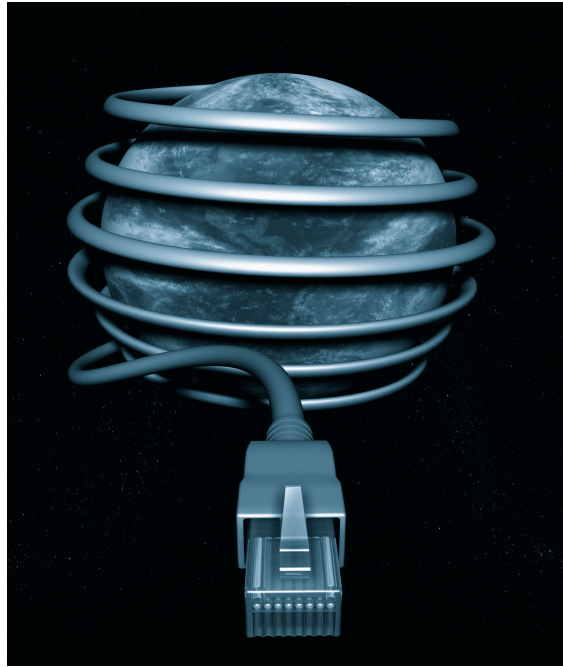


# Next Generation IP based Broadcasting System



**AddPac Technology**



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- ❑ **Next Generation IP Broadcasting System?**
- ❑ **NG-IBS Design Feature**
- ❑ **AddPac Technology NG-IBS Solution**
- ❑ **NG-IBS Network Diagram**
- ❑ **Discussion**



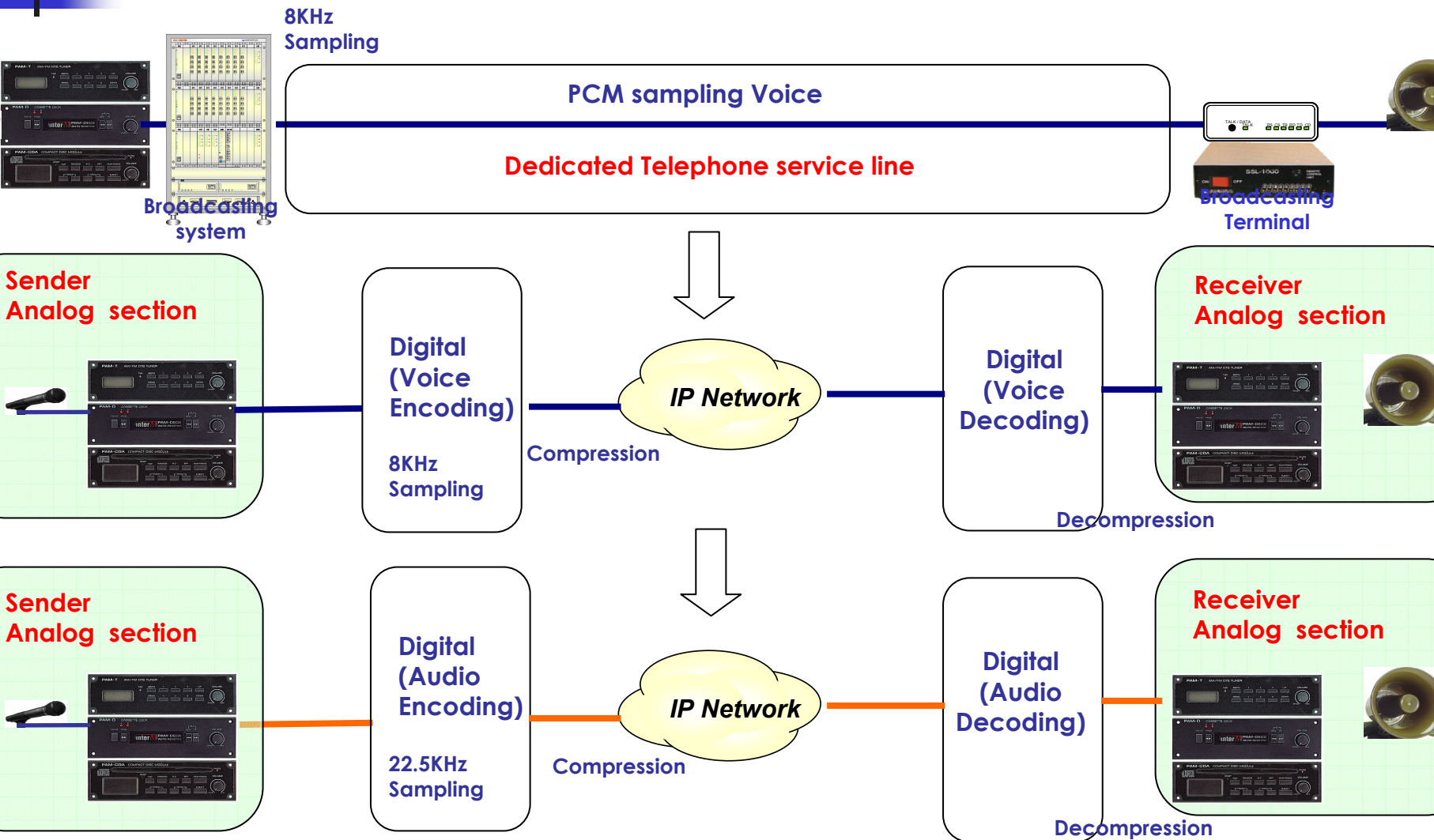
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# Next Generation IP Broadcasting System (NG-IBS) ?

# Next Generation IP Broadcasting

- ❑ **Beyond the existing broadcasting system**
  - Realizing high quality broadcasting (From Voice level to audio level)
  - Utilizing reasonable IP network, replacing expensive voice-dedicated line
  - Eliminating Integration & Management difficulties
  
- ❑ **Expanded Bandwidth and Various Contents**
  - ADSL → VDSL → FTTH
  - Doubled bandwidth in one year
  - Internet arena asking for more than PC contents
  
- ❑ **To meet NGN arena based on IP network**
  - Intelligent communication system
  - Modularized, flexible architecture, adoptable to rapidly changing network environment
  - Reliable and stable system - “Full embedded system”
  
- ❑ **IP Broadcasting is the future of telephony service**
  - The quality of telephony service will be upgraded in the future.

# IP Broadcasting vs. TD Broadcasting



# Various Applications of IP broadcasting

## AddPac Broadcasting System



### Financial institutions



### Hospitals



### Disaster Prevention



### Schools



Internet/  
Dedicated line

### Civil affairs



### Park



### For the aged



### Apt. complexes

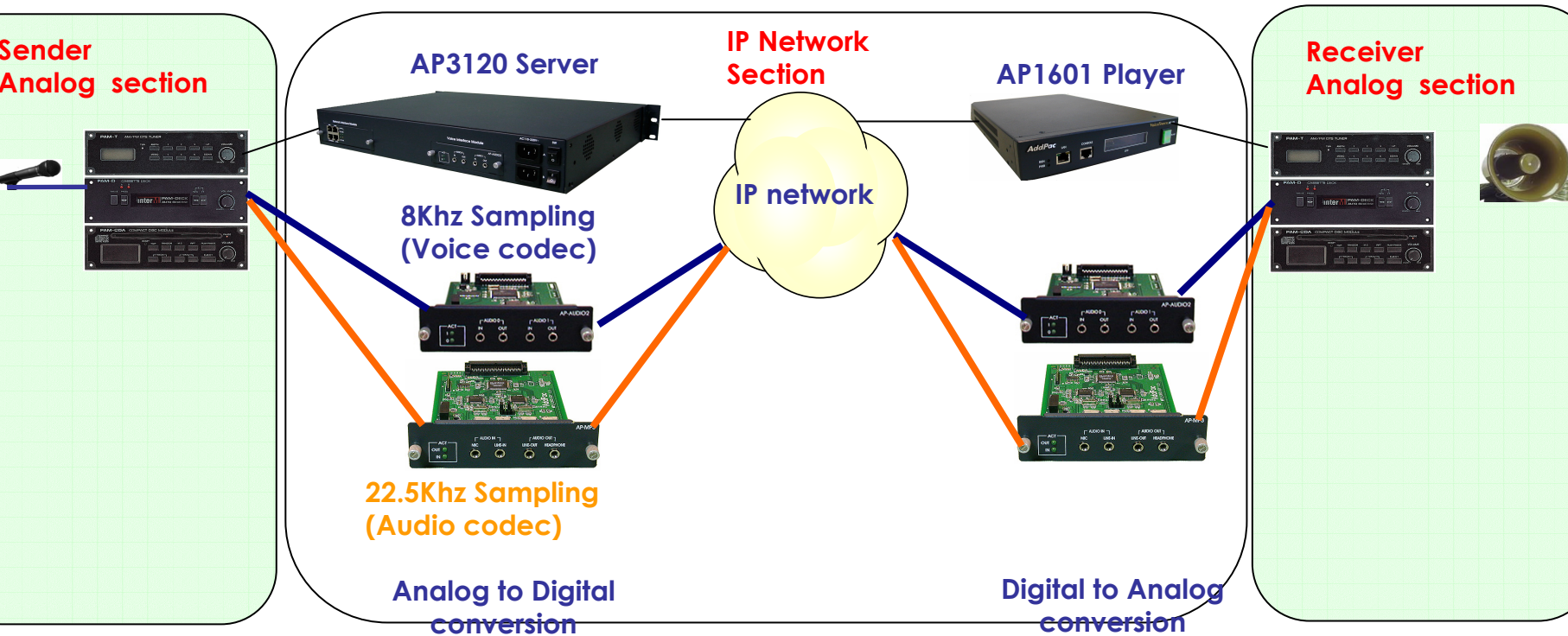




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# NG-IBS Design Feature

# IP Broadcasting Design Feature





# Merits of AddPac's Broadcasting system

- All embedded system**
  - Based on Real Time Operation System (RTOS)
  - Powerful solution for Viruses and hacking
- High quality audio broadcasting without buffering delay**
  - Not like PC based streaming broadcasting asking buffering time
- 8 level bandwidth control**
  - 29~130Kbps
  - Able to select perfect bandwidth according to network condition
- 22.5Khz sampling(29Kbps: 16khz sampling)**
  - Superior sound quality on the same bandwidth
- Duplex broadcasting**
  - Able to broadcast from the end-point terminals
- Various terminal models**
  - AP1601 • 2110 • 2520G • 2520R • 2830 2850
  - Offering Broadcasting, FAX broadcasting and VoIP telephony service at one terminal
  - Supports WAN Router/ATM Router at the same time
- Supports Multicast & unicast simultaneously, relay features**
- Supports xDSL/cable network & static/dynamic IP**
  - Supports various network service



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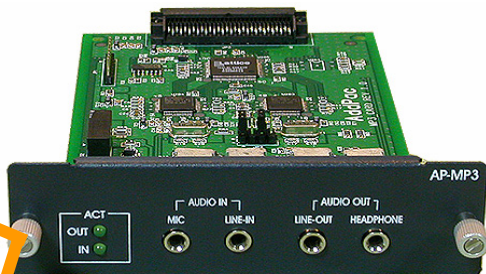
# **AddPac Technology NG-IBS Solution**

# Audio Band(HQ) & Voice Band

High Quality Audio Band Solution & Voice Band Solution



Server



HQ Audio band card



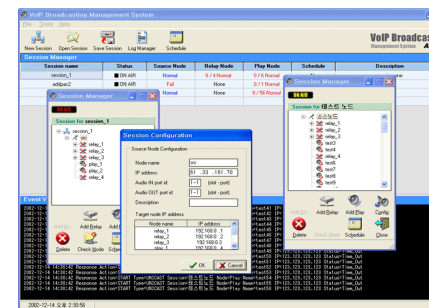
Power Switch

Player










Voice band card

Manager



# AddPac IP Broadcasting Solution

## Base Components & Option Components

	MODEL	Description	
Base Components	AP3120	<ul style="list-style-type: none"> <li>▪ <b>Server</b></li> <li>▪ Source broadcasting &amp; relay</li> <li>▪ Management</li> </ul>	
	AP1601	<ul style="list-style-type: none"> <li>▪ <b>Player</b></li> <li>▪ Broadcasting receive &amp; play</li> </ul>	
	AP-BMS	<ul style="list-style-type: none"> <li>▪ <b>Manager</b></li> <li>▪ GUI based broadcasting manage.</li> </ul>	
Option Components	AP-AUDIO2	<ul style="list-style-type: none"> <li>▪ <b>Voice band audio card</b></li> <li>▪ 2Pair audio in/out interface module</li> </ul>	
	AP-AUD1S3	<ul style="list-style-type: none"> <li>▪ <b>Voice band audio card +VoIP card</b></li> <li>▪ 1Pair audio in/out+FXS3 voice ports</li> </ul>	
	AP-MP3	<ul style="list-style-type: none"> <li>▪ <b>High quality audio band audio card</b></li> <li>▪ Direct line out/headphone + direct Mic/line in</li> </ul>	
	AP-PSB	<ul style="list-style-type: none"> <li>▪ <b>Power switching box</b></li> <li>▪ Remote side AMP power manage.</li> </ul>	

# AP3120 IP Broadcasting Server



## <HW Feature>

<b>CPU</b>	64bit RISC
<b>Memory</b>	Flash 4MB
	SDRAM 128MB
<b>Network interface slot</b>	2x10/100Mbps
	2xAsync. Serial
<b>Analog interface slot</b>	2xDirect Audio In/Out
	4xFXS(RJ11)
	4 FXO(RJ11)
	4xE&M (RJ11)
<b>Dimension</b>	65x441x323mm(HWD)

## <SW Feature>

<b>Routing protocol</b>	Static / RIP v1, v2 / OSPF v2 / IEEE 802.1Q VLAN Routing / IGMP / Multicasting Packet Generation
<b>VoIP services</b>	VoIP based voice multicasting / Multiple PTP VoIP based voice broadcasting / H.323 and SIP dual stack / H.323 gateway & gatekeeper support
<b>Security</b>	Standard & extended IP access List /Enable-disable for specific protocols/ Multi-level user account management Auto-disconnect for Telnet/Console Sessions
<b>Network manage.</b>	SNMP agent(MIB v2) / remote management using console, rlogin, telnet / web based management / traffic queuing

# IP Broadcasting Terminal

## AP2110 VoIP Gateway

- Fixed 4 Ports FXS Voice
- One Interface Slot
- 4 Ports FXS/FXO/E&M, 1 Port E1/T1, 2 Ports Audio
- Suitable for introducing VoIP telephony service, FAX, broadcasting service at one time



## AP2520 VoIP Gateway

- Two Interface Slots
- 4 Ports FXS/FXO/E&M, 1 Port E1/T1, 2 Ports Audio
- Suitable for step-by-step function expansion



## AP1601

- One Interface Slot
- ON-AIR Indication Lamp
- 2x20 LCD
- Broadcasting- specialized



# IP Broadcasting Power Switching

□ **AP-PSB** : Amplifier power control for IP broadcasting service



- Operating with AddPac's IP broadcasting system
- Terminate power supply during no service offered, Back-ground noise deletion function
- Master- Slave type power control : receives power on-off command from AP2520, AP1601 via RS-232C, LAN

## □ Feature

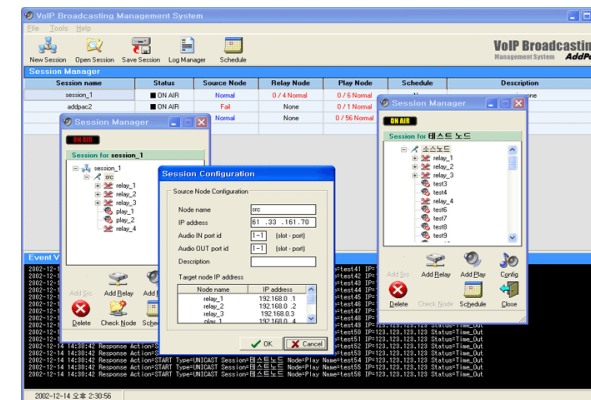
- RISC CPU, Flash Memory 512K, SDRAM 1MB
- 1-Port 10Mbps Ethernet Interface(1xRJ45)
- 1-Port Asynchronous Serial Interface (1xRJ45 )
- Power : 110~220VAC, 50/60Hz, 5Watt



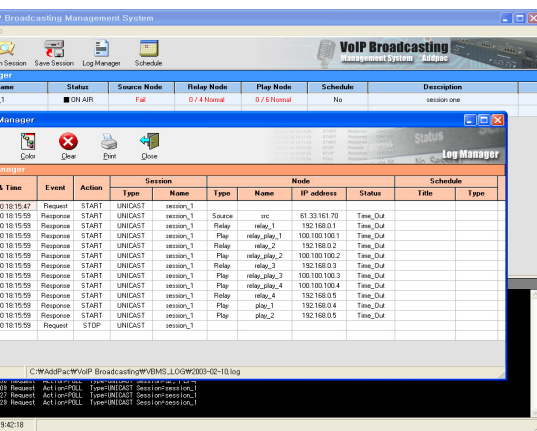
# IP Broadcasting Manager

## GUI type management S/W

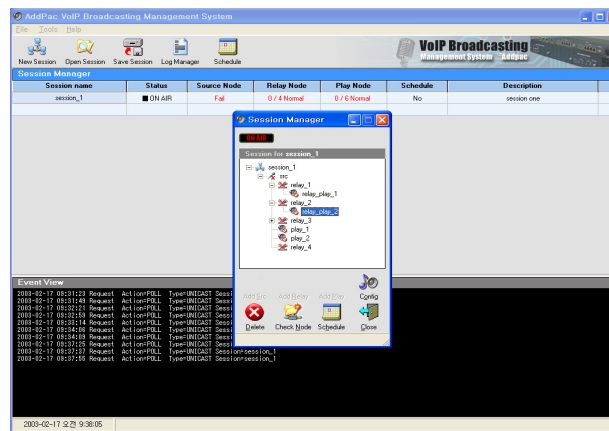
- Broadcasting group setting & saving
- Real-time & scheduled broadcasting
- Real-time monitoring of broadcasting condition
- Event Log Manager
- Report Manager
- Window GUI Mode
- Web-based management



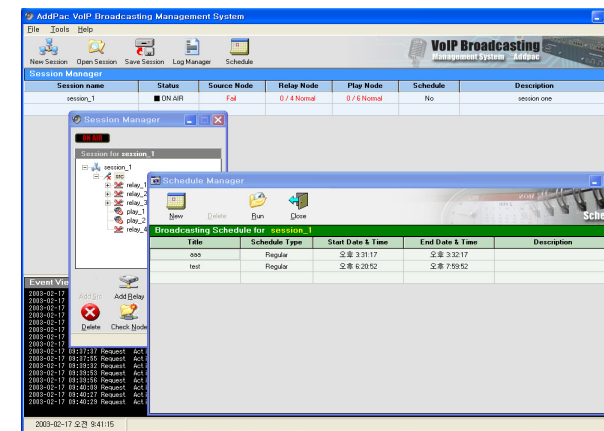
Broadcasting manager



Event Log Manager



Broadcasting Group Setting



Broadcasting schedule setting

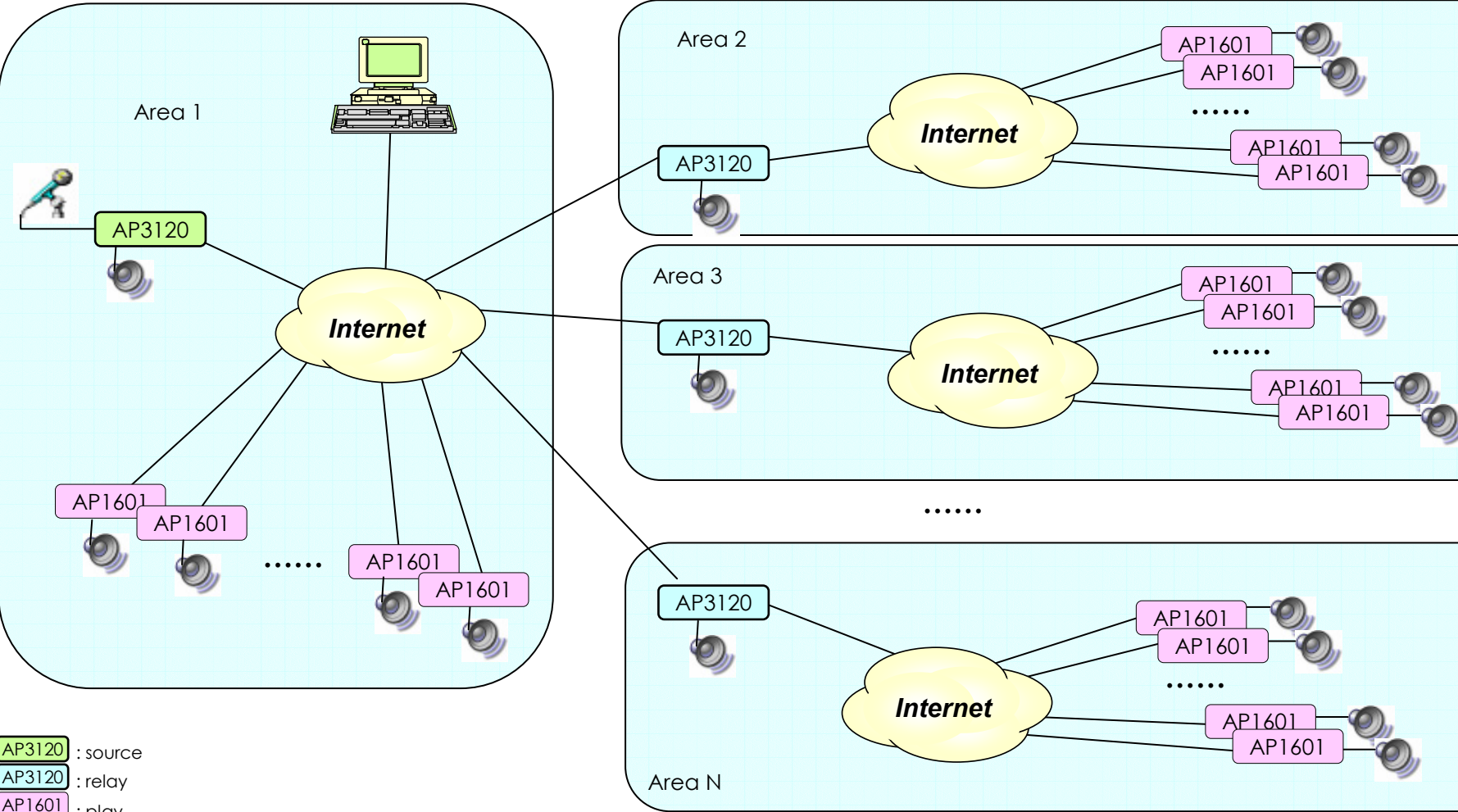




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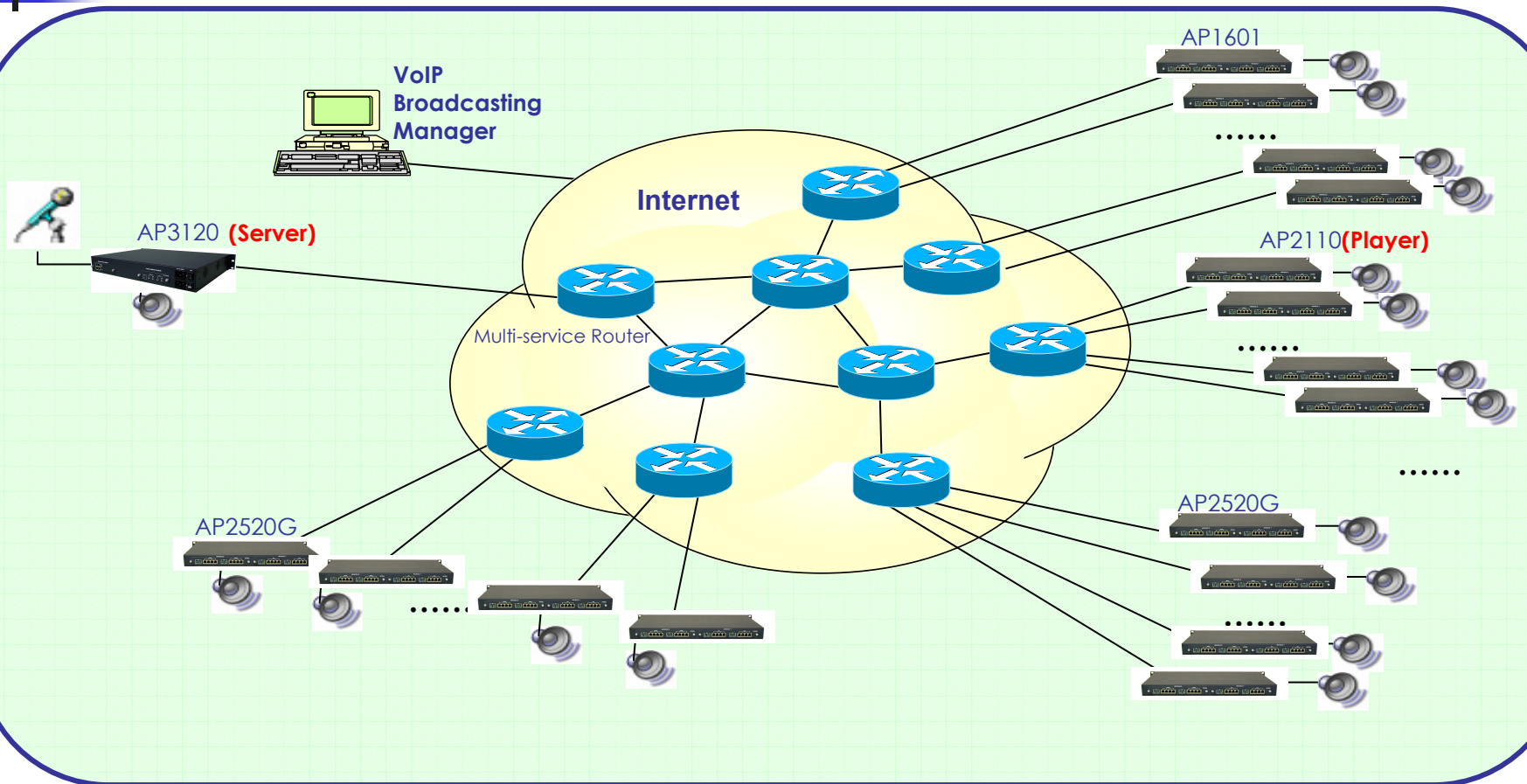
# NG-IBS Network Diagram

# Unicast relay broadcasting network



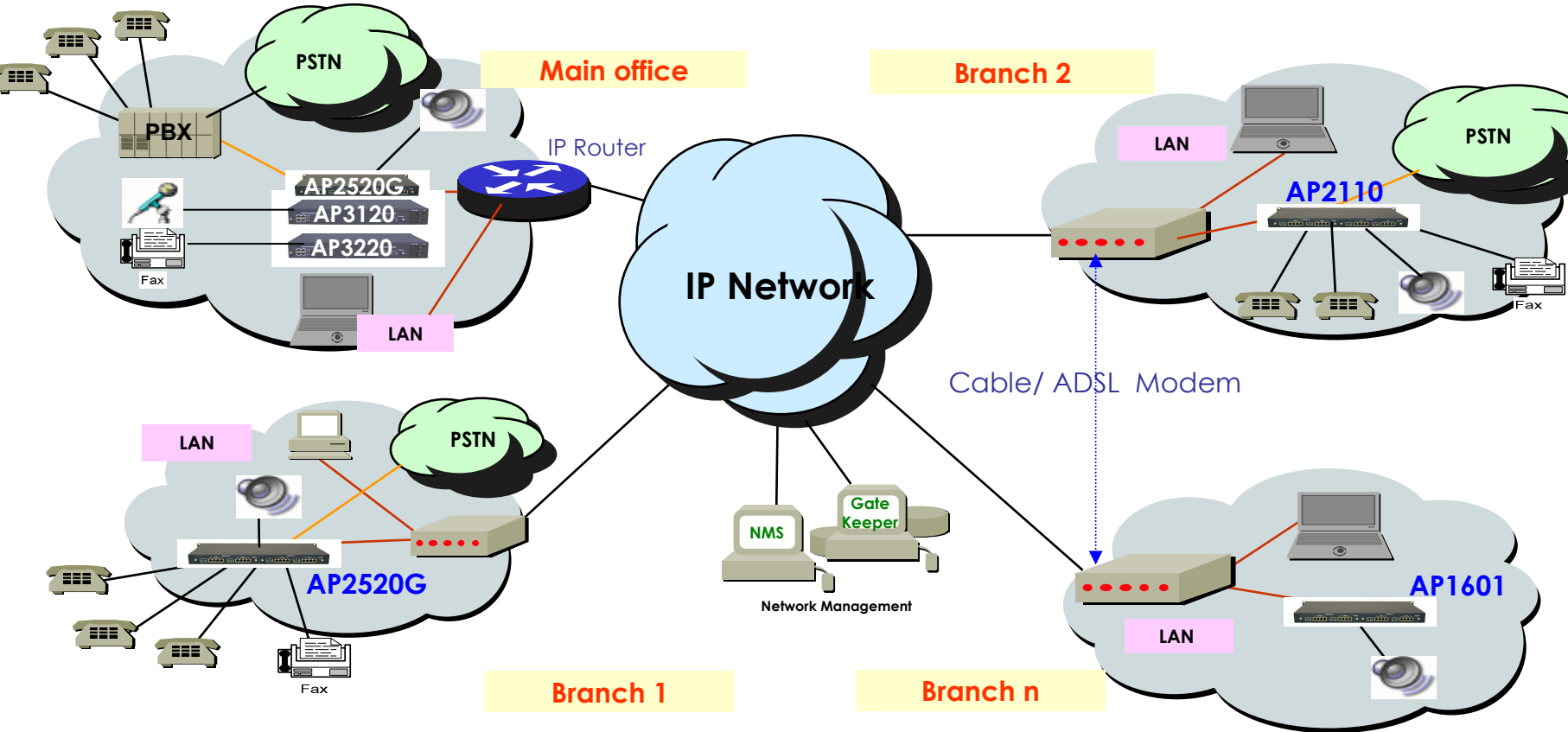
AP3120 : source  
AP3120 : relay  
AP1601 : play

# Multicast broadcasting network



- Multicast Protocol
- Broadcasting to multi-locations with a single channel bandwidth
- Adoptable when the network router supports IGMP

# Broadcasting • Fax • Telephone Integrated model



- On terminal side, Integrated broadcasting, Fax, Telephone service can be supported
- Possible to add functions step-by-step (Broadcasting → Telephone → Fax)
- Reduce Installation and management cost