

# Third Party Terminal SIP Protocol Requirement for interworking with AddPac PTT Solution

AP-PTS3000  
PTT Server



AP-IP300 PTT  
IP Phone



IPNext3000  
IP-PBX



AP-IP230 PTT  
IP Phone

**AddPac**

**AddPac Technology**

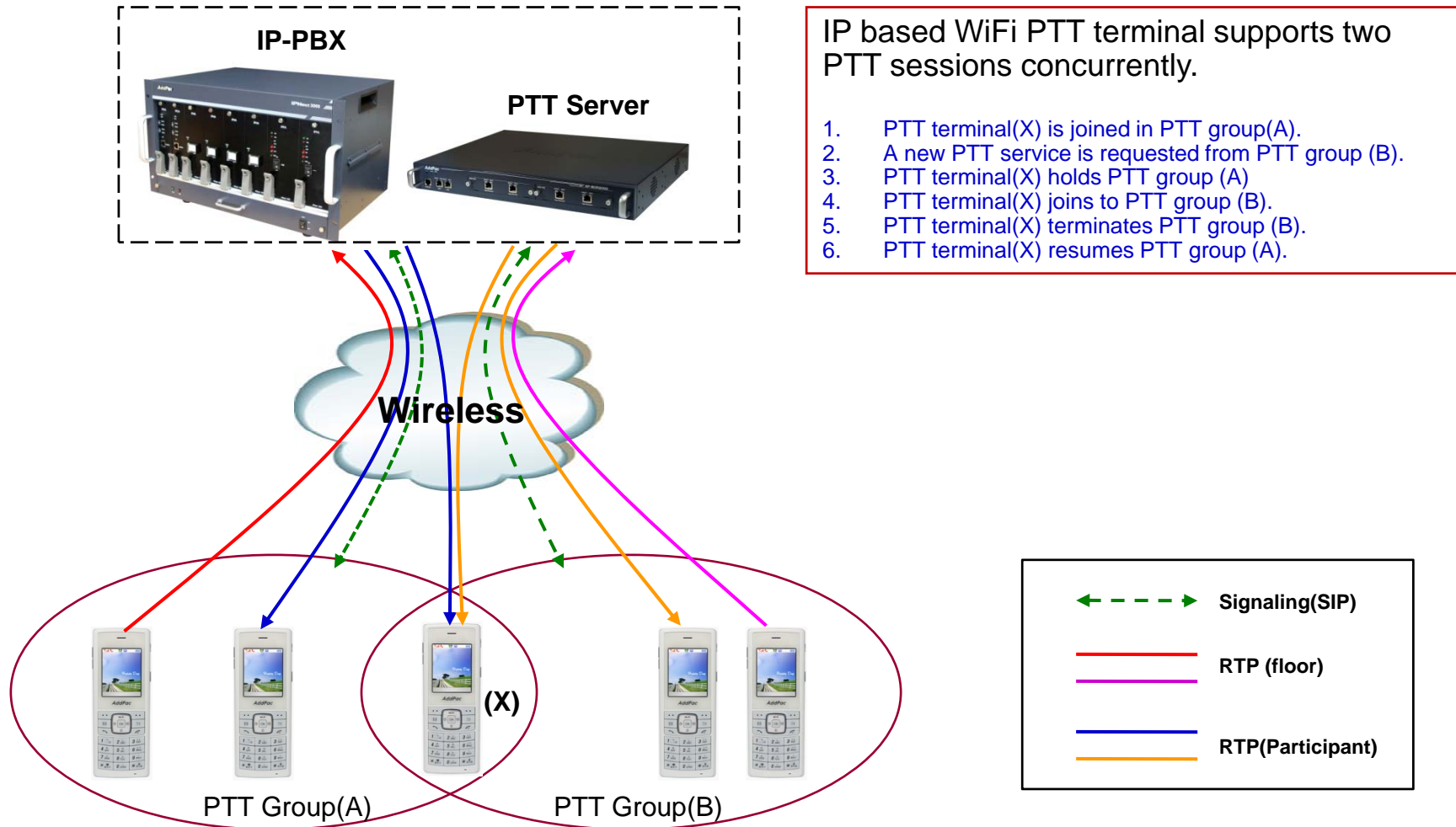
2012, Sales and Marketing

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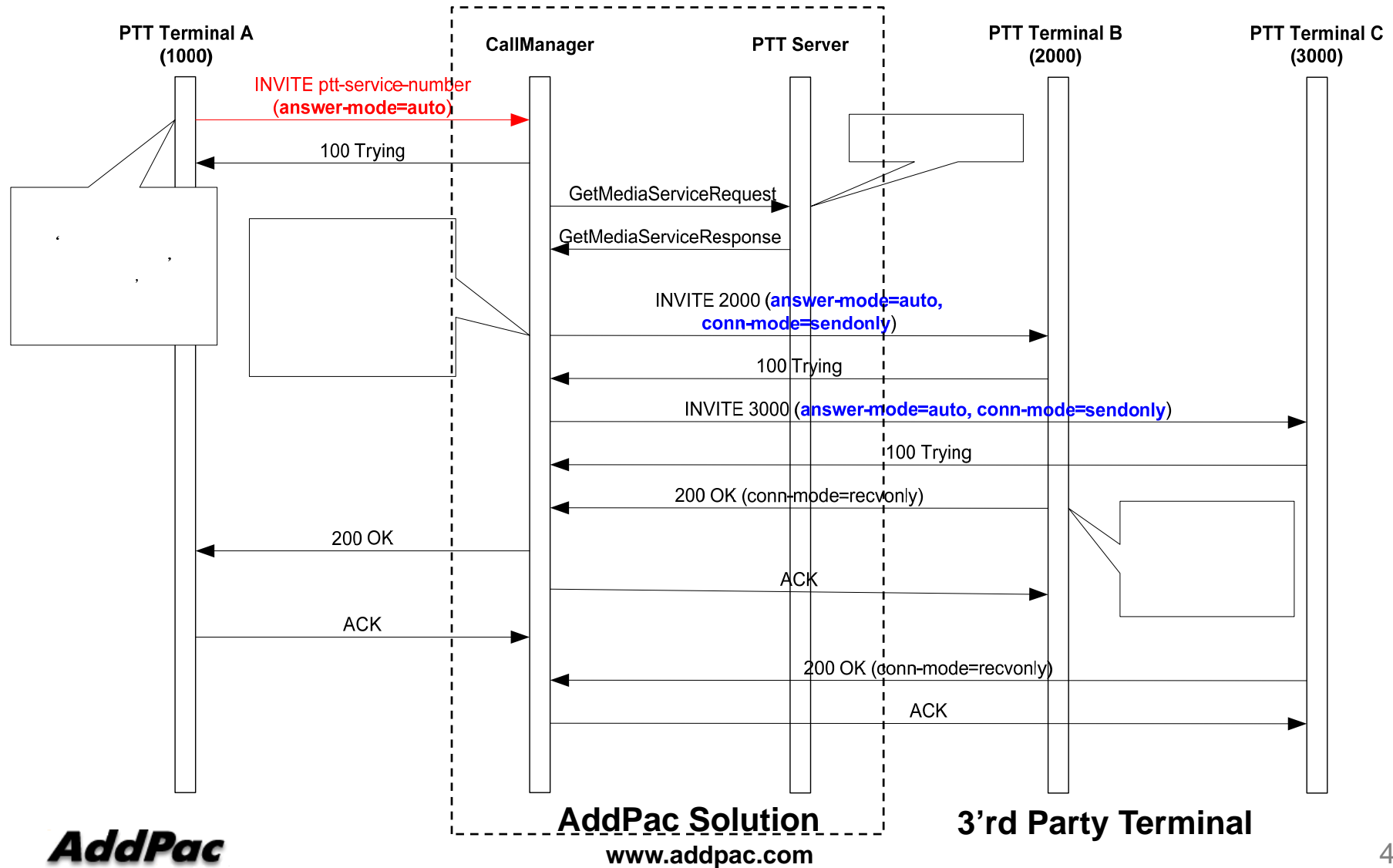
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# IP based PTT Network Diagram



# PTT Service Request Signal Flow



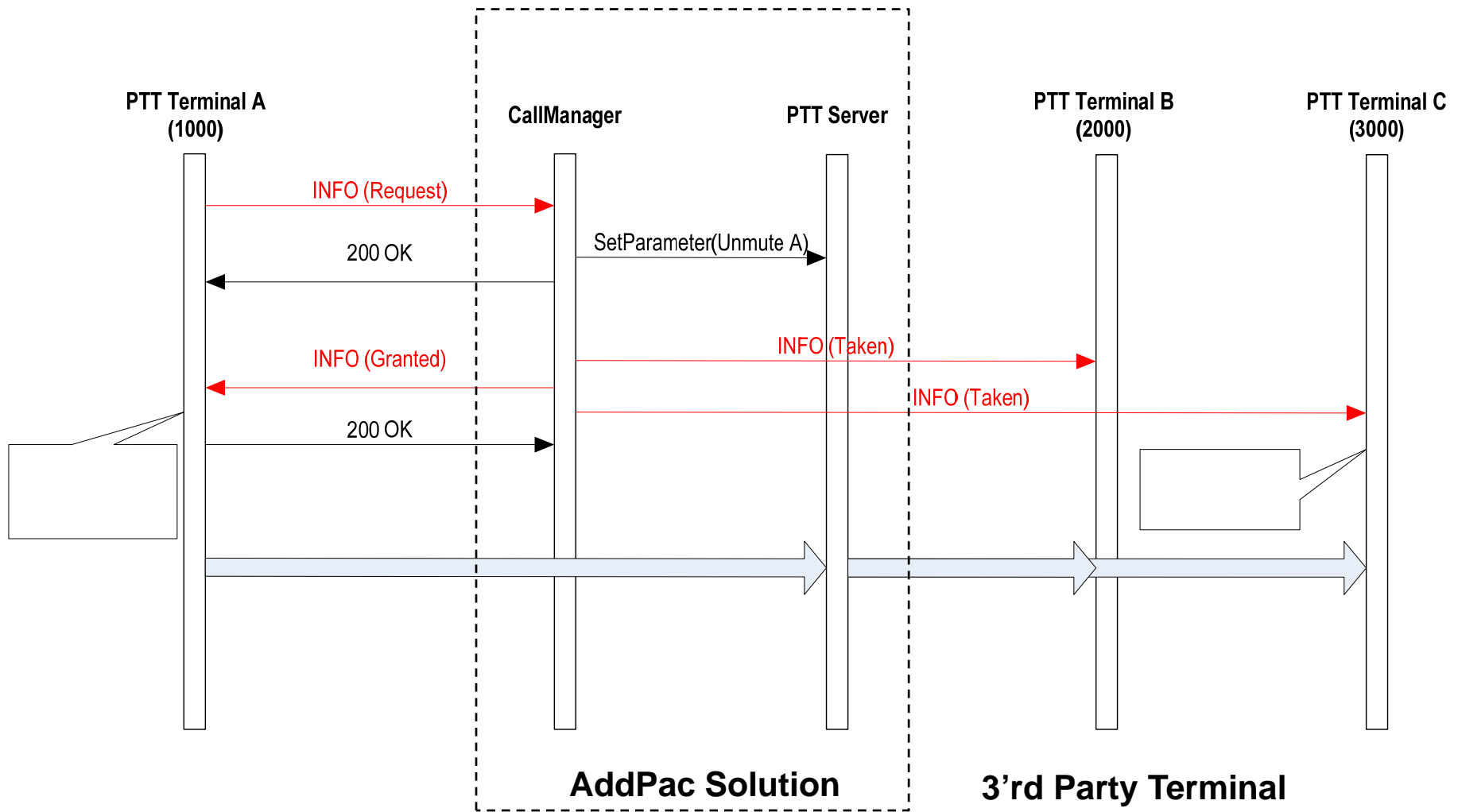
# PTT Service Request SIP Message (1/2)

```
INVITE sip:dial-service@172.17.250.250 SIP/2.0
Via: SIP/2.0/UDP 172.16.253.104:5060;branch=z9hG4bKe44bd1b9a42299
From: <sip:1012@172.16.253.104>;tag=e44bd1b9a4
To: <sip:dial-service@172.17.250.250>
Call-ID: e421744b-967e-d139-83b9-0002a402ba26@172.16.253.104
CSeq: 2299 INVITE
Supported: replaces, timer, 100rel, early-session
Min-SE: 1800
Date: Thu, 11 Feb 2010 GMT
Session-Expires: 1800
User-Agent: AddPac SIP Gateway
Contact: <sip:1012@172.16.253.104>
Accept: application/sdp
Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, UPDATE, PRACK, REFER, NOTIFY, INFO
Answer-Mode : Auto;push-to-talk
Content-Type: application/sdp
Content-Length: 461
Max-Forwards: 70
.....
```

# PTT Service Request SIP Message (2/2)

```
SIP/2.0 200 OK
Via: SIP/2.0/UDP 172.16.253.104:5060;branch=z9hG4bKe44bd1b9a42299
From: <sip:1012@172.16.253.104>;tag=e44bd1b9a4
To: <sip:dial-service@172.17.250.250>;tag=4f4bc140a4
Call-ID: e421744b-967e-d139-83b9-0002a402ba26@172.16.253.104
CSeq: 2299 INVITE
Session-Expires: 1800;refresher=uas
User-Agent: AddPac SIP Gateway
Contact: <sip:dial-service@172.17.250.250>
Answer-Mode : Auto;push-to-talk
Content-Type: application/sdp
Content-Length: 169
```

# PTT Floor Control Signal Flow



# PTT Floor Control SIP Message(1/3)

```
INFO sip:7777@172.17.250.250 SIP/2.0
Via: SIP/2.0/UDP 172.16.253.104:5060;branch=z9hG4bKc04bdabca42302
From: <sip:1000@172.16.253.104>;tag=c04bdabca4
To: <sip:7777@172.17.250.250>;tag=294b3497a4
Call-ID: c024744b-0de8-daf4-83bc-0002a402ba26@172.16.253.104
CSeq: 2302 INFO
P-Floor-Control : Request ; mb-priority-level =1
Content-Length: 0
```

**P-Floor-Control Message Types : Request, Granted, Deny, Release, Idle, Taken, Revoke**

**Parameters :**

- **P-count (Current number of participants)**
- **T2-timer(Max floor time)**
- **Mb-priority-level = 1 (normal priority), 2(high priority), 3(pre-emptive priority)**
- **Alert-margin (floor Remain Time)**



# PTT Floor Control SIP Message(2/3)

```
INFO sip:1000@172.17.250.250 SIP/2.0
Via: SIP/2.0/UDP 172.16.253.104:5060;branch=z9hG4bKc04bdabca42302
From: <sip:7777@172.16.253.104>;tag=c04bdabca4
To: <sip:1000@172.17.250.250>;tag=294b3497a4
Call-ID: c024744b-0de8-daf4-83bc-0002a402ba26@172.16.253.104
CSeq: 2302 INFO
P-Floor-Control : Granted ; p-count=20; t2-timer=60; alert-margin=10
Content-Length: 0
```

# PTT Floor Control SIP Message(3/3)

```
INFO sip:2000@172.17.250.250 SIP/2.0
Via: SIP/2.0/UDP 172.16.253.104:5060;branch=z9hG4bKc04bdabca42302
From: <sip:1000@172.16.253.104>;tag=c04bdabca4
To: <sip:2000@172.17.250.250>;tag=294b3497a4
Call-ID: c024744b-0de8-daf4-83bc-0002a402ba26@172.16.253.104
CSeq: 2302 INFO
P-Floor-Control : Taken ; p-count =100; user=1000@172.16.24.12;user-name=hong
Content-Length: 0
```



# IP based PTT Solution Components

# IPNext3000 Next Generation IP-PBX



# Main Features

## IPNext3000 Next Generation IP-PBX

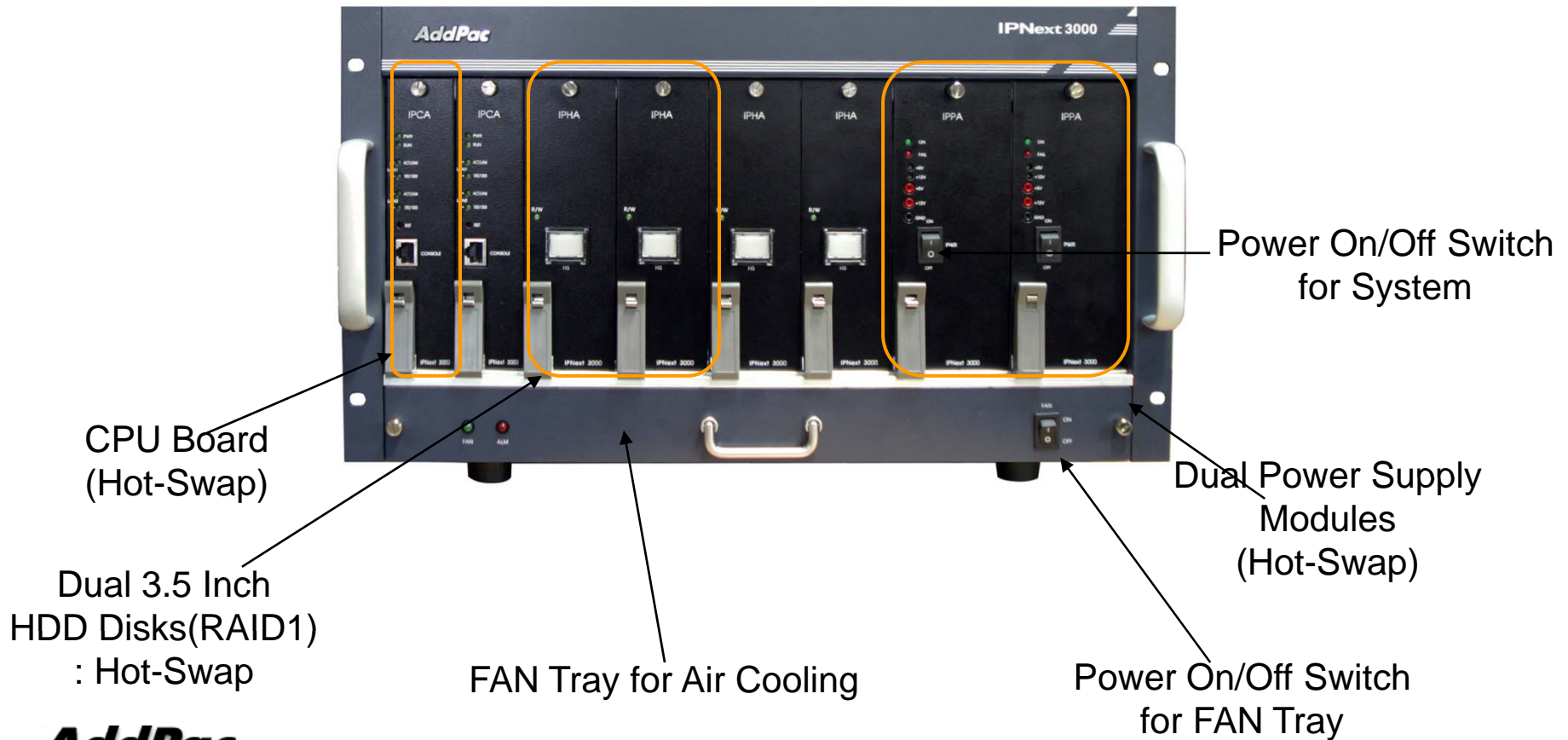
- Advanced IP-PBX Solution
- IPv4/IPv6 based Dual Network Protocol Support
- Internal/External RTP Proxy Function Support
  - External RTP Proxy Server for Private Address : AP-RS2000
- Internal/External Presence Function Support with Smart Messenger
  - External Presence Server : AP-PS2000
- Powerful Management and User Friendly Features
- Fault Tolerant and Scalability Architecture
- Firmware Upgradeable Architecture
- Dual System Redundancy Architecture
  - Two(2) 3.5 Inch Hard Disk (RAID 1) / System
  - Two(2) Gigabit Ethernet Interface / System
- Dual Redundancy Power Module
- Smart Multimedia Manager Software

# Hardware Specification

IPNext3000 Next Generation IP-PBX



## IPNext3000 Front Side

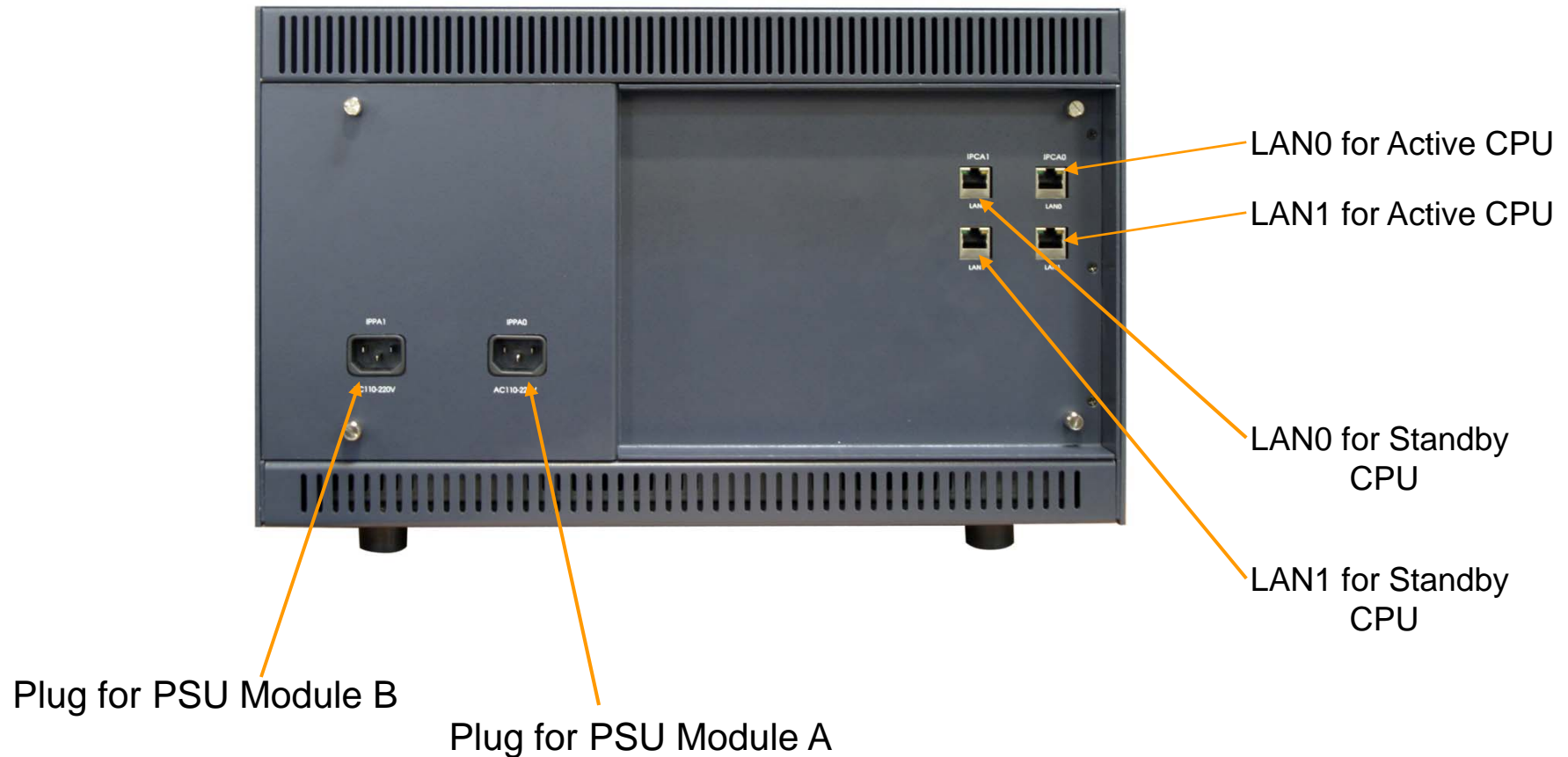


# Hardware Specification

IPNext3000 Next Generation IP-PBX



## IPNext3000 Back Side



# AP-PTS3000 PTT Server





# Main Features

## AP-PTS3000 PTT Server

- Two(2) Module Slots for PTT Broadcasting Service
- Two(2) Gigabit Ethernet Interface Module
- IP based PTT Service Support
- Dial-Out based PTT Service Support
  - Multi-Session , Multi-Group
  - PtMP(Point-to-Multipoint) Service
  - PtP (Point-to-Point) Service
- Meet-me based PTT Service Support(Optional)
- IP-PBX Interworking Service
- IP Terminal Interworking Service (Wi-Fi Phone, IP Phones)
- Advanced Networking Protocols
- Firmware Upgradeable Architecture
- PTT Solution with Outstanding Network Service Capability

# Network Service and Features

AP-PTS3000 PTT Server

## Basic Network Protocols

- ARP, IP, IPv6, TCP, UDP, ICMP, ICMPv6, SCTP, IGMP, MLD

## Routing Protocol

- IPv4 : Static
- IPv6 : Static

## Service Protocol

- FTP, Telnet, TFTP, DHCP Server/Relay, SNMP Server
- CDP (Cisco Discovery Protocol)
- DNS Resolver , DDNS(nsupdate)
- Bridge
- Syslog
- IP/IPv6 policy control (QoS)
- VPDN (Virtual Private Dial-up Network : L2TP Server)

# Network Service and Features

AP-PTS3000 PTT Server

## IPv4/IPv6 Interworking

- NAT/PAT for IPv4
- IP connect (formerly ip-share) and device cascade for IPv4
- IP/IP, IP/GRE tunneling
- NAT-PT
- 6to4, Autoconfig tunneling

## IPv4 Address Configuration

- Fixed (Static)
- DHCP
- PPPoE

## IPv6 Address Configuration

- Fixed (Static)
- EUI-64
- Autoconfig (Neighbor Advertisement and Solicitation)

# Network Service and Features

AP-PTS3000 PTT Server

## Miscellaneous

- Cisco Style CLI
- Standard & Extended IPv4/IPv6 Access List
- Multi-level User Account Management
- IP accounting
- fsh (Embedded file system shell)
- STUN Client
- etc

# Network Service and Features

AP-PTS3000 PTT Server

## **SNMP MIBs**

- MIB-II
- RMON MIBs (Statistics, History, Alarm, Hosts Group)
- RFC2465 Management Information Base for IP Version 6: Textual Conventions and General Group
- RFC2466 Management Information Base for IP Version 6: ICMPv6 Group
- RFC2452 IP Version 6 Management Information Base for the Transmission Control Protocol
- RFC2454 IP Version 6 Management Information Base for the User Datagram Protocol
- AddPac Enterprise MIBs
- etc

# Hardware Specification

AP-PTS3000 PTT Server

64bit  
CPU

- Network Module (AP-AIM2-GE2)
  - Two(2) Port Gigabit Ethernet Module

One(1) RS232C Port for CLI



Two(2) Fast Ethernet for management

Two(2) Gigabit Ethernet for PTT Service

# AP-IP300 IP Phone for PTT Service



# Main Features

## AP-IP300 IP Phone

- 4.3 Inch Color LCD Display
- External I/O Interface
  - Audio In/Out
  - Two(2) Fast Ethernet Interface
  - PSTN FXO Interface (optional)
- PoE (Power over Ethernet) Support
- 25 Speed Dial button with Presence Indication Lamp
- Audio Broadcasting Controller & Terminal
- Providing Powerful Push-to-Talk Service
- Powerful Color GUI
- IPv4/IPv6 Address Support
- SIP, H.323 Signaling Support
- High-end Error Resilient Against Various Packet Error



# Hardware Specification

## AP-IP300 IP Phone

- RISC+DSP Microprocessor Computing Power (Dual Processor Architecture)
- High Quality 4.3 Inch Color LCD Panel
- 25 Speed Dial Key & User Presence Indication LED
- Optional PSTN Backup Interface
  - FXO Interface
- High quality Audio and Voice Interface
  - Stereo Audio Input Connector
  - Stereo Audio Output Connector
- Network Interface
  - Two(2) 10/100Mbps Fast Ethernet
- USB Host Mode Interface
  - USB Memory(Flash, HDD), etc
- Power Supply
  - Power over Ethernet
  - External Power Adaptor (5V, 3A)



# Hardware Specification

AP-IP300 IP Phone



# AP-IP230 IP Phone for PTT Service



# Main Features

## AP-IP230 IP Phone

- 5 Inch Color LCD Display with Touch Screen
- External I/O Interface
  - Audio In/Out
  - Two(2) Fast Ethernet Interface
  - PSTN FXO Interface (optional)
- PoE (Power over Ethernet) Support
- Touch Screen based 25 Speed Dial button with User Presence Indication
- Audio Broadcasting Controller & Terminal
- Providing Powerful Push-to-Talk Service
- Powerful Color GUI
- IPv4/IPv6 Address Support
- SIP, H.323 Signaling Support
- High-end Error Resilient Against Various Packet Error

# Hardware Specification

## AP-IP230 IP Phone

- RISC+DSP Microprocessor Computing Power (Dual Processor Architecture)
- High Quality 5 Inch Color LCD Panel with Touch Screen
- Touch Screen based 25 Speed Dial Key & User Presence Indication Info.
- Optional PSTN Backup Interface
  - FXO Interface
- Optional PoE Interface
- High quality Audio and Voice Interface
  - Stereo Audio Input Connector
  - Stereo Audio Output Connector
- Network Interface
  - Two(2) 10/100Mbps Fast Ethernet
- USB Host Mode Interface
  - USB Memory(Flash, HDD), etc
- Power Supply
  - Power over Ethernet
  - External Power Adaptor (5V, 3A)



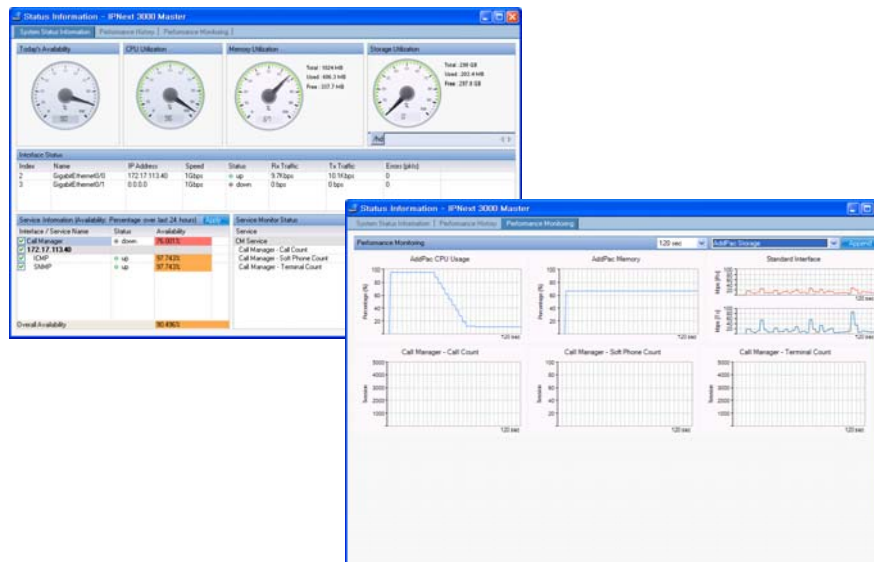
# Hardware Specification

AP-IP230 IP Phone



PTT Button

# NMS System for PTT Solution



# System Requirement

## Network Management System for PTT Server

### **NMS Server**

- OS : RHEL (Redhat Enterprise Linux) 5.0 or higher
- CPU : Quad-Core 2.0 GHz / 1333MHz FSB 2x4 MB cache
- Physical Memory : 4 GB
- HDD : 300 G
- JRE (Java Runtime Environment) 1.5.1 or Higher
- Database : PostgreSQL 8.1.11

### **NMS Client**

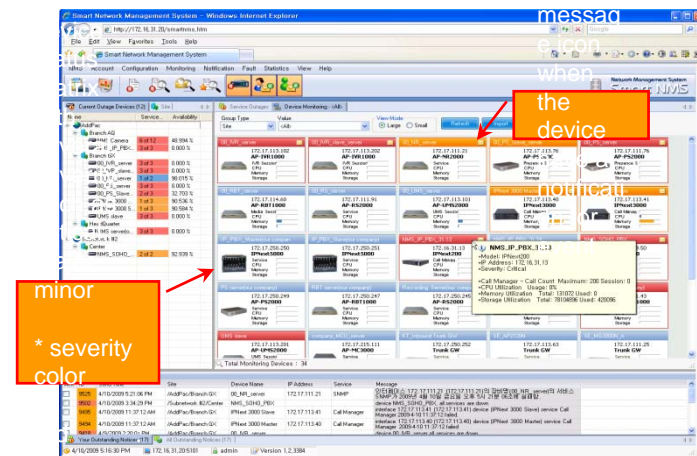
- Windows XP, Vista, Windows Server 2000/2003
- Microsoft Internet Explorer 6.0 or higher



# Main Features

## Network Management System for PTT Server

- Server & Client Architecture
- Web-based Management
- Network Resource Management
- Device Fault Management
- Device Fault History Management
- Device Status Information
- Notification Management
- Fault Statistics
- Model & Service Management





# Thank you!

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