

AP-CBS5000™ Cellular Emergency Broadcasting Server

High Performance Cellular Emergency Broadcasting Solution

Preliminary Product Overview

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



AddPac

AddPac Technology

2012, Sales and Marketing

www.addpac.com

Contents

- Product Overview
- Hardware Specification
- Cellular Module Specification
- APOS Technology
- VoIP (Voice over IP) service
- Advanced QoS Features
- Network Protocols
- Network Management
- Security Management
- Application Service
- Ordering Information



Product Overview

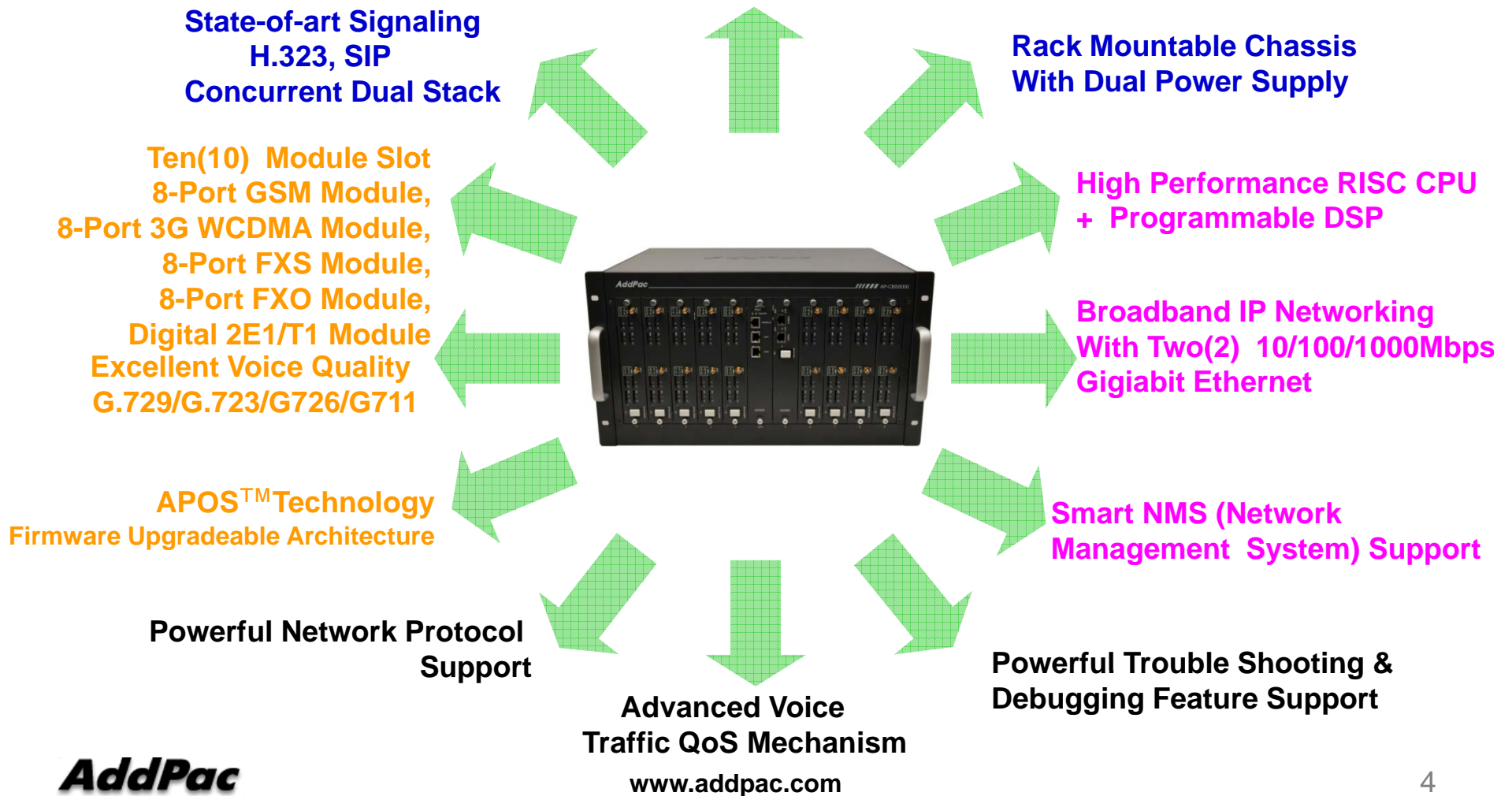
AP-CBS5000 Cellular Emergency Broadcasting Server

- Cellular Emergency Voice Broadcasting Server
- SMS Broadcasting Server
- Remote Voice Broadcasting Service Support via Cellular Terminal (IVR based Authentication, etc)
- Cellular Broadcasting Management System with Dedicate IP Terminal
- Voice Broadcasting Mailing Service
- Call by Call Pseudo Real-time Voice Broadcasting Service
- Ten(10) Module Slots for GSM/3G, Digital 2E1 Interface (Up to 80-Port GSM, 80-Port 3G WCDMA, CPU Module)
- H.323/SIP Dual Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- 10/100/1000Mbps Gigabit Ethernet Interface
- One(1) RS-232C Port for Command Line Interface
- Firmware Upgradeable Architecture
- NMS(Network Management System) Support
- Advanced Voice QoS Mechanism
- Rack Mountable Chassis with Internal Power Supply
- Dual Redundancy Power Supply Architecture

Product Highlights

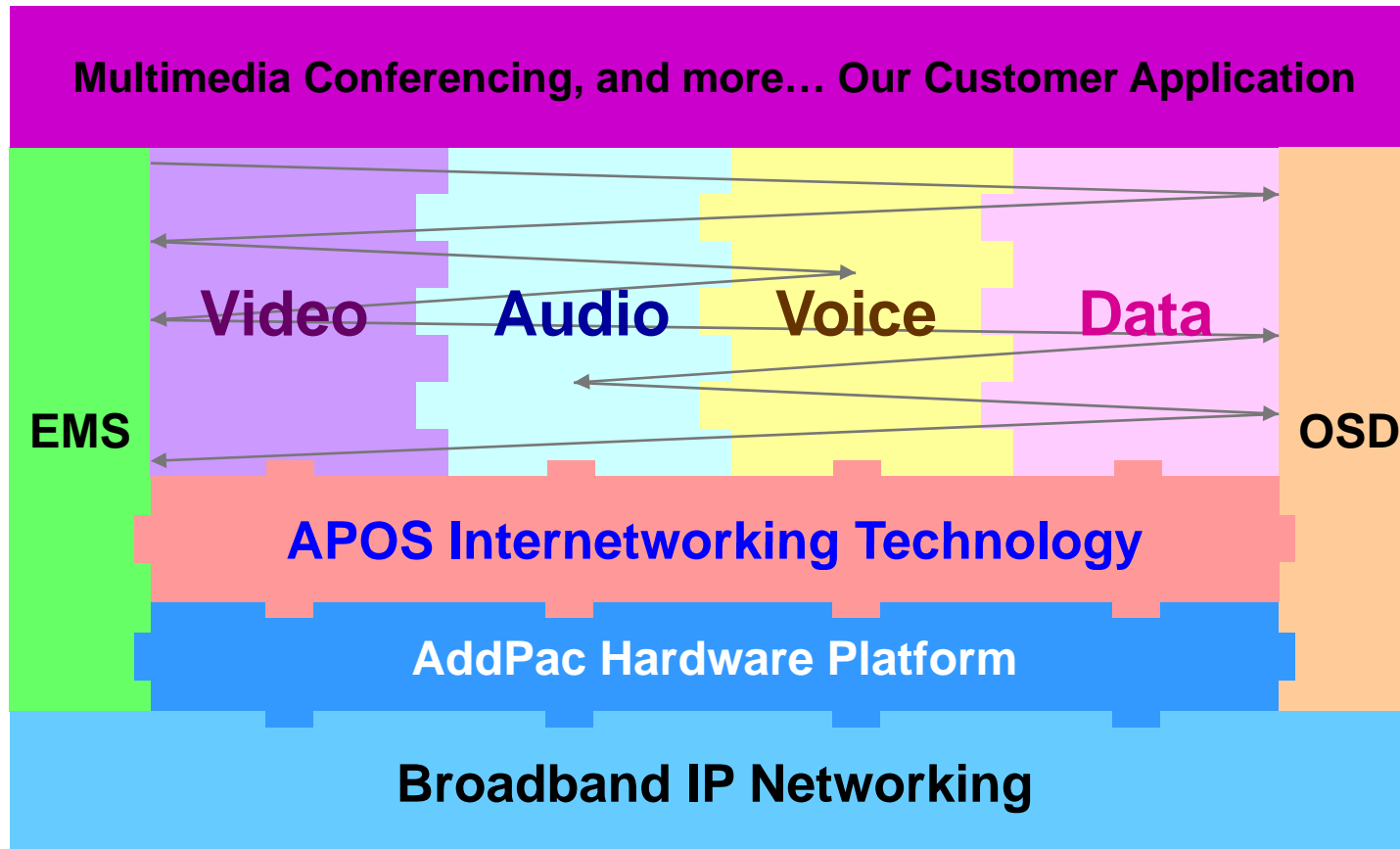
AP-CBS5000 Cellular Emergency Broadcasting Server

Powerful Multi-Port Cellular Broadcasting Server (up to 80 Channel GSM/3G WCDMA Interface)



APOS Technology

AP-CBS5000 Cellular Emergency Broadcasting Server



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

Hardware Specification

AP-CBS5000 Cellular Emergency Broadcasting Server

RISC
CPU

High-end
DSP

- RISC Microprocessor Computing Power
- Ten(10) Module Slot for GSM/3G, Analog /Digital VoIP Interface
- 8-Port GSM Module(AP-N1-GSM8)
 - 8-Port SIM Card Slot
 - Two(2) GSM Antenna Interface (Internal 4 Channel Antenna Combiner x 2)
- 8-Port 3G Module(AP-N1-3G8)
 - 8-Port USIM Card Slot
 - Two(2) 3G Antenna Interface (Internal 4 Channel Antenna Combiner x 2)
- VoIP Interface Module (Hot-Swap)
 - 8-Port FXS, FXO Module (AP-N1-FXS8, AP-N1-FXO8)
 - Digital 2E1/T1 Module (AP-N1-2E1)
- Network Interface
 - Two(2) 10/100/1000Mbps Gigabit Ethernet (RJ45)
- RS232C Console Interface for CLI
- Run LED, LAN LED, Port LEDs
- **AddPac** Module Type Power Supply, Dual Power Supply(Optional)



Hardware Specification

AP-CBS5000 Cellular Emergency Broadcasting Server

RISC
CPU

High-end
DSP

AP-CBS5000 Cellular Emergency Broadcasting Server	Basic Specifications
Voice Interface	Ten(10) Module Slots for GSM/WCDMA, Analog/Digital VoIP Module AP-N1-GSM8, AP-N1-WCDMA4, AP-N1-FXS8, AP-N1-FXO8, AP-N1-FXS4O4, AP-N1-2E1
Ethernet Interface	2-Ports 10/100/1000Mbps Gigabit Ethernet Interface(RJ-45)
Flash Memory	4Gbyte Flash Memory
Base Memory	1Gbyte DDR2
Power Requirement	Power Supply / VAC 110~220V, 50/60Hz, 150Watt Dual Power Supply (Dual PSU)
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	W×D×H (489mm x 344mm x 266mm)
Weight(kg)	15Kg

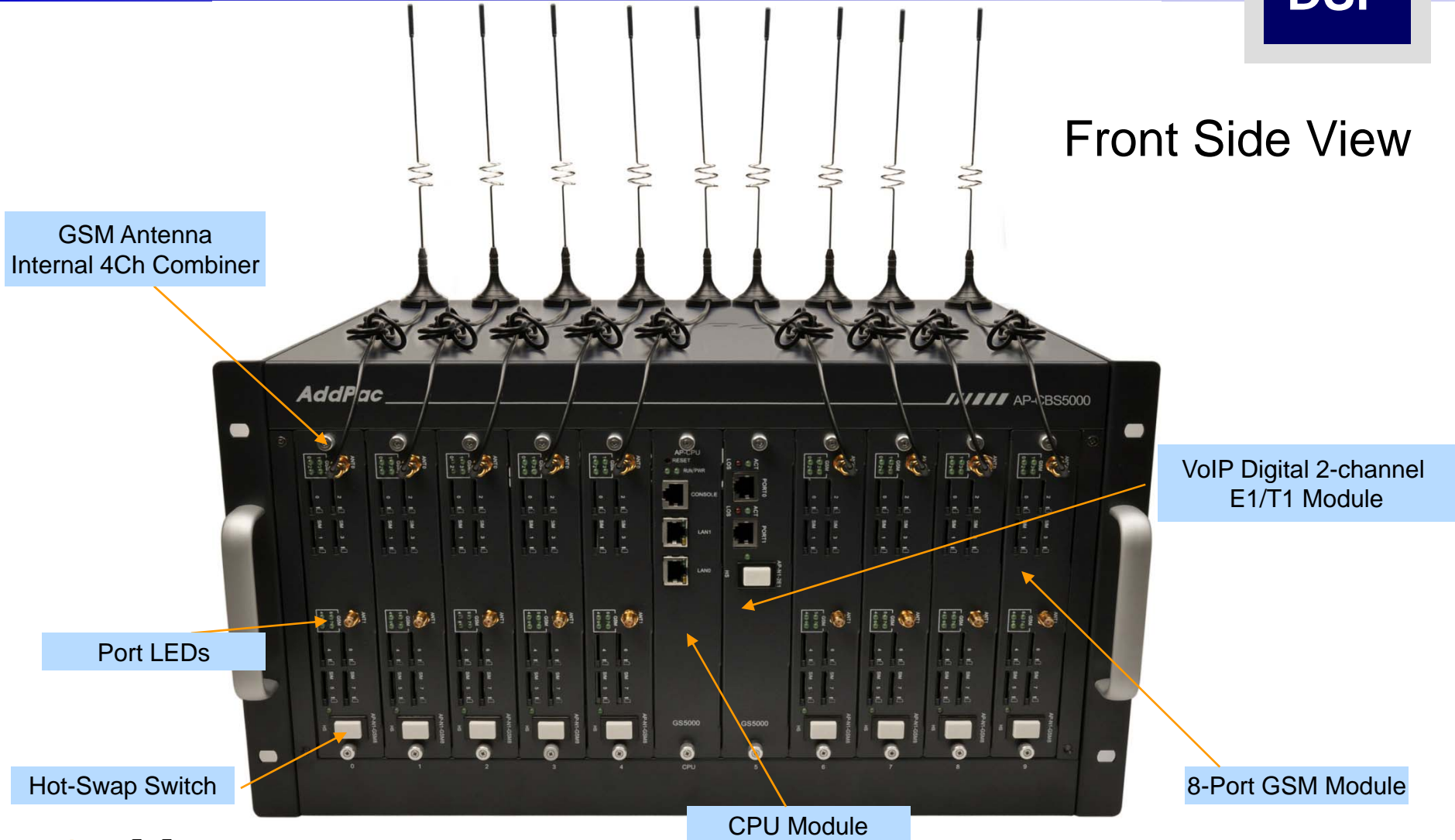
Hardware Specification

AP-CBS5000 Cellular Emergency Broadcasting Server

RISC
CPU

High-end
DSP

Front Side View



AddPac

www.addpac.com

Hardware Specification

AP-CBS5000 Cellular Emergency Broadcasting Server

RISC
CPU

High-end
DSP

Back Side View



Power Module



Cooling FAN

Power Switch

Power Inlet (110~220V)

AddPac

www.addpac.com

Hardware Specification

AP-CBS5000 Cellular Emergency Broadcasting Server

RISC
CPU

High-end
DSP

AP-CBS5000 Modules

AP-N1-GSM8 8-Port GSM Module



AP-N1-3G8 8-Port 3G WCDMA Module



AP-N1-FXS8 8-Port FXS Module



AP-N1-FXO8 8-Port FXO Module



AP-N1-2E1 2-Port Digital E1/T1 Module



Hardware Specification

AP-CBS5000 Cellular Emergency Broadcasting Server

RISC
CPU

High-end
DSP

SIM Card Slot



AP-N1-GSM8
(8-Port GSM Module)

GSM Antenna
Internal 4Ch Combiner

Port LEDs

GSM Antenna
Internal 4Ch Combiner

Hot-Swap Switch

Hardware Specification

AP-CBS5000 Cellular Emergency Broadcasting Server

RISC
CPU

High-end
DSP



AP-N1-2E1
(Digital E1/T1 Module)

Hardware Specification

AP-CBS5000 Cellular Emergency Broadcasting Server

Power Supply Module



Hardware Specification

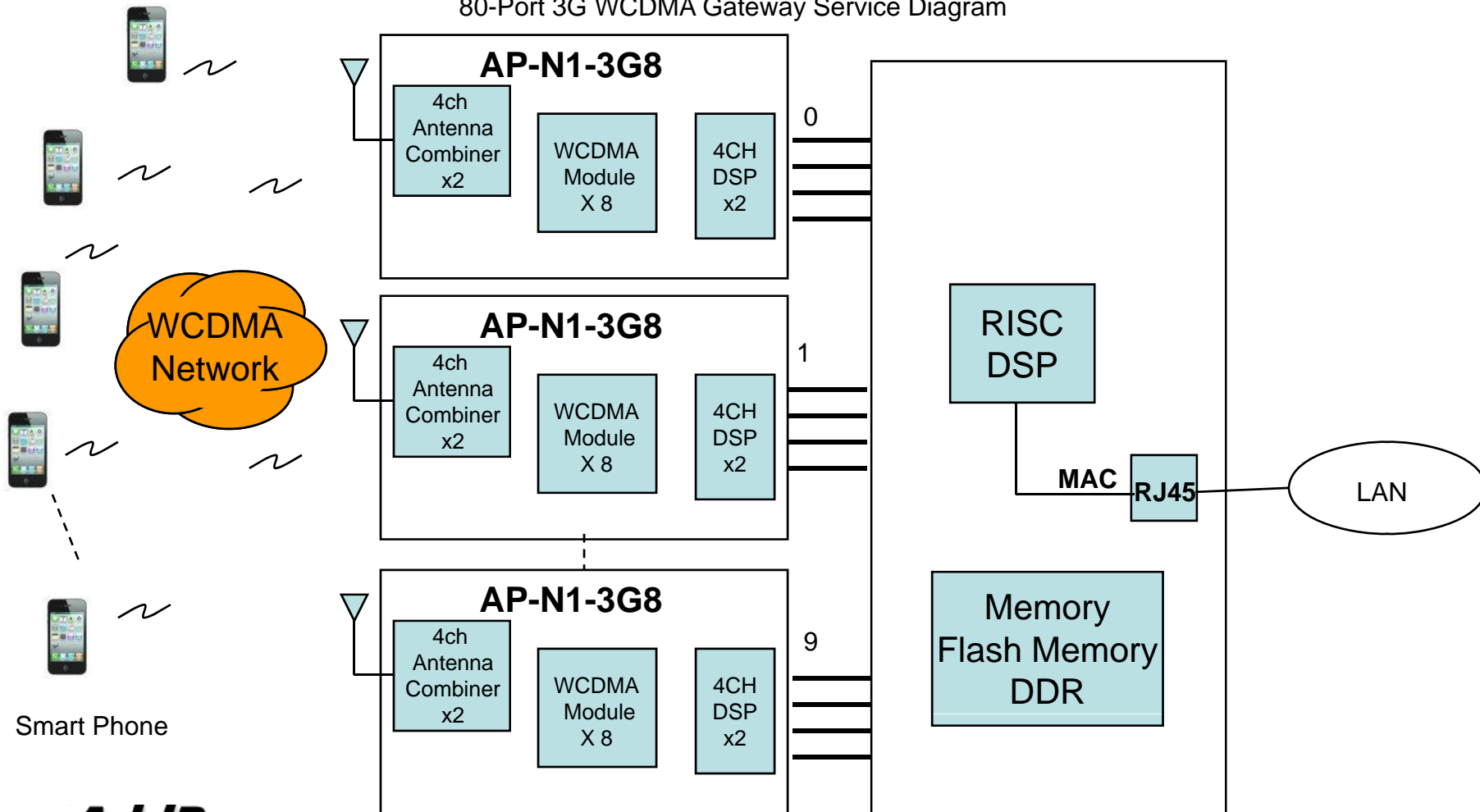
AP-CBS5000 Cellular Emergency Broadcasting Server

RISC
CPU

High-end
DSP

3G WCDMA Gateway Service Diagram

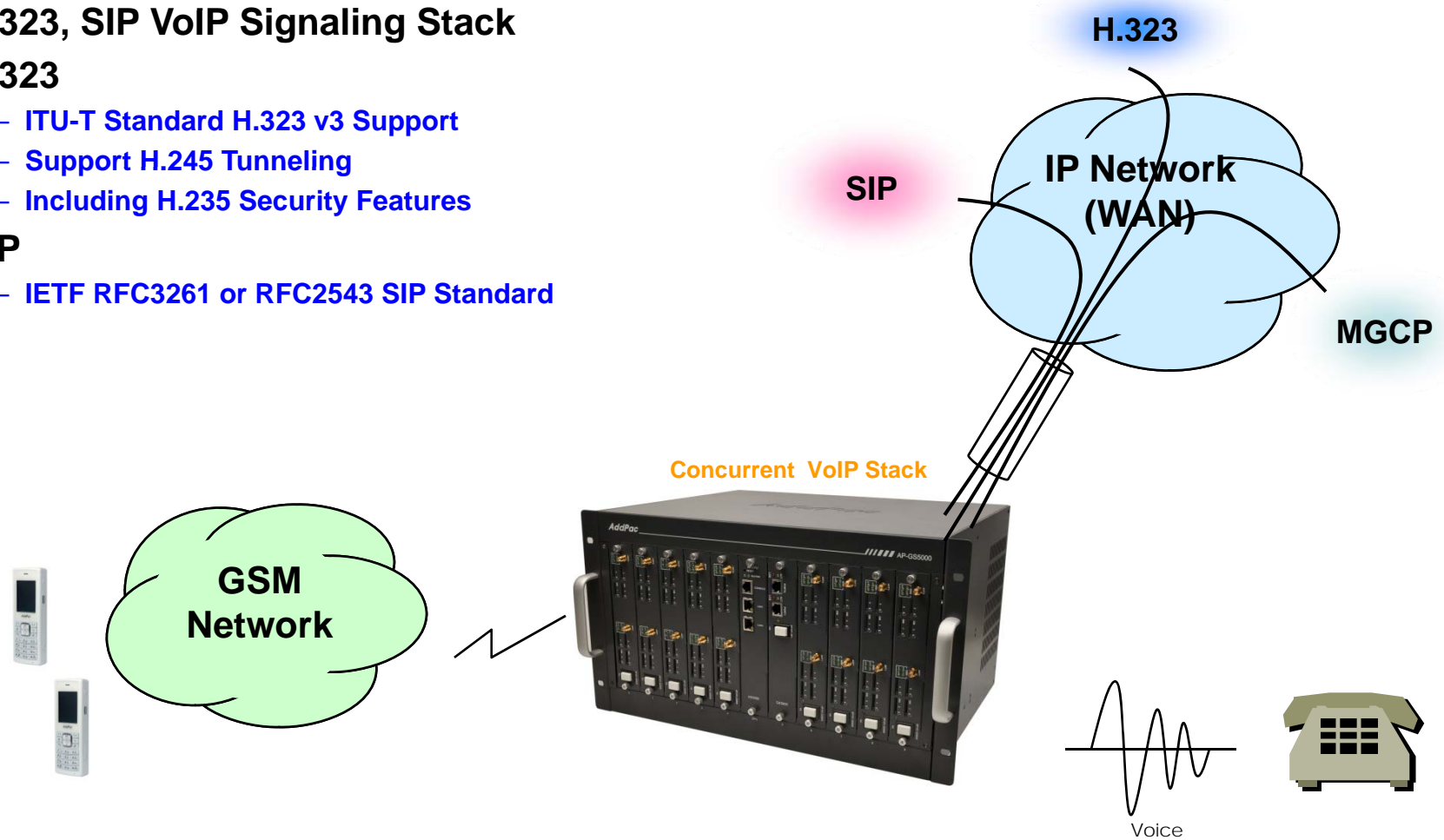
80-Port 3G WCDMA Gateway Service Diagram



VoIP (Voice over IP) Service

AP-CBS5000 Cellular Emergency Broadcasting Server

- H.323, SIP 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

AP-CBS5000 Cellular Emergency Broadcasting Server

- **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

AP-CBS5000 Cellular Emergency Broadcasting Server

- **Voice Codec**

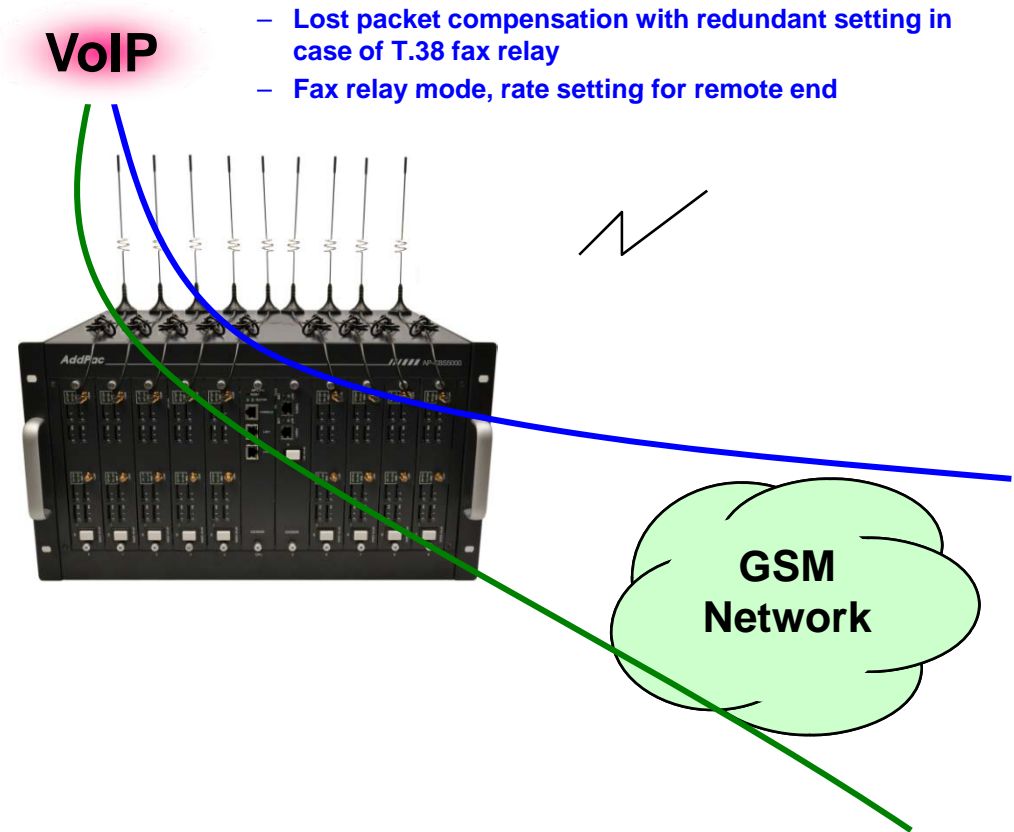
- G.711 A-Law, G.711 U-Law
- G.726 r16, G.726 r32
- G.729A
- G.723.1 r63, G.723.1 r53
- VAD (Voice Activity Detection) function support
- DTMF relay support (H.323, SIP, MGCP common) based on RFC2833

- **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

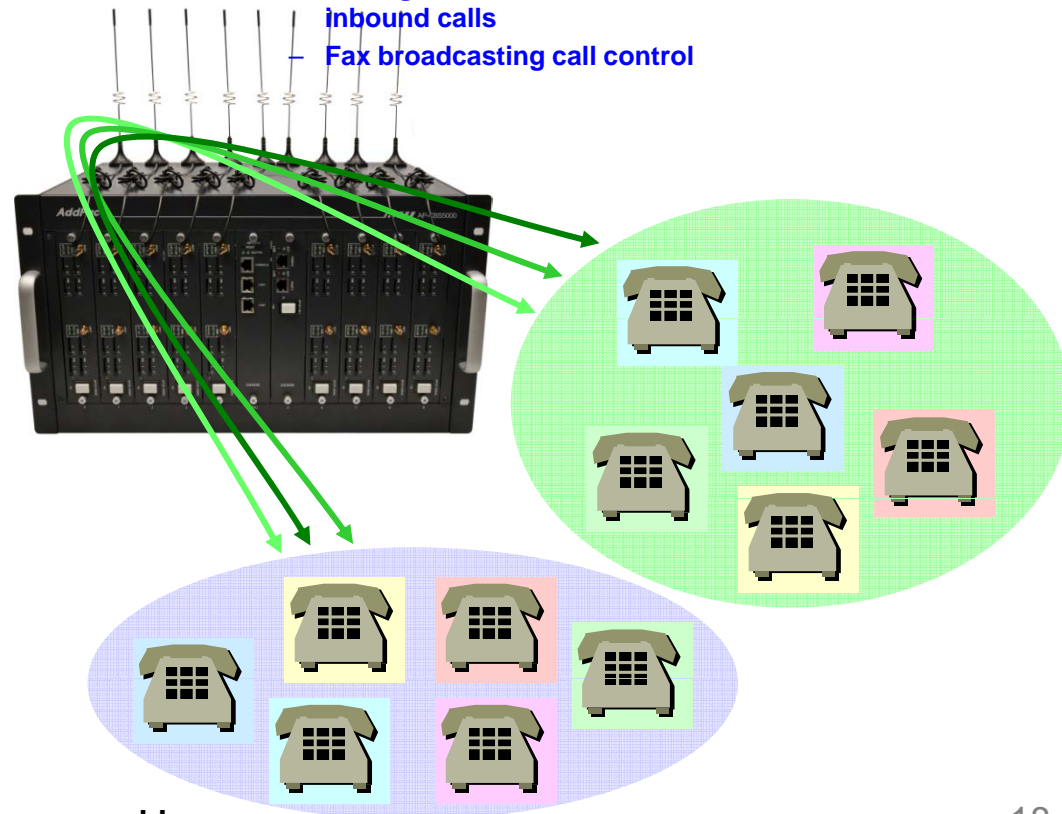
AP-CBS5000 Cellular Emergency Broadcasting Server

• 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.)

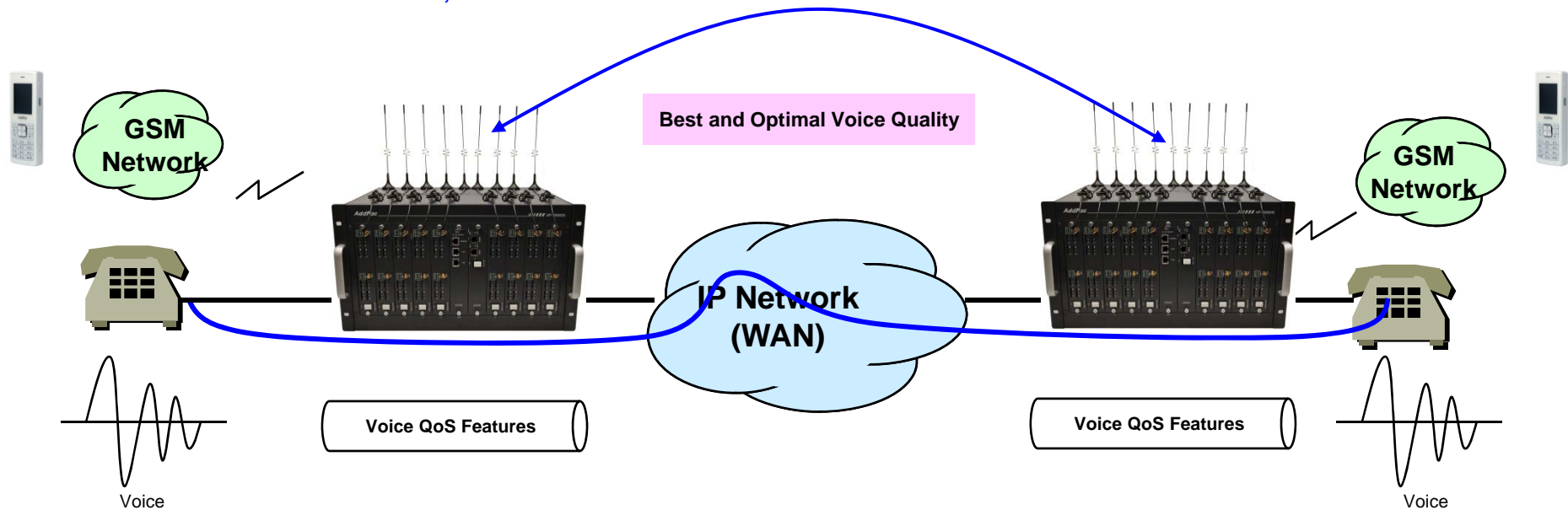
- Call transfer for internal calls
- Call pickup for internal calls
- Calling and called number conversion for VoIP outbound calls
- Calling and called number conversion for VoIP inbound calls
- Fax broadcasting call control



Advanced QoS Features

AP-CBS5000 Cellular Emergency Broadcasting Server

- 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

AP-CBS5000 Cellular Emergency Broadcasting Server

Basic Network Protocols

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

Routing Protocol

- IPv4 : Static

Service Protocol

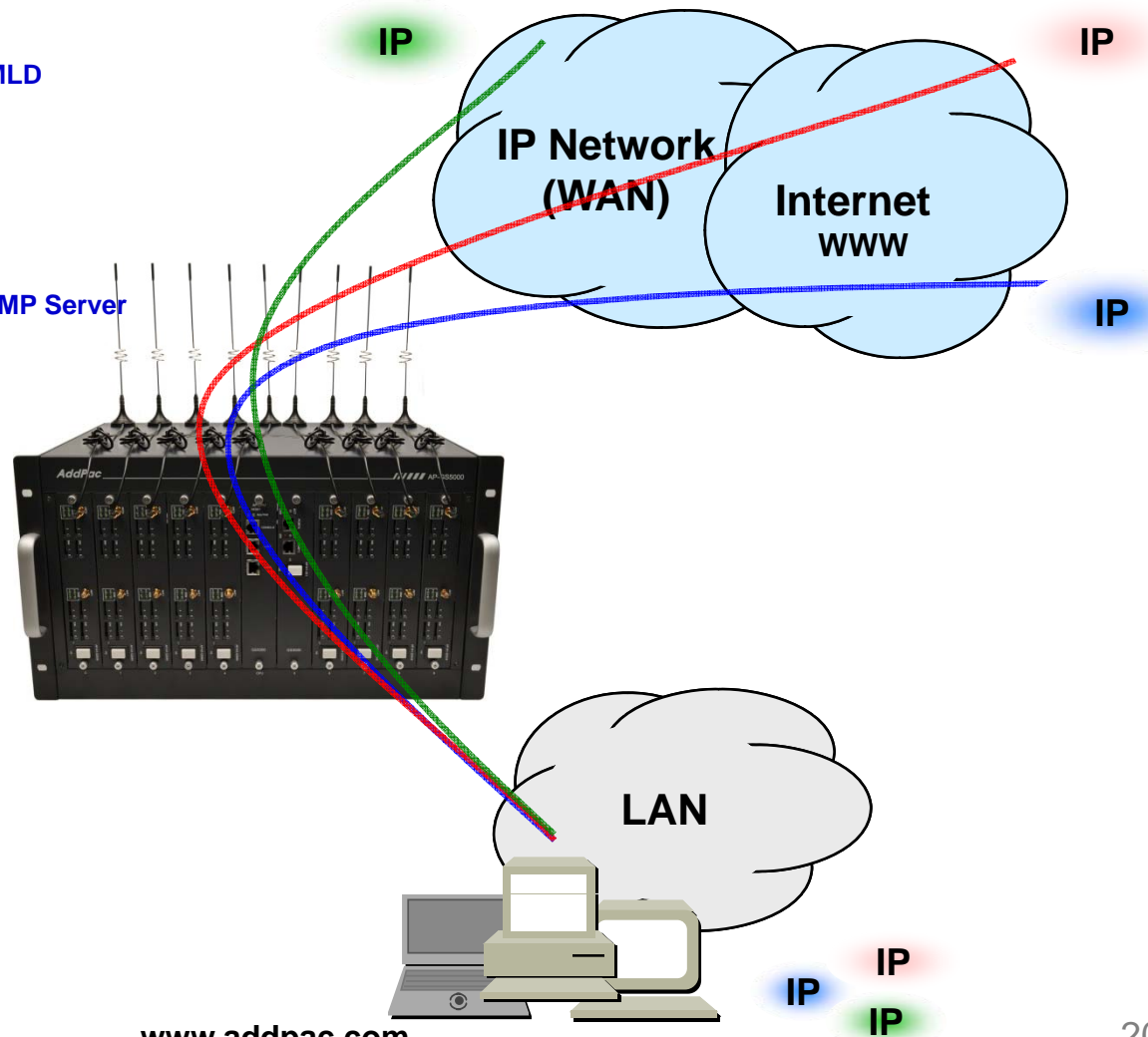
- FTP, Telnet, TFTP, DHCP Server/Relay, SNMP Server
- CDP (Cisco Discovery Protocol)
- DNS Resolver , DDNS(nsupdate)
- Bridge
- Syslog

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

AP-CBS5000 Cellular Emergency Broadcasting Server

- **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**

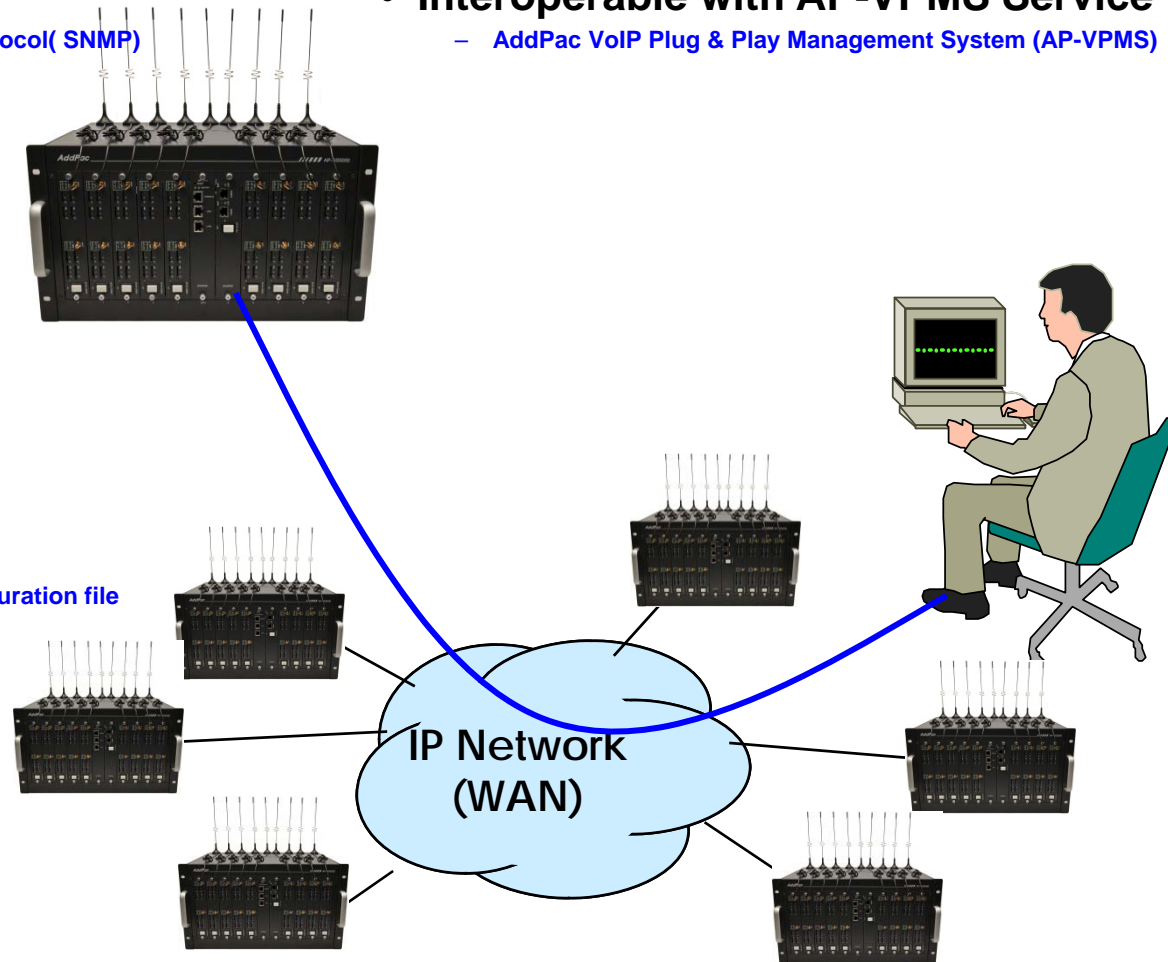
- HTTP server based APOS image and configuration file auto-upgrade support

- **Batch Job Function**

- Text based script downloading

- **Interoperable with AP-VPMS Service**

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

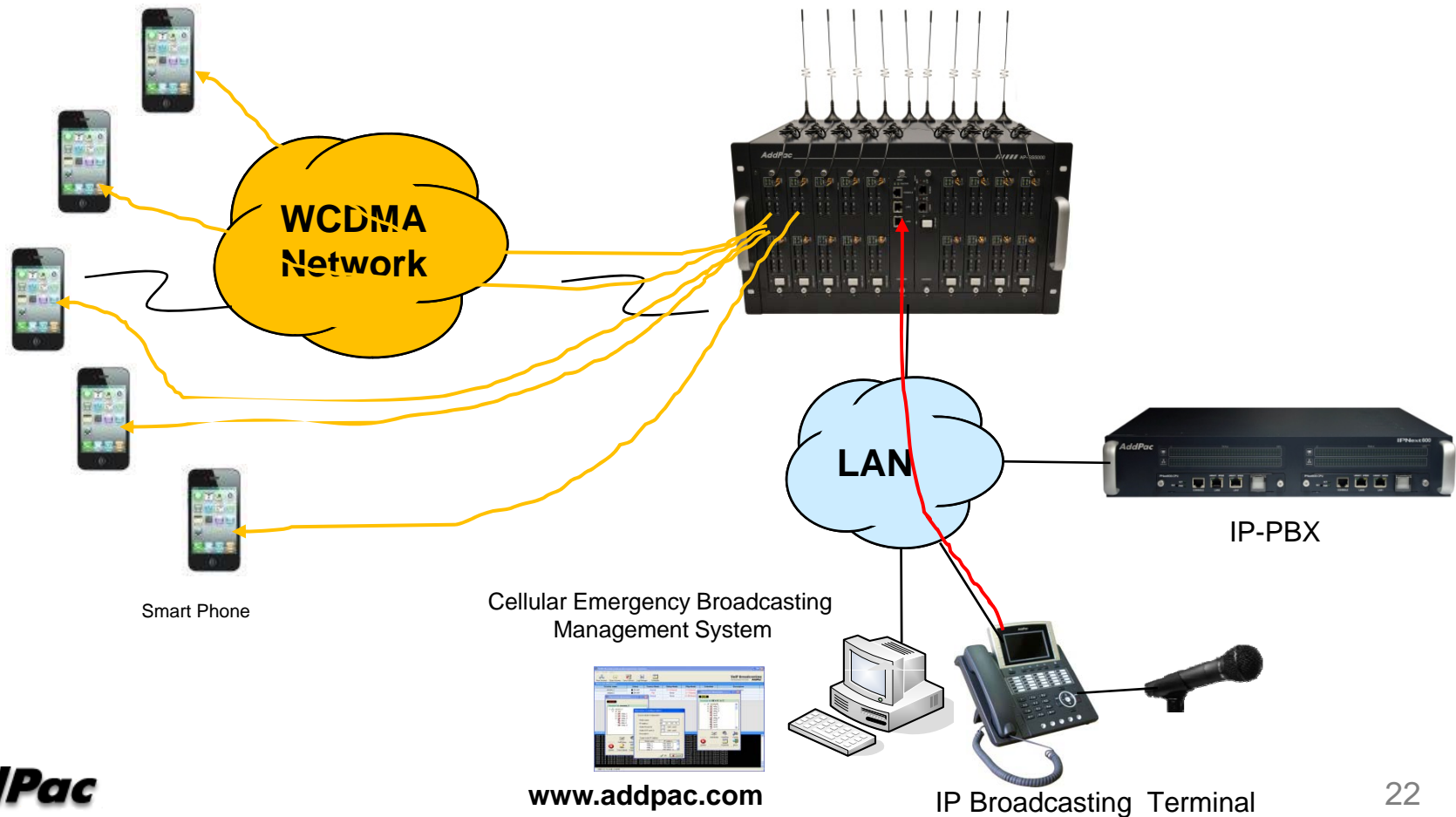


Standard Application

AP-CBS5000 Cellular Emergency Broadcasting Server

Network Diagram

AP-CBS5000 Cellular Emergency Broadcasting Server



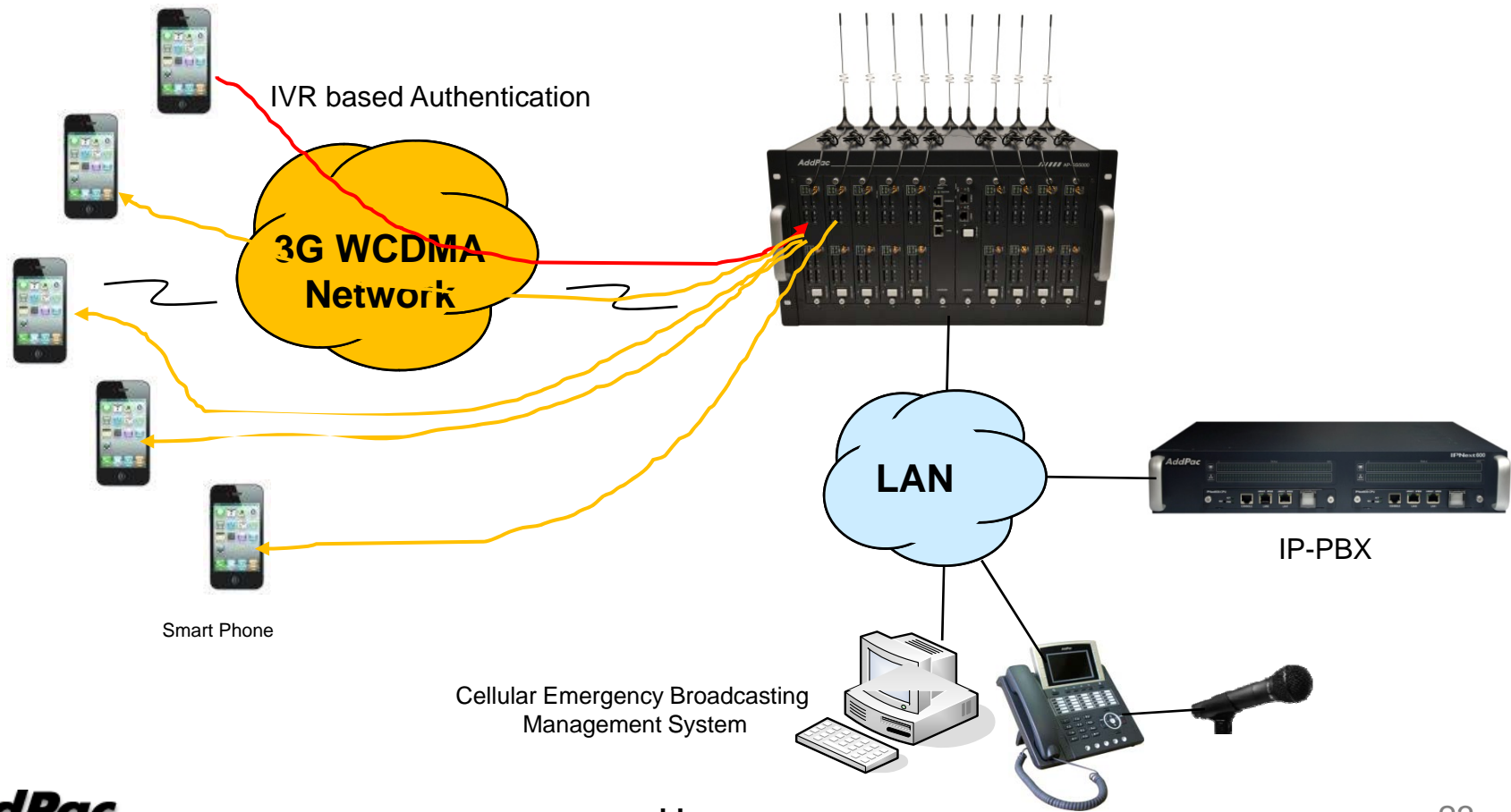
Standard Application

AP-CBS5000 Cellular Emergency Broadcasting Server

Remote Broadcasting Service

Remote Broadcasting Terminal(including SMS)

AP-CBS5000 Cellular Emergency Broadcasting Server



Ordering Information

- **AP-CBS5000 Cellular Emergency Broadcasting Server**
 - AP-CBS5000 Main Body
 - Ten(10) Module Slots for GSM, WCDMA, VoIP Module
 - RISC Microprocessor with High-end Programmable DSP Architecture
 - 2-port 10/100/1000Mbps Gigabit Ethernet(RJ45)
 - 1-Port RS232C Console Interface(RJ45)
 - Option Module : AP-N1-GSM8, AP-N1-3G8, AP-N1-FXS8, AP-N1-FXO8, AP-N1-2E1/T1, etc
 - Including Network Cable, Antenna, etc.
- **Built-in APOS Internetworking Software for AP-CBS5000**
- **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.
Sales and Marketing

Phone +82.2.568.3848 (KOREA)

FAX +82.2.568.3847 (KOREA)

E-mail sales@addpac.com