

# Hytera Dispatch System

Integrated software to monitor, control, and communicate with your radio fleet



- Flexible System Deployment with an Easy User Interface
- Hytera Quick GPS Maximizes use of Channel Resources
- Monitor, Control, and Communicate with Your Radio Fleet





# Hytera Dispatch System

IP-Based with a modularized design, Hytera Dispatch System supports VoIP and delivers an enhanced dispatching and deployment platform with tailored communications tools like remote monitoring, voice record and geofencing. Developed on a Hytera digital platform that is compliant to ETSI DMR open standard and is designed for the efficient communication, management and dispatching of a radio fleet.

## Applications

- Airport
- Security
- Emergency Vehicles
- Fleets
- Taxi
- Utilities
- Transportation
- Parks & Recreation
- Tow Trucks

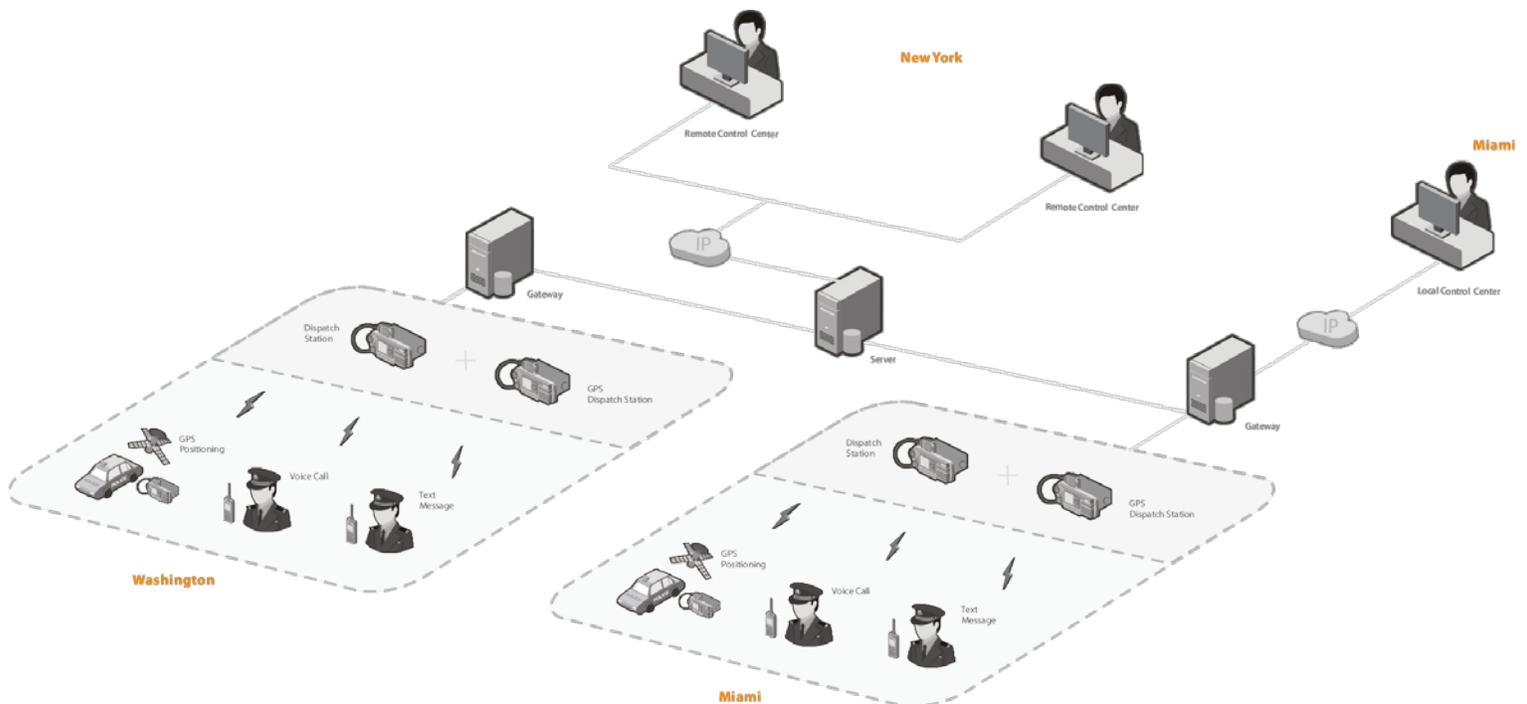


# Key Elements

- **Flexible System Deployment**  
Hytera Dispatch System is not a single module, but a group components that are able to build up a system with different size and topology based on customer system requirements and coverage requirements. It can be configured as a small single site system to a large multi-site, cross country network system. All these configurations can easily be done through remote configuration tool, one of the Hytera Dispatch System components.
- **Multiple Mapping Engine**  
Users have options to choose their own preferable mapping engines based on their specific usage requirements. These mapping engines are, not limited to, Google Maps, MapInfo, Google Offline Map, OpenStreetMap(at a charge) etc. We help customers to provide the mapping solution that best fit their needs.
- **Various Access Privileges**  
Multiple levels of access privileges can be defined by users for access control. Based on each customer's needs, each access level can be assigned only to selected radio units or the entire fleet, and can also be assigned to select sites or any site in the system.
- **Multiple and Separate Screen Support**  
Hytera dispatch system dispatcher console supports multiple views and splitting to multiple displays so that all information can be captured at a glance. This feature avoid dispatcher users to switch between different views all the time during their operation.
- **Multiple Languages**  
Hytera Dispatch System benefits global customers by providing support for multiple languages. The display language can be switched easily from the dispatcher console interface without needing to reboot the application.
- **No Recurring Monthly Investment**  
Compared to most of the GPRS-based solution, Hytera Dispatch System relies on the DMR communication network for GPS location instead of GPRS protocol, and thus there is no recurring monthly fee for data.

# Topology

Client-server architecture supports dispatching from multiple sites via an IP network.



# Product Features

- All Types of Voice Call**  
Voice calls that meet various dispatching operational needs including: private call, group call and all call. Every client console is able to send up to 8 voice dispatching channels. Through these dispatching channels, the system can receive all types of calls as well as trigger any type of call through a user friendly and easy to operate interface.
- Phone Interconnect**  
Enabled with SIP standard protocol to integrate with standard IP-PBX for voice interconnection between radios and PSTN public phone network. This allows the dispatcher make/receive calls through the dispatcher client console and for the radios to make calls to telephones and vice versa.
- Voice Recording & Playback**  
All incoming / outgoing calls will be recorded and stored on the Hytera Dispatch System server. This includes all types of DMR voice calls and PSTN interconnected voice calls. Users can retrieve recorded voice calls and play them back at any time so that important conversations are not missed. All recorded voice calls can be searched via time of call, caller ID or callee ID.
- Dispatcher Intercom**  
Supports direct communication between client consoles through Hytera Dispatch System. Users can choose either one to one intercom or broadcasting intercom from the client interface.
- Visualized Dispatching**  
The dispatcher calls terminals displayed on the map, measuring the distance and space and also saving the map interface. When logging in the system the GPS can automatically open the previously saved map interface.
- Remote Monitoring**  
Through un-muting the microphone of a radio, Hytera Dispatch System will be able to monitor the voice activities remotely without the necessity of pushing the PTT button. This can be useful when the control center wants to listen to remote voice activities without pressing the PTT button, such as in emergency situations.
- Audiolink**  
Allows users to patch talk groups, channels, sites and systems together so there is a seamless communication between all radio users. Once the communication link is established all radio operate together regardless of frequency or if they are operating in analog or digital mode. All these configurations can be easily configured through the Hytera Dispatch System dispatcher console.

## Phone Interconnect



## Dispatcher Intercom



## Remote Monitoring





- GPS Positioning**  
 This feature is only available for subscriber radios which are fitted with GPS module. Each subscriber radio is able to obtain its location coordinate information from this built in GPS module. Hytera Dispatch System can retrieve the location information of any radio either by requesting on demand the current position of the radio or by sending a Start Tracking Command setting up a radio to update the location information from the radio to Hytera Dispatch periodically with configurable time interval.

- Quick GPS**  
 GPS polling will be transmitted more securely and efficiently when Quick GPS is enabled for the radio. Server receives GPS reports passively from radios and dispatcher console can query the GPS.

- Automatic GPS Subscription by Client**  
 When Hytera Dispatch System clients logout, clients will remember the status of radios such as, checkonline and tracking. Once the clients login again, it will recover the status of radios that of the latest client's logout automatically

- Automatic GPS Polling**  
 Server receives GPS automatically regardless of client subscription GPS.

- Regions & Geofencing**  
 Users can define regions on the map as working regions or restricted regions for a predefined set of radios. This can also be enabled in each region. Once the geofencing rule is infringed (based on whether the region is a working region or restricted region) by any of the predefined set of radios, a geofencing alarm will be activated in the control center and optionally a message will be sent to the subscriber unit.

- Telemetry**  
 Remote Monitor Control, Receive Alerts and Record a devices connecting to a radio.

- Real-time Tracking**  
 This tracks the location of any radio in real-time. Users have an option to display the location route on the map. The tracking interval depends on the location update interval configured in each radio and the channel loading of DMR system. The total number of location tracking activities can be activated at one time and will depend on the mapping system and limitations of system resources.

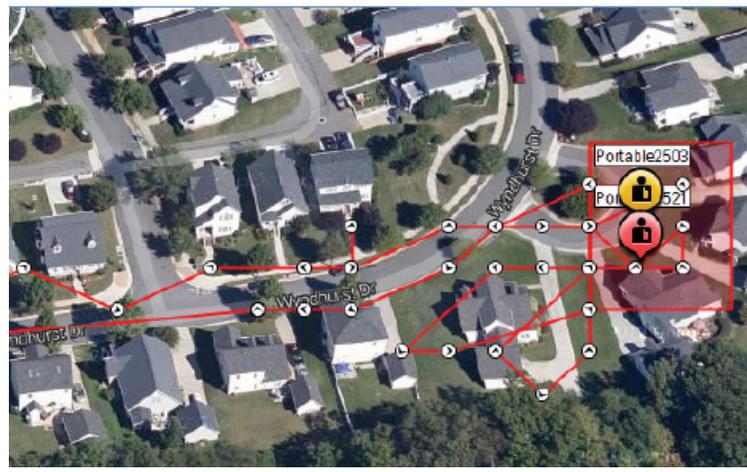
- Location History & Route Playback**  
 All location information of radios will be kept in the systems database for later retrieval and history location checking. Users are allowed to query history location information of a radio as well as playing back the location route of a radio within a specified time interval.

- Multiple Mapping Support**  
 Provides multiple mapping options for a user to select based on their own usage requirement. These mapping engines support both on-line mapping, such as Google Maps, OpenStreetMap\* and off-line mapping, such as Mapinfo.

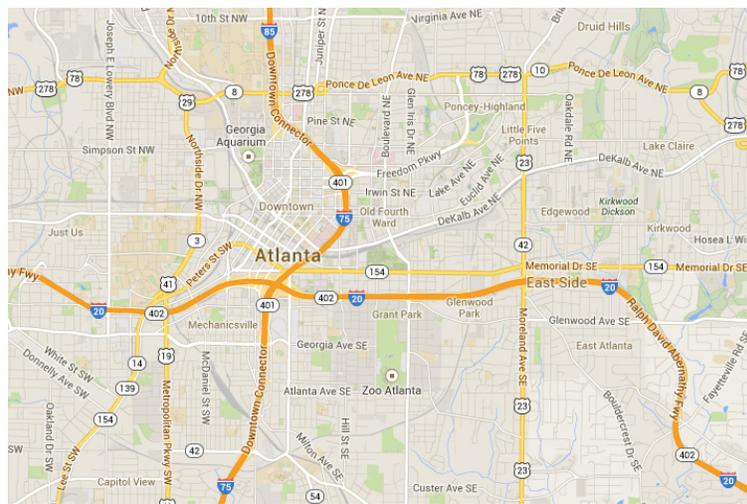
## GPS Positioning



## Regions & Geofencing



## Mapping Engines



# Product Features

- **Text Messaging**

Dispatchers are able to send / receive DMR standard text messages. A text message can be sent to a radio or a group message can be sent to a group of radios identified by group ID. Using a chat-based GUI to send and receive text messages. All incoming and outgoing text messages are stored in the database for later retrieval.

- **Timing Message**

A text message can be sent automatically at a preset time, eg, 1 day, 1 week, 1 month etc.

- **Enquiry by Keyword**

You can search the recorded messages by the keywords.

- **Email Gateway**

The Hytera Dispatch System server integrates with SMTP and POP3 servers. This allows dispatcher to send email from any email client to a radio. The radios are also allowed to send text messages to any email address.

- **Emergency Alarm**

When an emergency is activated by a subscriber radio, the Hytera Dispatch System will trigger an alarm. Optionally, the location information of the radio that triggers the emergency will be shown on the map depending on the validity of the location information of the radio by the time the emergency is triggered.

- **Speed Alarm**

When enabled alarm messages will be dispatched to the overspeed radios.

- **"Handle" Process for Emergency Alarm**

Hytera Dispatch System will automatically receive emergency alarms from radios. By clicking "Take" it means the dispatcher is informed of the emergency; and clicking "Handle" indicates the dispatcher has handled the emergency.

- **Radio Stun / Activation**

A Radio can be stunned remotely when it is being used illegally or has been stolen. The stunned radio is able to power on but not able to transmit or receive transmissions. The radio can be activated again when necessary by the administrator.

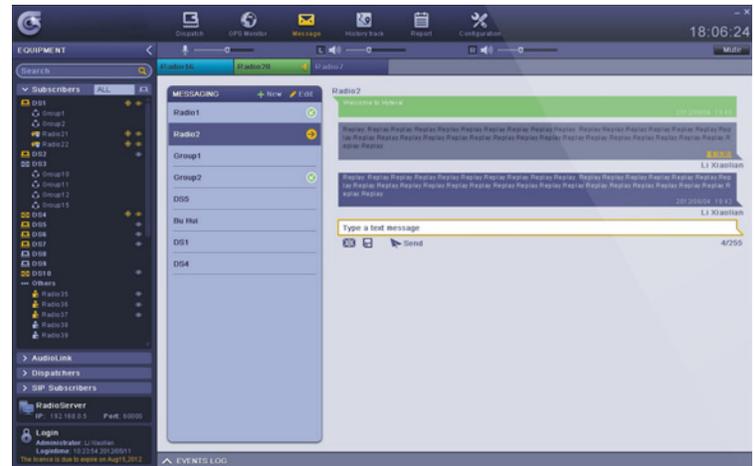
- **Enable/Disable Unknown Radios**

Enable / disable unknown radios by Radio ID.

- **Wide-area Networking**

The server, gateway and terminal can all be deployed through the wide area network.

## Text Messaging



## Email Gateway



## Emergency Alarm



# Compatible Products

- On-line / Off-line Status Reporting**  
 When the radio is powered on / off it will send a status report to the dispatcher. They will also be able to check the status of any radio with status query command. This allows the dispatcher to monitor the status of all the radios in the system.
- Offline Radios Message**  
 You can send a text message to offline radios. When the radio registers online, the text message will be received.
- Reporting and Statistic**  
 Hytera Dispatch System can generate various types of reports, such as calling report, radio status report, location tracking report, etc.
- Repeater Access**  
 The utilization of a repeater can reduce the amount of the gateway needed, lower the operation cost and expand the communication range. Hytera Dispatch System can support single station mode and IP interconnection mode of the repeater.
- OTAP**  
 Programming a radio features over the air, such as radio ID, radio Alias, color code, slot operation, Tx & Rx frequency, Rx group list, Tx contact name, etc.
- Import / Export in Batch**  
 When there is a number of mobile radios or work groups to add, an Excel format can be generated by inputting all information about the mobile terminals or work groups and then imported the Excel file into the system to improve efficiency. The user can also export the information about the existing mobile terminals or work groups as Excel files from the system.
- Database Backup / Recovery**  
 The database and recorded files are an important part of the system. To reduce risk and recover data when necessary, Hytera Dispatch System offers two ways to back up the database:

### Manual Backup

Manually set up the backup parameters and then execute the backup. The backup can be generated as a compressed file in the designated backup directory and the file will be named as Hytera\_RDS\_BAKyyymmdd\_X.zip, such as Hytera\_RDS\_BAK20121224\_0.zip.

### Automatic Backup

Automatically make the backup monthly or weekly. The system can automatically carry out the backup according to the backup launch time. The finished backup can be generated as a compressed file in the designated backup directory and the file will be name as Hytera\_RDS\_BAKyyymmdd\_X.zip, such as Hytera\_RDS\_BAK20121224\_0.zip.



# System Requirements

System Requirements	Operating System	WIN7 sp1+
	Server Operating System	Windows 7 SP1+ Windows Server 2008 RAM >=4G
	Hard Drive	Minimum of 750GB
	Ram	2.0G
	One Voice Channel Bandwidth	>120Kbps
	Database	MySQL5.1 (Hytera Dispatch System V2.5), Microsoft SQL2005 / Microsoft SQL2008 (Hytera Dispatch System V3.0+)
	Multichannel Sound Card	M-Audio Delta 1010LT (Recommended)
	Bandwidth	Minimum of 128Kbps
	Other	Microsoft .NET Framework 4.0



20KHz / 25KHz will not be available on new equipment in the U.S. after January 1<sup>st</sup>, 2011

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**Hytera America**

**Address:** 3315 Commerce Parkway  
Miramar, Florida 33025, USA  
**Tel:** 800-845-1230 **Fax:** 954-846-1672  
**http://www.hytera.us**

