



AP1820D (DC Power) Dual Power VoIP Gateway

High Performance VoIP Gateway Solution

Product Overview



AddPac

AddPac Technology

Sales and Marketing

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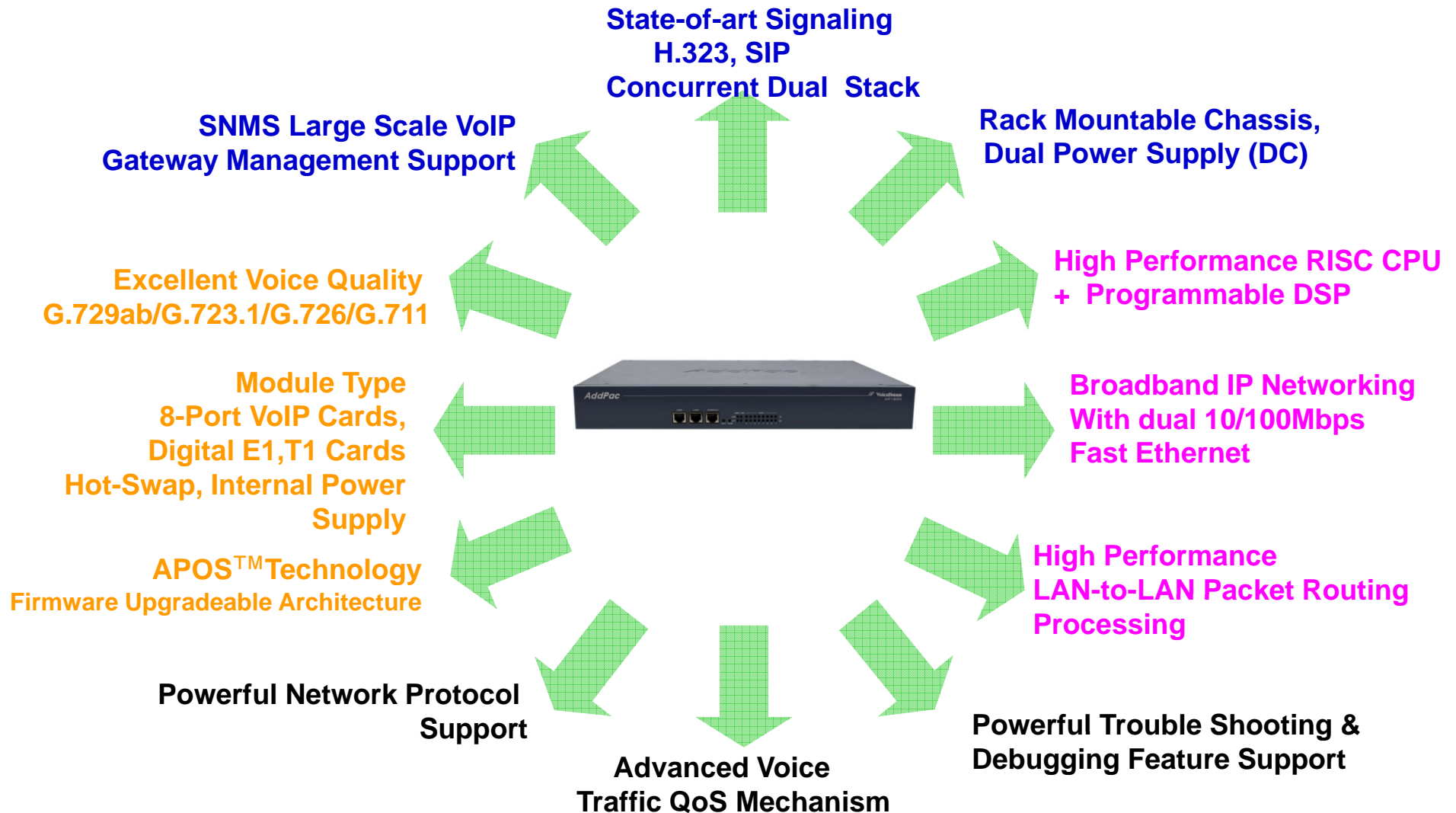
Product Overview

AP1820D Dual Power VoIP Gateway

- High Performance VoIP Gateway Solution
- H.323/SIP Dual Concurrent Stack Embedded
- 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.729ab/G.723.1, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- SNMS (Smart Network Management System) Support for Large Scale Deployment
- Advanced Voice QoS Mechanism
- DC Power Dual Power Supply for Redundancy
- Rack Mountable Chassis
- Two(2) VoIP Module Slot

Product Highlights

AP1820D Dual Power VoIP Gateway

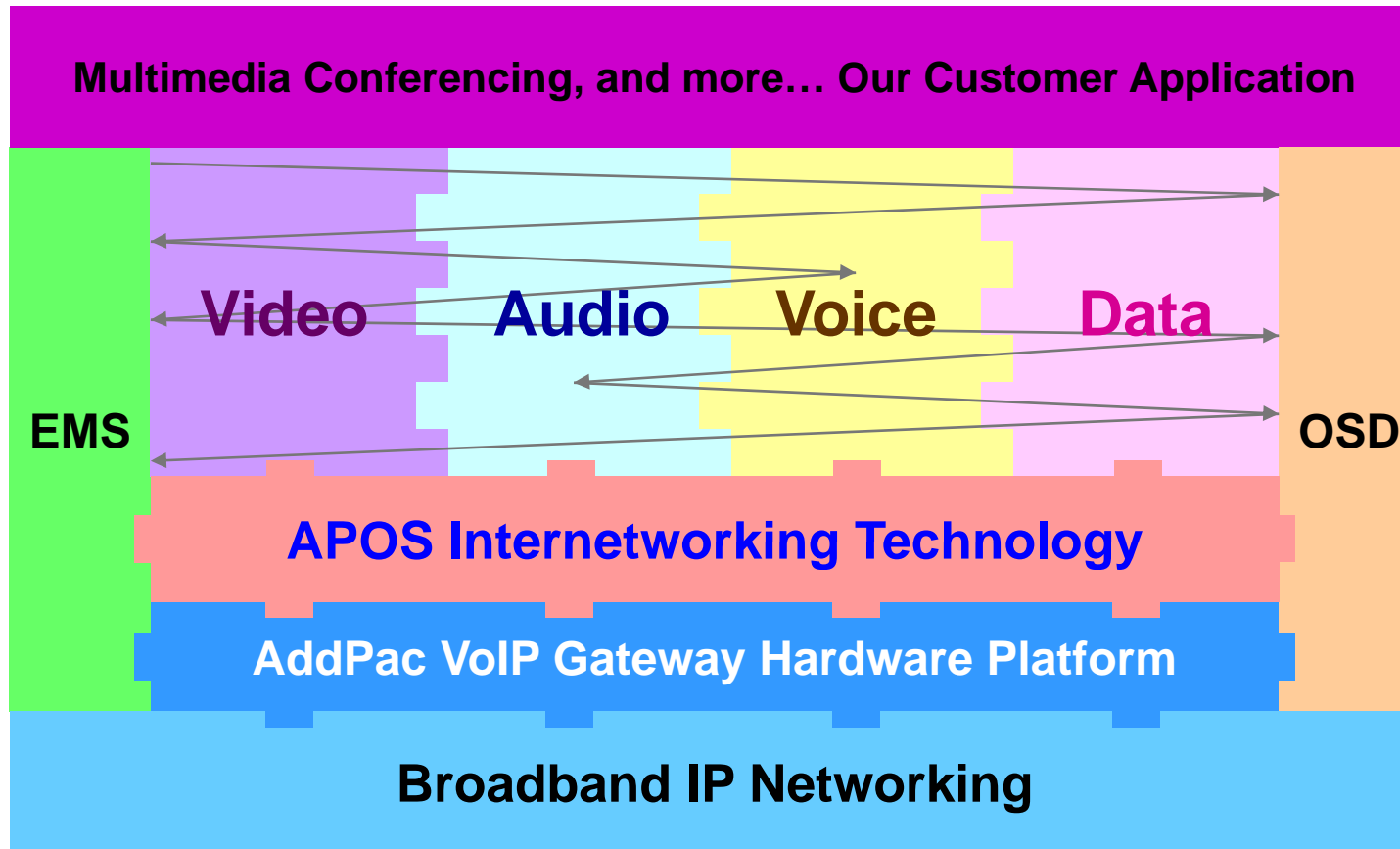


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APOS Technology

AP1820D Dual Power VoIP Gateway



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

Hardware Specification

AP1820D Dual Power VoIP Gateway

RISC
CPU

High-end
DSP

- RISC Microprocessor Computing Power
- Up to 16 Port Analog VoIP Gateway
- Two(2) VoIP Module Slots (Hot-Swap)
 - 8-Port FXS Card, 8-Port FXO Card, 4-Port FXS 4-Port FXO Card, 4-Port E&M Card, Digital E1/T1 Card
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet (RJ45)
- RS232C Console Interface
- Run LED, LAN LED, Port LEDs
- Internal Dual Power Supply(DC Power)

Hardware Specification

AP1820D Dual Power VoIP Gateway

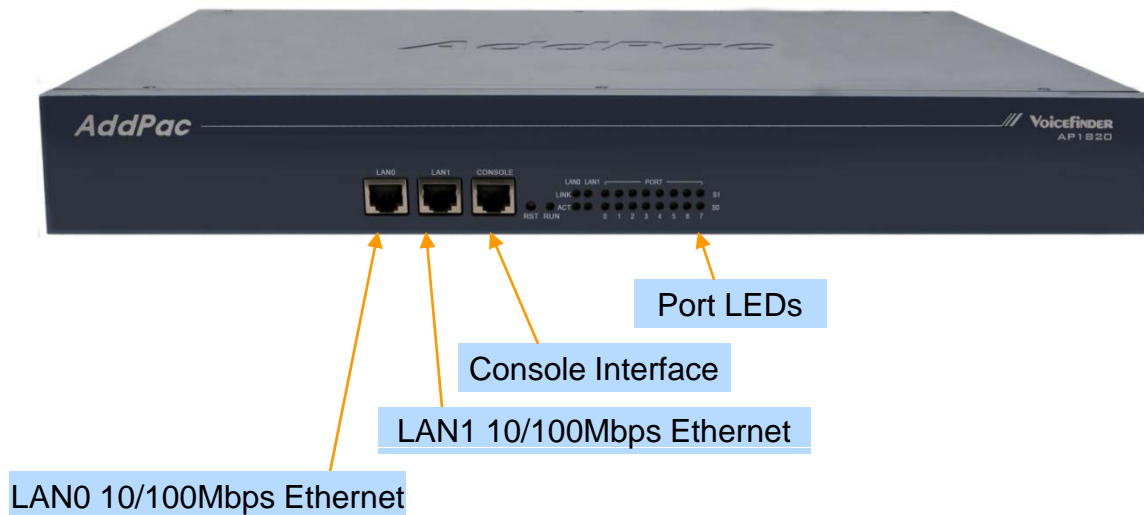
Hardware Specifications

AP1820D VoIP Gateway	Basic Specifications
Voice Interface	Two(2) VoIP Module Slots
	AP-N1-FXS8, AP-N1-FXO8, AP-N1-FXS4O4, AP-N1-E&M4, AP-N1-E1, etc
Ethernet Interface	2-Ports 10/100Mbps Ethernet Interface(RJ-45)
Flash Memory	4 Mbyte High-speed Flash Memory
Base Memory	64 Mbyte High-speed SDRAM
Power Requirement	Dual Power Supply (-48V)
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 (H x W x D)	55 x 440 x 267(mm)-19" Rack Mountable Chassis
Weight(kg)	3.5Kg

Hardware Specification

AP1820D Dual Power VoIP Gateway

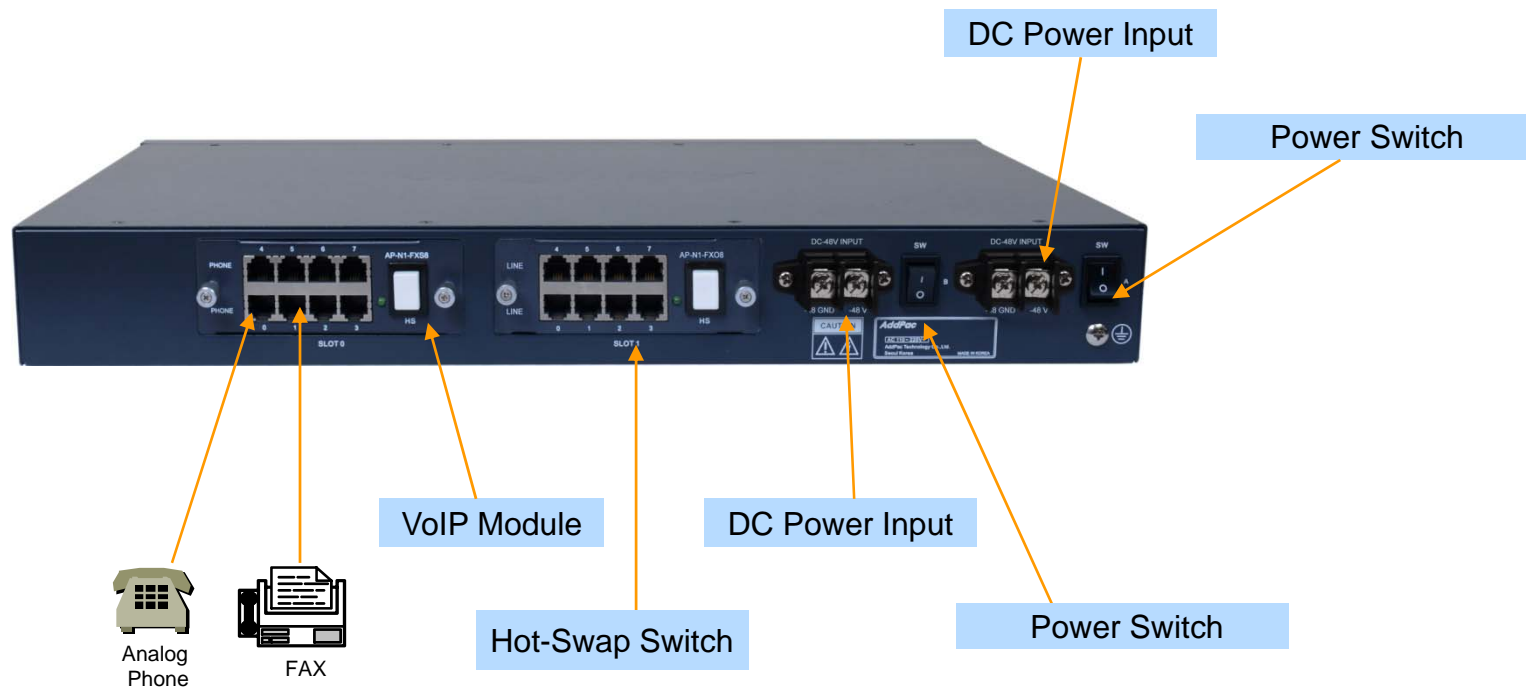
Network interface Configurations (Front Side)



Hardware Specification

AP1820D Dual Power VoIP Gateway






Network interface Configurations (Back Side)



VoIP Modules

AP1820D Dual Power VoIP Gateway

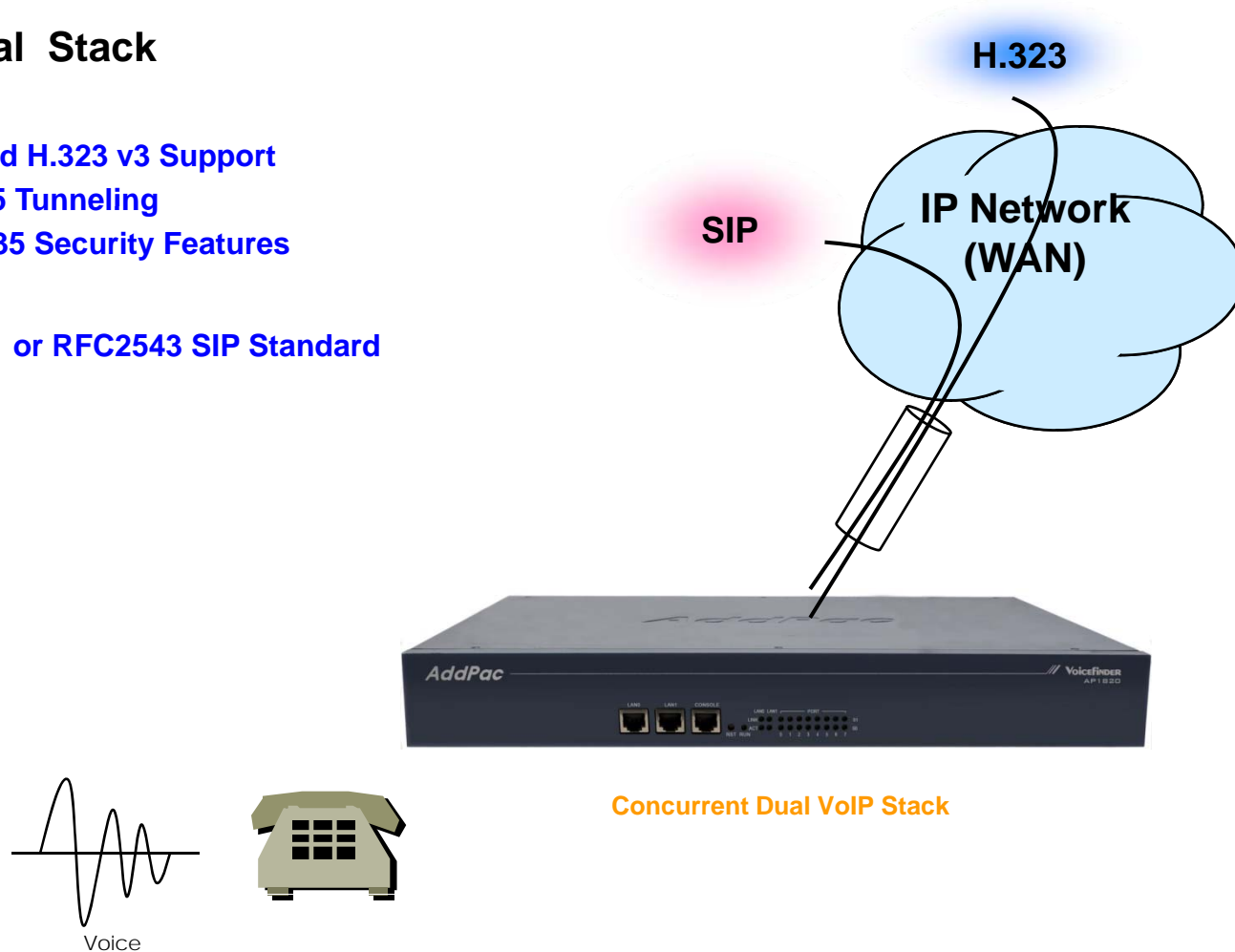


Target	VoIP Modules	Module Features	Module Picture
AP1820D	AP-N1-FXS8	8-Port FXS Module	
AP1820D	AP-N1-FXO8	8-Port FXO Module	
AP1820D	AP-N1-FXS4O4	4-Port FXS&4-Port FXO Module	
AP1820D	AP-N1-E&M4	4-Port E&M module	
AP1820D	AP-N1-E1	1-Port Digital E1/T1 Module	

VoIP (Voice over IP) Service

AP1820D Dual Power VoIP Gateway

- **H.323, SIP Dual 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

AP1820D Dual Power 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

AP1820D Dual Power VoIP Gateway

- **Voice Codec**

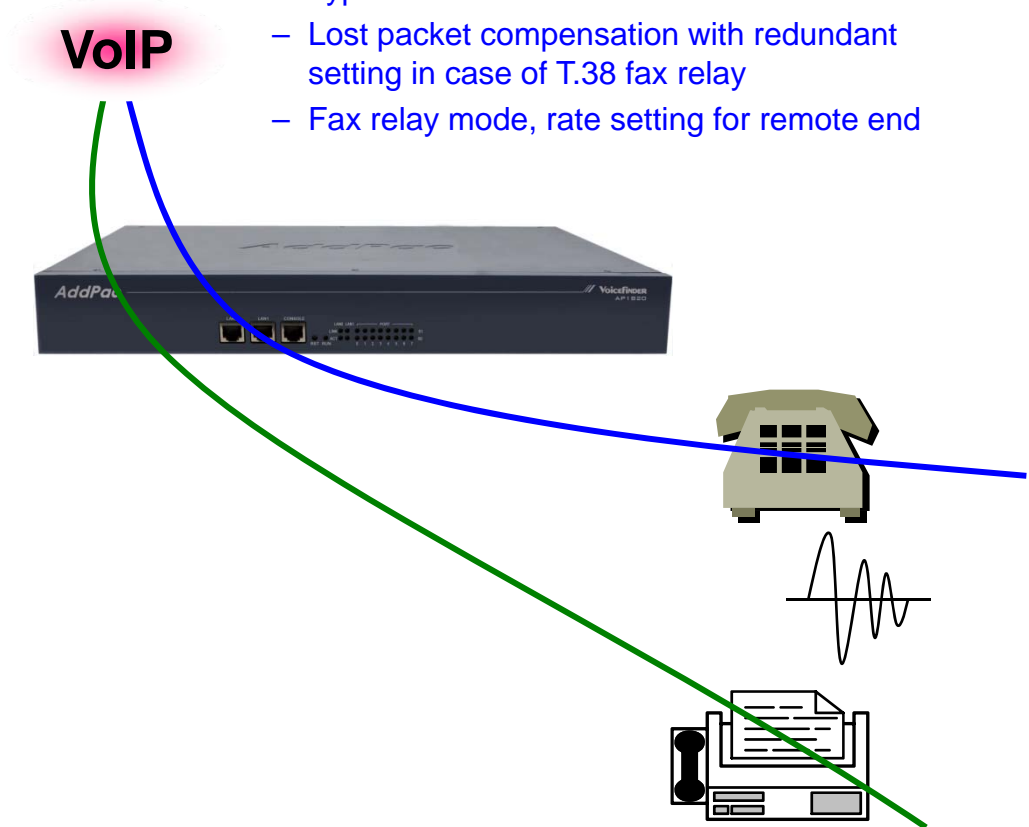
- G.711 A-Law, G.711 U-Law
- G.726 r16, G.726 r32
- G.729A
- G.723.1 r63, G.723.1 r53
- VAD (Voice Activity Detection) function support
- DTMF relay support (H.323, SIP, MGCP common) based on RFC2833

- **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

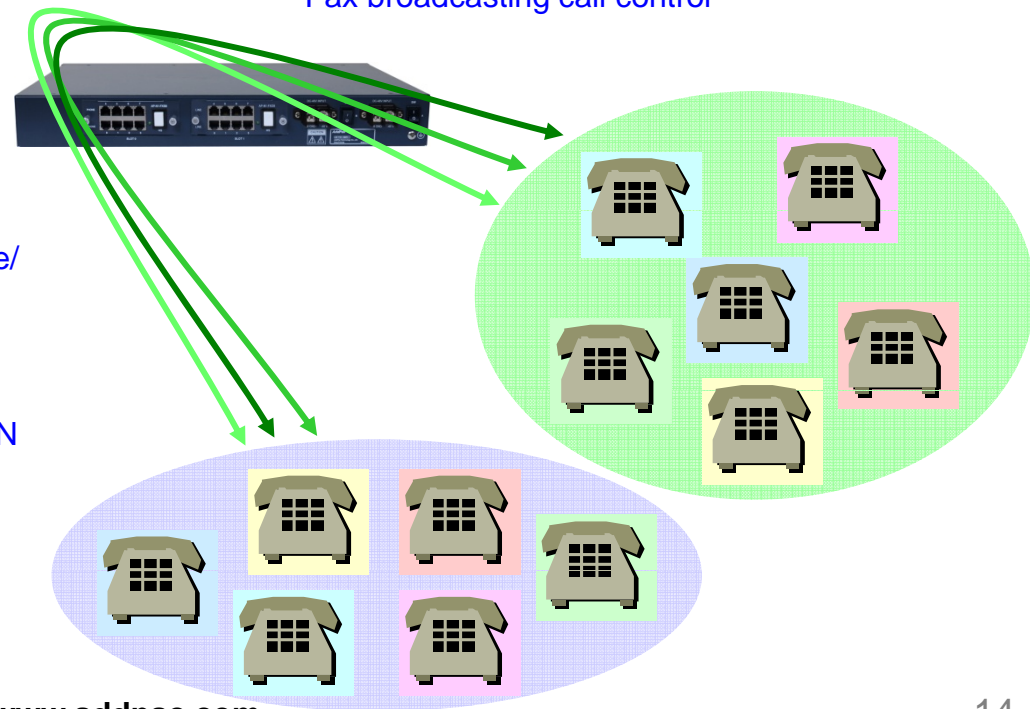
AP1820D Dual Power VoIP Gateway

• 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.)

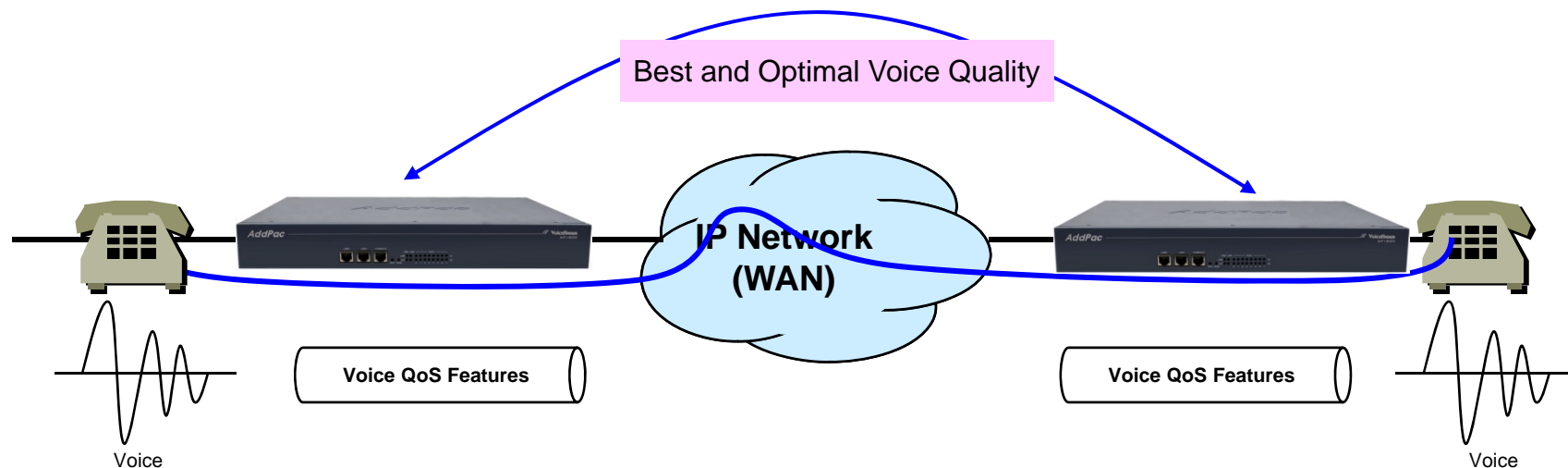
- Call transfer for internal calls
- Call pickup for internal calls
- Calling and called number conversion for VoIP outbound calls
- Calling and called number conversion for VoIP inbound calls
- Fax broadcasting call control



Advanced QoS Features

AP1820D Dual Power 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

AP1820D Dual Power VoIP Gateway

Basic Network Protocols

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

Routing Protocol

- IPv4 : Static

Service Protocol

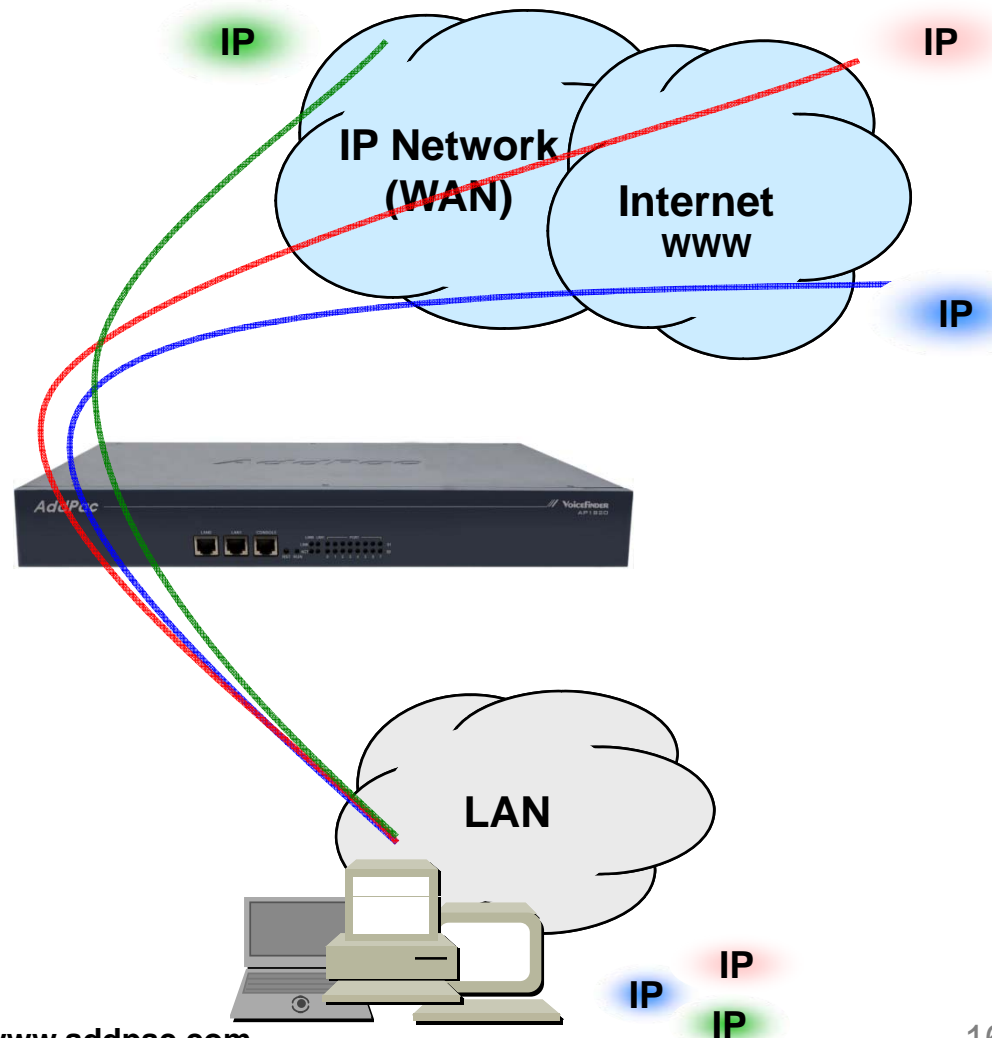
- FTP, Telnet, TFTP, DHCP Server/Relay, SNMP Server
- CDP (Cisco Discovery Protocol)
- DNS Resolver , DDNS(nsupdate)
- Bridge
- Syslog

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

AP1820D Dual Power 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**

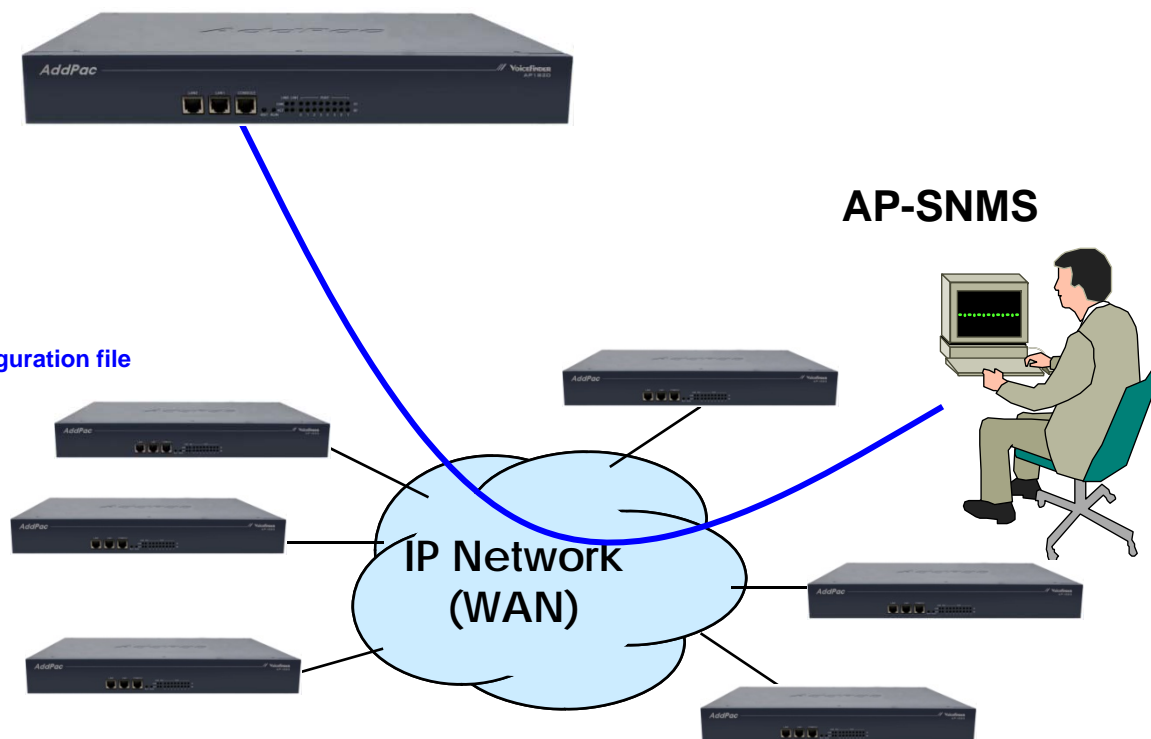
- HTTP server based APOS image and configuration file auto-upgrade support

- **Batch Job Function**

- Text based script downloading

- **Interoperable with AP-SNMS Service**

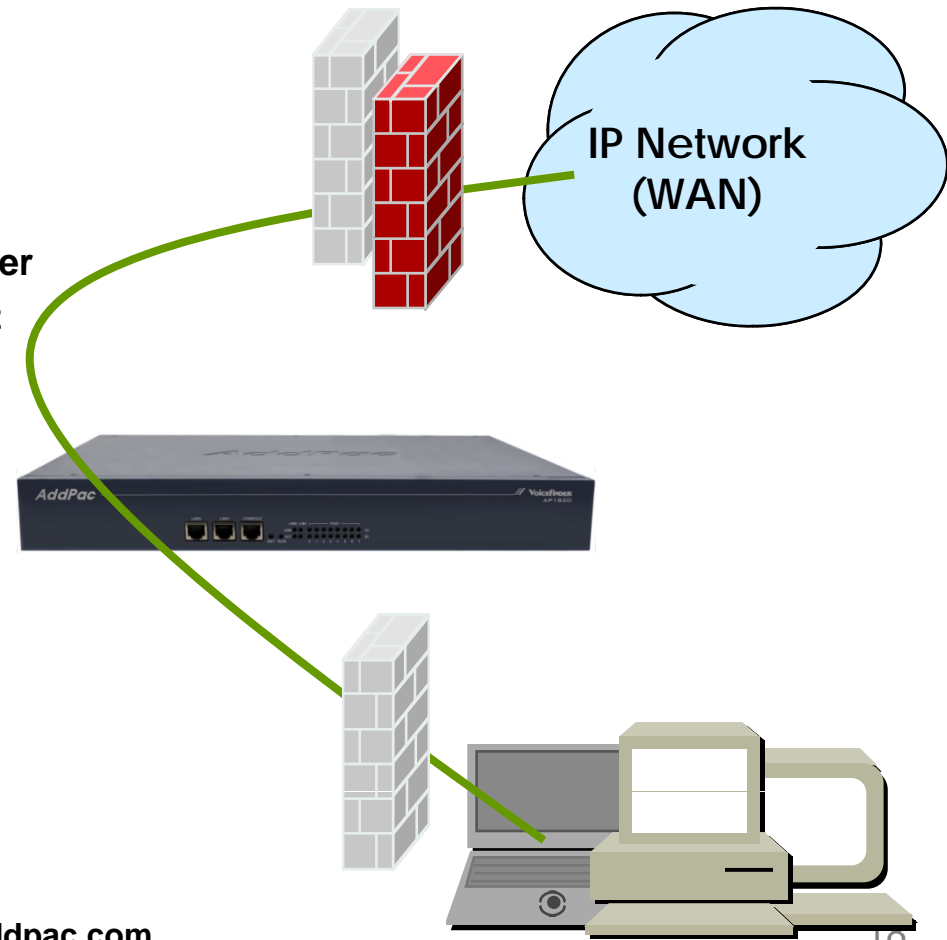
- AddPac Smart Network Management System (AP-SNMS)



Security Management

AP1820D Dual Power 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



Ordering Information

- **AP1820D Dual Power VoIP Gateway Hardware**
 - AP1820D VoIP Gateway Main Body
 - RISC Microprocessor with High-end Programmable DSP Architecture
 - 2-ports 10/100Mbps Fast Ethernet(RJ45)
 - Two(2) Module Slots
 - Option Module: AP-N1-FXS8, AP-N1-FXO8, AP-N1-FXS4O4, AP-E&M4, AP-N1-E1 Cards
 - Including Network Cable & Internal Dual Power Supply, etc.
- **Built-in APOS Internetworking Software for AP1820D**
- **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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