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Respond & Achieve

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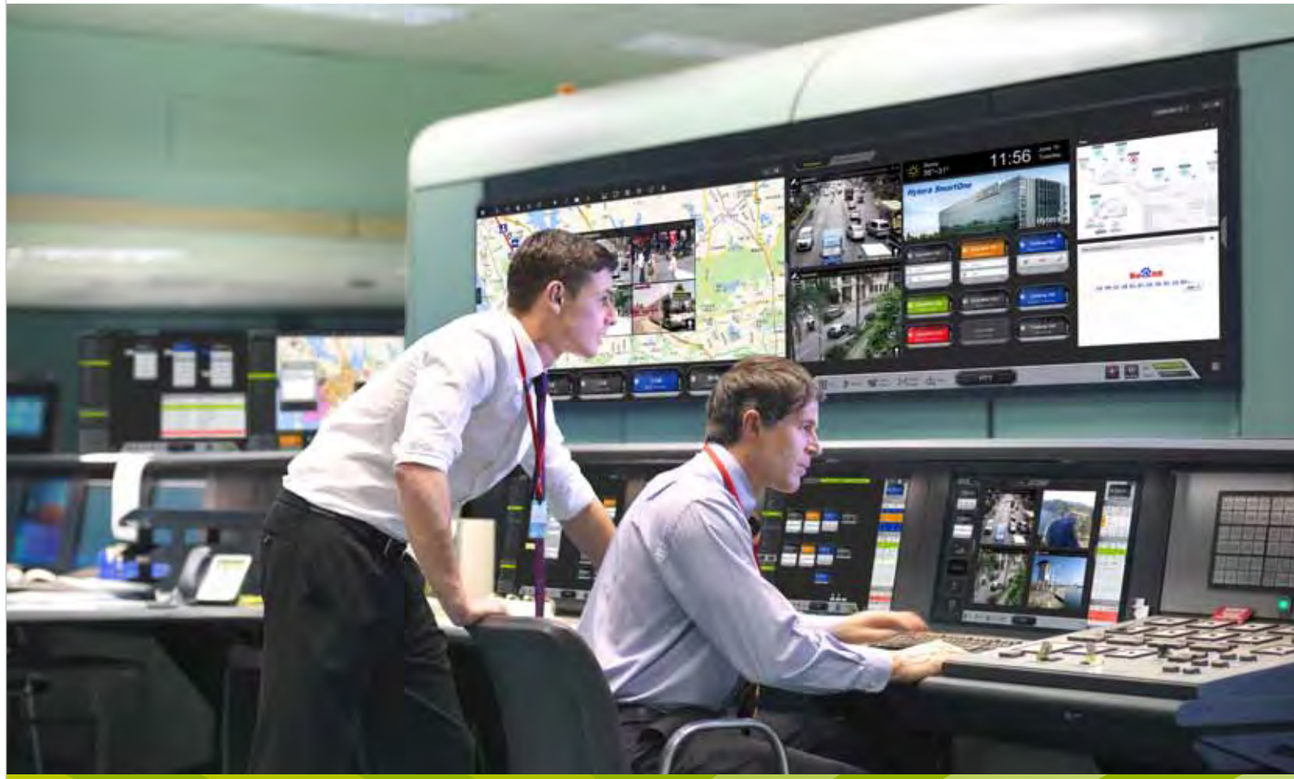
Hytera



Hytera SmartOne

A professional unified Communications Solution

- Inter-system communication
- Unified dispatching
- Plug-in module design
- Open platform

www.hytera.us

How to communicate to other system users?
How to dispatch all system users in one?

Overview

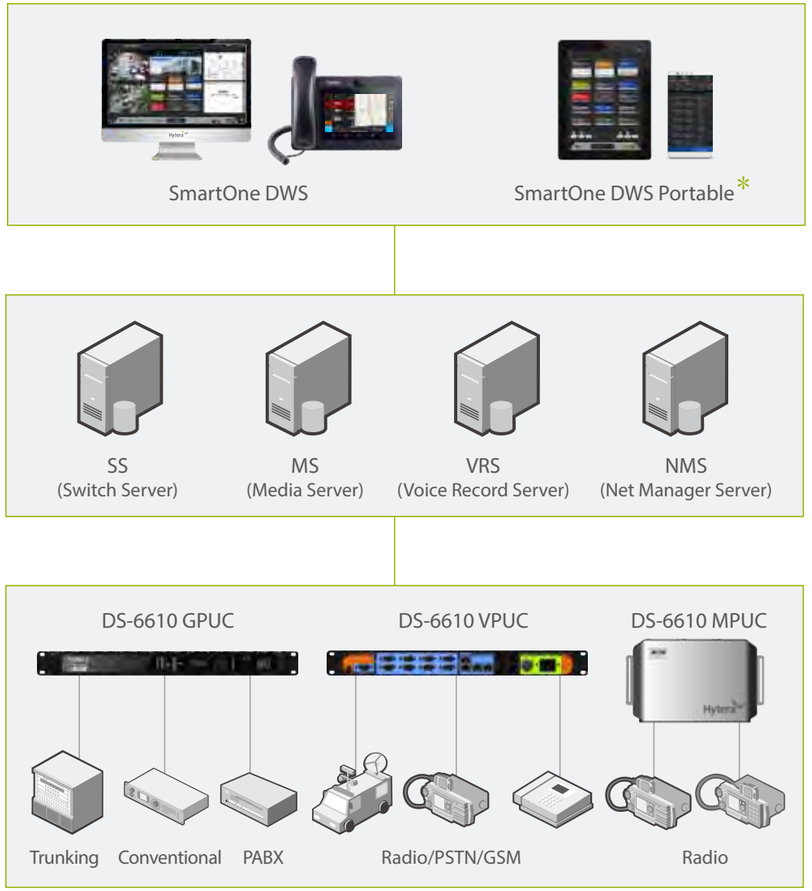
Hytera SmartOne, a new generation unified communication platform, realises multi-system intercommunication and unified dispatching, and thus brings our customers unlimited communication.

Hytera SmartOne's goal is to achieve communication among radio users, dispatchers and public network users through network inter-connection anytime and anywhere.

The powerful dispatching client allows the managers and dispatchers to quickly command all users in different networks.

Last but not least, Hytera SmartOne provides a unified API interface for integrators to develop more flexible and customised applications for end users.

To enrich communications through SmartOne



DS-6610 GPUC
Gateway PUC for wired interconnection

DS-6610 VPUC
Vehicle PUC for wireless interconnection

DS-6610 MPUC
Mini PUC for wireless interconnection

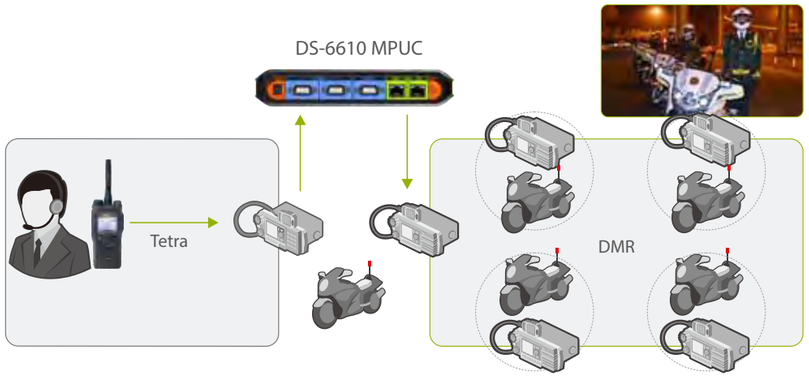
* will be provided later

Applications

Wireless inter-connection application

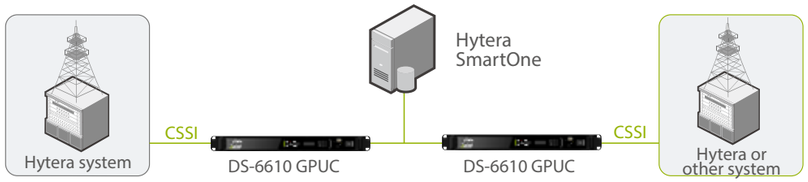
This solution uses a gateway to connect different network's mobile radios to make inter-system communications.

Typical case: There are two departments, one has a DMR network, and the other a Tetra network. In certain circumstances the two departments need to communicate and the command centre needs to dispatch both. Hytera SmartOne solution enables the installation of two mobile radios and one gateway in the emergency vehicle to help users communicate between systems.



Wired inter-connection application

This solution uses a PMR manufacturer's system CSSI (Console Subsystem Interface) or ISSI (Inter Subsystem Interface) interface to connect to the Hytera SmartOne system, to achieve inter-system communication.



Typical case: The Urban area adopts a DMR Trunking system, while the suburbs adopt DMR Tier 2. Via Hytera SmartOne, the two systems can be connected seamlessly; terminals can roam between these two systems and be contacted via a common dispatcher.

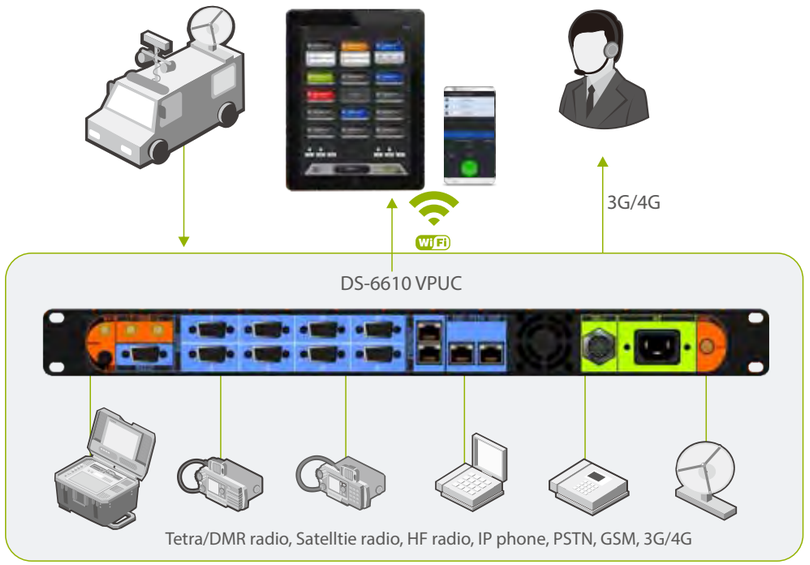
Features for Hytera DMR Tier 2 and Tier 3 Interconnection

- One number for one terminal in both networks
- Roaming in conventional and trunking networks
- Individual call and message, group call and message
- Inter-system E2EE
- No need to re-codec for inter-system call

Mobile Inter-connection

Hytera SmartOne DS-6610 VPUC supports car-mounted installations, which makes mobile inter-connection and dispatching possible.

Typical Case: DS-6610 VPUC is intended as a fast deployment on-site command center which achieves intercommunication among different devices. With multiple interfaces and powerful processing services, the DS-6610 VPUC can achieve inter-department cooperation and enable real-time communication between the onsite command center and headquarters.



Unified Inter-department Dispatching

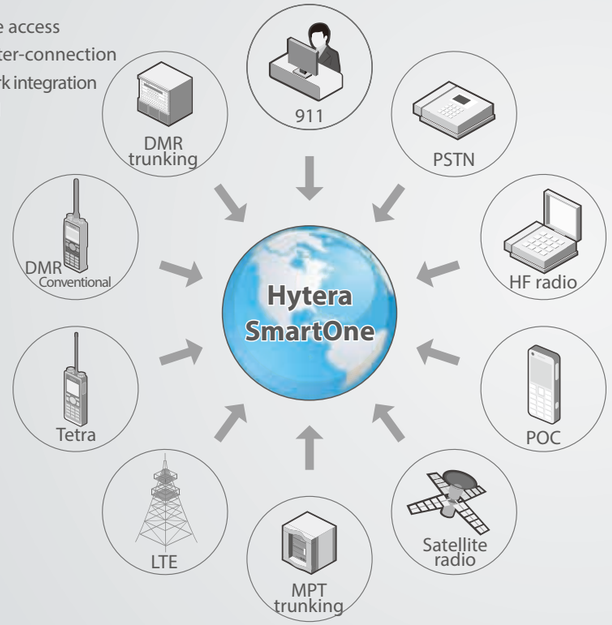
By connecting different networks together into Hytera SmartOne, the dispatcher based on this platform can easily achieve unified dispatching for all network users.

Typical Case: To handle a major emergency, multiple departments operating in various systems like DMR Trunking, TETRA or the PSTN Network, may be dispatched. With Hytera SmartOne, communications and dispatching among these departments can be achieved.

Solution Highlights

❶ Multi-system intercommunication

- CSSI and ISSI interface access
- Wired and wireless inter-connection
- PMR and public network integration
- Supports SIP protocol



❷ Advanced voice process technology, Humanised user experience

- **Various voice format conversions:** including G.711, G.729, AMBE++, tetra code.
- **Voice detection technology:** when communication is between a phone and radios, this can automatically assign talking authority to the phone by detecting the voice activity of the radios.
- **Gain control technology:** this can adjust voice from different communication systems to a uniform level without decreasing voice quality, so as to improve the user experience.
- **Supports E2EE.**

❸ Unified Dispatching

Abundant features are available for unified dispatching among different systems, such as individual call, group call, group patching, all call, broadcast call, priority call, emergency call, conference call, monitoring and ambience listening.

- **Mobility-oriented Dispatching Platforms**
- **Customised GUI**
  Multiple plug-ins, like short messages, video, photos and reports are supported by the dispatch client and customers can determine the dispatch client interface layout based on their actual needs.
- **Whole network unified user management**
  Supports whole network user status and user data management.

❹ Hot standby

The key network elements can support redundant deployment, which provides a 24/7 un-interrupted service.

❺ Open API based on unified platform

Unified interface: provides a SIP based or Hytera API interface for integrators to develop their own applications.

DS-6610 MPUC

Specification

2 way access: 2 mobile radio interface
Ethernet interface: 2 X RJ45, 100/1000M Base-T
Power supply: 12VDC, 1.5A
Operating temperature: 0º to 40ºC
Storage temperature: -10º to 60ºC
Humidity: 10% ~ 90%

DS-6610 VPUC

Specification

12 way access: 8 mobile radio interface; 2 PSTN(1 FXO and 1 FXS); 2 GSM
Supports Wifi AP
Supports LTE data transmission
Ethernet interface: 2 X RJ45, 100/1000M Base-T
Power supply: DC input: 12VDC, 1.5A;
AC input: 100 ~ 240VAC, 50 ~ 60Hz
Operating temperature: -20º to 60ºC
Storage temperature: -20º to 60ºC
Humidity: 10% ~ 90%

SmartOne Android Phone Dispatcher

In order to improve customer experience and fulfill customers' verified needs, Hytera keeps on designing and developing innovative products. Android Smart Phone and Android App are two innovative products based on SmartOne platform, which can realize SmartOne dispatching client function.

Smart one Innovation

Google Map Visualized Dispatching

Voice Services

- Contact management
- Half-duplex call
- Full-duplex call(to Tetra)
- Individual call
- Group call
- Emergency call
- Priority call
- Broadcast call
- All call

Data Services

- Ambience listening
- Discreet listening
- Kill, Stun/Revive
- DGNA
- SDS
- Voice play back
- GPS

SmartOne connect function

	Wired gateway		Wireless gateway
	DMR, MPT, Tetra, XPT	Hytera DMR Tier 2 & Hytera DMR Tier 3	
Group call	√	√	√
Group message	√	√	√
Individual call		√	
Individual mesasge		√	
E2EE		√	

SmartOne dispatch function

Call features	Individual call
	Group call
	Emergency call
	Priority call
	Broadcast call
	All call
	Call divert
	Multi-party call
	Call queueing
	Conference
	Simultaneous call
Visualized dispatch	GPS positioning
	Real-time track
	Map-based individual call
	Map-based crosspatch
	Geofencing alarm
	Hiding a radio from map
	POI (Point of interest)
Supplementary features	Ambience listening
	Discreet listening
	Interrupt
	Override
	DGNA
	Group patch
Security features	Stun/Revive
	Kill
	E2EE
Message features	Text message
	Status message
	Call back message
	Emergent alarm
	Message template
	Email access

System specification

Number of MSs supported by server	100,000/server
Server voice capacity (in and out)	1000call/server
Number of SAP supported by server	200/server
GPS server processing capacity	500/second
Client voice capacity (monitor + calling)	28 call/client
Number of clients	200/server
Number of MSs supported by the client	5000/client
Number of MSs that is displayed on the map in a real-time way	200/second
Required disk capacity of server (call × hour)	30M/(call × hour)
Time delay	<20ms
Jitter	<10ms
Packet loss rate	<0.1%
Bandwidth(for voice)	80Kbps/call