AP-SRD100
Smart RoIP(Radio over IP)
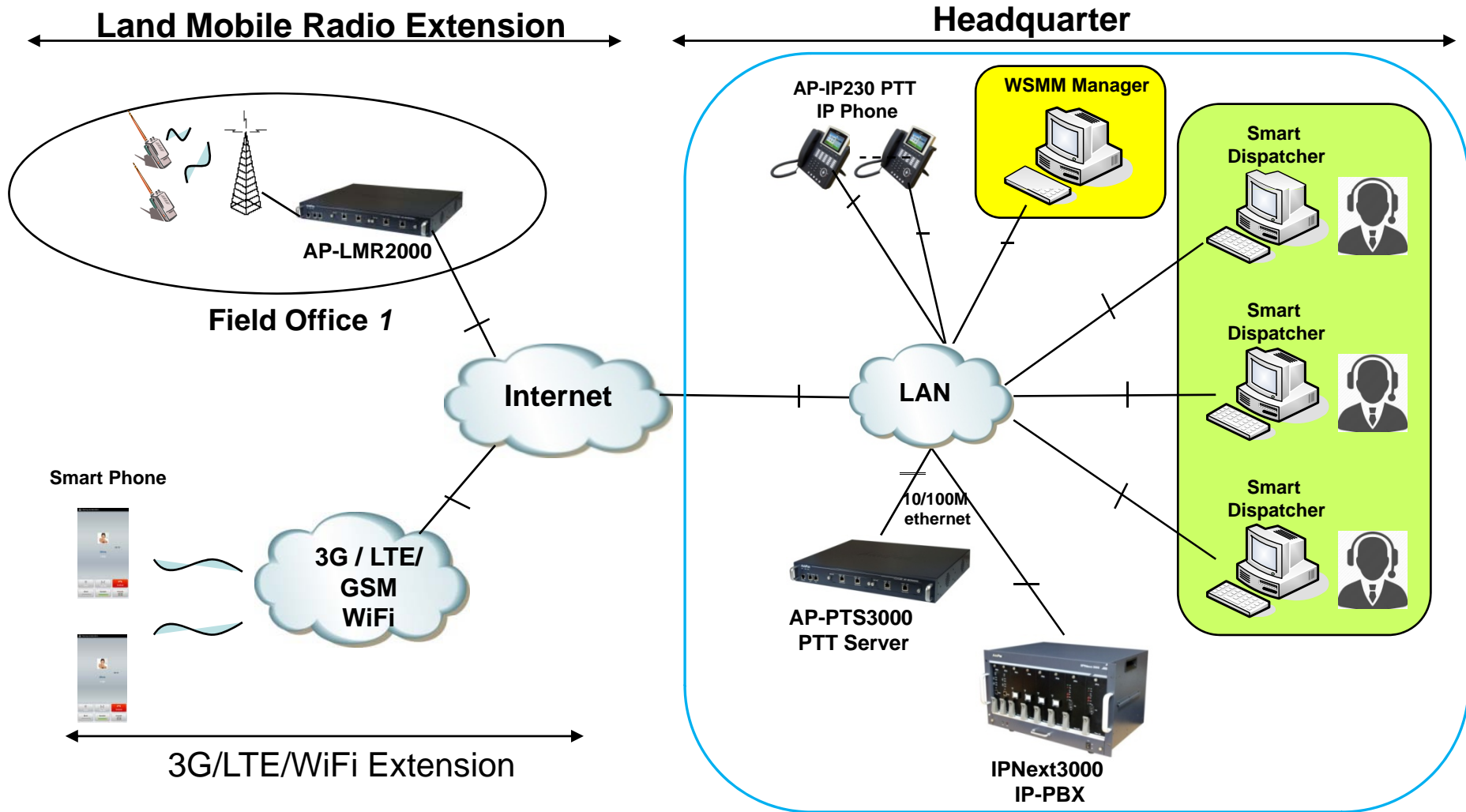# Dispatcher

AddPac Technology

Sales and Marketing

Contents

- Smart RoIP Dispatcher Network Diagram
- RoIP Solution Component Overview, Concept, Purpose of Use, etc
  - WSMM, Smart Dispatcher, LMR Gateway, PTT Phone Group and User Extension, PTT Group Activation/Deactivation, Radio Channel's PTT Session, PTT Session Join/Leave, PTT Link, Patch a Call to Radio Channel, Patch a Call to Radio Channel/PTT Group
- WSMM Overview for PTT Service
- Smart Dispatcher Overview for PTT Service

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Smart Dispatcher Service Diagram

WSMM (Web Smart Multimedia Manager) Features

Configuration Tool for PTT Service

- **Extension Management**
  - IP Phone, LMR Gateway, Radio Extension, Radio Channel, PTT Phone Group, Dispatcher

- **Call Routing Management**
  - Routing Access List, Partition, Trunk, Outgoing Call Rule, Incoming Call Rule

- **PTS Server Management**

- **PTT Link Management**

- **Monitoring**
  - Active Call, Active PTT Group, Active PTT Link, Dispatcher

- **History**
  - Call History, PTT History

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Smart Dispatcher Features

- **Provides Intuitive GUI for Radio Dispatcher**
    - Multiple Work Spaces provide easy operation of related PTT Groups
    - PTT Group tile provides intuitive control and monitoring of the group

- **Send and Receive PTT Calls to/from PTT Groups**
    - Selects one or more PTT Groups to send PTT call simultaneously
    - Authorized operator can activate and deactivate PTT Group

- **Control PTT Links**
    - Make a PTT Link between PTT Groups for flexible operation
    - Link Up/Down dynamically to control PTT range

- **Handle Normal Call from/to other Extensions**
    - Patch the call to a activated PTT Group
    - Hold/Resume/Transfer the call

Radio Extension and Radio Channel

LMR (Land to Mobile Radio) Gateway

- **LMR Gateway**
  - It has E&M 4-wire or Custom interface to radio base station
  - Dispatchers, PTT Phones, and PTT Apps can talk to legacy radio terminals via LMR gateway.

- **Radio Extension**
  - This is an extension for an E&M port or Custom Interface of LMR gateway.
  - The LMR gateway should register to AddPac IPNext IP-PBX system as radio extension.

- **Radio Channel**
  - It represents a PTT radio channel which has PTT service extension number to activate and join to it.
  - A radio extension join to it permanently and dispatchers or other extensions can join to it dynamically by dispatch console.

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Radio Extension and Radio Channel

LMR (Land to Mobile Radio) Gateway

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PTT Phone Group and User Extension

- ## PTT Phone Group
  - A PTT Phone Group (a.k.a. PTT Group) has members of user extensions who will receive broadcasting announcement with auto answering and also can be a talker by pushing the talk button.
  - PTT IP Phones or PTT Apps join to it statically by configuration, and dispatchers or other extensions can join to it dynamically by dispatch console.

- ## User Extension
  - A user extension is an IP Phone (SIP / SSCP phone) or a soft phone for end user. (The SSCP is enhanced SIP with XML based feature control protocol.)

PTT(Push to Talk) Phone Group and User Extension

PTT IP Phone and PTT Apps

PTT Group Activation/Deactivation

- ## PTT Group Activation
  - Before PTT talking, a PTT Group should be activated to start PTT session. During the PTT session, members can talk to each other.
  - A dispatch console can activate it by pressing *Activate* button in PTT Group tile.
  - Also, one of PTT Group member can activate it by dialing to PTT Group extension number.

- ## PTT Group Deactivation
  - After all talks, the PTT Group can be deactivated to close the PTT session.
  - A dispatch console can deactivate it at PTT Group tile menu.
  - Also, if all members are left from the PTT session, it will be closed.
  - Optionally, when initiator (i.e., activator) leave from the PTT session, the PTT session will be closed.

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Radio Channel's PTT Session

Permanent Session

- When the RoIP gateway is booting up, a PTT session will be created automatically.

- This means that a PTT Session of Radio Channel is permanent during RoIP gateway is running.

- If the RoIP gateway is abnormal, the Radio Channel in work space shows abnormal status.

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PTT Group Activation/Deactivation

To Start/Stop PTT Session
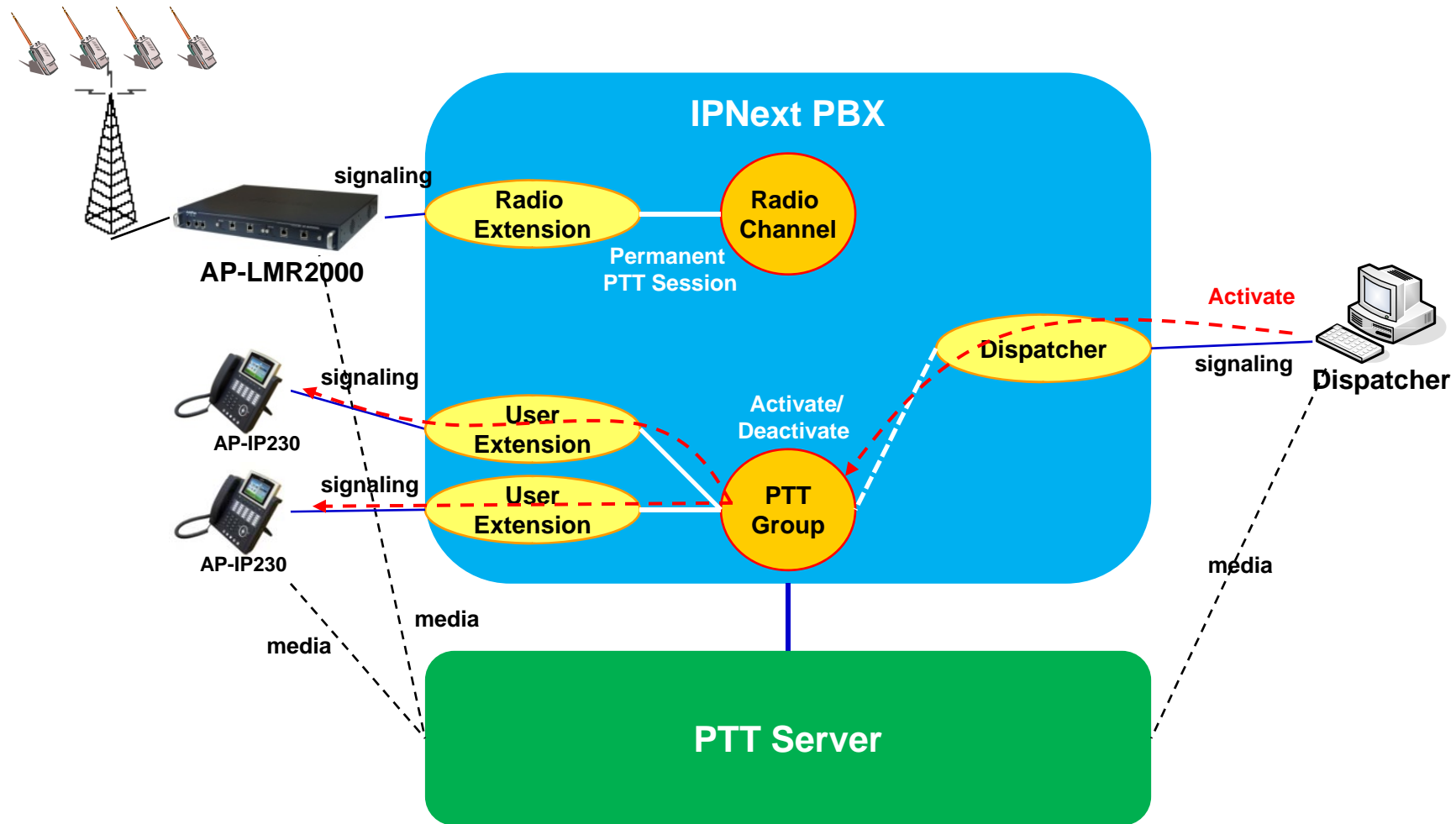
PTT Session Join/Leave

To Monitor and Talk to PTT Session

- ## Dispatcher

  - In case of dispatcher, he can join to a PTT session by simply dragging the Radio Channel or PTT Group from list to a work space.

  - After join to the session, he can monitor talks from remote and also talk to them.

  - He can leave from the session by closing the Radio Channel tile or PTT Group tile in the work space.

- ## PTT Phone Group Member

  - In case of phone as a member, he can leave the PTT session by hang on the call. And then, he can rejoin to it by call to PTT Group extension number.

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PTT Session Join/Leave

To Monitor and Talk to PTT Session

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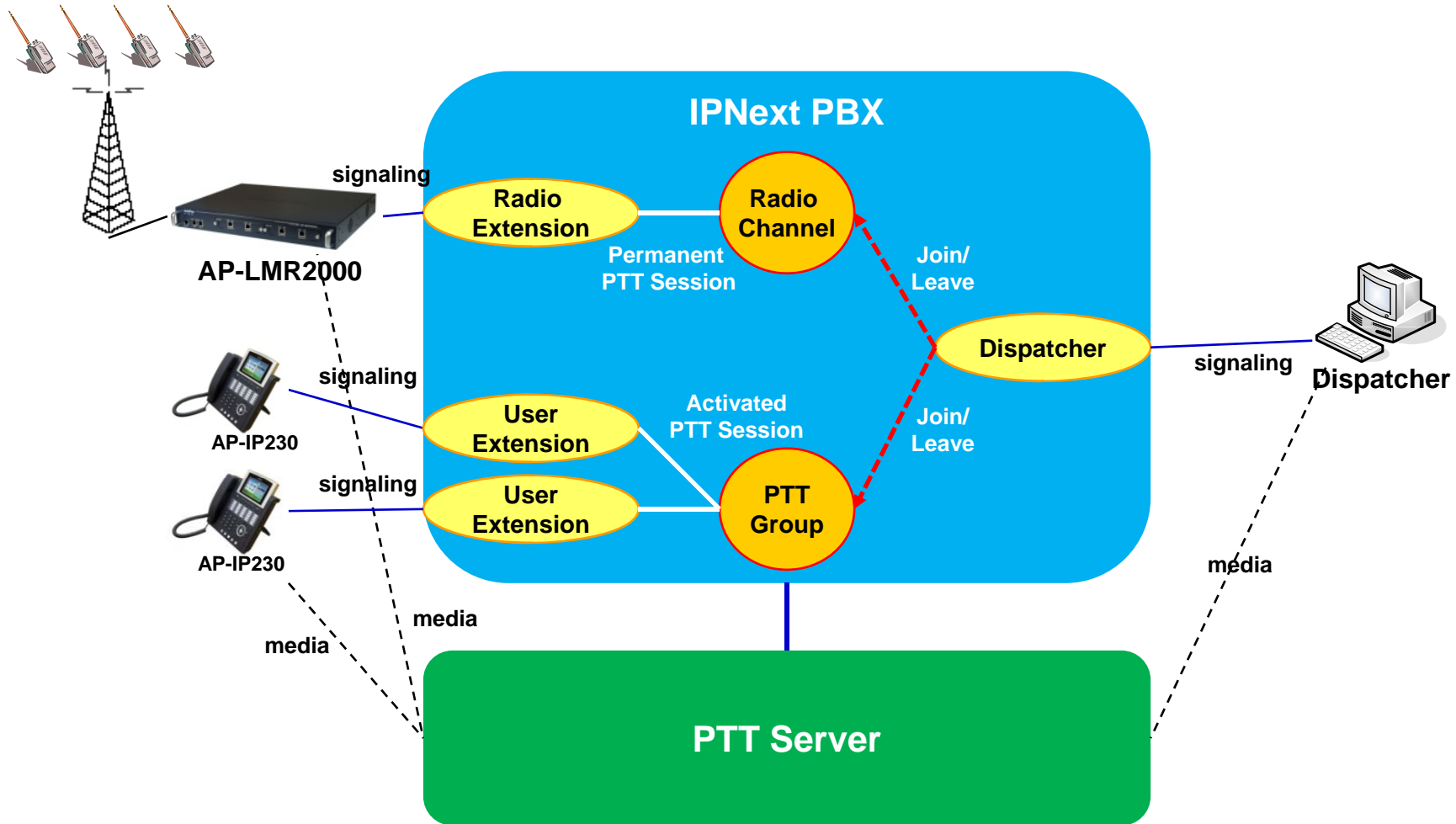
PTT Link

To Link between Radio Channels and PTT Groups

- A PTT Link has members of two or more Radio Channels and PTT Groups.

- If Radio Channels and PTT Groups are linked together, they act as one PTT Group.

- Using PTT Link, multiple Radio Channels can be linked together to overcome regional limit.

- A Radio Channel or a PTT Group can be a member of multiple PTT Links.

- However, it can not be linked in more than two active PTT Links.

PTT Link

Link Between Two Radio Channels

IPNext PBX

Talk

signaling

Radio Extension

Radio Channel

AP-LMR2000

Link Up/Down easily by Dispatch Console

PTT Link

Talk

signaling

Radio Extension

Radio Channel

AP-LMR2000

media

PTT Server

PTT Link

Link Between Two Radio Channels

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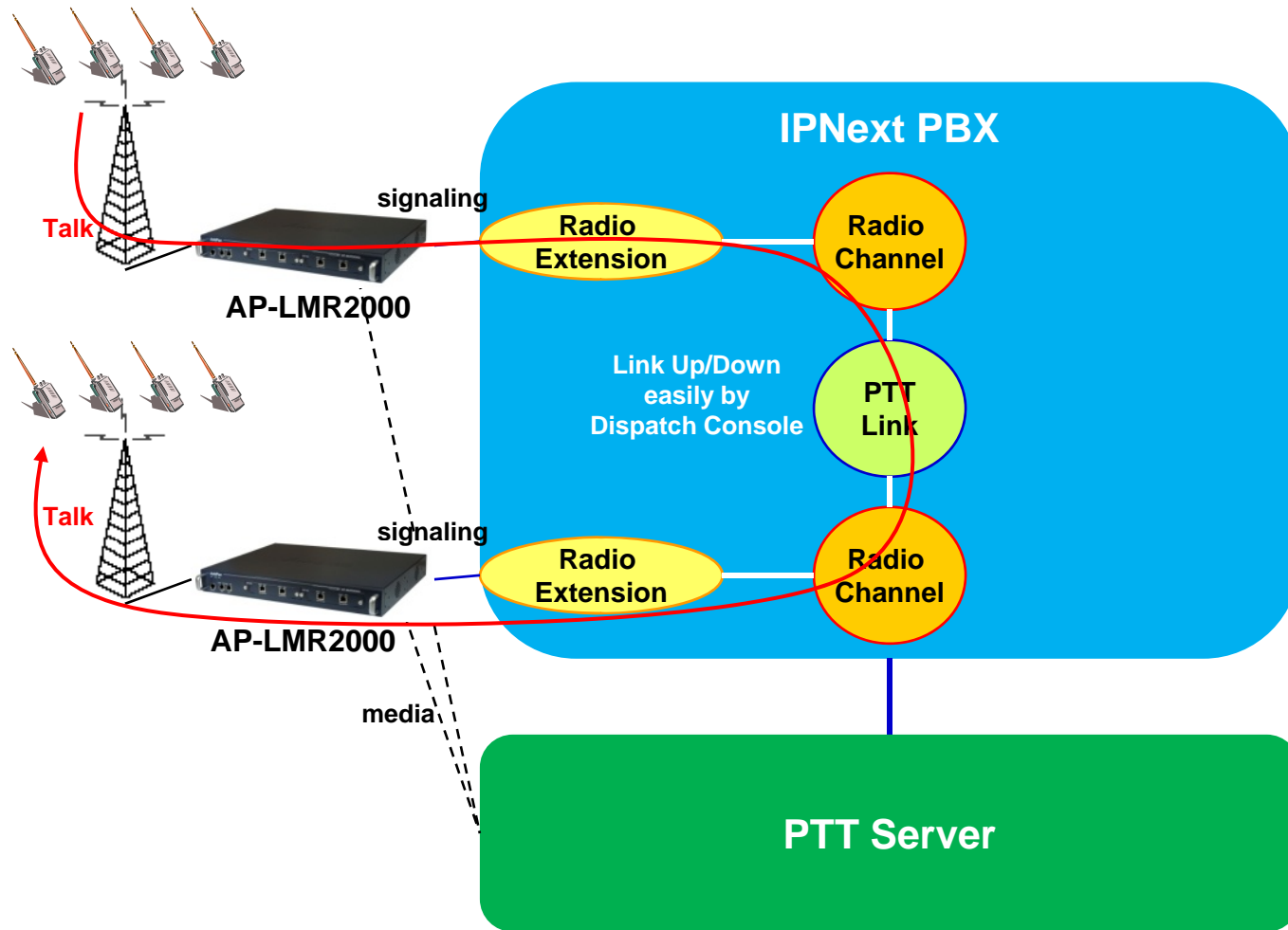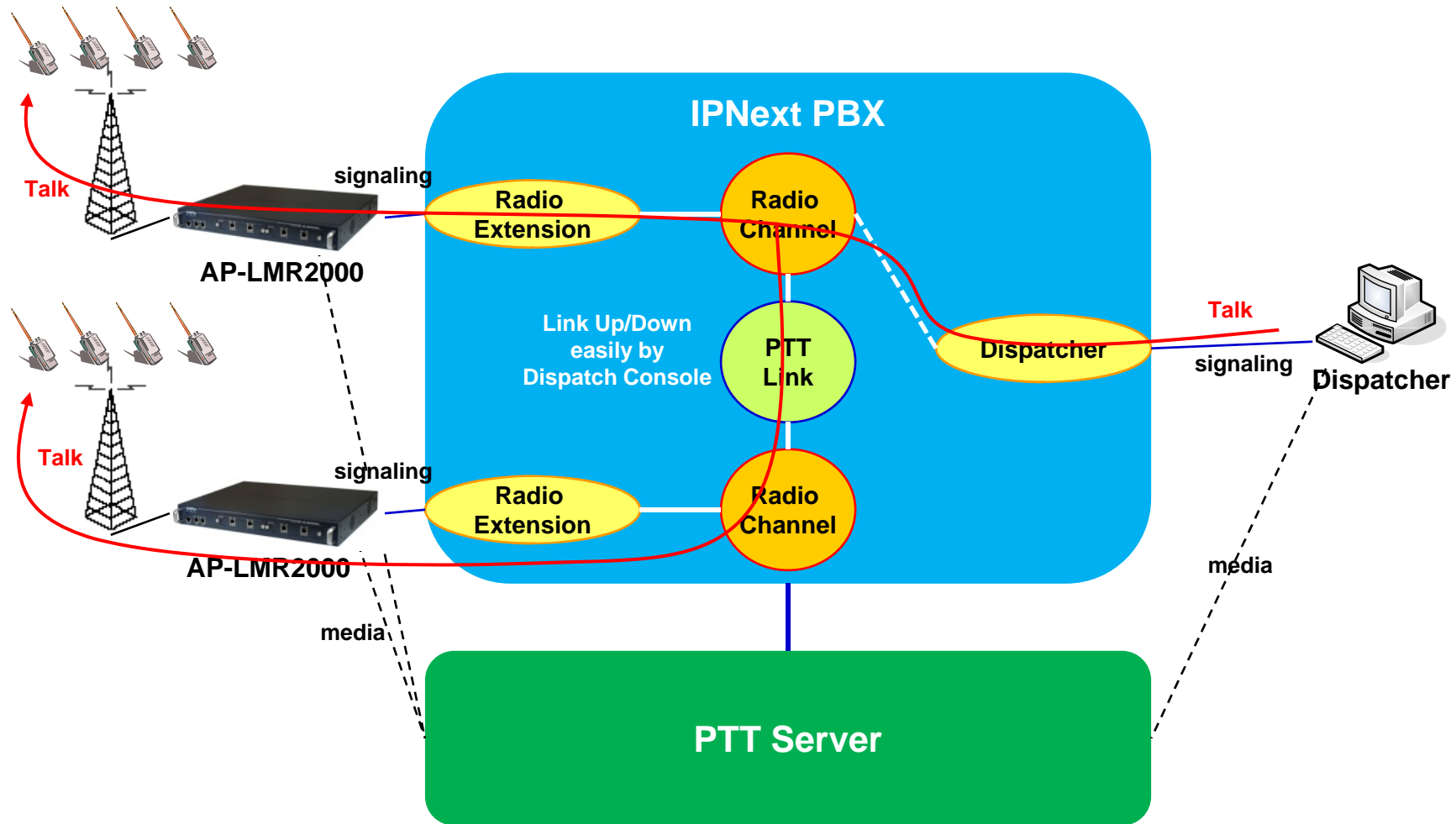
PTT Link

Link Between Radio Channel and PTT Phone Group

IPNext PBX

- Radio Extension
- Radio Channel
- Link Up/Down easily by Dispatch Console
- PTT Link
- User Extension
- User Extension
- PTT Group
- Dispatcher

signaling
Talk

AP-LMR2000

AP-IP230
Talk
signaling

AP-IP230
Talk

media
media

Talk
signaling
Dispatcher

media

PTT Server
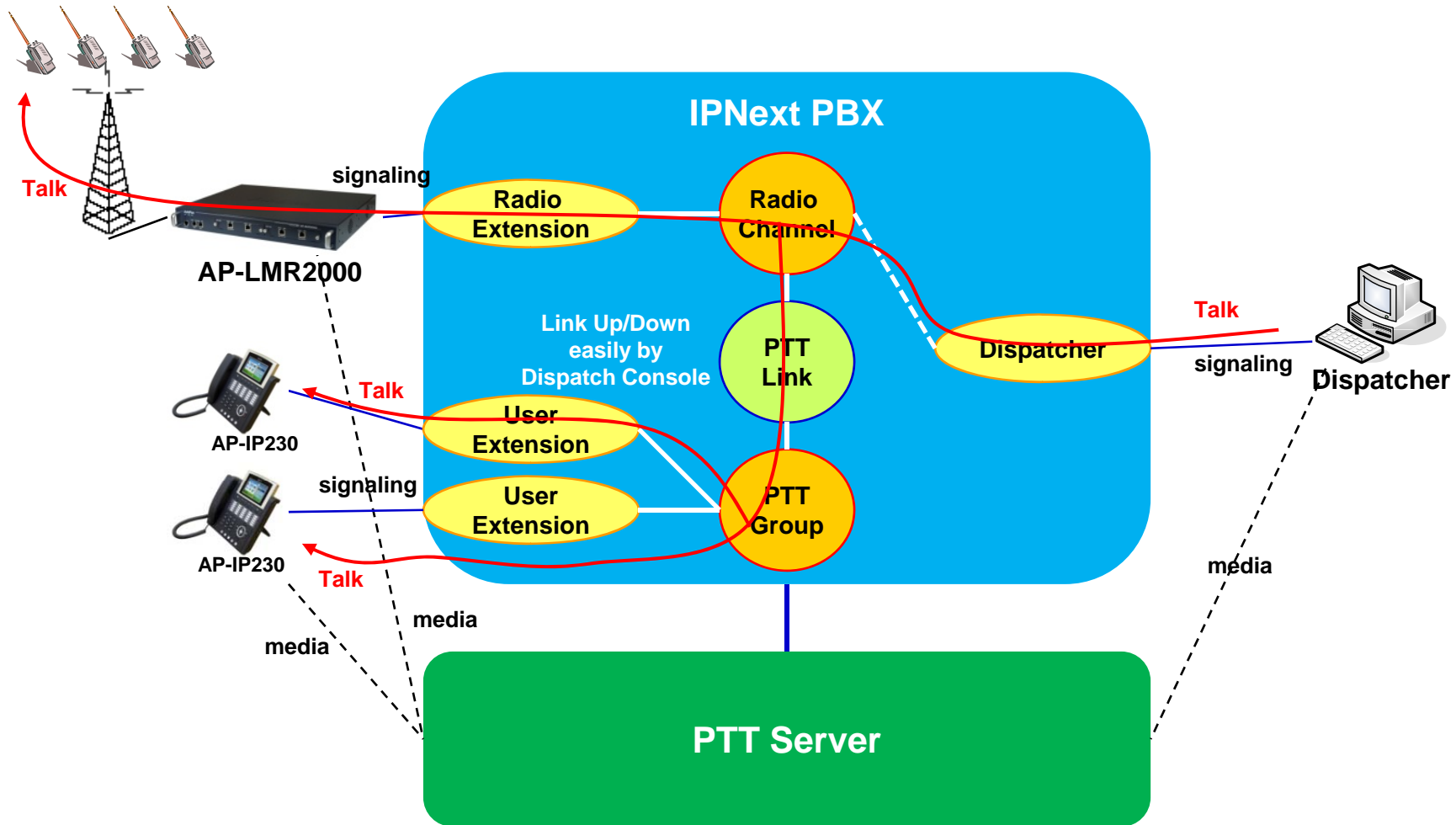
Patch a Call to Radio Channel

To Join Non-member User to a Radio Channel/PTT Group

- PSTN phone or other extension can be patched to active PTT Group or Radio Channel by dispatch console.

- Step 1) A dispatch console receives a call or making a call to other extension or PSTN user.

- Step 2) After established the call, the dispatcher can patch the call to a Radio Channel or PTT Group.

- Step 3) The patched call can be dropped by the user or by dispatch console.

Patch a Call to Radio Channel/PTT Group

Step 1 : Receive a Call from Phone

AP-LMR2000

IPNext PBX

signaling

Radio Extension

Radio Channel

Dispatcher

Call

signaling

Dispatcher

Receive a Call from Phone

signaling

User Extension

Call

Call

AP-IP230

Call

media

media

media

PTT Server

AddPac
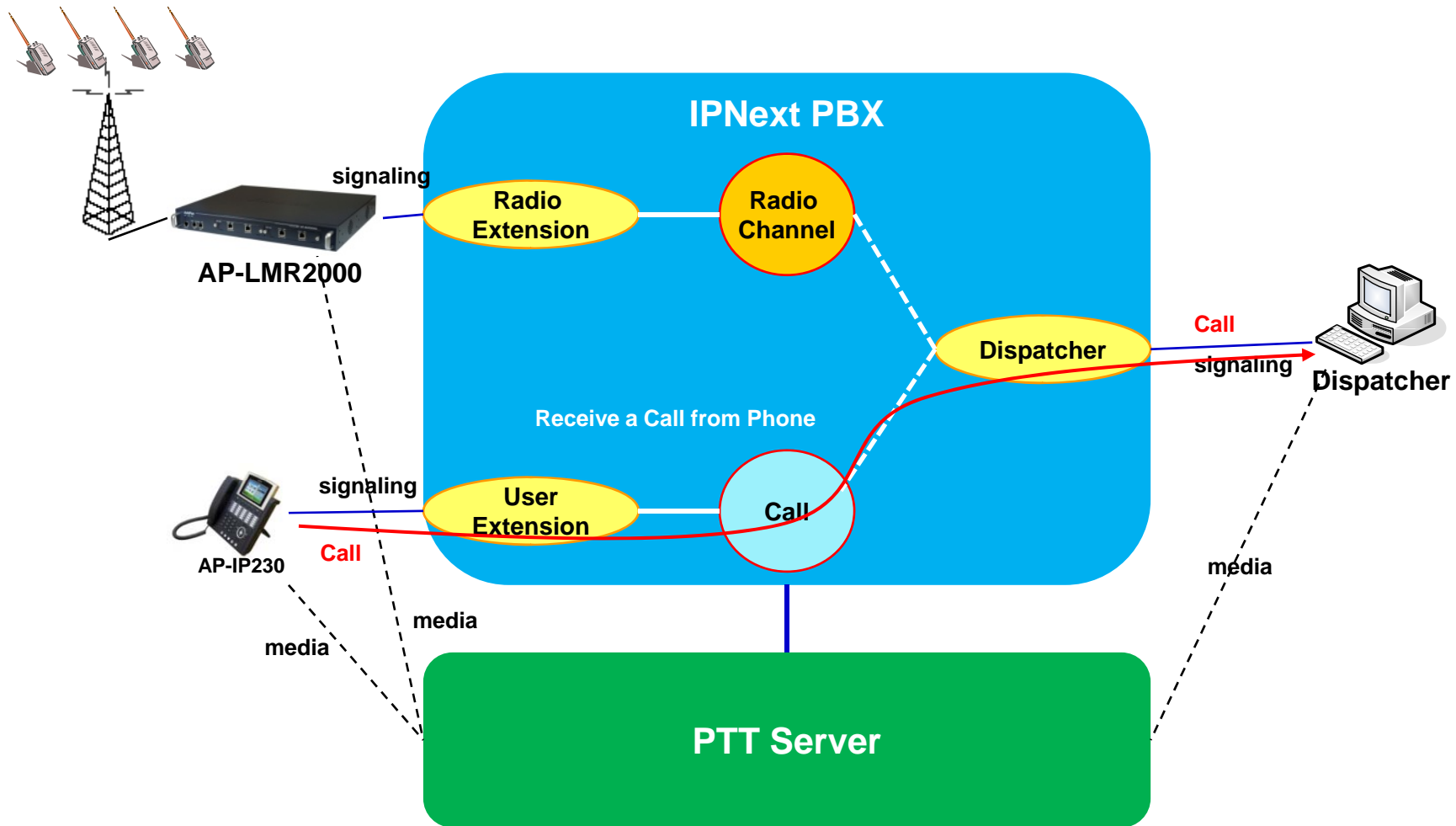
www.addpac.com

Patch a Call to Radio Channel/PTT Group

Step 2 : Patch a Call to Radio Channel

AddPac
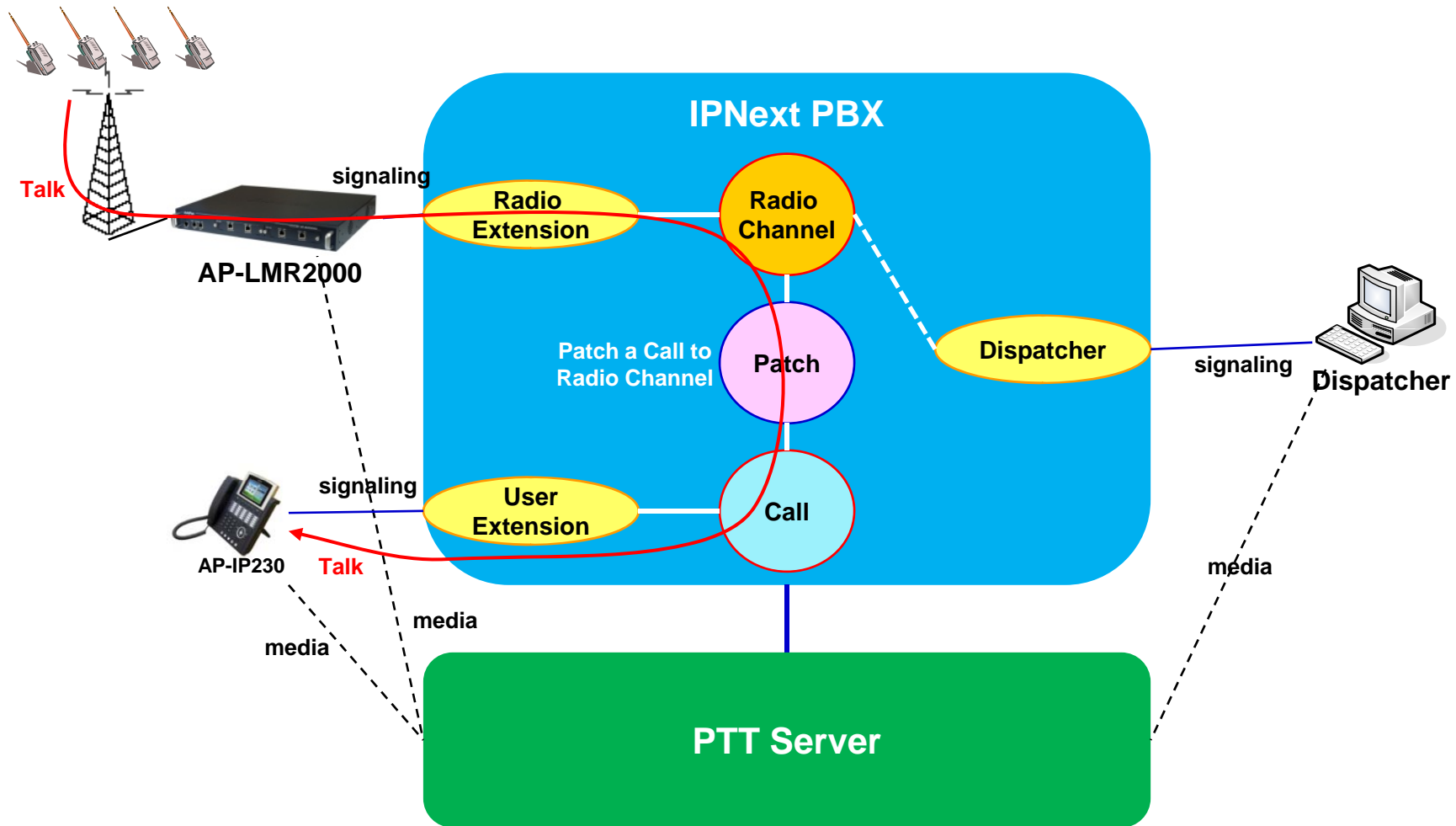
www.addpac.com

WSMM (Web based
Smart Multimedia Manager)
for PTT Solution

Main Features

- AddPac Telephony system management application
  (IPNext IP-PBX, Smart Directory Server, MCU, PS,
    RBT, UMS, Phone, etc)
- System Configuration
- System Monitoring
- System Call Monitoring
- System Call History
- System Statistics and Report
- System Fault Management
- LDAP Data Management

Add a Radio Extension

WSMM for PTT Service

Add a Radio Extension :
A radio extension is an extension for an E&M port of RoIP (Radio over IP) gateway.
The RoIP gateway should register to this system as an extension.

Edit a Radio Extension

WSMM for PTT Service

Extension number

SIP Username and Password for registration

Add a Radio Channel

WSMM for PTT Service

Add a Radio Channel:
A radio channel represents a PTT radio channel
which has a radio extension statically.
Dispatchers and other extensions can join to the radio channel dynamically
by dispatch console to communicate with radio terminals on the channel.

Edit a Radio Channel

WSMM for PTT Service

Extension number

Audio Codec

Radio Extension

Max Session Idle Time
The default value is 15 seconds.
If this PTT session is idle more than this value after releasing talk,
this session will be closed automatically.

Max Talk Hold Time
The default value is 30 seconds.
If the talker seizes this PTT session more than this value
without releasing PTT,
the talk will be released automatically.

Add a PTT Group

WSMM for PTT Service

Add a PTT Group :
A PTT (Push to Talk) group has members of user extensions who will receive broadcasting announcement with auto answering and also can be a talker by pushing the talk button.
This is half-duplex two-way broadcasting.

Edit a PTT Group

WSMM for PTT Service

Advanced Options

WSMM for PTT Service

Smart Multimedia Manager
www.addpac.com

✓ System configuration modified!
Click here to save it.

Extensions
- Extensions
- Directory
- Partitions
- Routing Access Lists
- Terminal Profiles
- Terminals

Trunks

PBX Services

System Admin

Servers

Advanced

Monitoring

Summary

Getting Started GO

Clustering Guide GO

Partitioning Guide GO

Linked in

facebook

YouTube

☑ Status | ☑ PTT Group ✕

Modify the PTT Group

✓ Apply   ✗ Cancel   ⚙ Advanced Options

Extension ▼

Name	Extension

Group Members ❓

Specify Phone Number:

⊟ Advanced Options

General Settings ❓

Multicast Settings ❓

Partition	internal
Group Priority	3	(Zero is high priority)
☑ Max Session Idle Time	15
☑ Max Floor Hold Time	30
Close on Initiator Out	☑
Multicast	☐

5018 5018   5018

A PTT (Push to Talk) group has

Max Session Idle Time
The default value is 15 seconds.
If this PTT session is idle more than this value after releasing floor,
this session will be closed automatically.

Max Talk Hold Time
The default value is 30 seconds.
If the talker seizes this PTT session more than this value
without releasing PTT,
the talk will be released automatically

Close on Initiator Out
This is enabled by default. When enabled,
this PTT session will be close when the initiator
who make this session by dialing PTT extension digits
is out from this session.

Multicast
This is disabled by default.
If enabled this PTT is broadcast to member extensions by IP
Multicasting with **multicast IP Address, and audio Port**.
For using IP multicast, please ask to your network operator.

Version 1.2.150422

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Add a Dispatcher
WSMM for PTT Service

Add a Dispatcher :
A dispatcher is an extension for an PTT operator
who login to dispatch console using his own id and password.
A dispatcher can call to other extensions using his extension number.

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Edit a Dispatcher

WSMM for PTT Service

Add a PTT Link

WSMM for PTT Service

Radio Channel Member
Joined Radio Channels will send/receive PTT call as one PTT Group

PTT Group Member
Joined PTT Groups will send/receive PTT call as one PTT Group

PTT Server

WSMM for PTT Service

Active PTT Session

WSMM for PTT Service

Active PTT Link

WSMM for PTT Service

Active Dispatcher

WSMM for PTT Service

PTT History

WSMM for PTT Service

Smart Dispatcher
for PTT Solution

AddPac
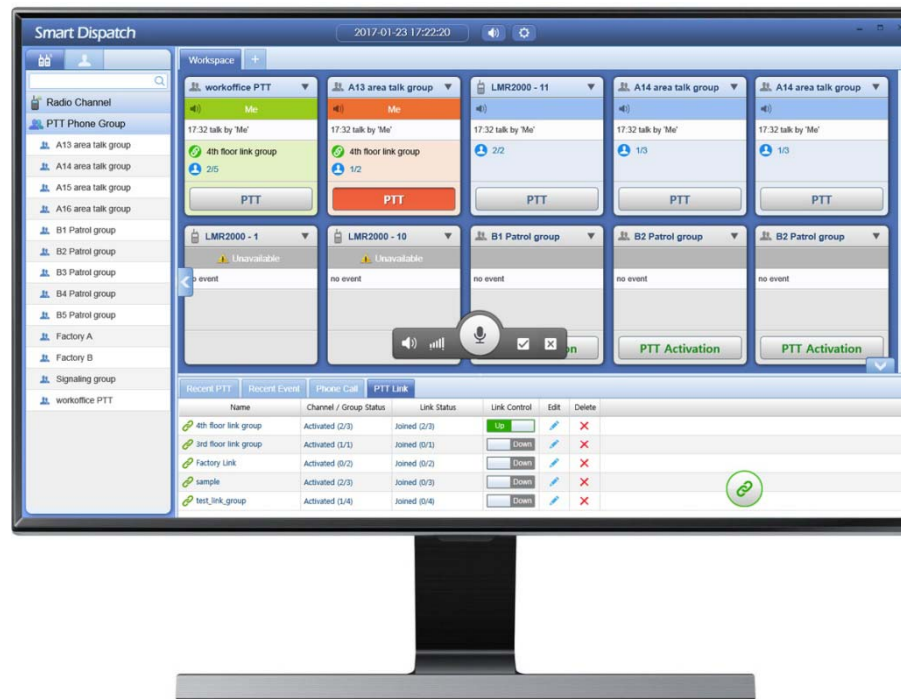
Main Features

- Work Space Management for Monitoring Radio Channels and PTT Phone Groups

- Tile Management for Controlling a Radio Channel or a PTT Phone Group

- 1:1 PTT and 1:N PTT

- PTT Link Management

- Contact List for Making a Phone Call

- Phone Call Management

- Active PTT List

- PTT History

- Event History

AddPac
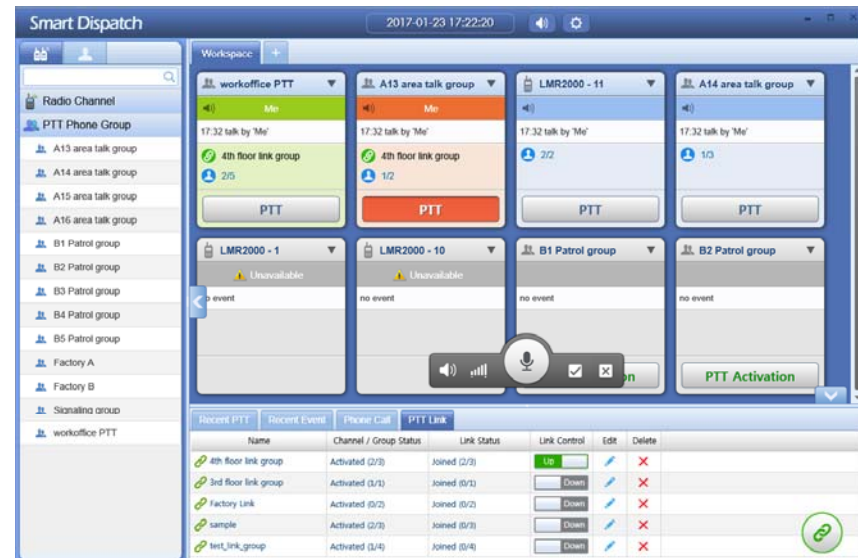
Smart Dispatcher UI
Layout

Settings
All Channel and Group Mute/Unmute

Radio Channels
- Add to work space
- Delete from work space

Multiple Work Spaces

Radio Channel Tile

PTT Phone Groups
- Add to work space
- Delete from work space

PTT Phone Group Tile

Work Space Controller
- PTT to multi groups in a work space
- Mute all groups in a work space
- (Un)select all

Panel
- Recent PTT event
- Recent Event
- Phone Call
- PTT Link

Radio Channel / PTT Phone Group Tile

Tile Information and Actions

Mute / Unmute

Name

A13 area ▼

◀)

17:36 activated PTT phone group

Last Event

🔗 4th floor link group

👤 2/3

PTT

PTT Link Status

Group Member Status

Event History ✕

Time	Message
2017-01-23 18:59:01	joined (4th floor link group) member by 'ws hwang'
2017-01-23 18:59:01	activated PTT phone group
2017-01-23 18:59:01	deactivated PTT phone group
2017-01-23 18:59:00	joined (4th floor link group) member by 'ws hwang'
2017-01-23 18:59:00	activated PTT phone group
2017-01-23 18:45:47	deactivated PTT phone group

Name	Channel / Group Status	Link Status	Link Control	Edit	Delete
🔗 4th floor link group	Activated (2/3)	Joined (2/3)	Up	✏️	✕
👥 A13 area	Activated	Joined			
📻 2nd floor - 9801	Unavailable	Unjoined			
👥 workoffice PTT	Activated	Joined			

Group Members (3) ✕

Name	Type	Number	Status	Call	Drop
👥 1033 1033	Extension	1033	UnJoined	📞	
👥 ip_phone jschoi	Extension	1120	Patched		☎️
👥 ws hwang	Dispatcher	1002	Joined		

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Status of a Radio Channel
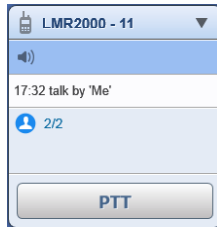
- **Idle**
  - There is no action in this channel.

- **Remote Talking (Listening)**
  - You can listen talk from remote terminal.
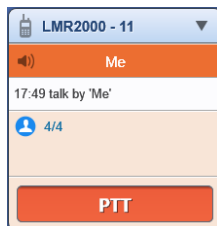
- **Local Talking**
  - You are talking by pressing PTT button.
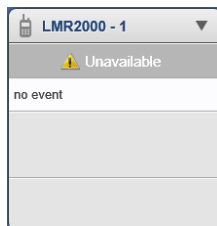
- **Unavailable**
  - RoIP gateway is abnormal.

Status of a PTT Phone Group

PTT Phone Group Tile Status
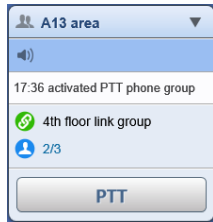
- **Idle**
  - There is no action in this PTT group.
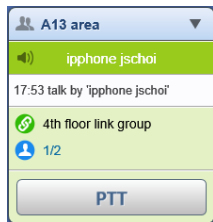
- **Remote Talking (Listening)**
  - You can listen talk from remote terminal.
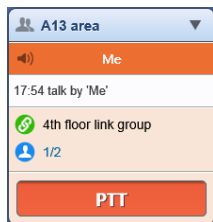
- **Local Talking**
  - You are talking by pressing PTT button.

- **Deactivated**
  - There is no PTT session. For listening and talking, it should be activated.

Activating/Deactivating a PTT Phone Group

- ## Activating
  - Press *Activate* button, then a PTT session will be created and status will be changed from Deactivated to Idle status.
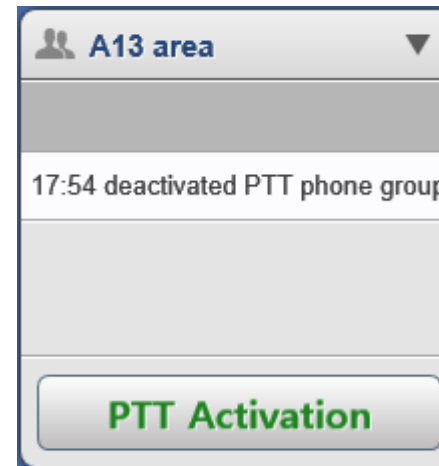
- ## Deactivating
  - Select *Deactivate* at tile menu, then a PTT session will be closed and status will be Deactivated status.
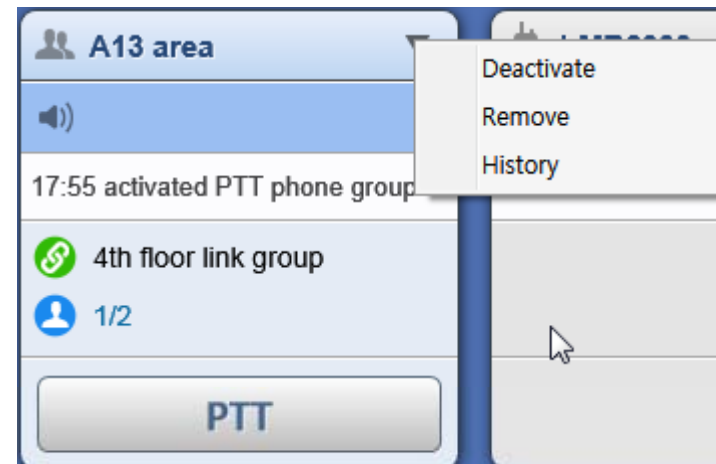
One Channel PTT

Select One Channel for PTT

- Push *PTT* button in a Radio Channel or PTT Phone Group
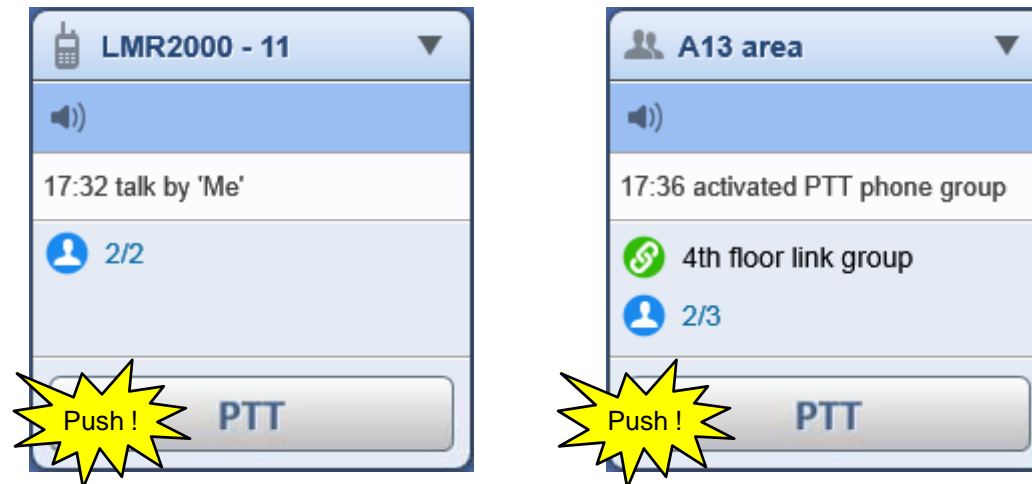
Multiple Channel PTT

Select Multiple Channels for PTT

- Select multiple channels by touching channel tiles or select all by *Select All* button.

- You can unselect all by *Unselect All* button.

- And then press center *PTT* button.
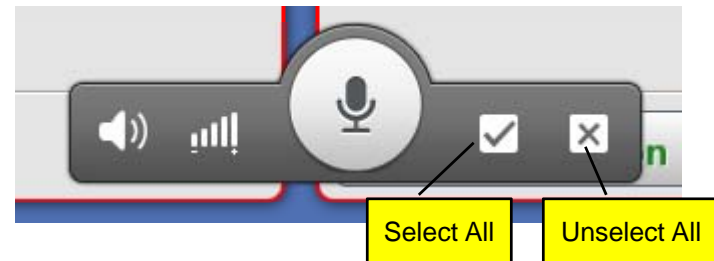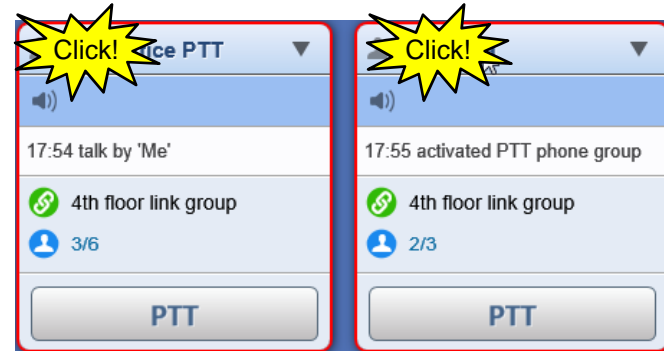
Muting

- You can muting and un-muting Radio Channels and PTT Phone Groups by *Mute* buttons.

- *All Mute* in Title Bar

- Work Space *Mute* in PTT Control Box

- Radio Channel/PTT Group *Mute* in a Tile

Active PTTs and Recent PTTs

Select a Active PTT for Controlling

- You can select a active PTT at Recent PTT panel for controlling the PTT Group.

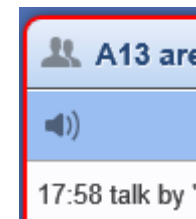| Recent PTT	Recent Event	Phone Call	PTT Link	
Start Time	Channel / Group	Talker	PTT Link	
7-01-23 18:05:06	A14 area	Me		Active PTT List
2017-01-23 18:05:04	A13 area, workoffice	Me	4th floor link group	
2017-01-23 18:04:39	A14 area	Me		Recent PTT List
2017-01-23 18:04:33	A13 area	Me		
2017-01-23 18:04:27	workoffice PTT	Me		
2017-01-23 17:58:56	A14 area	Me		
2017-01-23 17:58:56	A13 area	Me		
2017-01-23 17:58:56	workoffice PTT	Me		
2017-01-23 17:58:17	A14 area	Me		
2017-01-23 17:58:14	A13 area, workoffice	Me	4th floor link group	
2017-01-23 17:54:02	workoffice PTT, A13 a	Me	4th floor link group	

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Event List

Show Event Messages

- You can monitor event messages at Recent Event panel.
- It shows alarm severity and category of the events.

Time	Level	Category	Message
7-01-23 18:05:01	ℹ Information	PTT	PTT link "4th floor link group" changed to "up" by ws hwang
2017-01-23 17:58:37	ℹ Information	PTT	PTT link "4th floor link group" changed to "down" by ws hwang
2017-01-23 17:55:21	ℹ Information	PTT	PTT phone group "A13 area" changed to activated.
2017-01-23 17:55:20	ℹ Information	PTT	PTT phone group "A13 area" changed to activated.
2017-01-23 17:54:32	ℹ Information	PTT	PTT phone group "A13 area" changed to deactivated.
2017-01-23 17:50:48	⚠ Warning	PTT	Radio channel "LMR2000 - 11" changed to unavailable.
2017-01-23 17:50:48	ℹ Information	PTT	Patched call "ip_phone jschoi" disconected.
2017-01-23 17:48:38	ℹ Information	PTT	Call "ip_phone jschoi" patched to "LMR2000 - 11"
2017-01-23 17:37:28	ℹ Information	Config	PTT phone group "A16 area" modified.
2017-01-23 17:37:15	ℹ Information	Config	PTT phone group "A15 area" modified

Recent PTT | Recent Event | Phone Call | PTT Link
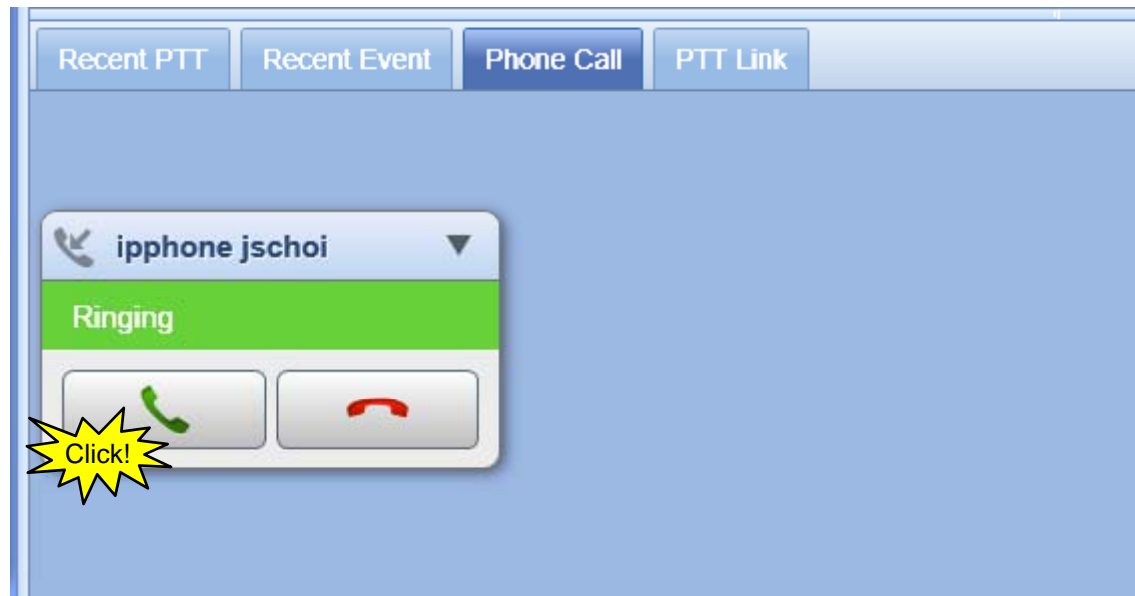
Making a Phone Call

- You can make a phone call using Dial Pad or Contact List.
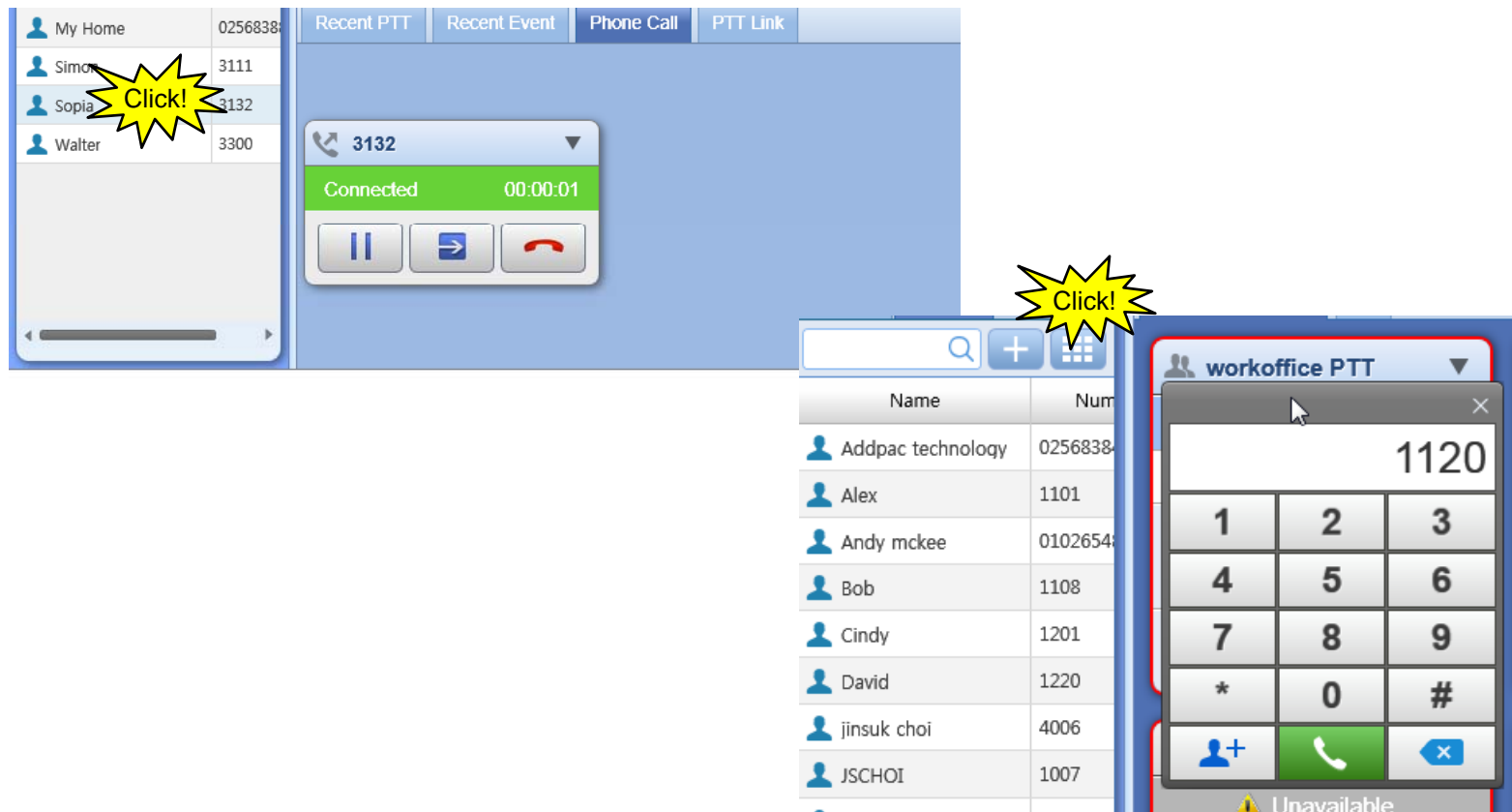
Receiving a Phone Call

- When phone call received, new Phone Call Tile appears at Phone Call panel.
- You can receive the call by pressing *Accept* button.

Patching a Phone Call

To radio Channel / PTT Phone Group

- You can patch a established phone call to a Radio Channel or a PTT Phone Group.

- The patched phone can listen and talk to the group.

Making a PTT Link

To Link Radio Channels and PTT Phone Groups

- You can make a PTT Link by selecting two or more tiles in work space and pressing *add* button in PTT Link panel.

- The added PTT Link exists after logout dispatch console.

Up/Down a PTT Link

To Link Radio Channels and PTT Phone Groups

- To control PTT Link, you can *up/down* the PTT Link at PTT Link panel.

Thank you!

AddPac Technology Co., Ltd.
Sales and Marketing

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