IPNext185
NGN Hybrid IP-PBX System

High-performance Next Generation Hybrid IP-PBX System

Preliminary Product Overview

AddPac

AddPac Technology

Sales and Marketing

www.addpac.com

Contents

- Product Overview
- Hardware Specification
- Software Service
- IP-PBX Service and Features
- RTP Proxy Service
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- Network Service and Features
- User Terminals
- Application Area
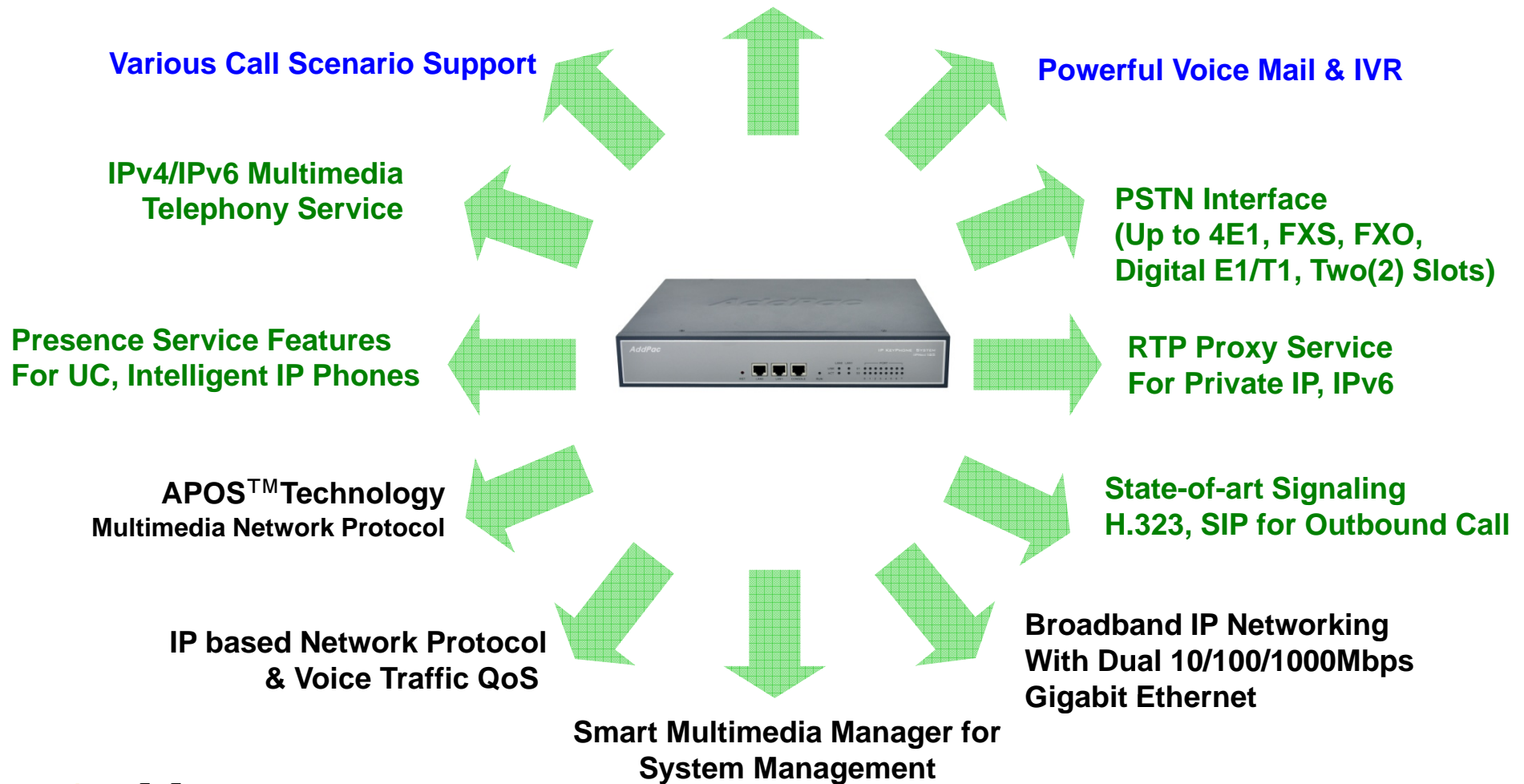- Ordering Information

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Product Overview

IPNext185 Next Generation Hybrid IP-PBX System

- IP based Advanced Hybrid IP-PBX Solution
- IPv4/IPv6 Multimedia Telephony Solution for Small Office
- PSTN Interface (Digital E1/T1, FXS, FXO) Support
- Up to 4E1 Media Gateway Performance Support
- Powerful Management and User Friendly Features
- Fault Tolerant and Scalability Architecture
- High-performance Video, Audio, and Voice Service
- Firmware Upgradeable Architecture
- IVR Service with Scenario Editor
- Voice Mailing Service
- Presence Service for High-End IP Key Phone, UC
- RTP Proxy Service for Private IP service
- SIP, H.323 Signaling for Outbound Calls
- Various Call Scenario (Call Pickup, Call Park, Call Transfer, etc)
- Various IP Terminal Support

Product Highlights

IPNext185 Next Generation Hybrid IP-PBX System

IP based Advanced Hybrid IP-PBX System

Various Call Scenario Support

Powerful Voice Mail & IVR

IPv4/IPv6 Multimedia Telephony Service

PSTN Interface (Up to 4E1, FXS, FXO, Digital E1/T1, Two(2) Slots)

Presence Service Features For UC, Intelligent IP Phones

RTP Proxy Service For Private IP, IPv6

APOS™Technology Multimedia Network Protocol

State-of-art Signaling H.323, SIP for Outbound Call

IP based Network Protocol & Voice Traffic QoS

Broadband IP Networking With Dual 10/100/1000Mbps Gigabit Ethernet

Smart Multimedia Manager for System Management

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Hardware Specification

64bit
CPU

- **RISC Microprocessor Computing Power**

- **Main Chassis**
    - **Fixed Network Interface**
        - Two(2) 10/100/1000Mbps Gigabit Ethernet
        - One(1) RS-232C Console (RJ45)
    - **Two(2) VoIP Module Slots for PSTN Interface Modules**

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Hardware Specification

IPNext185 Next Generation Hybrid IP-PBX System

64bit CPU

DSP

IPNext 185 Front Side
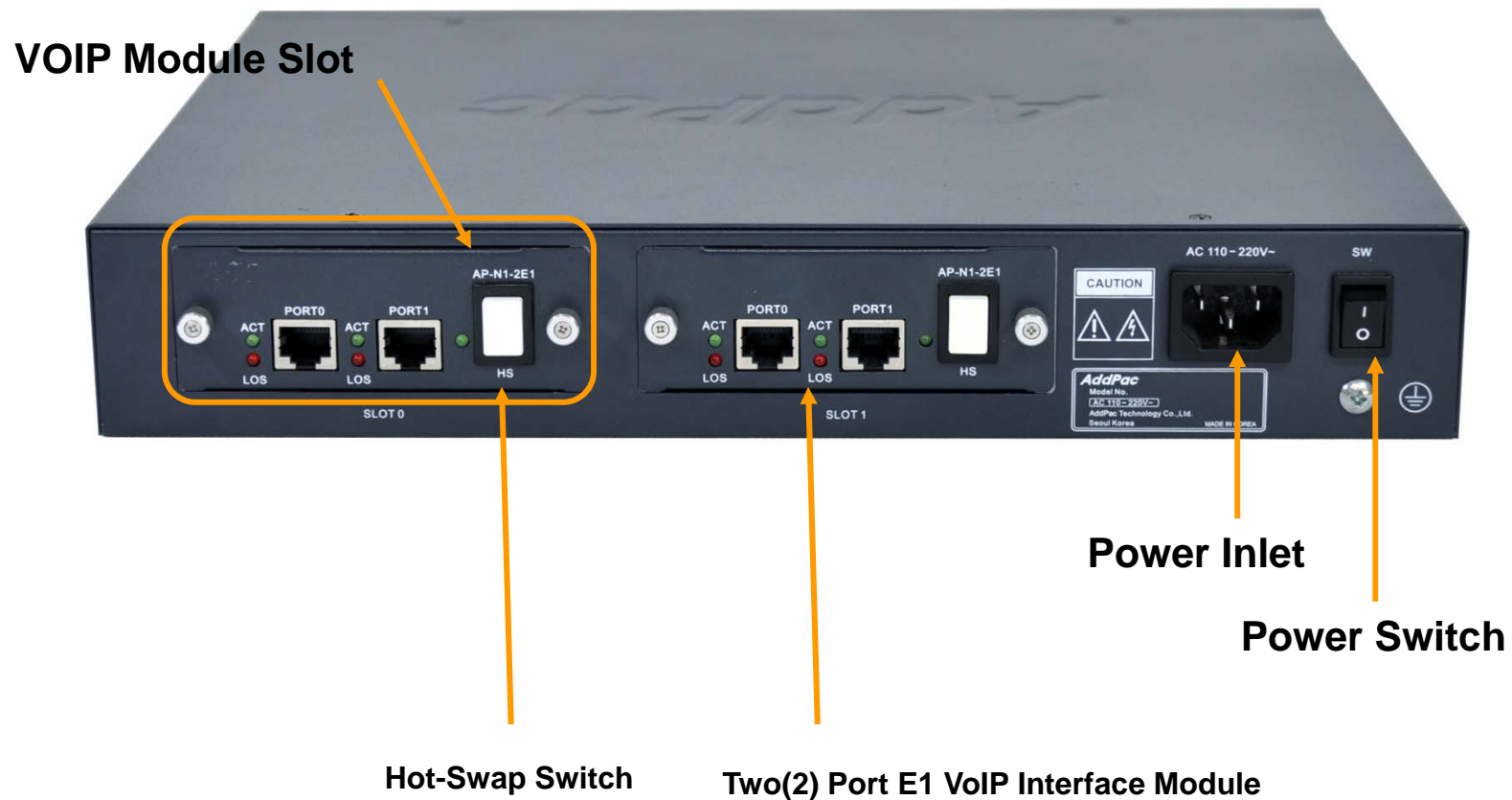

LAN1 (10/100/1000Mbps)

LAN0(10/100/1000Mbps)

Console Port

Hardware Specification

IPNext185 Next Generation Hybrid IP-PBX System

64bit
CPU

DSP

IPNext 185 Back Side

VOIP Module Slot

Power Inlet

Power Switch

Hot-Swap Switch

Two(2) Port E1 VoIP Interface Module

Hardware Specification

IPNext185 Next Generation Hybrid IP-PBX System

- **VoIP Interface Module**

AP-N1-FXS8		8-Port FXS Voice Processing Module (8 x RJ11)
AP-N1-FXO8		8-Port FXO Voice Processing Module (8 x RJ11)
AP-N1-FXO4S4		4-Port FXO and 4-Port FXS Voice Processing Module (8 x RJ11)
AP-N1-2E1T1		2-Port VoIP Digital E1/T1 Interface Module(2xRJ45)
AP-N1-E1T1		1-Port VoIP Digital E1/T1 Interface Module(1xRJ45)

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Software Service

- **Built-in AddPac APOS Internetworking Software**
  - Scalability, Functionality, and Stability Features
  - Advanced Call Manager Features
  - Media Gateway Features
  - QoS Control Features

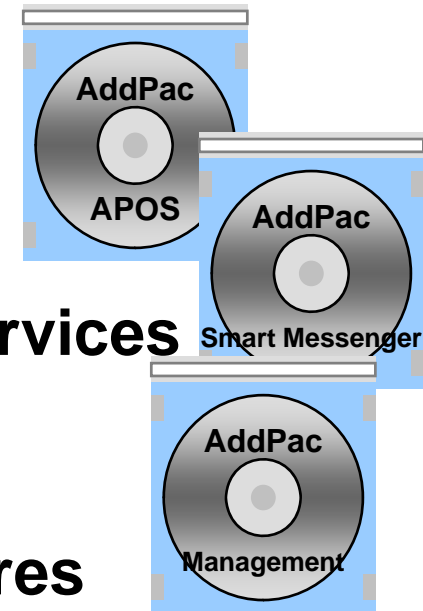- **Programmable Video, Audio, and Voice Services**
  - Audio, and Voice Codec

- **Firmware Upgradeable Architecture**
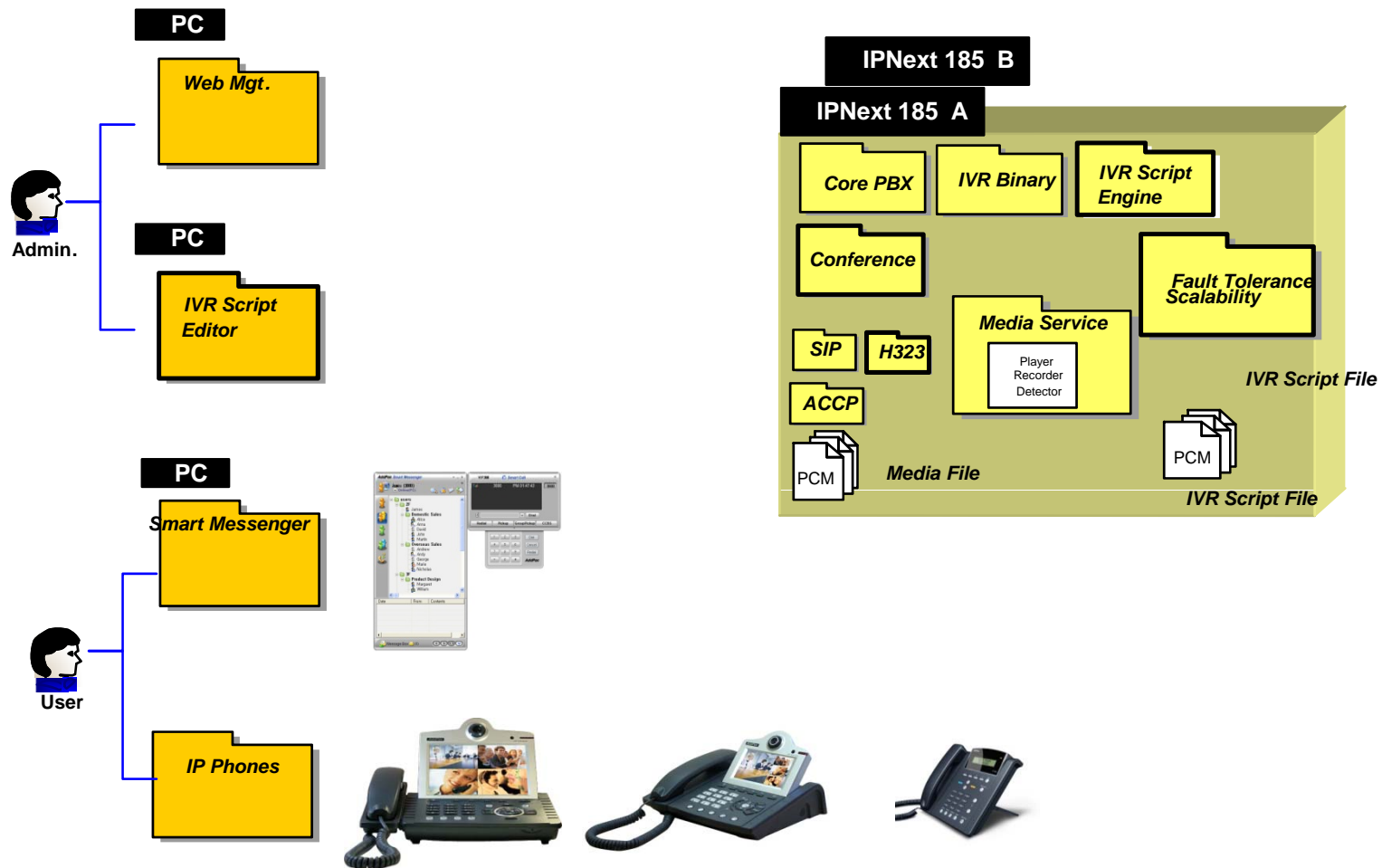
- **Industry Standard Network Protocol Features**

- **Highly User Friendly Management Features**
  - Smart Messenger for UC
  - Smart Multimedia Manager

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APOS

AddPac
Smart Messenger

AddPac
Management

IP-PBX Software Components

IPNext185 Next Generation Hybrid IP-PBX System

PC

Web Mgt.

Admin.

PC

IVR Script Editor

PC

Smart Messenger

User

IP Phones

IPNext 185 B

IPNext 185 A

Core PBX

IVR Binary

IVR Script Engine

Conference

Fault Tolerance Scalability

SIP

H323

Media Service

Player
Recorder
Detector

IVR Script File

ACCP

PCM

Media File

PCM

IVR Script File

IVR Script File

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IP Telephony Service and Features

IPNext185 Next Generation Hybrid IP-PBX System

- **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

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IP Telephony Service and Features

IPNext185 Next Generation Hybrid IP-PBX System

- **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 Swaping
  - Call Hold

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IP Telephony Service and Features

IPNext185 Next Generation Hybrid IP-PBX System

- **IP-PBX Advanced Features with AddPac IP 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 Swaping by Softkey
  - Call Hold by SoftKey
  - Conference Control

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IP Telephony Service and Features

IPNext185 Next Generation Hybrid IP-PBX System

- **User & Device Management**
  - LDAP (Light weight 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
  - Personal Directory
  - Downloadable Ring
  - Do not Disturb

IP Telephony Service and Features

IPNext185 Next Generation Hybrid IP-PBX System
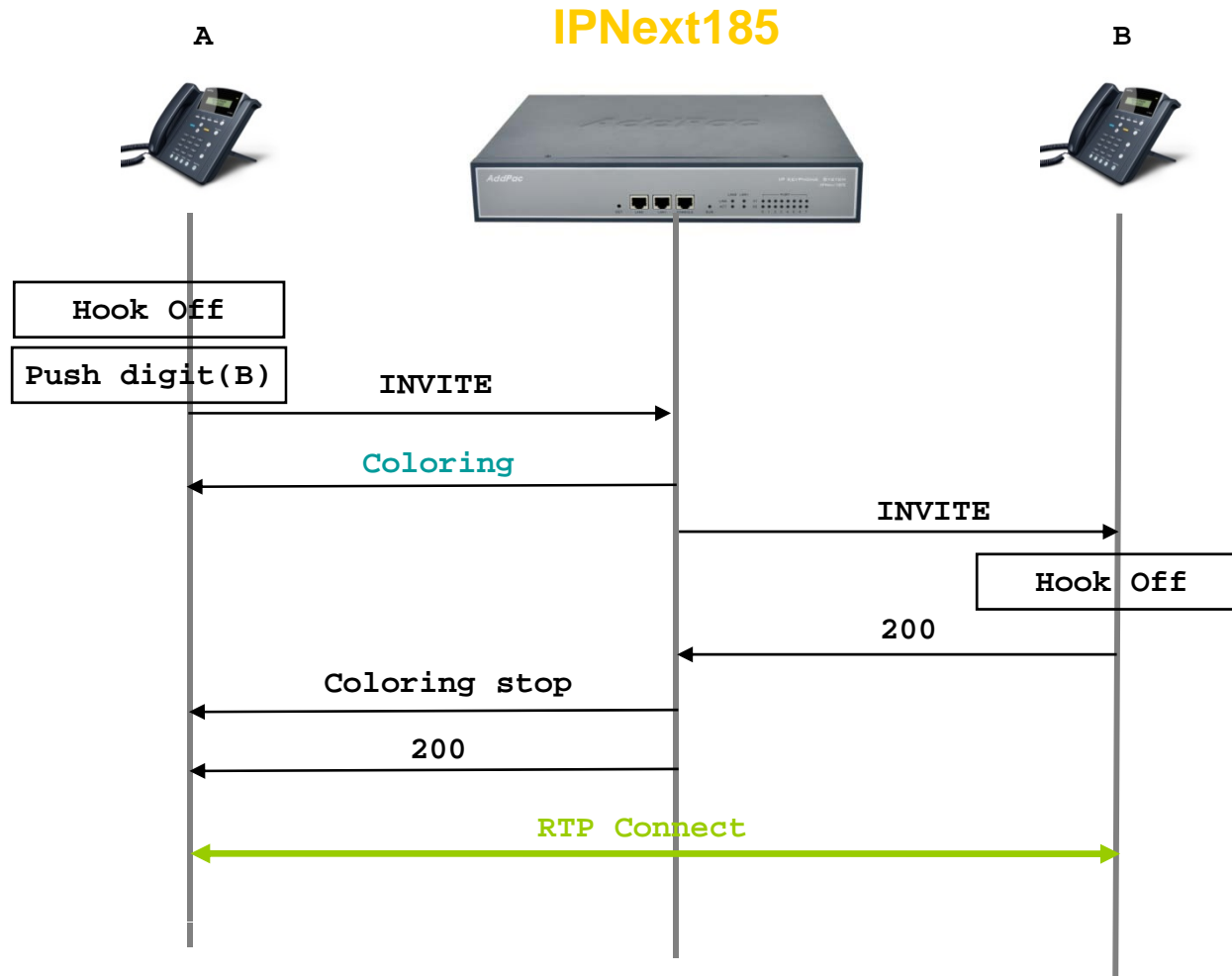
- **Conference**
  - G.711 (4-party Conference, 2 session) : Basic
  - Ad-hoc Conference
  - Dial-Out Conference
  - Meet-me Conference
  - Multiple External MCU support(Video, Audio, etc) : AddPac AP-MC1000, etc
  - Conference Chair and Participants Management

- **Music & Announcement**
  - Music on Hold
  - Replaceable Announcements
  - Dialing Music / Tone Service

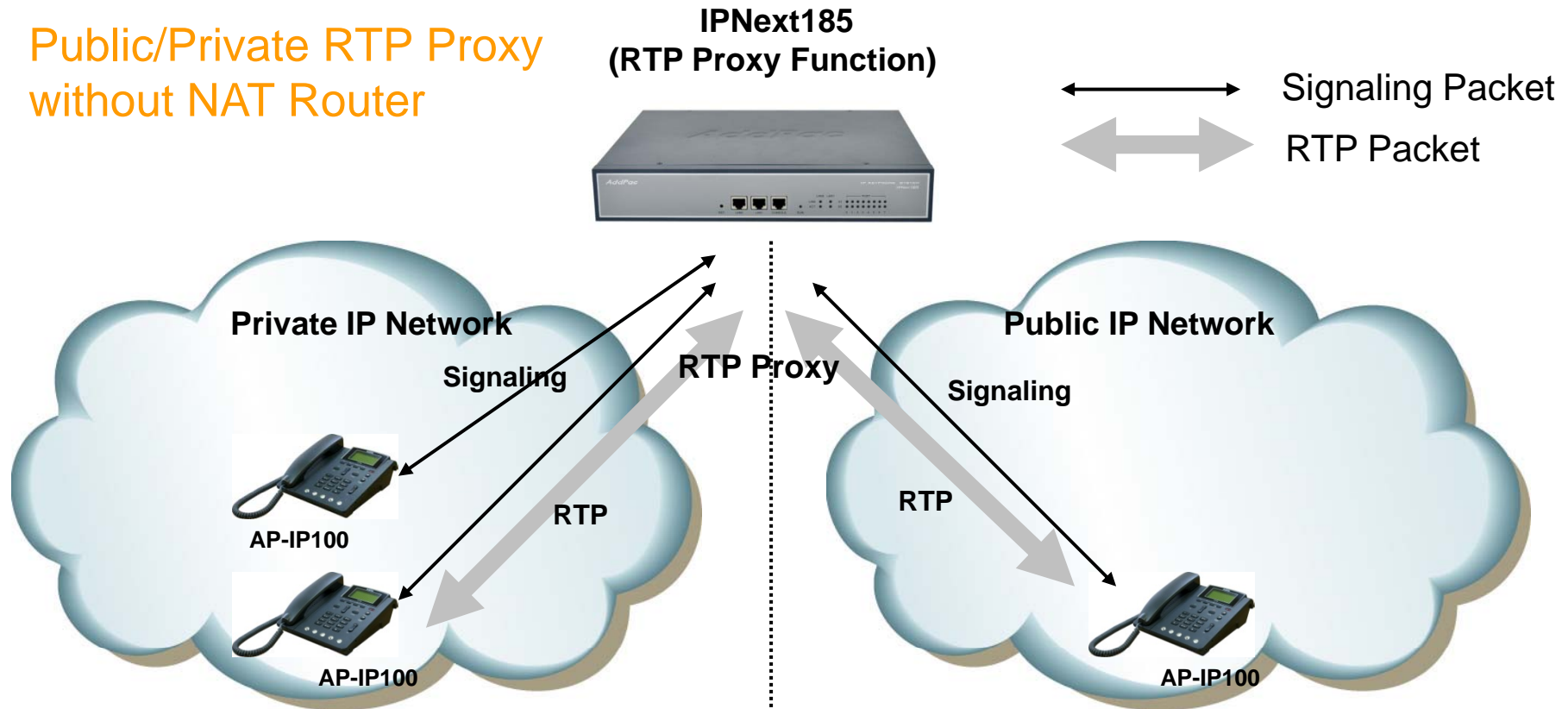# SIP based Basic Call Scenario

IPNext185 Next Generation Hybrid IP-PBX System

A   **IPNext185**   B

Hook Off

Push digit(B)   INVITE

Coloring

INVITE

Hook Off

200

Coloring stop

200

RTP Connect

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RTP Proxy Service

IPNext185 Next Generation Hybrid IP-PBX System

Public/Private RTP Proxy without NAT Router

IPNext185 (RTP Proxy Function)

Signaling Packet

RTP Packet

Private IP Network

Signaling

RTP Proxy

Public IP Network

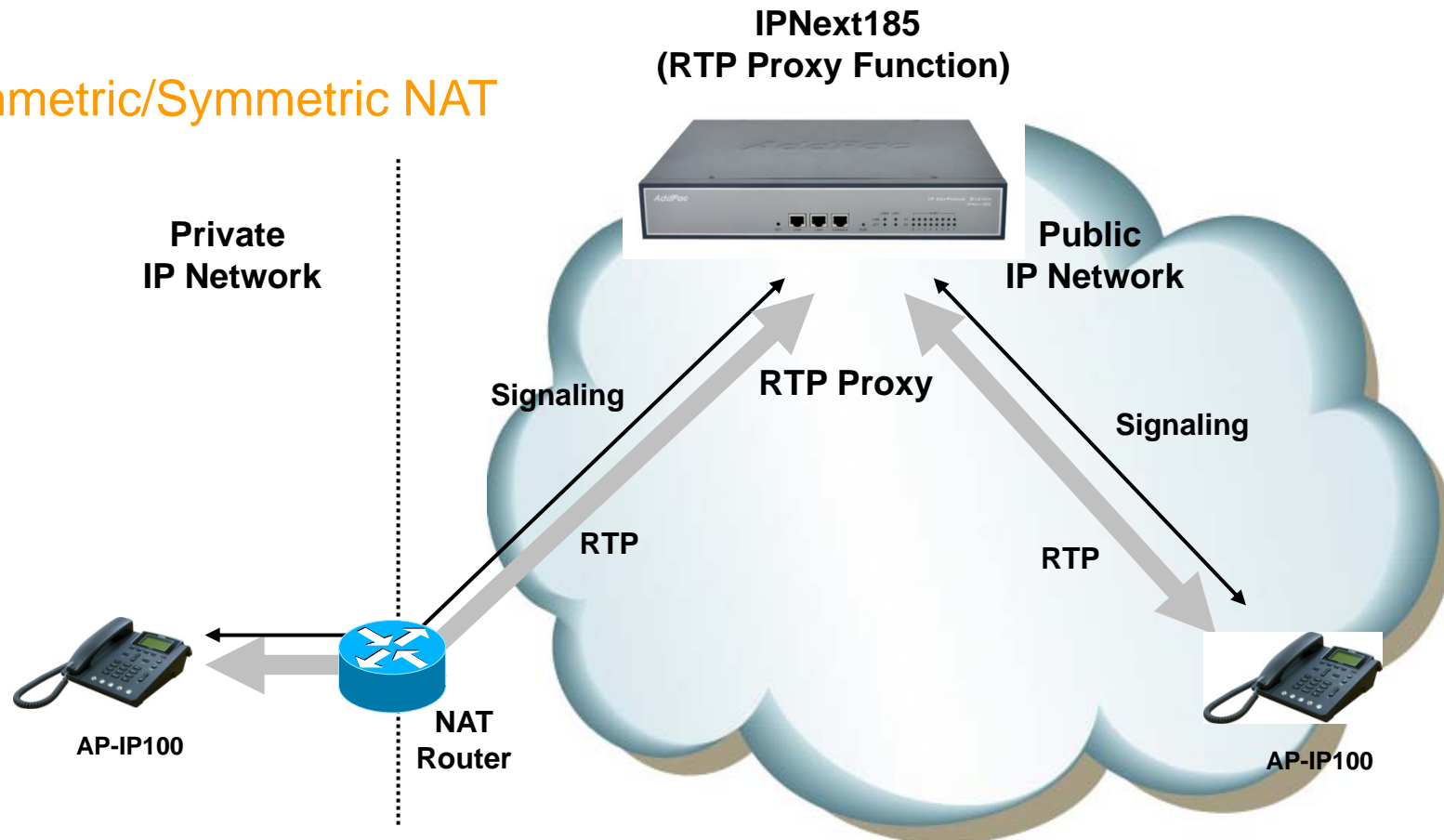Signaling

RTP

RTP

AP-IP100

AP-IP100

AP-IP100

- Located between public and private network
- IPNext185(Call manager + RTP proxy) has public and private address
- IPNext185 determine that the call is internal or external

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RTP Proxy Service

IPNext185 Next Generation Hybrid IP-PBX System

**IPNext185
(RTP Proxy Function)**

Asymmetric/Symmetric NAT

**Private
IP Network**

**Public
IP Network**

RTP Proxy

Signaling

Signaling

RTP
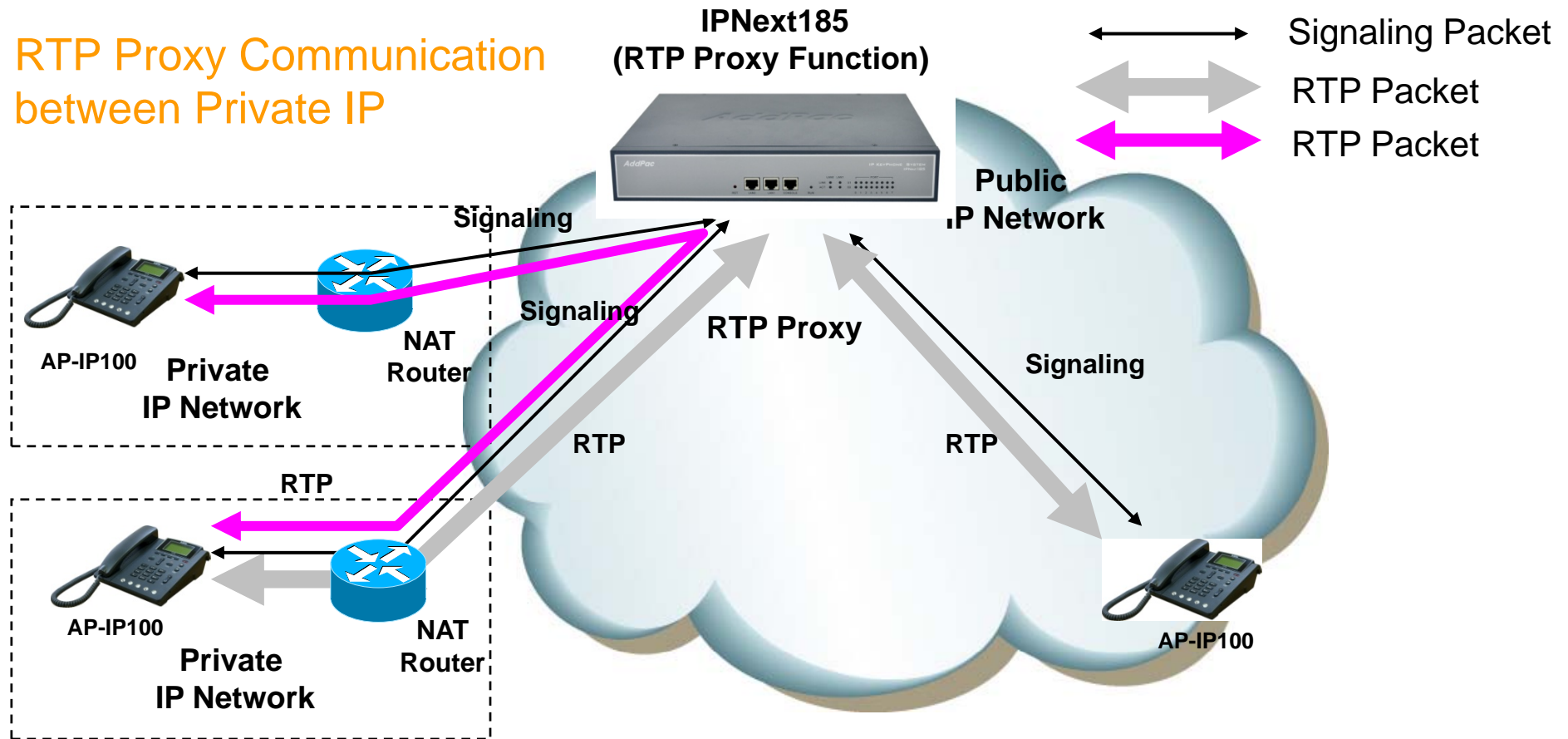
RTP

AP-IP100

**NAT
Router**

AP-IP100

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

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RTP Proxy Service

IPNext185 Next Generation Hybrid IP-PBX System

RTP Proxy Communication between Private IP

IPNext185 (RTP Proxy Function)

Signaling Packet ⟷

RTP Packet ⟷

RTP Packet ⟷

Public IP Network

AP-IP100 **Private IP Network**

Signaling

Signaling

NAT Router

RTP Proxy

Signaling

RTP

RTP

RTP

AP-IP100 **Private IP Network**
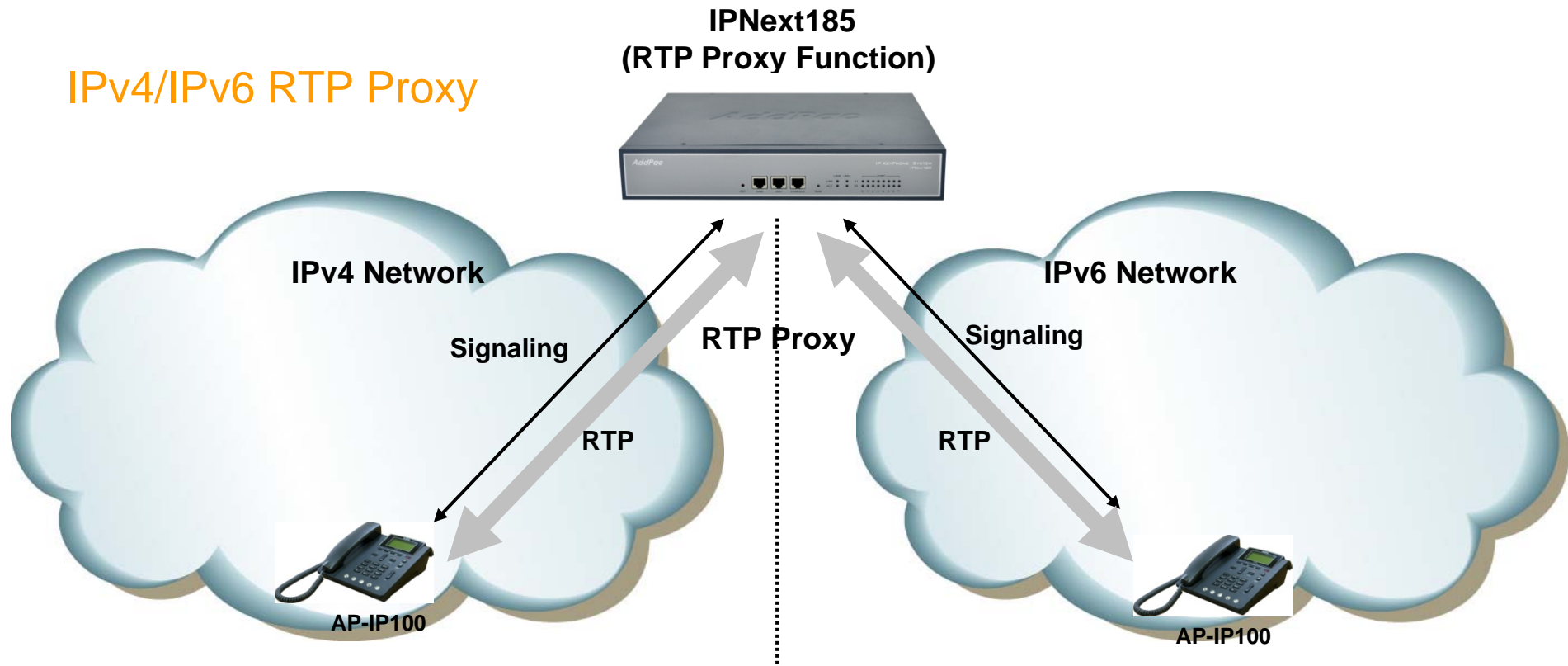
NAT Router

AP-IP100

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

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RTP Proxy Service

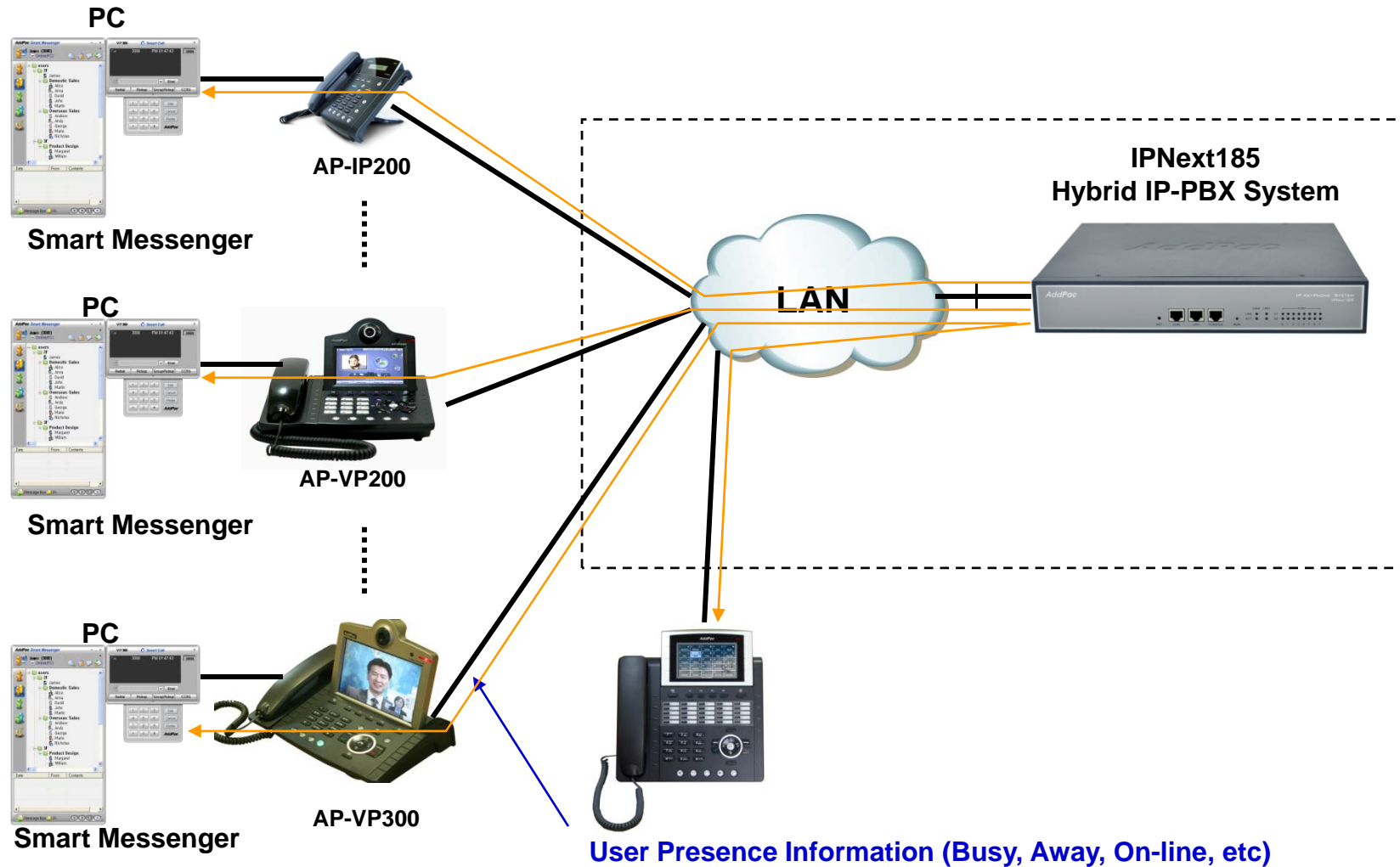## IPNext185 Next Generation Hybrid IP-PBX System

IPNext185
(RTP Proxy Function)

IPv4/IPv6 RTP Proxy

IPv4 Network

IPv6 Network

Signaling

RTP Proxy

Signaling

RTP

RTP

AP-IP100

AP-IP100

• IPNext185(Call manager + RTP proxy) has IPv4 and IPv6 address

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User Presence Service for UC

IPNext185 Next Generation Hybrid IP-PBX System

PC

Smart Messenger

AP-IP200

PC

Smart Messenger

AP-VP200

PC

Smart Messenger

AP-VP300

LAN

IPNext185 Hybrid IP-PBX System

User Presence Information (Busy, Away, On-line, etc)

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 Provate Dial-up Network : L2TP Server)

Network Service and Features

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

Miscellaneous

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

SNMP MIBs
 - MIB-II
 - RMON MIBs (Statistsics, 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

User Terminals

- AP-VP500 Video Phone (for CEO)
- AP-VP300 Video Phone (for Director)
- AP-VP280 Video Phone (for Director)
- AP-VP250 Video Phone (for Secretary)
- AP-VP150 Video Phone
- AP-VP120 Video Phone
- AP-IP300 IP Phone
- AP-IP230 IP Phone
- AP-IP160 IP Phone
- AP-IP120 IP Phone
- AP-IP190 IP Phone
- AP-PT100 Presence Terminal
- Smart Messenger for UC
- AP-WP100 WiFi IP Phone

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AP-VP500 Video Phone

IPNext185 Next Generation Hybrid IP-PBX System

- 12.1 Inch LCD Display, Touch Screen
- External Video Interface
  - Composite (RCA) Video In/Out, S-Video Out,
  - Component Out
- External Audio In/Out
- High-performance Video Codec Support
  - H.263, MPEG-4, JPEG, and H.264
- Powerful Image Resolution Support
  - QCIF(176x144), CIF(352x288), QVGA(320x240), and VGA(640x480)
- Up to 30fps at 1Mbps with VGA-Resolution(MPEG-4)
- Video Conference Call Support (AddPac MCU Inter-working)
- SIP, H.323 Signaling Support
- Rate Control for Video Traffic QoS
  - Ensuring Optimized Quality, Frame Rate with Limited Bandwidth
- High-end Error Resilient Against Various Packet Error

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AP-VP300 Video Phone

- 7 Inch LCD Display, Touch Screen
- External Video Interface
  - Composite (RCA) Video In/Out, S-Video Out
- External Audio In/Out
- High-performance Video Codec Support
  - H.263, MPEG-4, JPEG, and H.264
- Powerful Image Resolution Support
  - QCIF(176x144), CIF(352x288), QVGA(320x240), and VGA(640x480)
- Up to 30fps at 1Mbps with VGA-Resolution(MPEG-4)
- Video Conference Call Support (AddPac MCU Inter-working)
- SIP, H.323 Signaling Support
- Rate Control for Video Traffic QoS
  - Ensuring Optimized Quality, Frame Rate with Limited Bandwidth
- High-end Error Resilient Against Various Packet Error

AP-VP250 Video Phone

IPNext185 Next Generation Hybrid IP-PBX System

- 4.3 Inch LCD Display, Touch Screen
- 25 Speed-Dial Key with Presence Indication LAMP.
- External Video Interface
  - Composite (RCA) Video In/Out, S-Video Out
- External Audio In/Out
- High-performance Video Codec Support
  - H.263, MPEG-4, JPEG, and H.264
- Powerful Image Resolution Support
  - QCIF(176x144), CIF(352x288), QVGA(320x240), and VGA(640x480)
- Up to 30fps at 1Mbps with VGA-Resolution(MPEG-4)
- SIP, H.323 Signaling Support
- Rate Control for Video Traffic QoS
  - Ensuring Optimized Quality
  - Frame Rate with Limited Bandwidth
- High-end Error Resilient Against Various Packet Error

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AP-VP150 Video Phone

- 4.3 Inch LCD Display
- External Video Interface
  - Composite (RCA) Video Out, S-Video Out
- External Audio In/Out
- High-performance Video Codec Support
  - H.263, MPEG-4, JPEG, and H.264
- Powerful Image Resolution Support
  - QCIF(176x144), CIF(352x288), QVGA(320x240), and VGA(640x480)
- Up to 30fps at 1Mbps with VGA-Resolution(MPEG-4)
- Video Conference Call Support (AddPac MCU Inter-working)
- SIP, H.323 Signaling Support
- Rate Control for Video Traffic QoS
  - Ensuring Optimized Quality
  - Frame Rate with Limited Bandwidth
- High-end Error Resilient Against Various Packet Error

AP-VP120 Video Phone

- 4.3 Inch LCD Display
- External Video Interface
  - Composite (RCA) Video Out, S-Video Out
- External Audio In/Out
- High-performance Video Codec Support
  - H.263, MPEG-4, JPEG, and H.264
- Powerful Image Resolution Support
  - QCIF(176x144), CIF(352x288), QVGA(320x240), and VGA(640x480)
- Up to 30fps at 1Mbps with VGA-Resolution(MPEG-4)
- Video Conference Call Support (AddPac MCU Inter-working)
- SIP, H.323 Signaling Support
- Rate Control for Video Traffic QoS
  - Ensuring Optimized Quality
  - Frame Rate with Limited Bandwidth
- High-end Error Resilient Against Various Packet Error

AP-IP300 Premium IP Phone

IPNext185 Next Generation Hybrid IP-PBX System

- LCD Window : 4.3 Inch High Quality Color LCD
- External I/O Interface
  - Audio In/Out
  - Two(2) Fast Ethernet Interface
  - PSTN FXO Interface (option)
  - USB 1.1 Host Mode Interface
- 25 Speed Dial Key and Presence Indication LAMP
- Various Voice Codec Support
  - G.711, G.726, G.729, G.723.1, etc
- SIP, H.323 Signaling Support
- Traffic Control, IP Share
- IP Audio Broadcasting Support

AP-IP160 IP Phone

IPNext185 Next Generation Hybrid IP-PBX System

- Graphic LCD Display
- External I/O Interface
  - Audio In/Out
  - Two(2) Fast Ethernet Interface
  - PSTN FXO Interface (optional)
- PoE (Power over Ethernet) Support (option)
- 16 Speed Dial Key and Presence Indication LAMP
- Various Voice Codec Support
  - G.711, G.726,G.729,G.723.1 etc
- SIP, H.323 Signaling Support
- Traffic Control, IP Share
- IP Audio Broadcasting Support

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AP-IP120 IP Phone

IPNext185 Next Generation Hybrid IP-PBX System

- Graphic LCD Display
- External I/O Interface
  - Audio In/Out
  - Two(2) Fast Ethernet Interface
  - PSTN FXO Interface (optional)
- PoE (Power over Ethernet) Support (Option)
- 12 Speed Dial Key and Presence Indication LAMP
- Various Voice Codec Support
  - G.711, G.726,G.729,G.723.1 etc
- SIP, H.323 Signaling Support
- Traffic Control, IP Share
- IP Audio Broadcasting Support

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AP-WP100 IP Phone

IPNext185 Next Generation Hybrid IP-PBX System

- LCD ： 220 X 176 260K Color 2" TFT LCD
- Wireless : IEEE802.11b/g Support
- Audio Interface
  - 2 x MIC-IN, Receiver OUT, Speaker OUT , Head Phone OUT
- SIP Signaling Support
- IO PORT
  - Ear-phone jack 2.5mm, 4 Contact
  - 24PIN Data Connector
    - USB Device, RS232 TTL, Battery Charge 4.2V or 5V(USB)
  - 3PIN Battery Charge Connector(4.2V)
- Other
  - 23 Keys (Front) + 4 Keys (Side) , 8 Back Light LEDs
  - Vibration Motor
  - Battery : 3.7V, 1330mAh Lithium Polymer Battery (Inner Pack Type)

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AP-PT100 Presence Terminal

IPNext185 Next Generation Hybrid IP-PBX System

- User Presence and Touch Screen based Speed Dialing Terminal
- "7 Inch Color TFT LCD with Touch Screen
- Inter-working with IP Terminal, Presence Server, Call Manager
- Multiple Terminal Cascading Feature
- User Presence Group Feature
- Firmware Upgradeable Architecture
- PoE (Power over Ethernet) Function
- Internal Speaker

Smart Messenger for UC

IPNext185 Next Generation Hybrid IP-PBX System

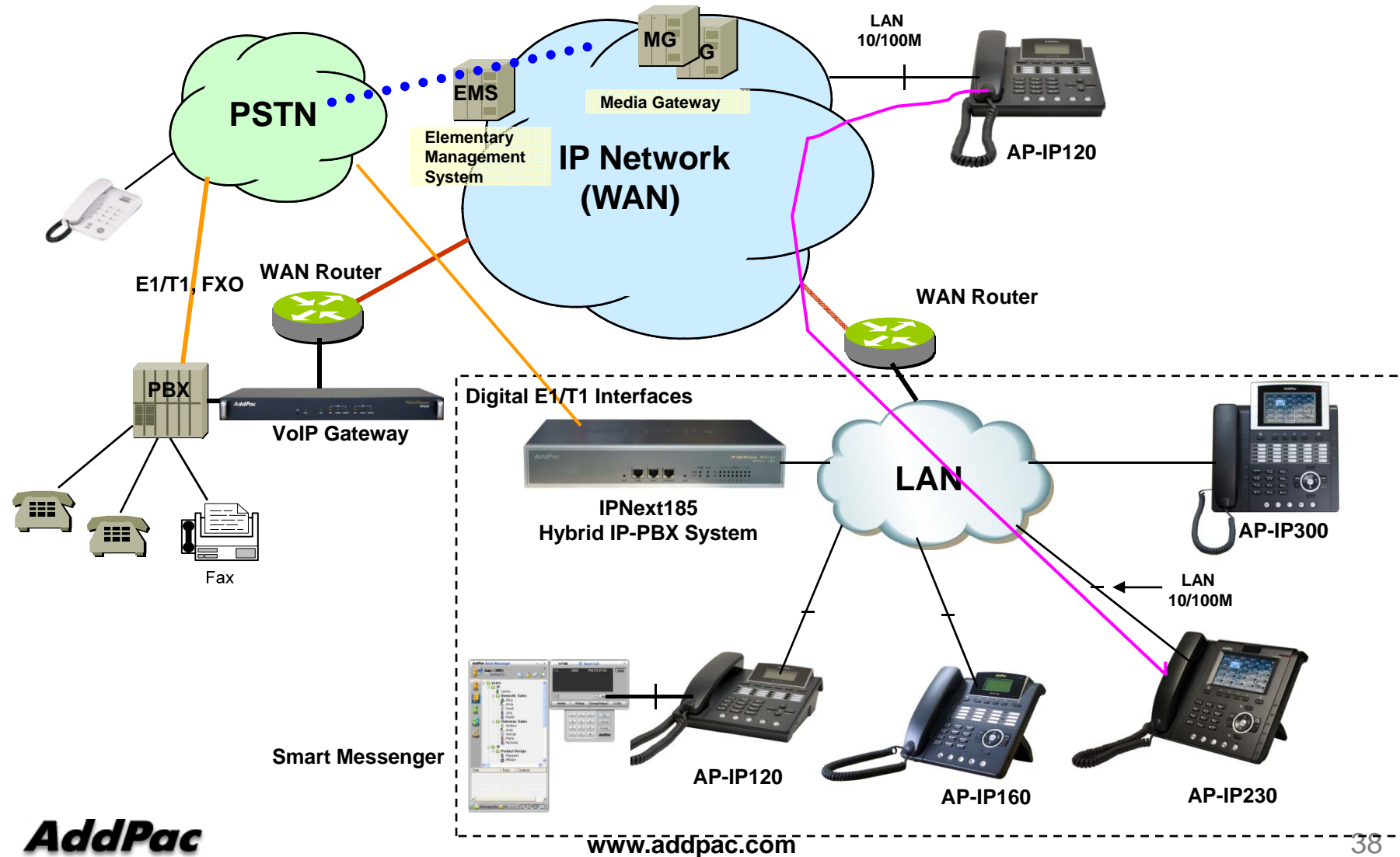- **Smart Messenger Program**
  - PC based MS-Window Program
  - Support Messenger Service
  - Support Various Address Book
  - Support User Presence Information
    (Busy, Away, On-line, etc)
  - Support User Search Feature
  - Interoperation with Address Book and Smart Phone
  - Support Smart Phone Control and Setup
    - Call Control and Forward Setup
  - Support Unified Message Box
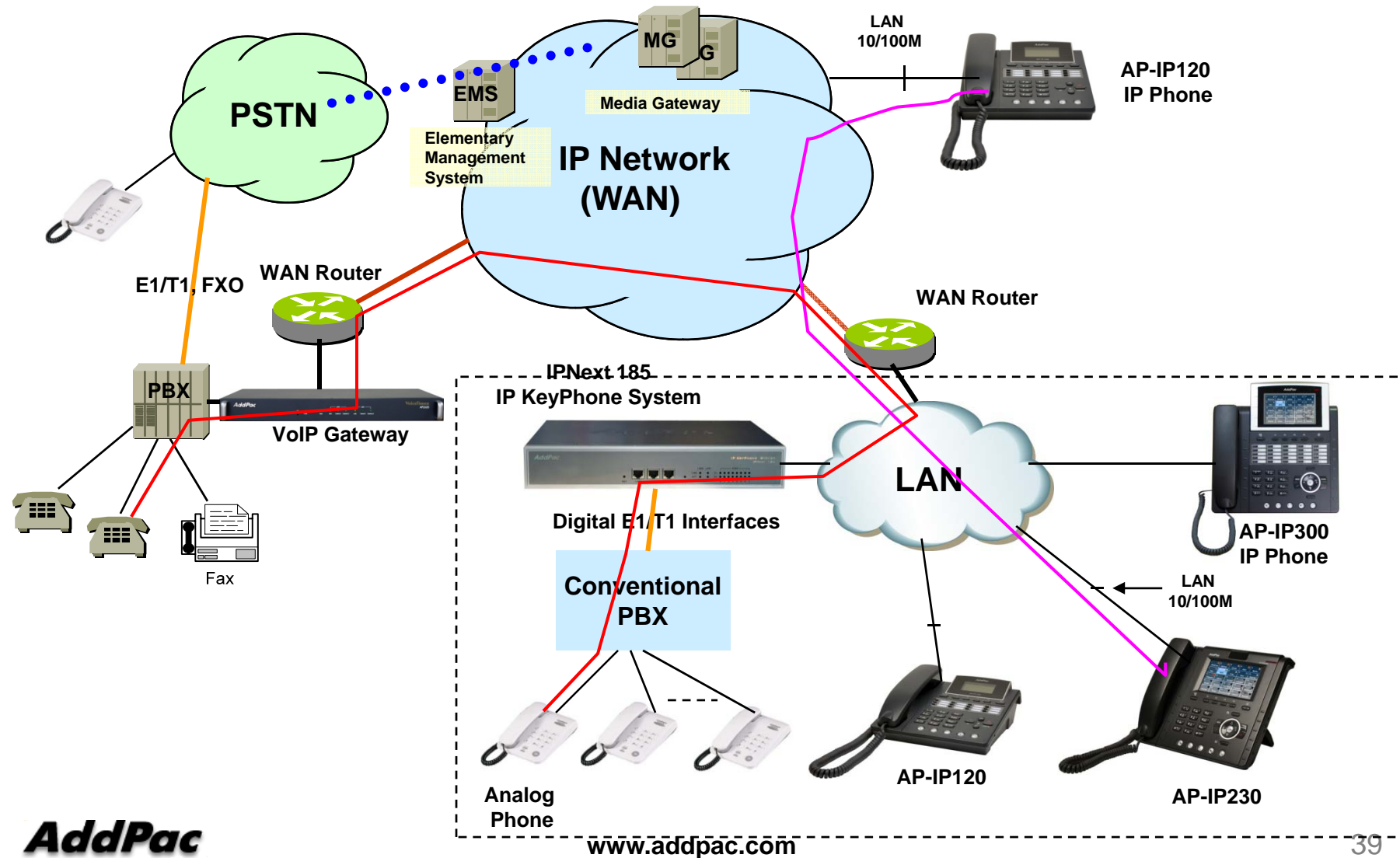   - Voice Mail Box
    - Short Message Box

Smart Messenger

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Standard Application (PSTN)

IPNext185 Next Generation Hybrid IP-PBX System

PSTN

EMS

Elementary Management System

MG G

Media Gateway

IP Network (WAN)

LAN 10/100M

AP-IP120

E1/T1, FXO

WAN Router

WAN Router

PBX

VoIP Gateway

Digital E1/T1 Interfaces

LAN

Fax

IPNext185 Hybrid IP-PBX System

AP-IP300

LAN 10/100M

Smart Messenger

AP-IP120

AP-IP160

AP-IP230

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Standard Application (PBX Interworking)

IPNext 185 Next Generation IP KeyPhone System

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www.addpac.com

Ordering Information

- **IPNext185 Next Generation Hybrid IP-PBX System**
  - IPNext185 Hybrid IP-PBX System Main Body
  - 2-ports 10/100/1000Mbps Gigabit Ethernet and 1-port RS-232C Console
  - Internal Power Supply
  - Including Network Cable Set & Power Supply Cable, etc.
  - PSTN Interface Modules (Option)
- **Built-in APOS Internetworking Software for IPNext185**
- **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

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Thank you!

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Sales and Marketing

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