

# PTT Multicasting Scheme

AP-PTS3000  
PTT Server



AP-IP300 PTT  
IP Phone



IPNext3000  
IP-PBX



AP-IP230 PTT  
IP Phone

**AddPac**

**AddPac Technology**

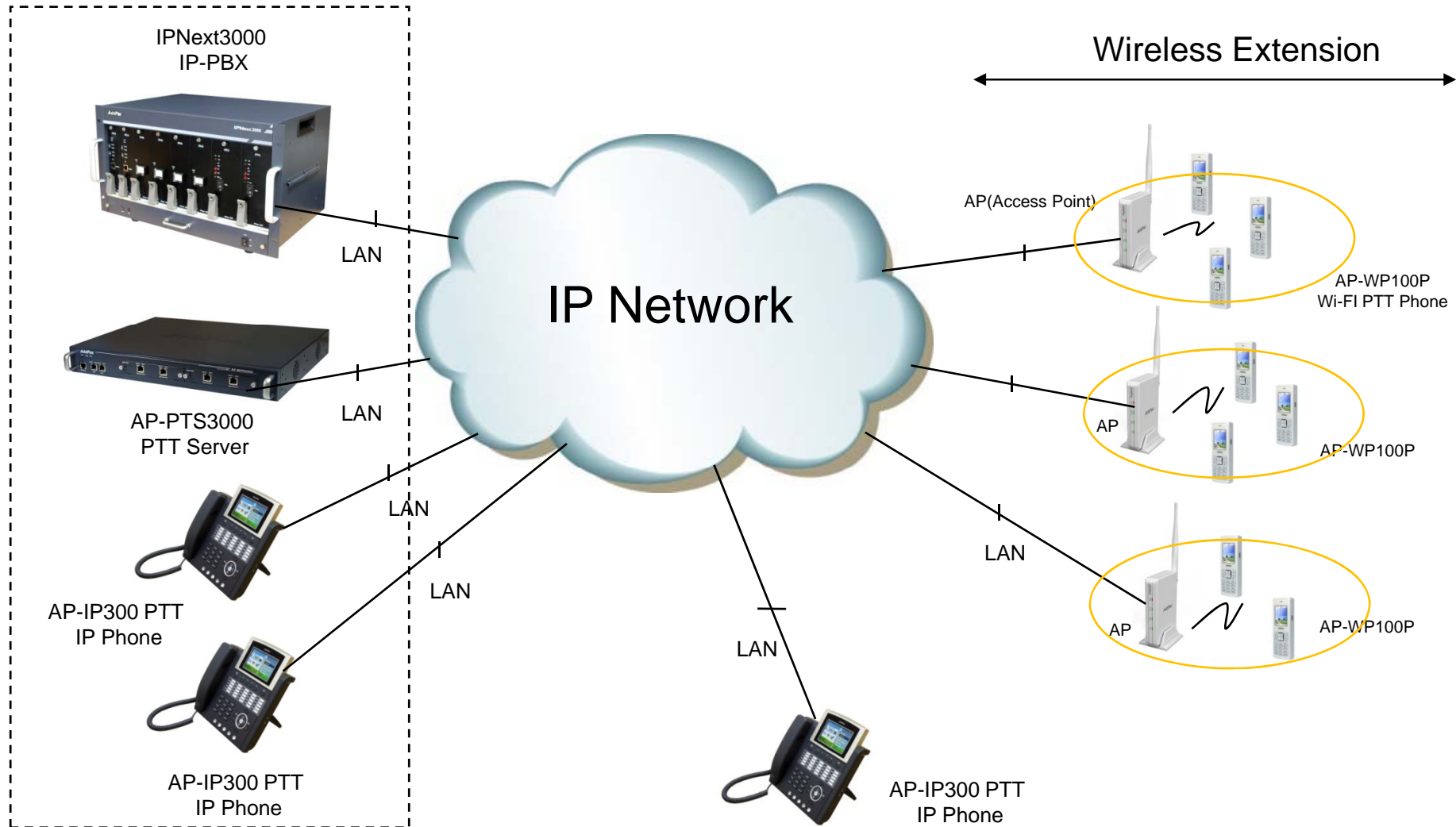
2011, Sales and Marketing

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- PTT Solution

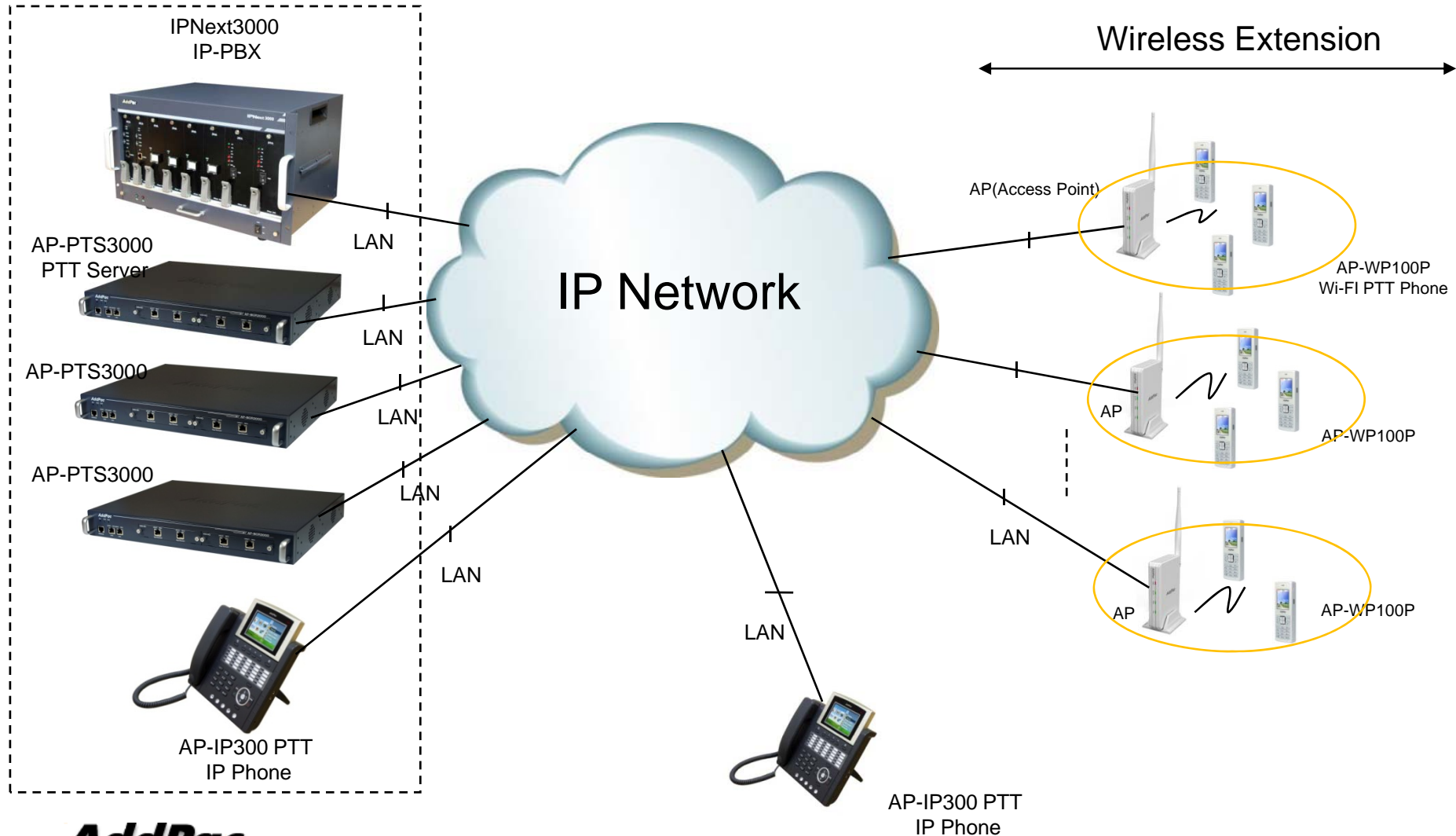
# PTT Broadcasting Service Diagram

Small Scale Solution



# PTT Broadcasting Service Diagram

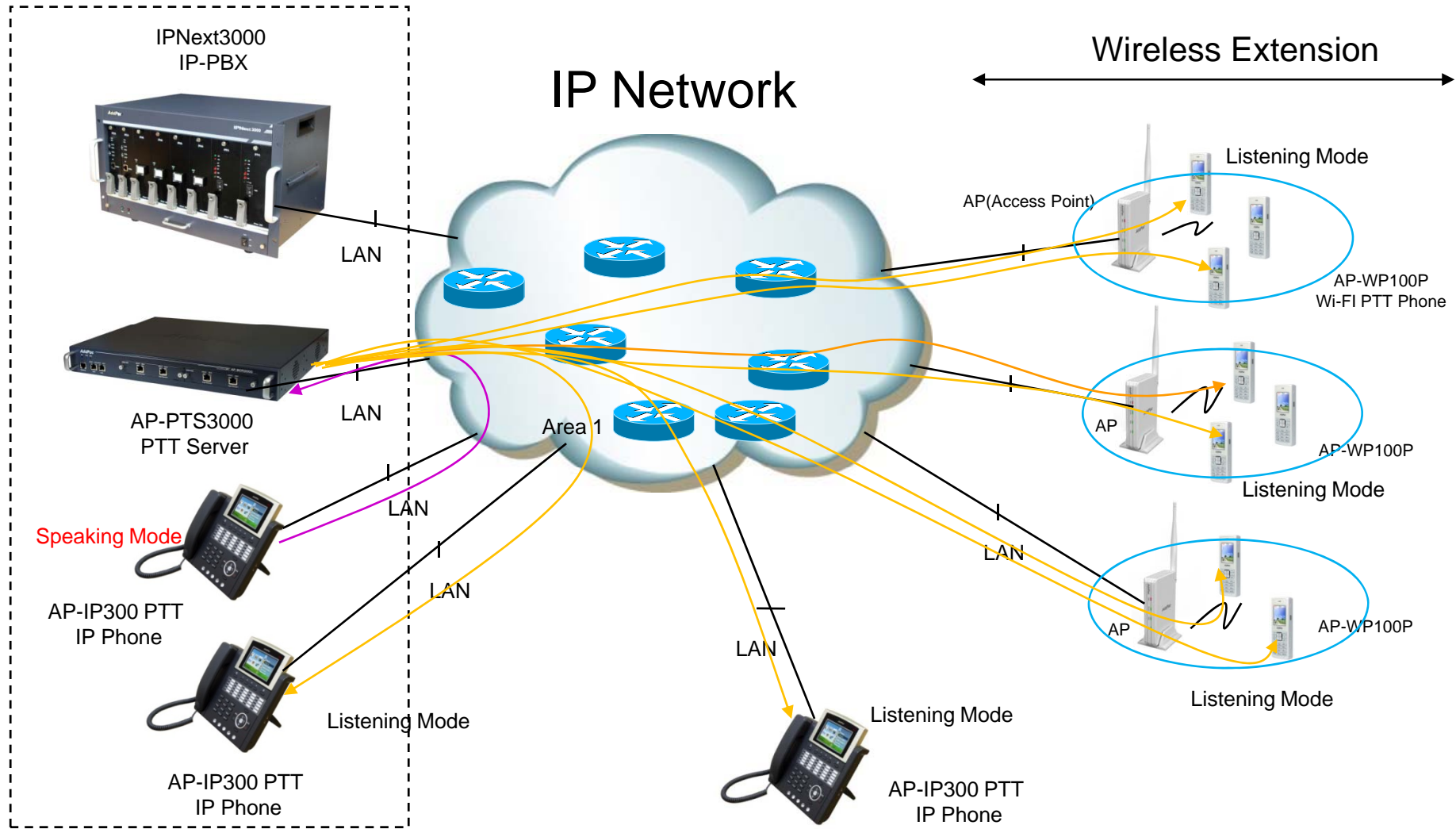
Large Scale Solution





# PTT Unicasting Scheme

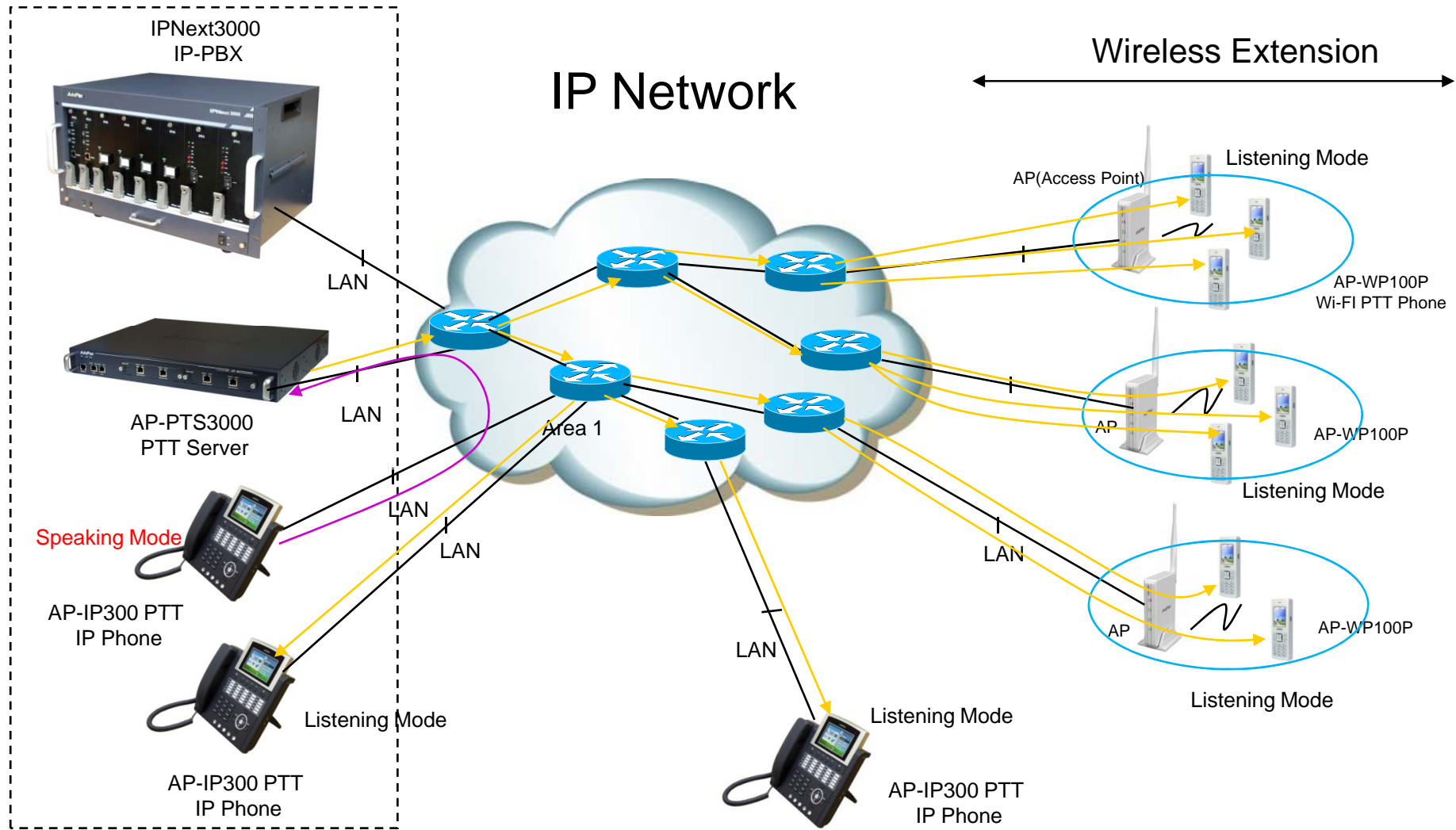
# PTT Unicasting Service Diagram





# PTT Multicasting Scheme

# PTT Multicasting Service Diagram





# Multicasting Service Configuration

## SMM : Smart Multimedia Manager

The screenshot displays the Smart Multimedia Manager (SMM) interface. On the left, a tree view shows the navigation structure, with 'Configuration' > 'PTT Group' highlighted (1). The main area shows a table of existing PTT Groups:

No.	Name	Number	Partition	Description
1	Default			
2	test1	8000		
3	test2	8001		
4	test3	8002		
5	test4	8010		
6	test5	8009		
7	test6	8011		
8	test7	8015		

A context menu is open over the 'PTT Group' entry, with 'Add Group' selected (2). The 'Add a New PTT Group' dialog box is open, showing the following configuration options:

- Group Name: Multicast-PTT (3)
- Description: (empty)
- Number: 8080 (4)
- PTT Server Cluster: PTT (5)
- Partition: N/A (5)
- Audio Codec: Class: default (5)
- Group Priority: 3 (Zero is high priority)
- Max Session Idle Time: 15 seconds (6)
- Max Floor Hold Time: 30 seconds (6)
- Broadcast: (unchecked)
- Close on initiator out: (checked) (6)
- Multicast: (checked) (7)
- IP Address: 224.1.1.10 (Valid) (7)
- Port: 9010 (7)

The dialog box also includes 'Ok' and 'Cancel' buttons. The status bar at the bottom shows the system date and time (2011-09-21 오전 11:18:40), version (3.10.4035), and user information (root : Administrator).

# Multicasting Service Configuration

## SMM : Smart Multimedia Manager

Number	Description
1	PTT Configuration Menu (PTT Group Create, Modify, Delete, etc)
2	New PTT Group Add by Mouse right button click
3	PTT Group Name Setting
4	PTT Group Number Setting
5	PTT Server Setting
6	PTT Group Session Configuration : Maximum Session Idle Time, Maximum Floor Holding Time, etc
7	Configure IP address, UDP/RTP port for Multicasting
8	Terminal number setting for PTT Group Join

# Router & Switch Multicast Configuration(Ex; cisco))

## BSR/RP Router (Root) CLI

```
!  
interface FastEthernet0/0  
ip address 172.16.8.20 255.255.0.0  
multicast  
speed auto  
multicast-all  
ip pim sparse-mode  
ip pim version 2  
!  
interface FastEthernet0/1  
ip address 30.1.1.1 255.255.0.0  
multicast  
speed auto  
multicast-all  
ip pim sparse-mode  
!  
!  
ip multicast-routing  
ip pim bsr-candidate 172.16.8.20 masklen 4 priority 200  
ip pim rp-candidate 172.16.8.20 holdtime 150 priority 200  
!
```

## Non RP Router CLI

```
!  
interface FastEthernet0/0  
ip address 172.16.8.48 255.255.0.0  
multicast  
speed auto  
multicast-all  
ip pim sparse-mode  
ip pim version 2  
!  
interface FastEthernet0/1  
ip address 20.1.1.1 255.255.0.0  
speed auto  
ip pim sparse-mode  
ip pim version 2  
!  
ip multicast-routing  
!
```



# IP based PTT Solution Components

# IPNext3000 Next Generation IP-PBX



# Main Features

## IPNext3000 Next Generation IP-PBX

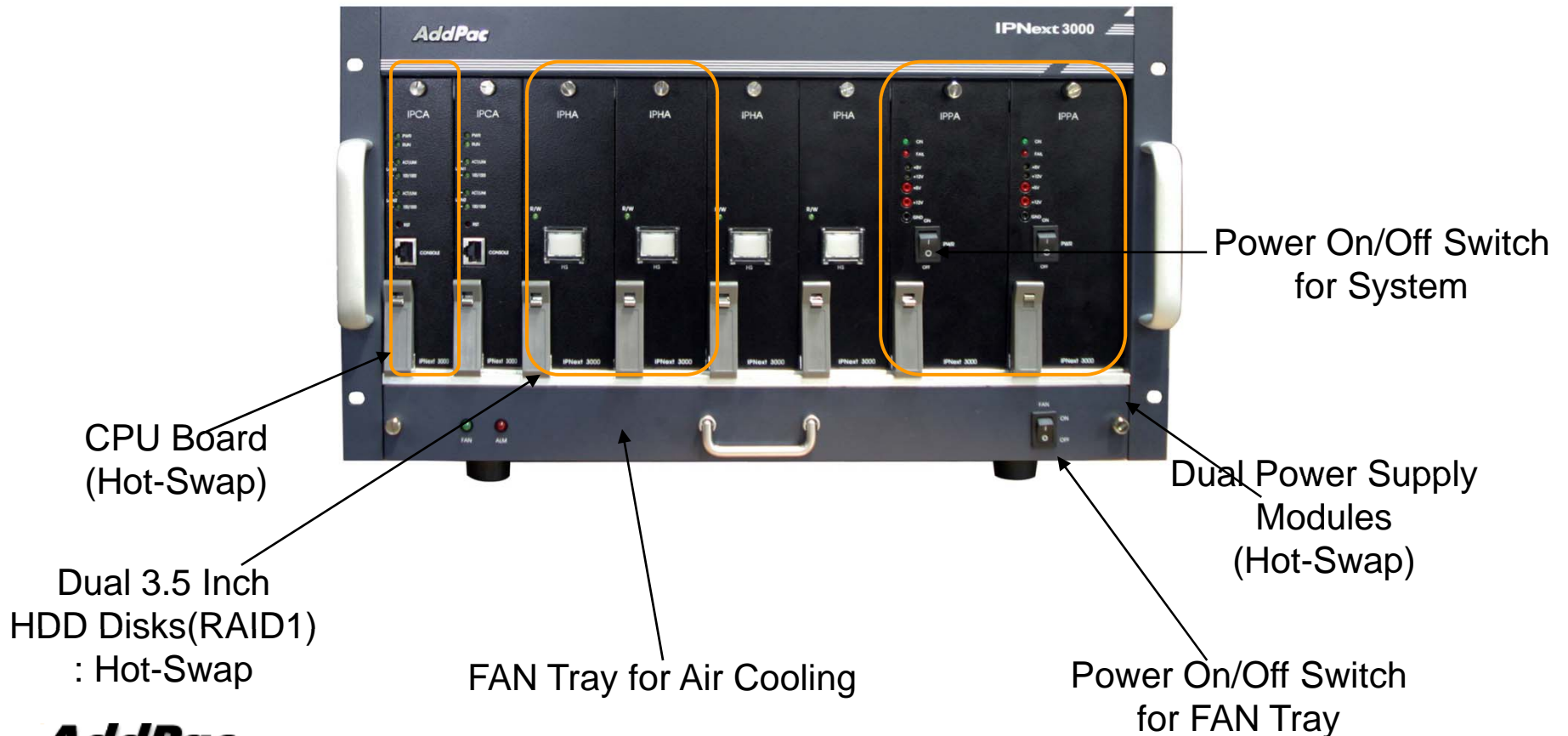
- Advanced IP-PBX Solution
- IPv4/IPv6 based Dual Network Protocol Support
- Internal/External RTP Proxy Function Support
  - External RTP Proxy Server for Private Address : AP-RS2000
- Internal/External Presence Function Support with Smart Messenger
  - External Presence Server : AP-PS2000
- Powerful 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

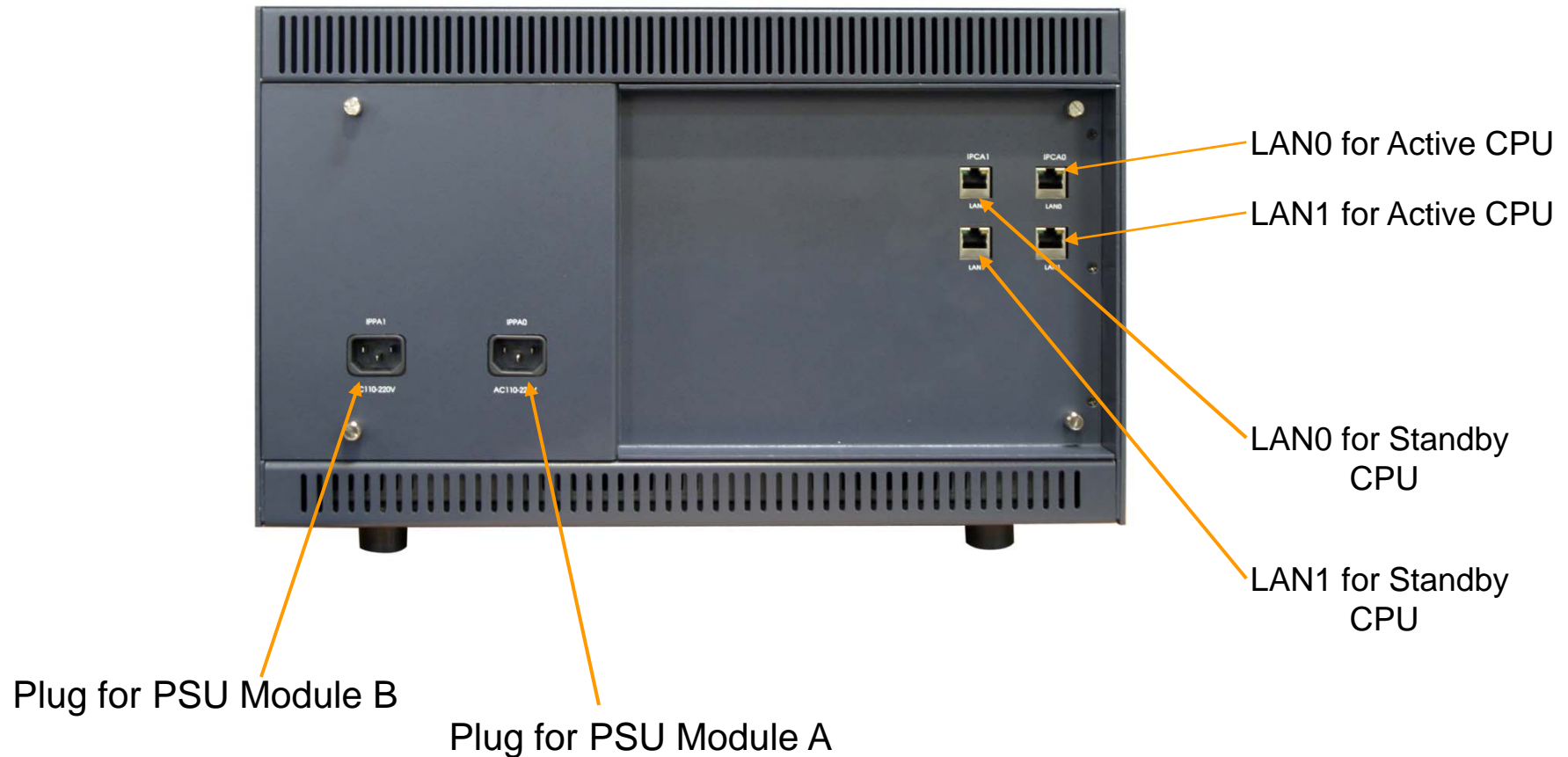


# Hardware Specification

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



**AddPac**

[www.addpac.com](http://www.addpac.com)



# 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)

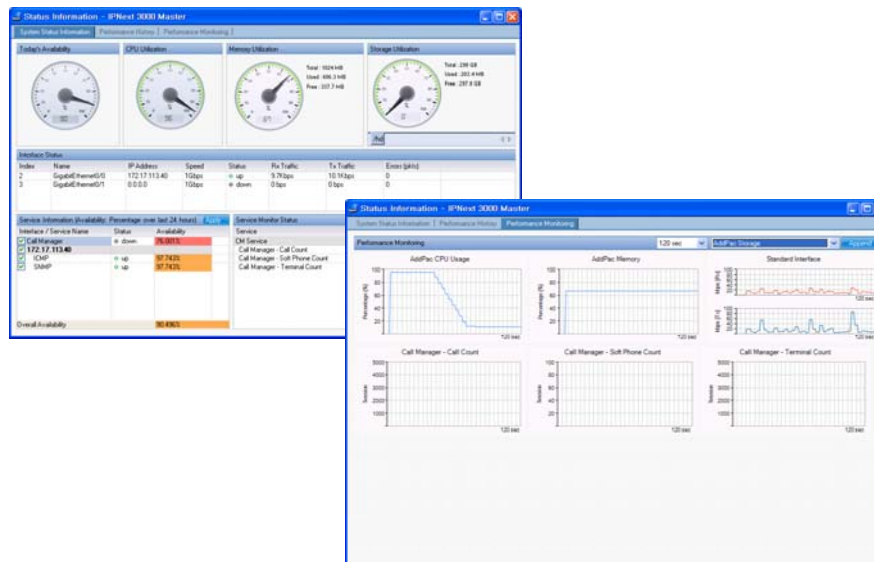


# Hardware Specification

AP-IP230 IP Phone



# NMS System for RoIP 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

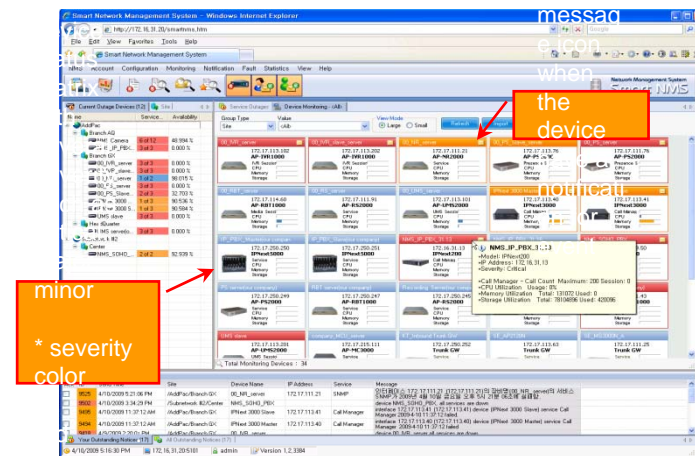
### **NMS Client**

- 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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