

# AP1810 4/8 Port
# Analog VoIP Gateway

High Performance Analog VoIP Gateway Solution

## Product Overview




**AddPac Technology**

Sales and Marketing

**www.addpac.com**

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# Product Overview

## AP1810 Analog VoIP Gateway

- H.323/SIP Concurrent VoIP Signaling Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- Analog VoIP Gateway Solution
- Various Analog Interface Support : FXS, FXO, E&M
- 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, etc)
- Firmware Upgradeable Architecture
- SNMS (Smart Network Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism
- Light and Compact Design with Internal Power Supply
- One(1) VoIP Module Slot
- Hot-Swap Function Support

# Product Highlights

## AP1810 Analog VoIP Gateway

**State-of-art Signaling**
**H.323, SIP**
**Concurrent VoIP Signaling**

**SNMS Large Scale VoIP**
**Gateway Management Support**

**Light and**
**Compact Design**

**Excellent Voice Quality**
**G.729/G.723/G726/G711**

**High Performance RISC CPU**
**+ Programmable DSP**



**Module Type**
**4-Port/8-Port VoIP Cards,**
**Hot-Swap, Internal Power**
**Supply**

**Broadband IP Networking**
**With dual 10/100Mbps**
**Fast Ethernet**

**APOS™Technology**
**Firmware Upgradeable Architecture**

**High Performance**
**LAN-to-LAN Packet Routing**
**Processing**

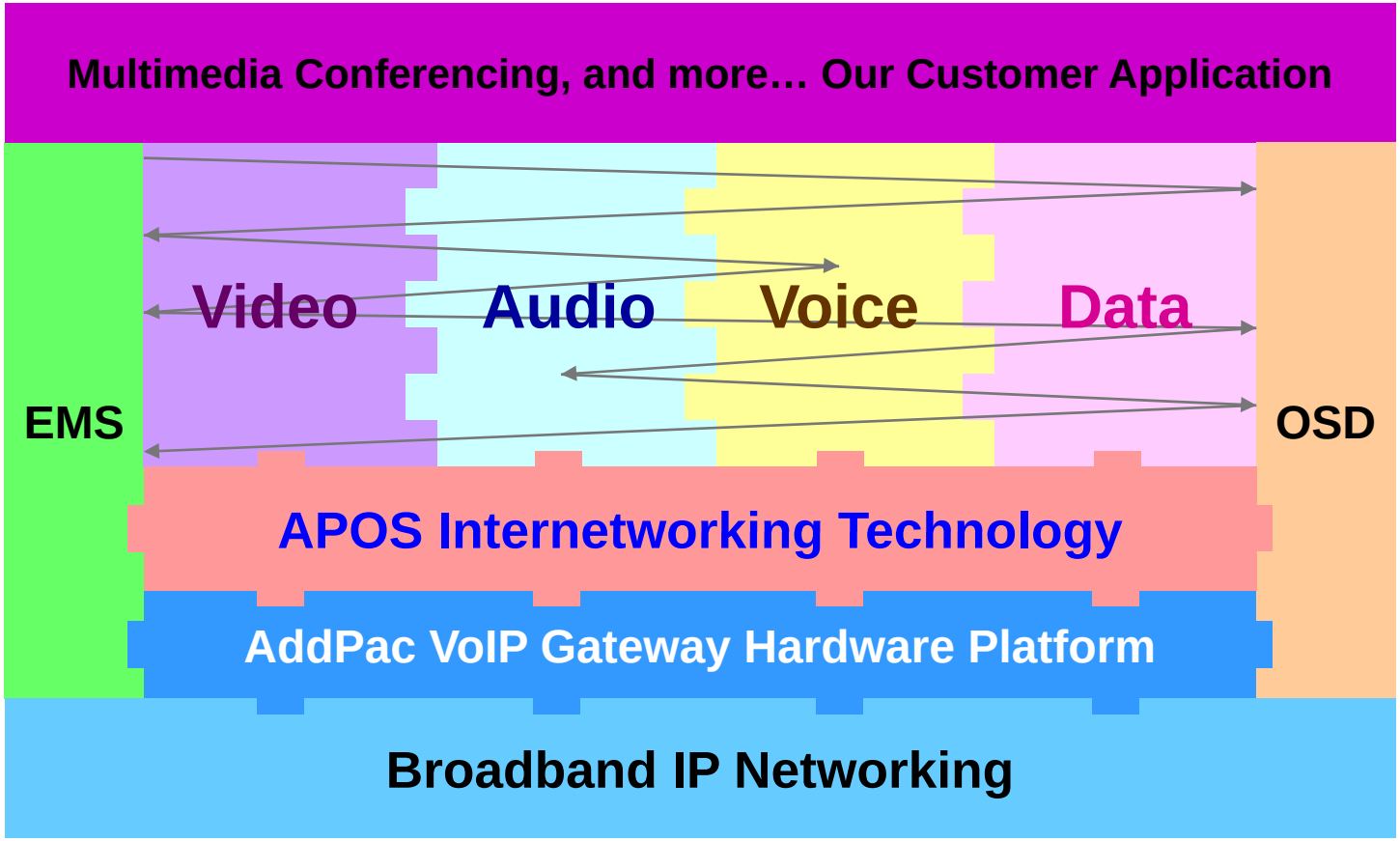
**Powerful Network Protocol**
**Support**

**Powerful Trouble Shooting &**
**Debugging Feature Support**

**Advanced Voice**
**Traffic QoS Mechanism**

# APOS Technology

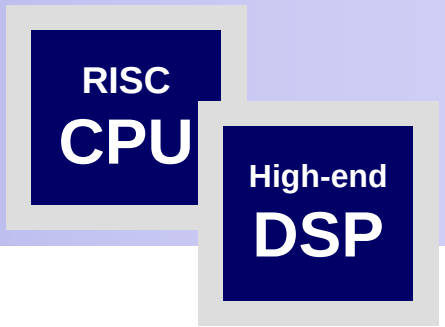
## AP1810 Analog VoIP Gateway




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

# Hardware Specification

AP1810 Analog VoIP Gateway




- **RISC Microprocessor Computing Power**
- **Up to 8-Port Analog VoIP Gateway**
- **One(1) VoIP Module Slot**

  - 4-Port FXS Card, 4-Port FXO Card, 4-Port E&M Card, 8-Port FXS Card, 8-Port FXO Card, 4-Port FXS 4-Port FXO Card,
- **Network Interface**

  -Two(2) 10/100Mbps Fast Ethernet (RJ45)
- **RS232C Console Interface**
- **Run LED, LAN LED, Port LEDs**
- **Internal Power Supply**

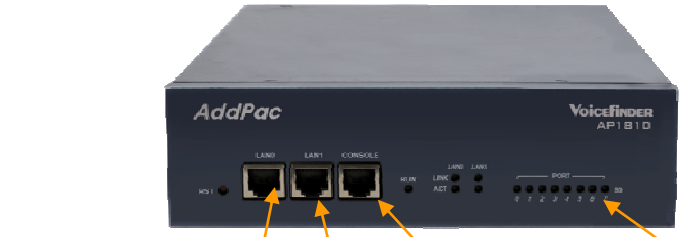
# Hardware Specification

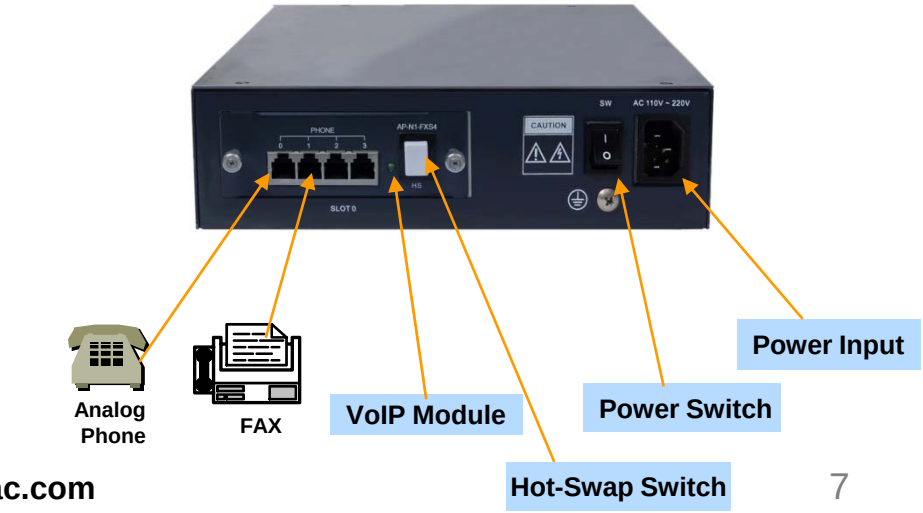
## AP1810 Analog VoIP Gateway

### Hardware Specifications

| AP1810 VoIP Series | Basic Specifications |
|---|---|
| Voice Interface | One(1) VoIP Module Slot |
| | AP-N1-FXS4, AP-N1-FXO4, AP-N1-E&M4, AP-N1-FXS8, AP-N1-FXO8, AP-N1-FXS4O4 |
| Ethernet Interface | 2-Ports 10/100Mbps Ethernet Interface(RJ-45) |
| Flash Memory | 4Mbyte High-speed Flash Memory |
| Base Memory | 32 Mbyte High-speed SDRAM |
| Power Requirement | Power Supply Adaptor / VAC 110~220V, 50/60Hz, |
| Operating Temperature | 0ºC ~ 45ºC (32 ºF ~ 122ºF) |
| Storage Temperature | -40ºC ~ 85ºC (-40ºC ~ 185ºF) |
| Relative Humidity | 5% ~ 95% (Non-condensing) |

### Network interface Configurations



# Hardware Specification

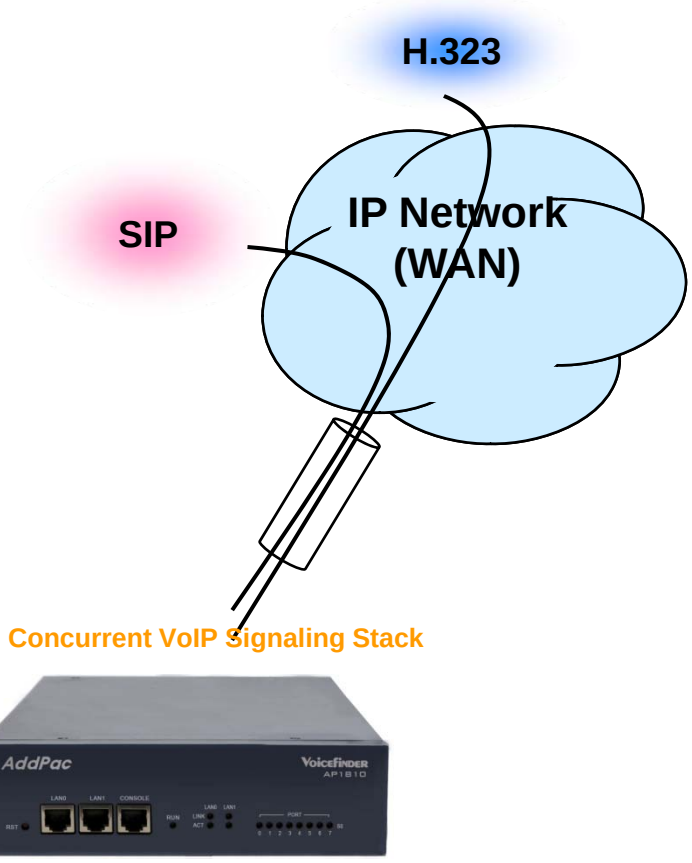
## AP1810 Analog VoIP Gateway

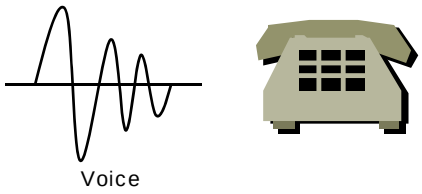
| Target | VoIP Modules | Module Features | Module Picture |
|---|---|---|---|
| AP1800<br>AP1810 | AP-N1-FXS8 | 8-Port FXS Module |  |
| AP1800<br>AP1810 | AP-N1-FXO8 | 8-Port FXO Module |  |
| AP1800<br>AP1810 | AP-N1-FXS4O4 | 4-Port FXS&4-Port FXO Module |  |
| AP1800<br>AP1810 | AP-N1-FXS4 | 4-Port FXS Module |  |
| AP1800<br>AP1810 | AP-N1-FXO4 | 4-Port FXO Module |  |
| AP1800<br>AP1810 | AP-N1-EM&4 | 4-Port E&M Module |  |

# VoIP (Voice over IP) Service

## AP1810 Analog VoIP Gateway

- **H.323, SIP Dual VoIP Signaling 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**



# VoIP (Voice over IP) Service

## AP1810 Analog VoIP Gateway

- **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

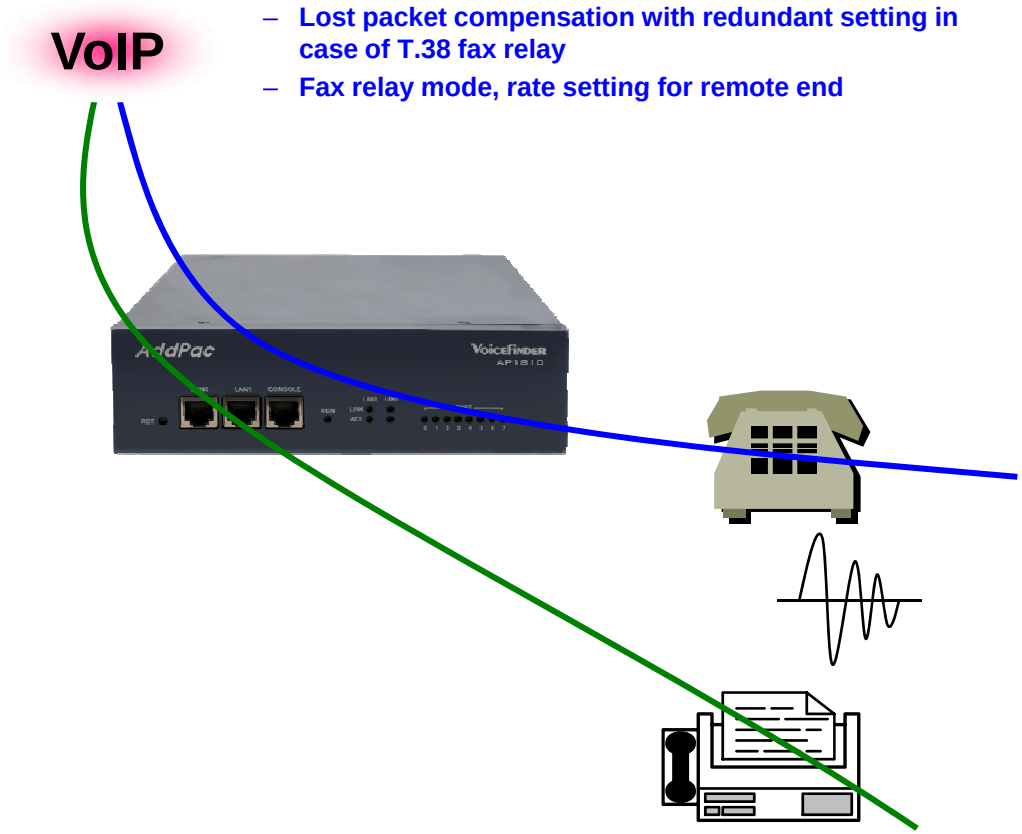


# VoIP (Voice over IP) Service

## AP1810 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 RPT 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

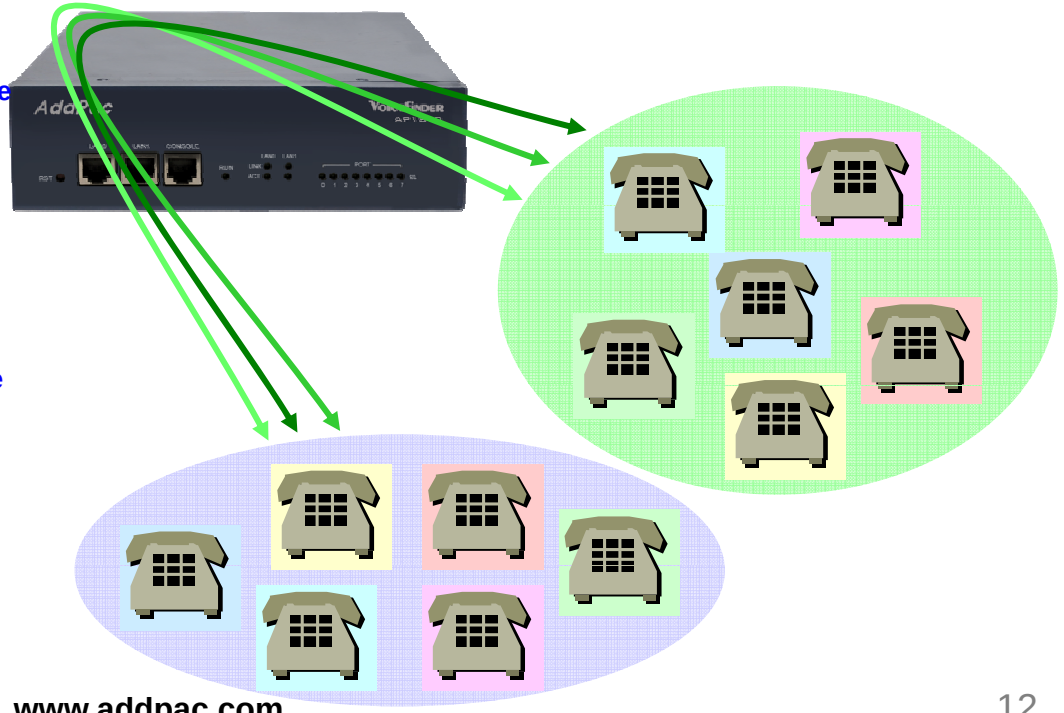


# VoIP (Voice over IP) Service

## AP1810 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

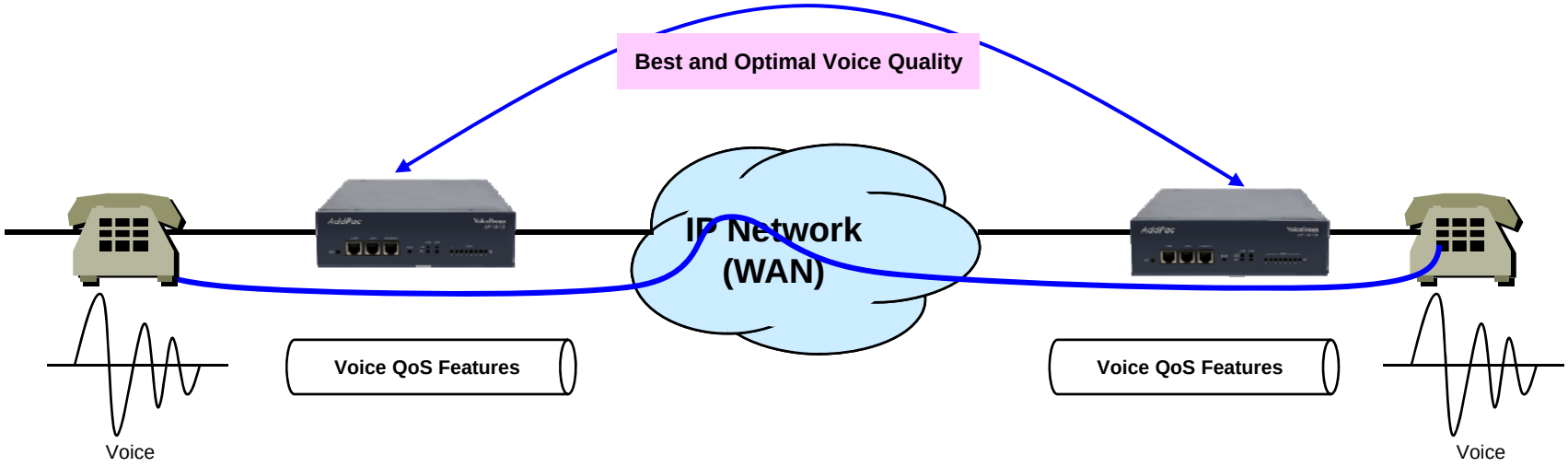
- **VoIP Call Controls (cont.)**
  - Call transfer for internal calls
  - Call pickup for internal calls
  - Calling and called number conversion for VoIP outbound calls
  - Calling and called number conversion for VoIP inbound calls
  - Fax broadcasting call control



# Advanced QoS Features

## AP1810 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

## AP1810 Analog VoIP Gateway

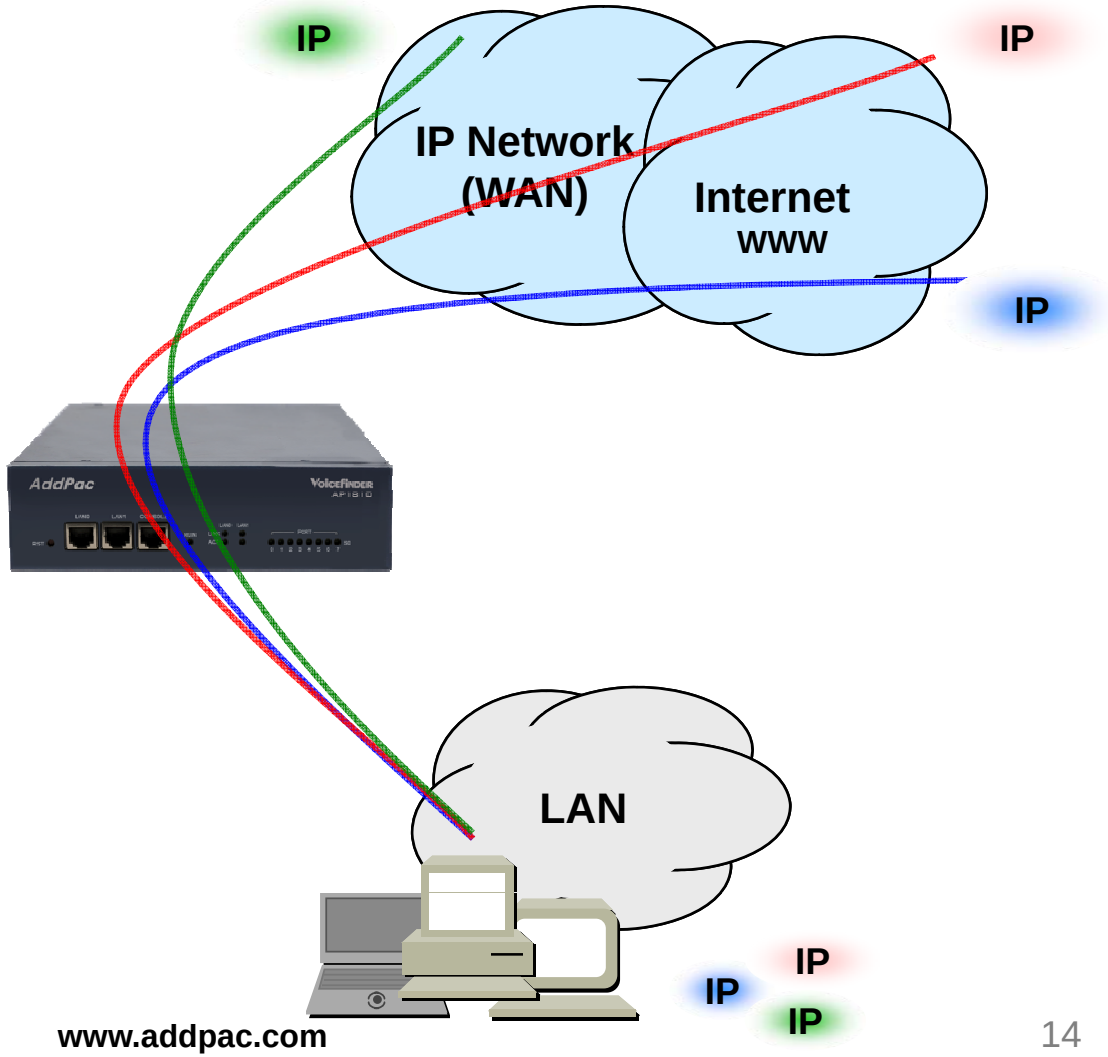
### Basic Network Protocols
- ARP, IPv4, TCP, UDP, ICMP, SCTP, IGMP, MLD

### 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

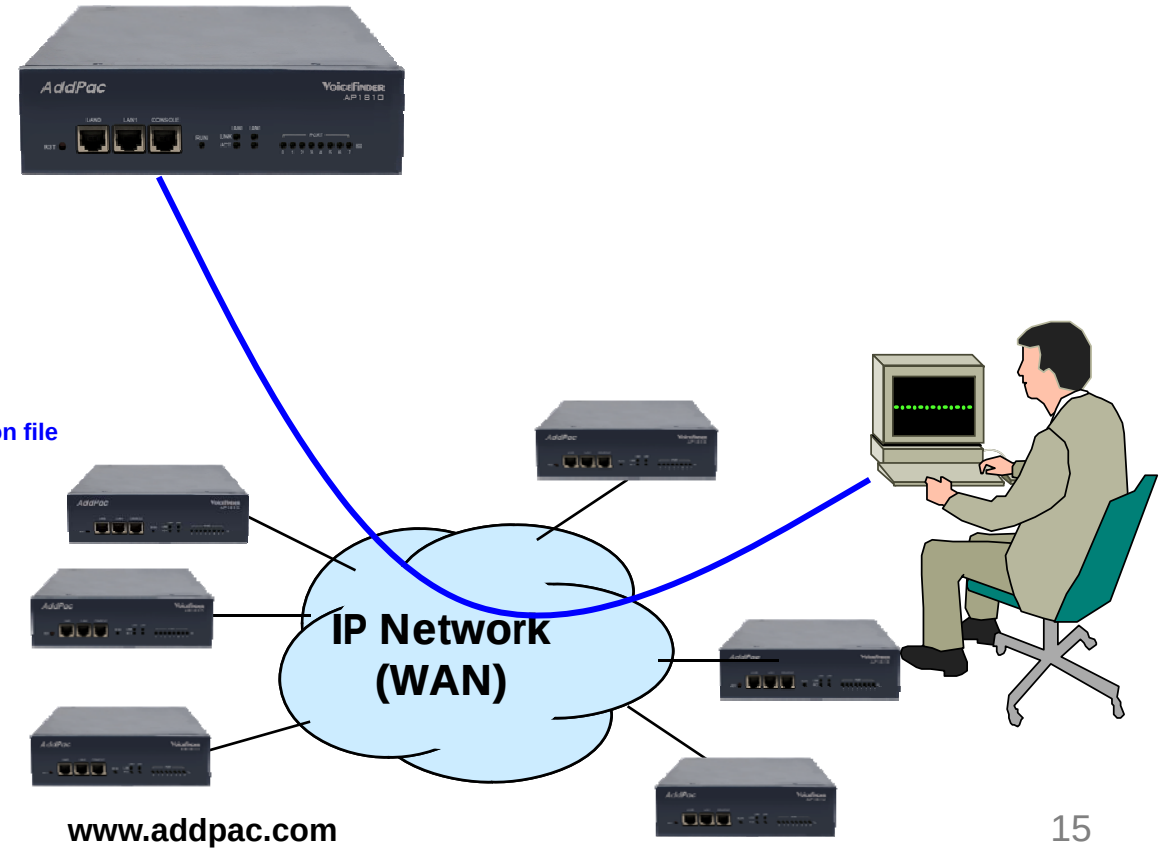


# Network Management

## AP1810 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

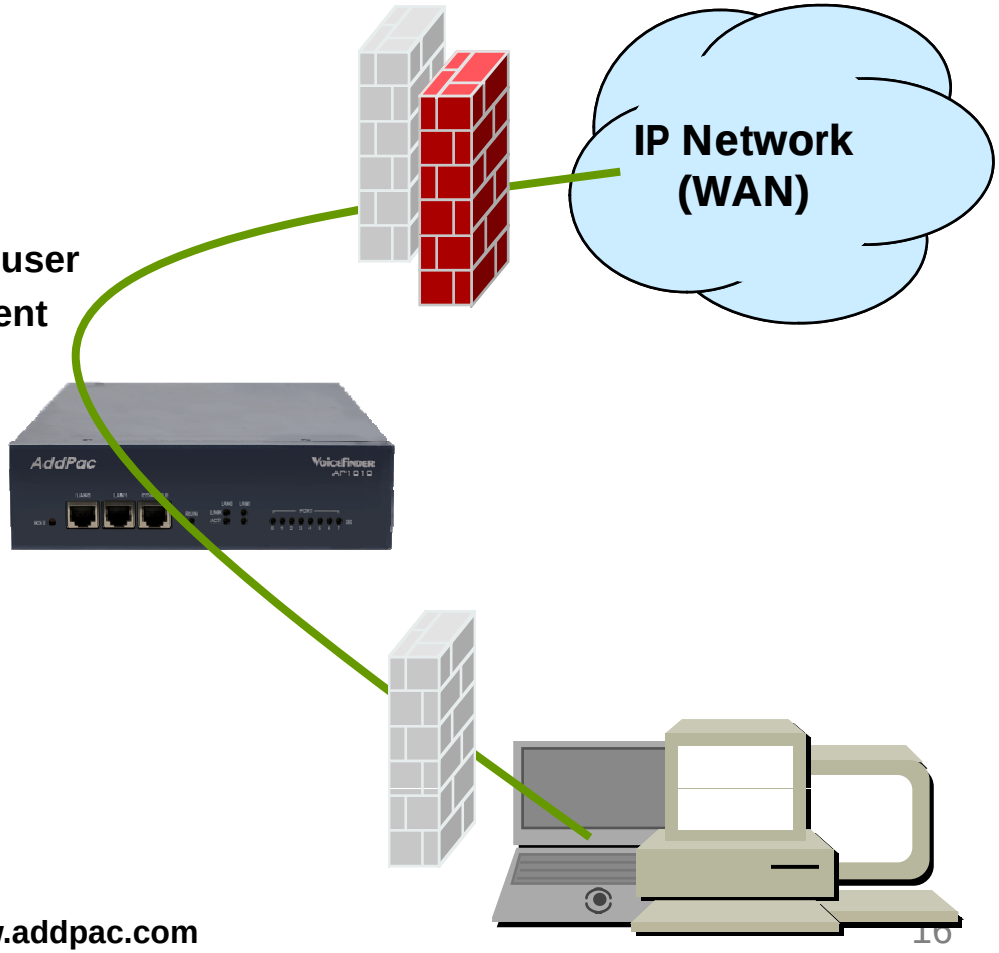
- **Interoperable with AP-VPMS Service**
  - AddPac VoIP Plug & Play Management System (AP-VPMS)



# Security Management

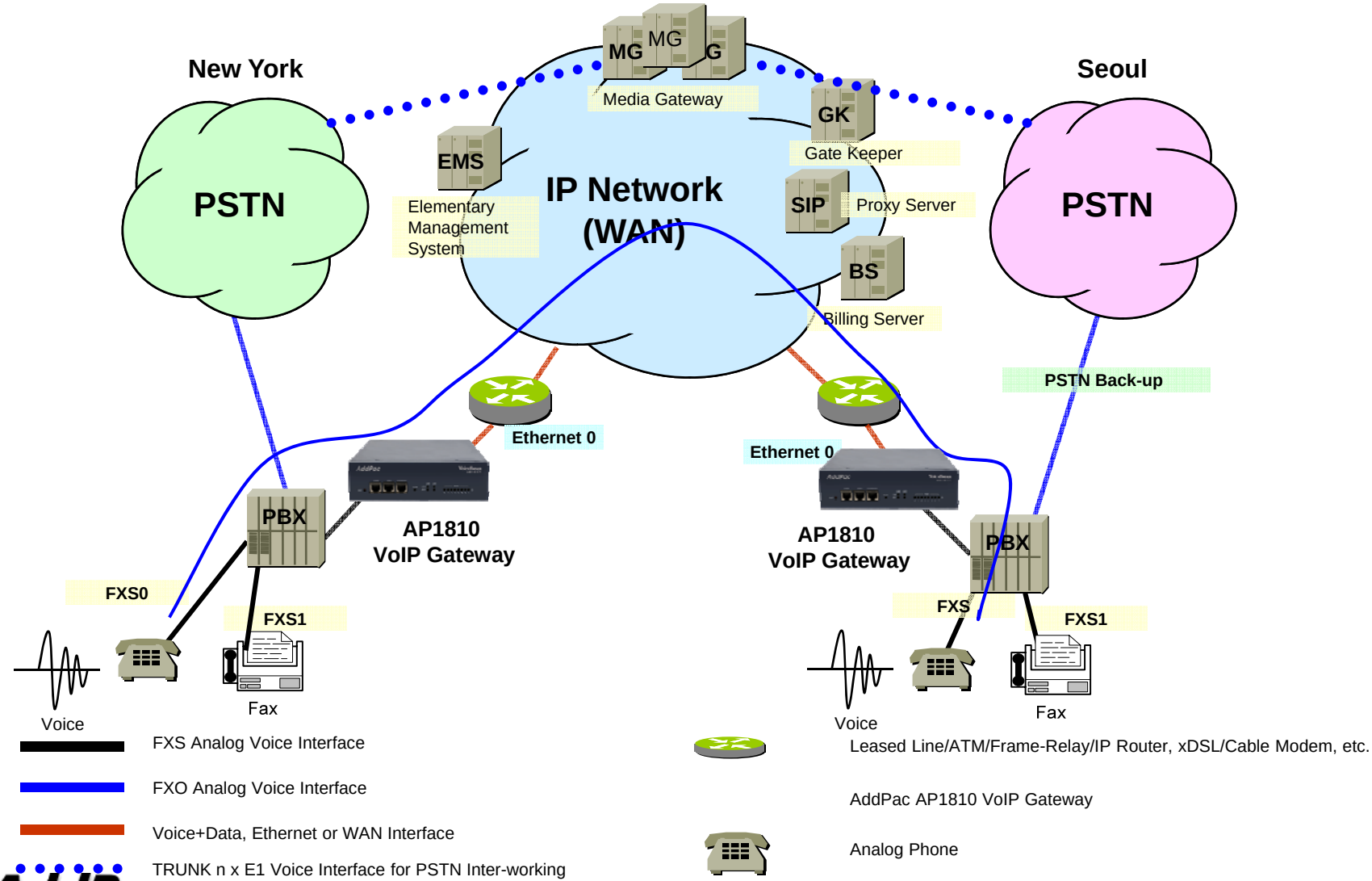
## AP1810 Analog VoIP Gateway

- **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

## AP1810 Analog VoIP Gateway



# Ordering Information

- **AP1810 Analog VoIP Gateway Hardware**
  - AP1810 VoIP Gateway Main Body
  - RISC Microprocessor with High-end Programmable DSP Architecture
  - 2-ports 10/100Mbps Fast Ethernet(RJ45)
  - Option Module: AP-N1-FXS4, AP-N1-FXO4, AP-N1-E&M4, AP-N1-FXS8, AP-N1-FXO8, AP-N1-FXS4O4,etc
  - Including Network Cable & Internal Power Supply, etc.
- **Built-in APOS Internetworking Software for AP1810**
- **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

# Thank you!

**AddPac Technology Co., Ltd.**
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