viewing alarm input status (name, area, serial No., version, disk status, network status, arming status and first added time) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting data of alarm input status.
4. Support viewing details of alarm input resource.
5. Support viewing alarm input status according to device type.

UVSS

1. Support viewing UVSS status (network status, line scan camera status, capturing camera status, and storage status) and checking time.
2. Support refreshing manually and refreshing regularly. Support refreshing manually and refreshing regularly.

3. Support exporting UVSS status data.
4. Support viewing UVSS details

Third-Party Integrated Resource

1. Support viewing third-party integrated resource status (network status and resource status) and manufacturer.
2. Support refreshing manually and refreshing regularly.
3. Support exporting third-party integrated resource status data.
4. Support viewing third-party integrated resource details.

Streaming Server

1. Support viewing stream media server status (total streams, incoming streams, outgoing streams, CPU usage and RAM usage) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting the data of stream media server status.
4. Support viewing stream media server details.

Recording Server

1. Support viewing recording Server status (network status, CPU usage, RAM usage, hot spare properties, recording status, hardware status, HDD usage) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting recording server status data.
4. Support viewing recording server details.

DeepinMind Server

1. Support viewing CPU usage and RAM usage of DeepinMind Server and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting DeepinMind Server status data.
4. Support viewing DeepinMind Server details.

Security Audit Server

1. Support viewing security audit server status (HDD usage, network status, CPU usage, and RAM usage) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting security audit server status data.
4. Support viewing security audit server details.

Encoding Device

1. Support viewing encoding device status (network status, HDD usage, recording status, manufacturer, hot spare properties, disk array, arming status) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting of encoding device status data.

4. Support viewing encoding device details.
5. Support viewing the battery status of solar camera.
6. Support viewing camera details.
7. Support switching stream type and access mode on Mobile Client.
8. Support viewing the N+1 status of NVR.

Security Control Device

1. Support viewing alarm device status (network status, battery status, and arming status) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting alarm device status data.
4. Support viewing alarm device details.

Dock Station

1. Support viewing dock station status (network status and HDD usage) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting dock station status data.
4. Support viewing dock station details.

Network Transmission Device

1. Support network transmission device status (network status, POE usage) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting network device status data.
4. Support viewing network transmission device status (network status, CPU usage, RAM usage, occupied ports, PoE usage, device exception as first added time) and checking time.

Decoding Device

1. Support viewing decoding device network status and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting decoding device status data.
4. Support viewing decoding device details.

IP Speaker

1. Support viewing IP speaker status.
2. Support exporting IP speaker status data.
3. Support viewing IP speaker resource details.

Security Inspection Device

1. Support viewing security inspection device status.
2. Support exporting security inspection device data.
3. Support viewing security inspection device resource details.

Remote Site

1. Support viewing remote site status (network status and default stream) and checking time.
2. Support refreshing manually and refreshing regularly.
3. Support exporting remote site status data.
4. Support viewing remote site details.
5. Support switching stream type (main stream/sub-stream) and access mode (direct connection or proxy) on Mobile Client.
6. Support viewing the configured recording schedules and recording status of remote sites.

4.4.5 System Log

Server Logs

1. Support searching for the log according to Remote Site, log type, log trigger, filtered resource and selected time.
2. Support exporting Remote Site logs and Central System logs as EXCEL or CSV format.

Device Logs

1. Support searching for the local logs of encoding device, security control device, decoding device, access control device, elevator control device and network device.
2. Support exporting local logs of the device.
3. Support exporting online/offline logs of multiple devices.
4. Support exporting online/offline logs for the device.
5. Support displaying by graph and list about device online duration records and the latest offline time.

Resource Logs

1. Support searching for recording status of resource.
2. Support viewing recording status at each time point.
3. Support searching for online/offline log.
4. Support displaying by graph and list about device online duration records and the latest offline time.
5. Support exporting resource logs.

4.5 Control Panel

Basic Functions

1. Support logging by IP address or domain name, and Support enabling auto-login
2. Support remembering historical server addresses and logged-in users
3. Support grouping modules and customizing the module arrangement on the control panel

4. Support adding modules to the navigation bar, clicking a module on navigation bar to quickly access the module, and searching for modules
5. Support displaying the resource updating indicator, time, and CPU usage/network speed on the title bar of Control Client
6. Provide the guidance about how to start using the Control Client for the first-login user

Control Panel Operations

1. Support displaying the default control panel for the first-login user
2. Support editing the name and the layout (including adding windows, deleting windows, editing windows, moving windows, and adjusting the window size) of control panel
3. Support restoring to the default control panel when editing
4. Support self-adaptive layout based on different screen resolutions
5. Support managing multiple control panels, including adding, deleting, and switching control panels
6. Support opening and closing auxiliary screen for the control panel
7. Support displaying the control panel in the full screen mode and exiting the mode, maximizing or minimizing the window, and displaying the window in auxiliary screen
8. Support restoring the control panel after restarting the Control Client or switching users

System Configuration and Help

1. Support setting general parameters, including network parameters, large-scale display mode, maximum mode, and file saving path
2. Support switching Home page modes, including Menu Mode and Visualization Mode. The settings will take effect after restarting the Control Client.
3. Support displaying the License information of the platform

4.6 Basic Video

- ***System and Resource Management***
- ***Video Security***
- ***Video Search and Exporting***
- ***Permission Management***
- ***Evidence Management***
- ***Event and Alarm***
- ***Dock Station and Body Camera***

4.6.1 System and Resource Management

Time Zone and Network Management

1. Support discovering online devices. Support discovering devices in the same network as the client so that devices can be added in LAN/WAN.
2. Support adding encoding devices by IP address, domain name, and Hik-Connect NNDS via ISUP so that devices can be added in LAN/WAN.
3. Support adding encoding devices by IPv4/IPv6.
4. Support manually setting time zone and getting device's time zone. Support setting Client time/ Server time as the time of the Client.
5. Support daylight saving time. Support tagging the repeated video caused by the daylight saving time.

Device Management

1. Support adding Hikvision cameras, NVRs and DVRs.
2. Support adding cameras via open network video interface.
3. Support adding body cameras.
4. Support adding dock stations.
5. Support displaying device details such as serial number, firmware version, and information about linked cameras, alarm input, and alarm output.
6. Support device maintenance. Refer to ***Maintenance*** .
7. Support displaying device details for device management, including the device serial No., firmware version, supported camera channels of encoding devices, alarm inputs, and alarm outputs.

Server Management

1. Support streaming media server.
2. Support storage servers such as pStor Cluster Service, Hybrid SAN, Cluster Storage, and NVR (only for picture storage).
3. Support security audit server.
4. Support DeepinMind server.
5. Support monitoring the storage capacity of the local disk. Support viewing the channels configured with storage servers. Support displaying the server version. Support going to the configuration page of storage servers.

Resource Management

1. Support grouping encoding devices including cameras, alarm inputs/outputs.
2. Support batch adding resources such as cameras, alarm inputs/outputs to the E-map to view monitoring effects.
3. Support configuring devices remotely.
4. Support batch changing device passwords.
5. Support batch applying and getting channel names.
6. Support batch getting the configured presets from PTZ cameras.

7. Support batch getting the configured recording schedule from devices.
8. Support batch copying the camera parameters to meet the requirements of multi-channel management under multi-device.

Batch Upgrade Firmware

1. Support upgrading via current Web Client, via Hik-Connect, via FTP. Support displaying upgrading status.
2. Support upgrading devices through server network and client network.

Storage Configuration

1. Support configuring parameters for storing videos. Support configuring stream type, recording schedule of time or event, and the expired time of video.
2. Support configuring video storage settings. Support storing real-time video in encoding device/ pStor/CVR/cloud storage server.
3. Support configuring picture storage settings. Support storing pictures to the local server/ encoding device/pStor/CVR/cloud storage server.
4. Support configuring real-time recording schedule. Support configuring encoding device/ pStor/CVR/cloud storage server as the main storage, and pStor/CVR/cloud storage as the auxiliary storage.
5. Support configuring copy-back recording. Support configuring encoding device/pStor/CVR/cloud storage server as the main storage, and pStor/CVR/cloud storage as the auxiliary storage.
6. Support setting N+1 hot spare for NVR to increase video storage liability.
7. Support setting pStor Cluster and N+1 hot spare for CVR.
8. Support configuring the start/end time of sending the video recorded by CVR back to the platform. Support sending the previously recorded video back to the platform.
9. Support managing CVR server, cloud server, pStor. Support adding them, viewing the storage status, viewing the configured channels for the server, displaying the server version, and jumping to web page to configure storage servers. Support managing recording servers (CVR server, cloud server, and pStor).

Stream Management

1. Support streaming from the device directly, so that devices and the Client can work in the same LAN.
2. Support streaming via the internal stream media of HikCentral Professional so that multiple Clients can stream from a device simultaneously, user in WAN can access the device in LAN, and HCP can stream from devices accessed the platform via ISUP.
3. Support adding external Stream Media Server. Support streaming from a designated external stream media server.
4. Support configuring stream mode for device and Client.

Bandwidth Management

1. Support smooth stream. Support starting live view/playback in smooth stream, which can self-adapt the bandwidth.
2. Support self-adaptive playback. Support automatically-adjusting stream by switching among main/sub/smooth stream.
3. Support downloading bandwidth. Support batch configuring the maximum bandwidth of downloading video from NVR to the Client.
4. Support downloading bandwidth from the Client. Support configuring the maximum bandwidth of downloading video from pStor to the Client.
5. Support batch upgrading firmware. Support configuring the maximum quantity of firmware that is updated simultaneously.
6. Support copying bandwidth back. Support configuring the maximum bandwidth of copying video back.

Network Security

1. Support stream encryption. Users can only start live view/playback after entering the encryption key.
2. Support batch changing device passwords.
3. Support adding Security Audit Server. Support linking encoding devices with the server, redirecting to the server to view security audit reports. Support configuring security audit alarm level.

4.6.2 Video Security

Display Channel Status

1. Support viewing the thumbnail of cameras on the resource tree.
2. Support displaying the number of online cameras / total cameras in each area on the resource tree. Support only displaying online cameras.
3. Support displaying alarm status on the resource tree and map, and viewing alarm details.

Single-Channel Operation

1. Support dragging the camera from the map to start live view/playback.
2. Support locating a single camera on the map.
3. Support capturing and VCA picture search (intelligent devices).
4. Support turning on/off the audio and adjusting volume, and when turning on the audio, a status prompt will appear.
5. Support configuring whether to enable audio by default for all channels.
6. Support creating a zooming area. Support rolling the mouse to zoom in. Support displaying videos in thumbnail view.

7. Support manually arming/disarming areas by cameras to receive audible and visual alarms. Support clearing audible and visual alarms.
8. Support the PTRZ (panning, tilting, rotating, and zooming) function.
9. Support video enhancement. Support adjusting brightness, contrast, saturation, and hue.
10. Support switching stream type among main stream, sub-stream,smooth stream, and fourth stream.
11. Support switching stream type among main stream, sub-stream, and smooth stream.
12. Support multiple fisheye dewarping modes. Support fisheye expansion and installation mode selection. Support a maximum of 14 expansion modes.
13. Support displaying video on the smart wall via decoder or graphic card.
14. Support PTZ control (only in live view). Support locking time, single/batch wipers, 3D positioning, presets (getting presets from device, setting, and calling), patrol, pattern, focus, focal length, iris, quick focus, light, lens initialization, manual tracking, manual face-capturing, configurable control priority, and park action.
15. Support instant playback (only in live view); support selecting time of playback: 30s, 1 min, 3 min, 5 min, 8 min, and 10 min.
16. Support alarm output control.
17. Support two-way audio.
18. Support printing captured pictures.
19. Support searching pictures by picture (intelligent devices).
20. Support displaying camera information: frame rate, stream, video standard, total connected cameras, network status, signal status, video status, access mode, channel type, device name, IP address, protocol type, main/auxiliary storage, and area.
21. Support arming control: arming or disarming cameras.
22. Support creating zooimg area and displaying it in a new window.
23. Support tagging videos. Support setting the time range and description for tags.
24. Support people density analysis (DeepinMind Server).
25. Support VCA search.
26. Support park action.
27. Support exporting video files (only in playback).
28. Support video clipping (only in playback).
29. Support locking video (only in playback).
30. Support frame-extracting playback.
31. Support rotating an image.
32. Support capturing pictures in real-time, and support viewing related videos according to captured pictures.
33. Support displaying body cameras on Google Map. Support displaying body cameras in a selected area.

Shortcuts

1. Support shortcut operation. Support enabling/disabling fisheye expansion, manual capturing, manual recording (only in live view), zoom in/out, switching stream, start/stop live view, and PTZ operations (only in live view).
2. Support customizing camera logic ID.
3. Support configuring short cuts for different functions.
4. Support pressing Ctrl to select cameras from different areas to perform auto-switch and live view of cameras added to different areas.

Web Page

1. Support adding multiple web pages to display window.
2. Support adding web pages to Favorites.

Live View

1. Support a maximum of 64 cameras in single-window live view. Support a maximum of 256 cameras in four-window live view.
2. Support starting live view of one or multiple camera(s).
3. Support auto-switch windows with the switching time interval of 5s, 10s, 20s, 30s, 1min, 3min, 5min. Support pausing and playing video.
4. Support displaying vehicle passing events. Support adding vehicle license number to the vehicle plate list.

Playback

1. Support playback of a maximum of 16 cameras in single-window view.
2. Support displaying days with recorded video. Support playback of a certain day/time. Support dragging the time slider.
3. Support filtering video by video type (time recording schedule, event recording schedule, manual recording, and ANR recording), by tag type (event tag, manual recording tag, and other tags), and by storage type.
4. Support grouping video into person and vehicle, tagging person and vehicle in video, and filtering video according to the type of person or vehicle appearance.
5. Support displaying the corresponding image when users drag the time slider.
6. Support switching between synchronous/asynchronous playback.
7. Support displaying the video image in thumbnail view during playback. Support going to the corresponding time if users click the thumbnail view.
8. Support play the video back at the speed of 1x, 2x, 4x, 8x, /2x, 1/4x, and 1/8x.
9. Support playing, pausing, normal/reverse single-frame playback.

Visual Tracking

1. Support switching from a current camera to the associated cameras in the visual tracking mode during live view.
2. Support switching from a current camera to the associated cameras in the visual tracking mode during playback, and exporting the video.
3. Support configuring whether to automatically start to play the recorded video.

View Management

1. Support private view and public view.
2. Support saving view during the live view or playback, and Support saving cameras, window divisions, presets, auto-switch settings, digital zoom settings, map, and web page.
3. Support adding views directly by batch adding cameras in different areas. Support configuring camera stream type. Support configuring auto-switch interval.
4. Support previewing views in thumbnail.
5. Support dragging a camera to the view to start live view or playback.
6. Support editing view. Support editing auto-switch interval, pause, change view, edit camera information, etc when playing the video.
7. Support displaying view on the smart wall.
8. Support configuring the default view upon next login.

Favorites

1. Support adding frequently used cameras to Favorites.
2. Support sharing resources with other users and displaying the favorite resources that others shared with users.
3. Support auto-switch according to views in Favorites.

Fault Diagnosis

1. Support viewing error codes and error messages when starting live view failed. Support illustrating detailed streaming path. Support node-related health status, logs, and history events. Support submitting reasons of operation failure.
2. Support displaying playback error codes, error messages, streaming path. Support node-related health status, logs, and history events. Support submitting reasons of operation failure.

4.6.3 Video Search and Exporting

Video Search

1. Support searching by time range, stream type, storage location, and video segmentation.
2. Support searching by tag and keyword.
3. Support searching for the video footage triggered by transaction event which contains POS information.

4. Support searching for the video footage triggered by ATM event.
5. Support searching for video files where VCA events occur. VCA Events include dynamic analysis, line crossing, and intrusion detection.
6. Support searching for the camera's locked video footage.

Video Exporting

1. Support exporting/batch exporting video.
2. Support multiple formats including MP4, AVI, and EXE.
3. Support setting the storage path of the file to be exported. Support backing up the files to network disk.
4. Support exporting after encryption.
5. Support combining exported files into one file.
6. Support managing downloading tasks. Support starting/stopping/deleting/downloading all tasks. Support continuing downloading after network is reconnected.
7. Support scheduling 4 time periods for downloading video in spared time.
8. Support saving video as evidence.

4.6.4 Permission Management

1. Support starting live view, manual capturing, printing, searching video, exporting video, manual recording, starting two-way audio, and enabling audio permission by camera.
2. Support enabling/disabling playback permission by camera. Support configuring user playback permission by minute/hour/day.
3. Support enabling/disabling video tag, lock permission by camera. Video lock permissions includes setting permission of adding, deleting, editing, and searching video.
4. Support enabling/disabling PTZ permission. Support configuring and operating PTZ.
5. Support configuring double-authentication for live view, playback, and video export.
6. Support enabling/disabling the public view permission. Support adding, deleting, and editing camera permissions.
7. Support enabling/disabling the permission of visual tracking.
8. Support configuring stream type permissions in live view: main stream, sub stream, and smooth stream.

4.6.5 Evidence Management

Support evidence management. Refer to ***Evidence Management*** .

4.6.6 Scheduled Camera

Scheduled Capture

1. Support configuring capturing schedules for multiple cameras. For speed domes, support setting presets and capturing pictures on presets.
2. Support sending scheduled capturing reports via email.
3. Support searching for scheduled captures by schedule, camera, and time. Support viewing and exporting captures and sending captures by email.

Time-Lapse Photography

1. Support generating time-lapse videos based on multiple captured pictures.
2. Support searching for time-lapse videos in NVRs by video length, time period, and total time range.

4.6.7 Event and Alarm

Support event and alarm management. Refer to ***Event and Alarm*** .

4.6.8 Dock Station and Body Camera

Dock Station Management

1. Support managing dock station groups. Support importing persons and displaying person permission levels.
2. Support three-level permission management: dock station group, super user, and person. Support setting person as super user.
3. Support multiple dock station person groups.
4. Support applying person information (which should correspond to the account information of body camera) to the dock station.
5. Support managing cards, and applying card information to dock stations.
6. Support managing fingerprints. Support applying fingerprint information to dock stations.
7. Support managing profiles and applying profiles to dock stations.
8. Support filtering according to applying status. Support displaying users failed to be applied and reapplying them.
9. Support configuring copyback time for dock stations. Support setting storage location to CVR or pStor.

File Search and Management

1. Support searching files by time, dock station group, file format (video, picture, and audio).
2. Support exporting searched files, and saving video to evidence.
3. Support searching for videos for GPS track playback.
4. Support configuring visible channels according to areas for users in the situation of multiple managers.

Body Camera

1. Support locating body cameras on Google map. Support locating body cameras in a specified area.
2. Support live view, playback, and two-way audio for body cameras.
3. Support linkage actions on the client for body camera events.

4.7 Smart Wall

- ***Device Management***
- ***Configuration and Management***
- ***System Management***

4.7.1 Device Management

1. Support detecting online devices: in the same network segment with the server or the client via SADP.
2. Support adding devices via IP address, IP segment, and port segment.
3. Support jumping to the remote configuration page of the device via web browser.
4. Support cascading configuration of decoders (69-series) and smart wall controllers (C10S-series).
5. Support viewing the sub board status of signal source and decoding output, and the signal status.
6. Support displaying the specified view on the smart wall.

4.7.2 Configuration and Management

Smart Wall Management

1. Support adding, deleting, and editing the LCD smart wall.
2. Support adding, deleting, and editing the LED smart wall.
3. Support batch editing resolutions of the outputs of decoders.
4. Support linking the decoding output with the window and releasing this linkage.
5. Configuring the audio port of the smart wall.
6. Support setting the background color/picture of the output.
7. Support displaying the decoding output port No. on the large screen.
8. Support configuring stream types (sub/main stream) and auto-switching the stream type.
9. Support displaying and downloading the camera ID.
10. Support signal sources streaming the live view of channels in a batch.
11. Support configuring audio for the whole smart wall.

Open Window and Display on Smart Wall

1. Support window division mode (4/9/16/36-window), locking window, and enlarging/restoring the size of the sub-window by double-click.
2. Support creating roaming windows, deleting, and moving them, and sticking them on top/at bottom, and changing the size of roaming windows.
3. Support enabling/disabling the VCA rule.
4. Support displaying the window No.
5. Support displaying the local signal source (single or in a batch) on the smart wall via ONVIF, Hikvision Protocol, or the domain name of the camera.
6. Support controlling the video wall display of a camera for auto-switch in a single window, including pausing, continuing, viewing the last/next auto-switch, and adjusting the auto-switch schedule.
7. Support switching the main/sub stream of the signal source manually.
8. Support PTZ control.
9. Support customizing the camera ID displayed on the smart wall.
10. Support the client displaying the images the same as those on the full smart wall, smart wall playback, and control of the video image in the window.
11. Support displaying the status of decoding outputs and signal sources.
12. Support the client displaying the images the same as those on the full smart wall.
13. Support adding a logo on the window.
14. Support configuring the background picture.
15. Support display the desktop on the smart wall.
16. Support jointing windows.
17. Support displaying desktop on the smart wall.

APP Application

1. Support switching signal source for displaying on smart wall via pad.
2. Support LED and LCD smart walls.
3. Support up to 8 smart walls.
4. Supports virtual screen split, dragging to open a window, roaming windows, zooming a window, window division, etc.

LED Smart Wall

1. Support rolling/static captions.
2. Support layout preview of the smart wall.
3. Support joining windows.
4. Support custom and virtual window division.

View

1. Support adding, deleting, editing, and searching the view/view group.
2. Support switching the view schedules by weeks and playing views at specific times.
3. Support displaying views on smart wall by the schedule.

4. Support editing the view schedule.
5. Support setting public views and private views.
6. Support viewing thumbnails of views by hovering the cursor on the view list.

Keyboard

1. Support accessing network keyboards (Model: DS-1100KI(B) , DS-1105KI, and DS-1600KI(B)).
2. Support displaying on smart wall by pressing the camera ID on the keyboard.

4.7.3 System Management

Permission Management

1. Support controlling the permission of accessing the smart wall module.
2. Support assigning operation permissions by smart walls.
3. Support assigning permissions for adding, deleting, editing, and searching data by smart walls.
4. Support assigning permissions according to decoders and division controllers.
5. Support adding, deleting, editing, and searching permissions by decoders and smart wall controllers.

Streaming Configuration

1. Support global settings of the stream type (sub/main stream) of the smart wall display and switching the stream type according to the window division mode.
2. Support configuring the streaming media according to areas for displaying on smart wall.

Alarm Linkage

1. Support smart wall displaying for alarm linkage of a specific camera in a single or multiple windows.
2. Support displaying the view of a specific decoding wall linked with a monitor view on the smart wall.
3. Support configuring the duration of displaying alarms on the smart wall, whether overwriting the previous alarm, and the stream type of the smart wall display (sub/main stream).
4. Support automatic window division for linkage alarms displayed on the smart wall.
5. Support red-frame-highlighted linkage alarms displayed on the smart wall.
6. Support configuring online/offline detection alarm of decoders/smart wall controllers.

Data Backup and Restoring

Support backing up and restoring the data of smart walls.

Maintenance Status

Support viewing the maintenance status of decoders and smart wall controllers.

4.8 Remote Site Management

Site Management

1. Support managing 1,024 Remote Sites, including manually adding sites or sites registering to the Central System
2. Support remotely configuring the Remote Sites, getting and viewing the resource changes of Remote Sites
3. Support backing up the database of Remote Sites to the Central System manually or by period (day, week, or month)
4. Support managing Remote Sites and cameras of Remote Sites on the map

Camera Management

1. Support going to the Remote Site. The configurations on the Remote Site are the same as that in the Central System
2. Support managing cameras of the Remote Site: select cameras from the Remote Site to import them to the Central System, get and apply cameras' names, import cameras, display the imported cameras on the Central System after switching sites
3. Support applying recording schedules and storage configurations of the Central System to cameras on the Remote Site, and batch copying the settings of cameras on the Remote Site

Streaming Management

Support setting Streaming Servers for Remote Sites in the Central System and getting streaming via up to two Streaming Servers (on the site and the Central System)

Video Application, Search, and Exporting

Refer to ***Basic Video*** .

Evidence Management

Refer to ***Evidence Management*** .

Event and Alarm

1. Support importing events and alarms from cameras on the Remote Site to the Central System for configuring alarm related parameters
2. Support receiving and acknowledging events and alarms (with maintenance information) from cameras on the Remote Site
3. Support receiving and acknowledging alarm input events and alarms from encoding devices on the Remote Site
4. Support receiving and acknowledging face related alarms (including face matched/mismatched, frequently/rarely appeared, abnormal temperature, and no mask) from the Remote Site
5. Support receiving and acknowledging maintenance related alarms from encoding devices, decoding devices, Recording Servers, and Streaming Servers on the Remote Site

ANPR

1. Support receiving ANPR results from cameras on the Remote Site
2. Support searching for ANPR records from cameras on the Remote Site
3. Support searching for and exporting vehicle analysis reports generated by cameras on the Remote Site

Face

1. Support searching for face pictures captured by cameras on the Remote Site
2. Support searching for face pictures of cameras on the Remote Site by picture
3. Support searching for face pictures of cameras on the Remote Site by person feature

Human Body

1. Support searching for human body pictures captured by cameras on the Remote Site
2. Support searching for human body pictures of cameras on the Remote Site by picture

Intelligent Analysis

1. Support importing cameras of the Central System to the Remote Site for configuring intelligent analysis reports, including people counting reports, people density analysis reports, heat analysis reports, queue analysis reports, and person feature analysis reports
2. Support importing cameras of the Central System to the Remote Site for configuring temperature analysis reports
3. Support searching for and exporting intelligent analysis reports generated by cameras imported to the Central System, including people counting reports, people density analysis reports, heat analysis reports, queue analysis reports, and person feature analysis reports
4. Support searching for and exporting temperature analysis reports generated by cameras imported to the Central System

Maintenance

1. Support getting the maintenance information of cameras on the Remote Site, which is the same as that displayed on the Central System
2. Support getting the maintenance information of encoding devices, decoding devices, Recording Servers, and Streaming Servers on the Remote Site. The site's maintenance information is the same as that displayed on the Central System, but users cannot click to quickly go to the details page.
3. Support batch displaying the status of cameras, encoders, and decoders on remote sites.

4.9 Intelligent Recognition

- ***System and Resource Management***
- ***Face Recognition***
- ***Human Body Recognition***

- ***Archive Management***
- ***Abnormal Event Detection***
- ***Vehicle Recognition***
- ***Record Storage***

4.9.1 System and Resource Management

Resource Management

1. Support adding DeepinMind servers to the platform; the added DeepinMind servers support the following features:
   a. Accessing DeepinMind servers by internet.
   b. Jumping to the web page of a DeepinMind server to configure its parameters.
   c. Linking cameras to DeepinMind servers for intelligent analysis.
2. Support adding facial recognition cameras to the platform and all features for the basic management of encoding devices.
3. Support adding DeepinMind NVRs and all features for the basic management of encoding devices.
4. Support specifying the channels for vehicle analysis and face / human body features analysis on the license details page.

Face Comparison Groups

1. Support the following features related to face comparison groups:
   a. Adding and managing multiple face comparison groups.
   b. Adding persons to the person list or removing persons from the list.
   c. Displaying the number of face pictures in each face comparison group."
2. Support importing face list libraries and face data.
3. Support importing face data from enrollment stations.
4. Support importing the selected face data from encoding devices and facial recognition servers.
5. Support exporting the face library list.
6. Support batch applying face data to devices and displaying the following data applying information in the Applying Center:
   a. All face data failed to be applied.
   b. The number of face data items to be applied.
   c. The list of face data items to be applied.
   d. The number of cameras to which face data failed to be applied.
   e. The list of cameras to which face data failed to be applied.
   f. The number of cameras to which face data has NOT been applied.
   g. The list of cameras to which face data has NOT been applied.

4.9.2 Face Recognition

Face Comparison Tasks

1. Support configuring face comparison tasks for cameras, DeepinMind NVRs, DeepinMind servers.
2. Support configuring face comparison tasks for facial recognition cameras, DeepinMind NVRs, DeepinMind servers. The configuration options include:
   - Task Schedule Templates
   - Devices / Cameras Which Perform the Analysis
   - Face Comparison Groups
   - Similarities
3. Support displaying the list of face comparison tasks and filtering the tasks by task name, arming schedule, device for analysis, face comparison group, and camera.

Frequently Appeared Person Analysis

1. Support configuring frequently appeared person analysis tasks for DeepinMind NVRs and DeepinMind servers.
2. Support configuring parameters for a frequently appeared person task, including the task schedule template, device for analysis / camera, face comparison group, time period, appeared times, counting interval, and similarity.
3. Support displaying the frequently appeared person analysis tasks in a list and filtering tasks in the list by task name, task schedule template, device for analysis, and camera.

Rarely Appeared Person Analysis

1. Support configuring rarely appeared person analysis tasks for DeepinMind NVRs.
2. Support configuring parameters for a rarely appeared person analysis task, including the task schedule template, device for analysis / camera, face comparison group, time period, appeared times, counting interval, similarity, and reporting time.
3. Support displaying rarely appeared person analysis tasks in a list and filtering the tasks by task name, task schedule template, device for analysis, and camera.

Face Data Storage

1. Support storing the matched face pictures on the platform or the storage server if the face recognition cameras alone are used for face recognition.
2. Support storing the captured face pictures and the matched ones on the DeepinMind NVRs if the combination of network cameras and DeepinMind NVRs is used for facial recognition.
3. Support storing the captured face pictures and the matched ones on the DeepinMind servers if the combination of network cameras and DeepinMind servers is used for facial recognition.

Event and Alarm

1. Support receiving near-instant face comparison events of the selected face comparison groups.
2. Support receiving near-instant face mismatch events of the selected face comparison groups; The mismatch mechanism is as follows: if a captured face picture cannot match any face picture in the specified face comparison group(s) within the time period specified in a combined alarm,

the event will be regarded as a face mismatch event; while if the captured face picture mismatches face pictures in all groups, the event will be regarded as a stranger event.
3. Support searching rarely appeared person events by device and face comparison group.
4. Support searching frequently appeared person events by device.
5. Support searching no-face-mask events by channel and face comparison group.
6. Support other events related to face detection performed by cameras, such as face capture events and face detection events.

Face-Based Monitoring

1. Support displaying captured face pictures in nearly real time; Support viewing the live video streamed from a camera if its captured pictures matches face pictures in face comparison groups.
2. Support viewing statistics of face pictures captured on the current day and face-matched events that occurred on the current day.
3. Support monitoring based on the face comparison groups; Support monitoring multiple groups at the same time.
4. Support monitoring face recognition related events in nearly real time, including face capture events, face-matched events, face mismatch events, frequently appeared person events, and rarely appeared person events; once the system detects one of these events, a window showing related picture(s) / video(s) will pop up in nearly real time on the Control Client.
5. Support adding the captured face pictures to face comparison groups.
6. Support generating patterns (i.e., the tracks of detected persons) basing on their face pictures (i.e., the captured face pictures).
7. Support verifying the persons' identities by their face pictures (i.e., the captured face pictures).
8. Support viewing the capture histories of the matched persons in the monitoring module.
9. Support selecting facial features of the captured pictures and displaying these features.
10. Support displaying facial features in nearly real time, including smile or not, whether wearing glasses, and whether wearing mask.

Record Search and Export

1. Support searching face pictures captured by devices by channel, time, and facial features (whether wearing glasses, and smile or not).
2. Support searching face pictures by picture; the available search conditions include time, channel, similarity, and face picture.
3. Support searching face comparison groups by time, group name, and person information (person name or ID).
4. Support searching frequently appeared persons by time, task, and appeared times.
5. Support searching rarely appeared persons by time, task, and appeared times.
6. Support exporting the matched results to the local PC; the exported information includes the person information and video information.
7. Support adding the matched face pictures to face comparison groups.
8. Support identity verification according to the captured face picture; the available search conditions include the captured face picture, matched face picture, and similarity.

Pattern Generation

1. Support generating patterns (i.e., the tracks of persons) of the matched persons.
2. Support playing back the patterns in time sequence on the map.

4.9.3 Human Body Recognition

Task Management

1. Support configuring human body recognition tasks for DeepinMind NVRs and DeepinMind servers.
2. Support configuring parameters for a human body recognition task, including the task schedule template, device for analysis / camera, and detection area.
3. Support displaying human body recognition tasks in a list, the displayed information of a task includes its task name, task schedule template, device for analysis, and camera.

Human-Body-Based Monitoring

1. Support displaying human body pictures captured by a camera in nearly real time and viewing the live video streamed from the camera.
2. Support displaying the number of human body pictures captured on the current day in nearly real time.
3. Support monitoring human body recognition events in real time. If an event is detected, a window showing related picture(s) / video(s) will pop up on the Control Client.
4. Support displaying human body features in nearly real time, including smile or not, whether wearing glasses, whether wearing face masks, hair style, backpack, tops type, tops color, bottoms type, bottoms color, handbag, and whether riding a bike.

Body Data Storage

1. Support storing the captured human body pictures on the DeepinMind NVRs if the combination of network cameras and DeepinMind NVRs is used for human body recognition.
2. Support storing the captured human body pictures on the DeepinMind servers if the combination of network cameras and DeepinMind servers is used for human body recognition.

Event and Alarm

Support other face-related events detected by cameras, such as face capture and face detection.

Record Search

1. Support searching human body detection events by channel, and human body features (whether wearing glasses, tops type, tops color, bottoms type, bottoms color, whether wearing a backpack, whether lifting something, whether riding a bike).
2. Support searching human body pictures by picture; the search conditions include event, camera, and captured picture.

4.9.4 Archive Management

Task Management

1. Support configuring archive analysis tasks for DeepinMind servers.
2. Support configuring parameters for an archive analysis task, including the task schedule template, device for analysis / camera, face comparison group, and similarity.
3. Support displaying archive analysis tasks in a list and filtering these tasks by task name, task schedule template, device for analysis, and camera.

Archive Search

1. Support uploading a face picture to verify whether the person is a stranger.
2. Support uploading a face picture to verify if the person belongs to the specified face comparison group.
3. Support exporting the matched records.

Identity Verification

1. Support uploading a face picture and comparing it with face pictures in the face comparison groups to verify the person's identity.
2. Support uploading a face picture and specifying the person information (name or ID) to search for the person's identity.
3. Support exporting the matched records.

4.9.5 Abnormal Event Detection

Task Management

1. Support configuring abnormal event detection tasks for abnormal event detection servers.
2. Support configuring parameters for an abnormal event detection task, including task schedule template, device for analysis / camera, face comparison group, and similarity.
3. Support displaying abnormal event detection tasks in a list and filtering these tasks by task name, task schedule template, device for analysis, and camera.

Event and Alarm

1. Support detecting street abnormal events, including falling down, violent motion, fast moving detection, and people gathering detection.
2. Support detecting prison abnormal events, including overstay, playground overstay detection, sitting detection, violent motion detection, absence detection, climbing detection, getting up detection, number of people exception, standing up detection, sudden change of sound intensity detection, falling down detection, sleep on duty detection, playing with mobile phone, and key person getting up detection.

3. Support detecting perimeter protection events, including region entrance, region exiting, loitering, intrusion, parking, object removal, unattended baggage, and line crossing.
4. Support people density analysis.
5. Support receiving all abnormal event detection events and handling related alarms.

4.9.6 Vehicle Recognition

Task Management

1. Support configuring vehicle recognition tasks for DeepinMind servers.
2. Support configuring parameters for a vehicle recognition task, including task schedule template, device for analysis / camera, face comparison group, and similarity.
3. Support displaying vehicle recognition tasks in a list and filtering the tasks by task name, task schedule template, device for analysis, and camera.

Vehicle List Management

Same as the vehicle list management features in the Entrance and Exit module.

Vehicle Data Storage

1. Support storing the vehicle recognition pictures on the platform or storage server if vehicle recognition cameras alone are used for vehicle recognition.
2. Support storing the vehicle recognition pictures and captured vehicle pictures on the DeepinMind NVRs if the combination of network cameras and DeepinMind NVRs is used for vehicle recognition; Support searching passing vehicle records on the platform.
3. Support storing the vehicle recognition pictures and captured vehicle pictures on the DeepinMind servers if the combination of network cameras and DeepinMind servers is used for vehicle recognition.

Event and Alarm

Same as the event and alarm features of the Entrance and Exit module.

Vehicle Monitoring

1. Support displaying the captured vehicle pictures in nearly real time and viewing the live video streamed from the cameras that capture these pictures.
2. Support displaying features of passing vehicles in nearly real time, including vehicle type, vehicle color, and vehicle brand.
3. Support monitoring vehicle detection events in real time, including vehicle-matched event and strange vehicle event. Once the system detects one of these events, a window showing related picture(s) and video(s) will pop up on the Control Client.
4. Support displaying the number of passing vehicles on the current day.

Record Search

Support searching passing vehicles by time, source, mark, country and region, license plate No., vehicle type, vehicle brand, vehicle color, driving direction, vehicle list, and customized conditions.

4.9.7 Intelligent Arming

1. Support applying face picture libraries to multiple devices for person arming.
2. Support applying license plate numbers to multiple devices for vehicle arming.

4.9.8 Record Storage

Support setting the retention period of facial recognition and vehicle recognition records: 1/2/3/4/5/6/7/15 day(s), 1/2/3/6 month(s), or 1/2/3 year(s).

4.10 Alarm Detection

- ***Resource Management***
- ***Alarm Detection Management***
- ***Security Radar Management***
- ***Panic Alarm Management***
- ***Video Monitoring***
- ***Map Application***
- ***Alarm Application***
- ***Resource Maintenance***
- ***Device Log Search***
- ***Tool***

4.10.1 Resource Management

Device and Server

1. Support adding security control panels, security radars, and panic alarm devices by IP address, IP segment, port segment, Hik-Connect DDNS, or batch importing these devices into the platform for management:

   a. For security control panels, support adding them via the Hikvision Private Protocol, Hikvision ISUP Protocol, and Hik-Connect Protocol;
   b. For security radars, support adding them via the Hikvision Private Protocol;
   c. For panic alarm devices, support adding them via the Hikvision Private Protocol and Hikvision ISUP Protocol.
2. Support searching for online devices, and adding them to the device list after activation.
3. Support configuring devices remotely.

Area

1. Support adding cameras to areas for management.
2. Support adding alarm inputs to areas for management, displaying the status of alarm inputs (bypass status, fault status, alarm status, battery status, arming status, detector connection status, online/offline status), bypassing alarm inputs, and recovering the bypassed alarm inputs.
3. Support adding alarm outputs to areas for management.
4. Support adding security radars to areas for management, arming/disarming them, and displaying their online/offline status.

4.10.2 Alarm Detection Management

Security Control Partition (Area) Management

1. Support importing partitions (areas) from devices and managing them.
2. Support configuring arming schedules for partitions (areas).
3. Support displaying the basic information about the partitions (areas) and the information about the status of their related zones.
4. Some new-version wireless security control panels support linking a zone with multiple partitions (areas).

Detector Management

Support relating detectors to resources and displaying them on the map.

Arming Schedule Management

Support managing the arming schedules on the platform, and applying the schedules to the devices in partitions (areas).

Security Control Partition (Area) Operation

Support performing the following operations on partitions (areas): disarming, away arming & stay arming (supported by the EN series security control panels), instant arming, and clearing alarms.

Zone Operation

1. Support bypassing zones and recovering the bypassed zones.
2. Supports arming/disarming a single zone.

Status Notification

Support receiving the changes in the status of partitions (areas) and zones from devices, and updating the status information in real time.

Event Notification

Support pushing the events that triggered in partitions (areas) and zones to related devices to trigger linkage actions, such as triggering alarms in related alarm devices.

4.10.3 Security Radar Management

Security Radar Configuration

1. Support linking cameras to a security radar and viewing the live view of the cameras on the Control Client.
2. Support calibrating security radars' related cameras (the accuracy of calibration will effect the smart linkage).
3. Support enabling the security radars to monitor objects' moving patterns via related calibrated cameras.
4. Support drawing zones in a radar's detection area and managing them.
5. Support drawing trigger lines in a radar's detection area and managing them.

Security Radar Operation

Support arming and disarming radars.

Status Notification

Support receiving the changes in radars' arming/disarming status and online/offline status from devices, and updating the status information in real time.

Event Notification

Support receiving the alarms triggered in a radar's zones and trigger lines, and viewing the alarm information in other modules.

Moving Pattern

1. Support receiving the real-time moving pattern of the object from the security radar and displaying it on the map.
2. Support searching for the historical moving pattern of a radar. Currently, the historical moving pattern can only be displayed in the Alarm Center. When an alarm is triggered in a radar's zones and trigger lines, the platform will search for the historical moving pattern recorded 5 seconds before and after the triggering time and display it in the Alarm Center.
3. Support pushing the real-time moving pattern of an object and displaying the pattern on the map.

Smart Linkage

Support viewing the moving pattern of an object and the live view of cameras related to the security radar.

4.10.4 Panic Alarm Management

Event Notification

Support receiving panic alarms, and viewing the alarm information in other modules.

Video Intercom Control

Support two-way audio between the Control Client and devices via video intercom devices.

Device Adding via ISUP Protocol

Support adding panic alarms devices to the platform via the ISUP protocol.

Solar Panic Alarm Device

Support adding solar panic alarm devices.

4.10.5 Video Monitoring

Live View

1. Support live view of the cameras related to alarm devices.
2. Support live view of the cameras related to security radars.

Playback

Support playback of the cameras related to alarm devices. The video files can be stored in CVR, cloud storage server, and pStor.

4.10.6 Map Application

Security Control Partition (Area) Application

1. Support adding partitions (areas) to the map.
2. Support performing the following operations on partitions (areas) on the map: disarming, away arming & stay arming (supported by the EN series security control panels), instant arming, and clearing alarms.
3. Support arming/disarming partitions (areas) and displaying their alarm status on the map (the status information will be updated in real time according to the notifications of status change).

Alarm Input Application

1. Support adding alarm inputs with their related detectors to the map.
2. Support bypassing alarm inputs and recovering the bypassed alarm inputs.
3. Support displaying the status information (bypass status, alarm status, etc.) of alarm inputs on the map (the status information will be updated in real time according to the notifications of status change).

Security Radar Application

1. Support adding security radars to the map.
2. Support arming and disarming radars on the map.
3. Support displaying the pattern of the object detected by a security radar on the map.
4. Support displaying radars' arming status on the map.
5. Support playing the live videos streamed from the cameras related to a radar.

4.10.7 Alarm Application

Alarm Operation on Alarm Device

Support event and alarm configuration for alarm devices, displaying alarm notifications, and searching for historical alarms.

Alarm Operation on Alarm Input

Support event and alarm configuration for alarm inputs, displaying alarm notifications, and searching for historical alarms.

Alarm Operation on Security Radar

Support event and alarm configuration for radars' zones and trigger lines, displaying alarm notifications, and searching for historical alarms.

Arming Control

1. Support displaying the event and alarm configuration for cameras, alarm inputs, and radars.
2. Support performing the following operations on partitions (areas): disarming, away arming & stay arming (supported by the EN series security control panels), instant arming, and clearing alarms.
3. Support bypassing the alarm inputs added to partitions (areas).
4. Support arming and disarming radars.

4.10.8 Resource Maintenance

Alarm Input

1. Support the viewing the status information of alarm inputs (network status, arming status, bypass status, fault status, alarms status, detector connection status, and battery status) and the inspection time.
2. Support refreshing the status of alarm inputs manually or by schedule.
3. Support exporting the status statistics of alarm inputs to the local PC.
4. Support viewing the detailed information about alarm inputs.
5. Support viewing the status of alarm inputs by device type.

Alarm Device

1. Support viewing the status information (network status, power status, arming/disarming status) and inspection time of alarm devices.
2. Support refreshing the status of alarm devices manually or by schedule.
3. Support exporting the status statistics of alarm devices to the local PC.
4. Support viewing the detailed information about the alarm devices.

4.10.9 Device Log Search

1. Support searching for the logs stored in alarm devices.
2. Support exporting the logs stored in alarm devices to the local PC.

4.10.10 Tool

Alarm Output Control

Support controlling the siren, alarm lamp, electric lock, and common alarm output of alarm outputs.

Broadcasting

Support broadcasting via panic alarm stations.

4.11 AR Monitoring

- ***AR Management***
- ***Scene Operation***
- ***Event and Alarm***
- ***Tag Management***

4.11.1 AR Management

Support AR scene management:

1. Support managing scenes, including linking AR cameras with scenes and configuring the geographic location of a scene by adding it to a map.
2. Support managing multiple scenes.
3. Support calibrating the AR PanoVu series cameras and speed domes.

4.11.2 Scene Operation

Scene Selection

1. Support selecting scenes via the scene list or by name search.
2. Support selecting scenes based on their locations on the map.
3. Support configuring auto-switch plans to switch scenes automatically by the set time interval (10 sec, 20 sec, 40 sec, 1 min, 3 min, 5 min, or a custom time interval).

AR Camera Management

1. Support capturing pictures by AR cameras.
2. Support recording videos by AR cameras.
3. Support 3D positioning of AR cameras.
4. Support PTZ control of AR cameras.
5. Support playing back videos by AR cameras.
6. Support panoramic target tracking (if the scene is linked with a speed dome).
7. Support calling the presets of a speed dome.

4.11.3 Event and Alarm

Alarm Monitoring

1. Support displaying the 5 most recent unhandled alarms in a list and filtering these alarms by type.
2. Support displaying the alarms of all tags added to the scene.
3. Support the following alarm types: VCA event, face detection event, vehicle detection event, and camera maintenance event.
4. Support viewing alarm information and handling alarms the same way as supported in the alarm center.

Event Detection

1. Support the detection of face matching events.
2. Support the detection of vehicle matching events.

4.11.4 Tag Management

Tag Adding

1. Support adding multiple folders to manage favorited tags.
2. Support adding tags to the panoramic image and adding the added tags to your favorites.

Camera Tag

1. Support performing basic operations such as live view and playback for camera tags.
2. Support operations such as ignoring alarms, viewing history alarms, and performing arming controls.
3. Support dynamically switching camera tags of a speed dome as the camera zooms in/out or rotates.

Scene Tag

1. Support adding scene tags.
2. Support switching to the scene specified by a tag. The operations supported after the scene switch shall remain the same.

Map Tag

1. Support adding map tags.
2. Support opening the map preview, viewing map details, and performing other basic map operations.

Tag Search

1. Support searching for tags by name or tag type (camera, scene, and map).
2. Support filtering favorited tags by folder.

4.12 Map Management

- ***Map Settings***
- ***Map Monitoring***
- ***Map Applications***

4.12.1 Map Settings

Resource Configuration: Support dragging hot spots, labels, general resources, parking lots, alarm devices, and remote sites to maps.

4.12.2 Map Monitoring

1. Health Monitoring: Support viewing real-time device/platform status.
2. Intelligent Analysis Report: Support checking intelligent analysis reports of the current day.
3. Access Control: Support checking access control records, recognition exceptions, etc. of the current day.
4. Parking Lot: Support viewing occupation rates of the parking spaces and parking duration information.
5. Alarm: Support viewing the number of alarms and alarm handling information of the current day.

4.12.3 Map Applications

1. Live View: Support live view of the cameras added to maps.
2. Entry & Exit: Support viewing vehicle information from entries & exits added to maps.
3. Customize Labels: Support customizing label icons.
4. Google Map: Support the Google Map.
5. General: Support dragging maps to windows on the Control Client.
6. Filter Resources: Support filtering resources on maps.

4.13 Event and Alarm

- ***Triggering Event***
- ***Event Receiving***
- ***Alarm Linkage***
- ***Combined Alarm***
- ***Configuration and Management***
- ***Real-Time Alarm Display***
- ***Alarm Operation***
- ***Search and Exporting***
- ***Statistics and Analysis***
- ***Permission Management***

4.13.1 Triggering Event

Classification

1. The triggering events are classified by modules, including video, access control, vehicle, alarm, intelligent analysis group, digital signage, maintenance, user, user-defined event, generic event, visitor, broadcast, and security inspection.
2. The Edit Alarm page provides the icon for remote configuration of the triggering source. Users can click the icon to open the remote configuration page of the device or server.

Generic Event

1. Support selecting TCP or UDP as the transport type.
2. Support transport types of HTTP and HTTPS.
3. Support selecting Search or Match as the match type.
4. Support selecting AND or OR as the expression.

User-Defined Event

Support setting self-defined event if the system-monitored events or the generic event cannot meet the users' need.

4.13.2 Event Receiving

Event Receiving Schedule

1. Support setting self-defined event if the system-monitored events or the generic event cannot meet the users' need.
2. Support setting receiving schedule template of events, including All-Day, Weekday, and Holiday template. Users can select the templates defined by the platform or customize a template.
3. The Add Event and Alarm page supports enabling the function of ignoring recurred events or alarms, and users can configure the duration for ignoring.
4. Support configuring alarm recipient groups: After adding users to the alarm recipient group, the users in the group will receive notifications once alarms are triggered without setting recipients for each alarm.
5. Support batch adding users as alarm recipients.
6. Support selecting alarm recipients or alarm recipient group for each alarm.
7. Support configuring both triggering event and alarm for a source.
8. Support configuring one or multiple holidays for an alarm receiving schedule template.

4.13.3 Alarm Linkage

Linkage Actions

1. Support configuring the colors for events.
2. Support adding color templates for further reuse.

3. Support setting Capture Picture as the linkage action: set the duration of capture picture before or after the event occurs.
4. Support setting Trigger Record as the linkage action: start recording before the event happens and continuing recording after the event happens, lock the recorded videos and setting the duration of locking.
5. Support setting Trigger PTZ as the linkage action: select calling the preset, patrol, or pattern of the linked PTZ camera.
6. Support setting Create Tag as the linkage action. Select the cameras to record video when the event or alarm occurs and set the storage location for storing the video files. The system will add a tag to the triggered video footage for convenient search. Set the time range to define the tagged length of the video footage.
7. Support setting Link Access Point as the linkage action: link all access points or specified access points.
8. Support setting Link Alarm Input as the linkage action. Select alarm inputs and these alarm inputs will be armed or disarmed when the alarm occurs.
9. Support setting Link Alarm Output as the linkage action: select different ways for closing the alarm output when the alarm output works, select closing the alarm output automatically or manually.
10. Support setting Link Third-Party Integrated Resource as the linkage action. Select the control about details operations that will happen when the alarm occurs.
11. Support setting Send Email as the linkage action. Select an email template to send the alarm information according to the defined email settings.
12. Support setting Link Printer as the linkage action. If the source type is alarm input, users can link to print entry & exit counting report of certain entry & exit counting group.
13. Support setting Link Speak Unit as the linkage action. After linking speaker units to an event or alarm and selecting an audio file to be played, the selected audio file will be played by the selected speaker units when the event or alarm is triggered.
14. Support triggering a user-defined event.
15. Support setting Trigger Remaining Open for Entrance and Exit as the linkage action. When the event or alarm is triggered, the selected entrance(s) and exit(s) will turn to the status of remaining open so that the vehicles can enter or exit the parking lot without authentication or the allowance of guards.

Real-Time Alarm Management

1. The pop-up window of alarms supports editing the priority of the alarm. By default, three priorities are provided: high, medium, and low.
2. The pop-up window of alarms supports editing the type of the alarm. By default, four types are provided: true, false, to be acknowledged, and to be verified.
3. The Web Client supports setting whether an event can be triggered as an alarm. When setting this, users can select the recipients of the alarm and set alarm priority.
4. The Web Client supports setting the Restrict Alarm Handling Time for the alarm. The linked alarm output or user-defined events will be triggered after the configured duration.

5. The Web Client supports enabling the following functions for an alarm: pop-up window, displaying alarm-related video on smart wall, relating an alarm to a map, and triggering audible warning.
6. When setting trigger recording as the linkage action. Support selecting displaying recorded video or live view when alarm occurred.
7. Support acknowledging alarms by the platform automatically. When the delayed duration ends, the alarm will be acknowledged automatically.
8. Support displaying multiple unhandled alarms and the number of total unhandled alarms in one pop-up alarm window on the Control Client.

4.13.4 Combined Alarm

Rule Configuration

1. Support linking a combined alarm with an alarm triggered area, which is used for counting the alarms triggered in the area.
2. Support enabling the function of ignoring recurring alarms, and users can configure the duration for ignoring.
3. Support setting any triggering source types.
4. Support four alarm triggering logic, and support configuring the triggering interval between two alarms.
5. Support enabling or disabling alarms. When disabling an alarm, users can set the start time and duration of disabling. Once an alarm is disabled, users will not receive the alarm notifications.
6. Combined alarm supports all linkage actions except Link Printer.

Combined Alarm Display

1. Support adding a combined alarm to the map.
2. Support copying the settings of a combined alarm to other combined alarms.
3. Support testing a combined alarm.

4.13.5 Configuration and Management

1. When adding an event, support selecting multiple triggering events and sources.
2. Support deleting all invalid events quickly by clicking the Delete All Invalid Items button.
3. Support setting multiple events as alarms in a batch.
4. Support enabling and disabling multiple alarms in a batch.
5. Support testing alarms.
6. Support filtering events that are set as alarms.
7. Support filtering events and alarms by source type, event & alarm name, area, source, and triggering event.
8. Support highlighting abnormal events and alarms with a red exclamation mark.
9. Support highlighting events and alarms that are not supported by the sources.

10. Support event and alarm statistics.
11. Support classifying events and alarms by modules.

4.13.6 Real-Time Alarm Display

Alarm Report

1. After launching the Control Client, the user will receive the latest 500 unacknowledged alarms.
2. Support counting the numbers of all alarms in the platform, including shielded alarms, disabled alarms, alarm inputs, zones, and security radars.
3. Support displaying shielded alarms only.
4. Support displaying alarms that are displayed on the smart wall only.
5. Support displaying alarm sources, alarm types, and the triggering times of each alarm. Support expanding an alarm type to display all the alarm list.

Alarm Center

1. Support selecting different layout of the Alarm Center of the Control Client, namely Related Video & Picture, Map, and both of them.
2. Support displaying alarm-related map, video and picture on an auxiliary screen.
3. Support selecting the items displayed in the alarm list, such as marking status, priority, number, source, area, triggering event.
4. Support customizing icons displayed in the Operation column of the Alarm Center.
5. Support selecting video or picture as the default displayed content in the alarm information. Picture is recommended for low bandwidth.
6. Support selecting the default stream type for linkage video in the pop-up window.
7. Support triggering the pop-up window of alarm.
8. Support enabling audible warning for an alarm.
9. Support configuring alarm sound for alarms with different priority.
10. Support configuring the times of playing the alarm sound.
11. Support filtering real-time alarm list by priority, marking status, and alarming status.
12. Support disabling the voice prompt after acknowledging certain alarms.
13. Support tiling alarms by time and aggregating alarm by name in the Alarm Center of the Control Client.

Map

Support displaying an alarm on the map, viewing alarm details on the map, and acknowledging an alarm on the map.

4.13.7 Alarm Operation

1. Support displaying alarm details, including related map, video, picture, description, operation logs. For different event types, the details vary.
2. The Overview page supports selecting an event or alarm and switch to the Event & Alarm Search page to search for its history events/alarms.
3. Support playing live and recorded videos of alarms on the Control Client, and support dragging the time bar and turning on/off the audio when playing the recorded video.
4. The alarm-related video window supports two-way audio between the people on-site and the user of the platform.
5. The alarm-related video window supports PTZ control.
6. Support displaying alarm-related videos on the smart wall.
7. Support downloading information of an alarm, including alarm details, picture, video, and map.
8. Support shielding an alarm.
9. Support acknowledging an alarm or batch acknowledging. Once acknowledged, the alarms will be removed from the Overview page.
10. Support editing acknowledged alarm as unacknowledged.
11. Support marking alarms for highlighting.
12. Support disabling alarms. After disabling, the user will not receive the alarm when it is triggered.
13. Support enabling alarms after disabling.
14. Support bypassing or restoring bypassed alarm inputs.
15. Support arming and disarming partitions (areas), alarm inputs, and security radars.
16. Support manually triggering user-defined event
17. The alarm pop-up window supports sending emails containing alarm information after selecting the recipients & email template and entering the description.
18. Support forwarding an alarm to specified users.

4.13.8 Search and Exporting

Event & Alarm Search

1. Support searching for events by time, area, event type, and event name.
2. Support searching for alarms by triggering time, marking status, priority, alarm type, acknowledging status, area, event type, and alarm name.
3. Support searching for both events and alarms by the same conditions.
4. After searching for the events and alarms, support viewing event & alarm details and operation logs.

Alarm Record

The operation logs of an alarm contain all the operations on the alarm, including records of forwarding, shielding, receiving, marking, disabling, and the user information related to the operations.

Export Events & Alarms

1. After searching for the events and alarms, Support exporting the searching results to the PC as a CSV/PDF file. PDF Support up to 5,000 pieces of information. Support exporting related pictures of no more than 500.
2. Support exporting the matched or mismatched alarms with detailed information, such as person information, card number, license plate number, and so on.

4.13.9 Statistics and Analysis

Alarm Overview

Support counting alarms of the current day, including alarms that are acknowledged and unacknowledged.

Alarm Trend

1. Support counting alarms triggered in the last 7 and 30 days.
2. Support generating trend map of specified event types.
3. Support generating and exporting trend map of alarms of 7 days in PDF, PNG, and JPG format.

Top 5 Alarm Analysis

1. Support displaying the top 5 events and alarms triggered today or during the last 7 and 30 days.
2. Support displaying the top 5 areas of all the triggered events and alarms of today, the last 7 and 30 days.
3. Support counting specified event types and generating the top 5 event types.
4. Support exporting the events in PDF, PNG, or JPG format.

Scheduled Report of Events & Alarms

1. Support sending event and alarm reports via emails regularly.
2. Support sending daily reports containing information about alarms and events triggered on the day before the current day.
3. Support sending weekly reports containing information about alarms and events triggered during the last 7 or 14 days.
4. Support setting the date and time of sending event/alarm reports.
5. Support generating alarm reports in Excel or PDF format.
6. Support generating alarm reports in multiple languages.
7. Support backing up event and alarm reports to the SFTP server regularly.
8. Support backing up event and alarm reports to the SYS regularly.

4.13.10 Permission Management

Event and Alarm Receiving Permission

Support selecting recipients of an alarm. The users with the permission for receiving alarms can receive the alarm information.

Event and Alarm Operation Permission

1. Support assigning user permission of arming or disarming alarm input.
2. Support assigning user permission of bypassing or recovering bypassed alarm input of security control device.
3. Support assigning user permission of acknowledging alarm.
4. Support assigning user permission of batch acknowledging alarms.
5. Support assigning user permission of acknowledging alarm without entering remarks.
6. Support assigning user permission of forwarding alarms.
7. Support assigning user permission of marking acknowledge alarm as unacknowledged.

Event and Alarm Search Permission

Support assigning user permission of event & alarm search.

4.14 Evidence Management

Easy Deployment & Flexible Access

1. Support setting the HCP server as the evidence management server.
2. Support setting the SFTP server to evidence management server.
3. Support multiple Clients input of evidence management information: Mobile Client, Web Client, and Control Client.
4. Support managing Secure File Transfer Protocol (SFTP) server (address/user name/password), evidence type, organization on site, and results.

Multiple Evidence Sources & Convenient Access

1. Support the unified management of SFTP evidence management server (address/user name/password), evidence type, on-site organization, result/conclusion, and description.
2. Support uploading evidence from local storage: evidence name, evidence ID, evidence type, on-site organization, result/conclusion, evidence status, description, evidence tag, and evidence content.
3. Support saving the following videos as new evidence or linking the videos to the existing evidence: recorded video in live view, clipped video in playback, downloaded video footage, video search, and dock station search.
4. Support uploading evidence from the related camera: select the camera, the evidence file will be uploaded from the camera at specified time or uploaded when Wi-Fi is detected.

5. Support setting the uploading start time/uploading end time/recording start time/recording end time."
6. Support multiple evidence files: pictures, videos, audios, and others (files in the format of Excel, CSV, PDF, etc.).
7. Support adding evidence or linking to the existing evidence in the system file.

Important File Management

1. Support saving important files (pictures, videos, audios, and others) in the system.
2. Support adding file(s) and linking file(s) to the new evidence or existing evidence."
3. Support file overview and search: the total number of files/pictures/videos/audios/others.
4. Support clicking each category to view the corresponding file list.
5. Support filtering the file by name and creation time."
6. Support exporting and deleting file(s).

Evidence Overall Management

1. Support searching evidence by the following conditions: evidence name/ID/tag/description, evidence type, on-site organization, result/conclusion, evidence status, and creation time.
2. Support editing all parameters of the existing evidence and support uploading new evidence files.
3. Support selecting the file format (Excel, CSV, and PDF) of exported evidence.
4. Support exporting the evidence file (audios, videos, pictures, and others)."
5. Support enabling and disabling the existing evidence in the system.
6. Support copying the evidence's SHA256 value for integrity verification.
7. Support deleting evidence.
8. Support uploading progress management (name, size, and status) of the evidence (uploaded from cameras or local storage).
9. Support batch enabling, pausing, and deleting the upload task."
10. Support evidence operation records: operator, operation IP address, operation details and time.

4.15 Access Control

- ***Application Wizard***
- ***Access Control Device Management***
- ***Resource Management in Multiple Areas***
- ***Card Printing***
- ***Access Level Management***
- ***Advanced Function Management***
- ***Real-Time Monitoring on Map***
- ***Effective Emergency Response***
- ***Access Records***

- ***Visualized Report***
- ***Privacy Protection Settings***

4.15.1 Application Wizard

Configuration wizard of access control which is on the right and will be displayed when you hover the cursor on it.

4.15.2 Access Control Device Management

Device Access via Multiple Protocols

1. Support accessing devices via Device Network SDK by IP address, IP segment, or batch importing.
2. Support accessing devices via ISUP by device ID, ID segment, or batch importing.
3. Device information list: device name, address, serial No., version No., number of doors, number of readers, network status, and password strength.
4. The platform shall support accessing devices via ISAPI by IP address, IP segment, or batch importing.

Device Configuration

1. Platform configuration (Device Network SDK): IP address, port, alias, user name, password, time zone, and channel resource.
2. Platform configuration (ISUP): device ID, key, alias, storage configuration, time zone, and channel resource.
3. Support going to the web page of device configuration.
4. Support adding access control devices via domain name.
5. For devices that do not support configuration via web browser, it supports going to the remote configuration page.

Remote Device Control

1. Support editing passwords one by one or in a batch.
2. Time zone settings: Support configuring time zone one by one or in a batch; Support getting time zone settings from devices and applying time zone settings to devices.
3. Support restoring to default settings for devices one by one or in a batch.

Real-Time Device Status Monitoring

1. Support viewing online status.
2. Support viewing network status.
3. Support viewing main and sub lane controller status (only for turnstiles).
4. Support viewing turnstile component status (only for turnstiles).
5. Support viewing arming status.

6. Support viewing device tampering status.
7. Support viewing power supply status.
8. Support viewing first added time and inspection time.

Opening Door by Mobile Client

1. The platform shall support opening door via bluetooth.
2. The platform shall support opening door via NFC.

4.15.3 Resource Management in Multiple Areas

Door Management

1. Basic information: door name, device, door magnetic sensor, exit button type, door open duration, extended open duration, door open timeout alarm, maximum door open duration, duress code, super password, and duress code. The actual parameters depend on the device capability.
2. The platform shall support linking to cameras: no more than two cameras can be linked to each door.
3. The platform shall support linking face recognition terminals to a barrier gate to control the access of persons.
4. The platform shall support linking face recognition terminals to an access controller to control the access of persons.
5. Picture storage: local storage, CVR, cloud storage, pStor, and Network Video Recorder (NVR). It is valid when camera(s) are linked and the picture storage is enabled.
6. Reader: enable or not, reader name, reader type, minimum card swiping interval, resetting entry settings, failed card attempts alarm, tampering detection, OK LED polarity, ERR LED polarity, buzzer polarity, and fingerprint security level. The actual parameters depend on the device capability.
7. Resource information list: door name, device IP address, device, network status, reader information, status of remaining open/closed, and area.
8. Support getting door names from the devices.
9. Support applying door names to devices.
10. Support setting the capture priority for linked cameras.

Floor Management

1. Basic information: elevator name, device, door open duration, extended open duration, door open timeout alarm, maximum door open duration, duress code, super password, and duress code. The actual parameters depend on the device capability.
2. Floor: No. and name. Support resetting floors in a batch.
3. Support linking to cameras: no more than two cameras can be linked to each door.
4. Picture storage: local storage, CVR, cloud storage, pStor, and Network Video Recorder (NVR). It is valid when camera(s) are linked and the picture storage is enabled.

5. Reader: enable or not, reader name, reader type, minimum card swiping interval, resetting entry settings, failed card attempts alarm, tampering detection, OK LED polarity, ERR LED polarity, buzzer polarity, and fingerprint security level. The actual parameters depend on the device capability.
6. Resource information list: elevator name, device IP address, device, network status, and area.
7. Support getting floor names from devices.
8. Support applying floor names to devices.

Alarm Input Management

1. Basic information: alarm input name and device.
2. Resource information list: alarm input name, device IP address, device, partition No., area, and network status.

Alarm Output Management

1. Basic information: alarm output name.
2. Resource information list: alarm output name, device IP address, device, and area.

Resource Management by Area

1. Support adding multiple areas and each area contains multiple different resources.
2. Support multiple levels of areas.

4.15.4 Credential Management

Card Management

1. Support up to 20 digits for one card number.
2. Support adding up to five cards to a person.
3. Support entering the card number manually.
4. Support card enrollment stations reading card numbers.
5. Support encrypting card sectors (one sector for a time) only when the encryption is via the card enrollment station(communicating with the platform via USB).
6. Support enrollment station (communicating with the platform via network) reading card numbers (supported card types including EM, M1, ID, DESfire, FeliCa, and CPU).
7. Support enrollment station (communicating with the platform via USB) reading card numbers (supported card types including EM, M1, ID, DESfire, FeliCa, and CPU).
8. Support any card reader of remote access control devices reading card numbers .
9. Card types: common, duress, and dismiss.
10. Support issuing cards in a batch.
11. Support reporting card loss and canceling the card loss report.

Fingerprint Management

1. Support up to 10 fingerprints per person.
2. Support fingerprint enrollment devices enrolling fingerprints.
3. Support enrolling fingerprints via enrollment station(communicating with the platform via network).
4. Support enrolling fingerprints via enrollment station(communicating with the platform via USB).
5. Support any card reader of remote access control devices enrolling fingerprints.
6. Fingerprint types: common, duress, and dismiss.
7. Support fingerprint duplicate checking and fingerprint quality grading.

Face Picture Management

1. Support only one face picture per person.
2. Support uploading local face pictures.
3. Support using a USB camera or a laptop with a camera enrolling face pictures.
4. Support enrolling face pictures via enrollment station (communicating with the platform via network).
5. Support enrolling face pictures via enrollment station (communicating with the platform via USB).
6. Support collecting face pictures via remote access control devices.
7. Support exporting all face pictures of all added persons as a ZIP file and setting a password for decompressing the ZIP file.
8. Support deleting a facial credential or batch deleting facial credentials.

Password Management

Support setting the password (unique, containing 4 to 8 digits, and only one password per person)

Iris Management

1. Support collecting 2 irises for each person.
2. Support collecting irises by device remotely as person credentials and applying irises to devices.

4.15.5 Card Printing

Card Template Customization

1. Support customizing card templates: set the shape to vertical or horizontal, set the front and/or back style, insert pictures, insert text, and insert person information fields.
2. Support previewing the card template.
3. Support text alignment and content alignment.
4. Support adjusting the layer of content and text on the card.
5. Support customizing the size of the text on the card and horizontal alignment.
6. Support customizing the size of pictures added to the card.

7. Support configuring font color and bold font.
8. Support auto line break of inserted text, name, first name, last name, email, remark, and custom information.

Compatible with Mainstream Card Printers

1. The platform shall support mainstream card printers, such as HID Fargo and Magicard; the supported card specification is CR80; Support single-sided or dual-sided printing.
2. The platform shall support Zebra ZC350 for printing cards.
3. The platform shall support accessing card printers via USB.

Quick Card Printing

Support printing cards one by one or in a batch.

4.15.6 Access Level Management

Dashboard

1. Support wizard, device health status, person credential status, access trend, abnormal records top 5, entry & exit counting, and real-time entry & exit events.
2. Support quickly configuring access control on the Access Control Overview page.

Holiday Management

Support configuring up to 32 regular or irregular holidays.

Access Schedule Template Management

1. Support three default access schedule templates: all-day template, weekday template, and weekend template. The default templates cannot be edited or deleted.
2. Support creating new access schedule templates or copying from an existing template. The templates include week schedules and holiday schedules.
3. Support manually entering the time accurate to hour and minute for drawing time periods of schedule templates.

Access Level Management

Support configuring access levels for all or specific doors and/or floors.

Multi-Dimensional Access Level Assignment

1. Support assigning access levels by access level.
2. Support assigning access levels by person.
3. Support assigning access levels by organization.
4. Support assigning specific access levels by access group.

5. Support searching for persons by name and employee ID.
6. Support automatically applying access level settings to devices after assigning access levels to persons, departments, and access groups.

Manual Access Level Applying

1. Support specifying persons and devices to apply access levels immediately or later.
2. Support applying access levels initially (first clear and then apply).
3. Support displaying the applying progress and applying failure details.
4. Support status statistics of applying access levels.

Automatic Access Level Applying

1. Support automatically applying access levels at fixed time every day. The time can be configured and is 1:00 a.m. by default.
2. Support automatically applying access levels every certain hours every day. The interval can be configured and is 1 hour by default.

Access Level Overview and Quick Exception Processing

1. Support credential status statistics: number of persons, faces, cards, fingerprints, and persons with no credentials; Support viewing and exporting person statistics of different status.
2. Support device status statistics: device exception, to be applied, and exceptional when applying, and Support viewing and exporting device statistics of different status.
3. Support detecting access level applying status by specified person, including applying failed, applying succeeded, and to be applied; Support applying access levels again.
4. Support detecting access level applying by specified access point, including applying failed and applying succeeded; Support applying access levels again.

4.15.7 Advanced Function Management

First Person In

1. Support remaining open with first card and first card authorization.
2. Support remaining open with first person and first person authorization.

Multi-Factor Authentication

1. Support adding multi-factor authentication groups.
2. Support configuring multi-factor authentication rule based on multi-factor authentication group, including access schedule template, authentication mode, card-swiping order of the authentication group, and card-swiping interval.
3. Support specifying users to open the door remotely.

Multi-Door Interlocking

Support multi-door interlocking of one device.

Anti-Passback

1. Support area anti-passback of one device or across multiple devices.
2. Support route anti-passback of one device or across multiple devices.
3. Support enabling or disabling regular forgiving anti-passback.
4. Support configuring anti-passback for barrier gates.

Remaining Open or Closed

Support configuring free access and access forbidden schedules in a batch.

Authentication Mode

1. Support configuring reader authentication modes.
2. Support configuring person private authentication modes.

Open Door by Mobile Client

1. Support opening door via Bluetooth.
2. Support opening door via NFC.

Applying Advertisement

Support applying advertisements to access control devices.

Audio Broadcast

1. Support batch configuring audio broadcasts, including daily audio broadcasts and particular audio broadcasts.
2. Support viewing record details of devices and captured pictures (if any) in Device Recorded Data Retrieval module.

4.15.8 Real-Time Monitoring on Map

Real-Time Door Status Monitoring

1. Support displaying the status of the door magnetic/door lock.
2. Support starting live view of linked cameras.

Real-Time Event Monitoring

1. Support uploading events in real time.
2. Support filtering by event type.
3. Support filtering by access point.
4. Support customizing columns to be displayed.

5. Support subscribing to specific event types.
6. Support a lasting display of the information about the current recognized person, including profile photo, face picture, and person introduction. Support transforming the window to a thumbnail window.

Real-Time Monitoring on Map

1. Support displaying resource status in real time (door, floor, alarm input, and alarm output).
2. Support real-time remote control (door, floor, alarm input, and alarm output).
3. Support displaying alarms of resources (door, floor, alarm input, and alarm output) in real time.
4. Support real-time live view of the camera linked with the door.
5. Support displaying regional entry & exit counting in real-time.
6. Support displaying multi-door interlocking in real time.
7. Support displaying anti-passback in real time.

4.15.9 Effective Emergency Response

Batch Emergent Door Control

Support remotely controlling doors one by one or in a batch in real time.

Roll Call

1. Support alarm input linkage to automatically remain all doors or doors of a specific area open.
2. Support automatically triggering the printer to print the list of stayed people of all areas or a specified area.

4.15.10 Access Records

Identity Access Records Retrieval

1. Support searching for identity access records and export to Excel or CSV files.
2. Support automatically getting lost identity access records from the device by schedule.
3. Support manually getting all identity access records during the specified time period from the device.
4. Support manually importing identity access records exported from the device to the platform.
5. The Identity Access Search page supports customizing column items to be displayed.

Device Recorded Data Retrieval

Support searching for device recorded data which can be exported to Excel or CSV files.

Entry & Exit Counting Retrieval

Support searching for entry & exit counting results which can be exported to Excel or CSV files.

4.15.11 Visualized Report

1. Support today's access records which can be exported to PDF, JPG, or PNG files.
2. Support today's access trend which can be exported to PDF, JPG, or PNG files.
3. Support today's abnormal records top 5 which can be exported to PDF, JPG, or PNG files.
4. Support regional stayed people counting.

4.15.12 Privacy Protection Settings

1. Event storage configuration: overwrite, delete old events regularly, and delete old events by specified time.
2. Authentication configuration: whether to display the photo, name, employee No., and temperature in the authentication result.
3. Picture uploading and storage configuration: upload recognized or captured pictures, save recognized or captured pictures, save profile photos, upload event and alarm pictures, save event and alarm pictures, upload thermal pictures, and save thermal pictures.
4. Clear pictures stored on the device quickly: clear face pictures and clear recognized or captured pictures.
5. Delete face pictures of one person or all persons.

4.16 Visitor Management

- ***Reservation and Check-In/Out***
- ***Visitor Pass***
- ***Visitor Terminal***
- ***Visitor Access***
- ***Visitor Records***

4.16.1 Reservation and Check-In/Out

Visitor Reservation

1. Administrator can make reservations for visitors on the Web Client and Mobile Client.
2. Support batch importing visitor reservation information and replacing repeated visitors.
3. Employees can make reservations for visitors on a web browser by scanning a QR code using a mobile phone.
4. Support displaying the visitor QR code right after successful self-service reservation on the Mobile Client.
5. Support enabling face quality verification on a device that have the capability.
6. Support enabling self-service reservation approval. When it is enabled, all self-service reservations will be effective after the review and approval of the administrator.

7. Support setting the default visitor group of self-service reservation.
8. Administrator can review the self-service reservation records and then approve, reject, or delete the reservations.
9. Support configuring access levels for visitors when making self-service reservations.
10. Support assigning the permission for reviewing reservations to specific users.

Auto Sending of Visitor Reservation Code

Support sending a 4-digit or 6-digit reservation code to the visitor via email automatically when making reservations.

Parking for Visitors

Support opening the barrier gate when the visitors' vehicles arrive if the license plate number is filled in when making reservations.

Visitor Check-In

1. For visitors with a reservation, they can check in by providing the reservation code, phone number, or certificate number. Visitors' information will be shown and can be edited or replenished.
2. For visitors without a reservation, users can check in for them on site by filling in the visitors' information.
3. For visitors without a reservation but have visited previously, users can select the persons from the visitor group to quick check in for them.
4. Support exporting visitor check-in information and access records.
5. Support quickly checking in any history visitor, no matter the visitor has been deleted or not.

Auto Sending of Access QR Code

Support sending the QR code for accessing the allowed areas to the visitors' email if the email address is filled in when checking in.

Visitor Check-Out

1. Support checking out for the visitors manually.
2. Support setting multiple access points as the self-service check-out points.
3. Support checking out at the self-service check-out points.
4. Support enabling "Auto Checkout for Visitor After Effective Period" so that the platform will not issue overstay alarms.
5. Support quickly checking out a visitor through the visitor's ID number, phone number, name, or card number, or by scanning the QR Code on the visitor pass. To make scanning QR codes available, users need to add scanning devices to the platform.
6. Support searching for a visitor to check them out by swiping their passport on the KR420 passport reader plugged into the PC where the Web Client runs.

Customizing to Users' Needs

1. Support customizing visit reasons.
2. Support customizing visitor groups.
3. Support customizing reservation email templates.
4. Support customizing check-in email templates.
5. Support customizing the digits of the reservation code.
6. Support customizing the default check-out time.
7. Support customizing the information fields on the visitor reservation page or visitor check-in page.

Check-In Not Required If Reservation Confirmed

1. Support enabling/disabling the platform to automatically check in visitors when reservations are made for the visitors."
2. When the feature is enabled, visitors needn't check in at the reception area. They can access the specified access points directly through the QR codes on their visitor passes. When the feature is disabled, visitors should check in at the reception area first before they can access the access points.

Notify Related Persons via Email

1. Support automatically sending an email to the host when a reservation is made.
2. Support automatically sending an email to the host when a reservation fails to be made.
3. Support automatically sending an email to the visitor when the reservation for the visitor fails to be made.
4. Support automatically sending an email to the host when the corresponding visitor is checked in.
5. Provides default email templates.

4.16.2 Visitor Pass

1. Support 58 mm thermo-sensitive printer.
2. Support editing the custom visitor pass template in a visualized way and previewing the template.
3. Support configuring the visitor information fields, background picture, custom pictures, custom texts, font, and font size of the visitor pass template.
4. Support automatically printing a visitor pass when a visitor is checked in; support manually printing a visitor pass anytime.

4.16.3 Visitor Terminal

1. The supported visitor terminal models include DS-K5032 (Self-Service), DS-K5032-D (Staff-Service), DS-K5032-3XFD (Staff-Service & Temperature Screening).
2. Support basic management of visitor terminals, including adding and deleting visitor terminals, changing passwords, setting time zone, restoring to default parameters, updating firmware, and searching visitor terminals on the same LAN through SADP.
3. Support applying access levels to the visitor terminals added to the platform.
4. Support applying the host information to the visitor terminals added to the platform.
5. Support applying reservation codes to the visitor terminals added to the platform.
6. Support two-way synchronization of the registered visitor information (from the platform to the visitor terminals or vice versa).

4.16.4 Visitor Access

Restricted Access for Visitors

1. Support setting the access levels of visitors and setting a default access level for new visitors.
2. Support applying the access levels to access control devices automatically after checking in.
3. Support withdrawing the access levels of visitors after checking out.

Visitor Blocklist

1. Support moving visitors to blocklist.
2. Support removing visitors from blocklist.
3. Support batch importing visitor information to blocklist and replacing repeated visitors.
4. Users cannot make reservations or check in for the visitors in the blocklist. Support notifying the user when reserving or checking in for visitors in the blocklist.

Visitor Certificate Picture

1. When making a reservation or checking in for a visitor, users can upload a picture or take a picture of the certificate via PC webcam (Web Client) or mobile phone camera (Mobile Client).
2. Support displaying the certificate picture when checking out.

Visitor Belongings Check

1. When checking in for a visitor, users can upload a picture or take a picture of the visitor's belongings via PC webcam (Web Client) or mobile phone camera (Mobile Client).
2. Support displaying the belonging picture when checking out. User can choose to take the picture again.

Visitor Overstay Alarm

1. Support notifying an alarm when a visitor does not check out after the check-out time. User can choose to enable auto check-out or enable alarm detection to detect overstaying visitors.
2. Support displaying the visitor information when issuing an overstay alarm.

Visitor Watch List

1. Support configuring the watch list to monitor special visitors by name, company, and ID number. The involved procedures include reservation, reservation review, and check-in.
2. Support automatically opening a notification window when a visitor registered in the reservation or check-in process has attributes that match entities in the watch list; support making a reservation for, checking in, or rejecting the visitor. Moreover, the statistics of rejection times is supported.

Manage Permission for Accessing Visitor Group

Support assigning the permission for accessing a specific visitor group to specific users.

4.16.5 Visitor Records

Daily Visitor Statistics

1. Support displaying the number of total visitors and unchecked-out visitors on the current day.
2. Support filtering and listing visitor information (categorized by total or unchecked-out visitors).
3. Support exporting the search results.

Visitor Access Records Search

1. Support searching for visitors by setting conditions, including certificate number, name, phone number, company, visitee, visit reason, visit time, check-in/out status, and skin-surface temperature status.
2. Support exporting the search results.
3. Support recording the last access point of a visitor.

Entry & Exit Records Search

Refer to ***Access Records*** .

Visitor Dashboard

Support viewing the overview of the data related to visitors on a dashboard, including the number of visitors on the current day, checked-in visitors, checked-out visitors, and visitors who have checked in but have not checked out.

4.17 Parking Lot

- ***Parking Lot Operation***
- ***Parking Fee Collection***
- ***Parking Lot Configuration***
- ***Alarms in Parking Lot***

4.17.1 Parking Lot Configuration

Basic Parameters

1. Support adding multiple parking lots for management.
2. Support adding, deleting, and editing parking lots. The basic settings for a parking lot include the number of lanes, the number of parking spaces, the number of vacant parking spaces, the number of parking spaces for registered vehicles, the number of vacant parking spaces for registered vehicles, the maximum parking duration allowed, etc.
3. Support adding sub parking lots to one parking lot.
4. Support configuring the lanes added to the entrance and exit of a parking lot, including the lane name, entry & exit time, entry & exit rule for different types of vehicles, etc.
5. Support configuring the following ways to open the barrier gate at the entrance and exit:
   a. Open after recognizing the license plate number;
   b. Open after a vehicle owner swipes his/her card;
   c. Open after receiving confirmation from the center.
6. Support two-way audio between the entrance & exit and the call center via video intercom devices.
7. Support two-way audio between the entrance & exit and the call center via the entrance/exit station.
8. Support configuring guidance screens for entrances and exits, and configuring the information displayed on the guidance screens, including the license plate number, parking fee, etc.
9. Support adding entrance/exit control devices to the platform on the Web Client.
10. Support managing parking spaces outdoor and configuring outdoor parking guidance on the Web Client.
11. Support adding entrance/exit control devices via ISUP.
12. Support relating cameras to lanes for daily monitoring.
13. Support configuring the parking fee mode for a parking lot. If users set the parking fee mode as "Charge", users can select a currency according to the country where the parking lot is located.
14. Support linking an entrance/exit station with a line for controlling the barrier. After a temporary vehicle or a vehicle with no license plate gets a ticket or card from an entrance/exit station, the station will control the barrier gate to open and let the vehicle enter.
15. Support searching passing vehicles in the entrances & exits of a parking lot.
16. Support searching the parking duration and parking records of a specific vehicle.
17. Support searching the occupancy rate of different floors and different parking space types.

Entry & Exit Rule

1. Support configuring the entry & exit mode, including:
   a. Entry Mode: no repeated entry, license plate and card match;
   b. Exit Mode: license plate and card match, whether to allow a vehicle to exit when its parking fee is 0.
2. Support enabling or disabling auto account deduction.
3. Support configuring the entry & exit method for vehicles according to their types (registered vehicle/temporary vehicle/visitor vehicle). The method can be "Manual" or "Automatic", and the latter Support configuring the time range of entry & exit.
4. Support configuring whether to allow registered vehicles/temporary vehicles/visitor vehicles to enter when there are no vacant parking spaces.
5. Support configuring entry & exit method by vehicle list. The method can be "Manual" or "Automatic", and the latter Support configuring the time range of entry & exit.
6. Support configuring whether to allow vehicles in list to enter when there are no vacant parking spaces.
7. Support configuring the number of parking spaces and the number of vacant parking spaces by vehicle list, and the configured parameters are only applied to the vehicles in that vehicle list.
8. Support configuring free entry & exit on holidays.
9. Support configuring the pricing mode for multiple vehicles under one account, including extra vehicle pay and first exiting vehicles pay.
10. Support linking two capture units with a lane.
11. Support linking one ANPR camera with two lanes to be applicable to the entrance & exit without barrier gate installed.
12. Support setting entry mode as Person and License Plate Match on the Web Client.
13. Support configuring alarm linkage. When the alarm is triggered, the selected or all the entrances & exits will remain open.

Parking Fee Rule

1. Support configuring the parking fee rule for vehicles in list and temporary vehicles, the rule includes:
   a. Free;
   b. Charge by unit parking duration;
   c. Charge by session;
   d. Charge by time range;
   e. Charge by clock time;
   f. Charge by time and session in daytime and nighttime;
   g. Charge by unit time range.
2. Support relating a parking pass to a registered vehicle, the types of parking pass are: annual, monthly, custom (days), monthly (idle time).
3. Support previewing and verifying the parking fee rule to ensure that it meets users' requirements.

4. Support configuring the discount method for a discount rule. The method includes percentage discount, fee discount, free parking, and parking duration reduction.
5. Support configuring the parking fee rule for exceptional pass to charge a fixed fee for exceptional passes.
6. Support additional configuration to configure the free parking duration after payment.
7. Support issuing temporary cards.

Parking Guidance

1. Support adding floor(s) to a parking lot, and adding guidance terminals and guidance screens to the added floor(s).
2. Support adding a map to a parking lot, and configuring parking spaces for the parking lot on the map, including the position of parking lots, and parking space No.
3. Support marking guidance screens on the map to display the number of vacant parking spaces.
4. Support configuring the parking space type, such as private parking space, charging parking space.
5. Support configuring the types and colors of parking spaces.
6. Support mounting ANPR cameras on the top floor to count the number of entering and exiting vehicles. The number of vacant parking spaces will be displayed on the guidance terminal.
7. Support counting parking spaces on different floors by the ANPR camera. With ANPR cameras, the number of entering and exiting vehicles of a floor can be counted, and the number of real-time parking spaces of a floor can be displayed.
8. Support enabling or disabling parking space statistics for specific floors according to the time template. During the disabling time, the vacant parking spaces of specific floors will not be included in the vacant parking space statistics or displayed on the entrance guidance screen.
9. Support checking the information currently displayed on an indoor guidance screen (DS-TVL121) and viewing the detailed information about the parking space(s) linked to it, such as parking space No., floor where the parking space is located, whether the parking space is occupied, and the picture of the parking space captured at the moment.
10. Support relating vehicle list(s) to the parking space when configuring parking space types.

Self-Service Vehicle Finding Client

The Self-Service Vehicle Finding Client (Android) can be installed on the DS-TPW332-C Query Terminal (Android) or the third-party query terminals. The Client can help to find vehicles in the parking lot easily. When the vehicle owner is searching for the vehicle, it supports displaying both the vehicle owner and the vehicle's position on the map.

4.17.2 Parking Fee Collection

Methods for Parking Charges

1. Pay in the Toll Center: Support searching for a specific vehicle to get its parking fee by entering the license plate number, selecting the displayed picture (if a vehicle's license plate is not captured and recorded), swiping the temporary card, or scanning the parking receipt. The

parking fee will be manually collected by the operator in the toll center. After the parking fee is paid, the vehicle should exit the parking lot within a specified period.
2. Pay at the Booth: Support searching for a specific vehicle to get its parking fee by entering the license plate number or swiping the temporary card for manually collecting the parking fee and allowing the vehicle to exit the parking lot.

Parking Receipt

Support printing the parking receipt.

4.17.3 Parking Lot Operation

Parking Space Overview

1. Support parking space overview to view the statistics of parking spaces, including the occupancy rate of parking spaces, the number of parking spaces, the number of vacant parking spaces, the number of occupied parking spaces, etc.
2. Support viewing the detailed information about a parking space on the map.
3. Support searching for a vehicles by parking space No., license plate number, and parking time.
4. Support exporting details of parking spaces with the unknown status, such as the related parking space numbers and the corresponding parking lot and floor information, to the local PC as an XLSX file.

Record Search

1. Support plate fuzzy search, and the users can customize search rules.
2. Support searching for passing vehicles detected by entrances and exits, and displaying the related information.
3. Support searching for visitor vehicle records by time, visitor name, etc., and displaying related information.
4. Support searching for parking records by time, license plate No., parking status, etc., and displaying the related information.
5. Support searching for parked vehicles in parking lots and displaying related information.
6. Support searching for payment records by time, license plate No., operator, vehicle type, etc., and displaying related information.
7. Support searching for top-up and refund records by time, license plate No., vehicle type, transaction type, transaction method, etc., and displaying related information.
8. Support searching for account transaction records by time, vehicle owner account, transaction type, etc., and displaying related information.
9. Support searching for operator shift records by time and operator, and displaying related information.
10. Support searching for coupon records by vehicle type, coupon status, discount rule, etc., and displaying related information.

Statistics and Reports

1. Support viewing the statistics of parking lots, such as the health of devices (guidance terminals, parking cameras, etc.).
2. Support displaying the statistics of parking lot operation by time, including the real-time statistics of parking spaces, the occupancy rate of a parking lot, the distribution of parking duration, traffic flow, etc., and Support exporting the statistical report to the local PC.
3. Support displaying the statistics of transactions by time, including the revenue type, revenue trend, etc., and Support exporting the statistical report to the local PC.
4. Support sending the report on parking lot operation analysis by day, week, or month.
5. Support customizing the display layout of operation analysis report by selecting different statistics types.

Entrance & Exit Control

1. Support displaying the real-time captured pictures of passing vehicles, and displaying the related information including the license plate No., passing time, etc.
2. Support adding the license plate No. of a passing vehicle to the vehicle list in the platform for management when viewing the real-time vehicle passing records.
3. Support searching for passing vehicles.
4. Support playing the live videos streamed from the cameras related to entrances and exits.
5. Support opening and closing the barrier gate, and making the barrier gate remain open manually.
6. Support editing a license plate No. manually if the ANPR camera recognizes the license plate No. incorrectly.
7. Support displaying the information about operator shifts, and Support printing the information about the payment managed by the operators, including the total amount collected, the total discount amount, etc.
8. Support displaying the vacant parking spaces of different vehicle lists on the guidance screens in the entrance & exit lane of a parking lot.

4.17.4 Alarms in Parking Lot

Overtime Parking Alarm

Support regularly uploading overtime parking reports to the SFTP or local storage for evidence management.

4.18 Security Inspection

- ***Security Inspection Channel***
- ***Security Inspection Visualization***
- ***Security Inspection Visualization***

- ***Statistics and Reports***
- ***Historical Data Search***

4.18.1 Security Inspection Channel

1. Support adding security inspection channels to the area. Support deleting and editing security inspection channels.
2. Support linking devices to the security inspection channel. Up to 1 analyzer and 3 walk-through metal detectors can be linked.

4.18.2 Security Inspection Visualization

Visualization Based on Security Inspection Channels

1. Support viewing real-time package information, including the package picture, total number of packages, total number of packages with prohibited articles, and total number of prohibited articles.
2. Support marking detected articles in package pictures. Pictures can be magnified.
3. Support configuring prohibited articles for real-time alarms.
4. Support viewing the real-time picture of the package's owner.
5. Support viewing the real-time picture of the checked person, the total number of checked people, and the total number of people who carried metal.
6. Support viewing the real-time temperature of the checked person (if the walk-through metal detector supports temperature measurement).

Visualization Based on Analyzers

1. Support live view and playback of the analyzer's inspection videos.
2. Support marking detected articles in video stream. Support viewing video in the full-screen mode, capturing, recording, and switching between main stream and sub stream.
3. Support viewing the package's pictures and the package owner's picture.

Visualization Based on Walk-Through Metal Detectors

1. Support viewing real-time detected information
2. Support viewing real-time temperature information of the detected person (if the walk-through metal detector Support temperature measurement function).

4.18.3 Security Inspection Visualization

Prohibited Article Alarm

Support receiving real-time alarms when the prohibited article is detected.

Metal Detection Alarm

Support receiving real-time alarms when the metal is detected.

Absence Alarm

Support receiving real-time alarms when the security personnel's abnormal absence is detected.

4.18.4 Statistics and Reports

Package Detection

1. Support generating package detection reports by day, week, month, and year.
2. Support viewing the total number of detected packages and total number of packages with prohibited articles of specific security inspection channels within a specific period.
3. Support viewing percentage of packages with prohibited articles of specific security inspection channels within a specific period.
4. Support viewing prohibited article types within a specific period.

People Inspection

1. Support generating people inspection reports by day, week, month, and year.
2. Support viewing the total number of detected persons and total number of persons with metals of specific security inspection channels within a specific period.
3. Support viewing percentage of metal detection alarms of specific security inspection channels within a specific period.

4.18.5 Historical Data Search

Package Detection Record Search

1. Support searching for package detection records by time, prohibited article type, and channel. The result includes package detection time, location, article type, and number of prohibited articles.
2. Support viewing package details, including package's pictures, captured picture of the package owner, and videos recorded before/after the package is detected.

Metal Detection Record Search

1. Support searching for metal detection records by time and channel. The result includes detection time, location, and signal strength of the metal.
2. Support viewing metal details, including metal location, signal strength, and videos recorded before/after the metal is detected.

Absence Record Search

1. Support searching for absence records by time and channel. The result includes absence time, location, and absence duration.
2. Support viewing absence details, including the videos recorded before the personnel leaves and after the personnel comes back.

4.19 Temperature Screening

- ***Service Configuration***
- ***Person Registration***
- ***Temperature Monitoring***
- ***Statistics and Reports***

4.19.1 Service Configuration

Device Management

Support adding cameras with temperature screening functions.

Temperature Screening Configuration

1. Support creating temperature screening point groups and adding temperature screening points to the groups.
2. Support configuring the threshold for temperature screening.
3. Support configuring the threshold for temperature alarms.

4.19.2 Person Registration

Support registering person information if the screened person is not registered, including the person's name, ID, phone number, whether from high-risk areas, description, etc.

4.19.3 Temperature Monitoring

Temperature Monitoring

1. Support registering person information if the screened person is not registered, including the person's name, ID, phone number, whether from high-risk areas, description, etc.
2. Support viewing the real-time captured pictures of the specified temperature screening point group.
3. Support viewing previously captured pictures in thumbnail mode with the person's face picture, temperature, temperature mark color, mask wearing status, etc.

4. Support viewing alarm information of the specified temperature screening point group, including the person's captured picture, temperature, temperature mark color, mask wearing status, etc.
5. Support viewing the real-time captured pictures of the specified temperature screening point.
6. Support viewing previously captured pictures in thumbnail mode with the person's face picture, temperature, temperature mark color, mask wearing status, person group, etc.
7. Support viewing real-time temperature screening events, including the person's name, temperature, temperature mark color, mask wearing status, etc.

History Data

1. Support searching for historical temperature screening data of the specified temperature screening point group. The result includes the person's captured picture, temperature, temperature mark color, mask wearing status, person group, etc.
2. Support searching for registered person information. The result includes person name, ID, phone number, whether from high-risk areas, person in charge of registering, register time, screening time, etc.
3. Support searching for temperature screening events of the specified temperature screening point. The result includes event time, channel, mask wearing status, whether the temperature is abnormal, etc.

4.19.4 Statistics and Reports

1. Support the following report types: daily report, weekly report, monthly report, annual report, and report with a custom time interval.
2. Support analyzing results by temperature screening point. Support displaying the overall screening statistics and the statistics of people with abnormal temperature or those not wearing any face masks.
3. Support analyzing results by department. Support displaying the overall screening statistics and the statistics of people with abnormal temperature or those not wearing any face masks.
4. Support exporting the report to the local PC.

4.20 Video Intercom

- ***Independent Module***
- ***Video Intercom Device Management***
- ***Live Two-Way Audio***
- ***Notice Applying***
- ***Call Log***
-

4.20.1 Independent Module

1. Supports independent video intercom module and independent entry to the module.
2. Supports the dashboard which includes device maintenance, daily statistics of applied notices, and statistics of calls of the current day.
3. Supports batch configuring parameters for video intercom devices.

4.20.2 Video Intercom Device Management

Accessing Devices via Multiple Protocols

1. Support accessing devices via Device Network SDK or IP address.
2. Support displaying device information, including device name, location, serial number, version, the number of doors, the number of cameras, the number of alarm inputs, location No., network status, and password strength.

Device Configuration

1. Platform Parameters Configuration (Device Network SDK): IP address, port, alias, username, password, time zone, and channel resource.
2. Device Location Number Configuration
   - Indoor Station: community No., building No., unit No., and room No.
   - Door Station: community No., building No., and unit No.
   - Outer Door Station/Main Station: community No.
3. Support linking resident information (only for indoor station).
4. Support jumping to the configuration page of the device.
5. Support accessing configuration library (only for the devices not supporting the configuration via web browser).
6. Support linking indoor stations with cameras (up to 16 cameras per indoor station).
7. Support linking the doorbell with the indoor station.
8. Support applying software packages to indoor stations in a batch.

Device Settings Applying

Support applying the location No. and the corresponding network parameters of all video intercom devices to all devices.

Remote Control of Device

1. Support changing the password (single or in a batch).
2. Time zone settings: getting the time zone settings of a device and applying these settings to other devices (single or in a batch).
3. Support restoring the default parameter (single or in a batch).

Real-Time Detection of Device Status

1. Support displaying online status of device.
2. Support viewing the network status of the device.
3. Persistent connection status of the two-way audio called by device.
4. Support viewing arming status.
5. Support viewing battery status of the device.
6. Supporting viewing the time when the device is added for the first time and the time of its first inspection.

4.20.3 Live Two-Way Audio

Call Schedule of Door Station

Support configuring schedules for calling the indoor station or the management center (platform or main station).

Two-Way Audio Between Platform and Door Station

1. Support two-way audio.
2. Support live view during two-way audio.
3. Support recording and saving video and audio to the local PC.
4. Support remote door control during two-way audio.
5. Support remotely unlocking the door before answering the call.

Two-Way Audio Between Platform and Indoor Station

1. Support two-way audio.
2. Support live view during two-way audio.
3. Support starting two-way audio in the event pop-up window.

Specify Persons to Answer Calls

1. Support specific persons answering the call from the device.
2. Support specific persons answering calls at specified time periods.

Two-Way Audio Between Device and Web Client

Supports calling indoor stations and answering calls from devices via the Web Client.

Sequence of Answering Calls

When video intercom devices call the Center, the earliest and unanswered call will be listed as the first one to be answered.

Automatically Saving Volume of Two-Way Audio

In the Video Intercom module, the two-way audio volume of microphone and loudspeaker will be saved and used in the following two-way audio.

4.20.4 Notice Applying

Batch Applying Notices to Indoor Stations

1. Supports batch applying notices to indoor stations. Notices can include pictures and texts which can be displayed in multiple languages, for example, Russian.
2. Supports searching history notices by setting conditions including the theme, content, resident, type, and time.
3. Supports exporting history notices.
4. Support applying event/alarm related notices.

4.20.5 Call Log

Calls Between Platform and Indoor Stations / Door Stations

1. Supports saving logs of calls between the platform and indoor stations / door stations.
2. Supports viewing call statistics (the number and logs of calls answered or not answered) quickly.
3. Supports searching logs of calls by setting conditions including device, call duration (start time and end time), and call status.
4. Supports viewing details of any call log and calling the indoor station again.

4.21 On-Board Monitoring

- ***Multi-Scenario Deployment***
- ***Driving Monitoring***
- ***Statistics and Report***
- ***Historical Record Search and Exporting***
- ***Event and Alarm***
- ***Evidence Management***
- ***Permission Management***
- ***Device Maintenance***

4.21.1 Multi-Scenario Deployment

Device Management

1. Support adding detected online on-board devices.
2. Support accessing on-board devices via ISUP when the devices are connected to the Internet or Wi-Fi.
3. Support synchronizing the time zone with that of the on-board device. Support manually setting the time zone of the on-board device.

4. Support getting and displaying device information for device management, including device serial No., firmware version, the encoding device's channels for linking with cameras, and alarm input/output information.
5. Support jumping to the device's Web page for remote configuration, including configuring parameters of the device and the linked channels.
6. Support batch upgrading firmware packages (via FTP only) and setting the concurrency for package bandwidth management.

Storage Solution

1. Support configuring storage parameters, including video stream type (main/sub/dual), time-based/event-based recording schedule, and video file expiry time.
2. Support 4G real-time redundant storage. When an event occurs, the first copy is stored on the on-board encoding device and the second copy is stored on pStor/HybridSAN/cloud storage for security purposes.
3. Support backup via W-Fi. Once a vehicle reaches its destination and the on-board device successfully connects to the Wi-Fi there, the video recorded during the journey will be copied back to the central storage (pStor/HybridSAN/cloud storage) for backup.
4. Support configuring the picture storage (local storage/pStor/HybridSAN/cloud storage).
5. Support copying back videos from HybridSAN by specifying the start and end time. Support copying back the videos stored before the on-board device is added to the platform. The cooperation between video copying back and on-board device local storage can better meet users' needs.

Streaming for Multi-Client in WAN

1. With the built-in streaming media, multiple clients in WAN are able to access and stream from one device added via ISUP in LAN.
2. Support adding external SMS server. Support streaming from devices through multiple channels via external streaming media based on the specified area.
3. Support automatically switching off streaming after the configured duration.
4. Support enabling stream encryption. When starting live view or remote playback, the client will verify the stream encryption key for security purposes.

Vehicle Management

1. Support creating areas for vehicle management.
2. Support adding the license plate number of the vehicle that the on-board device is related to. Support adding the vehicle to an existing area or a newly-created area. Supports editing the names of different resources, including the cameras, alarm inputs, and alarm outputs.
3. Support vehicle information management, including the license plate number, vehicle owner's name, telephone, vehicle type, vehicle color, vehicle brand, vehicle picture, and linked devices.

Driving Rule Configuration for Multi-Scenario

1. Provide on-board monitoring overview, configuration wizard, basic maintenance information (online/total number of on-board devices, online/total number of cameras, exception/total

number of alarm inputs), statistics and reports (driving distance of last 7 days, driving duration of last 7 days, and driving events of last 7 days) for users to quickly get started for on-board monitoring configuration and system maintenance.
2. Support setting kilometer or mileage as the distance unit for displaying the speed and distance.
3. Support setting the URL of the Google map API.
4. Support setting the retention period of GPS data (7/15/30/60/90/180 days or 1 year). Shorter period means smaller data storage space.
5. Support setting the frequency at which the GPS information is reported to the platform (5/10/15/30/60 seconds). Higher frequency means more bandwidth consumption and higher accuracy of GPS information.
6. Support setting multiple fence rules, including name, description, rule schedule template, vehicle list, fence type (for entry/exit detection), and fence area on the Google map.
7. Support setting multiple deviation rules, including name, description, rule schedule template, vehicle list, deviation threshold, and route on the Google map.

4.21.2 Driving Monitoring

Monitoring Pane

Support on-board monitoring via the monitoring pane to get the real-time information such as the vehicle list, Google map, live videos, and driving events.

Vehicle Operation

1. Support displaying the area that the vehicle belongs to, vehicle list, related channels. Support searching vehicles and areas.
2. Support displaying the total number of vehicles, number of online vehicles, and number of located vehicles. Support displaying online/located vehicle list.
3. Support adding vehicles to the Favorites list. Support viewing all the vehicles in the Favorites list.
4. Support displaying alarm status of the on-board devices.
5. Support displaying the vehicle details: license plate number, driver, driver's phone number, vehicle type, vehicle color, vehicle brand, and vehicle picture.
6. Support selecting multiple vehicles to locate them on the map.
7. Support placing a located vehicle in the center of the map.
8. Support two-way audio with the driver of the selected vehicle.
9. Support selecting multiple vehicles to broadcast to them.
10. Support getting the real-time location of the selected vehicle and displaying its real-time route on the map.
11. Support playing back the route of the selected vehicle. Support playing back the route on the map and the recorded video simultaneously.
    a. Support setting the duration for playback (latest 1 hour, latest 6 hours, today, yesterday, custom duration).
    b. Support selecting the vehicle-mounted cameras.
    c. Support setting the playback speed (1/8X, 1/4X, 1/2X, 1X, 2X, 4X, 8X).

   d. Support placing the vehicle in the center of the map.
   e. Support displaying the threshold of the driving speed.
   f. Support skipping the period without recorded video.
   g. Support stopping/starting playing back the route.
12. Support controlling the vehicle's alarm outputs. Support enabling/disabling specific alarm outputs.

Map Operation

1. Supports displaying the map in full-screen mode or on the auxiliary screen.
2. Supports displaying the configured fence rule and deviation rule on the Google Map.
3. Supports drawing a round area on the map. The vehicles in the area will be displayed and supports selecting a specific vehicle.
   a. Supports viewing vehicle details including GPS information and driving speed.
   b. Supports two-way audio with the driver.
   c. Supports tracking vehicles at real time.
   d. Supports playing back the routes vehicles have traveled along.
   e. Support alarm output control.
4. Supports specifying the start point and end point on the map to measure the actual distance between them. Supports displaying multiple lines for measuring distances on the map.
5. Supports displaying alarm status of the vehicle which has been located on the map and view alarm details.

In-Vehicle Camera Monitoring

1. Supports displaying the video module in full-screen mode or on the auxiliary screen.
2. Supports live view or playback of 16 vehicle-mounted cameras at most, presetting and customizing window division.
3. Supports live view or playback of single or all vehicle-mounted cameras in the vehicle.
4. Supports the following functions for single channel: capturing, two-way audio, digital zooming, audio control, main/sub-stream switch, alarm output control, adding tags, recording manually (only for live view), video clipping (only for playback), fisheye expansion, image enhancement, PTZ control (only for live view), switching to instant playback, printing, zooming the selected areas, and exporting videos.
5. Supports PTZ control for PTZ cameras (only for live view): controling priority configuration, lock time, multiple/single wiper, 3D positioning, preset (getting, setting, and calling presets of devices), pattern, patrol, focus, focal distance, iris, one-touch focus, light, lens initialization, manual tracking, capturing face picture manually, user priority configuration, and park.
6. Supports displaying camera status: including frame rate, stream information, video standard, number of connections, network status, signal status, recording status, access mode, channel type, device name, address, protocol type, storage information (main storage and auxiliary storage), and area.
7. Supports marking out days on which videos are recorded on the calendar. Supports playing videos in specific day and time. Supports dragging the timeline forward or backward to position the desired video segment.

8. Supports searching video files by setting conditions including recording type (time-based recording schedule, event-based schedule, manual recording, and ANR recording), tag type (event type, manually added tag, and other tags), and storage location.
9. Supports fast playing by 1, 2, 4, and 8 times, slow playing by 1/2, 1/4, and 1/8 times.
10. Supports synchronous playback and asynchronous playback.
11. Supports playback of thumbnails: displaying thumbnails when hovering the cursor over the time line and clicking the thumbnail to play the corresponding video.
12. Supports playing and pausing videos, and single frame backward and forward.
13. Support batch downloading videos recorded by vehicle-mounted cameras.

Driving Event Monitoring

1. Supports detecting driving events in On-Board Monitoring module without any configuration.
2. Supports selecting driving events which need monitoring: driving monitoring event, driver abnormal event detection, and ADAS event.
3. Supports driving monitoring event: Fence, Deviation, Overspeed, Collosion, Rollover, and Emergency Alarm. These events are also available for searching and event alarm function.
4. Supports driver abnormal event detection: including Smoking, Using Mobile Phone, Fatigue Driving, Distraction, and Seat Belt Unbuckled. These events are also available for searching and event alarm function.
5. Supports ADSA events: Forward Collosion, Headway Monitoring Warning, Lane Deviation, Pedestrian Collision Warning, Speed Limit Warning, and Blind Spot Warning. These events are also available for event search and event alarm function.
6. Supports displaying details of real-time event monitoring: license plate number, area, driver, number of event (supports clustering by on-board device), time, event type, GPS info (click to view the location), driving direction, and alarm status (triggered or not triggered).
7. Supports displaying details and real-time location of vehicles: including license plate number, area, time, GPS information, driving direction, and speed.
8. Supports going to the driving event search page from the event list page.

4.21.3 Driver Management

Driver Management

1. Support driver list management, including driver's name, ID, email, phone No., remark, driving license (number and picture).
2. Support driver group management. Supports adding multiple drivers to a group.
3. Support linking a driver / driver group when adding a vehicle for the purpose of getting the driver's statistics.

Statistics and Report

1. Support viewing driver statistics during last 7 days / last 30 days / a custom period.
2. Support viewing driver details, including name, profile photo, driving distance, driving duration, events per 100 kilometers, number of events, total fuel consumption, punctual departure rate, punctual arrival rate, unpunctual departures/arrivals, and remark.
3. Support setting event types for calculation.
4. Support top events distribution statistics during last 7 days / last 30 days / a custom period.
5. Support viewing the trend of fuel consumption per 100 kilometers on a daily, weekly, or monthly basis, or for a custom period.
6. Support viewing the trend of driving distance on a daily, weekly, or monthly basis, or for a custom period.
7. Support viewing the trend of driving duration on a daily, weekly, or monthly basis, or for a custom period.
8. Support viewing the trend of driving events on a daily, weekly, or monthly basis, or for a custom period.
9. Support viewing the trend of events per 100 kilometers during last 7 days / last 30 days / a custom period.

4.21.4 Route Management

Driving Monitoring

1. Support adding stops on the map. Support setting the name and enabling/disabling people counting for the stop.
2. Support adding driving routes by selecting stops, configuring the route, and setting shift schedules.
3. Support automatically generating a route among multiple stops.
4. Support setting a shift schedule by week. Support setting days of the week for repeating and the start time to take effect.
5. Support setting a shift schedule for a fixed date.
6. Support setting a shift schedule for a time period.
7. Support batch setting shift schedules for a route.
8. Support setting the arrival/departure time for each stop and the time difference allowed (accurate to minute).
9. Support setting the causes of unpunctual departure/arrival for different routes.
10. Support configuring stop event rules. Support setting stops allowing/forbidding triggering alarm inputs.
11. Support configuring route event rules. Support setting stops allowing/forbidding triggering alarm inputs.

Route monitoring

1. Support displaying the status of all routes including punctual routes and unpunctual routes.
2. Support filtering routes according to stops and route names.
3. Support displaying the stops of a route and the status of a vehicle (punctual, late or early arrival).
4. Support viewing the details of a route by clicking the route including the punctuality of vehicles at one stop and the punctuality of all vehicles at each stop.
5. Support adding notes during route monitoring by selecting predefined causes. The added notes will be included in the report.
6. Support clicking the icon of a specific vehicle to view the driving monitoring information including the real-time location, routes, triggered alarms, drivers' information, and vehicle operations.

Stop analytics report

1. Support generating statistics reports of all stops or selected stops.
2. Support viewing stop information of the past 7 days, the past 30 days, or a custom period.
3. Support showing the overall analytics of each stops, including the average punctual departure rate, average punctual arrival rate, average dwell time (in minutes), total unpunctual arrivals, and total unpunctual departures.
4. Support showing the top 10 / bottom 10 stop rankings for punctual departure rate, punctual arrival rate.
5. Support showing the top 10 / bottom 10 stop rankings for punctual arrival rate.
6. Support showing the top 10 / bottom 10 stop rankings for total driving time, actual driving duration and scheduled driving duration.

Route searching

1. Support searching for traveled routes according to route names, stop names, driver/driver group and vehicle information.
2. Support displaying route time, shift schedule, vehicle, driver/driver group, vehicle departure time, driving duration. Support managing each route record.
3. Support displaying route information of each shift schedule including scheduled driving time, actual driving time, scheduled departure time at a stop, actual departure time at a stop, scheduled arrival time at a stop and actual arrival time at a stop.
4. Support exporting the traveled route records.

4.21.5 Fuel Consumption Management

Fuel Level Monitoring Configuration

1. Support configuring fuel consumption unit.
2. Support configuring fuel tanks including names, tank capacity, fuel level, threshold of fuel consumption.
3. Support having an overview of fuel levels according to the parameter of tank types of different vehicles.
4. Support configuring a fuel level difference threshold. When the difference exceeds the configured value, an alarm will be triggered.

Fuel Level Records Search

1. Support searching for fuel level records according to time, vehicle, driver/driver group.
2. Support displaying fuel consumption per 100 kilometers of a selected driver and fuel consumption of every driver.
3. Support displaying the reported fuel consumption records of every driver including driver, fuel consumption, driving distance, and fuel consumption per 100 km.
4. Support displaying the fuel consumption trend of a specified vehicle.
5. Support displaying the reporting location of real-time fuel consumption on the map.
6. Support displaying vehicle, driver,fuel consumption, total tank capacity and GPS information linked to a certain unit of fuel consumption.
7. Support exporting reports.

4.21.6 Statistics and Report

Various Report Types

1. Support the overview of on-board monitoring statistics and report, including the six report types: GPS information, driving distance, driving duration, speeding times, driving events, and device online rate.
2. Support generating the report on GPS-related information of specific vehicles in a specific period.
3. Support displaying simultaneously or separately the GPS report times of all vehicles or selected vehicles.
4. Support viewing the GPS details.
5. Support generating the report on the online rate of the on-board devices mounted on the selected vehicles in a specific period.
6. Support displaying simultaneously or separately the online rate of all vehicles or selected vehicles in a specific period.
7. Support viewing the online rate details.
8. Support generating the report on the driving distance of specific vehicles in a specific period.
9. Support displaying simultaneously or separately the driving distance of all vehicles or selected vehicles in a specific period.
10. Support viewing the driving distance details.

11. Support generating the report on the speeding duration of specific vehicles at a specific speed (0, 20km/h，40km/h，60km/h，80km/h) in a specific period.
12. Support displaying simultaneously or separately the driving distance of all vehicles or selected vehicles in a specific period.
13. Support viewing the driving distance details.
14. Support generating the report on the driving duration of specific vehicles at a certain speed (0km/h，20km/h，40km/h，60km/h，80km/h) in a specific period.
15. Support displaying simultaneously or separately the driving duration of all vehicles or selected vehicles in a specific period.
16. Support viewing the driving duration details.
17. Support generating the report on driving events of specific vehicles in a specific period.
18. Support displaying simultaneously or separately the number of driving events of specific vehicles in a specific period.
19. Support viewing driving event details.
20. Support generating the report on the passenger counting of specific vehicles in a specific period.
21. Support displaying simultaneously or separately the number of passengers who got on or (and) off specific vehicles in a specific period.
22. Support three types of view mode: enter, exit, and enter/exit.
23. Support calculating passenger traffic of different stops or time periods: displaying the people counting data in a specified period of different vehicles or all vehicles at the same time or separately, including passenger arriving, leaving or both.
24. Support calculating passenger traffic of different routes or time periods: displaying the people counting in a specified period of different vehicles or all vehicles at the same time or separately, including passenger arriving, leaving or both.
25. Support the following report types for the above reports: daily report, weekly report, monthly report, custom time interval.
26. Support exporting the report.

Scheduled Report

1. Support configuring sending weekly or monthly reports regularly.
2. Support sending reports regularly including driver analysis, fuel level analysis and site passenger traffic analysis report.
3. Support selecting lists of drivers to be analyzed.
4. Support setting a regular sending time.
5. Support setting the email template.
6. Support setting a report format: Excel or CSV.
7. Support producing reports in multiple languages.
8. Support uploading reports to SFTP regularly.
9. Support uploading reports to local servers regularly.

4.21.7 Historical Record Search and Exporting

1. Support searching vehicle routes by the following conditions: time, vehicle, speed range, and event type.
2. Support recording vehicle route details: time, maximum speed, minimum speed, triggered event.
3. Support searching driving events by the following conditions: time, vehicle, event type, and specified area on map.
4. Support recording driving event details: license plate No., area, time, event type, GPS information, and driving direction.
5. Support searching and exporting the routes that historical vehicles have traveled along or the routes of driving event.
6. Support exporting the route record file (in the format of Excel or CSV) and video file (in the format of MP4, or AVI).

4.21.8 Event and Alarm

1. Support receiving driving events: on-board monitoring event, driver behavior, and ADAS event.
2. Support receiving the events triggered by on-board device maintenance: online, offline.
3. Support receiving the events triggered by the alarm input of on-board device.
4. Support receiving the events triggered by the vehicle-mounted camera (the supported event type is subject to the vehicle-mounted camera).
5. Support all functions of Event & Alarm module: linkage actions configuration for the detected events and alarms, alarm monitoring, historical alarm information search, alarm & event operation analysis, etc.
6. Support batch exporting the route record files (in the format of Excel or CSV) and video file (in the format of MP4, or AVI).

4.21.9 Evidence Management

Support evidence management. Refer to ***Evidence Management*** .

4.21.10 Permission Management

1. Refer to Evidence Management for details
2. Support configuring the permission of the vehicle module: basic settings and rule configuration.
3. Support configuring the permission: on-board monitoring, vehicle search, and vehicle statistics and report.
4. Support configuring the permission of the event and alarm search of alarm input.
5. Support configuring the permission of alarm output.
6. Support health status overview according to resources: alarm input, alarm output, on-board device, and camera.

7. Support configuring the following permissions for cameras: live view, screenshot and print, video search, video export, manual video recording, two-way audio, and play audio.
8. Support configuring the camera playback permission.
9. Support playing back the video recording within a recent time period (minute/hour/day).
10. Support configuring the camera PTZ permission: PTZ configuration and operation.

4.21.11 Device Maintenance

1. Support viewing the real-time status of all devices: MVR (mobile video recorder)/DVR (digital video recorder), vehicle-mounted camera, and alarm input.
2. Support the historical online rate statistics of on-board device.
3. Support the online rate statistics of vehicle-mounted camera.
4. Support the recording integrity rate statistics of vehicle-mounted camera.

4.22 Intelligent Analysis Report

- ***People Counting***
- ***Person Feature Analysis***
- ***Heat Analysis***
- ***Pathway Analysis***
- ***Queue Analysis***
- ***Temperature Analysis***
- ***Dashboard***
- ***Scheduled Report***

4.22.1 Switch Scenario

Switch Scenario

1. Support public scenario and retail/supermarket scenario.
2. Support viewing reports collected from an analysis group or camera in the public scenario.
3. Support viewing reports of a single store or multiple stores.

4.22.2 Store Management

Store Management

1. Support adding stores to the platform including setting the store name, selecting an area for the store, setting the business hours, setting the store location, and configuring the store floor(s).
2. Supports multiple floor configuration including configuring the floor location and adding resources to each floor.

3. Support configuring opening hours for stores.
4. Support configuring multiple promotion days.

Resource Ability Test

1. Support ability test of people counting resources. Support displaying whether to enable algorithm, whether to enable the feature, whether to enable upload data, people statistics in last hour, and remote configuration.
2. Support ability test of heat analysis resources. Support displaying whether to enable algorithm, whether to enable the feature, whether to enable uploading data, people statistics in last hour, and remote configuration.
3. Support camera ability test. Support displaying whether to enable algorithm, whether to enable the feature, whether to enable uploading data, and remote operation.
4. Support test of other camera abilities. Support exporting reports of person features, heat analysis, pathway analysis, and queue analysis.
5. Supports ability test of people counting camera and exporting reports by hour.

Store People Counting

1. Support adding people counting resources to the store and configure people counting (passby), people counting (in), and foot traffic (in+passby).
2. Support linking entries and exits with cameras.
3. Support adding entries and exits for people counting configuration.
4. Support configuring Store Capacity Limit to get notified when the number of people in the store exceeds the limit.
5. Support configuring Regularly Clear All to have all data cleared at the set time.
6. Support configuring who will be excluded when counting people (for staff).
7. Support configuring the location of entries and exits on the map.

Store Pathway Analysis

Support adding a camera to a static map and set its pathways and directions on the map.

Store Heat Analysis

Support configuring a camera with heat map rules for a required area.

4.22.3 Dashboard for Retail/Supermarket Scenario

General

1. Support displaying the statistics of multiple stores on the dashboard.
2. Support displaying the dashboard information by Day/Week/Month/Year / Promotion Day / Custom.

Report Contents

Support displaying contents including people counting, walk-in rate, and average waiting time.

Rankings

1. Support displaying the stores with top/bottom 5 people counting.
2. Support displaying the stores with top/bottom 5 walk-in rate.
3. Support displaying the stores with top/bottom 5 average waiting time.
4. Support displaying the heat areas with top/bottom 5 people counting.

People Counting Trend

Support displaying the trend and cycle on cycle comparison of people counting, foot traffic, and walk-in rate.

Overall Distribution

1. Support displaying the person feature analysis in pie chart.
2. Support displaying the GPS location of all stores.

4.22.4 Single-Store Report

General

1. Support the following report types: Daily Report, Weekly Report, Monthly Report, Annual Report, and Custom Time Interval.
2. Support customizing contents displayed in the report.
3. Support exporting single-store report with customized report contents.
4. Support exporting reports as scheduled.

Report Contents

1. Support displaying the current number, the peak number, the date of the peak number, and the cycle on cycle statistics of foot traffic (in+passby), people counting (in), and walk-in rate.
2. Support displaying the current value, cycle on cycle statistics, and the number of queue alarms times of the average waiting time.
3. Support displaying the rankings of foot traffic (in+passby), people counting (in), and walk-in rate among all stores.
4. Support displaying the number of store overcapacity times.
5. Support displaying the area with top 1 dwell rate.

Person Features

Support displaying the person feature analysis in pie chart.

People Counting

1. Support displaying the people counting trend by people counting (in), foot traffic (in+passby), and walk-in rate. Support displaying the number of entries and exits.
2. Support displaying the number of people at every entry & exit and the location of entry &exit on each floor.
3. Support displaying the rankings of all entry & exit and people counting statistics in a specific time period.

Heat Analysis

1. Support switching heat areas and switching heat map color representation mode.
2. Support displaying the heat map by floor.
3. Support displaying the total people, total dwell people, dwell rate, and average dwell duration of a specific floor in a heat area.
4. Support displaying the rankings of all heat areas.
5. Support specifying how long will be considered as dwell for dwell rate: >15s, >30s, >60s, >300s.

Pathway Analysis

Support displaying all pathways by floor and people counting information for each pathway.

Queue Analysis

1. Support displaying the statistics of alarm times including the waiting overtime times and queue overcapacity times.
2. Support displaying the current number and cycle on cycle statistics of alarm times.
3. Support displaying the distribution percentage of the set statistic range of waiting time. Support displaying the corresponding trend diagram.
4. Support displaying the distribution percentage of the set number of queuing people. Support displaying the corresponding trend diagram.
5. Support setting the statistic range of waiting time and number of queuing people.

4.22.5 Multiple-Store Report

General

1. Support the following report types: Daily Report, Weekly Report, Monthly Report, Annual Report, and Custom Time Interval.
2. Support selecting multiple stores and export a multiple-store report.
3. Support customizing contents displayed in the report.
4. Support exporting multiple-store report with customized report contents.
5. Support exporting reports as scheduled.

Report Contents

1. Support displaying the current number, the peak number, the date of the peak number, and the cycle on cycle statistics of foot traffic (in+passby), people counting (in), and walk-in rate.
2. Support displaying the current value, cycle on cycle statistics, and the number of queue alarms times of the average waiting time.
3. Support displaying the area with top 1 dwell rate.
4. Support displaying the stores with top/bottom 1 people counting (in).
5. Support displaying the store with top 1 increase in people counting (in).
6. Support displaying the store with top 1 decrease in people counting (in).
7. Support displaying the store with top/bottom 1 foot traffic (in+passby).
8. Support displaying the store with top 1 increase in foot traffic (in+passby).
9. Support displaying the store with top 1 decrease in foot traffic (in+passby).
10. Supports displaying the store with top/bottom 1 walk-in rate.
11. Support displaying the store with top 1 increase in walk-in rate.
12. Support displaying the store with top 1 decrease in walk-in rate.
13. Support displaying the store with top/bottom 1 dwell rate.
14. Support displaying the store with top 1 increase in dwell rate.
15. Support displaying the store with top 1 decrease in dwell rate.

Person Features

Support displaying the person feature analysis by gender and age group in pie chart.

People Counting Rankings and Trends

1. Support ranking all selected stores by people counting .
2. Support ranking stores by people counting (in), foot traffic (in+passby), walk-in rate, and average waiting time.
3. Support sorting stores by these items and displaying the cycle on cycle statistics.
4. Support displaying the people counting trend by people counting (in), foot traffic (in+passby), and walk-in rate.
5. Support displaying the people counting trend by people counting (out) for daily report only.

Heat Area Rankings

1. Support ranking heat areas for all selected stores.
2. Support ranking heat areas by total dwell people, total people, dwell rate, and average dwell duration.

4.22.6 Two-Store Comparison Report

General

1. Support the following report types: Daily Report, Weekly Report, Monthly Report, Annual Report, and Custom Time Interval.
2. Support exporting a comparison report of two selected stores.
3. Support exporting reports as scheduled.

People Counting Rankings

Support ranking stores by people counting (in), foot traffic (in+passby), walk-in rate, and average waiting time.

4.22.7 Promotion Day Report

Promotion Day

Support selecting a promotion day for generating a report of selected store(s) on that day.

Report Contents

Support displaying the current number, the peak number, the date of the peak number, and the cycle on cycle statistics of foot traffic (in+passby), people counting (in), and walk-in rate.

People Counting Rankings

1. Support ranking stores by people counting (in), foot traffic (in+passby), walk-in rate, and average waiting time.
2. Support sorting stores by these items and displaying the cycle on cycle statistics.

People Counting Trends

1. Support displaying the people counting trend by people counting (in), foot traffic (in+passby), and walk-in rate.
2. Support displaying the daily trend before and after the promotion day, or the hourly trend on the promotion day.

Report Export

Support exporting the store promotion day report.

4.22.8 Analysis Center

Report Target

1. Support selecting store / entry & exit / camera as the report target for people counting.
2. Support selecting store/camera as the report target for person feature analysis. The report content is the same with a single store report.

3. Support selecting store/camera as the report target for heat analysis.
4. Support selecting store as the report target for pathway analysis.
5. Support selecting store/camera as the report target for queue analysis. The report content is the same with a single store report if you select camera as the report target; the report content only includes alarm times if you select store as the report target.

4.22.9 Dashboard

Dashboard Configuration

1. Support customizing the reports to be displayed on the dashboard, including People Counting, People Density Analysis, Heat Analysis, Queue Analysis, Pathway Analysis, Person Feature Analysis, Skin-Surface Temperature, Temperature Analysis, and Vehicle Analysis.
2. Support configuring the analysis type: via resource group or via channel.

Dashboard Display

1. Support switching the viewing time. Support editing the report type and time.
2. Support manually refreshing the report contents.
3. Support exporting the report contents on the dashboard.

Data Exporting

1. Support exporting report(s) in Dashboard.
2. Support selecting the report name to export the report.
3. Support exporting the report in the file format of Excel, CSV, and PDF.

4.22.10 Scheduled Report

1. Support configuring the daily, weekly, or monthly scheduled report.
2. Support configuring the sending time for scheduled report.
3. Support configuring the email template for scheduled report.
4. Support selecting the report language.
5. Support uploading scheduled Event & Alarm report to SFTP server.
6. Support uploading scheduled Event & Alarm report backup to local storage.

4.22.11 People Counting

People Counting Group

1. Support selecting multiple cameras and card readers of the selected doors as the statistics resource.
2. Support configuring entry and exit direction for resources in the people counting group.

3. Support setting a time for regularly clearing all people counting data.
4. Support enabling maximum capacity and configuring the maximum number of persons allowed to enter.

Event and Alarm

Support configuring person amount more than threshold alarm and person amount more than threshold pre-alarm for the selected people counting group.

Real-Time Monitoring

1. Support real-time monitoring of the selected people counting group(s). Support viewing the live view of multiple people counting groups simultaneously.
2. Support viewing the number of remained persons in the people counting group and the number of persons allowed to enter.
3. Support manually correcting the data of people counting groups.
4. Support configuring bilingual display for people counting groups.

Report Display and Exporting

1. Support displaying the analysis results by camera(s) or by people counting group(s).
2. Support ranking resource groups and cameras according to the number of people entered and the number of people exited.
3. Support setting the direction as Entering, Exiting, or Entering & Exiting for statistics analysis.
4. Support displaying number of people entered, people passed by, and walk-in rate.
5. Support the following report types: Daily Report, Weekly Report, Monthly Report, Annual Report, and Custom Time Interval.
6. Support displaying statistics comparison with yesterday, the previous week, the previous month, the previous year, and customized time.
7. Support displaying the peak of total people by different dimensions.
8. Support exporting the report.

4.22.12 Person Feature Analysis

Person Feature Analysis Group

1. Support adding and managing person feature analysis groups.
2. Support displaying the analysis results by camera(s) or by person feature analysis group(s).

Report Display and Exporting

1. Support the following report types: Daily Report, Weekly Report, Monthly Report, Annual Report, and Custom Time Interval.
2. Support selecting the statistics content by time.
3. Support displaying the analysis results in pie chart.
4. Support exporting the report.

4.22.13 Heat Analysis

Heat Analysis Group

1. Support selecting multiple cameras and card readers of the selected doors as the people counting resource.
2. Support setting the direction as Entering or Exiting for resources in the group.
3. Support selecting multiple cameras as the statistics resource for heat analysis.

Report Display and Exporting

1. Support displaying the analysis result by cameras or by people counting groups.
2. Support ranking among resource groups and cameras according to people counting, average dwell time, number of dwell people, and dwell rate.
3. Support three statistics types: dwell time, people amount, and average dwell time.
4. Support setting how long will be considered as dwell for dwell rate: >0s，>15s，>30s，>60s.
5. Support displaying global heat map. Support linking multiple cameras with a map.
6. Support displaying different colors for regions of different heat on the map. Support viewing the heat map of a camera. The image of the camera is color coded.
7. Support displaying statistics compared with yesterday, the previous week, the previous month, the previous year, the previous promotion day, and customized time.
8. Support displaying the peak moment of people count, dwell time, and dwell rate.
9. Support the following report types: Daily Report, Weekly Report, Monthly Report, Annual Report, and Custom Time Interval.
10. Support exporting the report.

4.22.14 Pathway Analysis

Pathway Analysis Group

Support adding multiple cameras onto the map and setting the their locations on the map.

Report Display and Exporting

1. Support the following report types: Daily Report, Weekly Report, Monthly Report, Annual Report, and Custom Time Interval.
2. Support selecting the statistics content by time.
3. Support displaying the analysis results on the map, including the heat color of each pathway and the number of persons on each pathway.
4. Support exporting the report.

4.22.15 Queue Analysis

1. Support the following report types: Daily Report, Weekly Report, and Annual Report.
2. Support selecting the statistics content by time.
3. Support two analysis types including waiting duration and queue length.
4. Support displaying the number of exceptions (waiting timeout).
5. Support displaying the waiting duration for the queues with different numbers of persons (queue length).
6. Support displaying the number of exceptions (people amount exceeding).
7. Support displaying the people counting statistics of different waiting duration.
8. Support exporting the report.

4.22.16 People Density Analysis

Report Display and Export

1. Support the following report types: Daily Report, Weekly Report, Monthly Report, Annual Report, and Custom Time Interval.
2. Support displaying the analysis in line chart.
3. Support exporting the analysis report.

4.22.17 Temperature Analysis

1. Support the following report types: Daily Report, Weekly Report, Monthly Report, Annual Report, and Custom Time Interval.
2. Support selecting Hour for daily report. Support displaying the highest and lowest temperature of the specific temperature screening point in one minute.
3. Support displaying the number of temperature exception of presets.
4. Support comparing the highest temperature among multiple temperature screening points.
5. Support comparing the lowest temperature among multiple temperature screening points.
6. Support exporting the report.

4.22.18 Troubleshooting

Troubleshooting

1. Support camera ability test. Support displaying whether to enable algorithm, whether to enable the feature, whether to enable uploading data, and remote operation.
2. Support test of other camera abilities. Support exporting reports of person features, heat analysis, pathway analysis, queue analysis, and temperature analysis.
3. Supports ability test of people counting camera and exporting reports by hour.

4.23 Time and Attendance

- ***Attendance Wizard***
- ***Attendance Rules***
-
- ***Attendance Reports***
- ***Attendance System Operation***
- ***Employee Self-Service***
-
- ***Third-Party Integration***

4.23.1 Attendance Wizard

Provide guidance to help the user set up an attendance system.

4.23.2 Attendance Rules

Attendance Group

1. The platform shall support adding, deleting, and editing attendance groups.
2. The platform shall support adding persons to attendance groups.

Attendance Rule

1. The platform shall support configuring global and department attendance rules.
2. The platform shall support configuring group attendance rules.
3. The platform shall support setting the day change time.
4. The platform shall support adding pay codes.
5. The platform shall support editing fixed codes.

Break Timetable

1. Support adding break timetables.
2. Support setting a fixed break duration or calculating the break duration by actual check-in/out interval.
3. Support marking early return as overtime (level 1/2/3).
4. Support marking late return as normal, late, early leave, or absence duration.
5. Support calculating the break duration by the interval of the first and last check-in/out or the interval of each check-in/out.
6. Support enabling the attendance status on attendance check devices.
7. Support counting early or late return time by time point.
8. Support counting early or late return time by duration.

Timetable

1. Support adding work timetables.
2. Support adding normal timetables and set the flexible mode to Allow Late Arrival/Early Leave or Flexible Period.
3. Support adding flexible timetables.
4. The timetable supports setting a valid check-in period and valid check-out period exceeding 24 hours.
5. Support adding multiple break timetables to one timetable.
6. Support timetable overview.
7. Support setting a dedicated absence rule for a timetable, whose priority is higher than the global absence rule. Support marking late check-in and early check-out as absent. Support marking no check-in or check-out as absent or late.
8. Support calculating the work hours by the interval of the first and last check-in/out or the interval of each check-in/out.
9. Support enabling the attendance status on attendance check devices.
10. Support configuring the latest check-in time.
11. The platform shall support viewing the changes of the timeline when configuring the timetable.
12. The platform shall support configuring timetables following the tabs, including Basic Settings, Break Period, Overtime, and Attendance Calculation.

Shift

1. Support adding shifts.
2. Support setting the shift's repeating pattern: By Week (1 to 52 weeks), By Day (1 to 31 days), and By Month (1 to 12 months).
3. Support set the repeat cycle to week or day.
4. The platform shall simplify the shift management by deleting calculation mode and overtime rule.
5. Support calculating the work hours by the interval of the first and last check-in/out or the interval of each check-in/out.
6. Support enabling the attendance status on attendance check devices.
7. Support setting a dedicated overtime rule for a shift, whose priority is higher than the global overtime rule. Support setting the work hour rate of each overtime level, overtime calculation rule on workdays, overtime rule on holidays, and whether to calculate the overtime that is not in valid attendance check period.
8. Support setting holidays for a shift. Attendance check will be disabled on holidays.
9. Support displaying multiple shifts of a person in the Schedule Overview module.
10. Support configuring different effective periods for different schedules when assigning schedules by person or department.

Schedule

1. Support schedule overview.
2. The platform shall support viewing schedule overview by month and week.
3. Support assigning a schedule to departments.
4. Support assigning a schedule to persons.
5. Support assigning a temporary schedule to persons in different departments.
6. The platform shall support assigning a schedule to attendance groups.
7. Support setting the effective period, whether to require check-in/out, and whether overtime is effective when assigning a schedule.
8. Support adding multiple shifts to a schedule.
9. Support linking a schedule to attendance check points.
10. The platform shall support quickly configuring temporary schedules on the calendar.
11. The platform shall support selecting timetables for the temporary schedules.
12. The platform shall support quickly configuring schedules and using different colors to mark different schedules on the calendar.

Global Overtime Rule

1. Support setting the work hour rate for 3 overtime levels.
2. Support setting the overtime rule on workdays. Support setting the overtime calculation mode to ""By Total Work Hour"" or ""By Time Points""
   - By Total Work Hour - Count the extra work hours as overtime. Support setting the overtime duration calculation mode to ""Fixed"" or ""Actual"".
   - By Time Points - Count early check-in or late check-out as overtime. Support setting the duration calculation mode."
3. Support setting the overtime rule on weekends by defining a daily threshold for valid overtime calculation.
4. Support setting the overtime rule on holidays. Support setting a daily threshold for valid overtime calculation, the maximum limit for overtime, and the overtime level for each holiday.
5. Support setting whether to calculate the overtime that is not in valid attendance check period.
6. Support two digits after the decimal point when setting the work hour rate.

Global Absence Rule

1. Support marking the late check-in as absent and setting the threshold.
2. Support marking the early check-out as absent and setting the threshold.
3. Support marking no check-in as absent or late.
4. Support marking no check-out as absent or late.

Attendance Result Accuracy

1. Support setting the minimum unit, rounding, and display format of the duration of each attendance status.
2. Support calculating attendance by second.

Attendance Check Point

1. The platform shall support checking attendance via all devices on the platform by default.
2. Support setting any access point as the attendance check point. Support setting the attendance check point type to Check-In & Out, Check-In Only, or Check-Out Only.
3. Support setting any card reader of a door as the attendance check point. Support setting the attendance check point type to Check-In & Out, Check-In Only, or Check-Out Only.

Customization

1. Support setting any days of the week as the weekends.
2. Support setting the attendance authentication mode to card, fingerprint, and/or face.
3. Support customizing the leave types.
4. Support setting the attendance mode on attendance check devices to Manual, Automatic, and Manual And Auto.
5. Support customizing the attendance status name displayed on attendance check devices, including check-in/out name, break start/end name, and overtime start/end name.
6. Support setting the time periods of each attendance status on the attendance check devices when the attendance mode is Automatic and Manual & Auto.

4.23.3 Attendance Reports

Predefined Attendance Reports

1. Attendance record
   - Transaction
   - Time Card
   - Check-In&Out Record
   - First&Last Access Report
   - Leave Record
   - Overtime Record
   - Check In&Out Correction Report
2. Daily report
   - Total Time Card
   - Worked Hrs
   - Overtime Report
   - Leave Report
   - Late Report
   - Early Leave Report
   - Absent Report
   - Exception Report
   - Multiple Break Time
3. Weekly report

- Weekly Details
- Weekly Worked Hrs
- Weekly Overtime

4. Monthly report
   - Monthly Details
   - Monthly Status
   - Monthly Worked Hrs
   - Monthly Overtime
   - Monthly Break Time
   - Monthly Check In&Out
   - Monthly Absent
   - Monthly Late
   - Monthly Early Leave
5. Summary report
   - Person Attendance Summary
   - Person Overtime Summary
   - Person Leave Summary
   - Department Attendance Summary
   - Group Attendance Summary
   - Department Overtime Summary
   - Group Overtime Summary
   - Person Attendance Overview
   - Person Attendance Details
   - Person Attendance Statistics
6. Support viewing weekly report in three modes: weekly statistics, weekly details, and weekly overview.
7. Support viewing monthly report in three modes: weekly statistics, weekly details, and weekly overview.
8. Department overview
9. Department overtime overview
10. Support previewing all types of reports.

Report Template Customization

1. Support customizing new report templates from the predefined reports.
2. Support customizing the fields, order, and sorting order of the customized reports.
3. Support selecting all the available fields when customizing reports.
4. Support merging the data of the same person/department/date. Support setting the sorting rule for records such as sorting in ascending order of person ID.
5. Support previewing the customized reports.

Report Exporting

1. Support generating attendance reports of specific persons (including resigned and employed) or departments.
2. The platform shall support sending attendance report of specified attendance groups according to a schedule.
3. Support exporting in PDF, Excel, and CSV format.
4. If you select PDF as the format of the report, support printing the report according to the selected paper size and the printing direction. If you select Self-Adapt to Paper Based on Content, support automatically specifying a paper size according to the selected report type, and the specified paper size will show in the brackets behind Self-Adapt to Paper Based on Content.

Report Display Customization

1. Support adding company logo to reports.
2. Support setting the format of date and time.
3. Support setting the abbreviation and color of each attendance status.

4.23.4 Attendance System Operation

Dashboard

1. Support checking the abnormal attendance statistics (absent, late, early leave, late and early leave) of the current day, previous day, current week, last week, current month, and last month, last 3 months, last 6 months, current year, and customized time period. Support exporting the statistic chart as a PDF, PNG, or JPG file.
2. Support checking the attendance status statistics (normal and absent) of the current day, previous day, current week, last week, current month, and last month, last 3 months, last 6 months, current year, and customized time period. Support exporting the statistic chart as a PDF, PNG, or JPG file.
3. Support checking the overall work hours/overtime statistics of the current day, previous day, current week, last week, current month, and last month, last 3 months, last 6 months, current year, and customized time period. Support exporting the statistic chart as a PDF, PNG, or JPG file.

Automatic Attendance Calculation

1. Support calculating the attendance results of the previous day at 4:00 AM. Support changing the auto calculation time.
2. Support setting the time of recalculating historical attendance data.

Manual Attendance Calculation

Support calculating the attendance results of any specific persons during a specific time period manually.

Transaction Management

1. Supports searching and listing all transactions.
2. Support exporting transactions in PDF, Excel, or CSV format.
3. Support customizing the data items, item order, and record sorting order when exporting records.

Attendance Calculation Results

1. Support listing all attendance calculation results.
2. Support sorting the attendance calculation results according to person ID or date.
3. Support hiding or showing specific data items of attendance records.
4. Support exporting attendance records in PDF, Excel, or CSV format.
5. Support customizing the data items, item order, and record sorting order when exporting records.
6. Support searching attendance records by time, including today, current week, current month, this year, yesterday, last 7 days, last week, previous month, last 3 months, last 6 months, last year, or custom.

Attendance Record Integrity

1. Support getting the lost entry & exit records from devices automatically.
2. Support importing all entry & exit records in a specific time range from devices manually.
3. Support importing the device-exported entry & exit records (files) from the local PC manually.

Exception Attendance Handling

- Support submitting applications for employees to handle exception attendance (leave, overtime, and check-in/check-out correction.
- Support reviewing exception attendance applications according to configured application flows.

Auto Sending Attendance Reports via Email

1. Support setting report schedules to send predefined reports or customized reports via email.
2. Support customizing email templates.
3. Support selecting the report language.
4. Support setting the statistics cycle: By Day (select one or multiple days from Monday to Sunday), By Week (select one day from Monday to Sunday), or By Month (select any day from the first day of the month to the last day of the month).
5. Support sending the attendance report to the recipients automatically.

4.23.5 Employee Self-Service

Employee Self-Service

- The platform shall support the administrator in setting the employee self-service password, which is the employee ID by default.
- The platform shall support employees in logging in to the platform via Web Client and the Mobile Client.
- The platform shall support self-service dashboard for employees.
- The platform shall support searching for the personal attendance results, status, and reports.
- The platform shall support submitting applications for the exception attendance (leave, overtime, check-in/check-out correction).
- The platform shall support searching for an application and viewing the approval flow status.
- The platform shall support self-undoing the submitted application.
- The platform shall support reviewing (approving or rejecting) or undoing the exception attendance application (this function is only valid for reviewers).
- The platform shall support employees in changing login password.
- The platform shall support employees submitting applications for leave.
- The platform shall support employees searching for remaining days of leave.

Approval Flow Management

- The platform shall support customizing approval roles.
- The platform shall support customizing approval flow.

4.23.6 Third-Party Integration

Integration via Intermediate Files

1. Support exporting entry & exit records to the local PC as CSV or TXT files.
2. Support exporting entry & exit records to the SFTP service as CSV or TXT files.
3. Support customizing the fields and data format to be included in the exported file.
4. Support customizing the file name.
5. Support adding date and time information in the file name.
6. Support setting the frequency and time of file export.
7. Support setting the length and complementing method of person ID.
8. Support setting the length and complementing method of card number.
9. Support setting whether to overwrite the exported files.

Integration via Database

1. Support writing the entry & exit records into third-party database such as PostgreSQL, MS SQL Server, MySQL, and Oracle in real time.
2. Support setting the mapping between the data fields of the platform and those of the third-party database.
3. The platform shall support setting the direction as Enter or Exit.
4. Support setting the data writing format.
5. Support showing the third-party database synchronization status in real time.
6. Support entering the server IP address or domain name in third-party database synchronization.
7. Support pushing multi-character data to the third-party database.
8. Support sending person additional information if you have configured the additional information.
9. Support configuring the time interval of sending records failed to be pushed.

4.24 Patrol Management

4.24.1 Basic configuration

Basic Parameter Configuration

1. Support configuring the types of exceptions for patrol persons to report via Mobile Client.
2. Support configuring the storage location for storing attachments uploaded during patrols.
3. Support configuring the time of advance notification for reminding patrol persons before patrols start.
4. Support setting a time between 20 and 60 minutes.

Patrol Point Configuration

1. Support configuring up to 1,024 patrol points.
2. Support setting the following types of devices as patrol points: face recognition terminal, access control terminal, and door station.
3. Support linking up to 4 cameras to each patrol point, which can be general network cameras or cameras of access control devices.

Patrol Person Group Configuration

1. Support configuring up to 300 patrol person groups.
2. Support forming patrol person groups with one or multiple persons.
3. Support setting the patrol mode of a patrol person group to "Any Person in the Group" or "All Persons in the Group".
   Any Person in the Group - Any person in the group can check in at the patrol point to perform the patrol.

All Persons in the Group - All persons in the group need to check in at the patrol point to perform the patrol.

Schedule Template Configuration

1. Support configuring schedule templates and setting the related parameters, including the template name, time range, and the repeat cycle for patrol scheduling.
2. Support setting the repeat cycle to "Every Day", "Every Week" (on selected days of a week), or "Every Month" (on selected dates of a month).

4.24.2 Patrol Configuration

Patrol Route Configuration

Support configuring patrol routes based on e-maps.

Patrol Task Configuration

1. Support configuring patrol tasks by setting the following parameters: route name, patrol person or person group, schedule template, patrol duration, patrol points, patrol pattern (e.g., in order, no order, first point first, last point last, first point first and last point last), shift schedules, whether to start the patrol immediately, and the time for advance notification.
2. Support displaying patrol route information in a visualized way (in calendars or lists). Support displaying the status of each patrol route (e.g., not started, on patrol, not enabled).

Patrol Task Reminder

Support reminding patrol persons before patrols start by pushing advance notifications to the Mobile Client.

4.24.3 Real-Time Patrol Monitoring

Real-Time Monitoring

1. Support monitoring the patrol route status in real time.
2. Support monitoring the status of shift schedules in real time.
3. Support monitoring the status of patrol points in real time.
4. Support viewing detailed information of the actual/planned patrol person of a patrol point in real time.
5. Support monitoring the patrol status in real time via lists or e-maps.
6. Support viewing the live view of cameras linked to a patrol point and enabling video recording (supported on Web Client, Control Client, and Mobile Client).
7. Support manually starting or postponing a shift.

Dashboard

1. Support displaying the patrol shifts scheduled for the current day with information such as the patrol route, patrol start time, and related patrol person / patrol person group.
2. Support displaying the statistics of patrol route status of the current day, i.e., the percentages of patrol routes with different status (e.g., normal patrol, omitted patrol, substitute patrol, etc.).

4.24.4 Exception Management

Exception Reporting

Support reporting exceptions occurred during patrols via Mobile Client; the reported content includes exception description, patrol point information, and related pictures and videos.

Patrol-Related Alarm

1. Support the following patrol events: normal patrol, early patrol, late patrol, supplemented patrol, and omitted patrol.
2. Support triggering linkage actions for exceptions occurred during patrols, such as triggering alarms, recording videos, and automatically sending emails.
3. Support triggering pop-up windows of alarms, which contain the following information: event type, event description, shift schedule, patrol point, planned patrol person, scheduled patrol period, actual patrol time, and live view of the linked camera(s) (support enabling video recording).
4. Support displaying alarm information during real-time patrol monitoring (via map or list).

4.24.5 Patrol Statistics and Event Record Search

Patrol Statistics and Report

1. Support checking and exporting patrol status statistics of patrol routes. Support filtering the statistics by specifying a time range.
   .
2. Support checking and exporting patrol status statistics of patrol points. Support filtering the statistics by specifying a time range.
3. Support checking and exporting patrol status statistics of patrol persons. Support filtering the statistics by specifying a time range.

Patrol Event Search

Support searching for patrol events and exporting the event records.

4.25 Digital Signage

- ***Resource Management***
- ***Digital Signage Overview***
- ***Digital Signage Wizard***
- ***Material Management***
- ***Content Management***
- ***Schedule Management***
- ***Release Management***
- ***System Settings***

4.25.1 Resource Management

Terminal Management

1. Support adding terminals by IP address, by ISUP, by general authentication code, and adding online terminals.
2. Support managing terminals by area.

External Device Linkage

1. Support linking external devices that support attendance and people counting with the terminal. Support configuring built-in cameras.
2. Support getting device(s) from the encoding device when linking external device(s) to the terminal.

Terminal Configuration

1. Support editing the terminal's network information, restoring default parameters, NTP configuration.
2. Support setting brightness, starting up LOGO, screen direction, timed volume on/off, and timed startup/shutdown.

Terminal Control

Include starting up/shutting down/rebooting, playing/stopping, stopping cut-in message/stopping message, clearing content on terminal, enabling/disabling timed startup/shutdown, turning on/off the timed volume, screenshot, setting volume, remote debugging, exporting logs, etc.

Firmware Upgrade

Support upgrading device firmware via current Web Client, via Hik-Connect, and via FTP.

4.25.2 Digital Signage Overview

Includes wizard, content statistics, release statistics, device status, material statistics, etc.

4.25.3 Digital Signage Wizard

Include the operation wizards of adding devices, creating contents, creating schedules, reviewing contents, etc.

4.25.4 Material Management

Material Display

1. Support displaying materials in the list or in the thumbnail.
2. Support searching materials by conditions.

Material Upload

Support uploading the following material types: picture, video, audio, document, webpage, URL picture, stream media server, IPC, etc.

4.25.5 Content Management

Content Display

1. Support displaying contents in the list or in the thumbnail.
2. Support searching contents by conditions.

Multimedia Program

1. Support selecting built-in program templates for different scenes.
2. Support the following window types: picture, video, audio, file(.txt), APP, clock, countdown, live video, webpage, button, etc.
3. Support displaying third-party dynamic materials, including dynamic pictures, dynamic texts, tables, and charts.

Attendance Program

1. Provide different built-in program templates: Attendance & Temperature Screening Template, Attendance Template, etc.
2. Support configuring the title, welcoming words, added person information, unknown person information and so on for the attendance program.
3. Support adding advertisements (pictures or videos) to the program. Support customizing the background picture.

People Counting Program

1. Provide different built-in program templates: People Counting & Temperature Screening Template, Temperature Screening Template.
2. Support configuring the title, prompt for people counting, maximum people entries, remaining number of people entries, abnormal skin-surface temperature prompt, no-mask voice alarm, etc.
3. Support adding advertisements (pictures or videos) to the program. Support customizing the background picture.

Video Wall Program

Support creating the video wall program. Supports configuring and controlling the video wall.

Emergency Mustering Program

- Support playing the emergency mustering program (configured in advance) when the emergency is triggered.
- Support playing the emergency mustering program (configured in advance) when the emergency is triggered.
- The program stops playing when the emergency ends.

Text Message

Support adding text messages and releasing them to the devices.

Program Preview

Support previewing the program. During previewing, supports starting or pausing playing, and adjusting the playing speed as 1x, 2x, or 4x.

Program Cut-In

Support cutting in programs. The cut-in programs have the highest priority.

4.25.6 Schedule Management

Schedule Display

Display the following information in the schedule list: schedule name, play mode, area, sharing property, description, etc.

Schedule Management

Support creating a daily schedule, weekly schedule, loop schedule, default schedule, or customizing a schedule.

4.25.7 Release Management

Release Record

Support displaying the release records in the list. Support filtering the records.

Release Status Details

1. Include the following release status: Releasing, Released, Releasing Failed, Release Canceled, and Not Released. Support displaying the terminal name, release progress, and release status.
2. Support canceling releasing for terminals that are not released or are in releasing. Support releasing again for releasing failed terminals.

4.25.8 System Settings

Storage

1. pStor
2. Local Storage

Upgrade

Supports installing HikCentral Professional V2.4.1 directly on the basis of HikCentral FocSign V1.5.0, without unloading any original modules.

4.26 Emergency Mustering

Emergency Solution Configuration

1. Provide a guidance for configuring the emergency solution.
2. Support configuring multiple doors in different areas as the doors remaining unlocked when an emergency is triggered.
3. Support configuring entrance points, exit points, and mustering points.
4. Support adding emergency counting groups for roll call.

Quick Response

1. Support starting and ending an emergency automatically and manually. When the platform is in emergency, the platform will send a report containing person roll call information.
2. Support starting and ending an emergency via the Web Client, Control Client, and Mobile Client.

Real-Time Roll Call

1. Support starting a roll call by which users can account for all the persons in the emergency counting groups. Support getting data including total people number, people in danger, people out but not checked in, people out and checked in.
2. Support viewing the last entrance/exit information in the real-time statistics list of emergency counting groups.

3. Support checking in persons in emergency counting groups on the platform.
4. The real-time statistics shall support displaying the location of last check-in.
5. Support viewing details of each person when an emergency is triggered.
6. Support sending reports manually.

Permission

Support configuring the permission of configuring emergency solutions and starting a roll call.

4.27 Broadcast Management

- ***System Deployment and Management***
- ***Media Library***
- ***Storage Configuration for Broadcast***
- ***Live Broadcast***
- ***Scheduled Broadcast***
- ***Event and Alarm***

4.27.1 System Deployment and Management

Device Management

1. Support adding IP speakers.
2. Support displaying the IP address, name, serial no., and network status of the IP speaker.
3. Support managing IP speakers by areas.
4. Support linking cameras (4 cameras at most) with IP speakers. Support viewing the live view of the IP speaker's related cameras.
5. Support adding and managing IP speakers on the map.
6. Support setting the volume for the IP speaker. Supports configuring scheduled broadcast, live broadcast, and linked broadcast.

Network

1. Supports adding IP speakers to the platform without entering the device IP address or port number.
2. Support configuring the broadcast mode.

4.27.2 Media Library

1. Support managing the media library by group.
2. Support uploading the audio file in MP3 format.
3. Support displaying the format and the size of the audio file. Support downloading the audio file.

4.27.3 Storage Configuration for Broadcast

1. Support setting storage location (local PC or pStor) for the broadcasted audio and the uploaded media files.
2. Support enabling/disabling recording audios during the live broadcast.
3. Support searching for live broadcast records.
4. Support setting parameters for the live broadcast.

4.27.4 Live Broadcast

Speak

1. Support live speaking via group. Support selecting the speaker units that are grouped or not grouped.
2. Support live speaking by area.
3. Support live speaking when viewing the live view of IP speaker's related cameras.

Audio File

1. Support broadcasting the audio file by group. Support selecting the speaker units that are grouped or not grouped. Support selecting the audio file added to the media library.
2. Support broadcasting the audio file by area. Support selecting the audio file added to the media library.
3. Support broadcasting the audio file when viewing the live view of IP speaker's related cameras. Support selecting the audio file added to the media library.

Custom Broadcast Content

- Support broadcasting the custom broadcast content by group. Support selecting the speaker units that are grouped or not grouped.
- Support broadcasting the custom broadcast content by area.

4.27.5 Scheduled Broadcast

1. Support adding multiple scheduled broadcast tasks.
2. Support broadcasting by group. Support selecting the speaker units that are grouped or not grouped.
3. Support broadcasting by area.
4. Support setting the period type for broadcast, including Every Day and Every Week.
5. Support setting the priority for scheduled broadcast tasks.
6. Support selecting audio file(s) for the scheduled broadcast task, and setting the playing duration for each audio file.
7. Support configuring the times of broadcasting.

4.27.6 Event and Alarm

1. Support linking speaker unit(s) when adding the linkage action for event and alarm. Support selecting the audio file(s) added to the media library. The related audio file(s) will play when the alarm is triggered.
2. Support broadcasting triggered by the alarm until the alarm is acknowledged.
3. Support live broadcast by speaking or by playing audio files when viewing the alarm related live view on the Control Client.

4.28 Toll Verification

4.28.1 Device Management

Enter a short description of your concept here (optional).

Device Management

1. Support adding/deleting/editing devices.
2. Support displaying device information, including device name, device address, serial No., version, network status, password strength, and remote configuration (excluding traffic incident detection servers).

Device Function

1. Support discovering online devices via SADP.

4.28.2 Basic Configuration

1. Support configuring the start/end time for video playback (time before/after capture).
2. Support configuring the retention period of toll verification data: 1 day to 30 days, 1/2/3/6 months, and 1/2/3 years.

4.28.3 Toll Verification

Vehicle Passing Record Search

1. Support searching for vehicle passing records.
   a. Support search conditions including time, camera, and license plate No.
   b. Support displaying matched records by page: vehicle information (license plate No., vehicle type, vehicle length), number of tires, number of axles, time, and location.
2. Support watching recorded videos.

Toll Verification

Support selecting a pair of records (a vehicle's entering and leaving the highway records) for toll verification. Support editing the vehicle's license plate No., vehicle type, vehicle color, number of axles, and number of tires and entering notes based on the captured pictures and recorded videos.

4.28.4 Toll Verification Record

Toll Verification Record Search

1. Support searching for toll verification records.
2. Support viewing the details of toll verification records.
3. Support exporting toll verification records to the local PC.

4.28.5 Maintenance and Management

Back Up and Restore System Data

Support backing up and restoring toll verification records.

License Details

Support viewing the license details of toll verification module and the number of ANPR devices.

4.29 Traffic Incident Detection

- ***Resource Management***
- ***Event and Alarm***
- ***Traffic Incident***
- ***Maintenance and Management***

4.29.1 Resource Management

1. Support adding, deleting, and editing traffic devices.
2. Support displaying the information of traffic devices, including device name, device address, serial No., version, network status, and password strength. Support entering the remote configuration page of the device.
3. Support detecting the online traffic devices via SADP.

4.29.2 Event and Alarm

1. When adding event and alarm, support configuring the triggering event as Traffic Event, which includes driving on the lane line, illegal lane change, wrong-way driving, parking, emergency lane occupied, roadblock, under construction, fallen object, pedestrian, congestion, fire, smoke, sudden speed drop, speeding, low-speed driving, and animal detection.
2. Support searching for traffic event alarms.
3. Support viewing the details of traffic event alarms.
4. Support exporting the data of traffic event alarms.

4.29.3 Traffic Incident

Support analyzing traffic incident data.

1. Support analyzing the traffic incidents by incident type. Support displaying the number of different traffic incidents during the selected time.
2. Support analyzing the traffic incidents by area.
3. Support analyzing the traffic incidents by time. Support displaying the total number of traffic incidents of the selected camera(s) during the selected time.

4.29.4 Maintenance and Management

1. Support backing up and restoring traffic incident data.
2. Support viewing the traffic incident detection module and the number of AID channels.

4.30 Public Order Management

- ***Resource Management***
- ***Event and Alarm***
- ***Street Management***
- ***Maintenance and Management***
- ***OpenAPI***

4.30.1 Resource Management

1. Support adding, deleting, and editing municipal enforcement PTZ cameras.
2. Support displaying the information of municipal enforcement PTZ cameras, including device name, device address, serial No., version, network status, and password strength.
3. Support detecting the online municipal enforcement PTZ cameras via SADP.
4. Support entering the remote configuration page of the device.

4.30.2 Event and Alarm

1. When adding event and alarm, support configuring the triggering event as Intelligent Urban Management Analysis, which includes open-air vendor, roadside vendor, unregistered street vendor, goods piling up, illegal umbrella, illegal advertisement, hanging laundry along the street, exposed garbage, packed garbage, dustbin overflowing, non-motor vehicle parking violation, and road waterlogging.
2. Support searching for urban management incident alarms.
3. Support viewing the details of urban management incident alarms.
4. Support exporting the data of urban management incident alarms.

4.30.3 Street Management

Support analyzing street data.

1. Support analyzing street data by time. Support displaying the number of different urban management incidents captured by the selected cameras.
2. Support analyzing street data by area (camera). Support displaying the number of different urban management incidents in different areas during the selected time.
3. Support analyzing street data by urban management incident type. Support displaying the number of different urban management incidents in the selected area during the selected time.

4.30.4 Maintenance and Management

1. Support backing up and restoring urban management incidents.
2. Support viewing the public order management module and the number of public order management channels.

4.30.5 OpenAPI

Support getting the data of urban management incidents.

4.31 Water Level Management

- ***Resource Management***
- ***Event and Alarm***
- ***Water Level Management***
- ***OpenAPI***
- ***Maintenance and Management***

4.31.1 Resource Management

1. Support adding, deleting, and editing water level detection PTZ cameras. Support adding DS-2DF8C425MHG-WD(O-STD) via Hikvision SDK protocol and ISUP. Support adding DS-2SF8C432MXG-WD/14(F1)(O-STD) via Hikvision SDK protocol.
2. Support displaying the information of water level detection PTZ cameras, including device name, device address, device type, serial No., version, network status, and password strength.
3. Support detecting the online water level detection PTZ cameras via SADP.
4. Support entering the remote configuration page of the device.

4.31.2 Water Level Management

1. Support searching for the water level data.
   Search conditions: detection station, time, and water level height (m).
   Search results (page switching supported): time, area name, detection station name, and water level height.
2. Support displaying water level data in line chart or bar chart. Support displaying the water level data by day or month.
3. Support exporting the water level analysis data.

4.31.3 Event and Alarm

1. Support configuring water level exceeded limit event alarms.
2. Support searching for water level exceeded limit event alarms.
3. Support viewing the details of the water level exceeded limit event alarms.
4. Support exporting the data of water level exceeded limit event alarms.

4.31.4 OpenAPI

Support getting water level analysis data and water level recorded data.

4.31.5 Maintenance and Management

1. Support backing up and restoring water level data.
2. Support viewing the water level management module and the number of water level management channels.

4.32 Canteen Consumption

- ***Payment Terminal Management***
- ***Payment Overview***

- ***Basic Configuration***
- ***Merchant Management***
- ***Payment Group Management***
- ***Payment Strategy Management***
- ***Transaction Search***
- ***Statistics and Reports***
- ***Visitor Management***
- ***Event and Alarm***
- ***Maintenance and Management***
- ***System***

4.32.1 Payment Terminal Management

Payment Terminal Management

- Support adding, deleting, and editing payment terminals.
- Support viewing payment terminal information including name, address, serial number, version, network status, and password strength. Support remote configuration.
- Support adding payment terminals via IP segment and IP address.
- Support importing and exporting payment terminals.

Device Features

- Support detecting online payment terminals via SADP.
- Support remotely configuring payment terminals on the Remote Configuration pages of devices.

Firmware Upgrade

Support upgrading firmware via the current Web Client.

4.32.2 Payment Overview

- Support displaying the number of merchants and the persons with payment permissions.
- Support displaying revenue distribution, payment times distribution, and consumer distribution.
- Support viewing the wizard of the canteen consumption module.

4.32.3 Basic Configuration

General Configuration

- Support applying the currency unit to payment terminals.
- Support automatically applying permissions and automatically calculating statistics.

- Support enabling offline payment record to regularly synchronizing the payment records on the Web Client with the records stored on payment terminals.
- Support uploading offline records.

Meal Type Configuration

- Support configuring meal types and their time periods. Support cross-day time periods for meal types.
- Support adding, editing, deleting (excluding the default 4 types), and viewing meal types (up to 8 meal types are allowed).

4.32.4 Merchant Management

- Support adding, editing, and deleting merchants.
- Support linking payment terminals with merchants.
- Support setting consumption modes (Amount, Fixed Amount, and Payment Times) for payment terminals linked with merchants.
- Support setting payment rules (Amount, Fixed Amount, and Payment Times) in non-meal periods.

4.32.5 Payment Group Management

- Support adding, deleting, editing, and searching payment groups.
- Support adding persons to payment groups. Support editing, deleting, and searching persons from a payment group.
- Support giving scheduled allowances to payment groups.
- Support giving scheduled allowances to persons from a payment group.
- Support canceling scheduled allowances to payment groups.
- Support canceling scheduled allowances to persons from a payment group.
- Support manually giving allowance amount / times, topping up money, refunding money, and correcting transactions for persons from a payment group.
- Support viewing the information of persons from a person group. The information includes profile picture, name, ID, payment group, remaining amount, remaining times, scheduled allowance, and operations.

4.32.6 Payment Strategy Management

Payment Rule

Support adding, deleting, editing, and searching for payment rules in meal periods and non-meal periods.

Payment Group Authorization

- Support linking merchants and payment rules with payment groups. Support canceling linkages and viewing linkages.
- Support authorizing/deauthorizing payment groups and applying persons from payment grooups to the corresponding payment terminals of merchants.

Person Authorization

- Support linking merchants and payment rules with persons from a payment group. Support canceling linkages and viewing linkages.
- Support authorizing/deauthorizing a person and applying the person to the corresponding payment terminals of merchants.

4.32.7 Transaction Search

Transaction Record

Support searching for transaction records of persons from a payment group.

Payment Record

Support searching for the payment records of persons.

4.32.8 Statistics and Reports

1. The platform shall support generating group payment statistics.
2. The platform shall support generating device payment statistics.
3. The platform shall support generating person payment statistics.
4. The platform shall support generating revenue report of merchants.

4.32.9 Visitor Management

1. The platform shall support configuring consumption permissions for visitors.
2. The platform shall support applying consumption permissions to devices for visitors.

4.32.10 Event and Alarm

Event and Alarm

The platform shall support configuring the rules for events triggered by payment terminals.

Overview

The platform shall support viewing the number of abnormal payment terminals.

4.32.11 Maintenance and Management

Health Check Frequency

The platform shall support configuring the health check frequency of payment terminals.

Resource Status

The platform shall support viewing the status of payment terminals such as network status and arming status.

System Data Backing Up and Restoring

The platform shall support backing up and restoring the consumption data.

Data Exporting

The platform shall support exporting the data of payment terminals such as IP address and serial No.

License Details

The platform shall support viewing license details of canteen consumption module and the number of payment terminals.

Wizard

The platform shall support viewing a wizard for the use of the canteen consumption.

4.32.12 System

1. The platform shall support configuring the retention period of payment records.
2. The platform shall support configuring user's configuration permissions of the canteen consumption module and operation permissions of consumption devices.

4.33 Electrostatic Discharge Testing

- ***Device Management***
- ***Person Management***
- ***Visitor Management***
- ***Event and Alarm***

4.33.1 Device Management

Device Management

1. The platform shall support adding, deleting, and editing access control devices with the electrostatic discharge testing function.
2. The platform shall support displaying information of access control devices with the electrostatic discharge testing function, including device name, device address, serial No., version, network status, password strength, etc.
3. The platform shall support adding access control devices with the electrostatic discharge testing function by IP address and IP segment.
4. The platform shall support batch importing and exporting access control devices with the electrostatic discharge testing function.

Device Functions

1. The user shall be able to configure electrostatic discharge testing parameters for turnstiles.
2. The user shall be able to configure electrostatic discharge testing parameters for face recognition terminals linked to turnstiles.

4.33.2 Person Management

1. The platform shall support configuring electrostatic discharge testing modes for persons.
2. The platform shall support applying the electrostatic discharge testing mode of persons to devices.

4.33.3 Visitor Management

1. The platform shall support configuring electrostatic discharge testing modes for visitors.
2. The platform shall support applying electrostatic discharge testing modes of visitors to devices.

4.33.4 Event and Alarm

1. The platform shall support displaying electrostatic discharge testing events synchronized from devices.
2. The platform shall support configuring electrostatic discharge testing events.

4.34 Parcel Tracking

- ***Resource Management***
- ***Check Point Management***
- ***Scanning Record Search (Control Client)***
- ***Scanning Record Search (Web Client)***

- ***Permission Settings***
- ***Maintenance and Management***

4.34.1 Resource Management

Device Management

1. The platform shall support adding scanning devices via smart code reader SDK.
2. The platform shall support adding scanning devices on CodePlatform via platform integration protocol.
3. The platform shall support using the camera channel of an NVR added to the platform as a scanning channel if the NVR is linked with a scanning device.
4. The platform shall support displaying scanning device information in a list, including the device name, device address, device type, access mode, and network status.
5. The platform shall support batch adding scanning devices.

Area Management

1. The platform shall support customizing the additional information of areas.
2. The platform shall support adding channels of scanning devices to areas.
3. The platform shall support configuring the picture storage location (pStor or CVR) for each scanning channel.

4.34.2 Check Point Management

Check Point Configuration

1. The platform shall support configuring the recording time settings for each individual check point. The individually configured settings shall have higher priority than the generic settings.
2. The platform shall support adding/deleting/editing and searching for check points. The user shall be able to configure information such as check point name, check point type, note, data source, recording time settings, and linked cameras.
3. The platform shall support adding check points to Favorites for quick selection during scanning record search.

General Parameter Configuration

The platform shall support configuring the general parameters, such as the recording time settings, the time threshold of exception, and the retention period of scanning records.

1. The platform shall support enabling the use of stop code for defining the time range of the related video of each scan. If stop code is not enabled, the user shall be able to specify a custom

time or the previous scanning time as the recording start time, and a custom time or the next scanning time as the recording end time.
2. The platform shall support customizing the time threshold of exception for defining the recording start/end time when a scan interval exceeds the set threshold.
3. The user shall be able to set the retention period of scanning records to 1 month, 2 months, or 3 months. The platform shall support prompting users when the retention period is changed to a shorter length.

4.34.3 Scanning Record Search (Control Client)

1. The platform shall support searching for scanning records by time, barcode, and check point.
   a. Time: The platform shall support specifying a time range of up to 7 days.
   b. Barcode Information (Optional): The platform shall support searching for a specific parcel if the corresponding barcode is entered and searching for all parcels in general if this field is left blank.
   c. Check Point (Optional): The platform shall support searching for records of the specified check points. If this field is left blank, the platform shall support searching for records of all check points for which the current user has permission. The admin user shall be able to search for scanning records of check points that have been deleted from the platform.
   d. The platform shall support displaying search results in list view and gallery view. Each thumbnail in gallery view shall show the first frame of the related video. The platform shall support displaying information such as check point, barcode, and scanning time in list view and grouping scanning records by check point.
2. The user shall be able to click a barcode scanning record to view the scan details, check the captured pictures, and play back the related video.
3. The platform shall support downloading up to 20 scanning records and the related pictures/videos.

4.34.4 Scanning Record Search (Web Client)

Scanning Record Search

The platform shall support searching for scanning records by time, barcode, and check point.

1. Time: The platform shall support specifying a time range of up to 7 days.
2. Barcode Information (Optional): The platform shall support searching for a specific parcel if the corresponding barcode is entered and searching for all parcels in general if this field is left blank.
3. Check Point (Optional): The platform shall support searching for records of the specified check points. If this field is left blank, the platform shall support searching for records of all check points for which the current user has permission. The admin user shall be able to search for scanning records of check points that have been deleted from the platform.
4. The platform shall support displaying search results such as barcode, check point, area, resource name, device type, and scanning time in list view.

Scanning Record Details

The user shall be able to click a barcode scanning record to view the scan details, check the captured pictures, and play back the related videos.

Scanning Record Download

The platform shall support downloading up to 20 scanning records and the related pictures/videos.

4.34.5 Permission Settings

Resource Access

The platform shall support configuring the access permission of scanning devices, parcel resources, and check points.

User Permission

The platform shall support configuring user permissions of operating the parcel tracking module.

4.34.6 Maintenance and Management

System Data Backing Up and Restoring

The platform shall support backing up and restoring the parcel data.

License Details

The platform shall support viewing license details of the parcel tracking module and the number of check points.

4.35 Dock Management

4.35.1 Dock Configuration

Data Retention Period Configuration

Support configuring the retention time of dock data: 1 month, 3 months, 6 months, 1 year, 18 months, and 2 years.

Dock Area Configuration

1. Support adding/deleting/editing dock areas, including the dock area name and supported total number of docks.
2. Support configuring dock areas, including map configuration and dock configuration.

a. Map configuration: Support pictures in JPFG, JPG, or PNG format.
b. Dock configuration: Support adding a single dock or multiple docks in a batch; Support coping an existing dock; Support batch selecting docks/aligning/deleting docks.

Camera Configuration

Support linking a single dock with 2 dock specified cameras and 2 general cameras. At least 1 dock specified camera is required.

4.35.2 Dock Monitoring

1. Support viewing the status (occupies, vacant, or unknown) of each dock and watching live or recorded videos streamed from linked cameras.
2. Support viewing the information of the vehicle parked in the dock, including the dock name, vehicle's license plate No., and occupation duration.

4.35.3 Dock Loading/Unloading Statistics

Vehicle Loading/Unloading Data Search

Support searching for vehicle data by time, license plate No., and dock. Support viewing the license plate No., dock area, entering/exiting time, loading ratio (entry/exit), and dwell time of each matched record. Supports customizing columns to be displayed.

Export Vehicle Loading/Unloading Data

Support exporting vehicle loading/unloading data in EXCEL or CSV format, including the license plate No., dock area, dock No., loading ratio (entry/exit), entering/exiting time, and dwell time.

View Vehicle Loading/Unloading Data

Support viewing vehicle loading/unloading data via the Control Client, including the captured pictures and recorded videos when the vehicle enters/exits the dock.

4.35.4 Dock Statistics and Reports

Support viewing statistics and reports on the dock usage, dock throughput, and dock using trend.

4.35.5 Dock Event Management

Support receiving dock events and alarms reported by dock specified cameras accessed in the following ways:

1. H8 series dock specified cameras accessed via HCNetSDK;
2. H8 series dock specified cameras added to NVR via HCNetSDK (the NVR is accessed to the platform via HCNetSDK or ISUP).

4.35.6 Permission Control

Resource Permission

Support configuring resource access permissions by dock.

User Permission

Support configuring user operation permissions.

4.35.7 Maintenance and Management

Back Up and Restore System Data

Support backing up and restoring dock data.

License Details

Support viewing the license details of dock management module and the number of docks.

4.36 OpenAPI

- ***Physical Resource APIs***
- ***Logical Resource APIs***
- ***Alarm Service APIs***
- ***Access Control APIs***
- ***Event Service APIs***
- ***Common API***

4.36.1 Physical Resource APIs

Encoding Device

Support getting the information of a specific encoding device and information list of all encoding devices. Support searching for specific encoding devices by device name.

Access Control Device

Support getting the information of a specific access control device and information list of all access control devices. Support searching for specific access control devices by device name.

Streaming Server

Support getting the information list of all Streaming Servers.

Recording Server

1. Support getting the information of a recording server and information list of all Recording Servers, including recording status, HDD information, etc.
2. Support getting the storage status of all cameras linked to a Recording Server.

DeepinMind Server

Support getting the information list of all DeepinMind Servers, including IP address, network status, etc.

System Management Server

Support getting the information of the System Management Server, including CPU usage, network status, etc.

4.36.2 Logical Resource APIs

Organization

1. Support getting the information of root organization and getting information list of lower-level organizations by parent organization.
2. Support getting the information of a specific organization and information list of all organizations.
3. Support adding, deleting, and editing the information of an organization.
4. Support searching for specific organizations by conditions.

Site

Support getting the information of a specific site and information list of all sites. Support searching for specific sites by site name.

Area

Support getting the information of a specific area and information list of all areas. Support getting lower-level areas by parent area.

Camera

Support getting the information of a specific camera by camera ID and getting information list of all cameras. Support searching for cameras by camera name.

Alarm Input

Support getting the information of a specific alarm input and information list of all alarm inputs. Support searching for alarm inputs by conditions (input alarm name, device ID, area ID, etc.).

Alarm Output

1. Support getting the information of a specific alarm output and information list of all alarm outputs. Support searching for alarm outputs by conditions (input alarm name, device ID, area ID, etc.).
2. Support controlling alarm output.

Vehicle

1. Support adding, deleting, and editing a vehicle group. Support getting the information list of all vehicle groups.
2. Support adding information of a vehicle to a specific vehicle group, deleting information of a vehicle from a group, and editing information of a vehicle in a group. Support getting the information of a specific vehicle and information list of all vehicles.
3. Support applying the validity period of the license plate number to devices.
4. Support adding, deleting, viewing, and editing the information about vehicles in the blocklist.

Access Point

1. Support getting the information of a specific access point and information list of all access points. Support getting the information list of access points in a specific area. Support searching for access points by conditions.
2. Support getting card reader information of a specific access point.

Person

1. Support getting the information of a specific person and information list of all persons. Support searching for specific persons by conditions.
2. Support getting person's profile picture uploaded when adding the person.
3. Support adding, deleting, and editing person information, including the person's face and fingerprint information.
4. Support applying person's access level settings or information (person ID, person name, face picture, fingerprint, card No., validity, etc.) to access control devices.
5. Support getting status details of applying person information or person's access level settings to the devices. Support returning applying failures and person information waiting to be applied.
6. Support getting and editing a person's custom information.
7. Support verifying the validity of face pictures before they are applied to MinMoe devices.

Access Level

1. Support assigning and unassigning access levels to persons.
2. Support getting access level list. Support getting person list related to an access level.

Face Comparison Group

1. Support getting, deleting, and editing information of a face comparison group.
2. Support applying all persons' information in the face comparison groups to the linked devices.

Face Information

1. Support adding information of a single face to the specified face comparison group and deleting information of a single face from the specified face comparison group.
2. Support searching for information of all faces in the specified face comparison group.
3. Support downloading the specified face picture according to the URL.
4. Support searching for the information about faces by camera.

Visitor

1. Support adding a visitor's information for checking in and editing a visitor's information. Support revoking a visitor's permission after he/she checks out.
2. Support adding/editing/deleting a visitor's reservation records. Support searching for reservation records.
3. Support searching for the custom information about visitors. Support searching for the information about visitor groups and visitors' information.
4. Support searching for visitors' information by condition. Supports getting the information about a single visitor.

4.36.3 Video Service APIs

Live View

1. Support getting the streaming URL for live view.
2. Support specifying stream type and streaming protocol.
3. Support streaming via RTSP from CCTV cameras that are added via ISUP.
4. The streaming protocol is available for:
   a. Getting stream in Hikvision's custom type by cooperating with VideoSDK.
   b. Getting stream via WebSocket by cooperating with JsDecoder SDK.
   c. Getting stream via standard RTSP.

Playback

1. Support getting the streaming URL for playback.
2. Support specifying camera ID, start and end time, and streaming protocol.
3. The streaming protocol is available for:
   a. Getting stream in Hikvision's custom type by cooperating with VideoSDK.
   b. Getting stream via WebSocket by cooperating with JsDecoder SDK.

Two-Way Audio

Support getting the streaming URL for two-way audio. Currently, the two-way audio function can only be realized with the cooperation of VideoSDK and WebSDK.

PTZ Control

1. Support adding and deleting a preset of a camera.
2. Support searching for the preset information of a camera.
3. Support adding and deleting a patrol of a camera.
4. Support searching for the patrol information of a camera.
5. Support controlling the PTZ by camera ID.

Video SDK

1. Video SDK, without video interface, provides applications in PC client, including live view, recording, video search, playback, single-frame playback, video downloading, capture, audio control, two-way audio, etc.
2. Provides both the C++ and C# demos for Video SDK

Video WebSDK

1. Video WebSDK, with basic video interface and tool bar, provides a plug-in running on web browser to implement several video functions, such as live view, playback, creating plug-in window, window size adjustment, window division, etc.
2. Provide demos for WebSDK.

jsDecoder SDK

1. jsDecoder SDK, with basic video interface, provides a no plug-in solution to start live view (including manual recording, manual capturing, audio control, full-screen display, digital zoom, 3D positioning) and playback (pause, stop, fast/slow forward, single-frame playback, manual recording, digital zoom, 3D positioning) of the device via the web browser. jsDecoder SDK Support WSS streaming type.
2. Provide demos for jsDecoder SDK.
3. Support two-way audio.

Standard Streaming

Support standard playback via RTSP, live view and playback via HLS, and live view and playback via RTMP.

4.36.4 Intelligent Analysis APIs

People Counting Statistics

1. Support getting people counting statistics of the specified camera by minute, hour, day, and month. Support uploading alarm information by priority.
2. Support getting the real-time statistics of resource groups.
3. Support getting the list of resource groups.

Heat Map

Support getting people's dwell time and people counting statistics.

4.36.5 Alarm Service APIs

Alarm Record Search

Support searching for alarm records.

Alarm Picture

Support downloading alarm pictures.

Alarm Acknowledgement

Support acknowledging alarms.

Alarm/Event Types

1. Support 56 alarm/event types about camera, such as loitering, people gathering, camera recording exception, wrong-way driving, and fast moving.
2. Support 38 alarm/event types about card swiping, such as duress alarm, access granted by employee ID and fingerprint, and access denied by employee ID and face.

4.36.6 ANPR Service APIs

Vehicle Passing Record Search

Support searching for the vehicle passing records.

Passing Vehicle Picture

Support searching for and downloading pictures of the passing vehicles.

4.36.7 Access Control APIs

Door Control

Support controlling doors by door ID, including opening doors, closing doors, remaining doors open, and remaining doors closed.

Access Record Search

Support searching for access records by time, person name, access point ID, and event type.

Access Event

Support getting pictures of access events.

4.36.8 Event Service APIs

Event Subscription

Support subscribing to events by event type, such as intrusion event, temperature alarm event, license plate matched alarm, abnormal temperature alarm, and access event (authenticated via face and password).

Subscribed Event Search

Support searching for subscribed events by user ID.

Generic Event

Support adding, deleting, and editing a generic event. Support getting the information list of generic events. Support configuring parameters to receive alarms of the generic events.

4.36.9 Parking Lot APIs

Parking Lot Management

Support getting the parking lot information list. Support searching the vehicle passing records of a specific parking lot and the vehicle's parking records and parking duration. Support getting the occupancy of parking spaces on specific floors and parking spaces of each type.

Parking Fee

1. Support getting the parking fee and the parking duration according to the license plate number.
2. Support returning the confirmation information after the parking fee is paid. The vehicle can exit the parking lot after that.

4.36.10 Mobile Monitoring APIs

Vehicle List

Support getting the vehicle list in the Mobile Monitoring module.

Vehicle Information

Support getting the detailed vehicle information according to the vehicle No.

Two-Way Audio

Support direct two-way audio with the mobile devices.

GPS Information

Support getting the real-time GPS information, and searching for historical GPS information.

Report Alarm

Support reporting mobile device alarms to the platform, including ADAS event alarm, driving behavior event alarm, emergency alarm, etc.

4.36.11 Common API

Support getting version information of the platform.

Chapter 5 Execution

5.1 Examination

1. Inspect chosen area of installation prior to receiving devices and report any conditions that affect the installation process or any subsequent operation.
2. Please do not begin installation until all unacceptable conditions are rectified.

5.2 Preparation

Devices packaged in such way to help prevent any damage during construction.

5.3 Installation

1. Devices shall be installed in accordance with the manufacturers' instructions provided, as well as instructions based off any indicated floor design specifications.
2. Location of installation shall provide reasonable conditions for optimum device functionality. Temperature and humidity level conditions shall be taken into consideration.
3. All installations shall be performed with qualified service professionals only.
4. All devices shall be installed in accordance with the National Electric Code or applicable local codes.
5. Ensure location of installation provides a minimum possibility of accidental damage.

5.4 Field Quality Control

1. Assess the compatibility of mounting screws for all equipment to be installed.
2. Properly test all non-video systems against standard operational requirements.
3. Define, conclude, and report all issues with equipment to the manufacturers' customer service representatives.

5.5 Adjusting

1. Execute the necessary modifications to the Non-Video Management System for proper operation in accordance with the instructions provided by the manufacturer.
2. Ensure the customers unique requirements are reflected in the access control settings.

5.6 Demonstration

Upon final inspection, validate the non-video system and its device functions correctly.

See Far, Go Further