



IPNext100

Small, Powerful IP-PBX

Next Generation IP-PBX System for the Small Business
and Home Office

Preliminary Product Overview



AddPac

AddPac Technology

Sales and Marketing

www.addpac.com

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Product Overview

IPNext100 Next Generation IP-PBX

- SIP Application Server, Proxy, Registrar and Location Server
- Multiple ITSP Trunk with SIP & H.323 Accounts Support
- High Performance RISC & Programmable DSP Architecture
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- One(1) USB Port for USB Memory and Wireless LAN
- Up to Two(2) FXS, Two(2) FXO VoIP Interface
- High Performance LAN-to-LAN Routing Capability
- VoIP Gateway : G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- IPv4/IPv6 Dual Stack
- RTP Proxy Function Embedded for Private IP and IPv6 Address Interworking
- IVR Scenario Editor, Voice Mail, Third Party Conference (G.711, G.726)
- Firmware Upgradeable Architecture
- Smart Multimedia Manager for IP-PBX Management
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Small, Light and Compact Design
- Power Switch for Stability and Status LEDs

Product Highlights

IPNext100 Next Generation IP-PBX

Advanced IP-PBX Features

VPMS Large Scale VoIP Gateway Management Support

Small, Light and Compact Design

Excellent Voice Quality
G.729/G.723/G726/G.711

High Performance RISC CPU & Programmable DSP

Smart Multimedia Manager

Two(2) 10/100Mbps Fast Ethernet, Two(2) USB Interface

APOS™ Technology
Firmware Upgradeable Architecture

High Performance LAN-to-LAN Packet Processing

Powerful Network Protocol Support

RTP Proxy for Private IP and IPv6

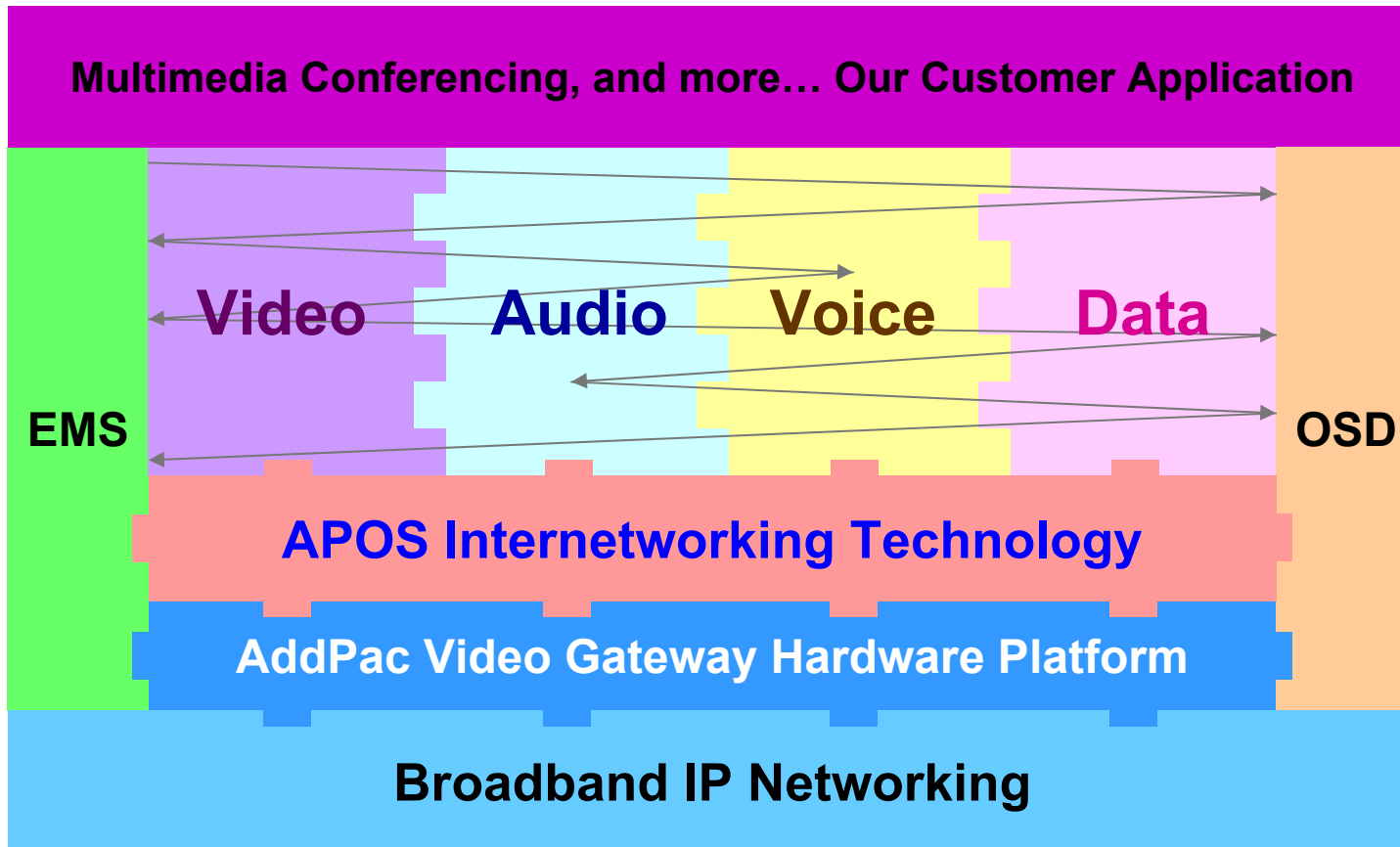
Advanced Voice Traffic QoS Mechanism

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APOS Technology

IPNext100 Next Generation IP-PBX



- APOS : AddPac Internetworking Operating System
- OSD : On- Screen Display
- EMS : Element Management System

Hardware Specification

IPNext100 Next Generation IP-PBX

RISC
CPU

High-end
DSP

- **RISC Microprocessor Computing Power**
- **+ High End Programmable DSP**
- **VoIP Gateway Interface**
 - IPNext100 Model A: Two(2) FXS Port
 - IPNext100 Model B: Two(2) FXO Port
 - IPNext100 Model C: Two(2) FXS Port + Two(2) FXO Port
- **Network Interface**
 - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- **USB Interface**
 - One(1) USB Host Mode Interface for USB Memory and Wireless LAN
- **Power Supply**
 - External Power Adaptor
- **Power On/Off Switch**
- **Power LED, LAN LEDs, FXS, FXO Port LEDs**

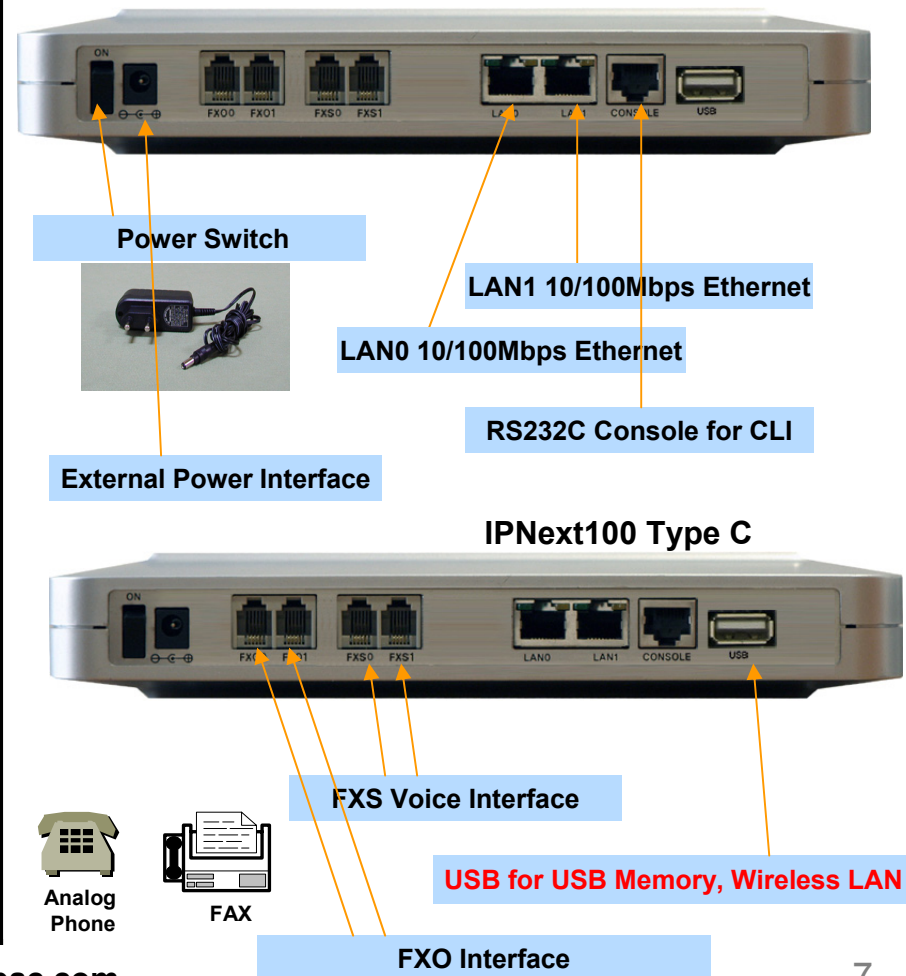
Hardware Specification

IPNext100 Next Generation IP-PBX

Hardware Specifications

IPNext 50 Series	Basic Specifications
CPU	High End RISC Microprocessor
Voice Interface	2FXS, 2 FXO, 2FXS 2FXO Voice Interface(RJ-11)
Ethernet Interface	2-Ports 10/100Mbps Ethernet Interface(RJ-45)
Flash Memory	16Mbyte High-speed Flash Memory
System Main Memory	128Mbyte High-speed SDRAM
USB Interface	USB Host Mode Interface for USB Memory, Wireless LAN, USB Hub. Multiple USB Device (USB HDD, USB Flash Memory, USB Wireless LAN, Concurrently Support using External USB Hub and Power Adaptor. External USB Memory can be used for large capacity Video or Voice Mail.
Power Requirement	External Power Supply Adaptor / VAC 110~220V, 50/60Hz
Operating Temperature	0°C ~ 45°C (32 °F ~ 122°F)
Storage Temperature	-40°C ~ 85°C (-40°C ~ 185°F)
Relative Humidity	5% ~ 95% (Non-condensing)
Dimensions	43 x 265x 165(H x W x D)

Network interface Configurations



IP-PBX Features

IPNext100 Next Generation IP-PBX

- **Signaling Server**

- SIP Application Server, Proxy, Registrar and Location Server (RFC3261)
- Multiple ITSP Trunk with SIP & H.323 Accounts Support
 - IP UA Client Role for Registering to ITSP SIP Server
 - H.323 Gatekeeper Client Role for Registering to ITSP H.323 Gatekeeper Server

- **IVR & Auto Attendant**

- Default Auto Attendant Support
- Interactive Voice Response (IVR)
 - Provides with GUI-based Smart IVR Scenario Editor
 - Upload/Download Scenario by Smart IVR Scenario Editor
 - Supports Multiple Concurrent Scenarios
 - Supports Recordable IVR Prompts

- **Voice Mail**

- Support Voice Mail with IVR
- Access from Remote Site via Trunk Support
- Voice Mail Notification Support



IP-PBX Features

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- **Conference**

- G.711 u-law, G.711 a-law, G.726 Internal 3-Party Audio Conference Support
- Ad-hoc Conference
- Dial-Out Conference
- Meet-me Conference
- Multiple External MCU support(Video, Audio, etc) : AddPac AP-MC1000, etc
- Conference Chair and Participants Management

- **Music & Announcement**

- Music on Hold
- Replaceable Announcements
- Dialing Music / Tone Service



IP-PBX Features

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- **Number & Call Routing**

- Trunk Hunting by Preference or Sequential
- Call Hunting by Preference, Simultaneous, Random
- Call Hunting by Chained Hunting Group
- Partition for Address Grading
- Call Class for Call Access Control
- Number Translation Rule for Inbound/Outbound Call
- Centrex with Prefix Support
- Multiple Shared Devices with One Number
- Multiple Numbers on One Device
- Individual Call Park within Park Number Pool
- Group Call Park within a Group or Other Group
- Call Pickup of Ringing Call of Same Group or Other Group
- Call Pickup of Parked Call
- Call Transfer - Blind, Consult
- Call Forwarding - Unconditional, Busy, No Answer, Voice Mail
- Call Waiting
- Call Swapping
- Call Hold

IP-PBX Features

IPNext100 Next Generation IP-PBX

- **IP-PBX Advanced Features with AddPac IP, Video Phones**

- Multiple Call Handling with Call Status and Calling Line Number and Name
- Plug and Play with Auto Discovery Function
- Softkey Map Download and Control
- Time and Date Setting
- Voice Mail List View
- Parked Call List View
- Call Forward Setting
- Recent Call List View
- Calling Number and Name Identification
- Individual Call Park within Park Number Pool by Softkey
- Group Call Park within a Group or Other Group by Softkey
- Call Pickup of Ringing Call of Same Group or Other Group by Softkey
- Call Pickup of Parked Call by Softkey
- Call Transfer - Blind, Consult by Softkey
- Call Waiting Indication
- Call Swapping by Softkey
- Call Hold by SoftKey
- Conference Control

IP-PBX Features

IPNext100 Next Generation IP-PBX

- **User & Device Management**
 - LDAP(Lightweight Directory Access Protocol) Support
 - Supports Hierarchical Organization
 - Auto Discovery of IP Phones & Video Phones
 - Monitoring Status of Phones
- **Miscellaneous***
 - **Distinctive Ring by Calling User**
 - **Auto Config & Upgrade**
 - **Intercom**
 - **Personal Directory**
 - **Downloadable Ring**
 - **Do not Disturb**

RTP Proxy Function

IPNext100 Next Generation IP-PBX

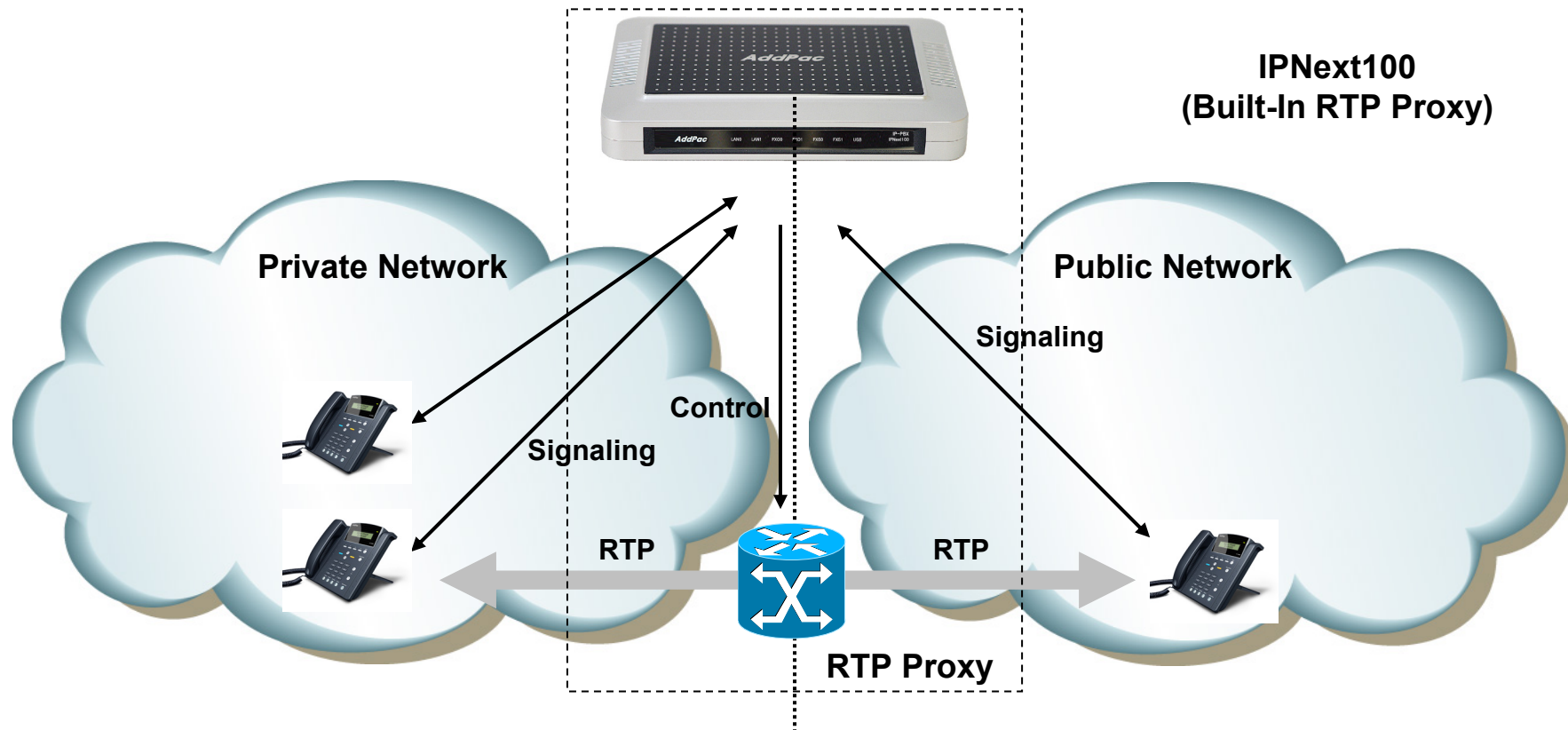
- Protocol Independence (H.323, SIP)
- Built-In RTP Proxy for Small Office
- Support RTP Proxy without NAT
- Support Symmetric / Asymmetric NAT
- Support IPv4/IPv6 RTP Proxy
- Support RTP Broadcast
- Support RTP Conference



RTP Proxy Features

IPNext100 Next Generation IP-PBX

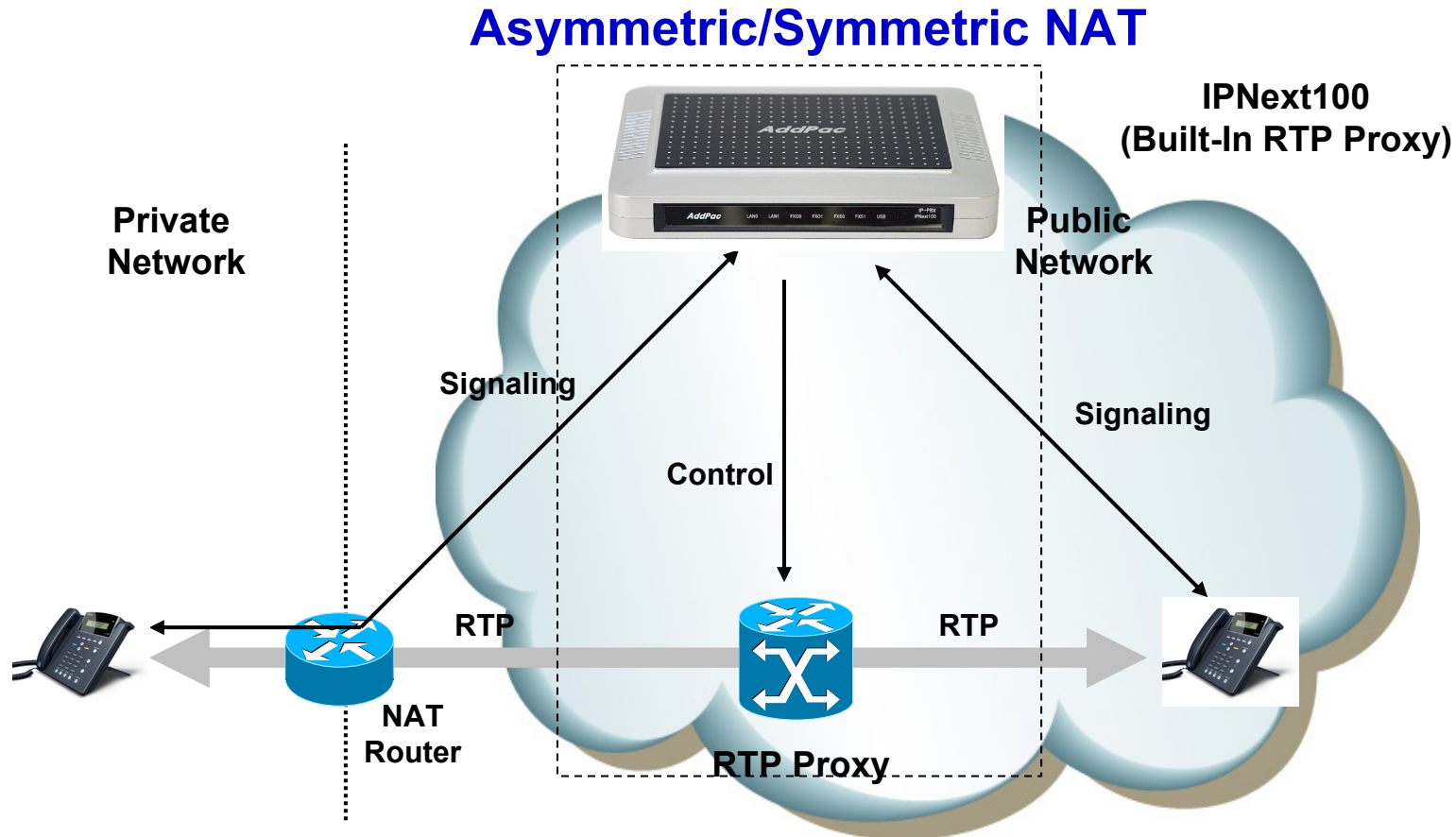
Public/Private RTP Proxy without NAT Router



- Located between public and private network
- Call manager and RTP proxy has public and private address
- Call manager determine that the call is internal or external

RTP Proxy Features

IPNext100 Next Generation IP-PBX

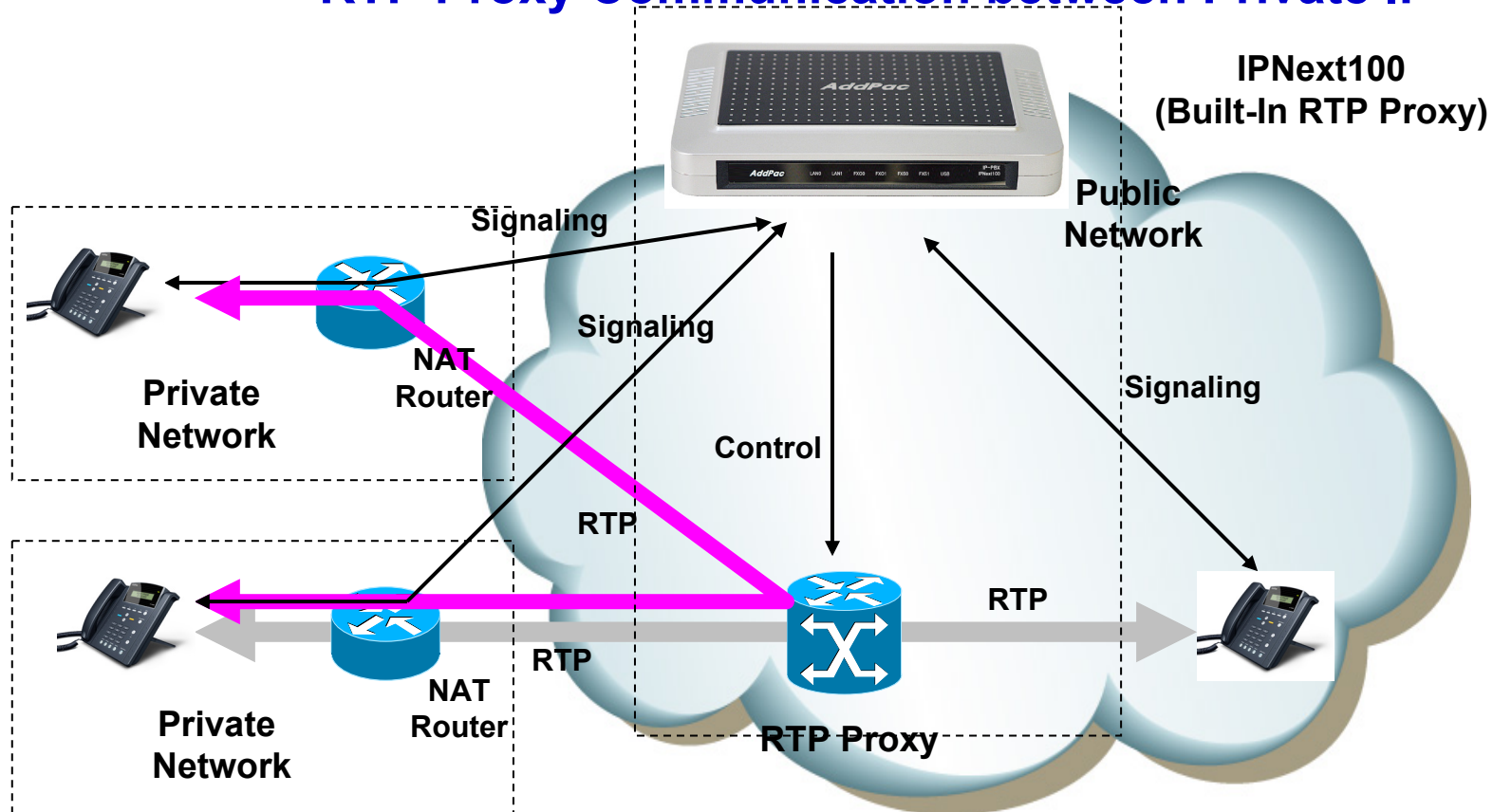


- Located in public network
- RTP Proxy has single public address
- Auto detect for asymmetric NAT via incoming RTP packet

RTP Proxy Features

IPNext100 Next Generation IP-PBX

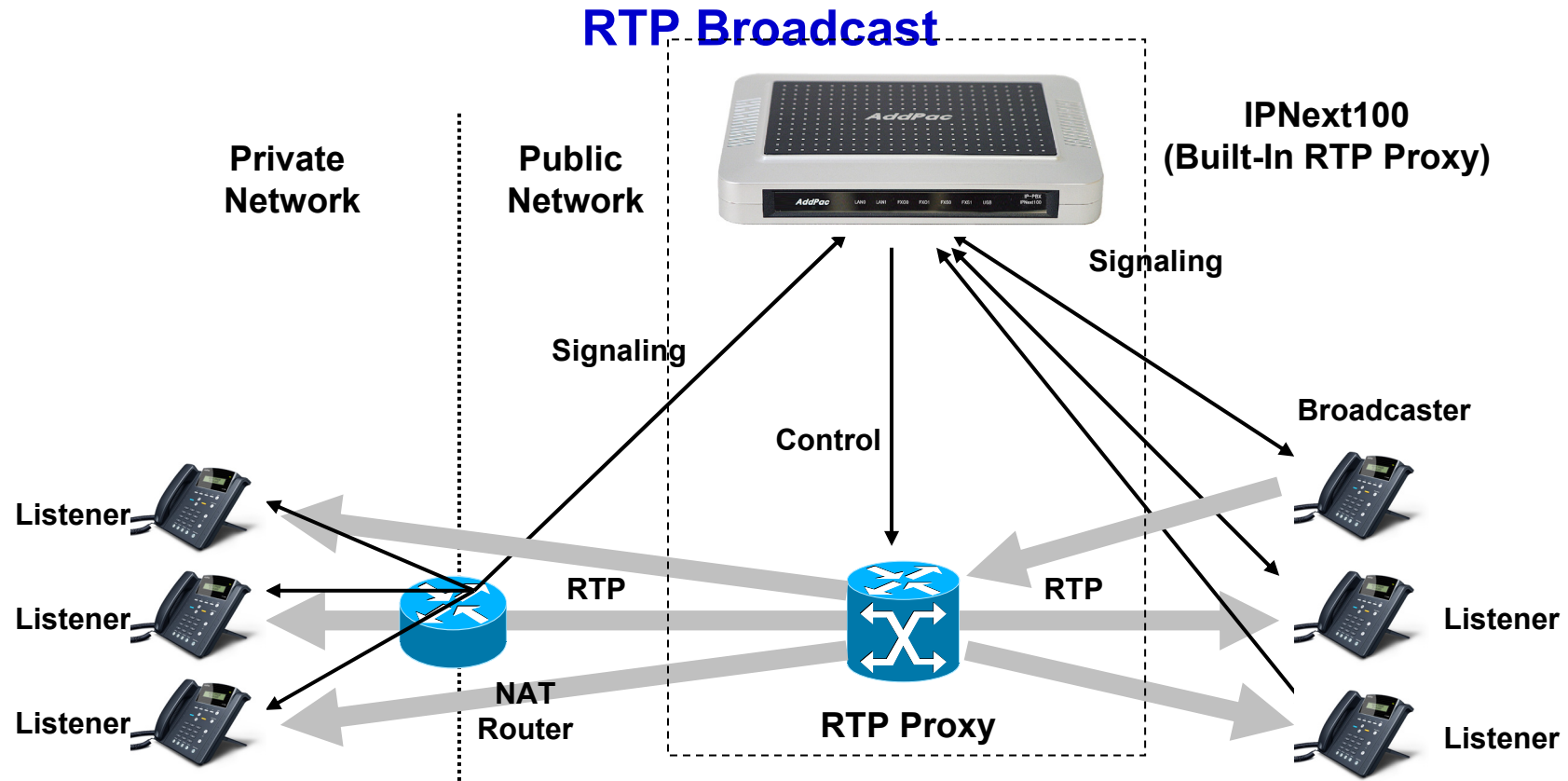
RTP Proxy Communication between Private IP



- Located in public network
- RTP Proxy has single public address
- Auto detect for asymmetric NAT via incoming RTP packet

RTP Proxy Features

IPNext100 Next Generation IP-PBX

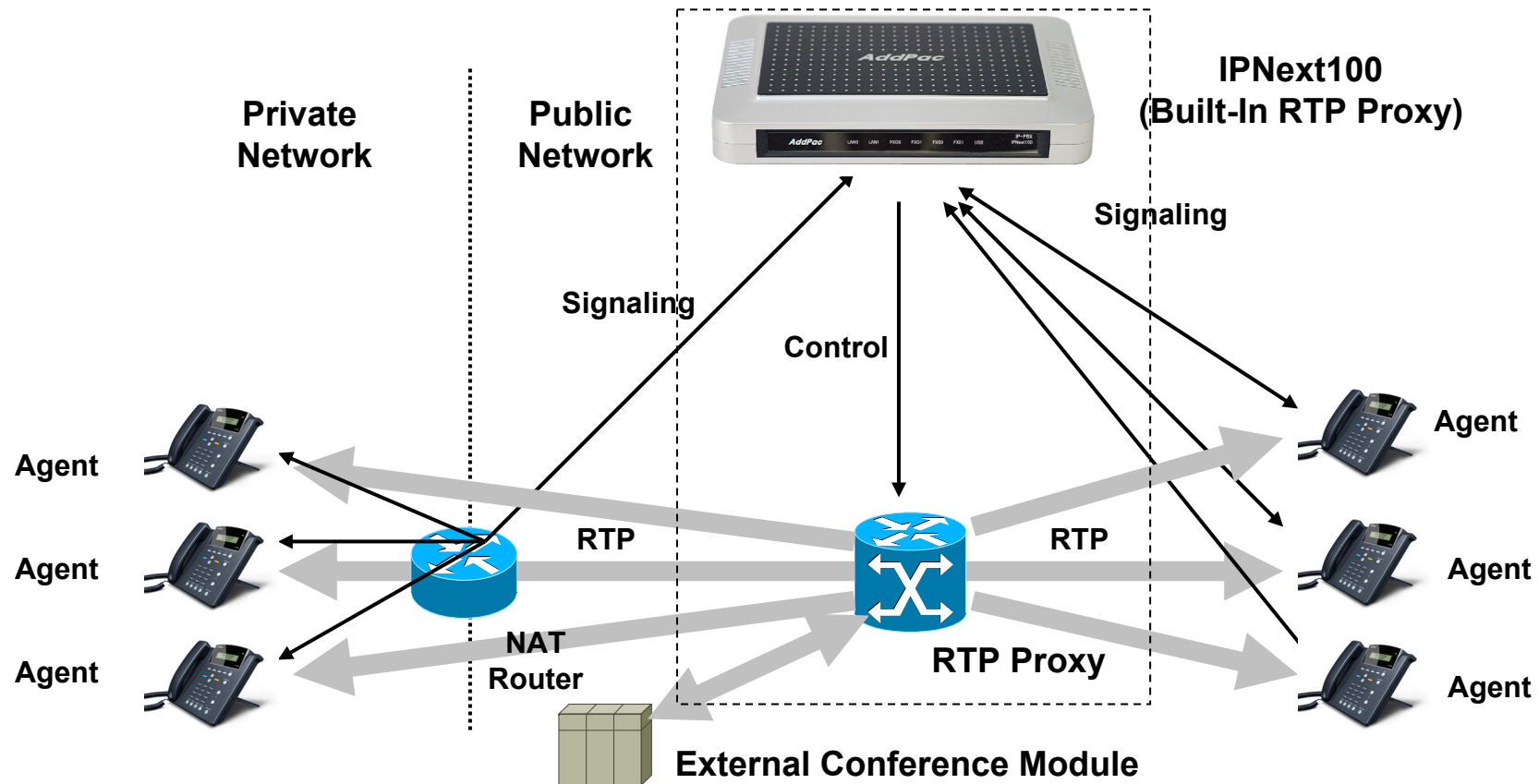


- Call Manager set the broadcaster and listener via control message
- One broadcaster and multiple listener
- RTP proxy relay for broadcaster RTP traffic
- RTP proxy never relay for listener traffic

RTP Proxy Features

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RTP Conference

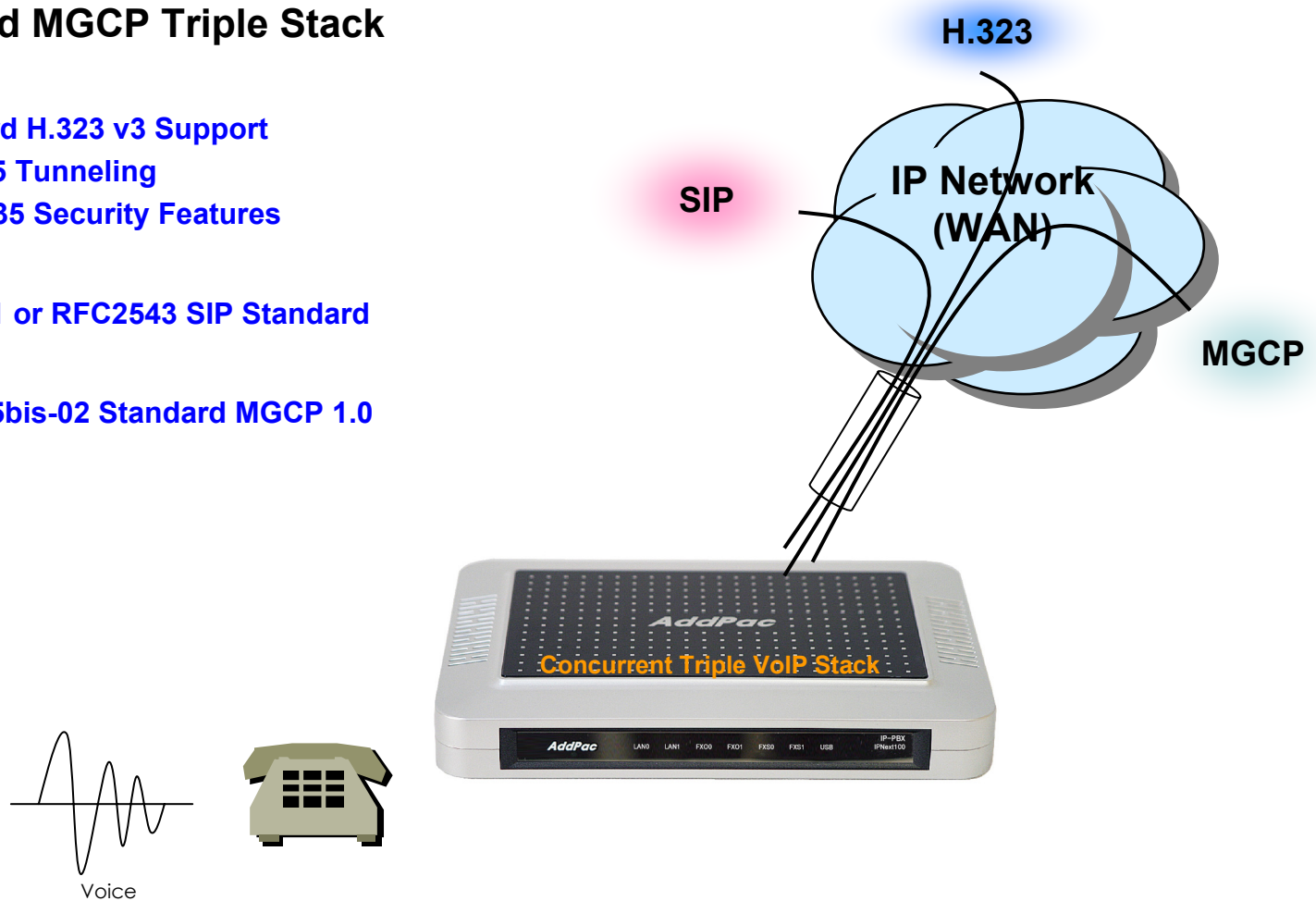


- RTP Proxy communicate with external/internal conference module (mixer)
- Conference support for private address, asymmetric NAT

VoIP Gateway Service

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- H.323, SIP, and MGCP Triple Stack
- H.323
 - ITU-T Standard H.323 v3 Support
 - Support H.245 Tunneling
 - Including H.235 Security Features
- SIP
 - IETF RFC3261 or RFC2543 SIP Standard
- MGCP
 - IETF RFC2705bis-02 Standard MGCP 1.0



VoIP Gateway Service

IPNext100 Next Generation IP-PBX

- **H.323**

- Fast connect, normal connect support
- H.245 tunneling support
- Q.931 response message setting for inbound VoIP calls
- H.245 logical channel open timing selection function
- Start H.245 procedure support
- DTMF / Hook flash relay with H.245 alphanumeric / signal
- Secondary gatekeeper support
- Gatekeeper assignment according to the domain name
- Gatekeeper discovery with multicast
- Lightweight RRQ support
- Signaling TCP port assignment
- Resource threshold setting with RAI
- H.235 clear-token, crypto-token support
- canMapAlias support
- Technical prefix (supported prefix) support
- Public IP assignment in NAT environment

- **SIP**

- Gateway-based / Endpoint-based registration support
- Secondary proxy-server assignment function
- SIP signaling port change function
- SIP proxy server assignment according to the domain name
- T.38 real-time fax relay support
- DTMF relay support with RFC2833 / OPTION message
- Re-INVITE support

- **MGCP**

- Secondary call agent assignment function
- Default package assignment
- Announcement Server Package, Generic Media Package, Handset Package, Line Package, Trunk Package support
- MGCP call agent assignment according to the domain name
- T.38 real-time fax relay support
- DTMF relay support based on RFC2833



VoIP Gateway Service

IPNext100 Next Generation IP-PBX

- **Voice Codec**

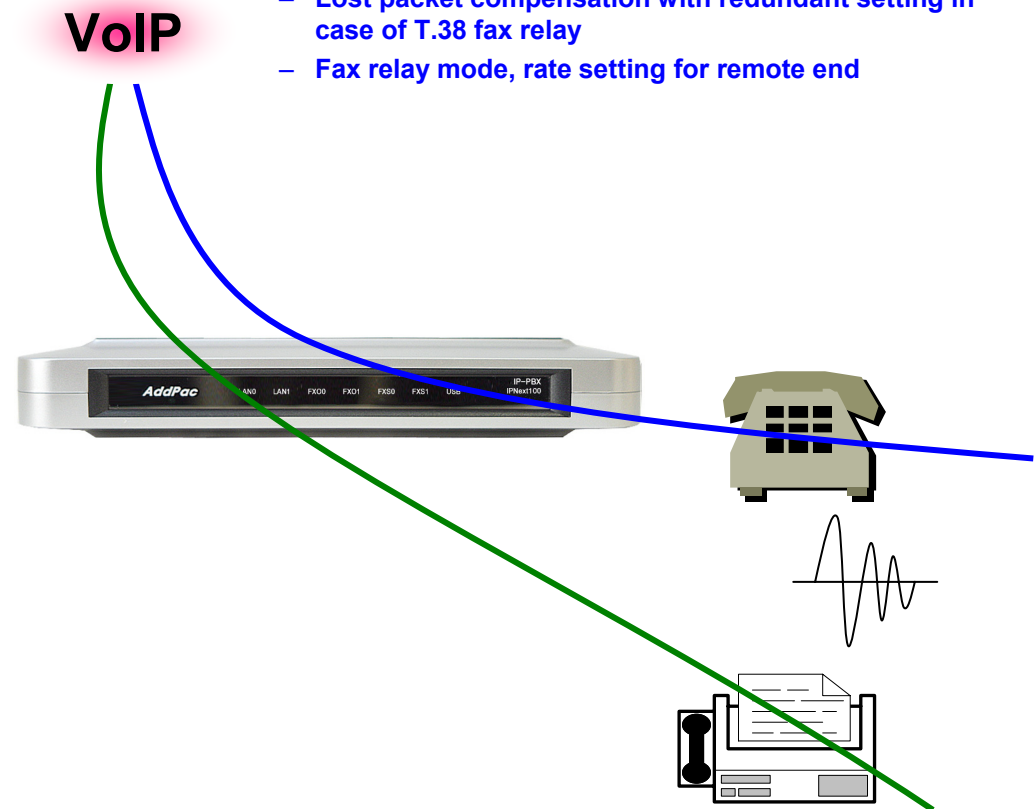
- G.711 A-Law, G.711 U-Law
- G.726 r16, G.726 r32
- G.729A
- G.723.1 r63, G.723.1 r53
- VAD (Voice Activity Detection) function support
- DTMF relay support (H.323, SIP, MGCP common) based on RFC2833

- **RTP**

- Redundant RTP packet transmission in case of severe packet loss
- Dynamic jitter buffer management and RTP packet jitter and loss compensation with heuristic & DSP error concealment
- Static jitter buffer setting support
- Voice frame per RTP packet number control for each codec
- In-band ring-back tone support
- Virtual ring-back tone support
- Tone parameter change support

- **FAX**

- Fax relay mode supporting T.38, inband-T.38, bypass mode
- Lost packet compensation with redundant setting in case of T.38 fax relay
- Fax relay mode, rate setting for remote end



VoIP Gateway Service

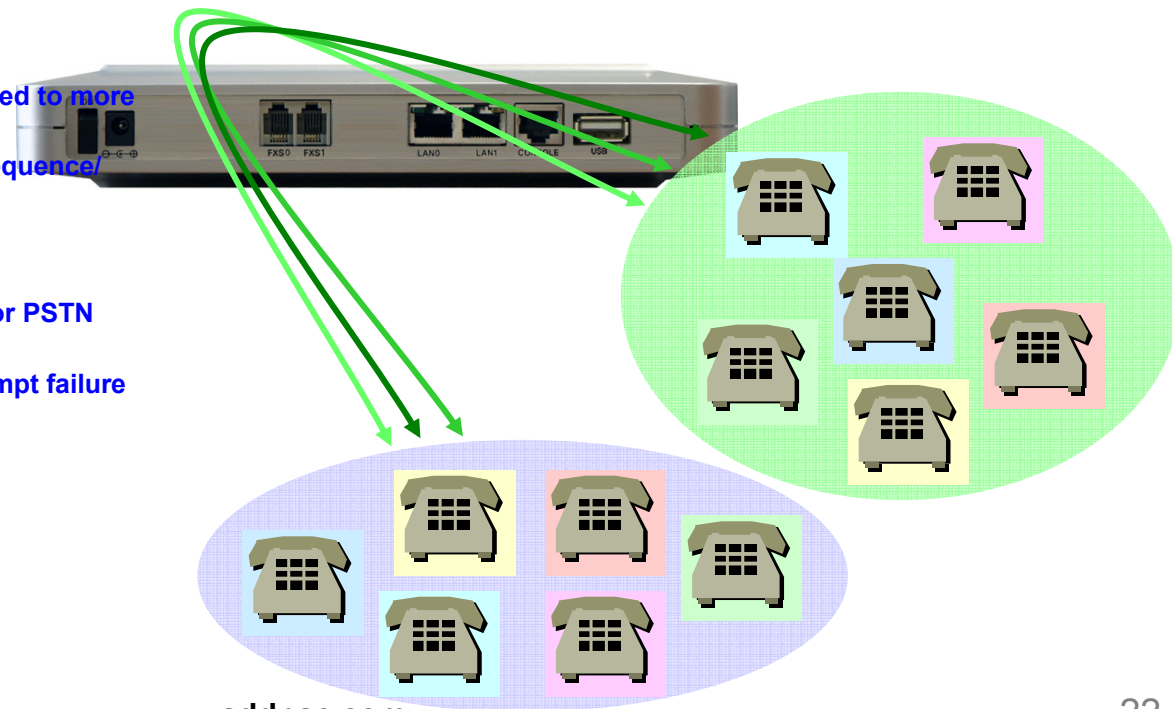
IPNext100 Next Generation IP-PBX

• VoIP Call Controls

- Hot line connection function with PLAR (Private Line Auto Ring Down)
- Leased line emulation function
- Connection monitoring function
- Fault tolerant with Redundancy and Call Distribution among Gateways for load balancing
- Call attempt with IP address
- H.323, SIP, MGCP inbound call connection for each voice port
- Multiple E.164 setting for one voice port
- One E.164 or digit pattern can be assigned to more than one voice port
- Hunting with Longest match/ priority/ sequence/ random
- One stage call setup by Digit forwarding
- Call barring with specific digit patterns
- Calling and called number conversion for PSTN outbound calls
- PSTN rerouting in case of VoIP call attempt failure

• VoIP Call Controls (cont.)

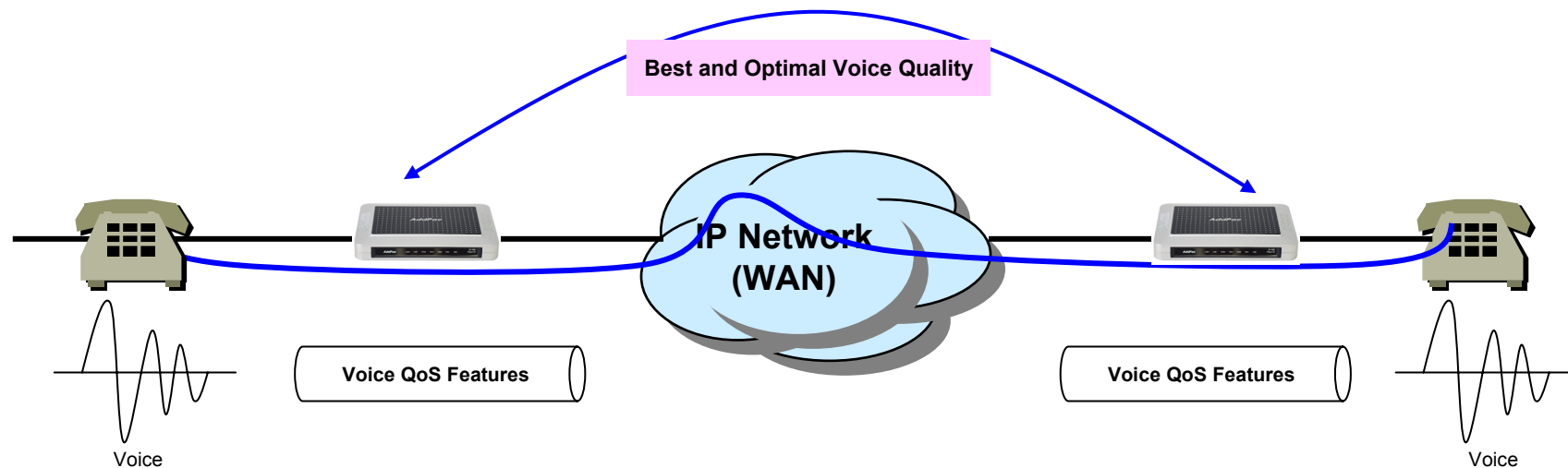
- Call transfer for internal calls
- Call pickup for internal calls
- Calling and called number conversion for VoIP outbound calls
- Calling and called number conversion for VoIP inbound calls
- Fax broadcasting call control



Advanced QoS Features

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- Enhances **Transmit** Voice QoS Features
 - Voice Traffic Priority Queuing
 - QoS Service Profiling
 - Providing Virtual Network Transmit Algorithm
 - Real-time Voice Traffic QoS Support
 - RTP Packet Transmit Interval Control
 - Supporting RTP Packet Redundancy Scheme
 - IP Header Control such as ToS, Diffserv
- Enhances **Receive** Voice QoS Features
 - Dynamic Jitter Buffer Management
 - Error Concealment
 - Support T.38 FAX Data Error Recovery Scheme



Network Protocols (Cont.)

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Basic Network Protocols

- ARP, IPv4, TCP, UDP, ICMP, SCTP, IGMP, MLD

Routing Protocol

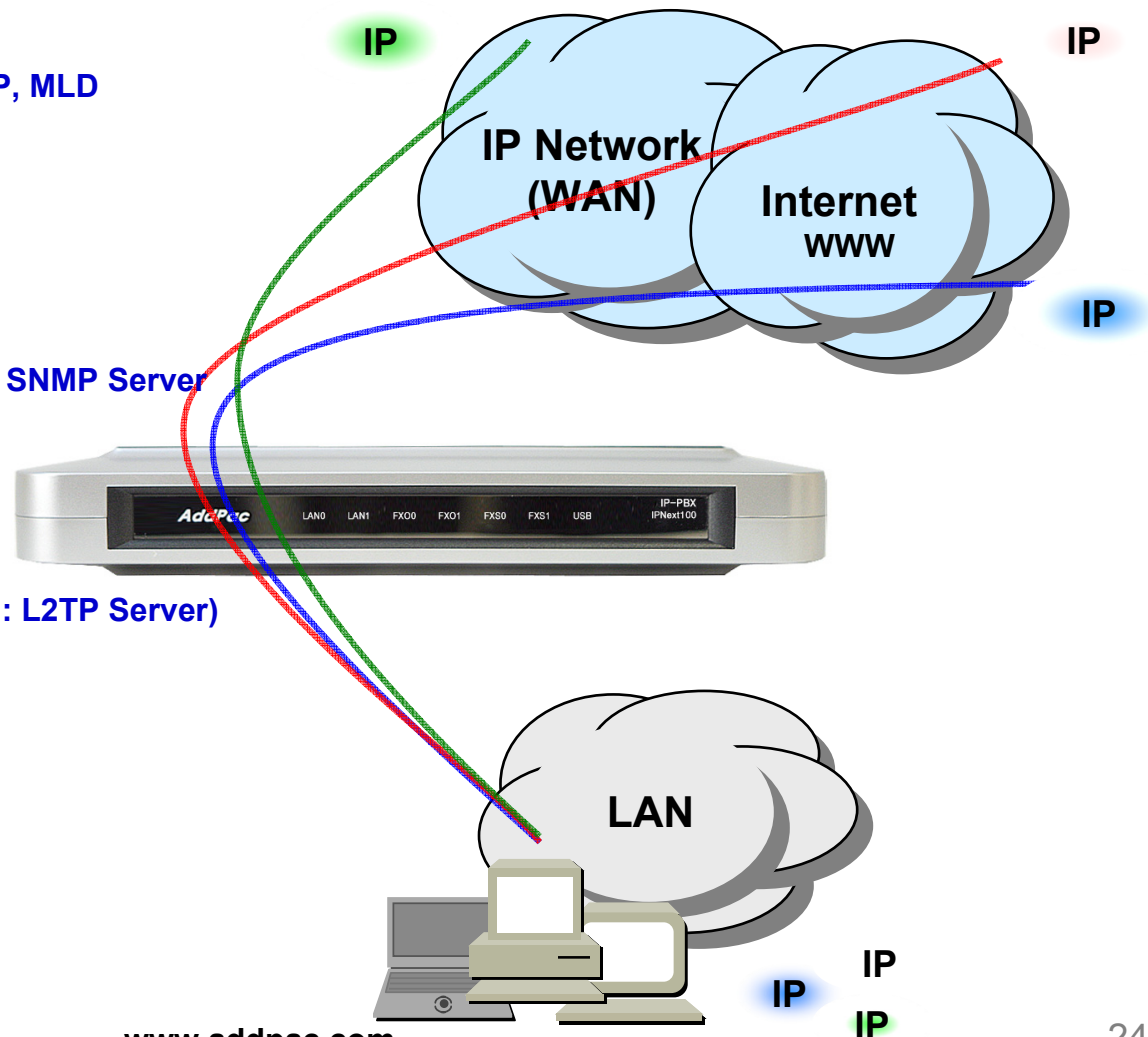
- IPv4 : Static
- IPv6 : Static

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)

Miscellaneous

- Cisco Style CLI
- Standard & Extended IPv4 Access List
- Multi-level User Account Management
- IP accounting
- STUN Client



Network Protocols

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IPv4/IPv6 Interworking

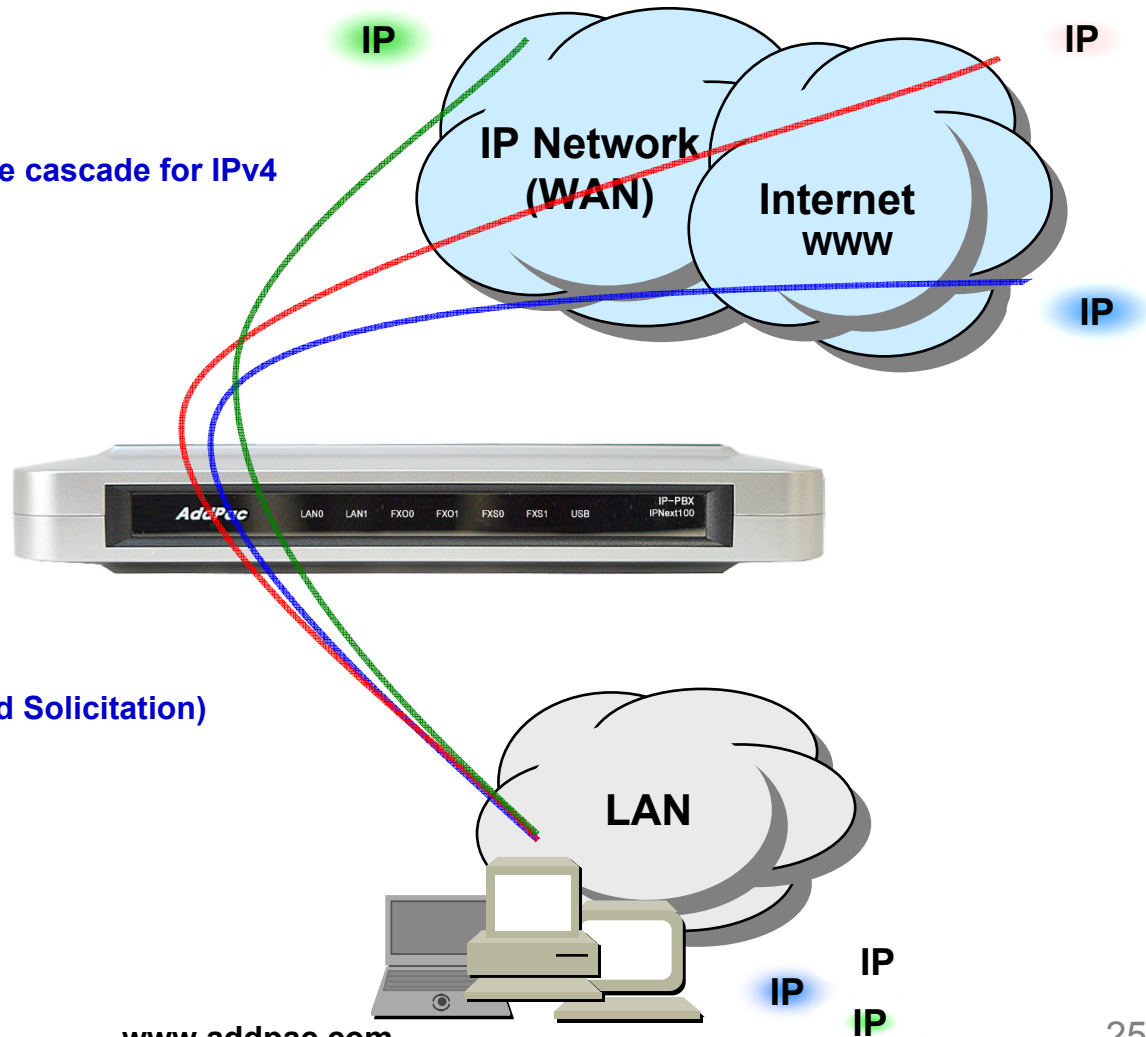
- NAT/PAT for IPv4
- IP connect (formerly ip-share) and device cascade for IPv4
- IP/IP, IP/GRE tunneling
- NAT-PT
- 6to4, Autoconfig tunneling

IPv4 Address Configuration

- Fixed (Static)
- DHCP
- PPPoE

IPv6 Address Configuration

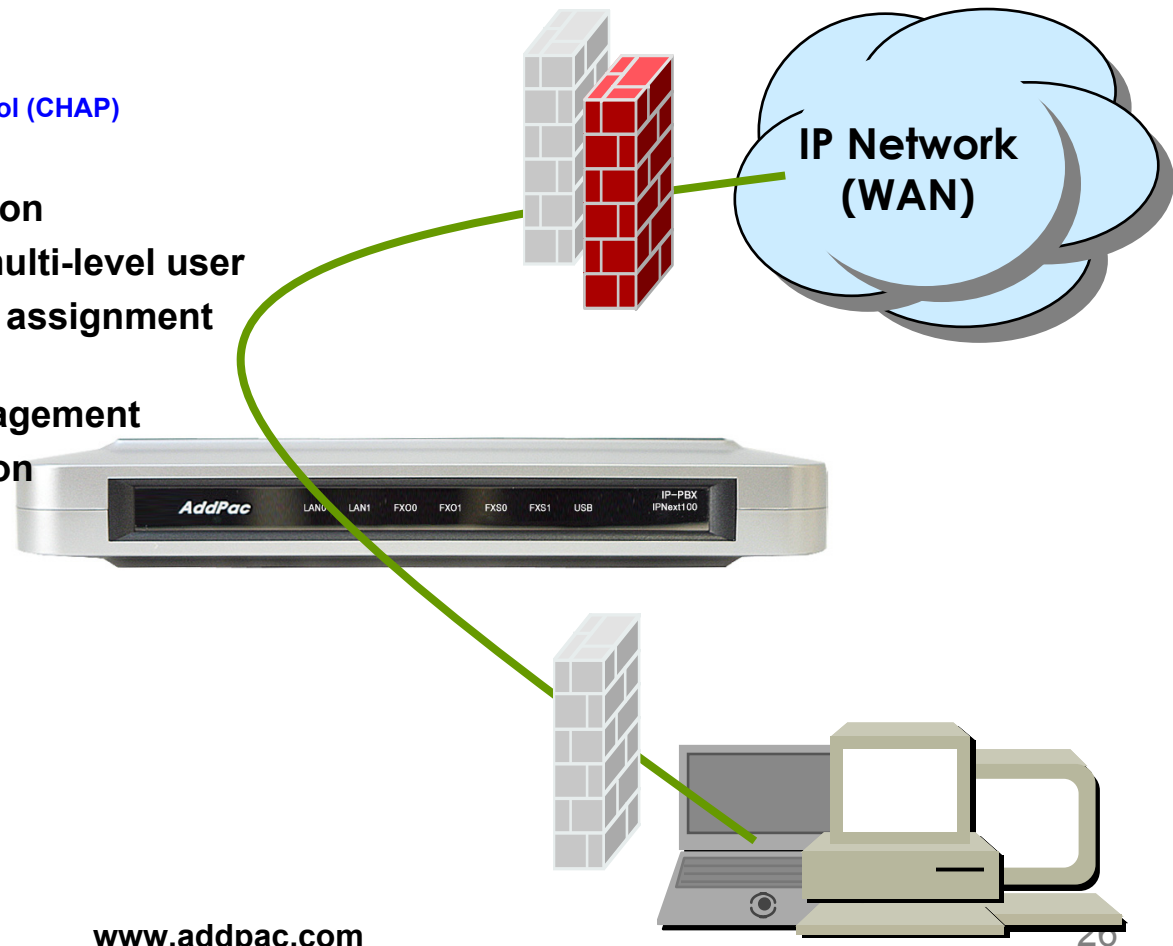
- Fixed (Static)
- EUI-64
- Autoconfig (Neighbor Advertisement and Solicitation)



Security Management

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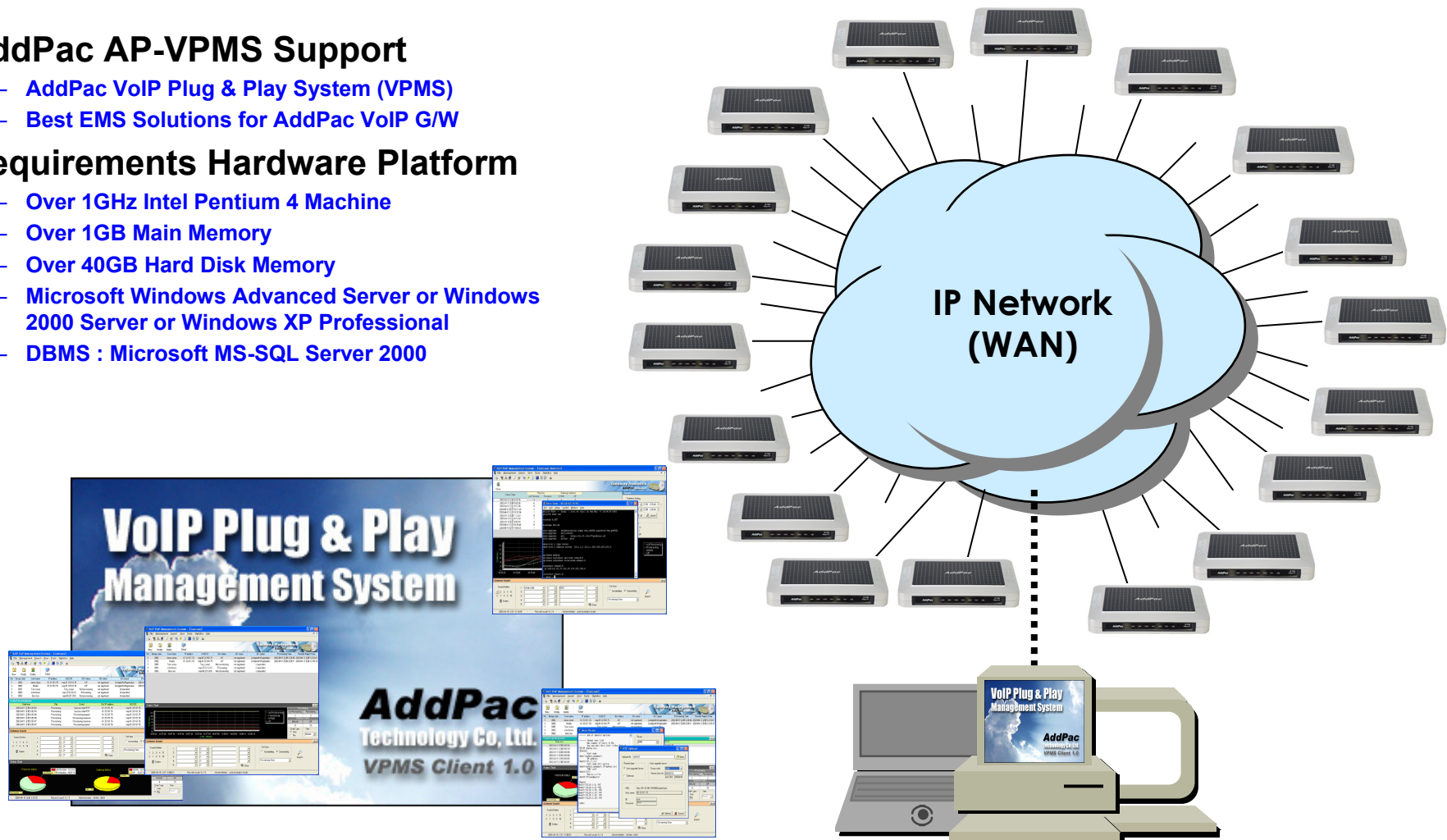
- IP packet filtering
- IP access list
- User authentication function
 - Password Authentication Protocol (PAP)
 - Challenge Handshake Authentication Protocol (CHAP)
- Enable/Disable specific protocols
- Auto-square connect of Telnet session
- Account Management function for multi-level user
- SNMP/TELNET/FTP/HTTP/TFTP port assignment function
- SNMP/TELNET/FTP access list management
- Boot mode security checking function



VPMS (VoIP Plug&Play Management System)

IPNext100 Next Generation IP-PBX

- **AddPac AP-VPMS Support**
 - AddPac VoIP Plug & Play System (VPMS)
 - Best EMS Solutions for AddPac VoIP G/W
- **Requirements Hardware Platform**
 - Over 1GHz Intel Pentium 4 Machine
 - Over 1GB Main Memory
 - Over 40GB Hard Disk Memory
 - Microsoft Windows Advanced Server or Windows 2000 Server or Windows XP Professional
 - DBMS : Microsoft MS-SQL Server 2000



IP Multimedia Terminals

IPNext 100 Next Generation IP-PBX

- **AP-VP350 MCU Video Phone**
- **AP-VP300 High-End Video Phone**
- **AP-VP200 High-End Video Phone**
- **AP-IP500 VoD Phone**
- **AP-IP350 Premium IP Phone**
- **AP-IP300 Premium IP Phone**
- **AP-IP200 IP Phone**
- **AP-IP190 IP Phone**
- **AP-IP100* IP Phone**
- **Future Plan : AP-WP100 WiFi IP Phone**



AP-VP300



AP-VP200



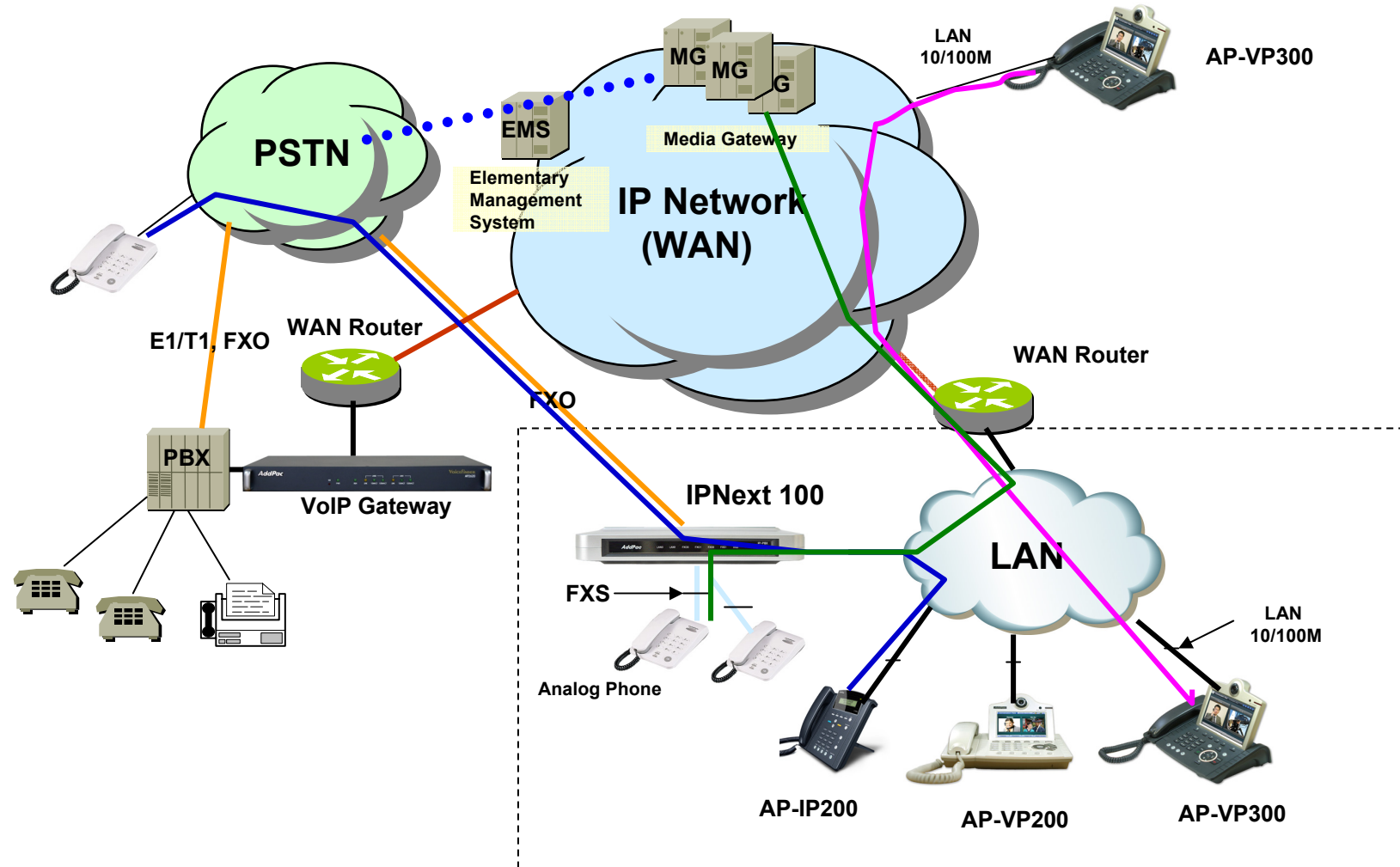
AP-IP500



AP-IP100

Standard IP-PBX Application

IPNext 100 Next Generation IP-PBX



Ordering Information

- **IPNext100 IP-PBX Hardware**
 - RISC Microprocessor with High-end Programmable DSP Architecture
 - 2-ports 10/100Mbps Fast Ethernet(RJ45)
 - 1-Port USB Host Mode Interface
 - 1-Port RS232C Interface for Command Line Interface
 - VoIP Gateway Interface
 - Two(2) FXS Ports (IPNext100 Model A)
 - Two(2) FXO Ports (IPNext100 Model B)
 - Two(2) FXS & Two(2) FXO Ports (IPNext100 Model C)
 - Including Network Cable & Ext. Power Supply, etc.
- **Built-in APOS Internetworking Software for IPNext100**
- **Including 1 Year Hardware Warranty**
- **Product Documents**
 - Install and Operation Guide (PDF)
- **Pricing**
 - AddPac Technology Regional Sales Manager
 - Authorized Sales and Marketing Representatives
 - Please Contact www.addpac.com

IPNext IP-PBX Series

Thank you!

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Sales and Marketing

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