IPNext600
System Redundancy IP-PBX
High-performance Next Generation IP-PBX Solution

Preliminary Product Overview
(Without notice, following described technical spec. can be changed)

AddPac Technology

Sales and Marketing

Contents

IPNext600 Next Generation IP-PBX System

- Product Overview
- Hardware Specification
- System Redundancy Features
- Software Service
- IP Telephony Service and Features
- RTP Proxy Service
- User Presence Service
- Network Service and Features
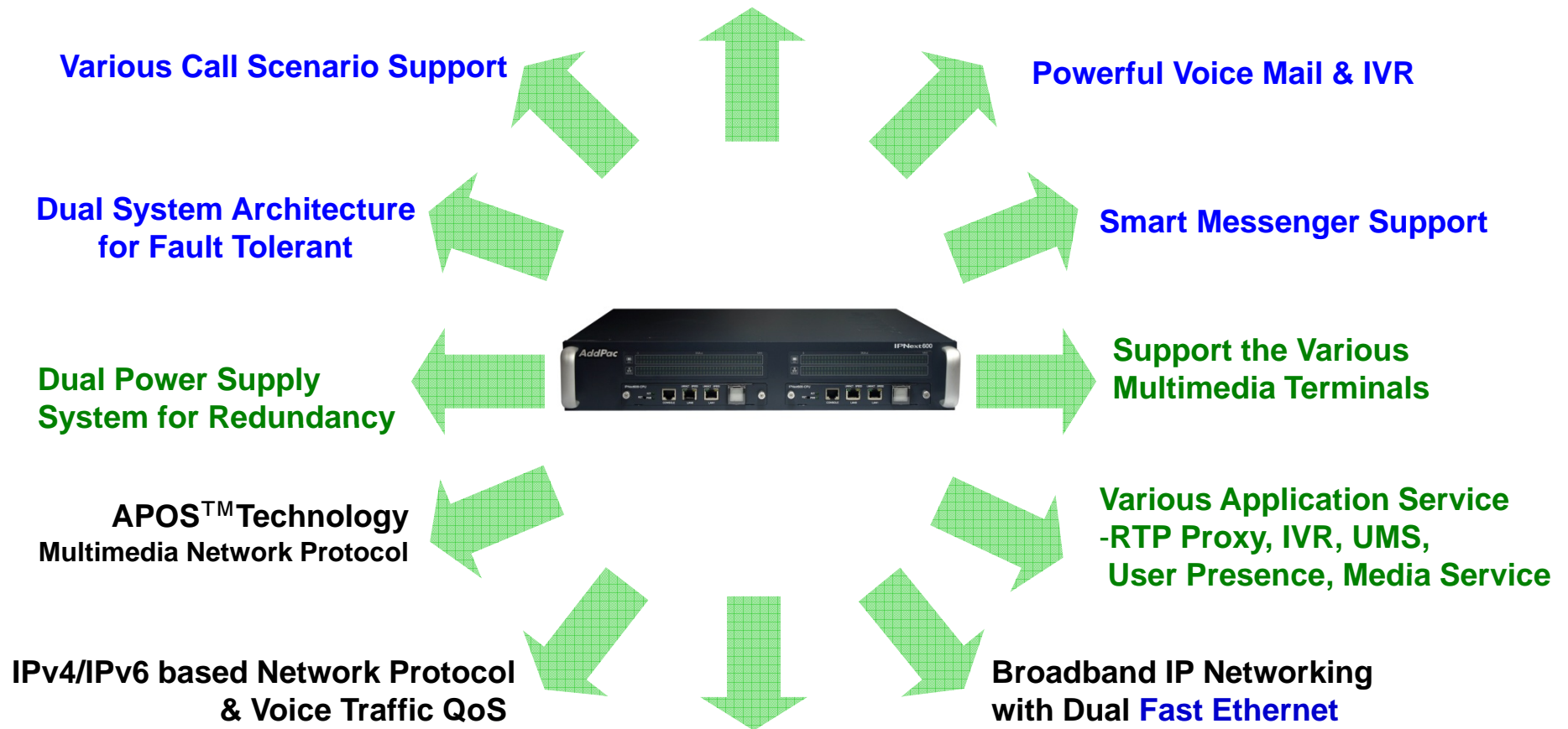- User Terminals
- Application Area
- Ordering Information

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Product Overview

- SIP Application Server, Proxy, Registrar and Location Server
- Multiple ITSP Trunk with SIP & H.323 Accounts Support
- Dual System Redundancy Architecture
  - Two(2) Fast Ethernet Interface / System
- High Performance RISC Architecture
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- IPv4/IPv6 Dual Stack
- RTP Proxy Function Embedded for Private IP and IPv6 Address Interworking
- User Presence Service Features for Smart Multimedia Messenger and Smart IP Phone
- IVR Scenario Editor, Voice Mail, Media Service (Coloring), Conference
- Firmware Upgradeable Architecture
- Smart Multimedia Manager for IP-PBX Management
- Smart Messenger Service (click to dial) for Unified Communication
- VPMS (VoIP Plug&Play Management System) & Smart NMS for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Dual Redundancy Power Module

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Product Highlights

IPNext600 Next Generation IP-PBX System

IP based Advanced IP-PBX

Various Call Scenario Support

Powerful Voice Mail & IVR

Dual System Architecture for Fault Tolerant

Smart Messenger Support

Dual Power Supply System for Redundancy

Support the Various Multimedia Terminals

APOS™ Technology Multimedia Network Protocol

Various Application Service -RTP Proxy, IVR, UMS, User Presence, Media Service

IPv4/IPv6 based Network Protocol & Voice Traffic QoS

Broadband IP Networking with Dual Fast Ethernet

Smart Multimedia Management for Operation & Management

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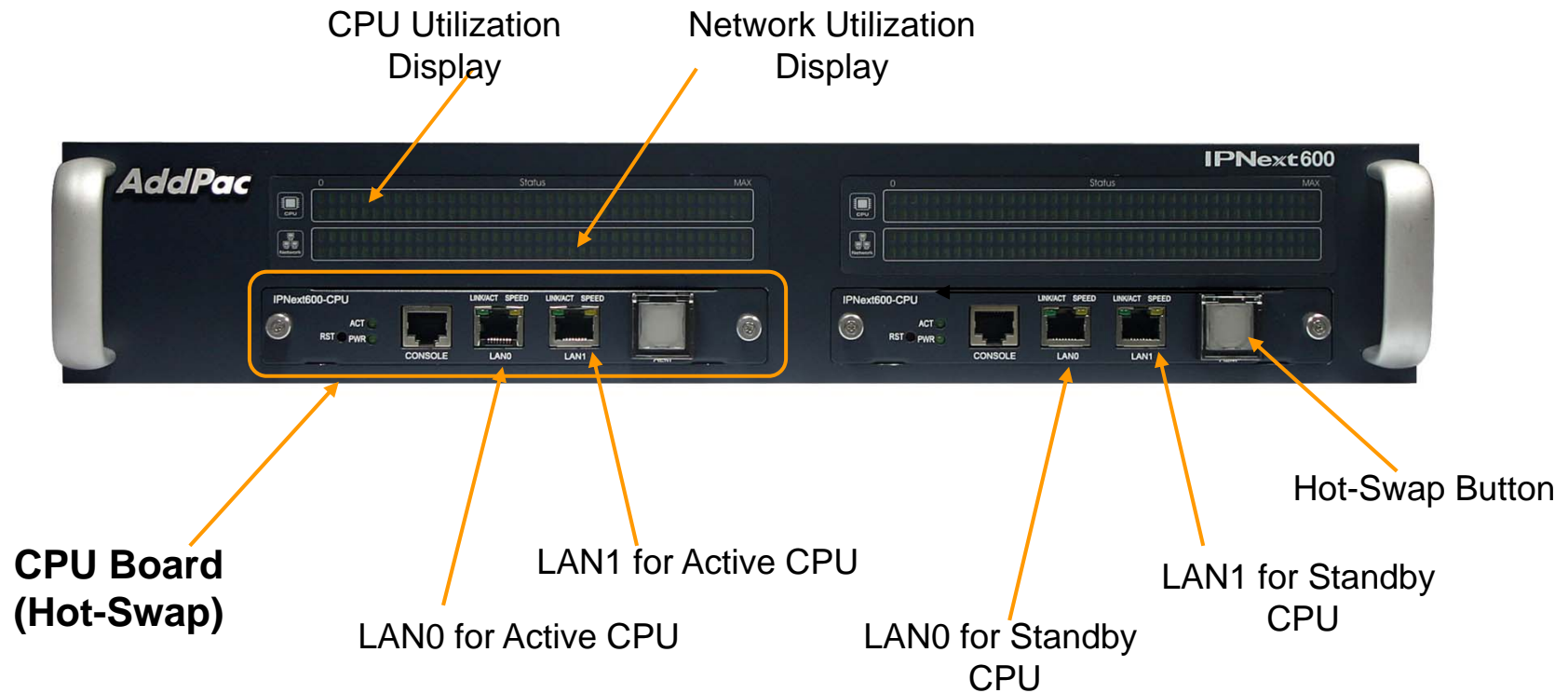# Hardware Specification

RISC CPU

- High-End Microprocessor Computing Power

- Main Chassis
    - Dual Redundancy CPU Boards for System Fault Tolerant
        - Two(2) 10/100Mbps Gigabit Ethernet
        - One(1) RS-232C Console (RJ45)
    - Dual Redundancy Power Supply Module
    - Hot-Swap Features

Hardware Specification

IPNext600 Next Generation IP-PBX System

IPNext 600 Front Side

CPU Utilization Display

Network Utilization Display

Hot-Swap Button

CPU Board (Hot-Swap)

LAN1 for Active CPU

LAN1 for Standby CPU

LAN0 for Active CPU

LAN0 for Standby CPU

IPNext 600 Back Side

Dual Power Supply Modules (Hot-Swap)
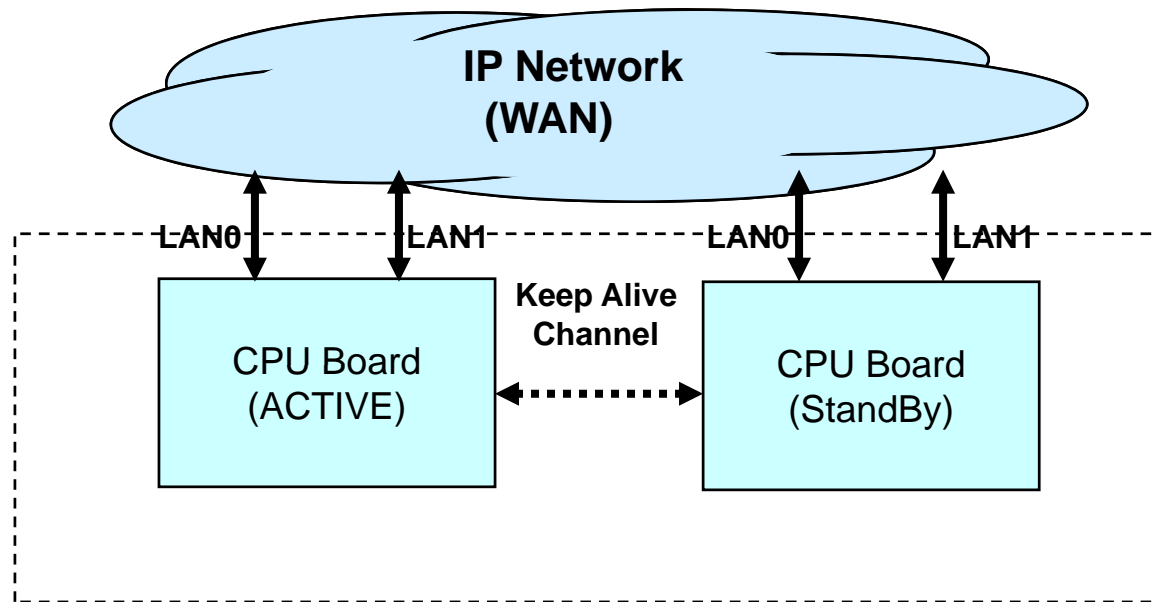

PSU Module A

PSU Module B

Power On/Off Switch for System

System Redundancy Features

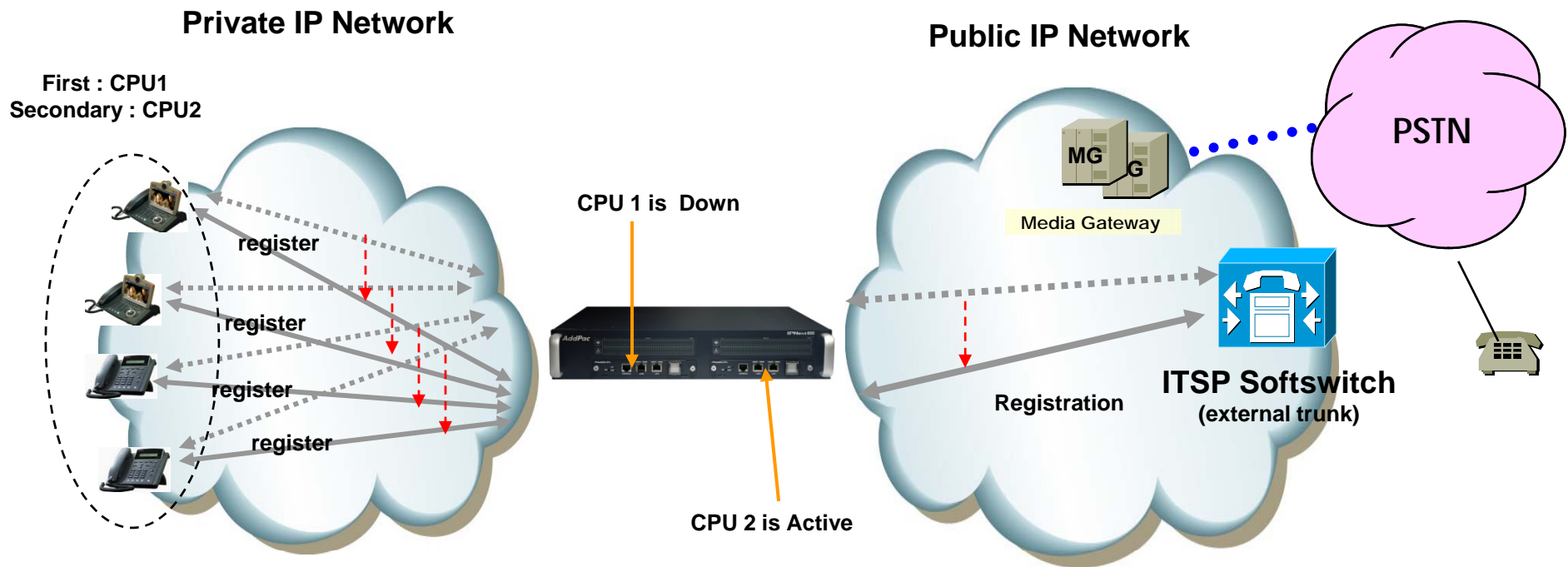IPNext600 Next Generation IP-PBX System

IPNext600 System Block Diagram

System Redundancy Features

IPNext600 Next Generation IP-PBX System

- Active– Active Duplication Scheme
- Active – Standby Duplication Scheme
- VRRP based Duplication Scheme

Private IP Network

Public IP Network

First : CPU1
Secondary : CPU2

PSTN

MG
G

Media Gateway

register

register

register

register

CPU 1 is Down

CPU 2 is Active

ITSP Softswitch
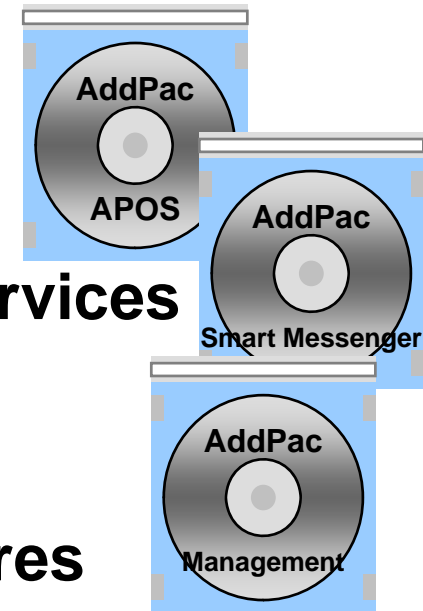(external trunk)

Registration

Active – Standby Duplication Scheme (example)

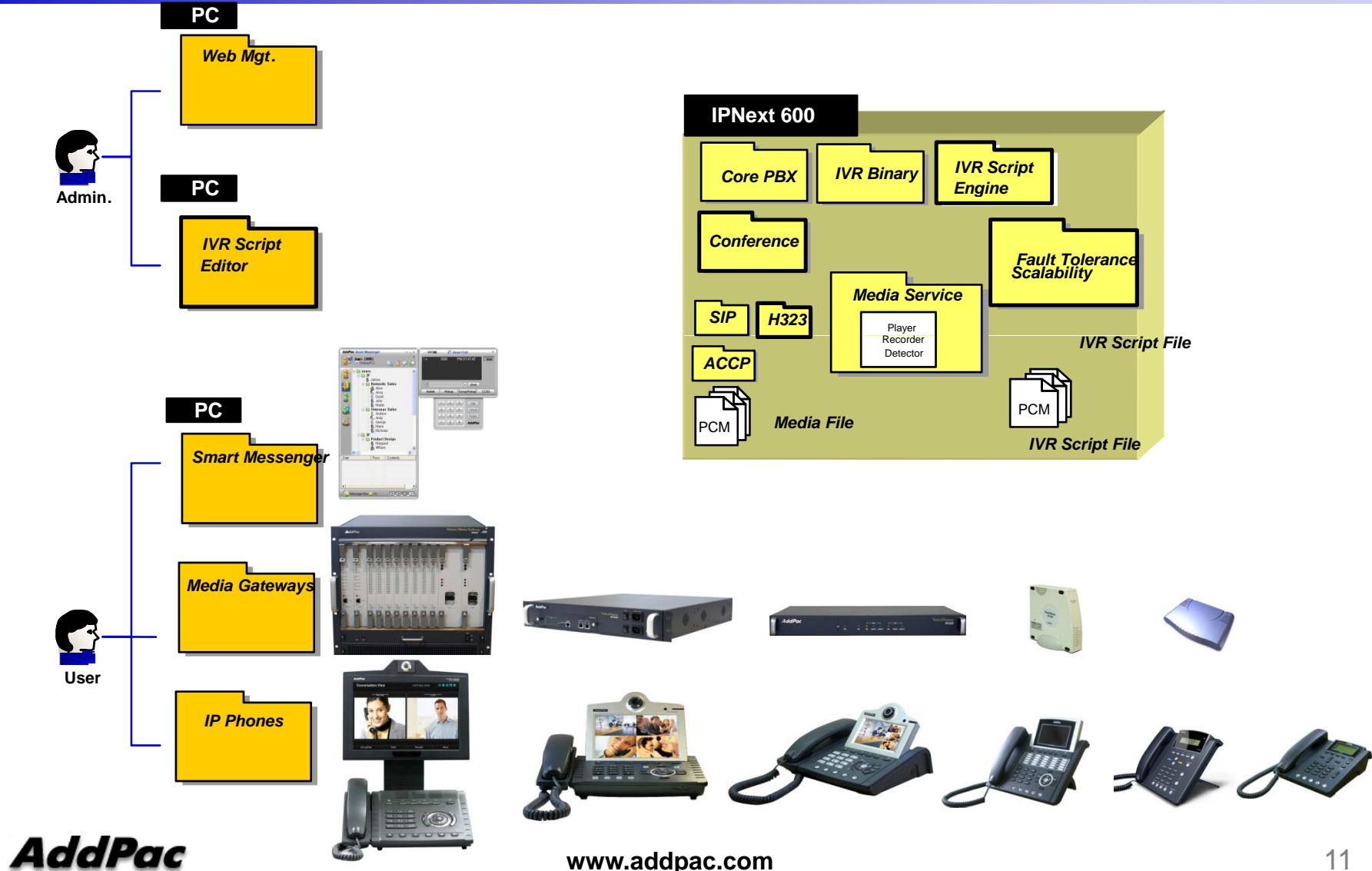**AddPac**

Software Service

IPNext600 Next Generation IP-PBX System

- **Built-in AddPac APOS Internetworking Software**
  - Scalability, Functionality, and Stability Features
  - Advanced IP-PBX Call Manager Features
  - QoS Control Features
- **Programmable Video, Audio, and Voice Services**
  - Audio, Video and Voice Codec
- **Firmware Upgradeable Architecture**
- **Industry Standard Network Protocol Features**
- **Highly User Friendly Management Features**
  - PC based Smart Messenger
  - Smart Multimedia Manager for Operation & Management

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IP-PBX Software Components

IPNext600 Next Generation IP-PBX System

PC

Web Mgt.

Admin.

PC

IVR Script Editor

PC

Smart Messenger

User

Media Gateways

IP Phones

IPNext 600

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

IPNext600 Next Generation 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

IPNext600 Next Generation 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

IPNext600 Next Generation 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

IPNext600 Next Generation 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

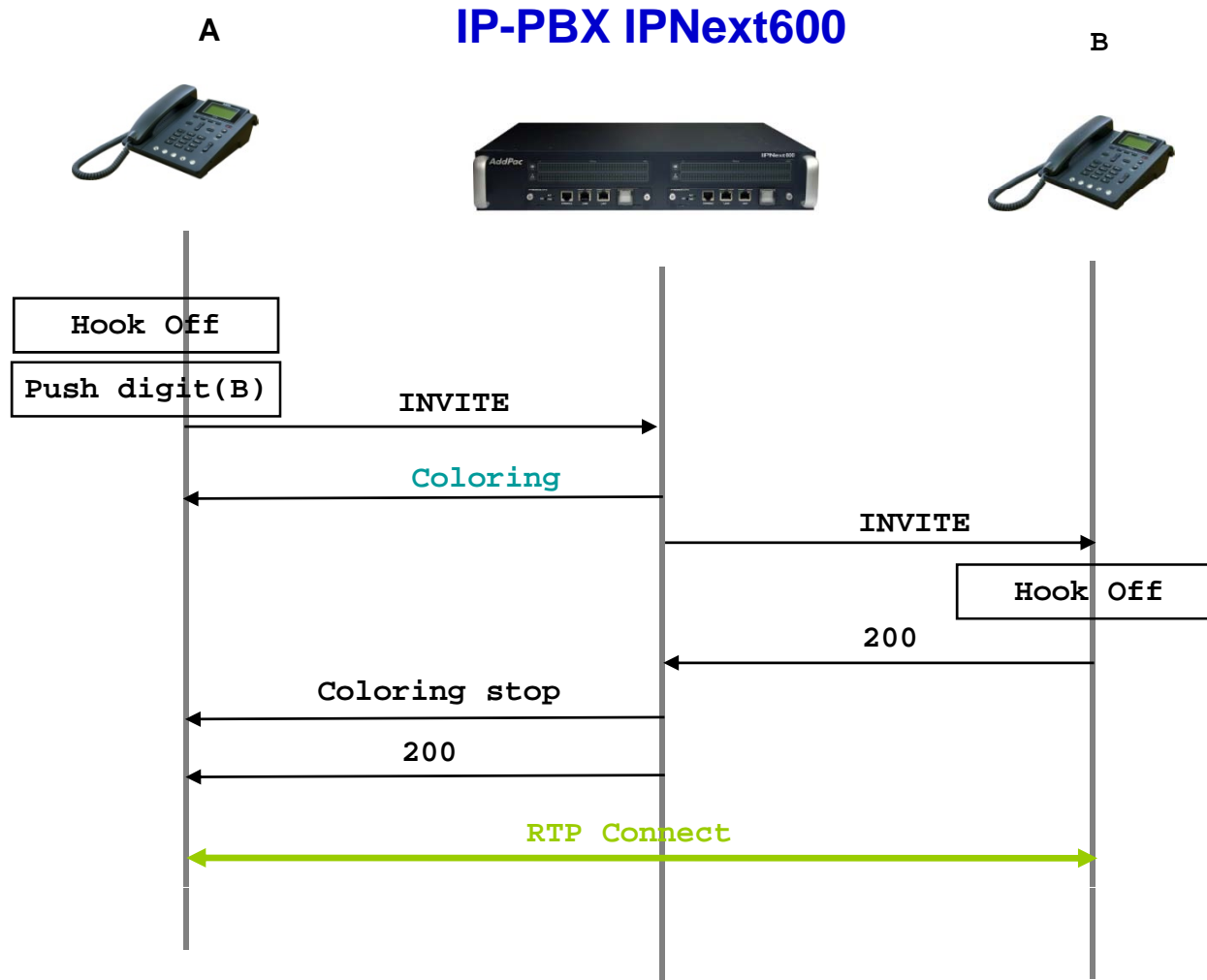## IPNext600 Next Generation IP-PBX System

- **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
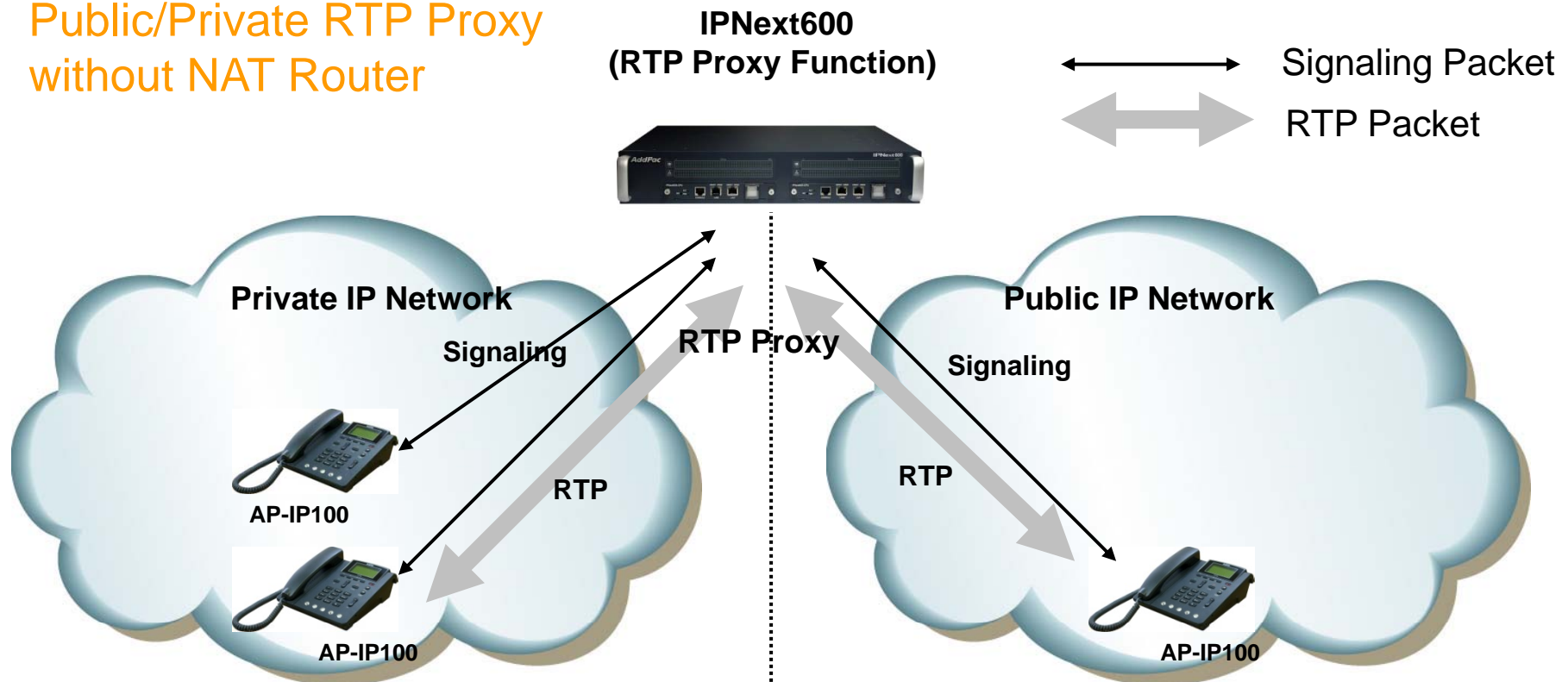
IP Telephony Basic Call Scenario

IPNext600 Next Generation IP-PBX System

A **IP-PBX IPNext600** **B**

Hook Off

Push digit(B)

INVITE →

← Coloring

INVITE →

Hook Off

← 200

Coloring stop →

← 200

← RTP Connect →

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RTP Proxy Service

IPNext600 Next Generation IP-PBX System

Public/Private RTP Proxy without NAT Router

IPNext600 (RTP Proxy Function)

Signaling Packet

RTP Packet

Private IP Network

Signaling

RTP Proxy

Public IP Network

Signaling

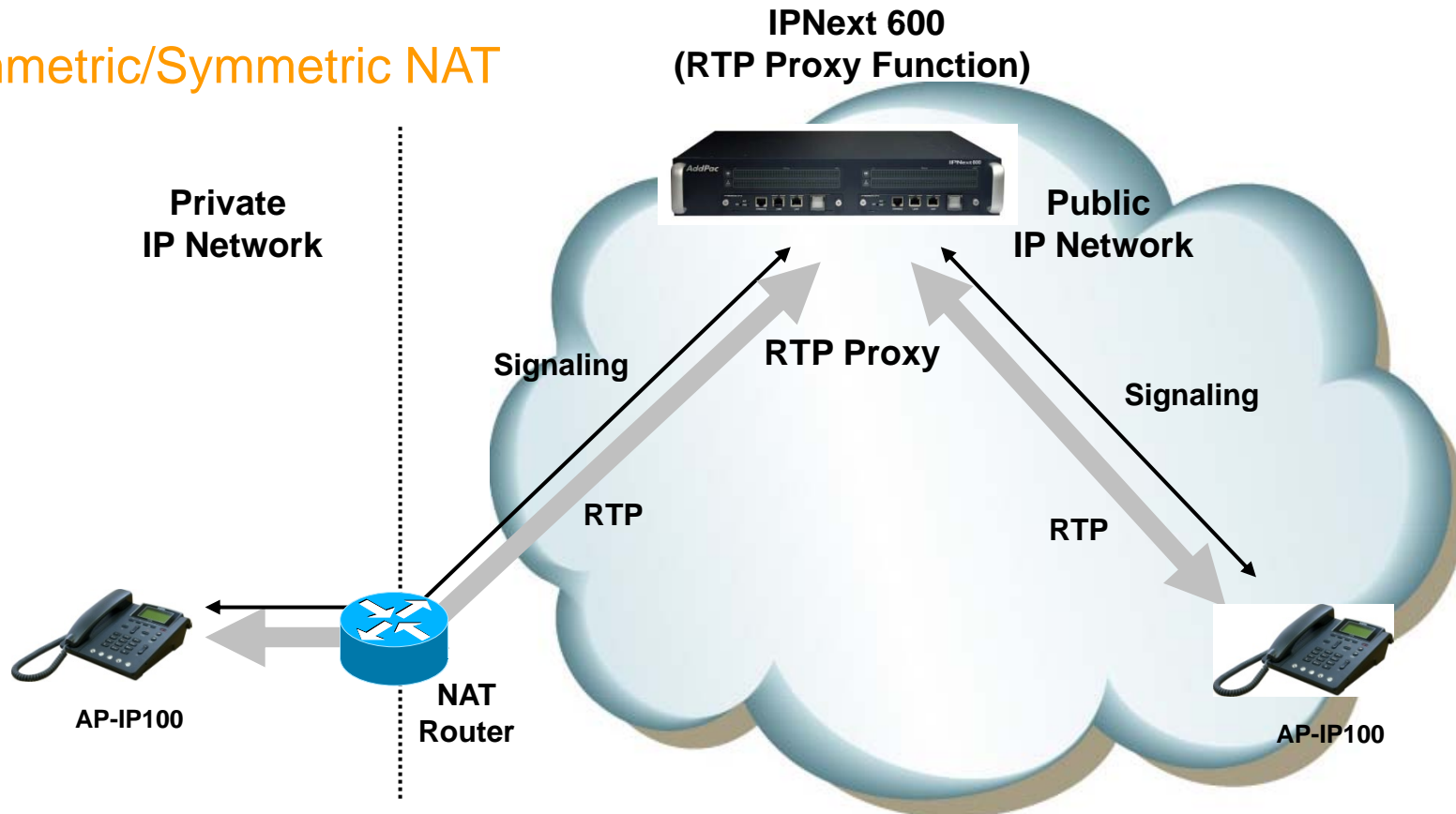AP-IP100

RTP

RTP

AP-IP100

AP-IP100

- Located between public and private network
- IPNext 600(Call manager + RTP proxy) has public and private address
- IPNext 600 determine that the call is internal or external

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RTP Proxy Service

IPNext600 Next Generation IP-PBX System

Asymmetric/Symmetric NAT

IPNext 600
(RTP Proxy Function)

Private
IP Network

Public
IP Network

RTP Proxy

Signaling

Signaling

RTP

RTP

AP-IP100

NAT
Router

AP-IP100
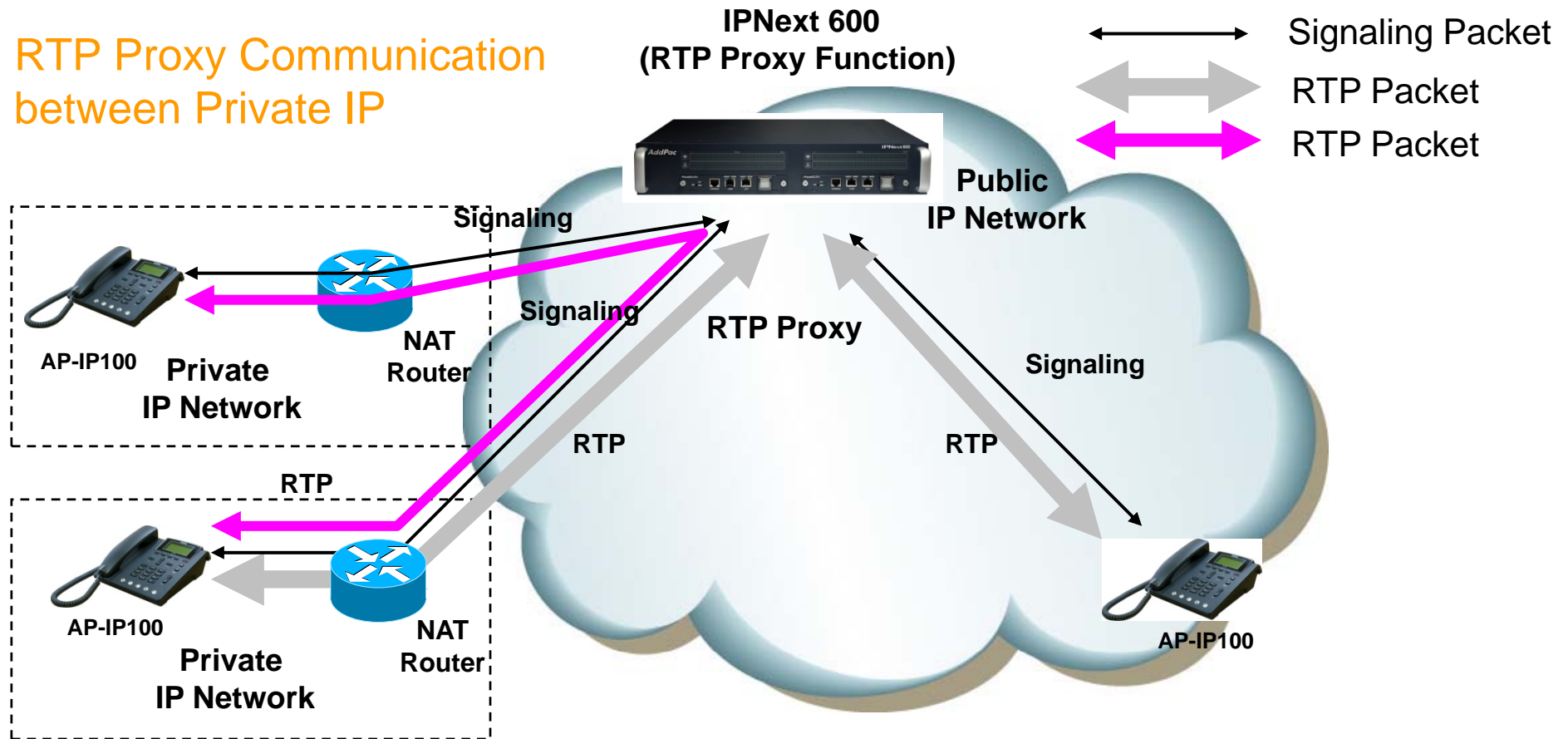
- Located in public network
- RTP Proxy has single public address
- Auto detect for asymmetric NAT via incoming RTP packet

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RTP Proxy Service

IPNext600 Next Generation IP-PBX System

RTP Proxy Communication between Private IP

**IPNext 600
(RTP Proxy Function)**

Signaling Packet

RTP Packet

RTP Packet

**Public
IP Network**

Signaling

Signaling

AP-IP100 Private
IP Network

**NAT
Router**

RTP Proxy

Signaling

RTP

RTP

RTP

AP-IP100 Private
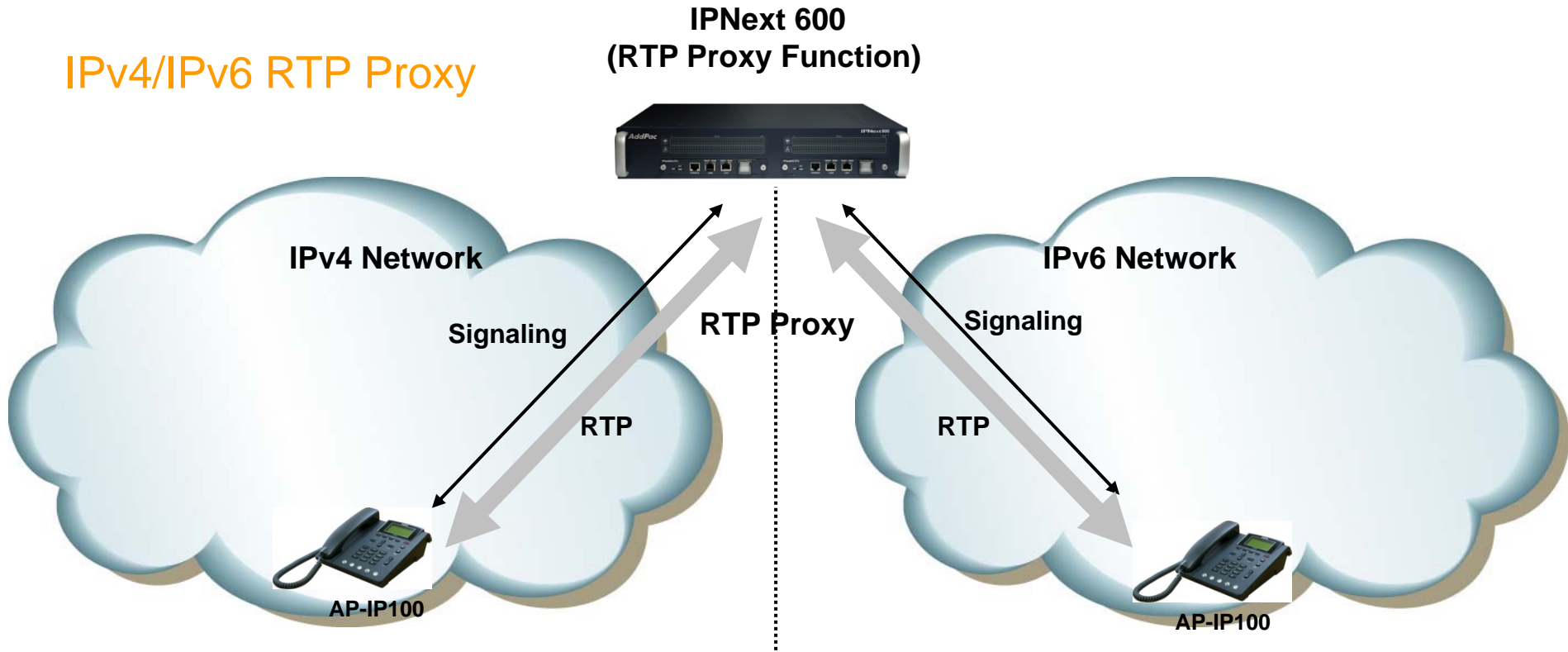IP Network

**NAT
Router**

AP-IP100

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

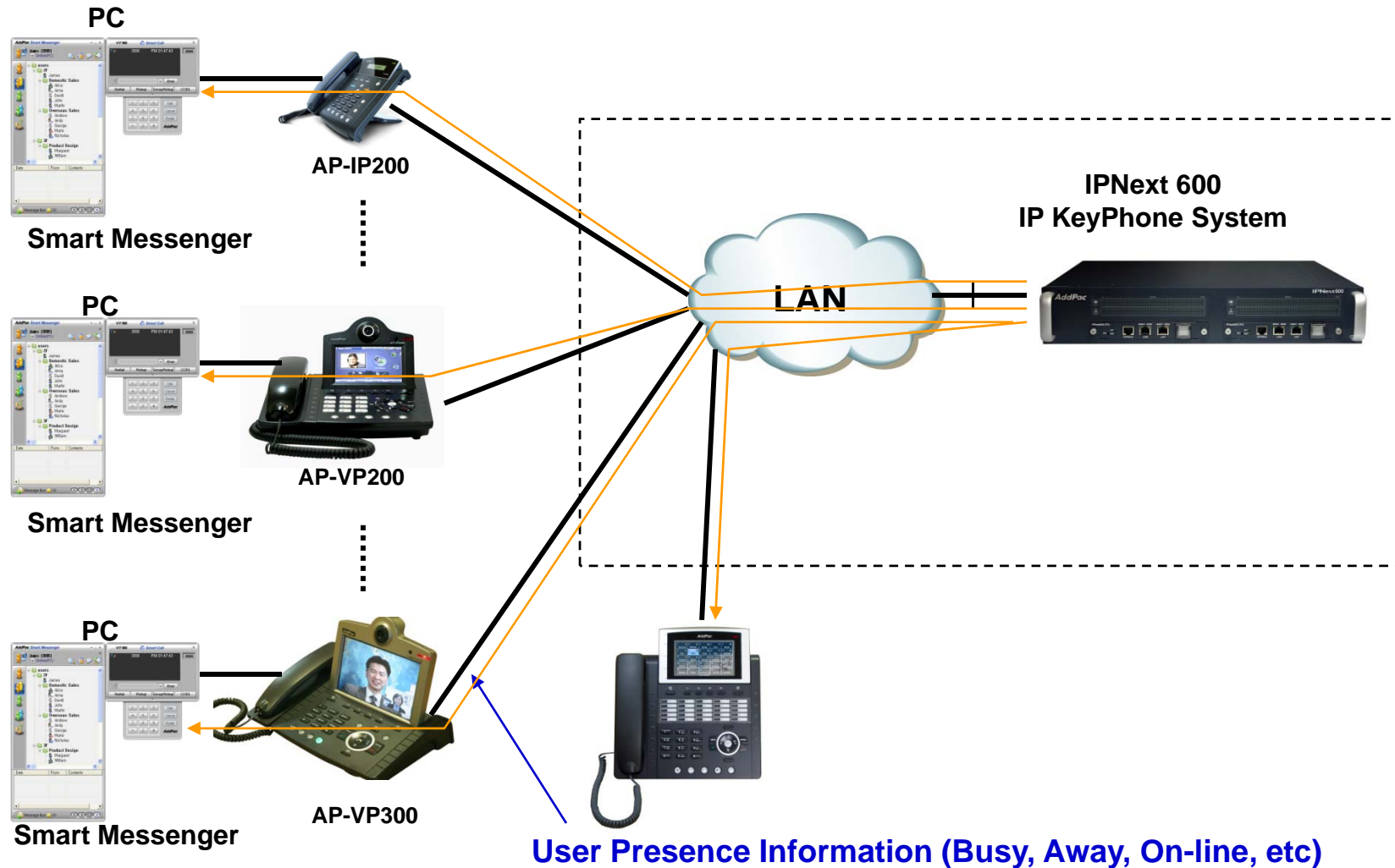**AddPac**

RTP Proxy Service

IPNext600 Next Generation IP-PBX System

IPNext 600
(RTP Proxy Function)

IPv4/IPv6 RTP Proxy

IPv4 Network

IPv6 Network

RTP Proxy

Signaling

Signaling

RTP

RTP

AP-IP100

AP-IP100

• IPNext 600(Call manager + RTP proxy) has IPv4 and IPv6 address

User Presence Service for UC

IPNext600 Next Generation IP-PBX System

PC

Smart Messenger

AP-IP200

PC

Smart Messenger

AP-VP200

PC

Smart Messenger

AP-VP300

LAN

**IPNext 600
IP KeyPhone System**

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

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Network Service and Features

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

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

Network Service and Features

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
- AP-VP300 Video Phone
- AP-VP280 Video Phone
- AP-VP250 Video Phone
- AP-VP150 Video Phone
- AP-VP120 Video Phone
- AP-IP300 IP Phone
- AP-IP150 IP Phone
- AP-IP120 IP Phone
- AP-IP90 IP Phone
- AP-PT100 User Presence Terminal
- AP-WP100 WiFi IP Phone
- AP-SMP100 Soft Phone
- Smart Messenger for UC

AP-IP120

AP-VP300

AP-VP120

AP-VP150

AP-VP280

AP-IP300

AP-IP150

AP-WP100

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AP-VP500 Video Phone

IPNext600 Next Generation 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

AP-VP300 Video Phone

IPNext600 Next Generation IP-PBX System

- 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

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AP-VP250 Video Phone

IPNext600 Next Generation 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

IPNext600 Next Generation IP-PBX System

- 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

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AP-VP120 Video Phone (New)

IPNext600 Next Generation IP-PBX System

- 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

IPNext600 Next Generation 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-IP150 IP Phone

IPNext600 Next Generation IP-PBX System

- LCD Display
- External I/O Interface
    - Audio In/Out
    - Two(2) Fast Ethernet Interface
    - RS-232C Console(RJ45)
    - PSTN FXO Interface (optional)
- PoE (Power over Ethernet) Support
- 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

IPNext600 Next Generation IP-PBX System

- RISC+DSP Microprocessor Computing Power (Dual Processor Architecture)
- Optional PSTN Backup (FXO) Interface
- Optional PoE (Power over Ethernet)
- High quality Audio and Voice Interface
  - Stereo Audio Input Connector
  - Stereo Audio Output Connector
- Network Interface
  - Two(2) 10/100Mbps Fast Ethernet
- LCD Window : Graphic LCD (4 Line Text)
- 12 Speed-Dial Key with Presence Indication LAMP
- Power Supply
  - External Power Adaptor (5V, 2A)

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AP-IP90 IP Phone

IPNext 600 Next Generation IP-PBX System

- LCD Window : Graphic LCD (4 Line Text)
- External I/O Interface
  - Audio In/Out
  - Two(2) Fast Ethernet Interface
  - PSTN FXO Interface (optional, AP-IP90E Model)
- 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-PT100 Presence Terminal

IPNext600 Next Generation 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

IPNext 600 Next Generation IP-PBX System
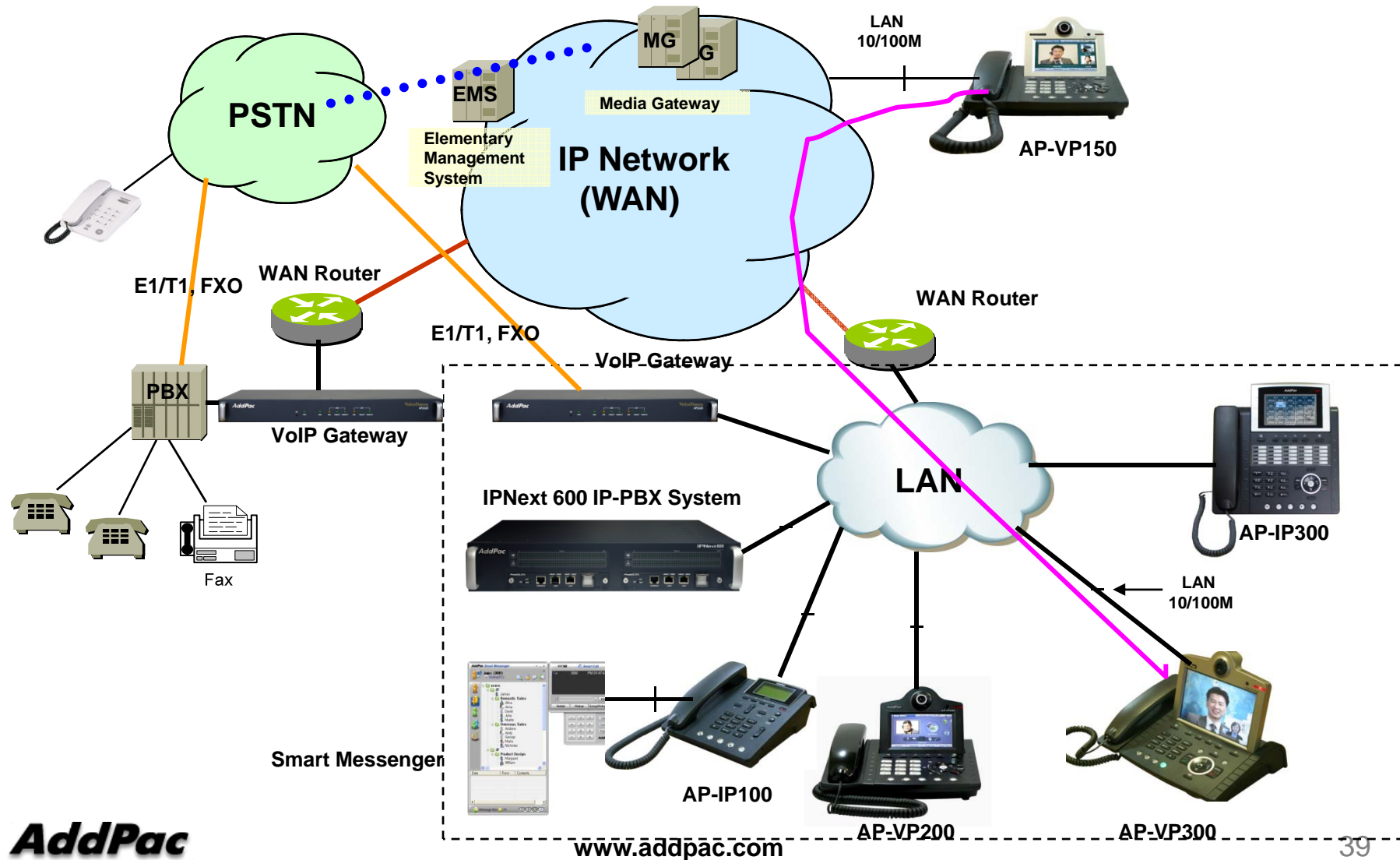
- **Smart Messenger Program**
  – PC based MS-Window Program
  – Support Messenger Service
  – Support Various Address Book
  – Support User Presence Information
    (Busy, Away, On-line, etc)
  – Support User Search Feature
  – Interoperation with Address Book and Smart Phone
  – Support Smart Phone Control and Setup
    • Call Control and Forward Setup
  – Support Unified Message Box
    • Voice Mail Box
    • Short Message Box

Smart Messenger

Standard IP-PBX System Application

IPNext 600 Next Generation IP-PBX System

PSTN

MG G

EMS

Elementary Management System

Media Gateway

IP Network (WAN)

LAN 10/100M

AP-VP150

E1/T1, FXO

WAN Router

E1/T1, FXO

VoIP Gateway

WAN Router

PBX

VoIP Gateway

IPNext 600 IP-PBX System

LAN

AP-IP300

LAN 10/100M

Fax

Smart Messenger

AP-IP100

AP-VP200

AP-VP300

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Ordering Information

- **IPNext 600 Next Generation IP-PBX Hardware**
    - IPNext 600 IP-PBX Main Body
    - High-performance 64bit RISC CPU
    - High-End 64bit CPU board (Hot-Swap)
    - 2-ports Fast Ethernet and 1-port RS-232C Console
    - Including Network Cable Set & Ext. Power Supply, etc.
    - Power Supply Module (Hot-Swap)
    - Additional CPU board for Fault Tolerant (option)
    - Additional Power Supply Module for Redundancy (option)
- **Built-in APOS Internetworking Software for IPNext 600**
- **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!

AddPac Technology Co., Ltd.
Sales and Marketing

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