



AP500

4-Port FXS VoIP Gateway

High Performance VoIP Gateway Solution

Product Overview



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AddPac

AddPac Technology

Sales and Marketing

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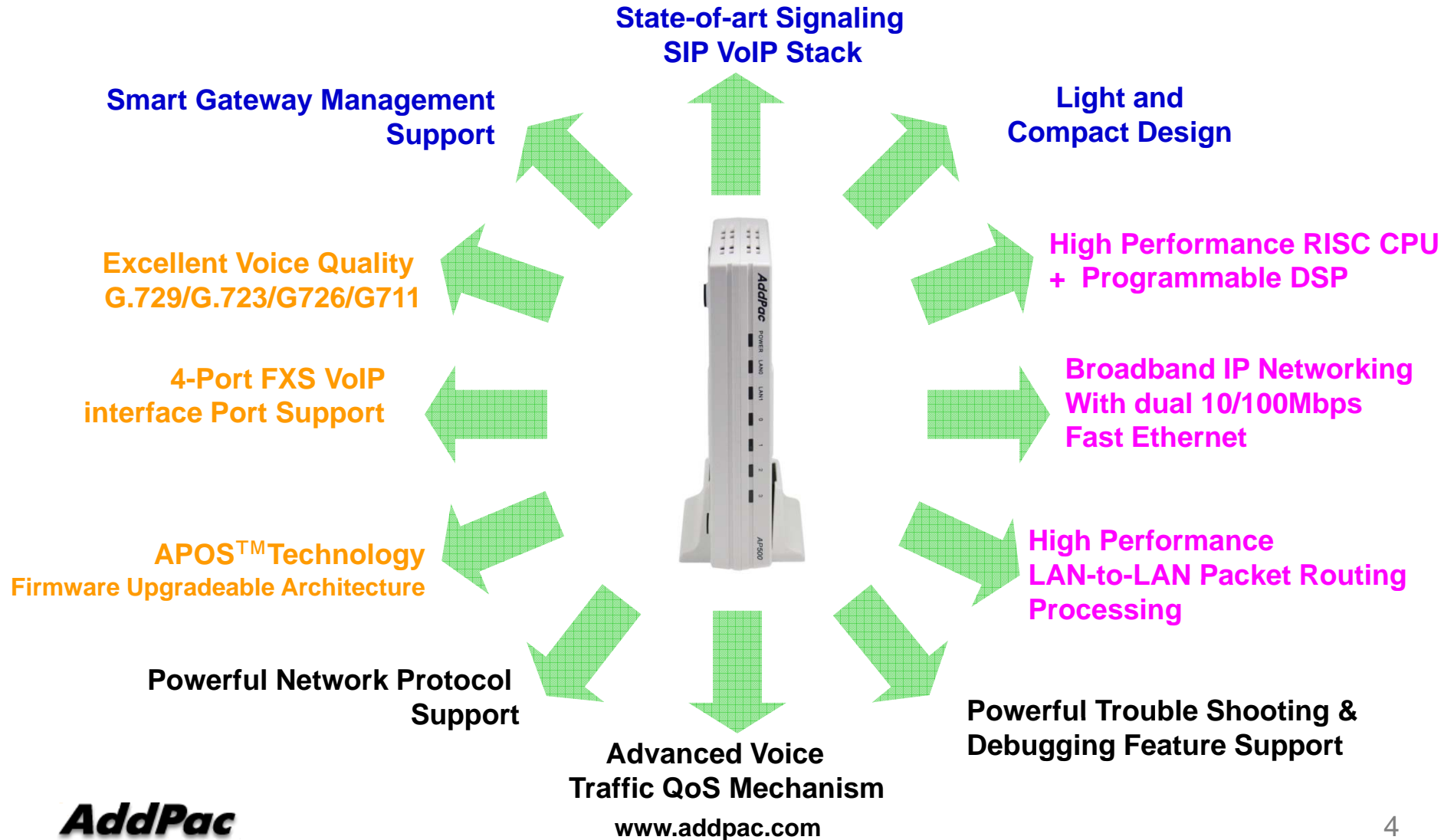
Product Overview

AP500 4-Port FXS Analog VoIP Gateway

- SIP VoIP Signaling Support (H.323 Option)
- 4-Port FXS Analog Interface
- High Performance RISC & Programmable DSP Architecture
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- High Performance LAN-to-LAN Routing Capability
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, Tunneling, etc)
- Powerful Trouble Shooting & VoIP Signaling Debugging Feature
- Firmware Upgradeable Architecture
- Smart NMS(Network Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Light and Compact Design with External Power Supply

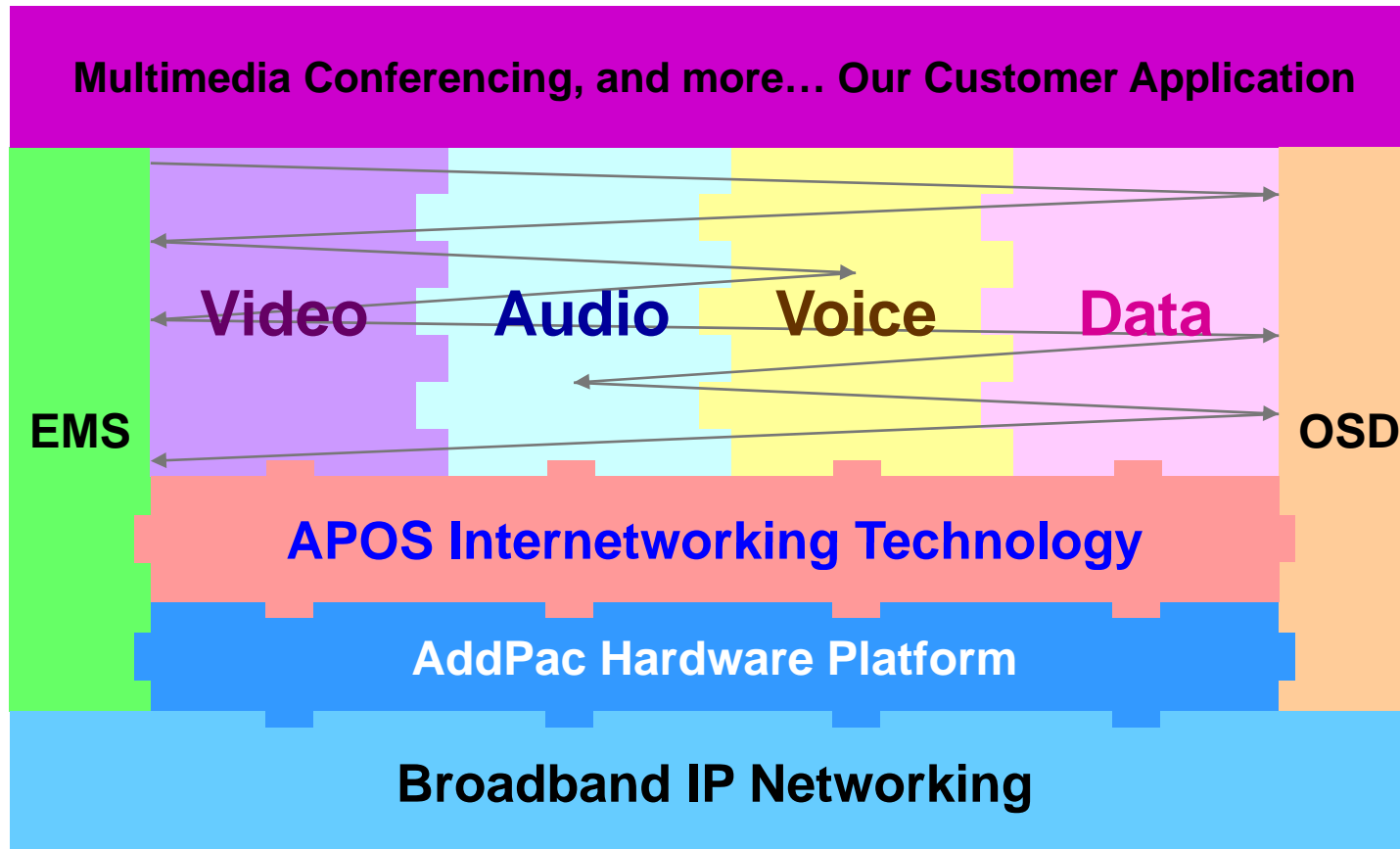
Product Highlights

AP500 4-Port FXS Analog VoIP Gateway



APOS Technology

AP500 4-Port FXS Analog VoIP Gateway



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

Hardware Specification

AP500 4-Port FXS Analog VoIP Gateway

RISC
CPU

High-end
DSP

- RISC Microprocessor Computing Power
- 4-Port FXS Analog VoIP Gateway
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- One(1) RS232C Console Interface for CLI (RJ45)
- Run LED, LAN LED, Port LEDs
- External Power Supply

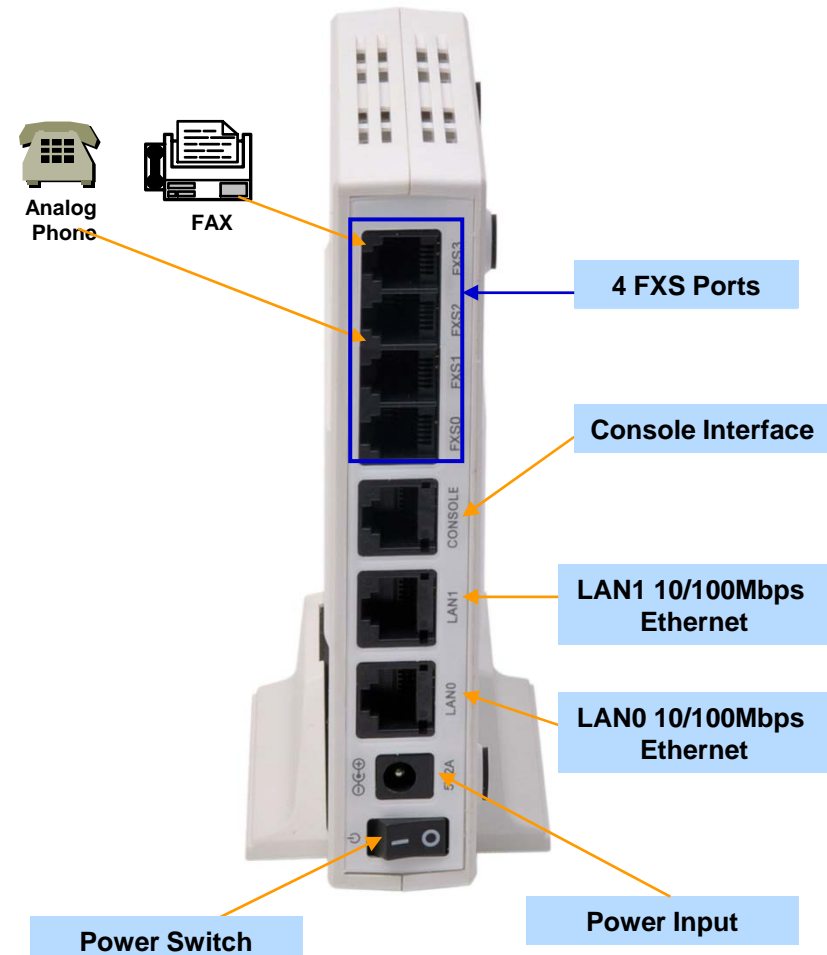
Hardware Specification

AP500 4-Port FXS Analog VoIP Gateway

Hardware Specifications

AP500 VoIP Gateway	Basic Specifications
Voice Interface	Four(4) FXS Analog Interface
Ethernet Interface	2-Ports 10/100Mbps Ethernet Interface(RJ-45)
Flash Memory	4Mbyte High-speed Flash Memory
Base Memory	32Mbyte High-speed SDRAM
Power Requirement	Power Supply Adaptor / VAC 110~220V, 50/60Hz, 5V, 2A
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	135mm x 135mm x 28mm (H x W x D)

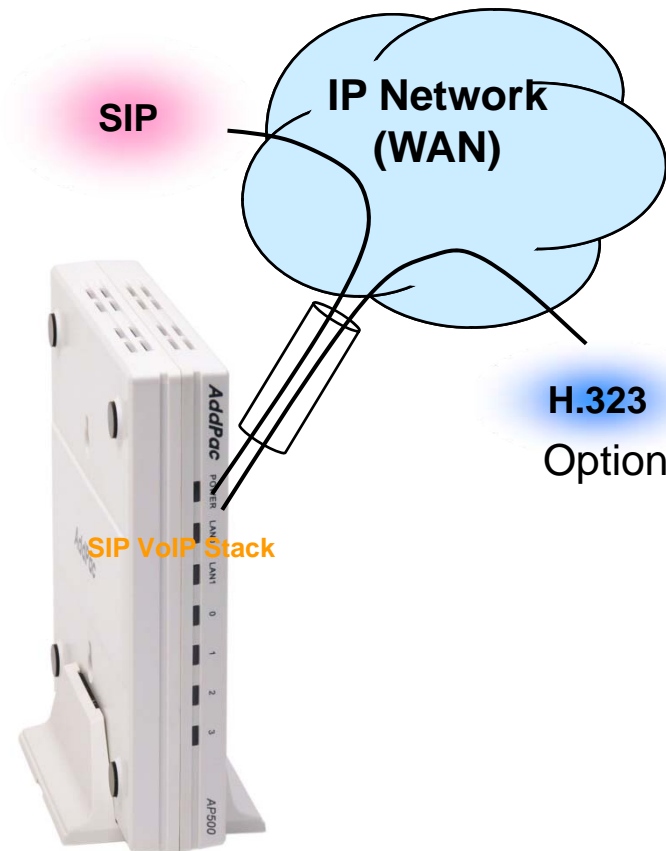
Network interface Configurations



VoIP (Voice over IP) Service

AP500 4-Port FXS Analog VoIP Gateway

- **SIP VoIP Signaling Stack**
- **H.323 (Option)**
- **SIP**
 - IETF RFC3261 or RFC2543 SIP Standard
 - 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



VoIP (Voice over IP) Service

AP500 4-Port FXS Analog VoIP Gateway

- **Voice Codec**

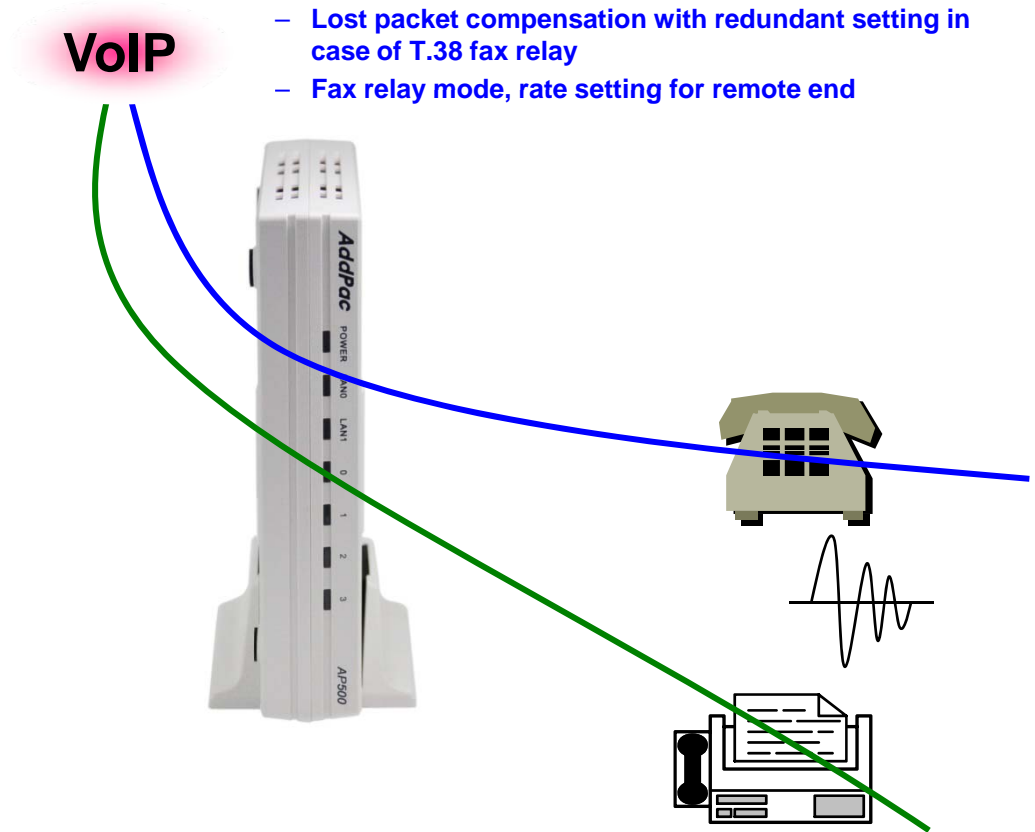
- G.711 A-Law, G.711 U-Law
- G.726 r16, G.726 r32
- G.729A
- G.723.1 r63, G.723.1 r53
- VAD (Voice Activity Detection) function support
- DTMF relay support (H.323, SIP, MGCP common) based on RFC2833

- **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 (Voice over IP) Service

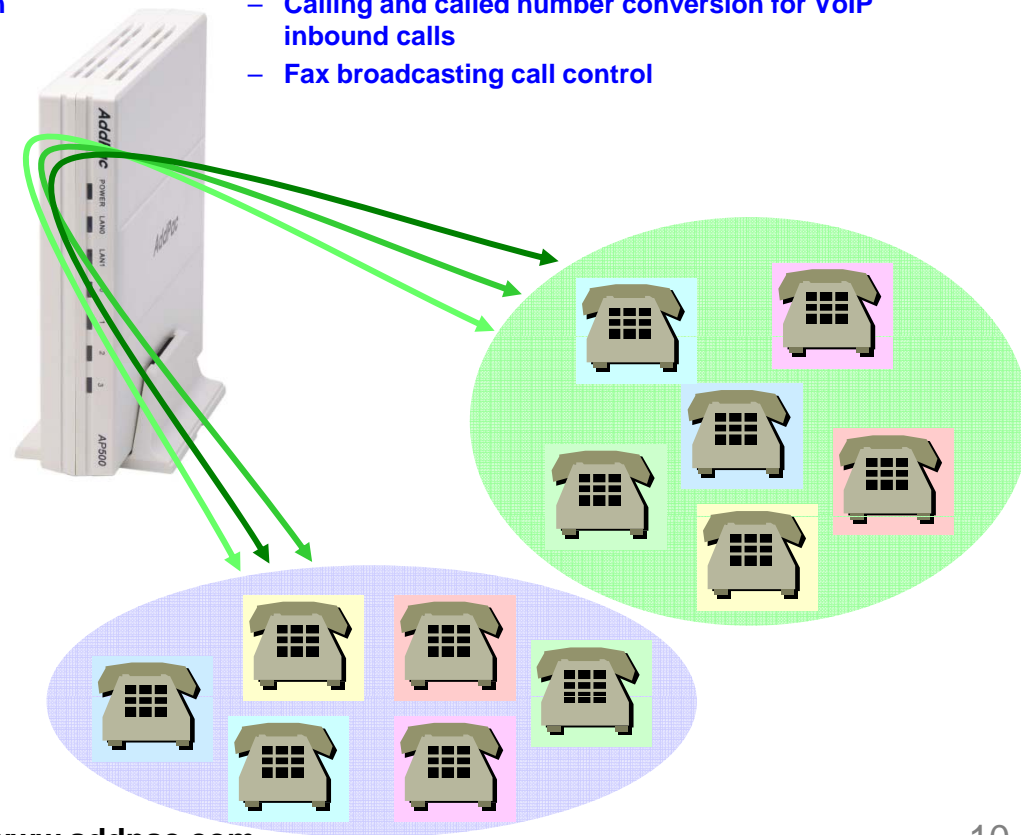
AP500 4-Port FXS Analog VoIP Gateway

• 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.)

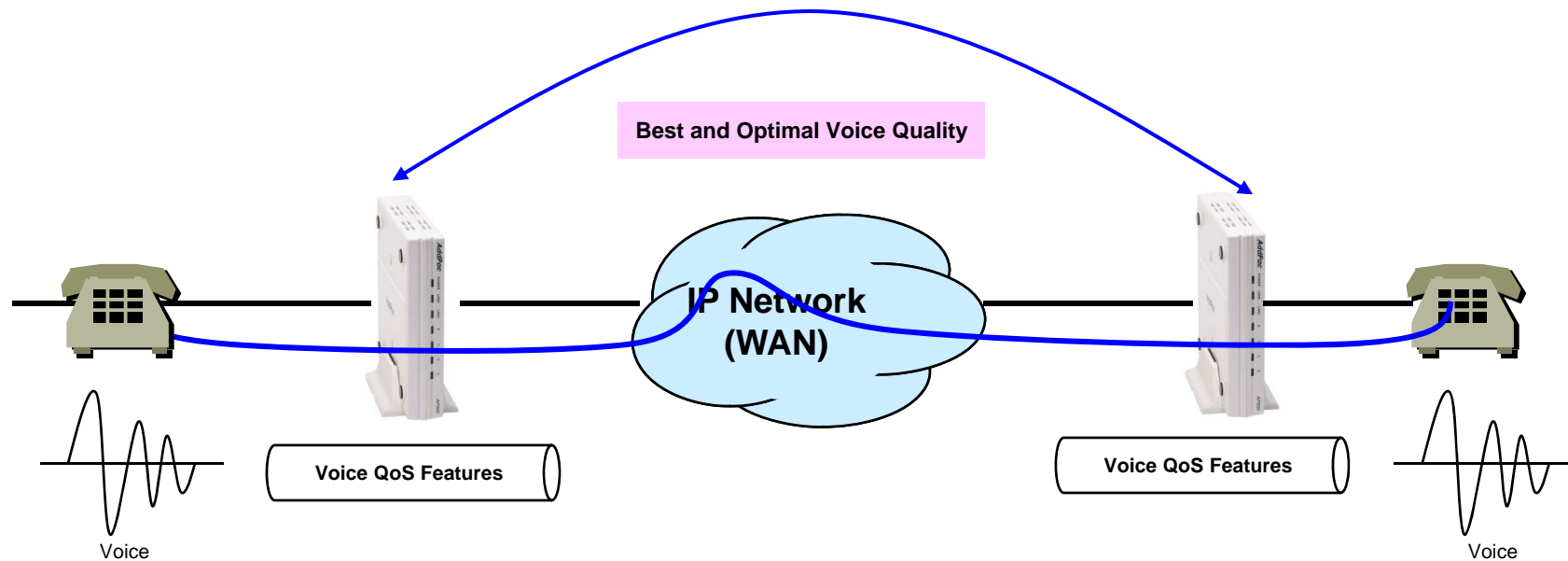
- Call transfer for internal calls
- Call pickup for internal calls
- Calling and called number conversion for VoIP outbound calls
- Calling and called number conversion for VoIP inbound calls
- Fax broadcasting call control



Advanced QoS Features

AP500 4-Port FXS Analog VoIP Gateway

- 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

AP500 4-Port FXS Analog VoIP Gateway

Basic Network Protocols

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

Routing Protocol

- IPv4 : Static

Service Protocol

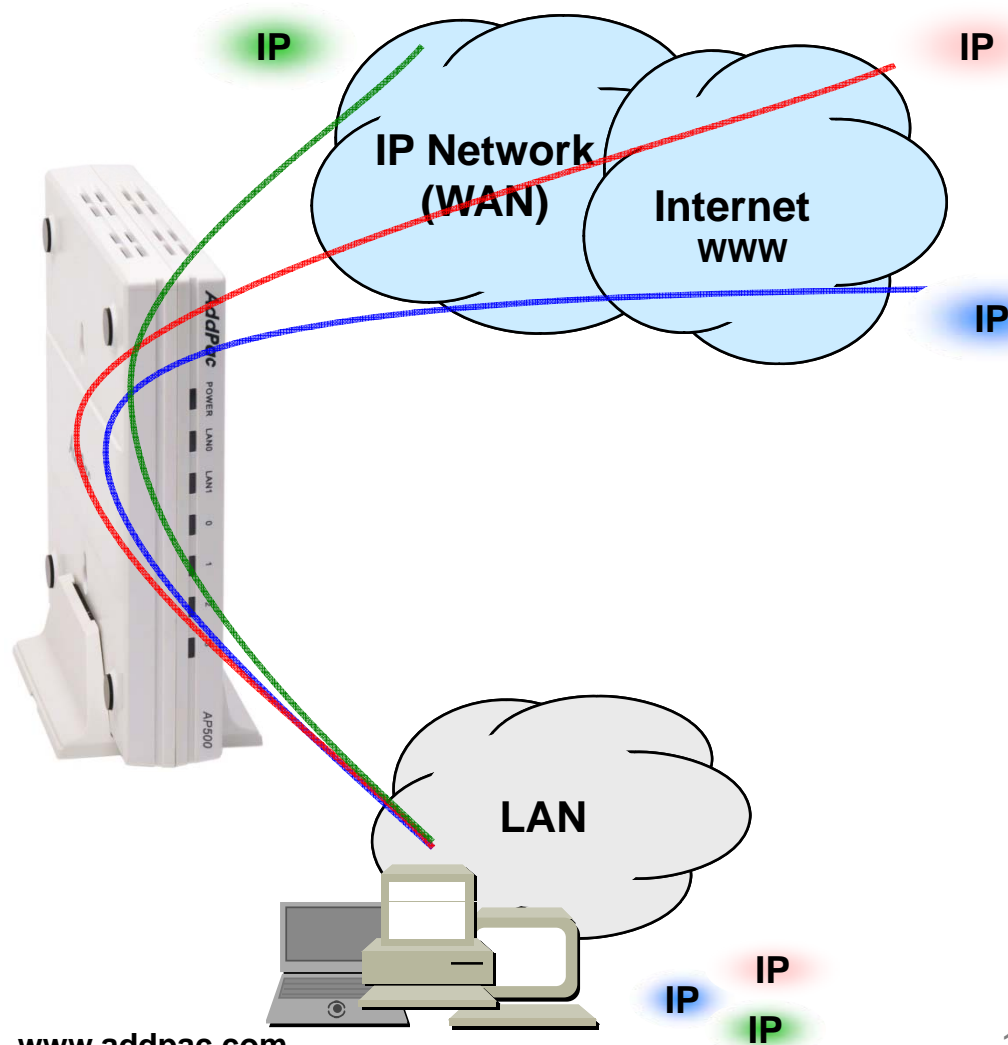
- FTP, Telnet, TFTP, DHCP Server/Relay, SNMP Server
- CDP (Cisco Discovery Protocol)
- DNS Resolver , DDNS(nsupdate)
- Bridge
- Syslog

IPv4 Address Configuration

- Fixed (Static)
- DHCP
- PPPoE

Miscellaneous

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



Network Management

AP500 4-Port FXS Analog VoIP Gateway

- **SNMP**

- Standard Simple Network Management Protocol(SNMP) Agent support
- MIB v1 and v2 Support

- **Web-based Management**

- Smart Easy Setup
- Standard Voice Interface
- Standard PSTN Back-up Interface

- **Watch-dog Function**

- Hardware, Software watch-dog services

- **Remote Management**

- Telnet
- Rlogin

- **Auto Upgrade Service**

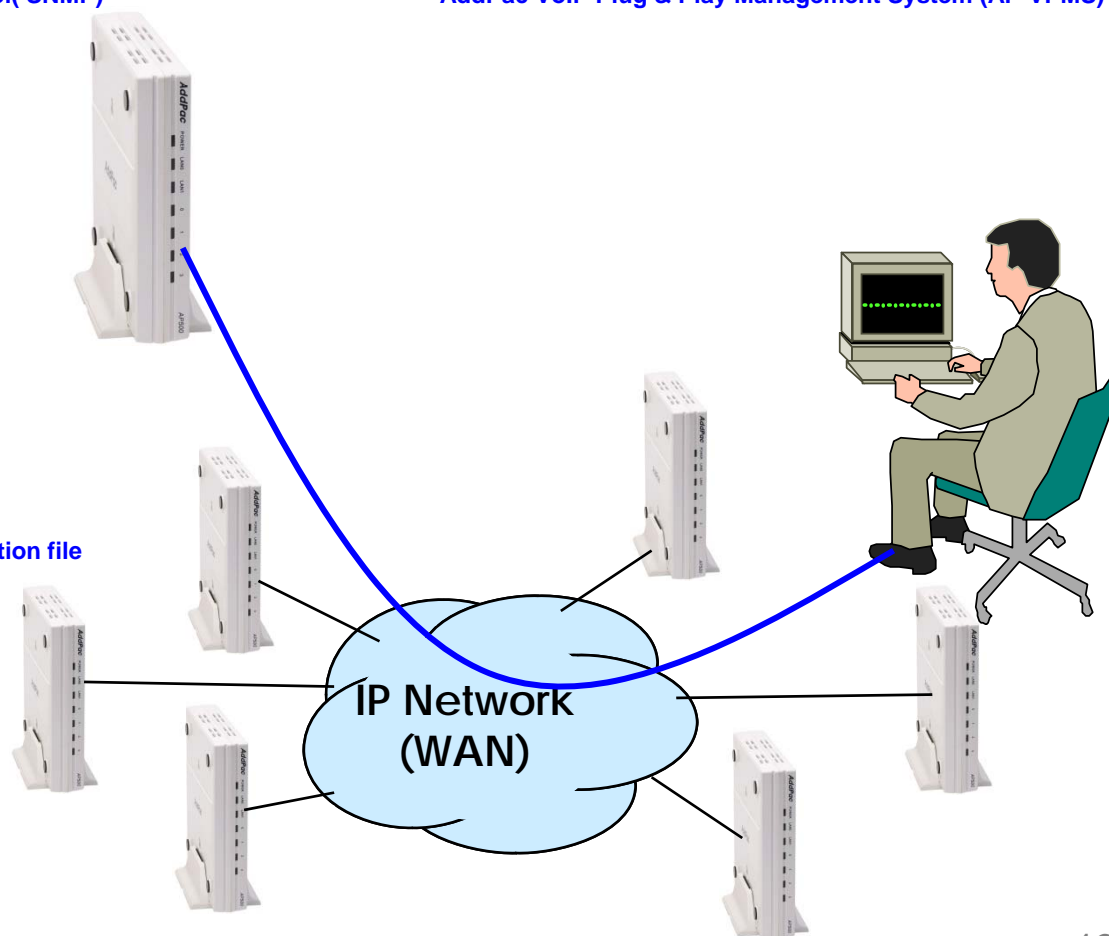
- HTTP server based APOS image and configuration file auto-upgrade support

- **Batch Job Function**

- Text based script downloading

- **Interoperable with AP-VPMS Service**

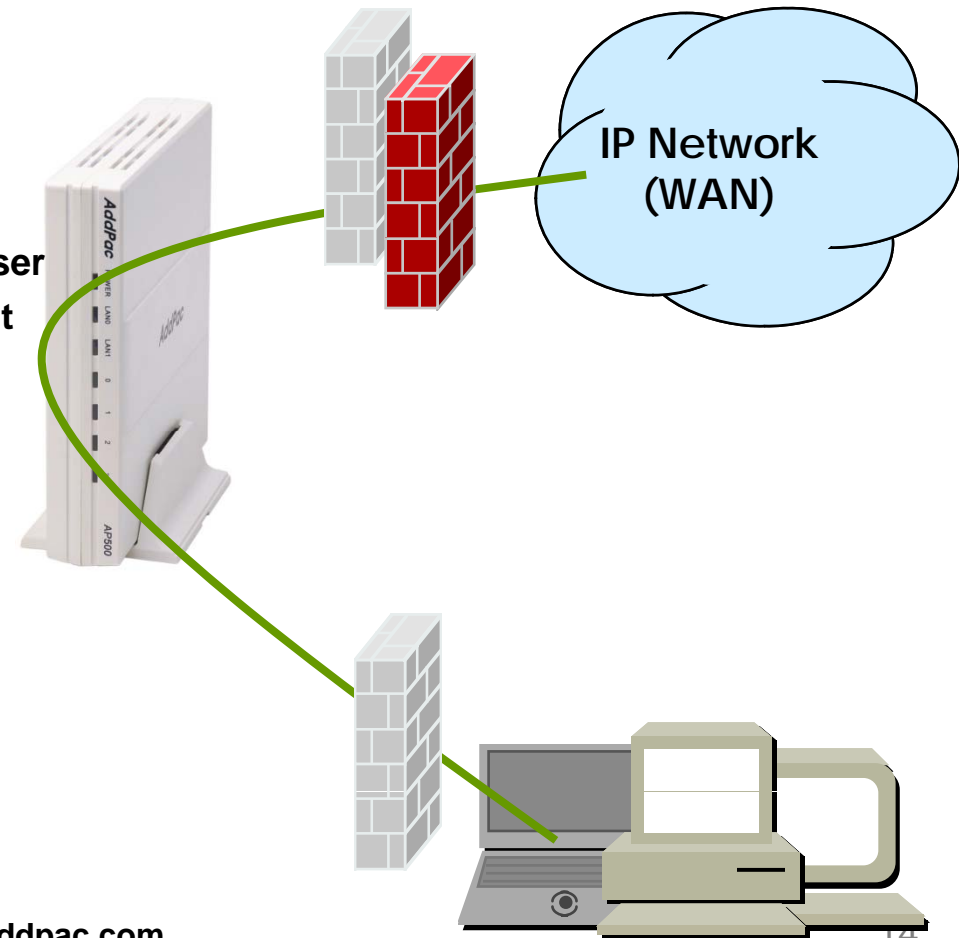
- AddPac VoIP Plug & Play Management System (AP-VPMS)



Security Management

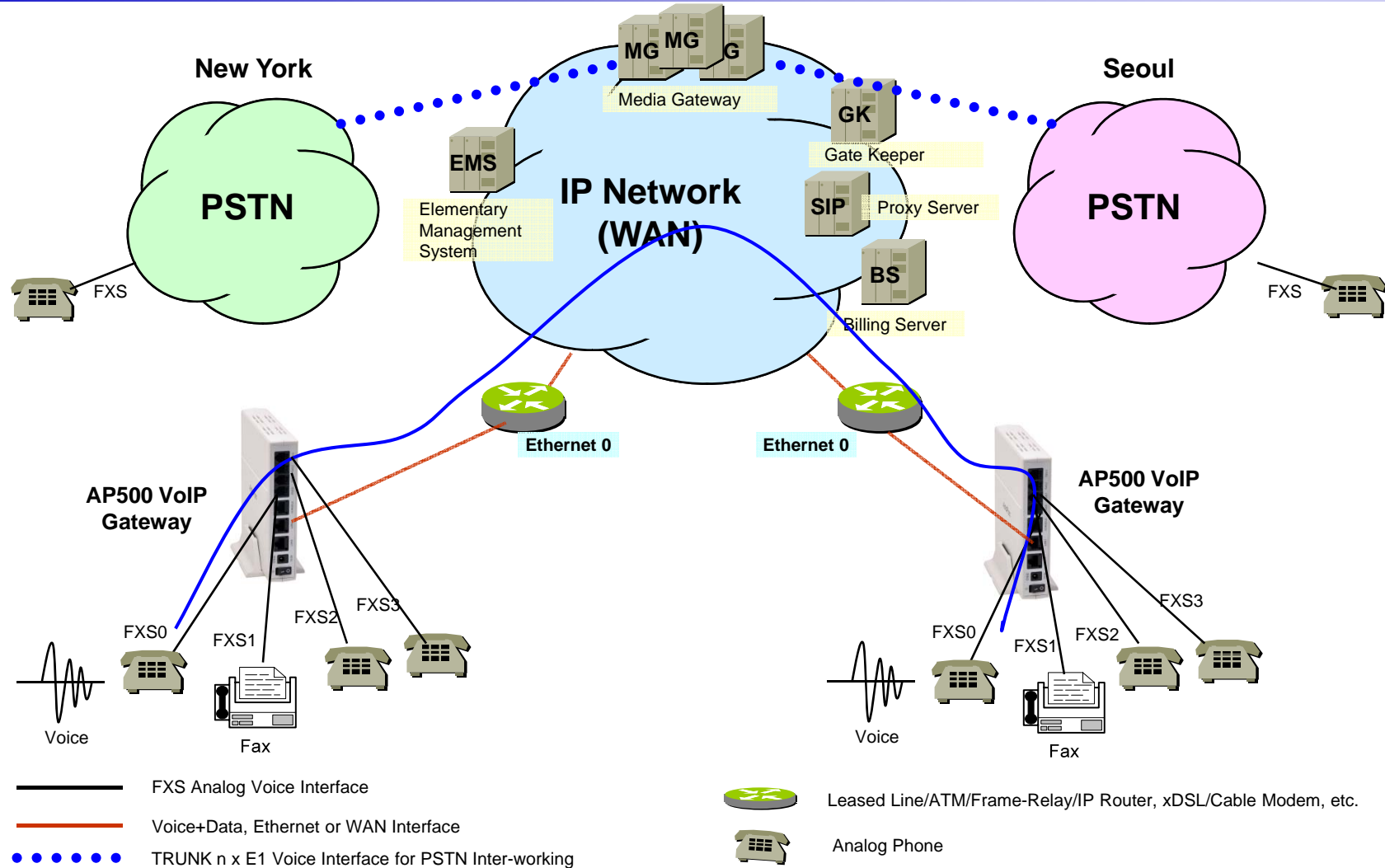
AP500 4-Port FXS Analog VoIP Gateway

- 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



Standard Application

AP500 4-Port FXS Analog VoIP Gateway



Ordering Information

- **AP500 VoIP Gateway Hardware**
 - AP500 VoIP Gateway Main Body
 - RISC Microprocessor with High-end Programmable DSP Architecture
 - 4-Port FXS VoIP Interface(4xRJ11)
 - 2-ports 10/100Mbps Fast Ethernet(RJ45)
 - 1-Port RS232C Console Interface(RJ45)
 - Including Network Cable & Ext. Power Supply, etc.
- **Built-in APOS Internetworking Software for AP500**
- **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

VoIP Gateway Series

Thank you!

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Sales and Marketing

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