



**VoIP, Embedded
Gatekeeper System**

AP-GK3000



AddPac Technology

www.addpac.com

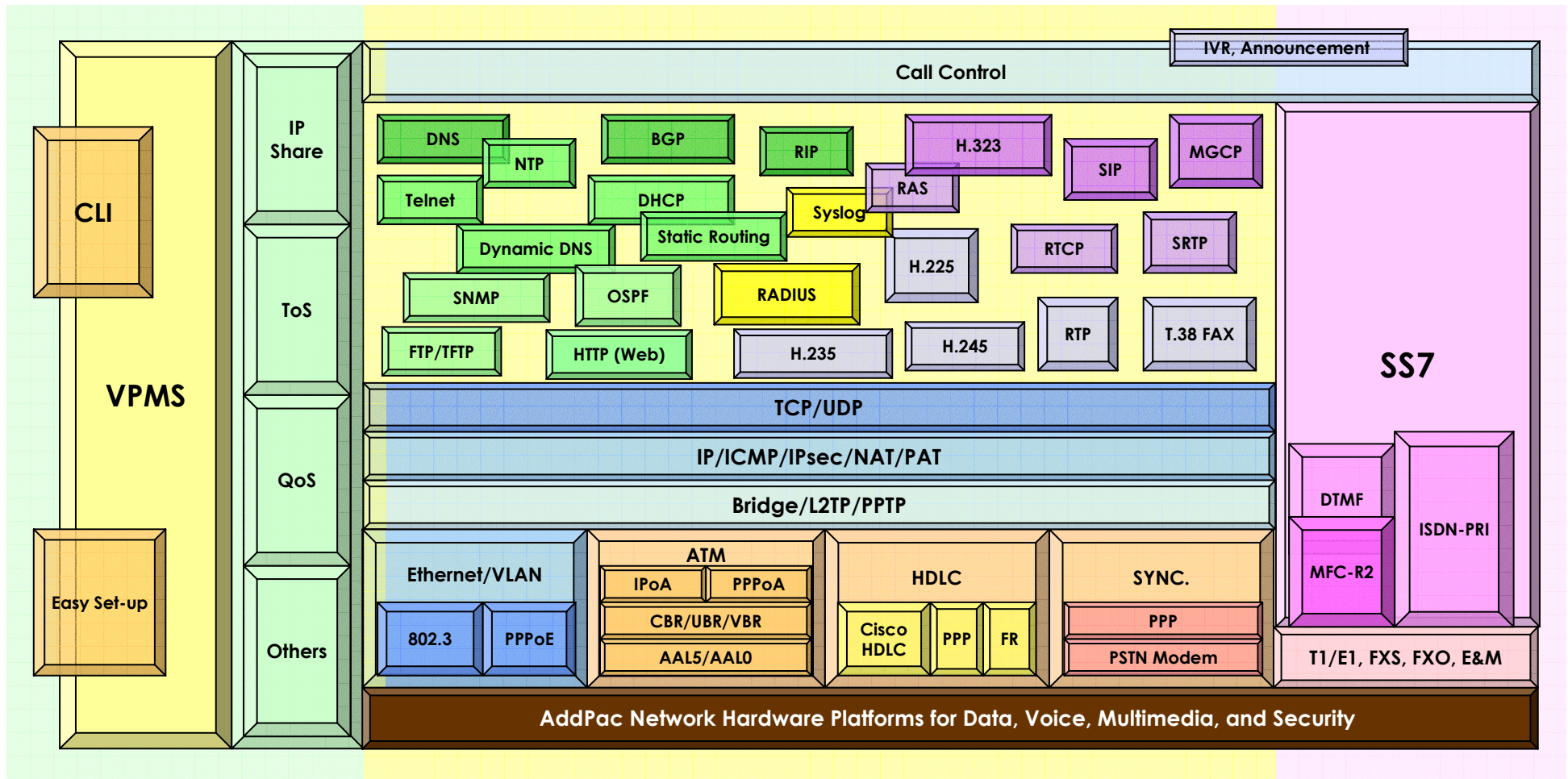
AddPac VoIP Products

AP-VPMS (VoIP Plug & play management system)

VoIP Gateway	VoIP Gateway	VoIP Gateway	VoIP Gateway	VoIP Gateway	Multi-service VoIP	Media Gateway
1~2 ports	4~8 ports	8~16 ports	16~64 ports	E1/T1/8 ports	N x E1/T1/8/16 ports	Triple E1/T1
AP160	AP1000	AP2120	AP3100	AP2110	AP2830	AP-MG3000
AP200A	AP1002	AP2120N NGN	AP3100N NGN	AP2520G	AP2850	*AP-MG5000
AP200B	AP1005					*AP-MG6000
AP200C	AP1100A	Secure VoIP Gateway		IP Broadcasting, FoIP Broadcasting		VoIP Gatekeeper
AP200D	AP1100B	AP-KMS (Key management System)		VBMS (IP Broadcasting Management)		AP-GK1000
AP200E	AP1100C	E1/T1/8 ports	E1/T1/8 ports	IP Broadcasting	FoIP Broadcasting	AP-GK2000
AP300B	AP1100F	*AP500S	AP-MG3000S	AP3120	AP3220	AP-GK3000
AP300C		*AP2120S		AP1601		
		AP2520S		AP-PSB		
						VoIP Router
						AP2520R

AddPac VoIP Gateway Product Overview

APOS Internetworking Protocol Stack

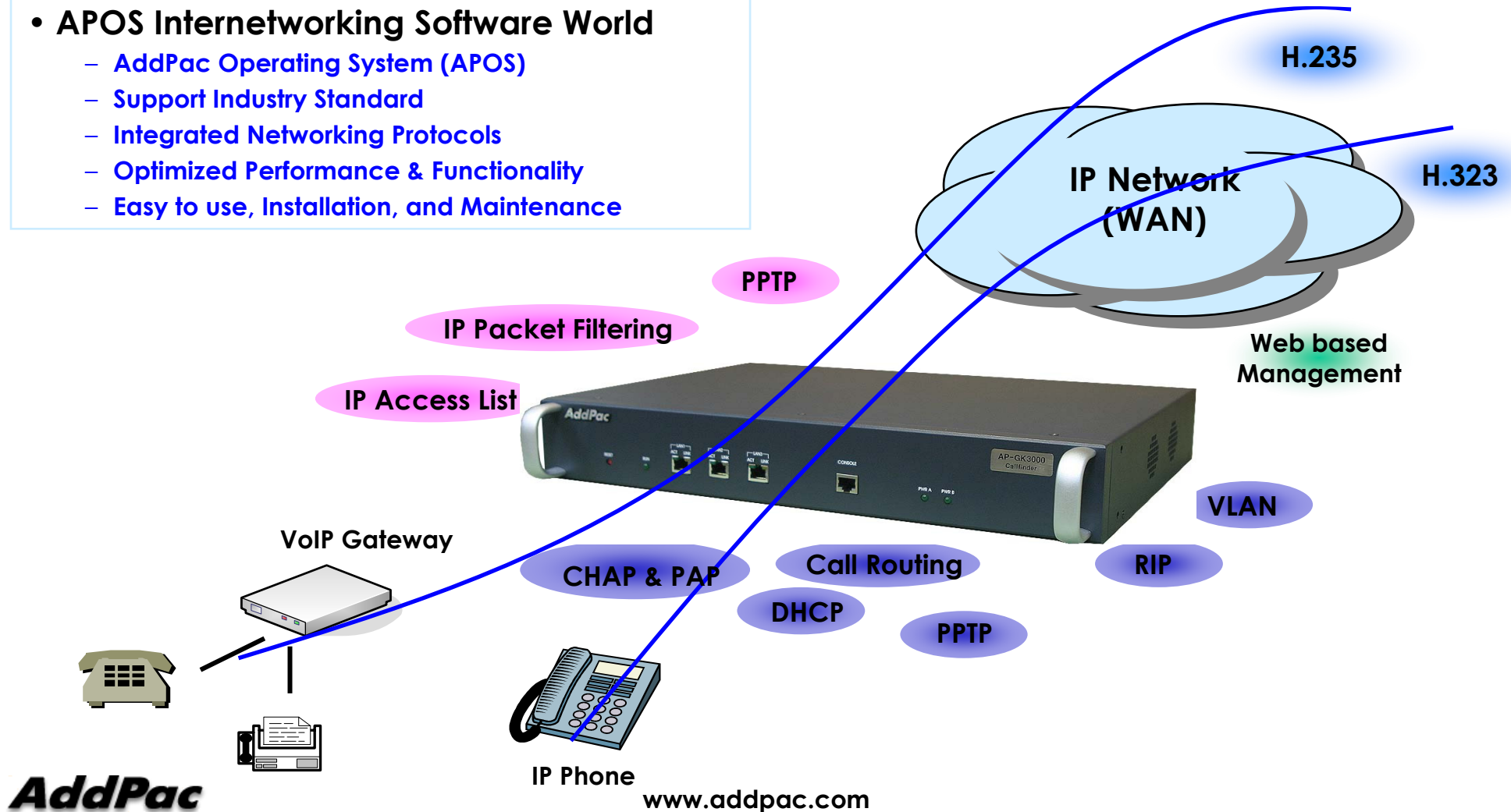


AP-GK3000 Gatekeeper Product Overview

APOS Internetworking S/W World

- APOS Internetworking Software World

- AddPac Operating System (APOS)
- Support Industry Standard
- Integrated Networking Protocols
- Optimized Performance & Functionality
- Easy to use, Installation, and Maintenance

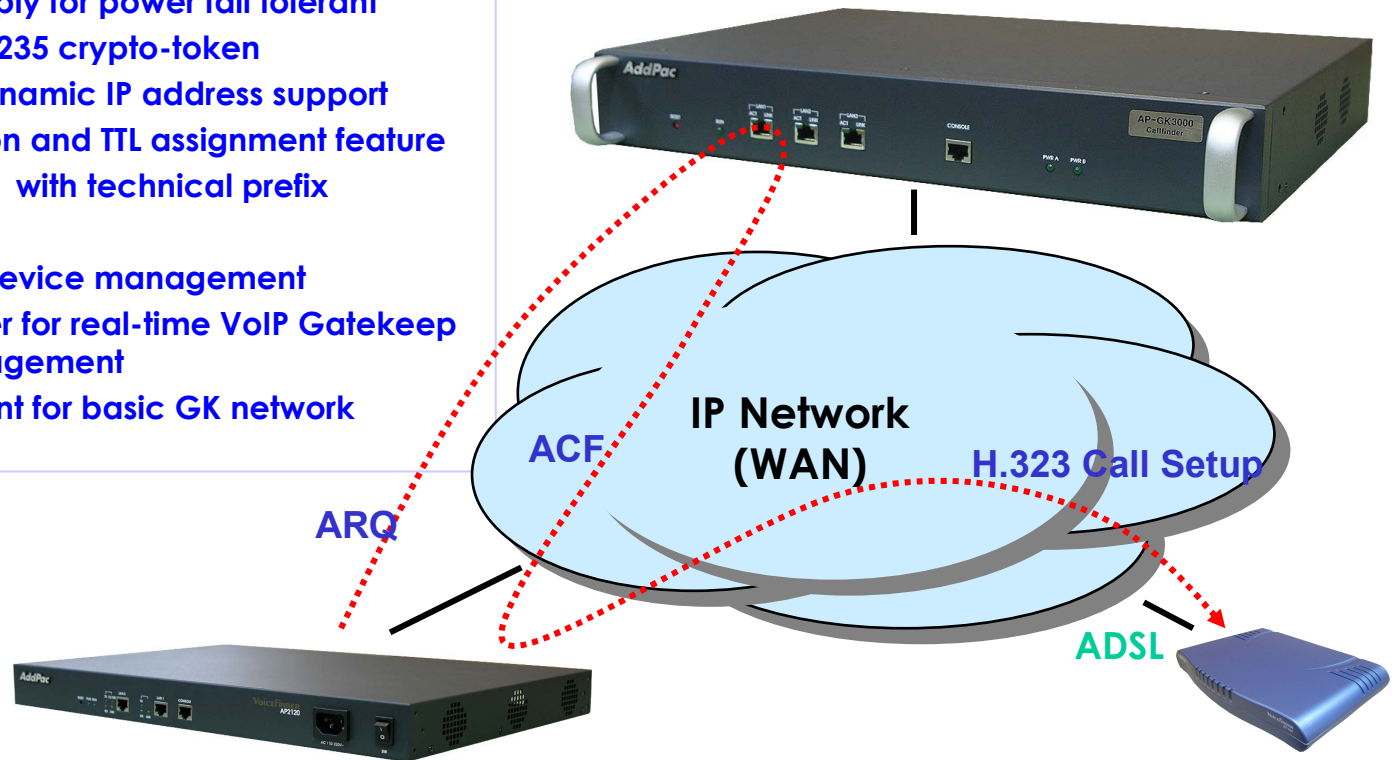


AP-GK3000 Gatekeeper Product Overview

AP-GK3000 VoIP Gatekeeper Service

• VoIP Gatekeeper Service Features

- High-End PowerPC based Embedded System
- Primary & Secondary GK Architecture for fault tolerant
- Redundancy Power supply for power fail tolerant
- Security function with H.235 crypto-token
- VoIP call routing and dynamic IP address support
- RAS port change function and TTL assignment feature
- Digit map management with technical prefix
- Remote S/W Upgrade
- Standard SNMP for GK device management
- Java based SmartViewer for real-time VoIP Gatekeeper monitoring and management
- Web based Management for basic GK network configuration



AP-GK3000 Gatekeeper Product Overview

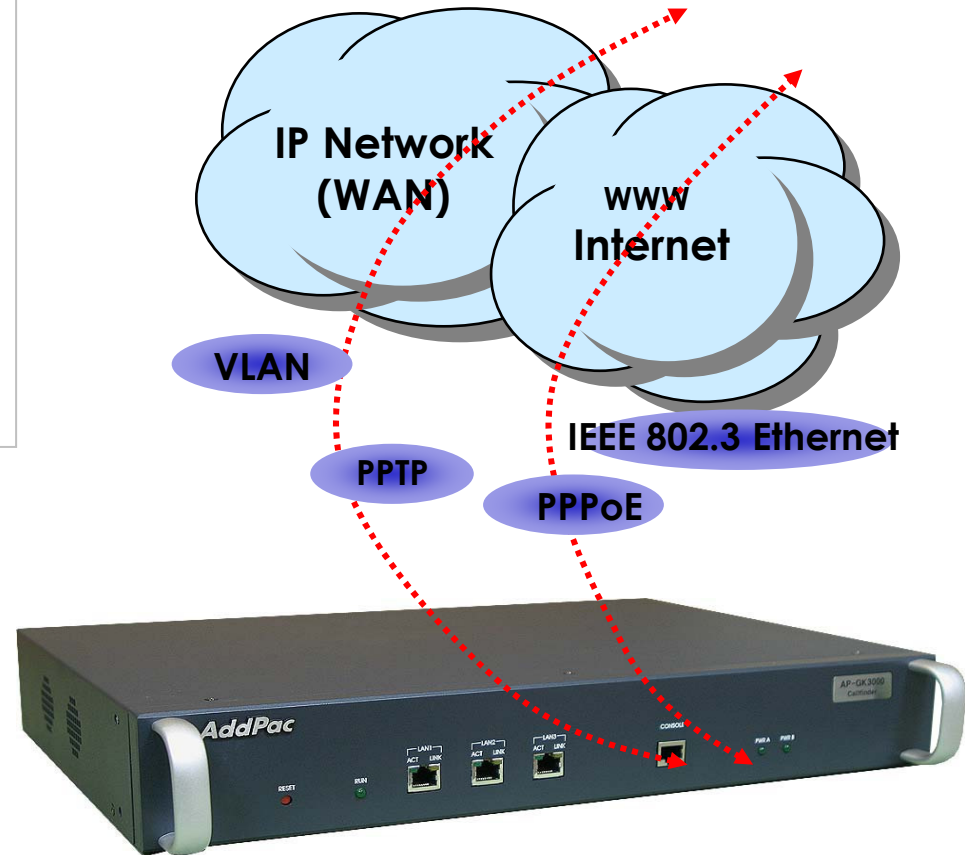
IP Routing and Network Protocols

- IP Routing Protocols

- Static and default Routing
- IEEE 802.1Q VLAN Routing

- WAN Protocols

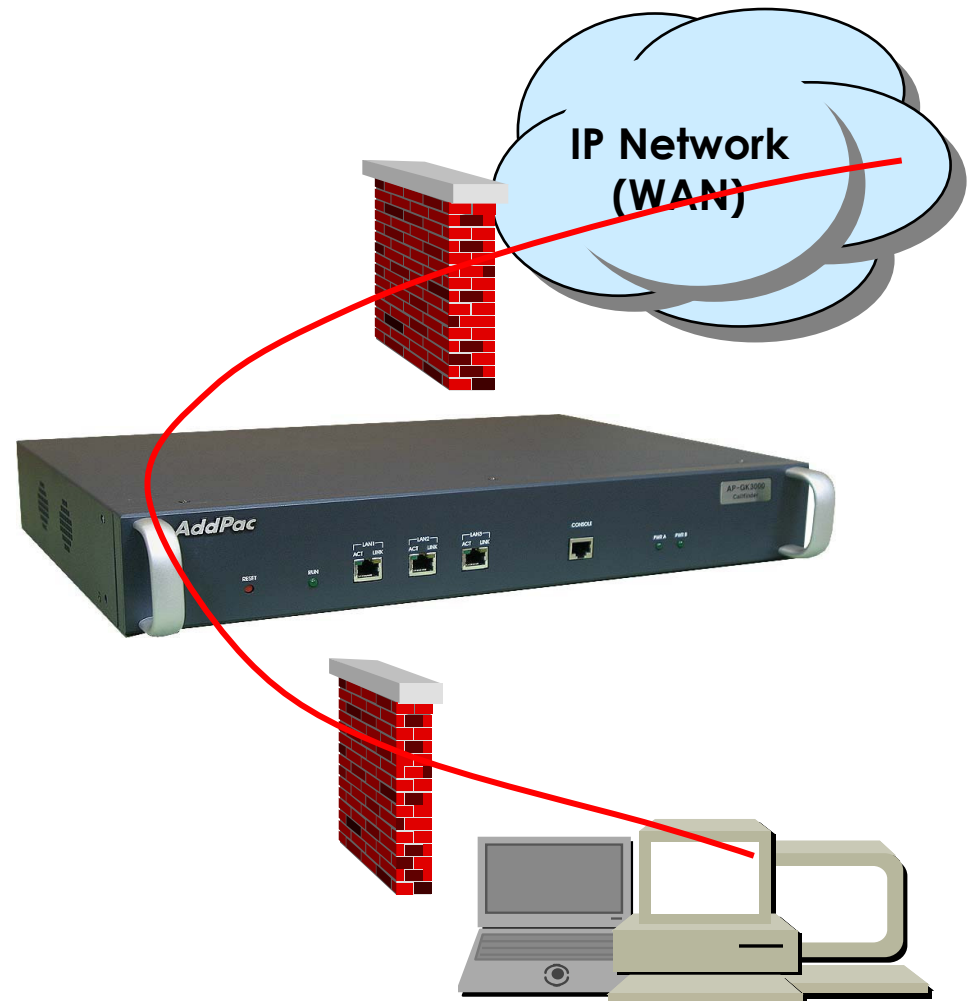
- Point-to-Point over Ethernet Protocol (PPPoE) for ADSL
- IEEE 802.3 Ethernet
- PPTP support for secure communication



AP-GK3000 Gatekeeper Product Overview

Security Management

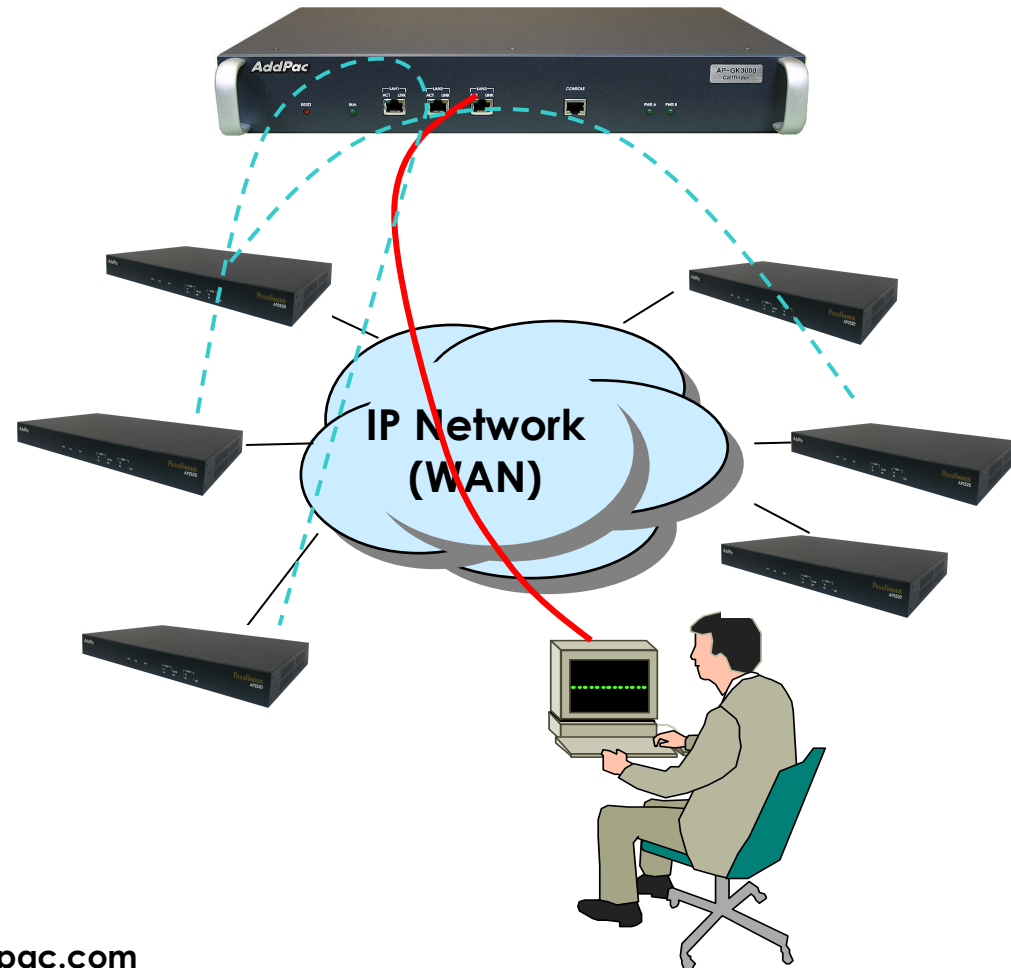
- IP packet filtering
- Access list
- PPP User authentication function
 - Password Authentication Protocol (PAP)
 - Challenge Handshake Authentication Protocol (CHAP)
- Enable/Disable specific protocols
- Auto-square connect of console and Telnet session
- Account Management function for multi-level user



AP-GK3000 Gatekeeper Product Overview

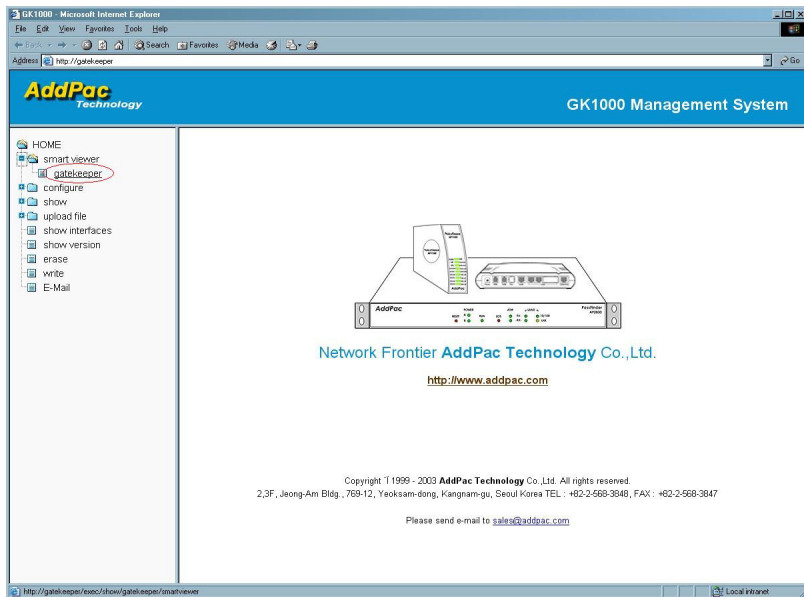
Network Managements

- **SNMP**
 - Standard Simple Network Management Protocol(SNMP) Agent support
 - MIB v1 and v2 Support
- **Web-based Management using HTTP Server**
- **Watch-dog Function**
 - Hardware, Software watch-dog services
- **Remote Management**
 - Telnet
 - Rlogin
 - Console
- **Auto Upgrade Service**
 - HTTP server based APOS image and configuration file auto-upgrade support
- **Batch Job Function**
 - Text based script downloading



AP-GK3000 Gatekeeper Product Overview

Web-based Management



- Web based Management
 - Web based management using HTTP Server interface
 - Easy Setup
 - Graphic User Interface (GUI)



<http://172.x.x.x...>

AP-GK3000 Gatekeeper Product Overview

Java based Smart Viewer Program

• Smart Viewer Program

- Easy monitoring of endpoints registered at the GateKeeper and call status
- Offers statistical information of the endpoints' status and active calls
- Easy-to-use Graphic User Interface
- Easy search function of VoIP gateway's call history and events
- Sort function

• System Requirement

- CPU: Intel Pentium II 300Mhz or higher system
- Memory: 128MB or higher
- Hard Disk: 10GB or more
- OS: MS Windows 2000 / XP / Server 2003
- Java 2 Runtime Environment SE v 1.4.2
- Web browser

The screenshot displays the 'GK3000 CallStatus' web application. The top section shows a table of endpoints with columns for EP_Type, EP_ID, RAS ID, Alias, RAS Port, and Signal ID. Below this is a detailed view of an active call, showing 'Active Events' and 'Statistics Graph'. The 'Active Events' table lists call events with columns for Number, Time Stamp, Event Category, Event-Severity, Event-Code, Object-Type, Object-ID, and Event-Prfx. The 'Statistics Graph' section shows a table of items and values for the current call, including EndpointID, RegTime, Type, Status, SigIP, SigPort, RasIP, RasPort, CountryCode, ExtCode, MfnCode, ProductID, VersionID, H323ID, Alias[1], Alias[2], and Alias[3].

Item	Value
EndpointID	37ae55600002
RegTime	Oct 1 14:31:54
Type	GW
Status	Normal
SigIP	172.17.202.200
SigPort	1720
RasIP	172.17.202.200
RasPort	22000
CountryCode	97
ExtCode	0
MfnCode	22
ProductID	AddPac VoIP
VersionID	6.20
H323ID	voip.172.17.202.200
Alias[1]	voip.172.17.202.200
Alias[2]	1000
Alias[3]	1004

AP-GK3000 Gatekeeper Product Overview

AP-GK3000 Performance Report (1)

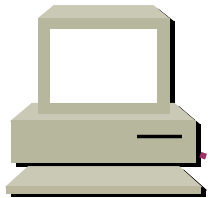
• Gkburst (Gatekeeper Burstness Test)

- Measures the burstness of the gatekeeper call handling ability
- The number of RRQ messages per seconds by sending a lot of RRQ messages to gatekeeper
- The number of ARQ messages per seconds by sending a lot of ARQ messages to gatekeeper

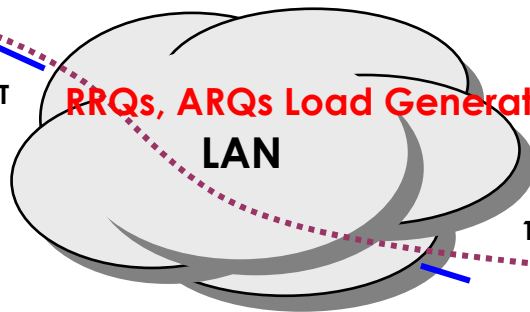
• gkburst -gk <GK's IP address> -n 1000

- The iteration number of RRQs, ARQs call load generation messages is one thousand(1000)

Linux PC



10/100BaseT



RRQs, ARQs Load Generation Messages

LAN

10/100BaseT



Send 1000RRQ and 1000ARQS

- 166 RRQ/sec

- 166 ARQ/sec

AP-GK3000 Gatekeeper Product Overview

AP-GK3000 Performance Report (2)

• Gkgen

- measures maximum number of endpoints and maximum concurrent calls supported by a gatekeeper.
- Single Gkgen process can register 1000 endpoints with 2000 aliases
- After register endpoints, single Gkgen process generate 1000 ARQs and DRQs periodically

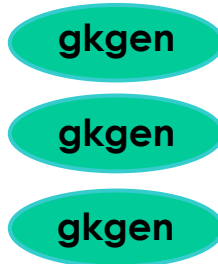
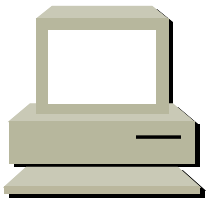
• `gkgen -gk <GK's IP address> -n 1000 -b 1000 -arq- 2 -ttl 120`

- `-gk` : gatekeeper IP address
- `-n` : number of endpoints and calls to generate
- `-b` : base number for distinguishing multiple Gkgen processes
- `-ttl` : Time to live timer value.
- `-arq-` : number of TTL period per one call

Condition : TTL = 60 sec,
Call period is 120 sec

-GK CPU load : Max 100%
-5000 endpoints, 10000 aliases
-5000 concurrent calls

Linux PC




Emulates 1000 endpoints with
periodic 1000 calls




AP-GK3000 Gatekeeper Product Overview

AP-GK3000 Hardware Specification

	AP-GK3000 GateKeeper
▶ Microprocessor	64bit High-End RISC Microprocessor
▶ Network Interface	Fixed 3-Ports 10/100Mbps Fast Ethernet Interface(Rj45)
▶ Console Ports	Fixed 1-Port RS-232C Interface (RJ45)
▶ Boot Memory for Loader	512Kbyte
▶ Flash Memory	8Mbyte
▶ Main Memory	128Mbyte High-Speed SDRAM
▶ Power Requirement	VAC 110~220V, 50/60Hz, 30Watt, Dual Power
▶ Internetworking OS	APOS
▶ Support VoIP Protocol	H.323
▶ PPPoE, PPTP Network Protocols	YES
▶ Enhanced QoS Management Feature	YES
▶ IP Routing Protocols Including NAT	YES
▶ Network Management Protocols	YES
▶ Support Network Environments	ADSL, VDSL, Cable Modem, Leased Line, ATM, Frame-Relay, Including Conventional Broad Band Networking

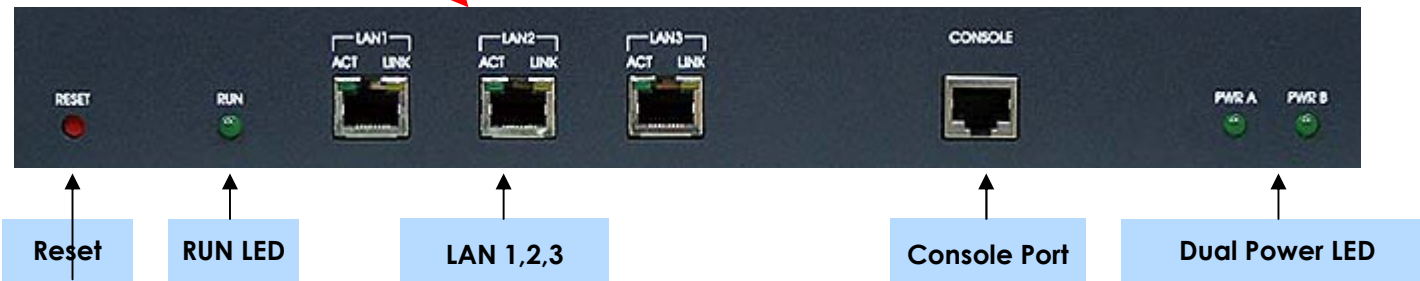
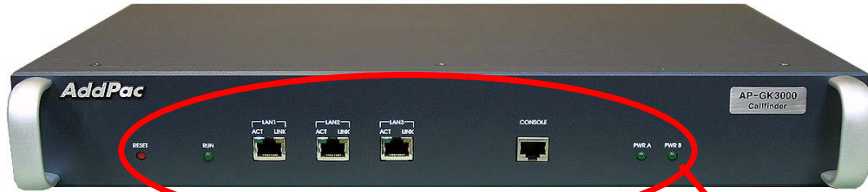
AP-GK3000 Gatekeeper Product Overview

AP-GK3000 Support Protocols & Service

	AP-GK3000 Support Protocol and Service
<p>▶ Routing Protocol</p>	<p>Static and Default Routing RIP v1/v2, OSPFv2, etc IEEE 802.1Q VLAN Routing</p>
<p>▶ WAN Protocol</p>	<p>Point-to-Point over Ethernet Protocol For ADSL IEEE 802.3 Ethernet PPTP support for secure communication</p>
<p>▶ GateKeeper Function</p>	<p>Primary GK & secondary GK setting for fault-tolerant Digit map management with technical prefix TTL assignment function Security function with H.235 crypto-token RAS port change function</p>
<p>▶ Operation & Management</p>	<p>System Performance Analysis for Process, CPU, Connection I/F Configuration Backup & Restore for APOS Management Debugging, System Auditing and Diagnostics supports System Booting and Auto-rebooting with Watchdog Feature System Management with Data Logging IP Traffic Statistics with Accounting</p>
<p>▶ Additional Features</p>	<p>DHCP Server & Relay Functions IP Accounting Function Transparent Bridging (IEEE Standard) Function CISCO Style Command Line Interface (CLI) Network time Protocol (NTP) Support Remote Upgrade for APOS Management using FTP / TFTP ITU-T H.323 v3 VoIP Protocol Compatibility, ITU-T H.235 Security Feature</p>

AP-GK3000 Gatekeeper Product Overview

AP-GK3000 Exterior Parts

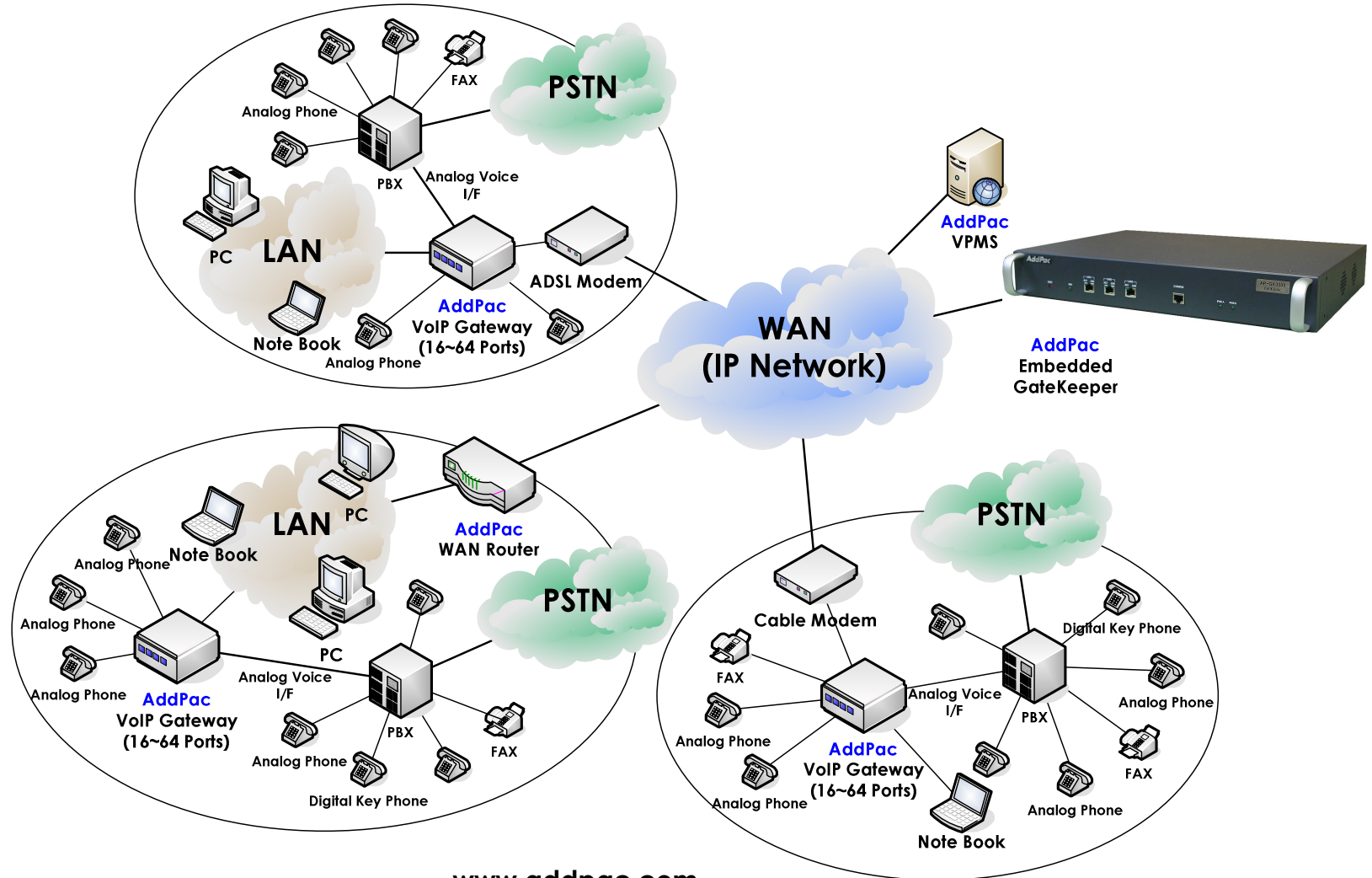


Switch

Power Plug

AP-GK3000 Gatekeeper Product Overview

AP-GK3000 Network Diagram



AP-GK3000 Gatekeeper Product Overview

Ordering and Pricing Information

• AP-GK3000 Ordering Information

Order No :

AP-GK3000 Gatekeeper

- Three(3) 10/100BaseT Fast Ethernet
- One(1) Console Port
- High-Performance 32bit RISC CPU
- 512K Boot Loader
- 8MB Flash Memory, 128MB SDRAM, etc
- APOS v7.xx with Operation Manual
- Including CAB-LAN, CAB-CON

CAB-LAN

- RJ45 Ethernet Cable

CAB-CON

- RJ45 RS-232C Console Cable



For detailed pricing info:

Contact

- AddPac Technology Regional Sales Managers
- Authorized Sales and Marketing Representatives
- www.addpac.com

AddPac Technology Co., Ltd.

Thank you !

www.addpac.com

Technical Sales and Marketing

Phone : +82 2 568 3848

Fax : +82 2 568 3847

sales@addpac.com

AddPac

www.addpac.com