



Hytera Introduction

SmartDispatch for Hytera DMR Radio

2013-10-9

Hytera 

20th
1993~2013

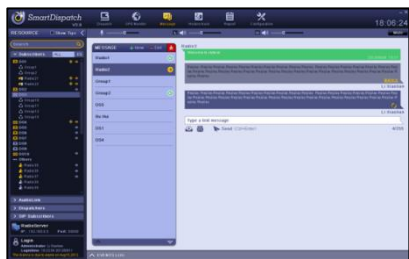
1. Smartdispach Features

2. Smartdispach Topology

What can SmartDispatch do for you?

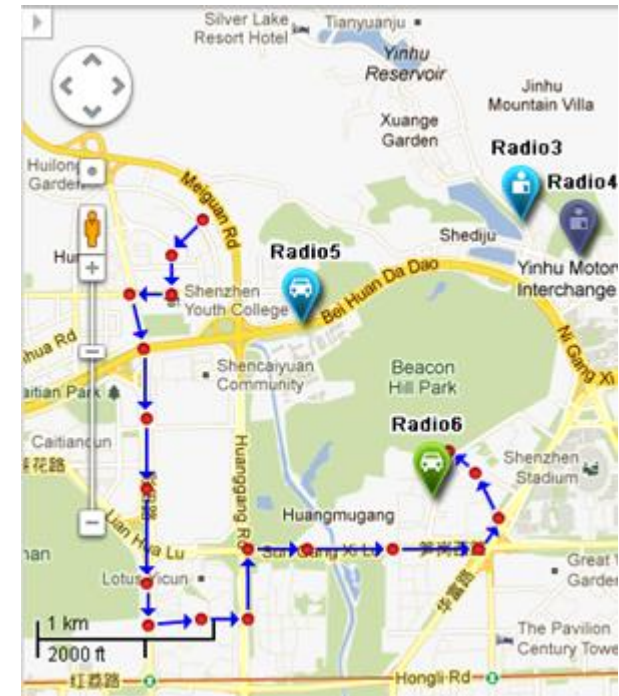
SmartDispatch integrated most of the common features that are in general needed by most of transportation, commercial, utilities and public safety market into one single solution.

*Smart
Dispatch*



SmartDispatch Features – GIS Capability

- ❖ Unit location on demand by dispatcher
- ❖ Periodic location update with configurable interval
- ❖ Color coded icons for radio status (online/offline, location available, alarm)
- ❖ Different icon for different unit (vehicle, user, etc.)
- ❖ GPS Revert Specific channel
- ❖ Online tracking unit location on the map
- ❖ route on the map for clear display
- ❖ History route playback
- ❖ Support various online and offline mapping engines:
 - Google map (online) – need internet access
 - MapInfo (offline)



Geofencing

- ❖ Geofencing (restriction region / duty region) and alarm
- ❖ Colored regions for easy identification
- ❖ Regions can assign any predefined geofencing configuration
- ❖ Enable multiple geofencing monitoring at the same time.
- ❖ Easy to configure through graphical interface.



SmartDispatch Screenshot – Map View

SmartDispatch V3.0

Dispatch OPS Monitor Message History track Report Configuration

18:06:24

RESOURCE Show Tips

Search

Subscribers ALL

- D81
- Group1
- Group2
- Radio21
- Radio22
- D82
- D83
- Group10
- Group11
- Group12
- Group15
- D84
- D85
- D86
- D87
- D88
- D89
- D810
- Others
- Radio35
- Radio36
- Radio37
- Radio38
- Radio39

AudioLink

Dispatchers

SIP Subscribers

RadioServer
IP: 192.168.0.5 Port: 8000

Login
Administrator: Li Xiaolan
Logintime: 10:23:54 2012/05/11
The licence is due to expire on Aug15,2012.

RP1_slot1

- 17:14:00 (10s) Miss Zhou
- 17:14:20 (5s) Li Xiaolan
- 17:14:45 Mr Wang

Channel

Broadcast

PTT

Team: Mr Wang

Radio22

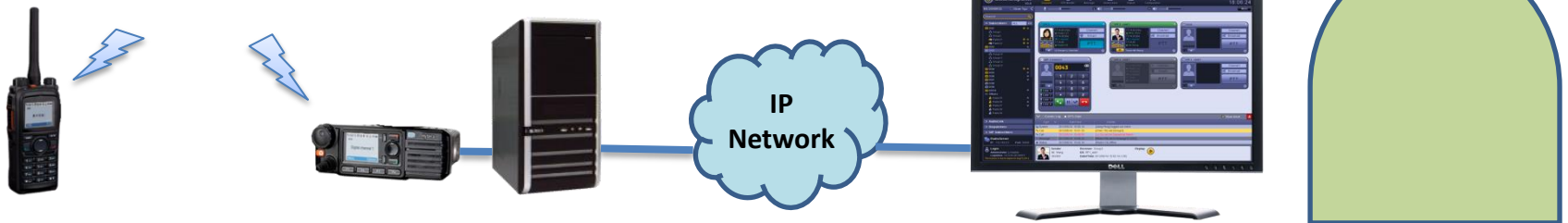
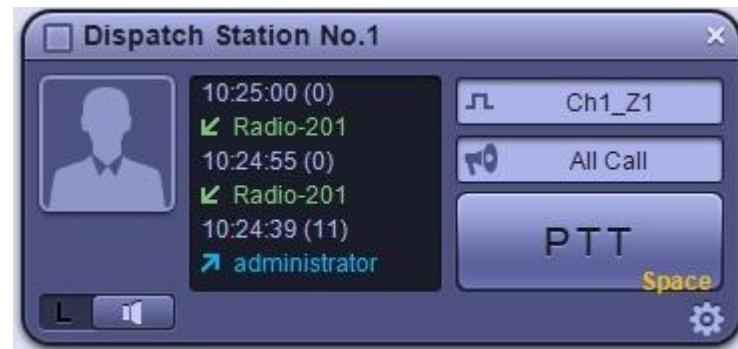
Radio1

Radio21

EVENTS LOG

www.hytera.com

- ❖ **Make call or receive call from radios via computer console.**
- ❖ **Support all types of call : Private call, Group call, All call**
- ❖ **Remote Monitoring**
- ❖ **Dispatcher Intercom**
- ❖ **Audio Link**
- ❖ **Phone Interconnect**
- ❖ **Call Log (duration, caller, callee, call type)**
- ❖ **Radio disable & enable**



- ❖ **VoIP G.711 standard vocoder**
- ❖ **Monitor more than 8 voice channels per dispatcher client console.**
(SmartDispatch system supports more than 8 voice channels)
- ❖ **Number of voice channels depends on LAN bandwidth – 80 kbps per voice channel.**



SmartDispatch Screenshot – Dispatcher View



SmartDispatch V3.0

Dispatch OPS Monitor Message History back Report Configuration

18:06:24

RESOURCE Show Tips

Search

Subscribers ALL

- DS1
 - Group1
 - Group2
 - Radio21
 - Radio22
- DS2
- DS3
 - Group10
 - Group11
 - Group12
 - Group15
- DS4
- DS5
- DS6
- DS7
- DS8
- DS9
- DS10
- Others
 - Radio35
 - Radio36
 - Radio37
 - Radio38
 - Radio39

RadioServer
IP: 192.168.0.5 Port: 8000

Login
Administrator: Li Xiaolan
Logintime: 10:23:54 20120511
The licence is due to expire on Aug15,2012

DS1
17:14:00 (10s)
Radio 123
17:14:20 (5s)
Li Xiaolan
17:14:45
Radio125
Channel1
Group3
PTT
Ut Group-Li Xiaolan

RP1_slot1
17:14:00 (10s)
Miss Zhou
17:14:20 (5s)
Li Xiaolan
17:14:45
Mr Wang
Channel1
Broadcast
PTT
Team-Mr Wang

DS5
Channel1
Broadcast
PTT

SIP Connect
0043
Line 1
Line 2
Line 3
Line 4

RP1_slot2
17:14:00 (10s)
Radio 123
17:14:20 (5s)
Li Xiaolan
17:14:45
Radio125
Channel1
Groups
PTT

RP1_slot2
Channel1
Broadcast
PTT

Events Log GPS Date Show detail

Type	Date/Time	Events
System	2012/05/14 15:55:14	[Jiang Peng] logged out client
Call	2012/05/14 15:51:33	[Chen YH] call [Group3]
Call	2012/05/14 15:49:00	[Lu Di] call [All Dispatches] failed
Message	2012/05/14 15:45:33	[Radio159] send message to [DS2]
Status	2012/05/14 15:42:14	[Radio123] offline

Sender: Mr. Wang 002593
Receiver: Group3 DS: RP1_slot1
Date/Time: 2012/05/14 15:55:14 (12S)
Replay

- ❖ **Record all voice calls.**
 - **Connection with mobile station – only record voice call that involve dispatcher. No private call within radios recorded.**
 - **Connection with repeater – record all voice call except voice call in direct mode.**
- ❖ **Easy search from call log and playback.**
- ❖ **Recorded audio stored in common format. Easy for archive.**

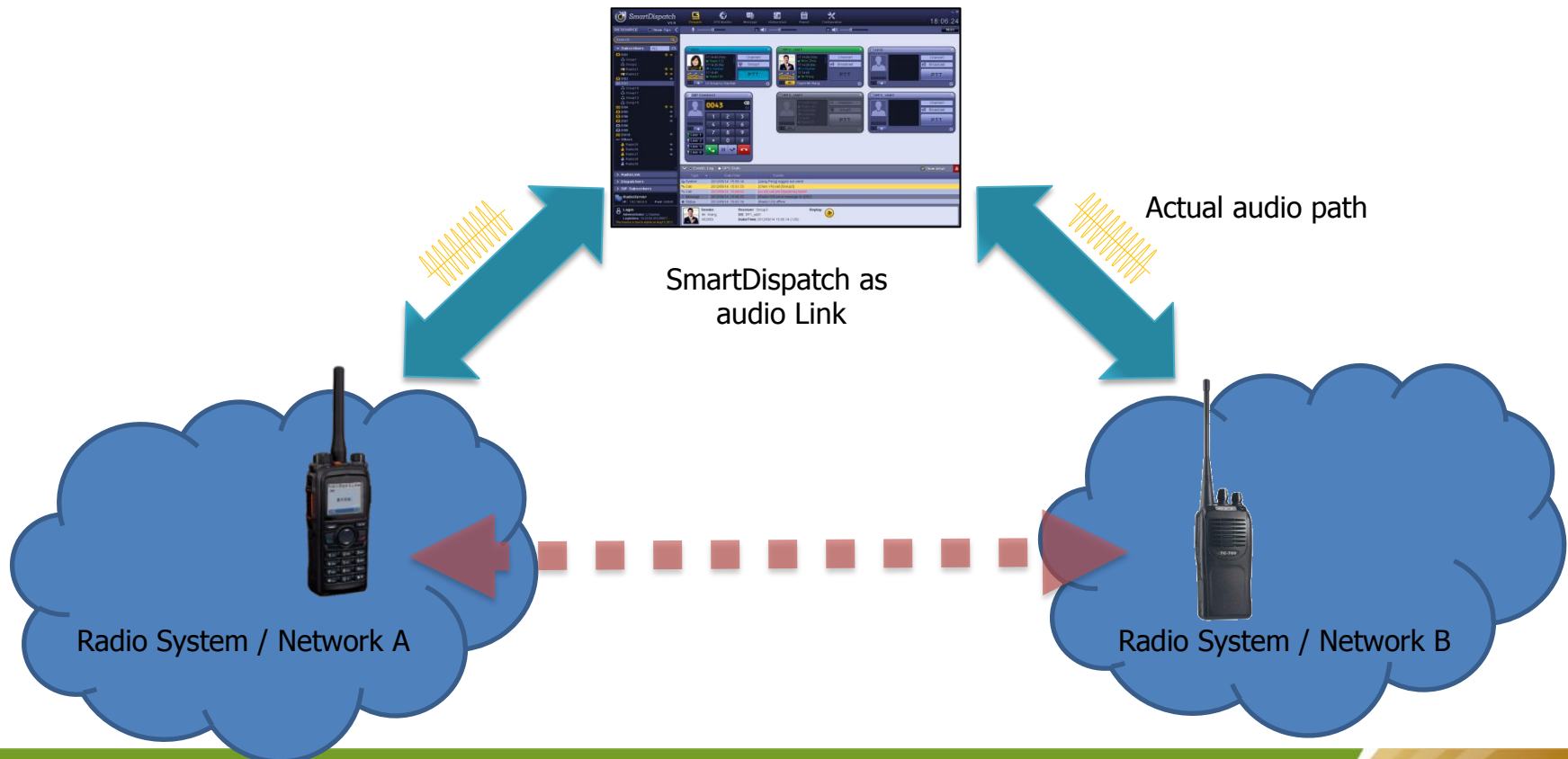
The screenshot displays the SmartDispatch V3.0 interface. At the top, there are navigation icons for Dispatch, OPS Monitor, Message, History back, Report, and Configuration. The main window is divided into several sections:

- Left Panel:** A tree view under 'RESOURCE' showing various radio groups (DS1, DS2, DS3, DS4, DS5, DS6, DS7, DS8, DS9, DS18) and individual radios (Radio 21, Radio 22, Radio 35, Radio 36, Radio 37, Radio 38, Radio 39).
- Top Center:** Playback controls for a selected audio file '0001.wav'. It shows 'From: Radio 1' and 'To: Radio 6'. Playback progress is indicated by a slider and time markers (00:53.47 and 00:42:36).
- Main Table:** A call log table with columns: NO, Caller, Callee, Call Type, Start Time, Duration (s), and Recording Play. The table lists 21 calls, with call 7 (Private Call) highlighted in red.
- Bottom Panel:** System information including 'RadioServer' IP (192.168.0.5), 'Login' details (Administrator: Li Xiaolan, Logintime: 10:23:54 2012/05/11), and an 'Export' button.

NO	Caller	Callee	Call Type	Start Time	Duration (s)	Recording Play
1	Radio1	DS1	All Call	2012-08-28 13:02:15	9	⊙
2	Bu Hui	Group18	Group Call	2012-08-28 13:10:00	26	⊙
3	Peng Liyong	Group7	Group Call	2012-08-28 13:21:45	35	⊙
4	Li Xiaolan	Bu Hui	Intercom	2012-08-28 13:22:58	15	⊙
5	Li Xiaolan	DS2	All Call	2012-08-28 13:37:42	8	⊙
6	Peng Liyong	All dispatchers	Broadcast	2012-08-28 13:44:01	34	⊙
7	Chen Yunhua	Bu Hui	Private Call	2012-08-28 13:56:09	15	⊙
8	Bu Hui	Group18	Group Call	2012-08-28 13:10:00	26	⊙
9	Peng Liyong	Group7	Group Call	2012-08-28 13:21:45	35	⊙
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SmartDispatch Features – Audio Link

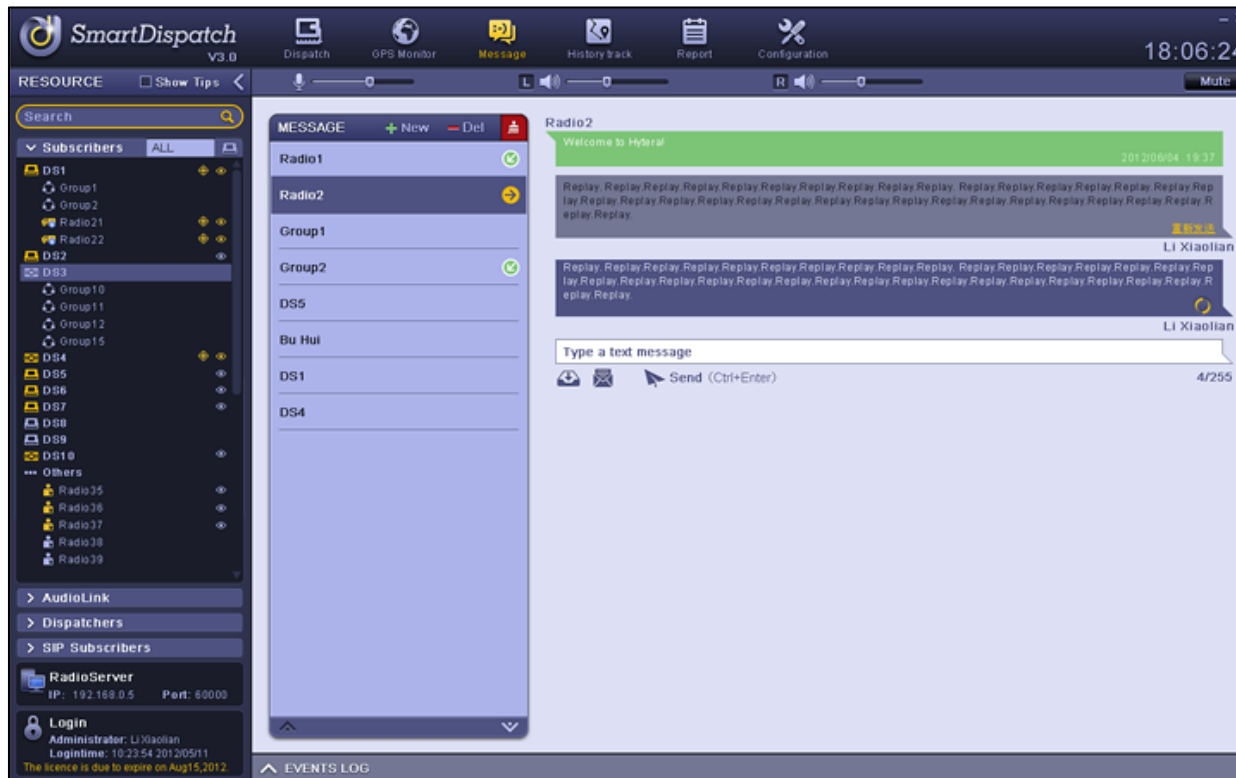
- ❖ **Audio Link feature allows voice call between different radio system and across radio network.**
- ❖ **SmartDispatch media server acting as an audio Link to link up call session between different radio system and radio network.**



- ❖ Emergency can be triggered by emergency call, geofencing, or man down triggering.
- ❖ Highlighted indication of emergency event from UI, including highlight red color message/icon and alarm siren sound.
- ❖ Location based emergency will show the location of the emergency radio on the map.



- ❖ Sending short messages to radio unit or radio group.
- ❖ Easy to use interface similar to instant messaging (chatting) application interface.
- ❖ History text messages retrieve.
- ❖ Predefined message.

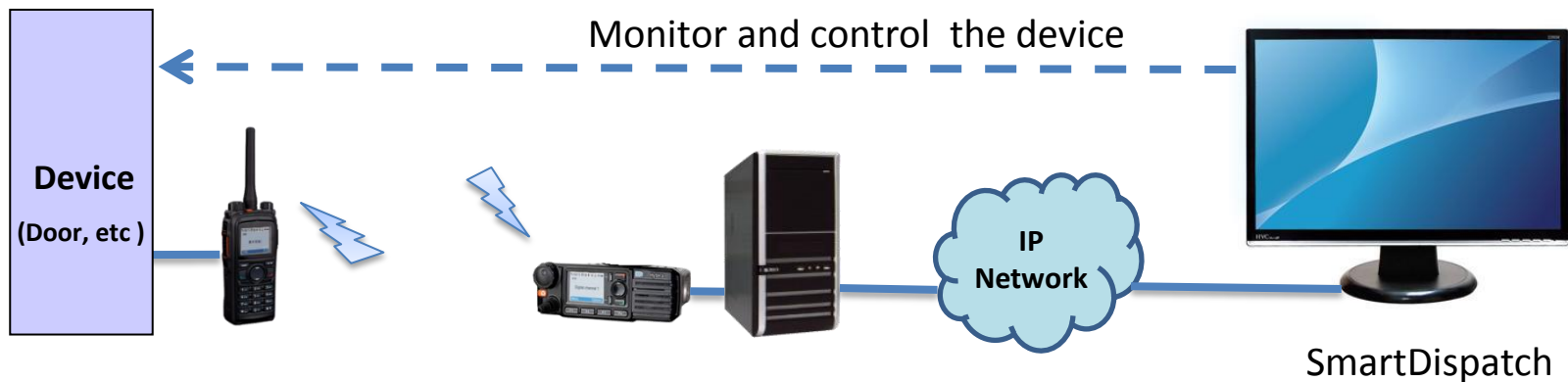


- ❖ **remote monitor and control a device connecting to a radio.**

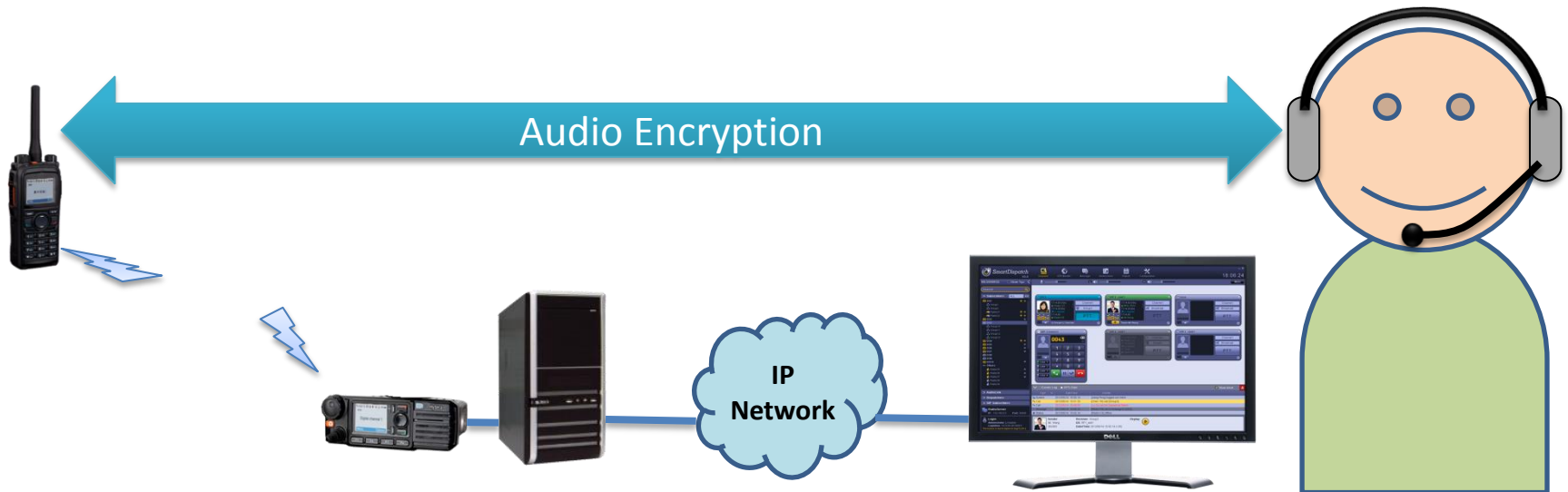
A radio connects the device by cable.

The Radio communicates with the device.

SmartDispatch monitors and controls the Radio.

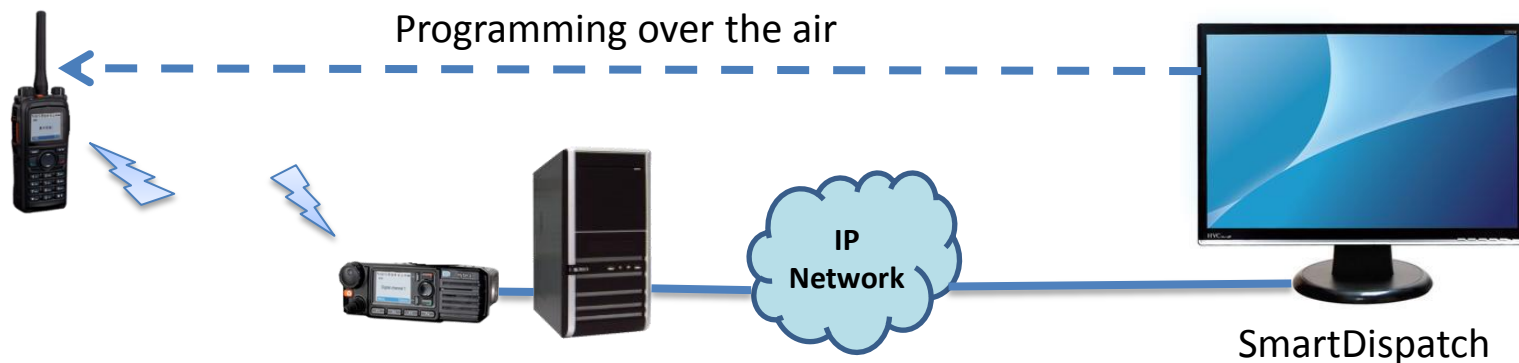


❖ Audio Encryption between a portable radio and a dispatcher

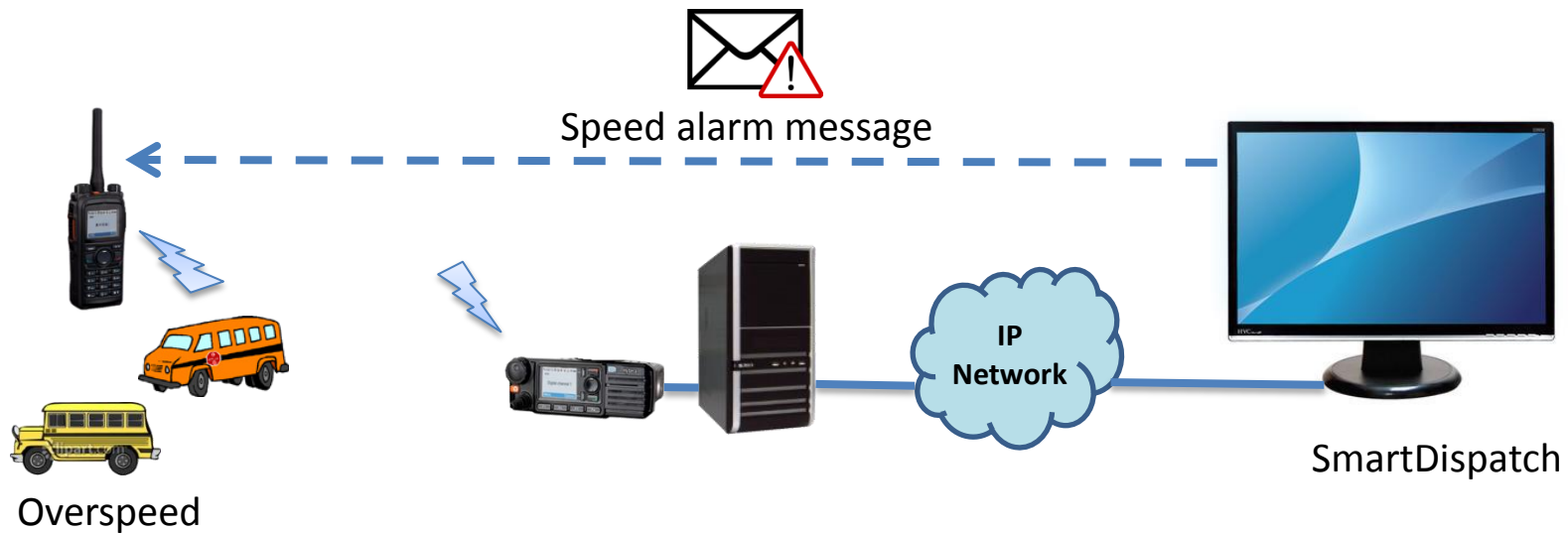


Programming over the air:

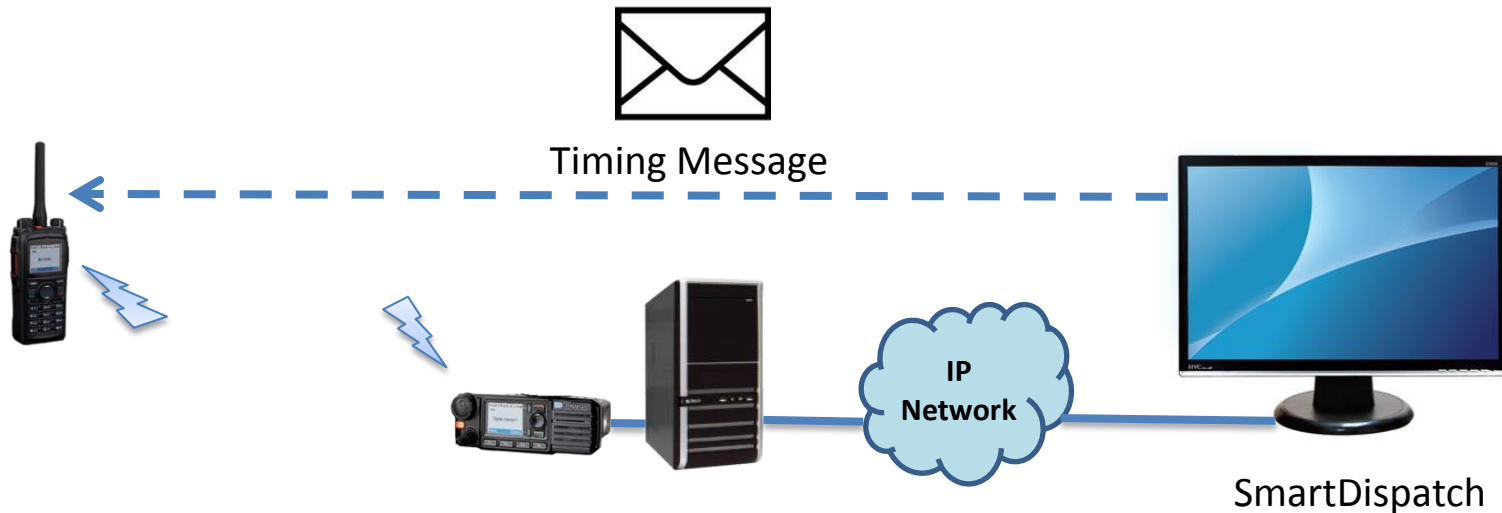
- ❖ radio ID
- ❖ radio Alias
- ❖ color code
- ❖ slot operation
- ❖ Tx & Rx frequency
- ❖ Rx group list
- ❖ Tx contact name



- ❖ An alarm message will be dispatched to the overspeed radios .

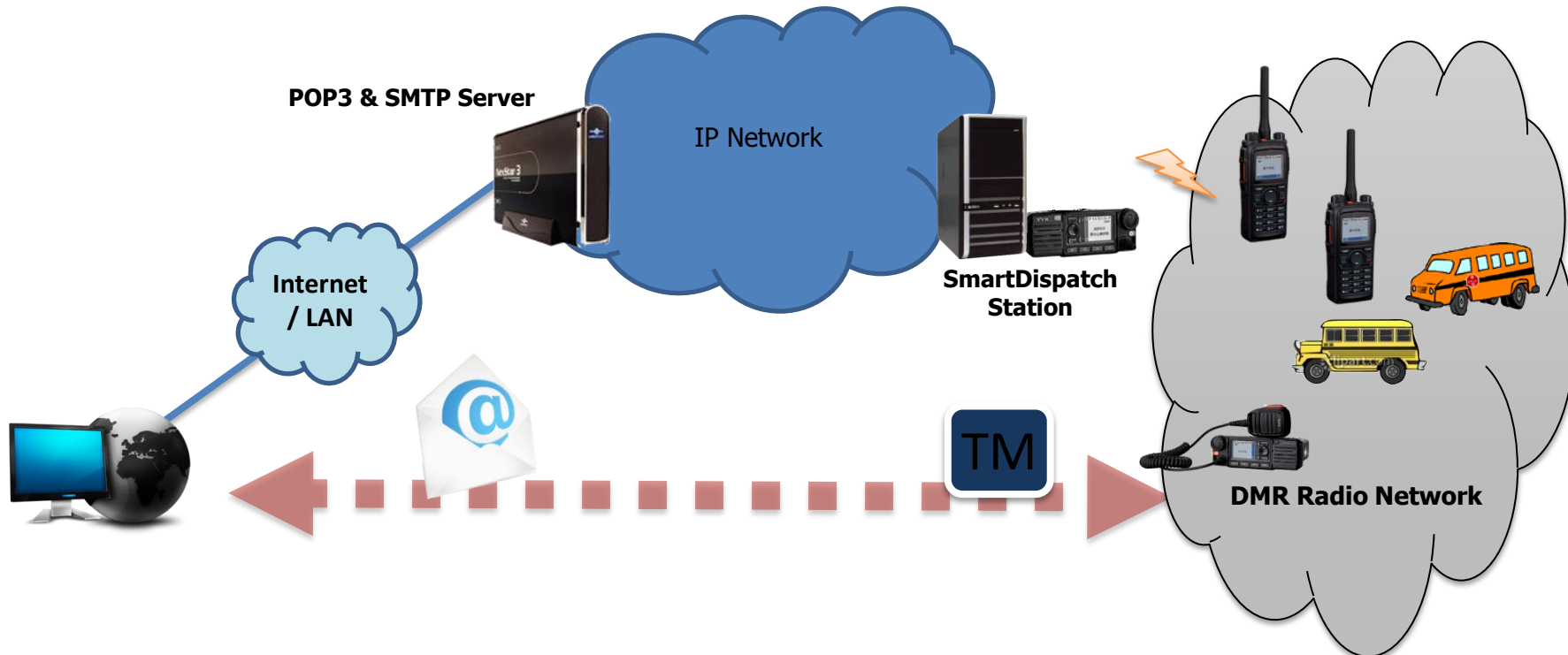


- ❖ **Message can be sent automatically at a preset time, eg, 1 day, 1week, 1 month etc.**



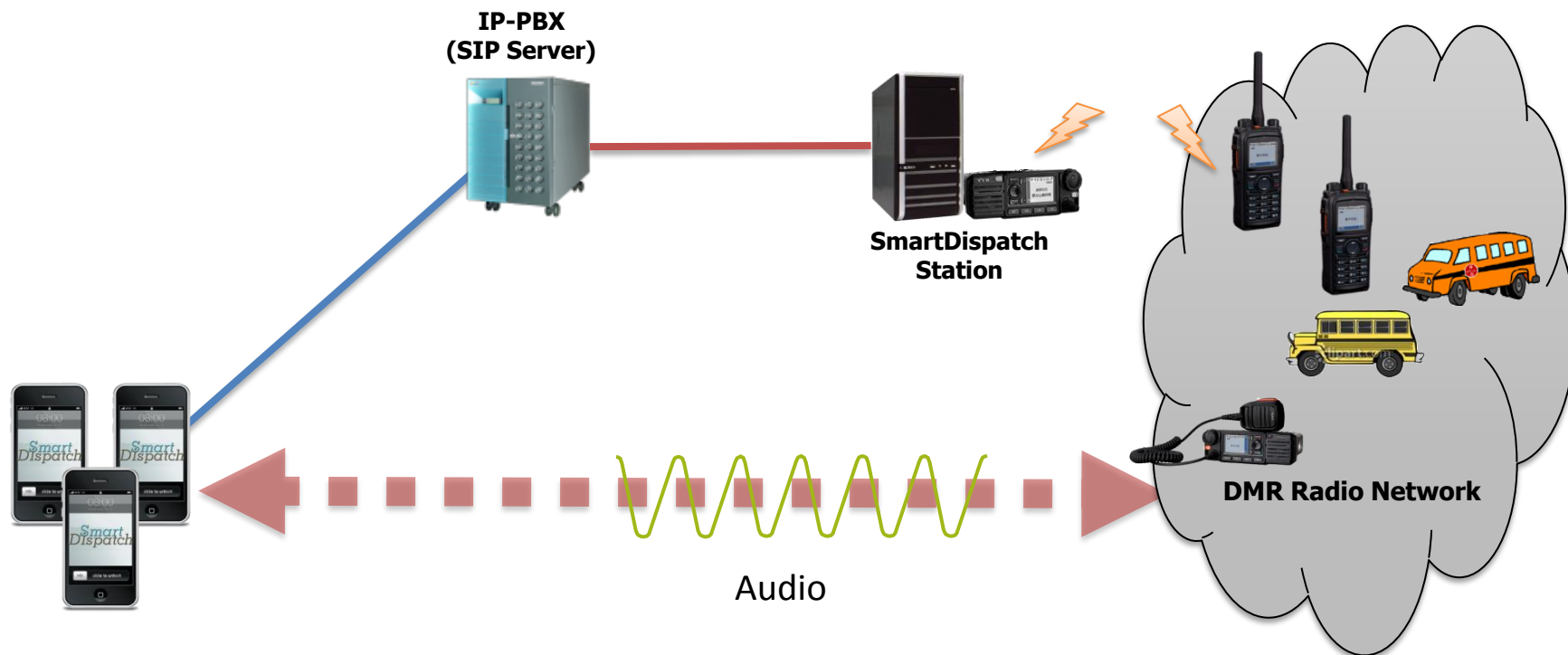
SmartDispatch Features – Email Gateway

- ❖ Integrates with SMTP and POP3 server to send and receive standard email message.
- ❖ Allows users to send email to radio from anywhere via email clients.
- ❖ Allows to send text message from radio to the email address pre-defined.



SmartDispatch Features – Phone Interconnect

- ❖ supports SIP standard protocol to integrate with standard IP-PBX.
- ❖ Allows radios to make call to telephones and vice versa.
- ❖ Allows dispatcher make/receive telephone calls through SmartDispatch client console.



- ❖ History activities search and retrieval.
- ❖ Generic report & statistic generation
- ❖ Report export to a file
- ❖ Various types of common reports:
 - Radio Status report
 - Call Log Report
 - Text Message Report
 - Emergency Report
 - ...

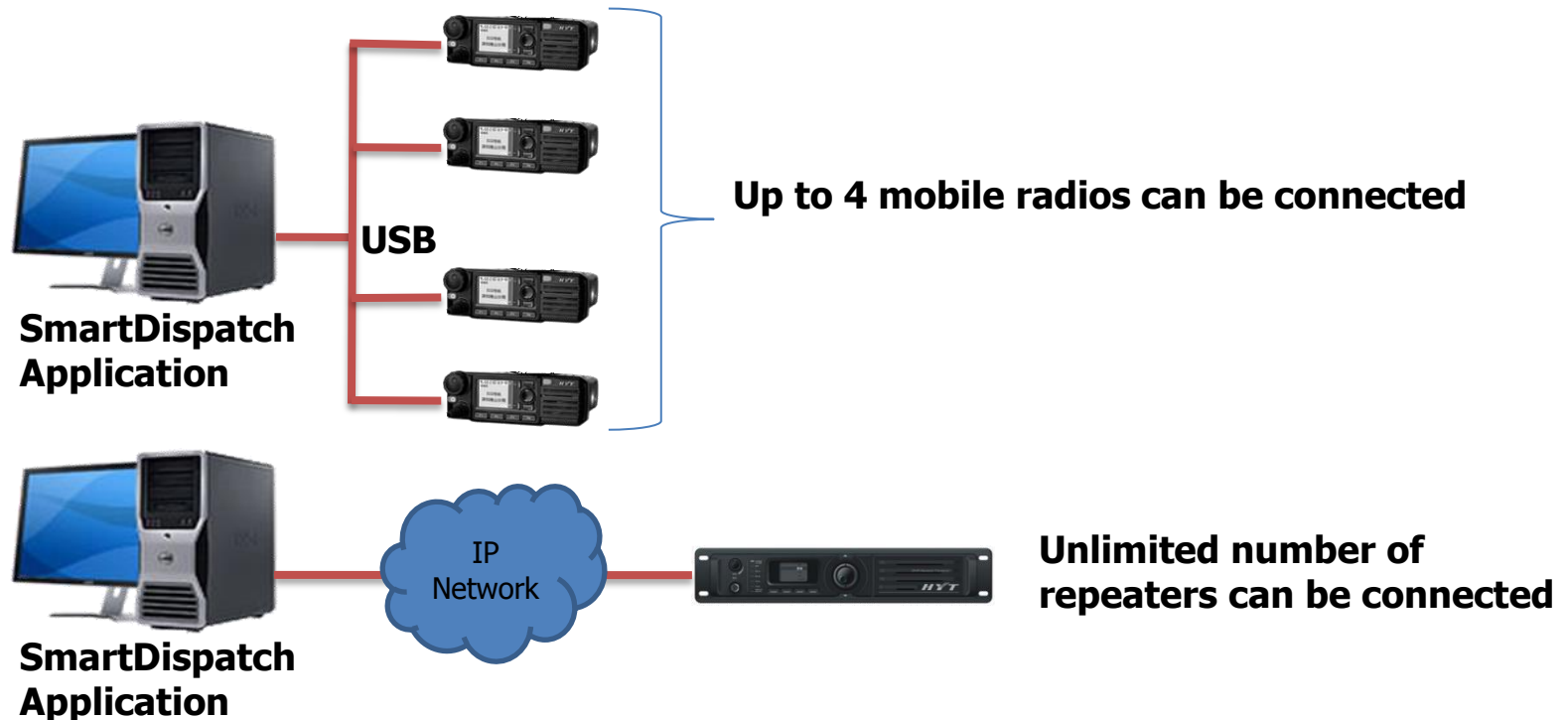


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1. Smartdispach Features

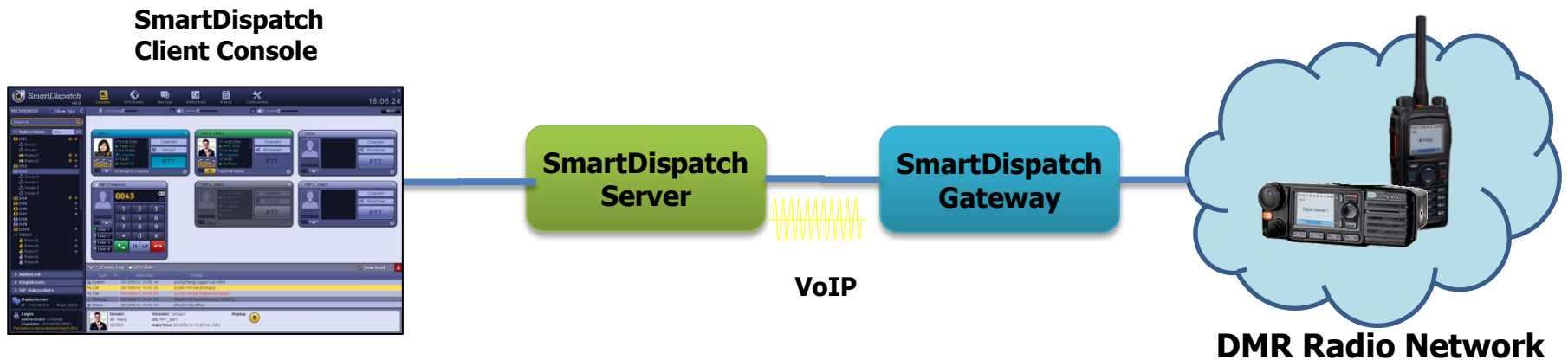
2. Smartdispach Topology

- ❖ **Two ways to connect to DMR Radio Network: Via Mobile Station (Dispatch Station) and via Repeater.**
- ❖ **Connection to Mobile is through USB and maximum 4 mobiles can be connected to one SmartDispatch Gateway.**
- ❖ **Connection to repeater is directly through IP connection**

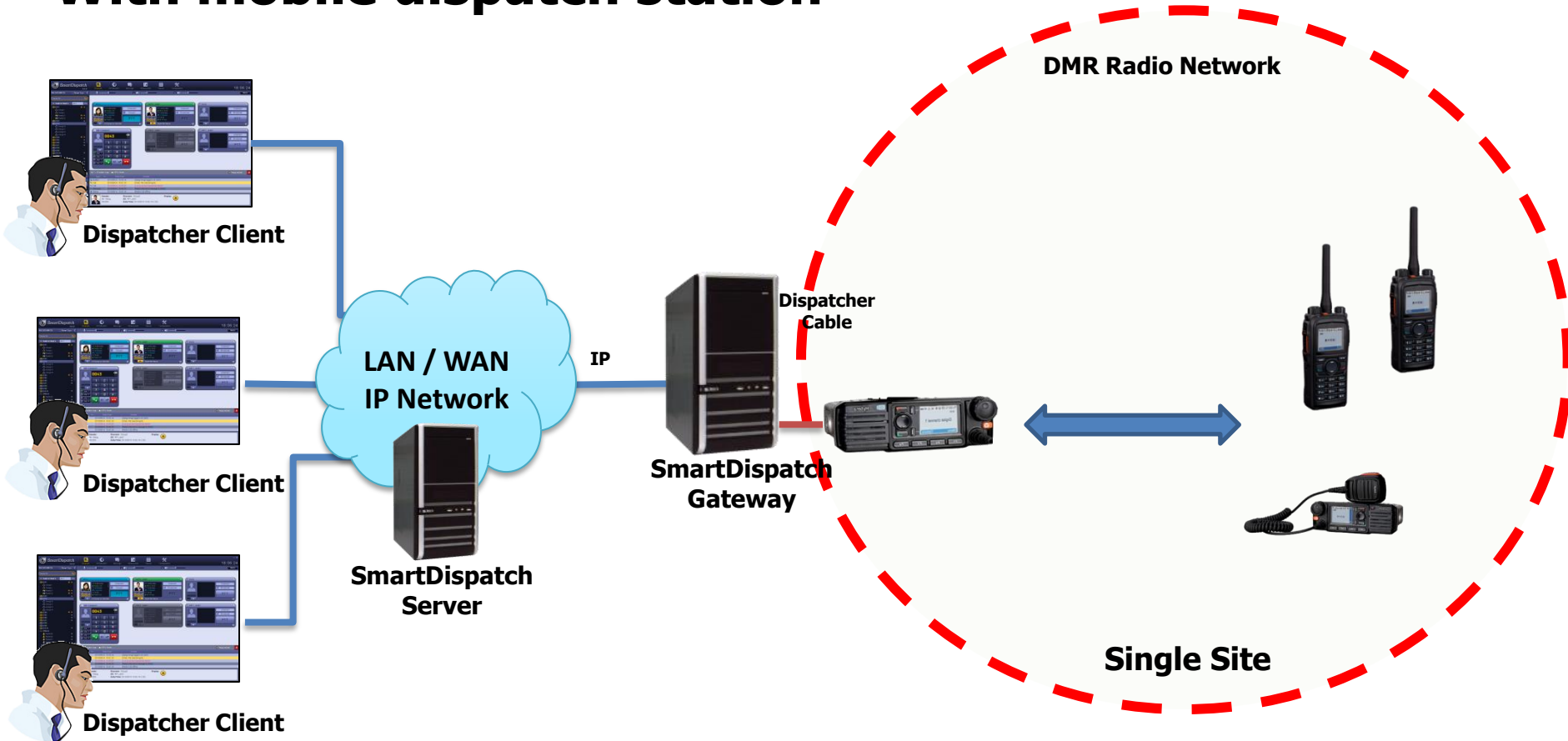


SmartDispatch Enterprise product facts

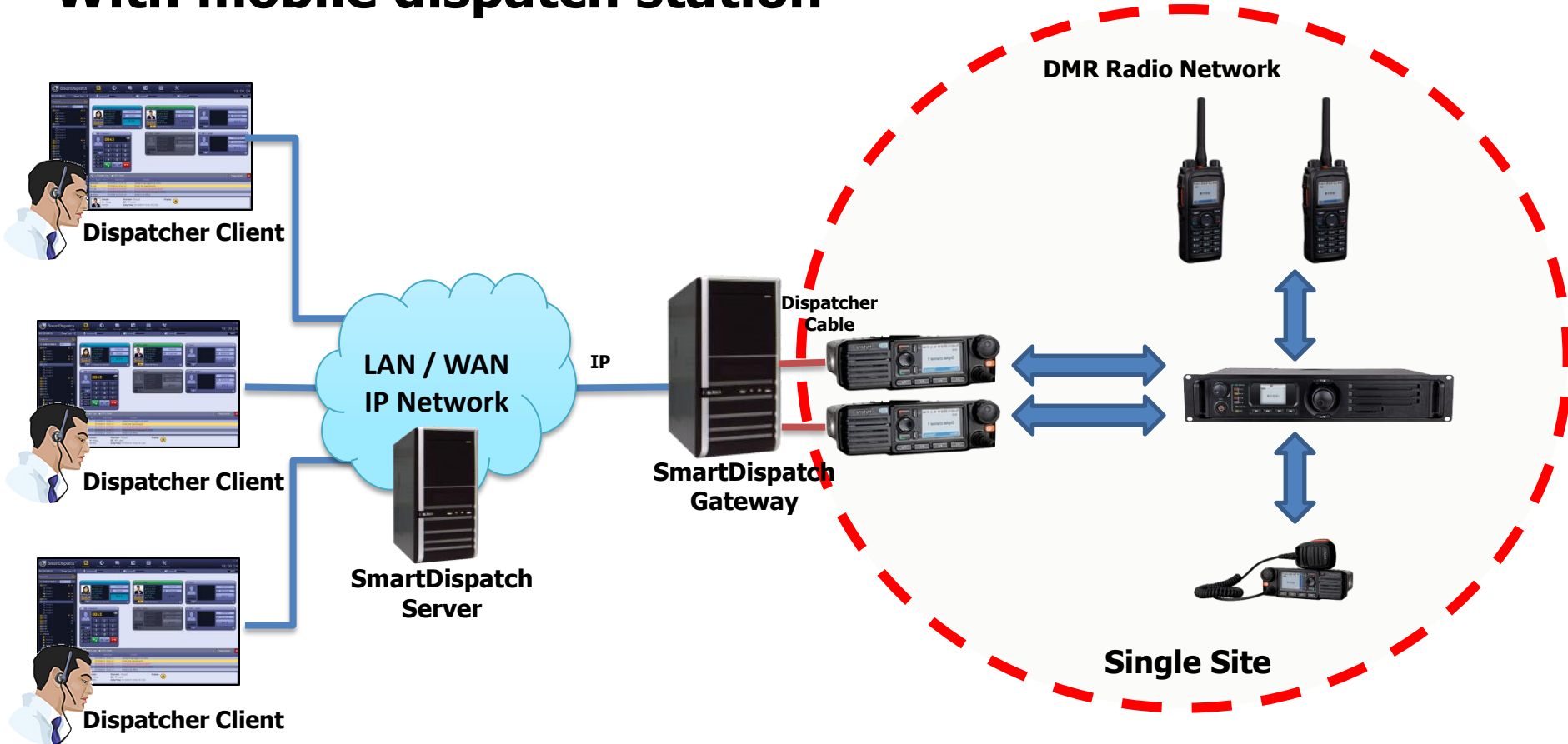
- ❖ **SmartDispatch Enterprise is a distributed system with 3-tiers Client/Server architecture.**
- ❖ **SmartDispatch consists of the following software components:**
 - **SmartDispatch Server**
 - **SmartDispatch Client Console**
 - **SmartDispatch Gateway**
- ❖ **Can be installed in one single PC.**



With mobile dispatch station

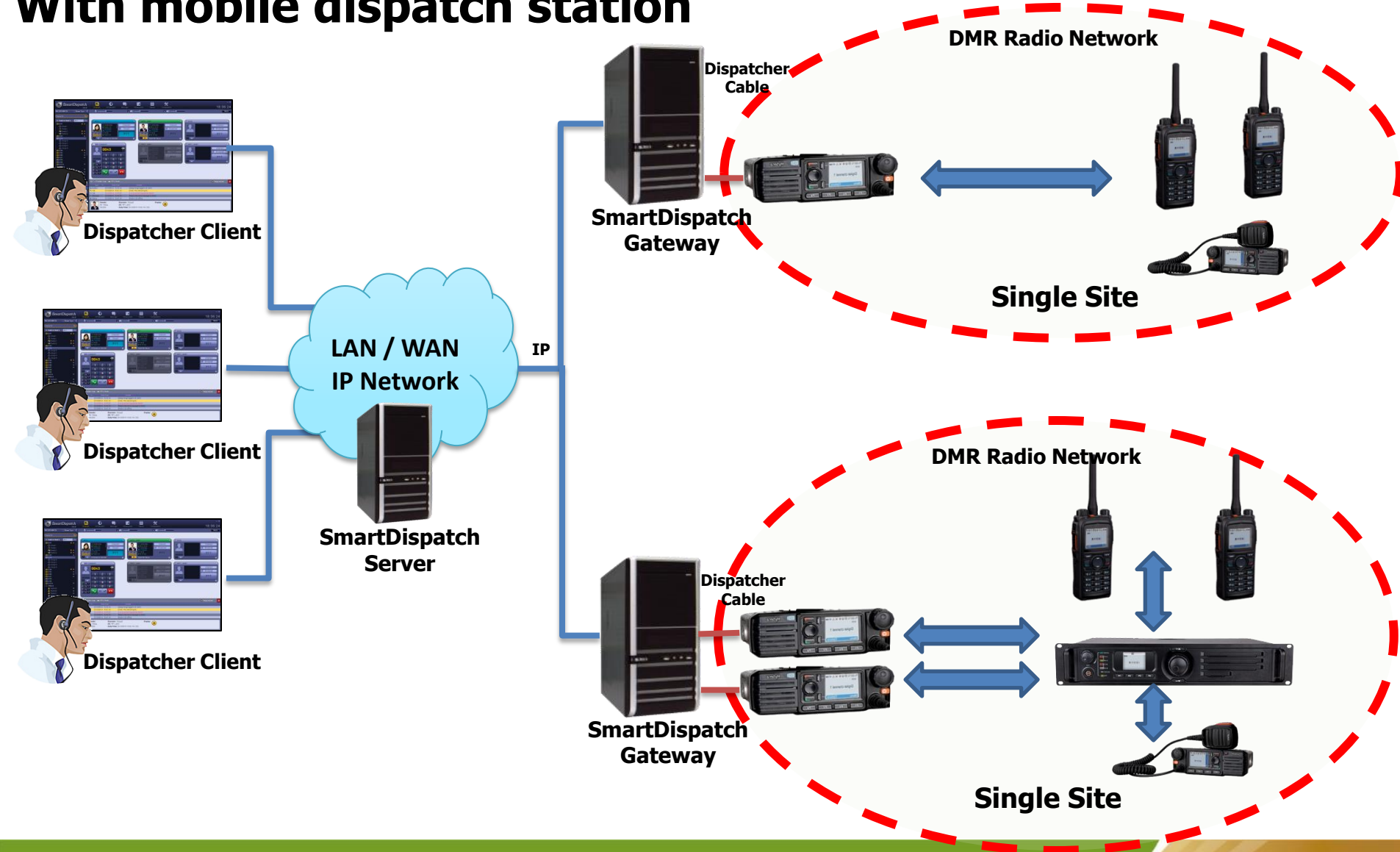


With mobile dispatch station

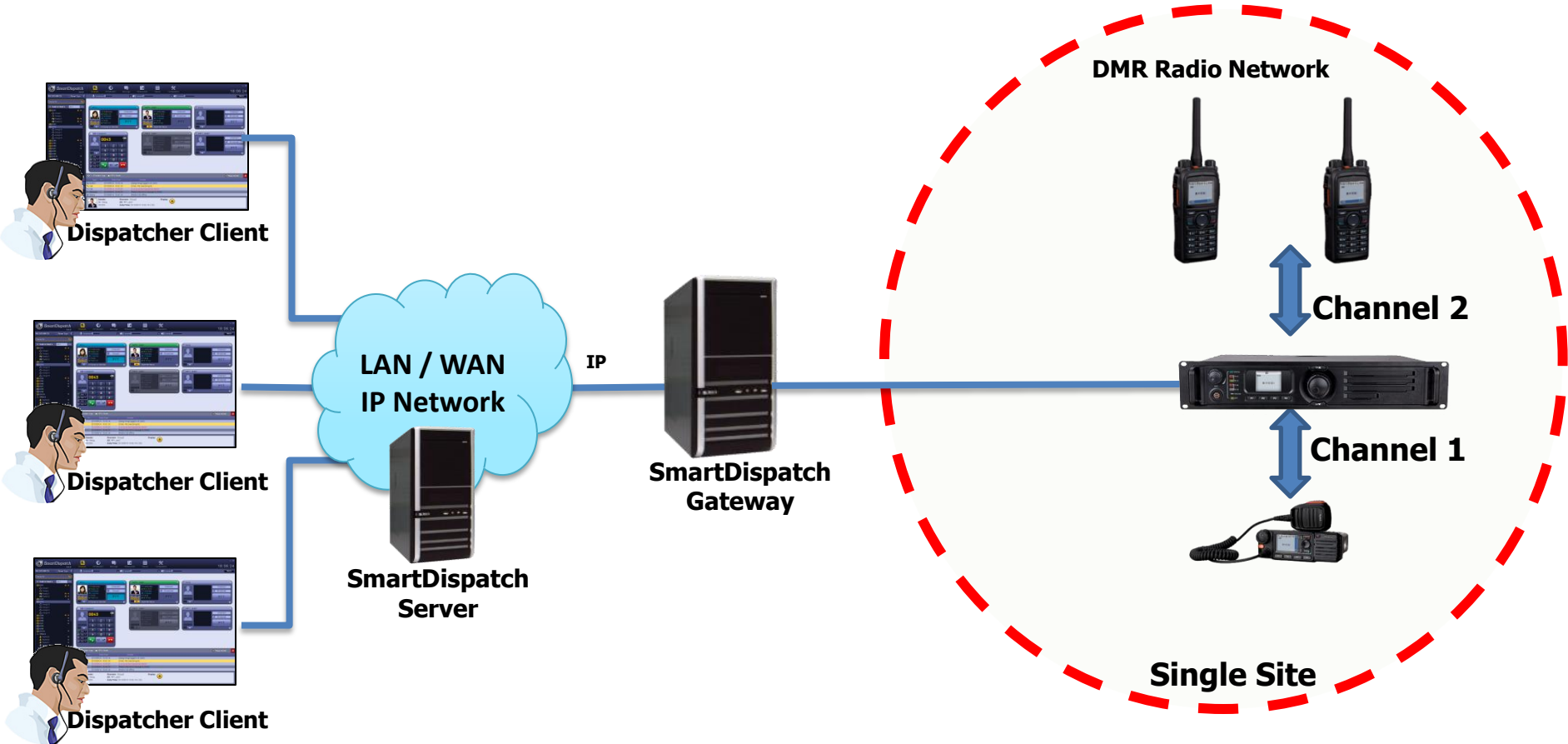


SmartDispatch Mutil Site Topology

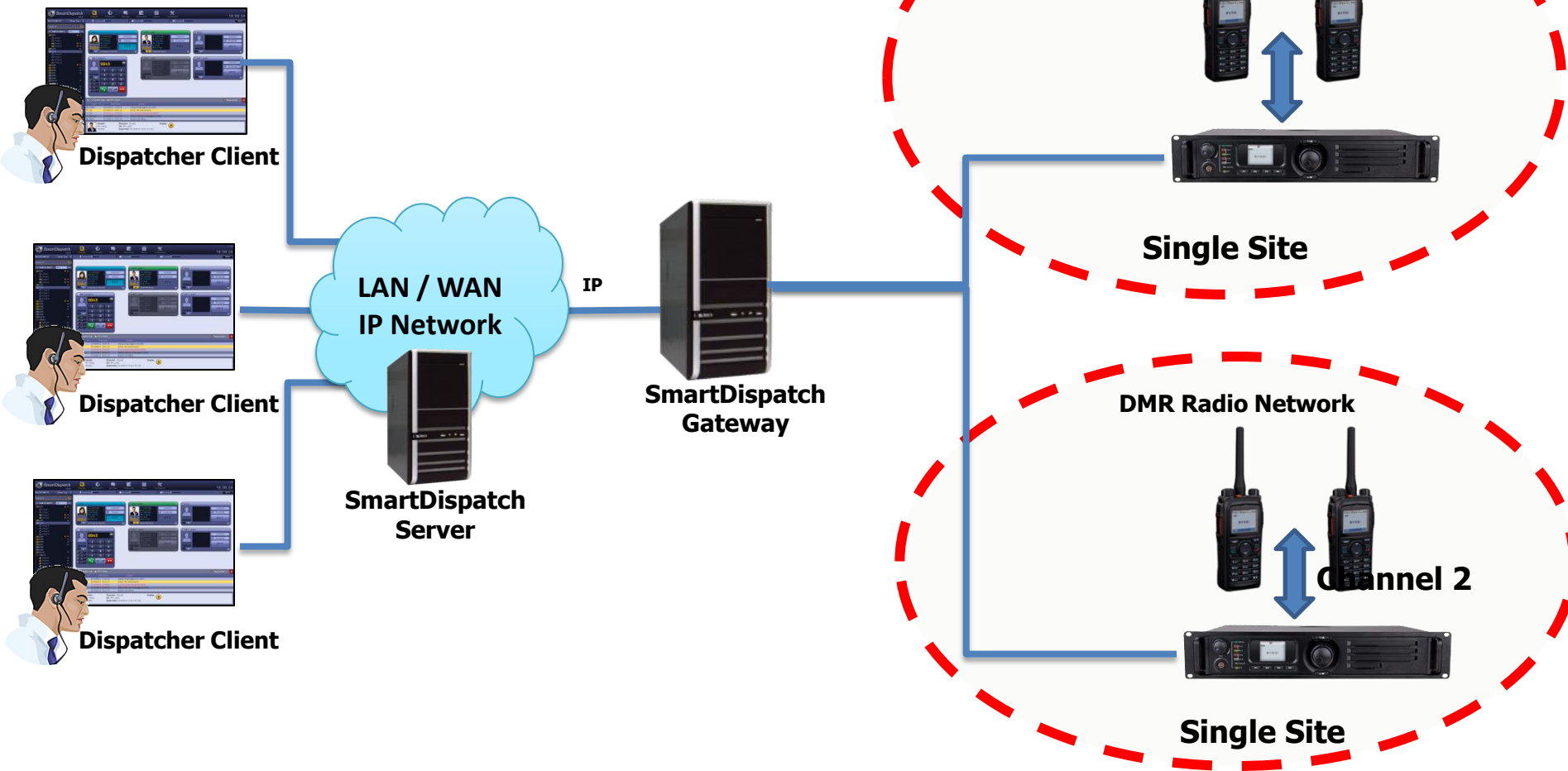
With mobile dispatch station



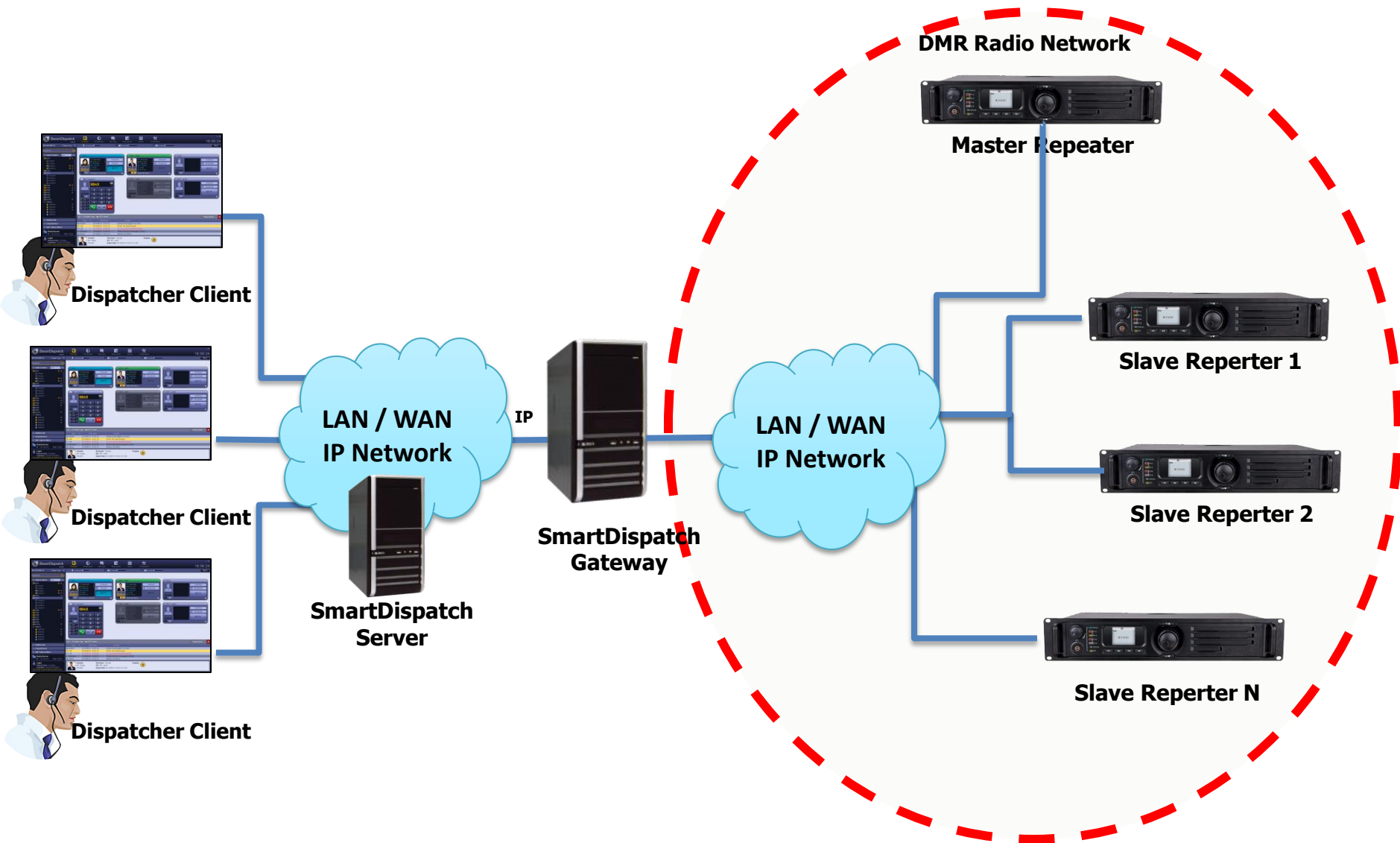
SmartDispatch Enterprise Connect to Repeater Directly



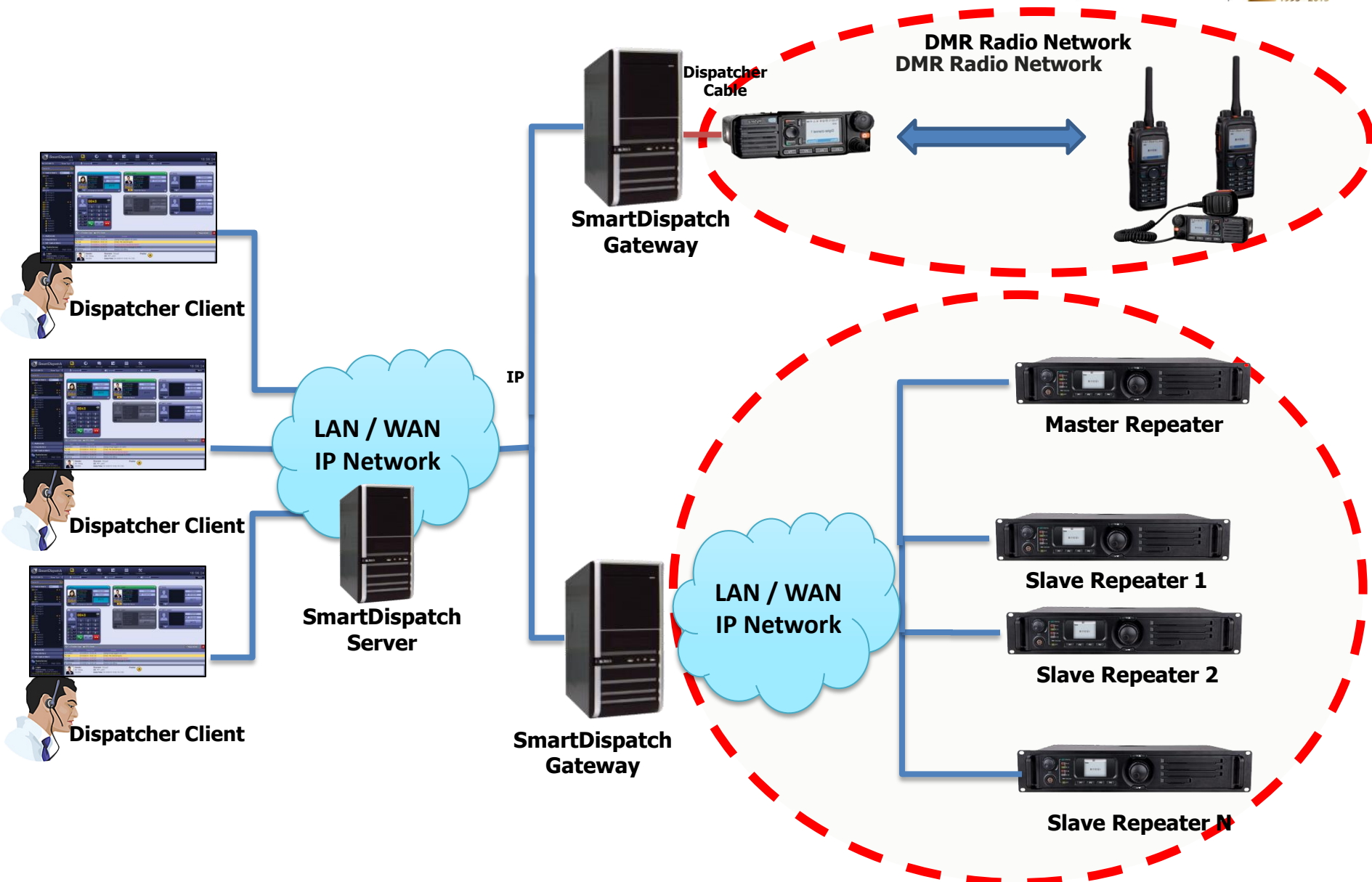
SmartDispatch Enterprise Connect to Independent Repeaters



SmartDispatch Enterprise Connect to Mutil IP Site



SmartDispatch Enterprise Connect to Multi-IP Sites



One server maximum support 32 Clients

One server maximum support 24 gateways

One server maximum support 16 dispatching repeaters access or 32 dispatching mobile radios access

One gateway maximum support 16 dispatching repeaters access or 4 dispatching mobile radios access

One voice channel bandwidth should be 100Kbit/s

❖ Platforms

- **SmartDispatch Server – Windows Server 2003 or windows system**
- **Other components – Windows XP SP2 above, Windows 7**
- **Microsoft .NET 4.0**

❖ Database

Microsoft SQL server 2005 or 2008

❖ Sound Card

- **Recommended M-Audio (Delta 1010LT)**
- **(Creative)Sound Blaster X-Fi Xtreme Audio card**

❖ IP-PBX

- **Any SIP server IP-PBX**

System Requirements

Server PC:

3.06G or 2.0GHz dual core /4GB Ram/NVS300 512M/1TB*3/DVD

Client PC:

**CPU: 2.6GHZ or 2.0GHz dual cores\RAM: 2 Gbit\professional Sound card :
Independent , 5.1, 24-bit sampling frequency**

Gateway PC:

**CPU: 3.3G/ 2.0GHz dual core/4G Ram/2*1TB/DWIN7 PR//USB Keyboard/USB
Optical Mouse/ (Creative)Sound Blaster X-Fi Xtreme Audio card(PCI-E)**

Question?