IP Broadcasting & Intercom Unified Communication System
Unified SIP Communication & Security Solution
Founded in 2002, Fanvil is a well-known National High-tech Enterprise (HNTE) focusing on R&D, production and sales of IP Unified Communication terminals in China. Headquartered in Shenzhen, China, with two other R&D centers in Suzhou and Beijing, Fanvil has established a comprehensive network including R&D, production, sales and service.

Fanvil product portfolio includes two product lines of IP Telephony Communication terminals and SIP Security Unified Communication devices. The IP telephony terminals including IP Audio Phone, IP Video Phone and ATA for the enterprise market. The SIP Security Unified Communication devices including SIP Intercom, SIP Door Phone, SIP Speaker and SIP broadcasting & intercom gateway etc., which have been widely applicated in highway, unmanned parking lot/stadium, wind farm, factory & mine, bank, airport, safety city and others.

In order to better serve and meet the demands of rapid growing security industry market, Fanvil has launched the IP Broadcasting & Intercom Unified Communication System, and is continuously devoted to offer professional broadcasting & intercom unified communication solutions for highway, unmanned parking lot/stadium, school, industrial park, bank, safety city, community renovation, service industry and more.
System Overview

Fanvil IP Broadcasting & Intercom Unified Communication system is a one-stop solution based on IP communication protocol and standard SIP protocol as core protocol, combining with Help Intercom, SOS call, Emergency Broadcasting, Emergency Consultation, Visualized Dispatch, Real-time Recording, Video Linkage, Alarm Linkage and Digital Map. The system can be integrated with other systems deeply to improve the industry information management, reduce the enterprise operation and maintenance management cost, and improve daily work efficiency and emergency response capability. The system could be configured easily. Only need to connect the devices to LAN or WAN network to setup a powerful digital communication system which can realize the integration of multiple networks systems including computer network, SOS help, public broadcasting, video monitoring, security alarm and office telephone. The system could be widely applied to multiple industries like highways, unmanned parking lot/sports hall/gym/supermarket, industry mine, education, rail, finance, prison, energy, electricity, medical, broadcasting, video monitoring, security alarm and office telephone. The system could be configured easily. Only need to connect the devices to LAN or WAN network to setup a powerful digital communication system which can realize the integration of multiple networks systems including computer network, SOS help, public broadcasting, video monitoring, security alarm and office telephone. The system could be widely applied to multiple industries like highways, unmanned parking lot/sports hall/gym/supermarket, industry mine, education, rail, finance, prison, energy, electricity, medical, broadcasting, video monitoring, security alarm and office telephone.

System Character

Openness
Based on standard SIP protocol, supports third parties’ terminals; compatible with IP telephony system/IMS system, Support SDK for integration with third parties’ system.

Efficient Collaboration
Multiple partitions and multiple dispatching stations can be configured. One single dispatching station can process multiple service calls at the same time, and support cooperation between dispatching stations to improve the efficiency of the monitoring center.

System Function

- Intercom
- Broadcasting
- Telephony
- Video Monitor
- Digital Map
- Alarm

System Diagram

**LAN/WAN**

**Unified Communication/Scheduling**

**Centralized Monitoring/Management**

**Telecom Operator IMS**

**Closed-loop/Smart Operation**

**Smart Video/Alarm Warning**

**Easy Maintenance/Cost Reduction**

**IP Broadcasting & Intercom Unified Communication System**

**System Overview**

**System Function**

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**System Diagram**

**Extended Fusion**

**Integrated Monitor**

**SDK**

**Extend Various Phones**

**Extended Public Broadcasting**

**Extended Fire Alarm**

**Virtual Intercom Software**

**Specific Outdoor Environment**

**Ordinary Outdoor Environment**

**Harsh Industrial Environment**

**LAN/WAN**

**Machine Room**

**Emergency Command Center/Monitoring Center**

**Centralized Monitoring/Monitoring System**

**Security Alarm System**

**Door Phone/Intercom System**

**Command Dispatch System**

**Telephony System**

**Monitoring System**

**SIP**

**Unified Communication**

One system integrated with Communication server/broadcasting server/record server/consultation server/management server; Unified dispatching console interface for multiple operations.

**HD Audio**
Carrier-grade voice quality. Supports the standard G.722 broadband voice coding. Combined with the unique echo cancellation technology.
Multiple Management
The system supports multi-level management centers to share data traffic, reduce the risk caused by network anomalies, and meet clustered large-scale applications.

First Level Platform
Visual Dispatching Management System

Second Level Platform
Visual Dispatching Management System

Map Location
When a help-seeker asks for help via the intercom, the PC-side visualized dispatching station management software will pop up the map of the intercom area automatically, find the incident location quickly, and displays all the nearby monitoring points on the map for quick response.

Visual Intercom and Recording
The management terminals could call each other with two-way visual communication, and also one-way visual communication with intercom terminal (Audio version). The audio/video communication could be recorded via the system as a record and also evidence for further investigation.

Linkage with Office Phone/Cell phone
The help call could be forwarded to the office phone or cell phone numbers of supervisors, or call to the preset appointed office phone/cell phone numbers.

Emergency Consultation (Meeting Mode)
The monitoring center/security guard officer/inferior could activate the meeting mode with help intercom via the Dispatch Software for better communication and improve efficiency.

Linkage Control
The monitoring center can remotely control the terminal switch interfaces with external devices such as electric lock, warming light and gate to realize remote unlocking, control the alarm lamp, and the terminals can be connected with emergency button, active speaker and other external devices to meet the multi-functional application scenarios.

Map Location
- First Level Platform: Visual Dispatching Management System
- Second Level Platform: Visual Dispatching Management System

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Monitoring and Shouting Deterrence
Real-time monitoring all help points’ devices via the management terminals or system software to find malicious damage and shouting via the management terminals to deter the criminal.

Alarm Processing Scheme
The preset alarm processing schemes will be activated once the alarm authenticity is confirmed, such as: make calls to relatives and superiors of the help-seekers automatically; send messages to relevant people; trigger the door to close automatically.

Platform Integration
The communication interface (HTTP format) for secondary development could be offered; third-party software can control intercom, alarm and broadcast directly, and receive the terminals’ status. Working with the monitoring system, the call switch can be controlled by the monitoring system, or the monitoring page could be switched automatically during the call.
**System Function List**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Call</strong></td>
<td></td>
</tr>
<tr>
<td>Two-way Hand-free Call</td>
<td>When the call is connected, the call will be Hand-free mode with Echo Cancellation.</td>
</tr>
<tr>
<td>Push-To-Talk Call</td>
<td>Push-To-Talk Call. During the Hand-free call mode, push-to-talk, and release to listen. Similar like interphone (Suitable for noisy environment use).</td>
</tr>
<tr>
<td>Two-way Visual Call</td>
<td>Support One-way or Two-way visual call. Audio and video transmission synchronization.</td>
</tr>
<tr>
<td>Conference Call</td>
<td></td>
</tr>
<tr>
<td>Conference Mode</td>
<td>Support conference call with multiple terminals. The conference can be interrupted by the high priority intercom call, and will be resumed after the conference completed.</td>
</tr>
<tr>
<td>Intercom Mode (Command mode)</td>
<td>Support intercom mode (Command mode) with multiple terminals. The command could be interrupted by the high priority intercom call, and will be resumed after the intercom completed.</td>
</tr>
<tr>
<td>One Button Call-Out</td>
<td>Speed dial to appointed terminal. Each terminal can set the call target independently.</td>
</tr>
<tr>
<td>Numeric Keypad/Dialing Call</td>
<td>Call to any terminal by dialing with numeric keypad.</td>
</tr>
<tr>
<td>Group Call-Out</td>
<td>If a terminal is set to call multiple terminals at the same time, it will call a group of terminals automatically when dialing the terminal number. The group call will be stopped once the call is answered by any terminal of this group.</td>
</tr>
<tr>
<td>Call Priority</td>
<td></td>
</tr>
<tr>
<td>Auto Answer</td>
<td>The terminal could be set to answer the call automatically after the preset ringing times.</td>
</tr>
<tr>
<td>Manual Answer</td>
<td>The called terminal rings continuously until it is repounded by manual.</td>
</tr>
<tr>
<td>Agent Answer</td>
<td>The terminal could answer the calls to other terminals in the same group.</td>
</tr>
<tr>
<td>Busy Line Transfer</td>
<td>The call will be transferred to appointed terminal automatically if it is busy.</td>
</tr>
<tr>
<td>Shutdown Transfer</td>
<td>The call will be transferred automatically if the terminal is shutdown or offline.</td>
</tr>
<tr>
<td>No Response Transfer</td>
<td>The call will be transferred automatically if the called terminal is not answered after the preset ring time.</td>
</tr>
<tr>
<td>Time-sharing/Transfer</td>
<td>The call will be transferred to appointed terminal during the preset time period.</td>
</tr>
<tr>
<td>Manual Transfer</td>
<td>The connected call could be transferred to any terminals by manual and end the call</td>
</tr>
<tr>
<td>Call Transfer</td>
<td></td>
</tr>
<tr>
<td>Call Interruption</td>
<td>Terminal calls can be prioritized. The high-level users can terminate and interrupt calls of lower-level users.</td>
</tr>
<tr>
<td>Call Waiting (Queueing)</td>
<td>If the called priority terminal is busy, the call can be queued, and will connected automatically if and the line is available within 30 seconds.</td>
</tr>
<tr>
<td>Call Termination</td>
<td>The administrator can terminate the processing call</td>
</tr>
<tr>
<td>Music Broadcast (Background Music)</td>
<td>The system could play preset music broadcasts to one or multiple terminals.</td>
</tr>
<tr>
<td>Reservation Broadcast</td>
<td>The system broadcasts music/file to one or multiple terminals as scheduled.</td>
</tr>
<tr>
<td>Test Broadcast</td>
<td>The system broadcasts test-to-speech to one or multiple terminals.</td>
</tr>
<tr>
<td>File Broadcast</td>
<td>The system broadcasts file-to-speech to one or multiple terminals.</td>
</tr>
<tr>
<td>Emergency Broadcast</td>
<td>The emergency broadcast could be activated via the system once emergency case happens. The emergency broadcast is top priority and could interrupt processing calls or other lower level broadcast.</td>
</tr>
<tr>
<td>Partition Broadcast</td>
<td></td>
</tr>
<tr>
<td>Caller ID</td>
<td>Including the display of current call/history missed calls/received calls.</td>
</tr>
<tr>
<td>Call Voice Broadcast</td>
<td>Broadcast the incoming terminal’s ID via the built-in speaker automatically.</td>
</tr>
</tbody>
</table>

**Alarm**

- **Alarm Processing**: Once the monitoring center receive the SOS alarm, the officer will double confirm and process the corresponding action. The alarm processing could be marked for inquiry check.

- **Alarm Linkage**: The linked IP camera could be used to check onsite video once the alarm happens. And the linked alarm lamp could be controlled also.

- **Alarm Processing Scheme**: The alarm processing scheme like the linked video/broadcast/message/ alarm output could be activated by the monitoring center officer after the confirmation of onsite case via the video or communication calls.

**Call Monitoring**: The selected terminals’ calls could be monitored by the administrator via the management system.

**Environmental Monitoring**: The terminals could be used to monitor the surroundings by the administrator via the management system once the terminal is vacant.

**External Control**: The short-circuit output ports of the terminal can be used to control the warning light or electric door lock; the short-circuit input ports can be connected with a SOS button or sensors (like smoke/IR sensor/door sensor).

**Digital Recording**: The system will record all calls (two parties or conference call). The records will be stored in the server’s hard disk.

**Digital Map**: Support to locate the alarm position exactly on the digital map, and realize the functions like quick intercom/shouting/video preview/alarm process on the digital map.

**Contact List**: The contact list could be imported/exported/aided/deleted/amended/inquired and used for speed dial.

**Unmanned**: All incoming calls to control console will be transferred to the preset appointed number automatically when the system is in unmanned mode.

**Integration Interfaces**

- **Integration With Telecom Operator’s IMS**: Could be connected to the operator IMS to enable two-way originating call intercom (audio or video); the PSTN phone or mobile phone also can broadcast via the IP broadcast intercom system (partition/all zones).

- **Integration With PSTN Phone/Cellphone**: Connect to the telephone program-controlled switch to enable two-way originating call intercom (audio or video); the PSTN phone or mobile phone also can broadcast via the IP broadcast intercom system (partition/all zones).

- **Integration With VoIP Phone**: Support to connect IP PBX to realize the connection of enterprise VoIP phones.

- **Integration With Video Conference**: Connect to VoIP Conference MCU to realize multiple video conference call.

- **Integration With Fire Alarm**: Connect to IP fire alarm gateway to realize the fire alarm and linkage.

**Integration With Monitor System**

- The SDK file for secondary development could be offered. The monitor system could be used to control the call to watch/call/video switch automatically during the call.

**Distributed Server (Large Scale)**

Multiple servers for terminals’ management to balance the data traffic and reduce the risk of network anomalies. Suitable for the large-scale applications across regions. Support the broadcast and intercom cross-server. E.g.: multiple servers were set in various cities of one province, when the network between cities is abnormal, it will not affect the local communication in the city. The application scale can reach 200,000 terminals (the system supports 40 servers interconnected, each server loads 5000 terminals).

**Cloud Centralized Server (Large Scale)**

Multiple virtual servers could be rented for terminals’ management to balance the data traffic, achieve rapid expansion and reduce the server maintenance/operation cost. Suitable for the large-scale cloud applications. Support the broadcast and intercom cross-server. E.g.: broadcast/intercom applications in unmanned parking lots/orange/gym/playground etc. The application scale can reach 200,000 terminals (the system supports 40 servers interconnected, each server loads 5000 terminals).

**Independent Server (Middle Scale)**

One independent server manages all terminals. Support hot swap of primary and backup servers at the same time. The application scale can reach 50,000 terminals (each server loads 5000 terminals).

**No Server (Small Scale)**

Basic communication without server. It is suitable for simple request application scene or used as emergency solution for internal communication of one independent area once the network is shut down.

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System Function Comparison Table (Analog Intercom-IP Intercom) (Private Protocol)-SIP IP Intercom

<table>
<thead>
<tr>
<th>Function</th>
<th>Analog Intercom</th>
<th>IP Intercom</th>
<th>SIP IP Intercom(International Standard SIP 2.0)</th>
<th>Generic IP PBX</th>
<th>Broadcasting &amp; Intercom UC System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud Deployment(WAN)</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Interconnection (compatibility)</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>IMS Compatibility (Telecom Operator)</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HD Audio</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HD Video</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Visual Dispatch</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>One-touch call</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Call Forward</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Forced Insert</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Shouting Broadcast</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Music Broadcast</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Scheduled Broadcast</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Audio/Video Monitor</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Audio Conference</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Video Conference</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Alarm Linkage</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Alarm Processing Scheme</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Audio/Video Record</td>
<td>Audio</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Video Linkage</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Anti-interference</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Security</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

System Application Scale

Small Scale Application (P2P Mode) -- No Server
Basic communication without server. It is suitable for simple request application scene or used as emergency solution for internal communication of one independent area once the network is shut down.

Middle Scale Application -- Independent Server
One independent server manages all terminals. Suitable for applications with small scale terminals and no across regions. Support hot swap of primary and backup servers at the same time. The application scale can reach 5,000 terminals (Each server loads 5,000 terminals and the concurrency is 500).

Large Scale Application -- Cloud Centralized Server
Multiple virtual servers could be rented for terminals’ management to balance the data traffic, achieve rapid expansion and reduce the server maintenance/operation cost. Suitable for the large-scale cloud applications. Support the broadcast and intercom cross-server. E.g. broadcast/intercom applications in unmanned parking lot/store/gym/play ground etc. The application scale can reach 200,000 terminals (the system supports 40 servers interconnected, each server loads 5,000 terminals).

Large Scale Application -- Distributed Server
Multiple servers for terminals’ management to balance the data traffic and reduce the risk of network anomalies. Suitable for the large-scale applications across regions. Support the broadcast and intercom cross-server. E.g. multiple servers were set in various cities of one province, when the network between cities is abnormal, it will not impact the local communication in the city. The application scale can reach 200,000 terminals (the system supports 40 servers interconnected, each server loads 5000 terminals).

City C
The system could be switched to Serverless Mode (Offline mode) if the server network is shutdown, to ensure the normal communication between all devices in the same area.
Community Renovation (Cloud Door Phone & Intercom)

Renovation Background

Nowadays, the intercom & access control system of many old communities has become a decoration because the products are aging, manufacturers stop production or disappear. Some gates are even not closed in some buildings because of the broken system, and the security functions are ineffective.

The traditional access control & intercom system in the old community always has complex wires inside the wall which caused the difficulties on maintenance and renovation.

Solution Advantage

The community renovation solution is based on the IP broadcasting & intercom UC system, which consists of video telephone, access door phone, management machine, mobile APP and power supply. It is a visual intercom & access system solution suitable for the renovation of the old community, apartments and buildings.

- Easy
  Easy to install/ route/ configure and use. Simple dialing rule.

- Reliable
  Stable and reliable system with clear audio. Support G.722 HD audio.

- Flexible
  Simple system architecture and flexible networking. Adapt to various complex community network environments.

- Product Aging
  The electronic components are aging with high fault rate for the intercom & access control system used over 8 years.

- Poor Quality
  Due to the poor quality of some system/devices, the system cannot operate as normal and get effective after-sales services.

- System/Device off Production
  Product/system upgrade or off production, unable to maintain.

- Improper Maintenance
  The system not work well due to the improper maintenance by the residential property company with weak technical supports.

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Function Introduction

- Video Intercom
  The visitor uses SIP video door phone call to appointed room number; the host communicates with the visitor and open the door by pressing the * key via the indoor video phone.

- Internal Communication
  All indoor phones could be called by others in the same community phones via internal number.

- Call Service Center
  The property or operator can set up the call center service function based on the system. The resident calls to the service number to select service according to the voice prompt.

- Remote APP
  The community management center can add mobile APP intercom service by adding system server to realize functions like remote visual intercom and unlock door via APP.

- Call Management Center
  The resident could call to the call management center via the indoor video phone for services like property maintenance and emergency help.

Diagram
School Broadcast & Intercom

System Overview
The visual dispatching system and IP phone could be installed in the headmaster’s office as command system to monitor and manage all intelligent security and communication terminals in school. The Emergency intercom and speaker could be installed in the passageways of school building, school yard, guard room and others for SOS help use when the abnormal cases happened. The monitoring center or police station could be notified once the alarm is triggered and shout via the speaker to deter the intruder.

- **Alarm for Help**
  - The teacher/student could use the alarm device calling to nearest monitoring center for help once they meet robbery or personal injury.

- **Emergency Consultation (Meeting Mode)**
  - Other parties like security guards and teachers can be invited to participate in the multi-party consultation for better communication.

- **Access Control**
  - The monitoring center can talk and confirms the visitor via the door phone and open the door remotely.

- **Intercom Assistance**
  - Teachers can use intercom to get efficient remote help once they meet equipment failure in classroom.

- **File Broadcast**
  - Classes can be grouped and multiple programs can be played simultaneously for audio teaching and notification.

- **Shouting Broadcast**
  - The monitoring center could shouting to deter the intruder once they found abnormal cases.

- **Access Control**
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- **Intercom Assistance**
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- **Call Broadcast**
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- **Scheduled Broadcast**
  - Scheduled broadcast as preset programs like music ringtones, class exercises and radio programs.

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Highway Broadcast & Intercom

System Overview

The system could be applied to highway daily management to realize the intelligent operation and improve the efficiency via the integration of intercoms in highway toll booths, emergency assistance, emergency broadcasting, monitoring center and office communication systems. The system could be used with existing network for internal communication between toll booth, station monitor room and monitoring.

- **Intercom**: One touch intercom for internal communication.
- **Broadcast**: Group broadcasting (call broadcast/emergency broadcast) via the Visual Dispatching Management Software.
- **Emergency Consultation**: Meeting Mode
  - Other parties like station monitoring room, monitoring center could be invited to participate in the multi-party consultation for better communication.
- **Emergency Help**: Drivers could get efficient help from the monitoring center by pressing the intercom once emergency case happened.
- **Alarm**: The video linkage could be activated once the alarm is triggered.
- **Monitor Recording**: All calls and videos could be recorded simultaneously 24/7.
Industrial Park Broadcast & Intercom

System Overview

The visual dispatching system and IP phones are installed in the industrial park security room and police station as command system to manage and monitor all intelligent security and communication terminals in the park. The emergency intercoms and speakers could be installed in the machine room, dormitories, and common areas for SOS help use when the abnormal cases happened. The security room or police station could be notified once the alarm is triggered and shout via the speaker to deter the intruder.

- **Intercom**: Staffs in difficulties can press panic button of the intercom for instant help from security room.
- **Alarm Processing**: The preset alarm processing schemes would be activated once the alarm was confirmed, such as: make auto calls to kinfolk of the help-seekers; send messages to relevant people; trigger the door to close automatically.
- **Emergency Consultation**: Multi-party consultation can be launched through the dispatching system to quickly discuss emergency measures.
- **Video Linkage**: The linked IP camera view could be displayed during the intercom call.
- **Broadcasting Listening**: Call broadcast, music broadcast, emergency broadcast.
- **Access Control**: Staffs unlock the door remotely after checking visitor’s identity via video intercom.

Diagram
Unmanned Parking Lot Intercom

System Overview
Drivers can conveniently get remote assistance via intercoms at the entrance/exit or inside the parking lot when unexpected cases happened, like vehicle damage, parking space occupied or barrier failure. The intercom system can greatly enhance user experience of unmanned parking lot and reduce comprehensive operation cost.

Diagram

Intercom
Drivers in troubles can get instant help from the management office or monitoring center by pressing the intercom.

Alarm
Emergency alarm and video linkage will be triggered once the intercom is pressed.

Broadcast
Call Broadcast and Emergency broadcast.

Remote Barrier Control
The barriers could be controlled by the management center or service center remotely.

Emergency Consultation (Meeting Mode)
Other parties like guards or staffs could be invited to participate in the multi-party consultation for better communication.

Monitor Recording
All calls and videos could be recorded simultaneously by 24/7.

Community A

Community B

Community C

diag | 19
Unmanned Machine Room Intercom

System Overview

The intercoms are installed at the entrance of the unmanned machine room as access control by call, code or IC/RFID card. SIP video intercoms and gateway PA2 with external sensors are installed in the machine room to realize intrusion or fire alarm. When emergency happens, the appointed IP camera video pops up and the system performs planning schemes, such as: shouting for deterrence, triggering sound and light alarm or call or text relevant person.

Diagram

Intercom
One-touch two-way communication between the machine room and monitoring center.

Alarm
The intercom could trigger the alarm lamp and send alarm alert to monitoring center once the linked external sensor detected intruder or abnormal case.

Emergency Consultation (Meeting Mode)
Other parties like guards or technical staffs could be invited to participate in the multi-party consultation for better communication.

Shouting Broadcast
The monitoring center could shout to deter the intruder once abnormal case was detected in the machine room.

Video Linkage
The linked IP camera view could be displayed during the intercom call.

Access Control
The administrator unlocks the door remotely after checking visitor’s identity via video door phone.

Emergency Consultation (Meeting Mode)
Other parties like guards or technical staffs could be invited to participate in the multi-party consultation for better communication.

Shouting Broadcast
The monitoring center could shout to deter the intruder once abnormal case was detected in the machine room.

Video Linkage
The linked IP camera view could be displayed during the intercom call.

Unmanned Stadium/Gym/Supermarket Intercom

System Overview

With the popularization of RFID cards and ePayment, the “unmanned operation” has been infiltrating all walks of life, such as Stadium, Gym or Supermarket where customers can buy goods or service by ePayment without staffs on site. At these areas, the customers could get timely assistance from the service center via emergency intercoms installed at entrance/exit or settlement area once unexpected cases happened.

Diagram

Intercom
Customers in troubles can get instant help from the monitoring center by pressing the intercom.

Shouting Broadcast
The monitoring center could shout to deter the intruder once they found abnormal cases.

Video Linkage
The linked IP camera view could be displayed during the intercom call.

Monitor Recording
All calls and videos could be recorded simultaneously by 24/7.

Broadcast
Call broadcast, emergency broadcast and music broadcast to single points or by group.

Emergency Consultation (Meeting Mode)
Other parties like guards or technical staffs could be invited to participate in the multi-party consultation for better communication.

Broadcast
Call broadcast, emergency broadcast and music broadcast to single points or by group.

Monitor Recording
All calls and videos could be recorded simultaneously by 24/7.

Broadcast
Call broadcast, emergency broadcast and music broadcast to single points or by group.

Emergency Consultation (Meeting Mode)
Other parties like guards or technical staffs could be invited to participate in the multi-party consultation for better communication.

Shouting Broadcast
The monitoring center could shout to deter the intruder once abnormal case was detected in the machine room.

Video Linkage
The linked IP camera view could be displayed during the intercom call.

Unmanned Stadium/Gym/Supermarket Intercom

System Overview

With the popularity of RFID cards and ePayment, the “unmanned operation” has been infiltrating all walks of life, such as Stadium, Gym or Supermarket where customers can buy goods or service by ePayment without staffs on site. At these areas, the customers could get timely assistance from the service center via emergency intercoms installed at entrance/exit or settlement area once unexpected cases happened.

Diagram

Intercom
Customers in troubles can get instant help from the monitoring center by pressing the intercom.

Shouting Broadcast
The monitoring center could shout to deter the intruder once they found abnormal cases.

Video Linkage
The linked IP camera view could be displayed during the intercom call.

Monitor Recording
All calls and videos could be recorded simultaneously by 24/7.

Broadcast
Call broadcast, emergency broadcast and music broadcast to single points or by group.

Emergency Consultation (Meeting Mode)
Other parties like guards or technical staffs could be invited to participate in the multi-party consultation for better communication.

Broadcast
Call broadcast, emergency broadcast and music broadcast to single points or by group.

Monitor Recording
All calls and videos could be recorded simultaneously by 24/7.

Broadcast
Call broadcast, emergency broadcast and music broadcast to single points or by group.

Emergency Consultation (Meeting Mode)
Other parties like guards or technical staffs could be invited to participate in the multi-party consultation for better communication.

Shouting Broadcast
The monitoring center could shout to deter the intruder once abnormal case was detected in the machine room.

Video Linkage
The linked IP camera view could be displayed during the intercom call.
Bank ATM Intercom

System Overview

The intercom system could be applied to lots of scenes for bank and ATM. 1. Customers can call staffs for help on ATM operation via the intercom. 2. On-duty staffs could alarm or shout to deter the intruder once the abnormal case detected. 3. The intercom could be used for broadcasting locally and remotely.

- **Alarm**: The intercom could trigger the alarm lamp and send alarm alert to monitoring center once the linked external sensor detected intruder or abnormal case.
- **Intercom**: Customers can call bank staffs for help on ATM operation via the intercom.
- **SOS Button**: Customers can call bank staffs for help on ATM operation via the intercom.
- **Video Linkage**: The linked IP camera view could be displayed during the intercom call.

**Diagram**

- **ATM 1**
- **ATM 2**
- **ATM 3**

Self-service Vending Machine Intercom

System Overview

Only one or two customer service personnel is needed to implement monitoring and management of multiple self-service vending machines if a visual dispatching station is configured in the cloud service center. The customer can get help from officer via the help button once they meet difficulties on the self-service vending machine (such as cargo jam). When the self-service vending machine is artificially destroyed, the alarm lamp will be triggered, and the alarm alert will be sent to the monitoring center. The monitoring center can shout and deter the destroyer through the phone after the alarm alerts confirmed.

- **Intercom**: The customer can get help from the officer via the intercom once they meet problems.
- **Alarm**: The intercom could trigger the alarm lamp and send alarm alert to monitoring center once the linked external sensor detected intruder or abnormal case.
- **Video Linkage**: The linked IP camera view could be displayed during the intercom call.

**Diagram**

- **Self-service Vending Machine 1**
- **Self-service Vending Machine 2**
- **Self-service Vending Machine 3**
Help Intercom for Safe City/Campus/Scenic Area

System Overview
In public places like urban areas/campuses/scenic areas, there are more and more destruction, robbery and other security violations happening day and night. The SOS emergency help solution is significant beside the existing video surveillance. Fanvil IP intercoms could be installed for emergency help to nearby police station when people meet robbery or personal injury. And the police station could shouting to deter the intruder once they found abnormal cases.

Alarm for Help
People could use the alarm device calling to nearest monitoring center for help once they meet robbery or personal injury.

Shouting Broadcast
The monitoring center could shouting to deter the intruder once they found abnormal cases.

Video Linkage
The linked IP-camera view could be displayed during the intercom call.

Emergency Consultation (Meeting Mode)
The security guar and police could be invited to participate in the multi-party consultation for better communication.

Broadcast
Call broadcasts, emergency broadcasts and music broadcasts for single-zone or multi-zone.

Monitor Recording
All calls and videos could be recorded simultaneously by 24/7.

Help Intercom for Safe City/Campus/Scenic Area

Cloud Broadcast

System Overview
The cloud broadcasting system utilizes the existing wide area network to broadcast audio announcements, background music, and emergency broadcasts to selected IP speakers or intercom terminals. It could be widely applied to the scenes where need across regions, such as chain organizations.

The system is mainly divided into two parts: the headquarters and branches. The headquarter is the control center to manage all devices in branches and broadcast information like important notification, special promotion and background music.

Broadcast
Call broadcasts, emergency broadcasts and music broadcasts for single-zone or multi-zone.

Video Linkage
The linked IP-camera view could be displayed during the intercom call.

Diagram

Cloud Service Center
System Server
FDMS Terminal Management Platform
Intercom Terminal
Intercom Gateway
Cloud Service Center
PSTN Gateway
4G/5G Base Station
Mobile Phone
Headquarter of Chain Stores
Red emergency evacuation
4G/5G Base Station
Intercom Gateway
Notification
Branch Store 1
4G/5G Base Station
Intercom Gateway
Notification
Branch Store 2
4G/5G Base Station
Intercom Gateway
Notification
Branch Store 3
WAN
Telecom Operator
PSTN Gateway
System Server
FDMS Terminal Management Platform
Intercom Call
4G/5G Base Station
Mobile Phone
Video Linkage
The linked IP-camera view could be displayed during the intercom call.

In public places like urban areas/campuses/scenic areas, there are more and more destruction, robbery and other security violations happening day and night. The SOS emergency help solution is significant beside the existing video surveillance. Fanvil IP intercoms could be installed for emergency help to nearby police station when people meet robbery or personal injury. And the police station could shouting to deter the intruder once they found abnormal cases.

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People could use the alarm device calling to nearest monitoring center for help once they meet robbery or personal injury.

Shouting Broadcast
The monitoring center could shouting to deter the intruder once they found abnormal cases.

Video Linkage
The linked IP-camera view could be displayed during the intercom call.

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Call broadcasts, emergency broadcasts and music broadcasts for single-zone or multi-zone.

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Help Intercom for Safe City/Campus/Scenic Area

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The system is mainly divided into two parts: the headquarters and branches. The headquarter is the control center to manage all devices in branches and broadcast information like important notification, special promotion and background music.

Broadcast
Call broadcasts, emergency broadcasts and music broadcasts for single-zone or multi-zone.

Video Linkage
The linked IP-camera view could be displayed during the intercom call.

Diagram

Cloud Service Center
System Server
FDMS Terminal Management Platform
Intercom Terminal
Intercom Gateway
Cloud Service Center
PSTN Gateway
4G/5G Base Station
Mobile Phone
Headquarter of Chain Stores
Red emergency evacuation
4G/5G Base Station
Intercom Gateway
Notification
Branch Store 1
4G/5G Base Station
Intercom Gateway
Notification
Branch Store 2
4G/5G Base Station
Intercom Gateway
Notification
Branch Store 3
WAN
Telecom Operator
PSTN Gateway
System Server
FDMS Terminal Management Platform
Intercom Call
4G/5G Base Station
Mobile Phone
Video Linkage
The linked IP-camera view could be displayed during the intercom call.
Industrial Enterprise Broadcast & Intercom

System Overview
The production processes of industrial enterprises like coal mines, petro-refinery, chemical plants and steel plants are fast and complicated. It’s significant to use an efficient/high quality internal intercom system suitable for harsh environment during the production, emergency case processing and daily operation.

E.g. The steel plant could install industrial intercom for better communication in all production sections; install IP phones and Visual Dispatching Management System in monitoring center as a command system to manage all intercom terminals. The external speaker/amplifier could be connected with intercoms for emergency broadcast once emergency case happened.

Diagram

Wind Power Broadcast & Intercom

System Overview
Due to the special requirements of the wind power plant, wind power equipment is usually installed in areas with remote location, harsh natural environment, large diurnal temperature amplitude. These places often have no cell phone signal, which brings many inconvenience to the maintenance and management. The audio IP intercom could be installed in the nacelle and the bottom of each wind turbine using the same network with IP security. It will be more convenient for operators to communicate internally when they maintain the equipment. When the wind turbine fails, the operators can call the control center by pressing the button of the intercom to troubleshoot timely.

Diagram
Multimedia Classroom Intercom

System Overview
The teacher could get supports from the technician via the intercom once they meet equipment problem in classroom. The linked IP camera in classroom could help the technician for better understand of onsite case and effective maintenance.

Intercom Assistance
The teacher could get effective assistance from technicians/monitoring center once they meet equipment problem.

Emergency Consultation (Meeting Mode)
Technicians could be invited to participate in the multi-party consultation for better communication.

Video Linkage
The linked IP camera view could be displayed during the intercom call.

Broadcasting Listening
Call broadcast, emergency broadcast.

Diagram

Monitoring Room
System Server
FDMS Central Management Platform
Visual Dispatching Management System

LAN

Classrooms
Classroom 1
Camera
The computer can be started
Intercom Terminal
Classroom 2
Camera
Intercom Terminal
Classroom 3
Camera
Intercom Terminal

FDMS Terminal Management Platform
SIP Intercom Gateway PA2
IP Broadcast & Intercom Unified Communication System Server
Visual Broadcasting & Intercom Dispatching System

Product List

Door Phone

- i305 Audio Door Phone
- i235 Audio Door Phone
- i30 Video Door Phone
- i315 Video Door Phone
- i22V Video Door Phone

Intercom

- i12 Audio Intercom
- i16 Video Intercom
- i18S Video Intercom

Industrial Phone

- IP Industrial Phone
- IP Industrial Phone

Broadcast Gateway

- SIP Speaker
- SIP Intercom Gateway PA2

System Management Software

- IP Broadcasting & Intercom Unified Communication System Server
- Visual Broadcasting & Intercom Dispatching System
- FDMS Terminal Management Platform
System Platform and Software

**IP Broadcasting & Intercom UC System Server**

**Visual Broadcasting & Intercom Dispatching System**

**Application**
- Installed on computers of the control center or sub-control center, linking with dispatching phones.

**Features**
- Linkage with third-party equipment, displaying terminals’ status with different colors.
- Pop up the camera view of calling intercom’s linked IP camera.
- Record and display the information like missed calls, received calls, dialed calls.
- Monitor the permitted terminals.
- Broadcast for preset zones.
- Authorization via registration.

**FDMS Terminals Management Platform**

**Application**
- Installed on the server of control center for the remote control/upgrade/maintenance/configuration on the terminals, and management on access control card and record.

**Features**
- Operation system windows server2012 with B/S Structure. Easy to maintain and upgrade with cross-platform application.
- Terminal Management, including online status check, auto provision, remote parameter modification, terminal reset and upgrade, batch upgrade and addition.
- Access Card Management, including card’s addition, deletion, edition and distribution.
- Access Record Management, including synchronisation, statistics, deletion and query.
- Account Management, including account addition and deletion, address management and sub account management.

**System Platform and Software**

- System Platform and Software
- Dispatching Console and FDMS

**IP Broadcasting & Intercom UC System Server**

**Application**
- Manage and dispatch all dispatching phones/management phones/intercoms/broadcasting terminals.

**Features**
- Linux operation system with B/S Structure. Easy to maintain and upgrade with cross-platform application.
- Support functions of traditional broadcasting system including timing ring, background music; support settings of group management, broadcast permission etc.
- Support the establishment of multiple program database.
- Unified management of terminals including status display and parameter setting.
- Call transfer: customized scheme of call transfer like blind transfer/busy line transfer/no answer transfer.
- Support card view with detail information and map view with location.
- Account Management: various-level accounts with different roles and permissions.
- Clustered multi-level server management.
- Support software second development and integration with other systems by third-party via API of HTTP format.
- Support hot swap of primary and backup server. Support auto recovery after system crashed.
## Product Comparison Table

<table>
<thead>
<tr>
<th></th>
<th>i20S Audio Door Phone</th>
<th>i23S Audio Door Phone</th>
<th>i30 Video Door Phone</th>
<th>i31S Video Door Phone</th>
<th>i22 Audio Intercom</th>
<th>i16 Video Intercom</th>
<th>i18S Video Intercom</th>
<th>PA2 SIP Intercom Gateway</th>
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<td>Audio line-out</td>
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