Urban Management Bureau of Hefei, China

Efficient Wireless Command and Dispatching System with Hytera DMR IP Connection Solution

User
Hefei Urban Management Bureau, China

Market segment
Government

Project time
October 2010

Products
PD78X Portable Radio
MD78X Mobile Radio
RD98X Repeater

Solution features
- Versatile voice calls
- Analog-digital dual modes operation
- Analog-digital interoperability
- IP interconnection of city-wide coverage
- Roaming among the whole network
- GPS visualized dispatching

Benefits
- Analog-digital interoperability for smooth migration from analog to digital
- Higher spectrum efficiency, lower networking costs
- Superior audio quality in a larger area
- Higher communication confidentiality
- Rich data applications
- Flexible solution developing
- Rugged & reliable terminals complying with American Military Standards

Background

Urban management, involved in all aspects of the city and public life, is a tough task for every city, plagued by problems like lagged information, passive management, overlapping functions, extensive management and so on, severely restricting the city's further development. Consequently, a highly effective digital management method will be the inevitable trend for urban management.

Customer Requirements

To keep up with the above trend, Urban Management Bureau of Hefei, a provincial capital of China, wants to accelerate its digitalization and build a rapid, efficient communications command and dispatching system with full coverage of the whole city, achieving coordinated and standardized administration, and enhancing the overall speed of coordination and emergency response in the urban management. To achieve this, the communications system for Hefei must meet the following requirements:

- Build a wireless communications commanding and dispatching system with full coverage of both the inner city and suburbs on the basis of the current 7 groups of frequencies. This system can provide 7 analog and 16 digital voice communication channels, each District Urban Management Bureau has 1 analog and 2 digital channels, and the Municipal Urban Management Bureau gets the rest 2 digital channels, one for the city's networking, the other for internal use. And with the elimination of analog terminals, the system can upgrade easily. At that time, the system can provide 4 digital communication channels for each district.

- The Urban Management Bureau of each district can communicate independently without interfering others. And the Municipal Bureau is able to command and dispatch the District Bureaus through networking.

- The system construction requires the digital system be compatible with the analog system, making full use of the transceivers and terminals in the analog system and achieving networking communication between analog and digital terminals. This can facilitate the analog-to-digital transition and avoid investment duplication.

- A new set of frequency needs to be applied besides the existing 7 frequency groups.

Hytera DMR IP Connection Solutions

To meet all the above demands, Hytera designed a solution with IP networking and digital terminals. Based on the requirements on communication functions and signal coverage, 8 communications base stations will be set up, covering all the 7 districts of Hefei. Each base station will be equipped with 2 dual-mode digital repeaters RD98X, one for analog mode, and the other for digital mode. The digital mode can support two channels of calls at the same time, one for internal dispatching, and the other for municipal dispatching. The main base station will use a 4M-bandwidth wired IP network to interconnect with the Municipal Bureau, while 3G will be employed in auxiliary stations where wired IP network is not available. Owing to the IP networking & DMR solution, Hefei Urban Management Bureau manages to build a highly efficient full-coverage wireless communications commanding and dispatching system.

Benefits

The system with Hytera DMR IP connection solution can perfectly meet the requirements of Hefei Urban Management Bureau for command and dispatching.

With analog-digital interoperability, the system can enjoy the benefits brought by leading digital technologies while taking the most out of the existing analog conventional communications system.

The combined application of IP networking and digital terminals ensures a full coverage of signal and superior audio quality for communications.

The urban management bureau of each district and the municipal bureau can use the communications system independently for daily operation; but on occasion of demands, the system can be connected via IP for intercommunications, achieving real-time calling and dispatching within the whole network.

The municipal bureau can also control the operation status of base stations in the districts and the networking of those base stations.

The integrated GPS function in DMR portable and mobile radios supports viewing of positioning information anytime while the intelligent signaling of DMR supports various voice call types, including Private Call, Group Call, All Call, Emergency Call and Confidential Call.

In addition to conventional voice communication, the system supports many other functions such as data applications, messaging, kill/revive, recording, and remote monitoring.

Voice from Customer

"The solution provided by Hytera represents the leading technology in wireless communications. The establishment of this system helps us tackle the problems we had with analog systems. Thanks to it, we are able to achieve more efficient management. During our cooperation, the professionalism of Hytera's project team left us a deep impression. "

—— Mr. Liu, Chief Engineer of Hefei Urban Management Bureau,

Public Security

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