

Voice Recording Solution for IP Centrex Service



AddPac

AddPac Technology

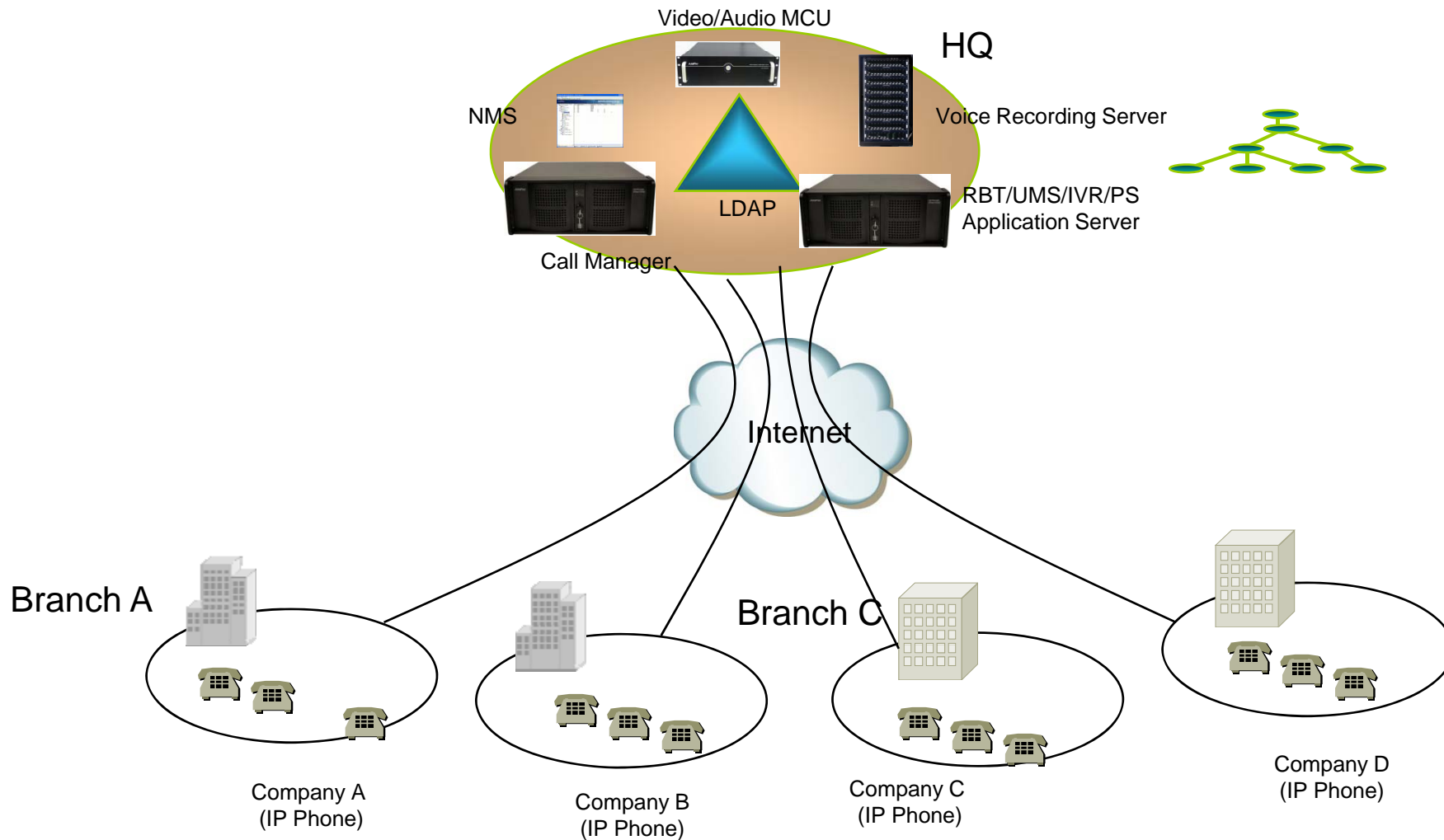
Sales and Marketing

www.addpac.com

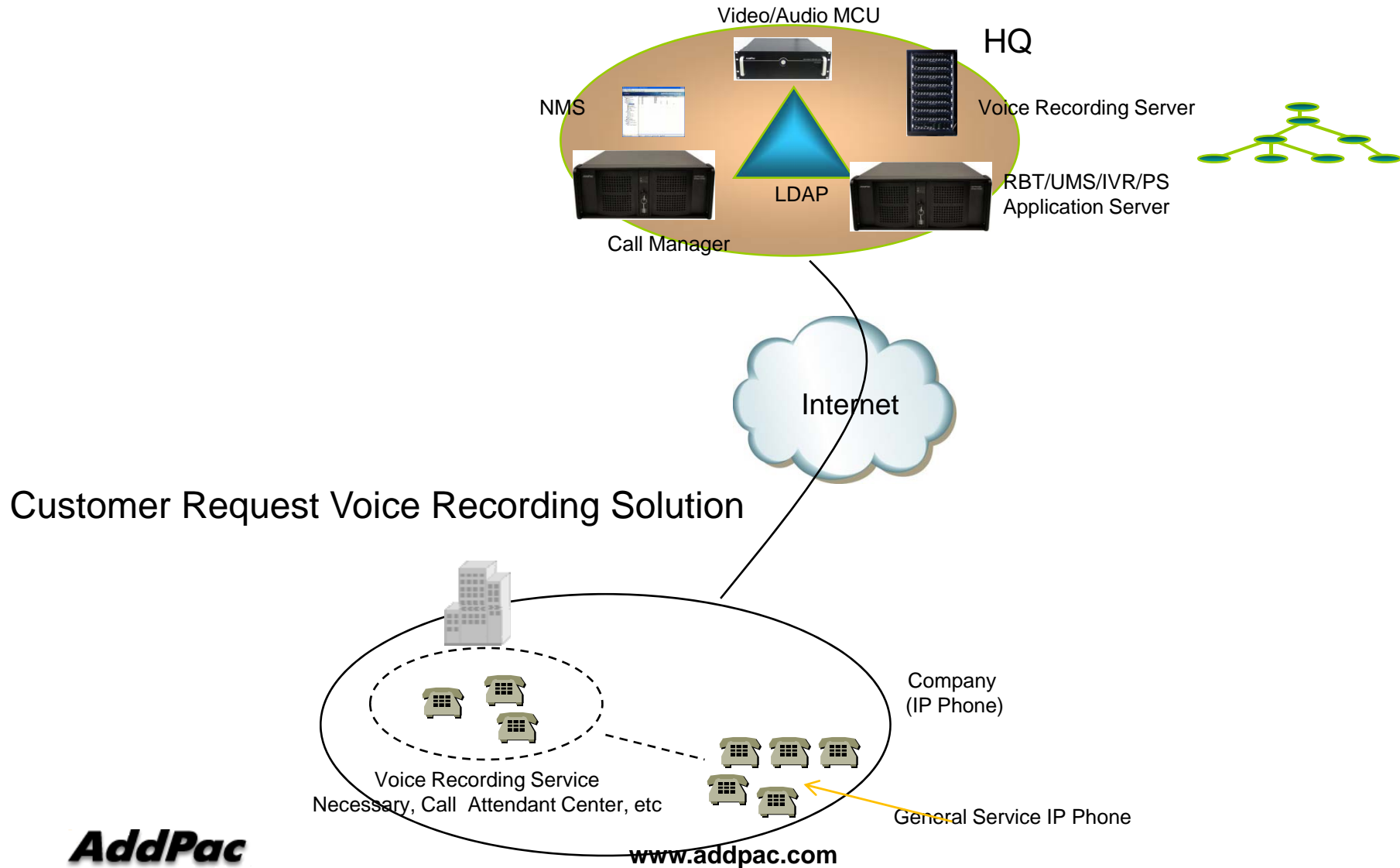
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- Product Specifications
 - IP Voice Recording Server : AP-NR1500
 - IPNext180 SIP Proxy Server for Voice Recording
 - AP-IP120 IP terminal
 - Smart Digital Voice Recording Management Program

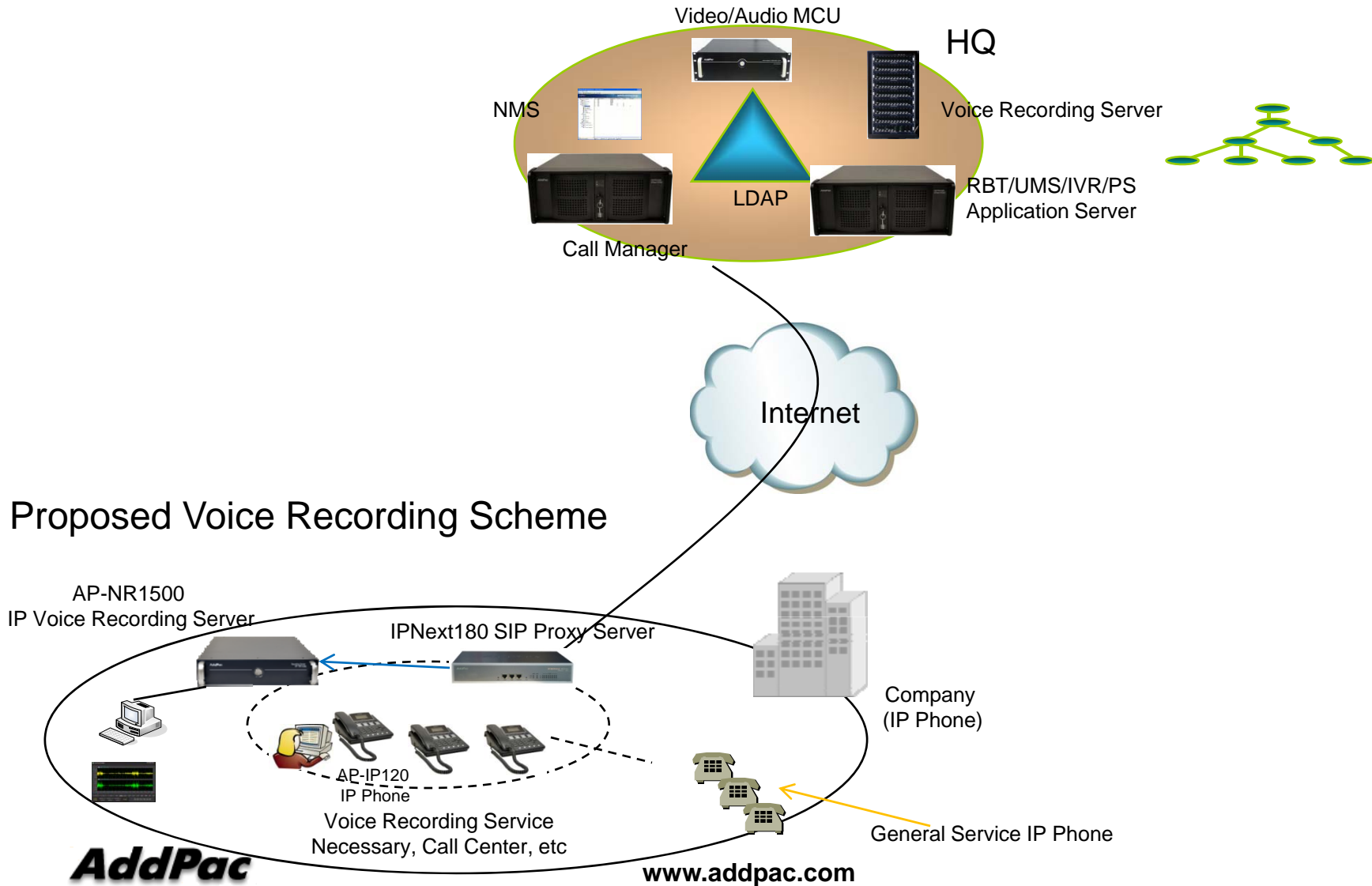
Network Diagram (IP Centrex Service)



Network Diagram (IP Centrex Service)



Network Diagram (IP Centrex Service)





Product Solution Overview

AP-NRR1500 IP Voice Recording Server



Product Overview

AP-NR1500 IP Voice Call Recording Server

- IP based Network Voice Call Recording Server
- Linux Operating System
- Powerful Management and User Friendly Features
- High-performance Voice Recording Service
- External AddPac IP Terminal (Ex: IP Phone, IP Intercom, IP Emergency Phone) Interworking Support
- Firmware Upgradeable Architecture
- One(1) 10/100/1000Mbps Gigabit Ethernet Interface
- Up to Two(2) 3.5Inch SATA Hard Disk Interface Support
- Two(2) USB Interface Support
- One(1) RS232C Console Interface

Hardware Specification

AP-N1500 IP Voice Call Recording Server

- High Performance Computing Power
- Network Interface
 - One(1) 10/100/1000Mbps Gigabit Ethernet Port
- Two(2) USB 2.0 Interfaces for Mouse, Secondary Storage, etc
- One(1) RS232C Console Interface (RJ45)
- Up Two(2) SATA type Hard Disk (4~8 Tera HDD Capacity)
- Power On/Off Soft Switch with LED Indication Lamp (Front Side)

Hardware Specification

AP-NR1500 IP Voice Call Recording Server

AP-NR1500 Front Side

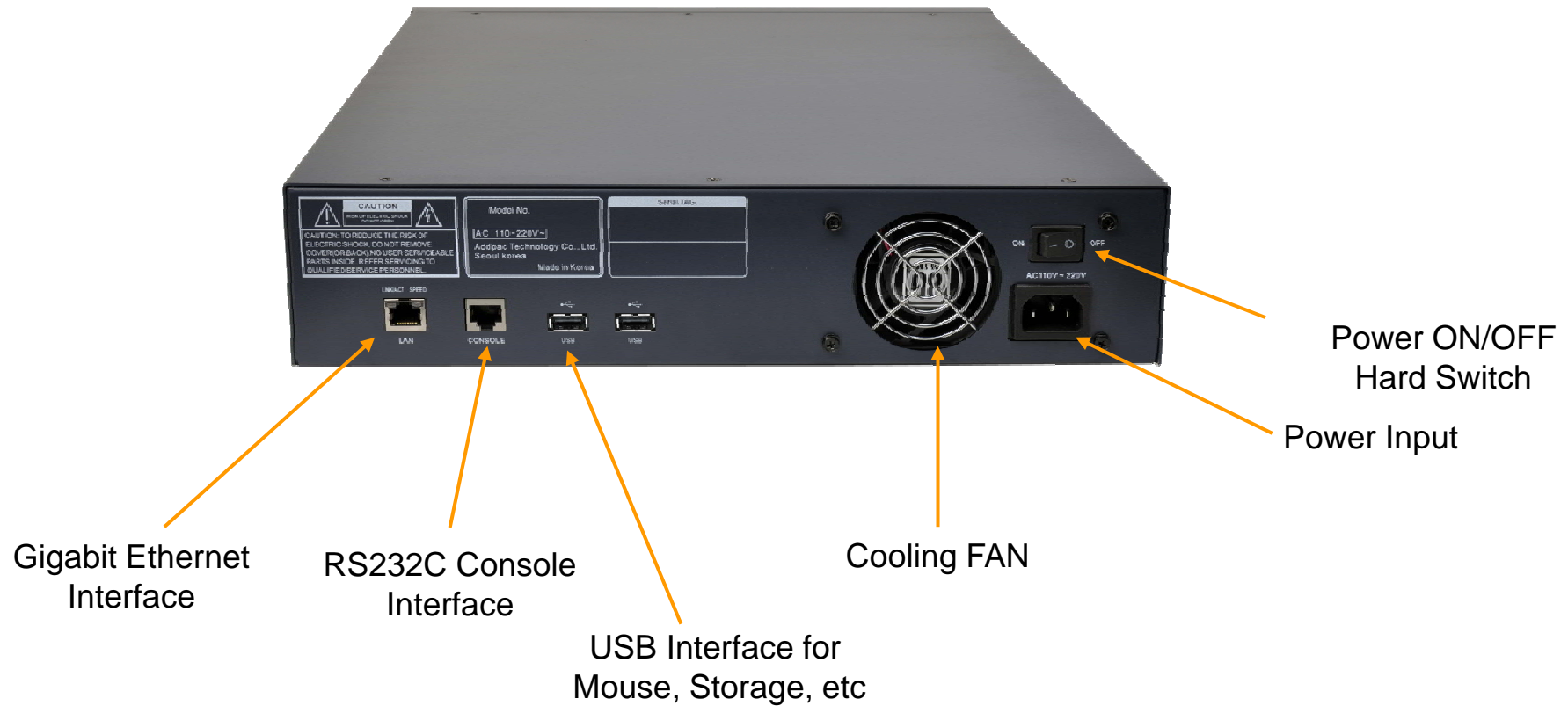


Power On/Off Switch with LED Indication LAMP

Hardware Specification

AP-NR1500 IP Voice Call Recording Server

AP-NR1500 Back Side



IPNext180 SIP Proxy Server for Voice Recording



Product Overview

IPNext180 Next Generation Hybrid IP-PBX System

- IP based Advanced Hybrid IP-PBX Solution
- IPv4/IPv6 Multimedia Telephony Solution for Small Office
- PSTN Interface (FXO, FXS) Support
- Powerful Management and User Friendly Features
- Fault Tolerant and Scalability Architecture
- High-performance Video, Audio, and Voice Service
- Firmware Upgradeable Architecture
- IVR Service with Scenario Editor
- Voice Mailing Service
- Presence Service for High-End IP Key Phone, UC
- RTP Proxy Service for Private IP service
- SIP, H.323 Signaling for Outbound Calls
- Various Call Scenario (Call Pickup, Call Park, Call Transfer, etc)
- Various IP Terminal Support

Hardware Specification

IPNext180 Next Generation Hybrid IP-PBX System

64bit
CPU

- **RISC Microprocessor Computing Power**
- **Main Chassis**
 - **Fixed Network Interface**
 - Two(2) 10/100Mbps Fast Ethernet
 - One(1) RS-232C Console (RJ45)
 - **Two(2) VoIP Module Slots for FXS, FXO etc**



Hardware Specification

IPNext180 Next Generation Hybrid IP-PBX System

64bit
CPU

DSP

Front Side



LAN1 (10/100Mbps)

LAN0(10/100Mbps)

Console Port

Hardware Specification

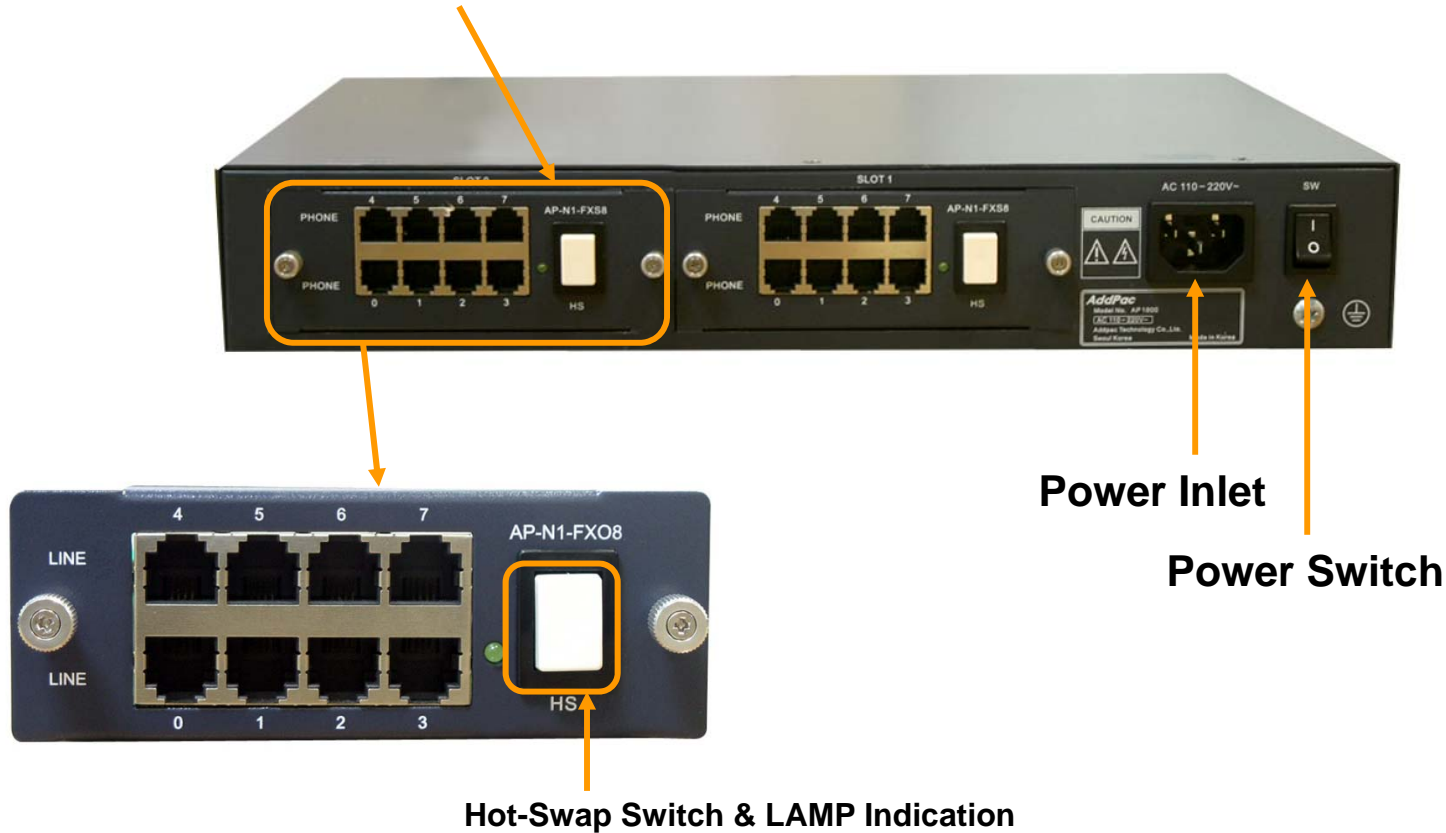
IPNext180 Next Generation Hybrid IP-PBX System

64bit
CPU

DSP

Back Side

PSTN Interface Module







Hardware Specification

IPNext180 Next Generation Hybrid IP-PBX System

64bit
CPU

Audio
Codec

- **VoIP Interface Module**

AP-N1-FXS8	 A black VoIP interface module with eight RJ11 ports labeled 0-7, a power button, and a power indicator light.	8-Port FXS Voice Processing Module (8 x RJ11)
AP-N1-FXO8	 A black VoIP interface module with eight RJ11 ports labeled 0-7, a power button, and a power indicator light.	8-Port FXO Voice Processing Module (8 x RJ11)
AP-N1-FXO4S4	 A black VoIP interface module with four RJ11 ports labeled 0-3 and four RJ11 ports labeled 4-7, a power button, and a power indicator light.	4-Port FXO and 4-Port FXS Voice Processing Module (8 x RJ11)
AP-N1-E1T1	 A black VoIP interface module with a green PCB, a power button, a power indicator light, and an RJ45 port.	1-Port VoIP Digital E1/T1 Interface Module(1xRJ45)

IP Telephony Service and Features

IPNext180 Next Generation Hybrid IP-PBX System

- **Signaling Server**

- SIP Application Server, Proxy, Registrar and Location Server (RFC3261)
- Multiple ITSP Trunk with SIP & H.323 Accounts Support
 - IP UA Client Role for Registering to ITSP SIP Server
 - H.323 Gatekeeper Client Role for Registering to ITSP H.323 Gatekeeper Server

- **IVR & Auto Attendant**

- Default Auto Attendant Support
- Interactive Voice Response (IVR)
 - Provides with GUI-based Smart IVR Scenario Editor
 - Upload/Download Scenario by Smart IVR Scenario Editor
 - Supports Multiple Concurrent Scenarios
 - Supports Recordable IVR Prompts

- **Voice Mail**

- Support Voice Mail with IVR
- Access from Remote Site via Trunk Support
- Voice Mail Notification Support

IP Telephony Service and Features

IPNext180 Next Generation Hybrid IP-PBX System

- **Number & Call Routing**

- Trunk Hunting by Preference or Sequential
- Call Hunting by Preference, Simultaneous, Random
- Call Hunting by Chained Hunting Group
- Partition for Address Grading
- Call Class for Call Access Control
- Number Translation Rule for Inbound/Outbound Call
- Centrex with Prefix Support
- Multiple Shared Devices with One Number
- Multiple Numbers on One Device
- Individual Call Park within Park Number Pool
- Group Call Park within a Group or Other Group
- Call Pickup of Ringing Call of Same Group or Other Group
- Call Pickup of Parked Call
- Call Transfer - Blind, Consult
- Call Forwarding - Unconditional, Busy, No Answer, Voice Mail
- Call Waiting
- Call Swaping
- Call Hold

IP Telephony Service and Features

IPNext180 Next Generation Hybrid IP-PBX System

- **IP-PBX Advanced Features with AddPac IP Phones**

- Multiple Call Handling with Call Status and Calling Line Number and Name
- Plug and Play with Auto Discovery Function
- Softkey Map Download and Control
- Time and Date Setting
- Voice Mail List View
- Parked Call List View
- Call Forward Setting
- Recent Call List View
- Calling Number and Name Identification
- Individual Call Park within Park Number Pool by Softkey
- Group Call Park within a Group or Other Group by Softkey
- Call Pickup of Ringing Call of Same Group or Other Group by Softkey
- Call Pickup of Parked Call by Softkey
- Call Transfer - Blind, Consult by Softkey
- Call Waiting Indication
- Call Swaping by Softkey
- Call Hold by SoftKey
- Conference Control

IP Telephony Service and Features

IPNext180 Next Generation Hybrid IP-PBX System

- **User & Device Management**

- LDAP (Light weight Directory Access Protocol) Support
 - Supports Hierarchical Organization
- Auto Discovery of IP Phones & Video Phones
- Monitoring Status of Phones

- **Miscellaneous***

- Distinctive Ring by Calling User
- Auto Config & Upgrade
- Personal Directory
- Downloadable Ring
- Do not Disturb

IP Telephony Service and Features

IPNext180 Next Generation Hybrid IP-PBX System

- **Conference**

- G.711 (4-party Conference, 2 session) : Basic
- G.711/G.729/G.723 (4-party Conference, 2session) Internal MCU Module : Option
- Ad-hoc Conference
- Dial-Out Conference
- Meet-me Conference
- Multiple External MCU support(Video, Audio, etc) : AddPac AP-MC1000, etc
- Conference Chair and Participants Management

- **Music & Announcement**

- Music on Hold
- Replaceable Announcements
- Dialing Music / Tone Service

AP-IP120 IP Phone



Product Overview

AP-IP120 IP Phone

- IP Phone Solution
- 12 Speed-Dial Key with Presence Indication Lamp
- Audio Broadcasting Solution
- High-performance Audio, and Voice Service
- Firmware Upgradeable Architecture
- VoIP Solution with Outstanding Network Service Capability
- Audio Privacy Protection

Hardware Specification

AP-IP120 IP Phone

- RISC+DSP Microprocessor Computing Power (Dual Processor Architecture)
- Optional PSTN Backup (FXO) Interface
- Optional PoE (Power over Ethernet)
- High quality Audio and Voice Interface
 - Stereo Audio Input Connector
 - Stereo Audio Output Connector
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet
- LCD Window : Graphic LCD (4 Line Text)
- 12 Speed-Dial Key with Presence Indication LAMP
- Power Supply
 - External Power Adaptor (5V, 2A)

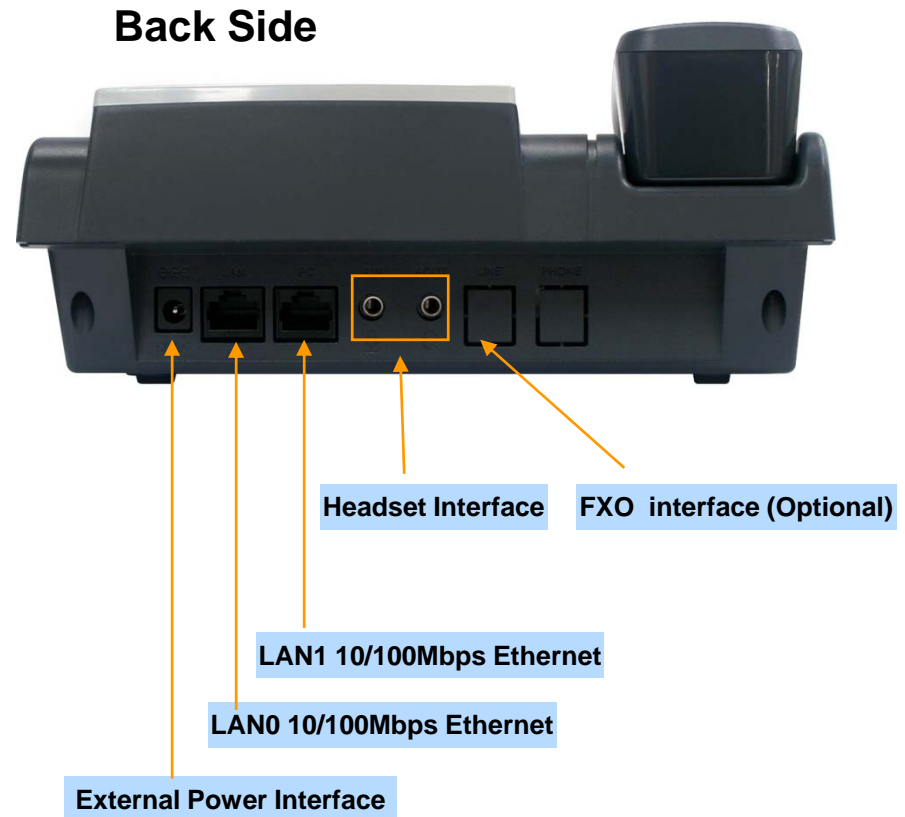
Hardware Specification

AP-IP120 IP Phone

Hardware Specifications

AP-IP160 IP Phone	Basic Specifications
CPU	RISC Microprocessor
Ethernet Interface	2-Ports 10/100Mbps Ethernet Interface(RJ-45)
PSTN Backup Port (Optional)	1-Port PSTN Backup Port(RJ-11)
Flash Memory	4Mbyte High-speed Flash Memory
Base Memory	16Mbyte High-speed SDRAM
Power Requirement	External Power Supply Adaptor / VAC 110~220V, 50/60Hz, 10Watt(5V,2A)
	Power over Ethernet (option)
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 (70mm x 200mm x 210mm)
Weight (g)	1Kg

Network interface Configurations



Audio & Voice Service and Features

AP-IP120 IP Phone

- **Audio & Voice Networking Interface**
 - Audio Input/Output Port (2 x 3.5mm Stereo Female Connector)
- **VoIP based Signaling Protocol Support**
 - H.323, SIP Multiple Signaling Protocol Stack
 - H.323 Gateway, Gatekeeper Support
- **High-performance Audio & Voice Codec Support**
 - Line IN/OUT : G.726, G.711 Audio Codec, etc
- **Enhanced QoS Management Features for Voice Traffics**



Smart DVoiceR Management Program for Voice Recording Server

Contents

- Overview
- Smart Digital Voice Recorder Manager
- Smart File Manager for Secondary Backup



Overview

- Call History Management (search/modify/delete/Excel File save)
- Media Play Management (Play/Stop/Seek/Pause)
- Live Call Recording List Management
- Live Call Monitoring (Play)
- Local Backup (File Manager Support, PC HDD, DVD) and Local Play
- Event History Search
- User Management (registration/modify/delete/search)
- Server Status (CPU/Memory/HDD/Transcoding) & Event Monitoring
- Recording File Waveform Analyzing Function
- Recording Source Management (VoIP Gateway, IP Phone, etc)
- Live Call Recording Board (Recording Board Design, Live Call Status, Voice Monitoring)

Login

The image shows the 'Smart DVoiceR Manager' login screen. At the top, it says 'AddPac Technology' and 'Smart DVoiceR Manager USER LOGIN'. There are two input fields: 'ID' with 'root' and 'Password' with '*****'. To the right are 'Login' and 'Setting' buttons. Below the password field are two checkboxes: 'Auto login' (unchecked) and 'Save password' (checked). A 'Setting' dialog box is open, titled 'Smart Recording Server', with 'IP Address' set to '172.16.4.22' and 'Port' set to '9200 (default: 9200)'. Red arrows point from the 'Auto login' checkbox to the text 'Auto Login Configuration' and from the 'Save password' checkbox to the text 'Password Save'. Another red arrow points from the 'Setting' button to the 'Setting' dialog box.

Auto Login Configuration

Password Save

Setting

Smart Recording Server

IP Address: 172.16.4.22

Port: 9200 (default: 9200)

OK Cancel

User Management

The screenshot shows the Smart DVoiceR Manager application window. The main window title is "Smart DVoiceR Manager" and it has a menu bar with "File", "Advanced", "Configuration", and "Help". Below the menu bar is a toolbar with various icons. The main content area is titled "Smart DVoiceR Manager" and "AddPac Technology". On the left is a tree view showing the application structure, with "User Management" expanded to show "Users".

Three red arrows point to specific icons in the "Users" window:

- New Manager Registration** points to the "Add" icon (a person with a plus sign).
- Manager Information Modification** points to the "Edit" icon (a person with a pencil).
- Manager Delete** points to the "Delete" icon (a person with a minus sign).

The "Users" window displays a table with the following data:

No.	ID	Name	Description
1	Administrator	Administrator	Addpac Administrator
2	root	recording manager	Maintenance dept.

The status bar at the bottom shows the date and time "2007-06-13 오후 1:43:49", the version "Ver. 1.0.2719", the IP address "172.16.31.14:9200", and the user "root".

Recording Server Status Monitoring

Smart DVoiceR Manager

File Advanced Configuration Help

Smart DVoiceR Manager

Smart Recording Server

Smart Recording Server Status

172.16.31
Smart Re

Configuration Client Session List

Max Session : 10
Keep Alive Interval : 15 sec

OK

Smart Recording Server

Smart Recording Server Status

172.16.31.14:9200
Smart Recording Server is running.

Configuration Client Session List

No.	User	IP Address	Port	Access Time	Duration
1	root	172.16.1.31	4417	2007-06-13 13:40:05	00:04:49

Client List

OK Cancel

2007-06-13 오후 1:46:20 Ver. 1.0.2719 172.16.31.14:9200 root

Recording File Management

(Recorded File Monitoring (play/seek/pause/resume/stop))

The screenshot displays the Smart DVoiceR Manager software interface. The main window shows a 'Record Search' table with columns for No., Call ID, Source IP, Rec StartTime, Rec EndTime, Rec Duration, Call Duration, Calling Num, Calli..., Calling..., Called Num, Calle..., and Called S... The table contains 19 rows of recording data. A 'Search Filter' dialog box is open in the foreground, showing search criteria for 'Calling Number' (2000) and 'Called Number' (3000). A recording playback window is also visible, showing 'AddPac calling-3004/called-5020' with a progress bar and a 'Memo Save' button. The interface includes a menu bar (File, Advanced, Configuration, Help) and a sidebar with navigation options like User Management, Device Management, and Recording Management.

No.	Call ID	Source IP	Rec StartTime	Rec EndTime	Rec Duration	Call Duration	Calling Num	Calli...	Calling...	Called Num	Calle...	Called S...
1	39500	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:43	00:00:28	00:00:28	3000		4/0/0	5016		4/0/0
2	39502	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:43	00:00:28	00:00:28	3001		4/1/0	5017		4/1/0
3	39504	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:43	00:00:28	00:00:28	3002		4/2/0	5018		4/2/0
4	39506	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:43	00:00:28	00:00:28	3003		4/3/0	5019		4/3/0
5	39508	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:44	00:00:28	00:00:28	3004		5/0/0	5020		5/0/0
6	39510	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:44	00:00:28	00:00:28	3005		5/1/0	5021		5/1/0
7	39512	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:45	00:00:29	00:00:28	3006		5/2/0	5022		5/2/0
8	39514	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:45	00:00:29	00:00:28	3007		5/3/0	5023		5/3/0
9	39516	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:45	00:00:29	00:00:28	3007		5/3/0	5023		5/3/0
10	39518	172.17.213.100	2007-06-13 13:12:15	2007-06-13 13:12:45	00:00:29	00:00:28	3007		5/3/0	5023		5/3/0
11	39520	172.17.213.100	2007-06-13 13:12:16	2007-06-13 13:12:16	00:00:00	00:00:00				5024		6/0/0
12	39522	172.17.213.100	2007-06-13 13:12:16	2007-06-13 13:12:16	00:00:00	00:00:00				5025		6/1/0
13	39524	172.17.213.100	2007-06-13 13:12:16	2007-06-13 13:12:16	00:00:00	00:00:00				5026		6/2/0
14	39526	172.17.213.100	2007-06-13 13:12:17	2007-06-13 13:12:17	00:00:00	00:00:00				5027		6/3/0
15	39528	172.17.213.100	2007-06-13 13:12:17	2007-06-13 13:12:17	00:00:00	00:00:00				5028		7/0/0
16	39529	172.17.213.100	2007-06-13 13:12:17	2007-06-13 13:12:17	00:00:00	00:00:00				5029		7/1/0
17	39498	172.17.213.100	2007-06-13 13:12:17	2007-06-13 13:12:17	00:00:00	00:00:00				5030		7/2/0
18	39499	172.17.213.100	2007-06-13 13:12:17	2007-06-13 13:12:17	00:00:00	00:00:00				5031		7/3/0
19	39501	172.17.213.100	2007-06-13 13:12:17	2007-06-13 13:12:17	00:00:00	00:00:00				2000		0/0/0

Recording File List Save (Excel File Format)

Smart DVoiceR Manager

Record Search (Total: 15) (Page 1/1)

No.	Call ID	Source IP	Rec StartTime	Rec EndTime	Rec
1	63292	172.16.9.60	2007-06-12 09:44:59	2007-06-12 09:46:34	00:01:35
2	63293	172.16.9.60	2007-06-12 09:46:38	2007-06-12 10:10:38	00:22:49
3	63295	172.16.9.60	2007-06-12 10:11:28	2007-06-12 10:14:34	00:03:06
4	64171	172.16.9.60	2007-06-12 13:24:09	2007-06-12 13:24:09	00:00:00
5					
6					
7					
8	64177	172.16.9.60	2007-06-12 14:04:09	2007-06-12 14:04:25	00:00:16
9	64181	172.16.9.60	2007-06-12 14:05:11		
10	64185	172.16.9.60	2007-06-12 14:34:21		
11	64186	172.16.9.60	2007-06-12 14:37:31		
12	67503	172.16.9.60	2007-06-12 16:00:00		
13	67504	172.16.9.60	2007-06-12 16:02:51		
14	67515	172.16.9.60	2007-06-12 17:03:21		
15	67517	172.16.9.60	2007-06-12 17:06:00		

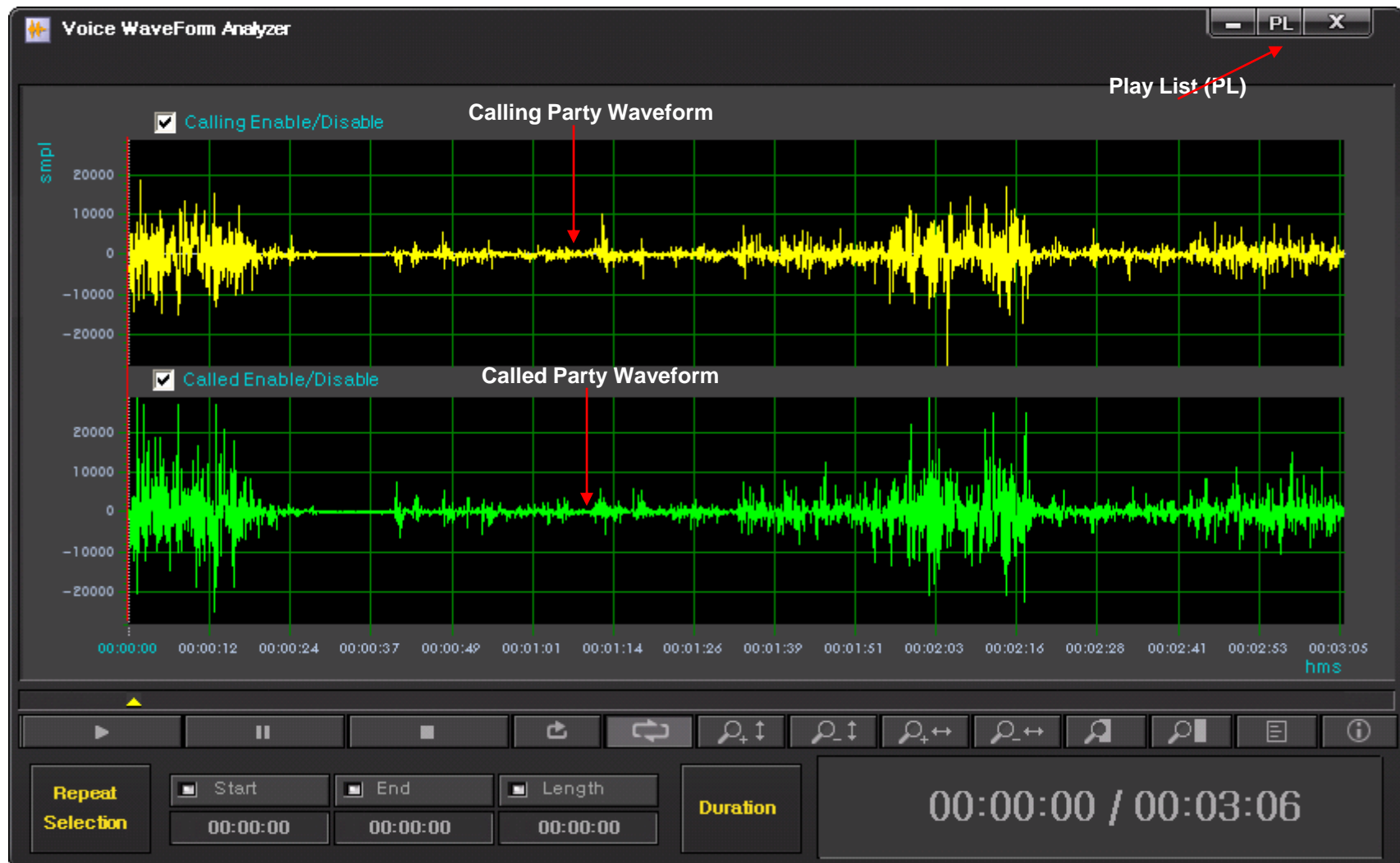
Records Exporting !!! ... Cancel

Microsoft Excel - Records.xls

Export Date : 2007-06-14 오후 5:52:46
Export Count : 7
Record Filter : (called_num='6015')

Call ID	Source IP	Record Start Time	Record End Time	Record	Call Dur	Callings	Callings	Called	Called	Called	File Name	Size	Audio C	Me
6	63292	172.16.9.60	2007-06-12 9:44	2007-06-12 9:46	0:01:35	0:01:35	1015	3/3/0	6015	3/3/0	63292001819K	GT11U		
7	63292	172.16.9.60	2007-06-12 9:44	2007-06-12 9:46	0:01:34	0:01:35	1015	3/3/0	6015	3/3/0	63292001817K	GT11U		
8	63293	172.16.9.60	2007-06-12 9:52	2007-06-12 9:56	0:04:33	0:24:03	1015	3/3/0	6015	3/3/0	63293001281K	GT11U		
9	63293	172.16.9.60	2007-06-12 9:56	2007-06-12 9:56	0:04:33	0:24:03	1015	3/3/0	6015	3/3/0	63293001281K	GT11U		
10	63293	172.16.9.60	2007-06-12 9:57	2007-06-12 10:10	0:13:28	0:24:03	1015	3/3/0	6015	3/3/0	63293001696K	GT11U		
11	63293	172.16.9.60	2007-06-12 9:57	2007-06-12 10:10	0:13:28	0:24:03	1015	3/3/0	6015	3/3/0	63293001695K	GT11U		
12	63293	172.16.9.60	2007-06-12 9:57	2007-06-12 10:10	0:13:28	0:24:03	1015	3/3/0	6015	3/3/0	63293001280K	GT11U		
13	63293	172.16.9.60	2007-06-12 9:46	2007-06-12 9:51	0:04:46	0:24:03	1015	3/3/0	6015	3/3/0	63293001280K	GT11U		
14	63293	172.16.9.60	2007-06-12 9:46	2007-06-12 9:51	0:04:46	0:24:03	1015	3/3/0	6015	3/3/0	63293001280K	GT11U		
15	63295	172.16.9.60	2007-06-12 10:11	2007-06-12 10:14	0:03:06	0:03:00	1015	3/3/0	6015	3/3/0	63295001160K	GT11U		
16	63295	172.16.9.60	2007-06-12 10:11	2007-06-12 10:14	0:03:06	0:03:00	1015	3/3/0	6015	3/3/0	63295001160K	GT11U		
17	64171	172.16.9.60	2007-06-12 13:22	2007-06-12 13:26	0:11:39	0:11:40	1015	3/3/0	6015	3/3/0	64171001820K	GT11U		
18	64171	172.16.9.60	2007-06-12 13:22	2007-06-12 13:26	0:11:39	0:11:40	1015	3/3/0	6015	3/3/0	64171001820K	GT11U		
19	64173	172.16.9.60	2007-06-12 13:34	2007-06-12 13:36	0:02:19	0:02:19	1015	3/3/0	6015	3/3/0	641730011199K	GT11U		
20	64173	172.16.9.60	2007-06-12 13:34	2007-06-12 13:36	0:02:19	0:02:19	1015	3/3/0	6015	3/3/0	641730011199K	GT11U		
21	64175	172.16.9.60	2007-06-12 14:40	2007-06-12 14:41	0:01:26	0:01:26	1015	3/3/0	6015	3/3/0	64175001740K	GT11U		
22	64175	172.16.9.60	2007-06-12 14:40	2007-06-12 14:41	0:01:26	0:01:26	1015	3/3/0	6015	3/3/0	64175001740K	GT11U		
23	64176	172.16.9.60	2007-06-12 13:50	2007-06-12 13:52	0:01:33	0:01:33	1015	3/3/0	6015	3/3/0	64176001804K	GT11U		
24	64176	172.16.9.60	2007-06-12 13:50	2007-06-12 13:52	0:01:33	0:01:33	1015	3/3/0	6015	3/3/0	64176001803K	GT11U		
25	64177	172.16.9.60	2007-06-12 14:04	2007-06-12 14:04	0:00:16	0:00:16	1015	3/3/0	6015	3/3/0	64177001142K	GT11U		
26	64177	172.16.9.60	2007-06-12 14:04	2007-06-12 14:04	0:00:16	0:00:16	1015	3/3/0	6015	3/3/0	64177001141K	GT11U		
27	64181	172.16.9.60	2007-06-12 14:33	2007-06-12 14:33	0:28:22	0:28:23	1015	3/3/0	6015	3/3/0	641810011466K	GT11U		
28	64181	172.16.9.60	2007-06-12 14:33	2007-06-12 14:33	0:28:22	0:28:23	1015	3/3/0	6015	3/3/0	641810011466K	GT11U		
29	64181	172.16.9.60	2007-06-12 14:34	2007-06-12 14:34	0:00:00	0:00:00	1015	3/3/0	6015	3/3/0	641810011466K	GT11U		

Recording File Waveform Analyzer



Recording File Waveform Analyzer

(Repeated Play)



Recording File Waveform Analyzer

(Bookmark Play)

The screenshot displays the 'Voice WaveForm Analyzer' interface. It features two waveform plots: the top one is yellow and the bottom one is green. Both plots have a vertical axis labeled 'smpl' ranging from -20000 to 20000 and a horizontal axis with time markers from 00:00:00 to 00:03:05. The top plot has checkboxes for 'Calling Enable/Disable' and 'Called Enable/Disable'. A 'Bookmark Set' label points to a specific time on the top waveform. A 'Bookmark' label with a pushpin icon points to a specific time on the bottom waveform. A 'Bookmark List' dialog box is open, showing a table with one entry: 'my bookmark no1.' at time '00:01:05'. The dialog has buttons for 'Modify', 'Bookmark Set', 'Bookmark Delete', and 'Play at Bookmark Position'. A 'Play From Here' context menu is also visible over the bottom waveform, with options for 'Set Bookmark' and 'Bookmark List'. At the bottom, there is a control panel with buttons for 'Repeat Selection', 'Start', 'End', 'Length', and 'Duration', along with a 'Bookmark List' section showing '00:00:00 / 00:03:06'.

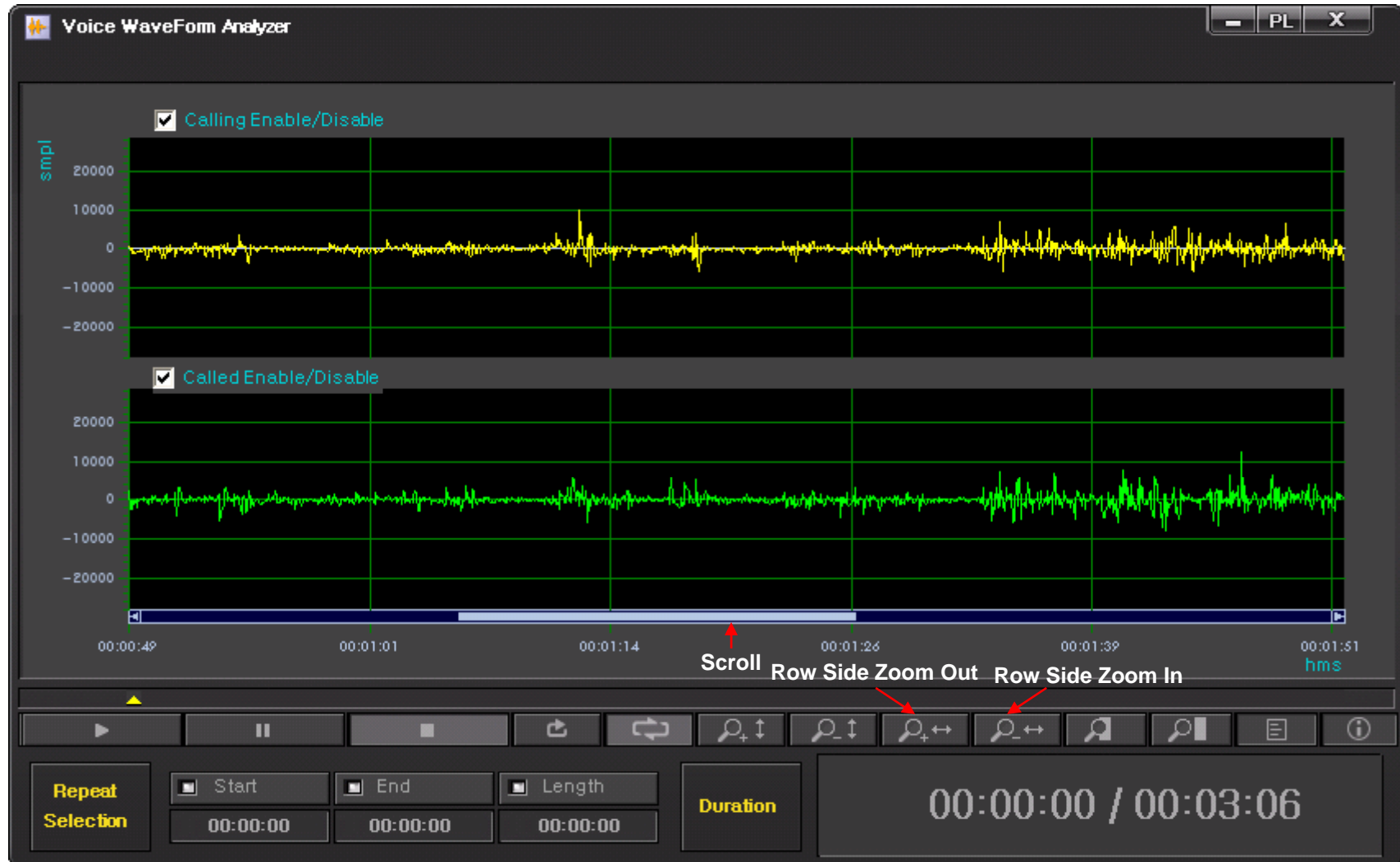
Recording File Waveform Analyzer

(Column Side Zooming)



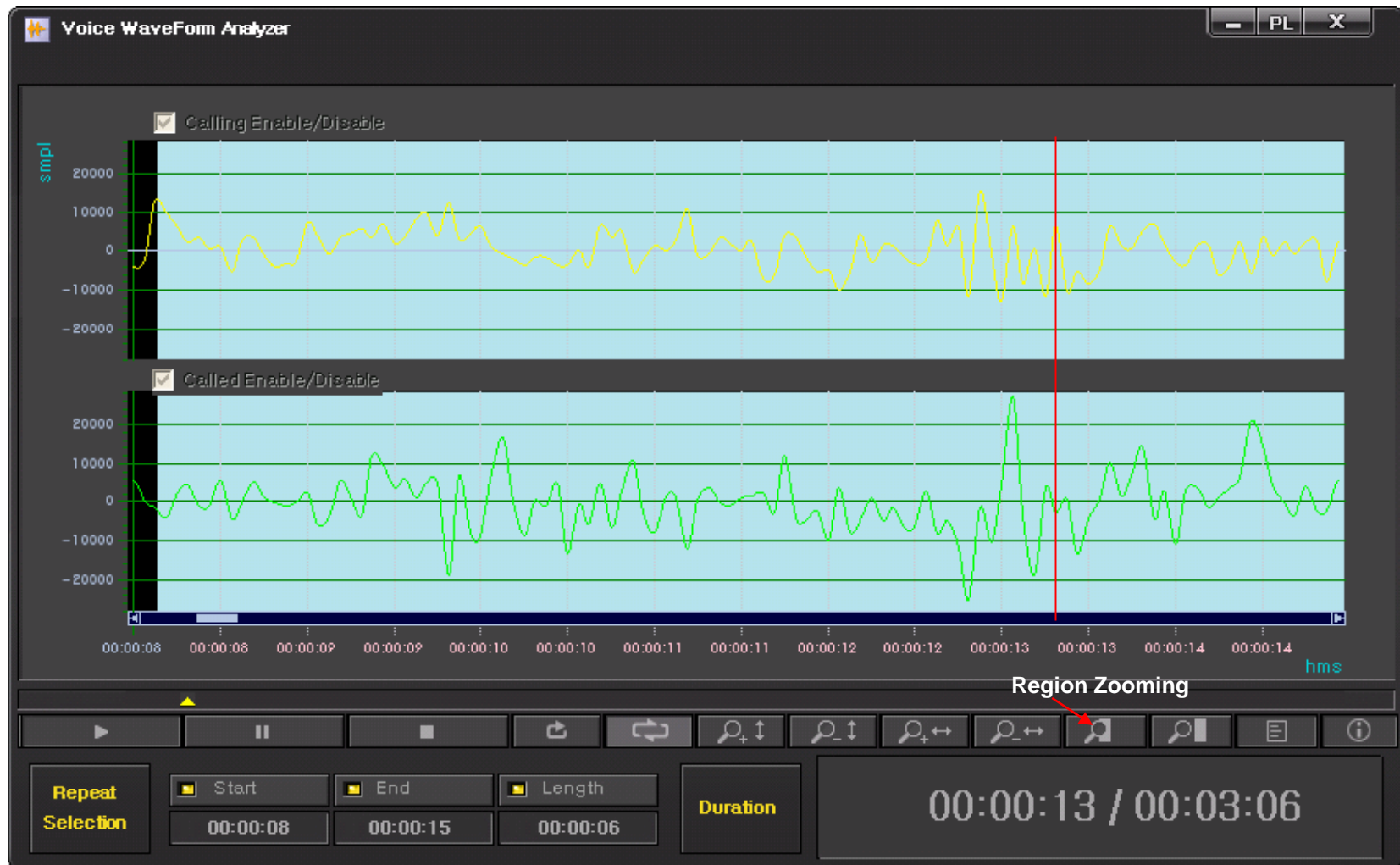
Recording File Waveform Analyzer

(Row Side Zooming)



Recording File Waveform Analyzer

(Region Zooming)



Recording File Waveform Analyzer

(Call Info. Display)

The screenshot displays the 'Voice WaveForm Analyzer' application window. The main interface features two waveform plots: a top plot with a yellow waveform and a bottom plot with a green waveform. A central 'Record Information' dialog box is open, displaying the following data:

Record Information	
Start Time	2007-06-12 10:11:28
End Time	2007-06-12 10:14:34
Record Duration	00:03:06
Record Memo	<input type="text"/>

Call Information	
Initiated Time	2007-06-12 10:13:15
Established Time	2007-06-12 10:13:16
Disconnected Time	2007-06-12 10:16:24
Call Duration	00:03:08

Calling Party	
Number	1015
User	
Codec	G711U
Directory	/mnt/hda1/callrecfiles
FileSize	1606k

Called Party	
Number	6015
User	
Codec	G711U
Directory	/mnt/hda1/callrecfiles
FileSize	1606k

At the bottom of the window, there is a control bar with playback buttons (play, pause, stop, previous, next, zoom in, zoom out, zoom in+out, zoom out+in) and a 'Call Info. Display' button. Below the control bar, a 'Repeat Selection' section shows 'Start' (00:00:10), 'End' (00:00:11), and 'Length' (00:00:01). A 'Duration' section shows '00:00:11 / 00:03:06'. The text 'Original View Mode' is displayed above the duration. A red arrow points from the 'Call Info. Display' button to the 'Call Info. Display' text in the bottom right corner of the waveform area.

Live Call Recording List and Monitoring

The screenshot displays the Smart DVoiceR Manager interface. The main window is titled "Smart DVoiceR Manager" and features a menu bar (File, Advanced, Configuration, Help) and a toolbar. The central area is divided into two main sections: "Current Call List Display" and "Live Play".

The "Current Call List Display" section shows a table of recorded calls. The table has columns for No., Call ID, Source IP, Rec StartTime, Initiated Time, Established Time, Call Duration, Calling Num, Calling User, Calling SI..., and Calling Trans... The table contains 37 rows of data, with the first row being highlighted in blue. A "Refresh Interval" of 5 seconds is set, and an "Apply" button is visible.

The "Live Play" section is currently active, showing a call in progress. The call information is displayed in a pop-up window titled "AddPac" with the text "calling-3006/called-5022". The call duration is shown as 00:00:00 / 00:00:00. The window also displays "Record Information" (Start Time: 2007-06-15 14:16:46) and "Call Information" (Initiated Time: 2007-06-15 14:18:56, Established Time: 2007-06-15 14:18:57). The "Calling Party" and "Called Party" information is also shown, including DialNumber, User, Codec, Directory, and FileSize.

No.	Call ID	Source IP	Rec StartTime	Initiated Time	Established Time	Call Duration	Calling Num	Calling User	Calling SI...	Calling Trans...
1	46551	172.17.213.100	2007-06-13 15:20:42	2007-06-13 15:2...	2007-06-13 15:22:38	00:00:11	5009		2/1/0	G7231_63->... 2
2	46552	172.17.213.100	2007-06-13 15:20:42	2007-06-13 15:2...	2007-06-13 15:22:38	00:00:11	5007		1/3/0	G7231_63->... 2
3	46553	172.17.213.100	2007-06-13 15:20:43	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:10	5013		3/1/0	G7231_63->... 2
4	46558	172.17.213.100	2007-06-13 15:20:44	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	3015		7/3/0	G7231_63->... 5
5	46554	172.17.213.100	2007-06-13 15:20:44	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		2/3/0	G7231_63->... 2
6	46555	172.17.213.100	2007-06-13 15:20:44	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5014		3/2/0	G7231_63->... 2
7	46556	172.17.213.100	2007-06-13 15:20:44	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		3/3/0	G7231_63->... 2
8	46559	172.17.213.100	2007-06-13 15:20:45	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		7/2/0	G7231_63->... 5
9	46557	172.17.213.100	2007-06-13 15:20:45	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		0/3/0	G7231_63->... 2
10	46560	172.17.213.100	2007-06-13 15:20:46	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		7/0/0	G7231_63->... 5
11	46561	172.17.213.100	2007-06-13 15:20:47	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		1/0/0	G7231_63->... 2
12	46546	172.17.213.100	2007-06-13 15:20:34	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		4/3/0	G7231_63->... 5
13	46563	172.17.213.100	2007-06-13 15:20:47	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		6/0/0	G7231_63->... 5
14	46562	172.17.213.100	2007-06-13 15:20:50	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		1/2/0	G7231_63->... 2
15	46545	172.17.213.100	2007-06-13 15:20:36	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		3/0/0	G7231_63->... 2
16	46564	172.17.213.100	2007-06-13 15:20:50	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		4/0/0	G7231_63->... 5
17	46565	172.17.213.100	2007-06-13 15:20:51	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		5/3/0	G7231_63->... 5
18	46547	172.17.213.100	2007-06-13 15:20:41	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		0/2/0	G7231_63->... 2
19	46566	172.17.213.100	2007-06-13 15:20:52	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		6/2/0	G7231_63->... 5
20	46548	172.17.213.100	2007-06-13 15:20:41	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		1/1/0	G7231_63->... 2
21	46567	172.17.213.100	2007-06-13 15:20:52	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		4/2/0	G7231_63->... 5
22	46549	172.17.213.100	2007-06-13 15:20:41	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		2/0/0	G7231_63->... 2
23	46568	172.17.213.100	2007-06-13 15:20:52	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		5/2/0	G7231_63->... 5
24	46569	172.17.213.100	2007-06-13 15:20:52	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		6/1/0	G7231_63->... 5
25	46570	172.17.213.100	2007-06-13 15:20:52	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		5/0/0	G7231_63->... 5
26	46550	172.17.213.100	2007-06-13 15:20:42	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		0/0/0	G7231_63->... 2
27	46573	172.17.213.100	2007-06-13 15:20:53	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		4/1/0	G7231_63->... 5
28	6208	172.16.9.60	2007-06-13 15:20:30	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		4/2/0	G729A_8->G... 2
29	6209	172.16.9.60	2007-06-13 15:20:30	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		5/0/0	G729A_8->G... 2
30	6223	172.16.9.60	2007-06-13 15:20:45	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		1/3/0	G729A_8->G... 6
31	6213	172.16.9.60	2007-06-13 15:20:32	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		4/0/0	G729A_8->G... 2
32	6214	172.16.9.60	2007-06-13 15:20:32	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		4/3/0	G729A_8->G... 2
33	6215	172.16.9.60	2007-06-13 15:20:32	2007-06-13 15:2...	2007-06-13 15:22:39	00:00:09	5011		4/1/0	G729A_8->G... 2
34	6224	172.16.9.60	2007-06-13 15:20:49	2007-06-13 15:2...	2007-06-13 15:22:42	00:00:04	1006		1/2/0	G729A_8->G... 6
35	5882	172.16.9.60	2007-06-13 15:08:56	2007-06-13 15:1...	2007-06-13 15:10:48	00:11:57	1015		3/3/0	G729A_8->G... 6
36	6220	172.16.9.60	2007-06-13 15:20:41	2007-06-13 15:2...	2007-06-13 15:22:35	00:00:12	1004		1/0/0	G729A_8->G... 6
37	6221	172.16.9.60	2007-06-13 15:20:42	2007-06-13 15:2...	2007-06-13 15:22:35	00:00:11	1005		1/1/0	G729A_8->G... 6

Event Management (Configuration)

Smart DVoiceR Manager

File Advanced Configuration Help

Smart DVoiceR Manager AddPac Technology

Smart DVoiceR Manager

Event Configuration

Event Configuration

Event Source

Host : 172.16.4.22

Listen Port : 514

Server IP address

Event Port Number

1. Emergency
The presence of a condition that has either caused the system to become unstable or has crashed the system.

2. Error
Error events are warnings of conditions that will affect the performance of the MX.

Realtime event level Setting

Event Filter | Event Logging Filter

+ Event filter setting for source.

Select / Deselect All

Category	Severity	Description
<input checked="" type="checkbox"/> recording	Warning	recording
<input checked="" type="checkbox"/> play	Warning	play
<input checked="" type="checkbox"/> system	Warning	system

Use Emergency Sound

OK Cancel

Event level Configuration

Sound Play On/Off at Server Emergency Event Occurring

Event Source

Host : 172.16.4.22

Listen Port : 514

Event logging level Setting

1. Emergency
The presence of a condition that has either caused the system to become unstable or has crashed the system.

2. Error
Error events are warnings of conditions that will affect the performance of the MX.

Event Filter | Event Logging Filter

+ Event filter setting for logging.

Select / Deselect All

Category	Severity	Description
<input checked="" type="checkbox"/> recording	Warning	recording
<input checked="" type="checkbox"/> play	Warning	play
<input checked="" type="checkbox"/> system	Warning	system

Use Emergency Sound

OK Cancel

2007-06-14 오후 4:25:35 Ver. 1.0.2720 172.16.4.22:9200 root

Event Management (Monitoring)

The screenshot displays the Smart DVoiceR Manager interface. The main window shows a list of call records with columns for No., Call ID, Source IP, Rec StartTime, Initiated Time, Established Time, Call Duration, Calling Num, and Calli... The interface includes a menu bar (File, Advanced, Configuration, Help), a toolbar, and a left-hand navigation tree. A 'Refresh Interval' of 5 seconds is set, with an 'Apply' button. A 'Pause' button is visible in the bottom right corner of the main window.

Annotations with red arrows point to specific features:

- Event Display Window:** Points to the left-hand navigation tree.
- Event level Configuration Window:** Points to the 'Record Session' option in the navigation tree.
- Event Display Window Clear:** Points to the trash icon in the bottom right corner of the main window.
- Event Receiving Pause:** Points to the 'Pause' button in the bottom right corner of the main window.

The bottom window, titled 'Event Monitoring', shows a table of events with columns for Date Time, Host, Severity, Module, and Description. The events are listed chronologically from Jun 14 07:25:43 to Jun 14 07:25:46. The description column contains various system messages related to recording sessions, such as 'recording stopping', 'new recording starting', and 'get current recording session'.

Event Management

(System Monitoring)

The screenshot displays the 'System Monitoring' window of the Smart DVoiceR Manager. The interface includes a tree view on the left, a main performance dashboard, and a taskbar at the bottom.

System Monitoring Performance Metrics:

Category	Sub-category	Value
CPU	Total(%)	100
	Used(%)	0
Memory	Total	254752 KB
	Available	171860 KB
	Used	82892 KB
	Used(%)	32,54
Transcoding Channel	Max	128
	Used	0
HDD	Total	304273 MB
	Available	138124 MB
	Used	166149 MB
	Used(%)	54,61

Storage Usage:

- rootfs (/):** 2.00 GB used of 3.00 GB
- /dev/hda1 (/mnt/hda1):** 139.00 GB used of 300.00 GB

System Information: 2007-06-14 오후 4:38:08, Ver. 1,0,2720, 172, 16, 4, 22:9200, root

Event Management

(Event History)

Event Search Time Setting

Start : 2007-06-14 00:00:00
End : 2007-06-14 23:59:59

Event category

Recording : Debug
 Play : Debug
 System : Debug

Search Condition Setting

Filter Name : Event
Rule : IsExactly
Search :

Event History Table

No.	Event Time	Host	Category	Severity	Event
22	2007-06-14 15:14:21	172.16.4.22	recording	Informational	recording stopping : call_id = 0, ip = , mac_addr =
23	2007-06-14 15:14:21	172.16.4.22	recording	Informational	recording stopping : call_id = 0, ip = , mac_addr =
24	2007-06-14 15:15:01	172.16.4.22	recording	Informational	new recording starting : call_id = 9702, ip = 172.16.9...
25	2007-06-14 15:15:32	172.16.4.22	recording	Informational	new recording starting : call_id = 9784, ip = 172.16.9...
26	2007-06-14 15:15:32	172.16.4.22	recording	Informational	new recording starting : call_id = 9788, ip = 172.16.9...
27	2007-06-14 15:15:33	172.16.4.22	recording	Informational	new recording starting : call_id = 9790, ip = 172.16.9...
28	2007-06-14 15:15:35	172.16.4.22	recording	Informational	new recording starting : call_id = 9792, ip = 172.16.9...
29	2007-06-14 15:15:37	172.16.4.22	recording	Informational	new recording starting : call_id = 9794, ip = 172.16.9...
30	2007-06-14 15:15:39	172.16.4.22	recording	Informational	new recording starting : call_id = 9797, ip = 172.16.9...
31	2007-06-14 15:15:40	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
32	2007-06-14 15:15:43	172.16.1.48	system	Debug	get system information requested : cpu = 15%, mem...
33	2007-06-14 15:15:44	172.16.1.48	system	Debug	get system information requested : cpu = 20%, mem...
34	2007-06-14 15:15:45	172.16.1.48	system	Debug	get system information requested : cpu = 20%, mem...
35	2007-06-14 15:15:45	172.16.1.48	system	Debug	get transcoding channel usage :
36	2007-06-14 15:15:46	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
37	2007-06-14 15:15:47	172.16.1.48	system	Debug	get system information requested : cpu = 1%, memor...
38	2007-06-14 15:15:47	172.16.1.48	system	Debug	get transcoding channel usage :
39	2007-06-14 15:15:48	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
40	2007-06-14 15:15:49	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
41	2007-06-14 15:15:50	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
42	2007-06-14 15:15:51	172.16.1.48	system	Debug	get system information requested : cpu = 16%, mem...
43	2007-06-14 15:15:51	172.16.1.48	system	Debug	get transcoding channel usage :
44	2007-06-14 15:15:52	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
45	2007-06-14 15:15:53	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
46	2007-06-14 15:15:54	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
47	2007-06-14 15:15:55	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
48	2007-06-14 15:15:56	172.16.1.48	system	Debug	getChannelUsage : client ip = 172.16.1.48, port = 1824
49	2007-06-14 15:15:57	172.16.1.48	system	Debug	get system information requested : cpu = 16%, mem...
50	2007-06-14 15:15:57	172.16.1.48	system	Debug	get transcoding channel usage :
51	2007-06-14 15:15:58	172.16.4.22	recording	Informational	recording stopping : call_id = 9785, ip = 172.16.9.60, ...
52	2007-06-14 15:15:58	172.16.1.48	system	Debug	get system information requested : cpu = 8%, memor...
53	2007-06-14 15:15:58	172.16.1.48	system	Debug	get transcoding channel usage :

Recording Board Management

(Call User Registration)

Smart DVoiceR Manager

File Advanced Configuration Help

Smart DVoiceR Manager Board Users

No.	User ID	Name	Phone Number
1	2002	james lee	2002
2	bmlee	bmlee	6002
3	cykim	cykim	1019
4	dhkim	dhkim	5075
5	hgyang	hgyang	2006
6	jhjeon	jhjeon	6008
7	jhkwon	jhkwon	1002
8	jhlee	jhlee	026
9	jhsong	jhsong	5
10	jschoi	jschoi	5
11	jwwoo	jwwoo	8
12	jkim	jkim	0
13	jypark	jypark	7
14	kkim	kkim	3
15	kscho	kscho	5
16	kswoo	kswoo	2004
17	kuhan	kuhan	1210
18	mhlee	mhlee	2007
19	mjlee	mjlee	1008
20	mkkim	mkkim	1212
21	mwlee	mwlee	1006
22	ohs	ohs	6015
23	phkwon	kwon young phil	6006
24	smkim	smkim	1003
25	syk	soyoung kim	1027
26	wshwang	senior manager	6005
27	yhj	yhj	1016
28	ymchoi	ymchoi(QA assistant)	6007
29	yslee	senior assistant	1015

Import Board Users

Filter: Filter Name Rule Word Advanced Search Find

Phone Number [is exactly]

Add Board User

User ID: james
 User Name: james brahms
 Description: quality assurance dev.
 Group: SE

Phone Numbers: 5000

Phone Numbers: 6000

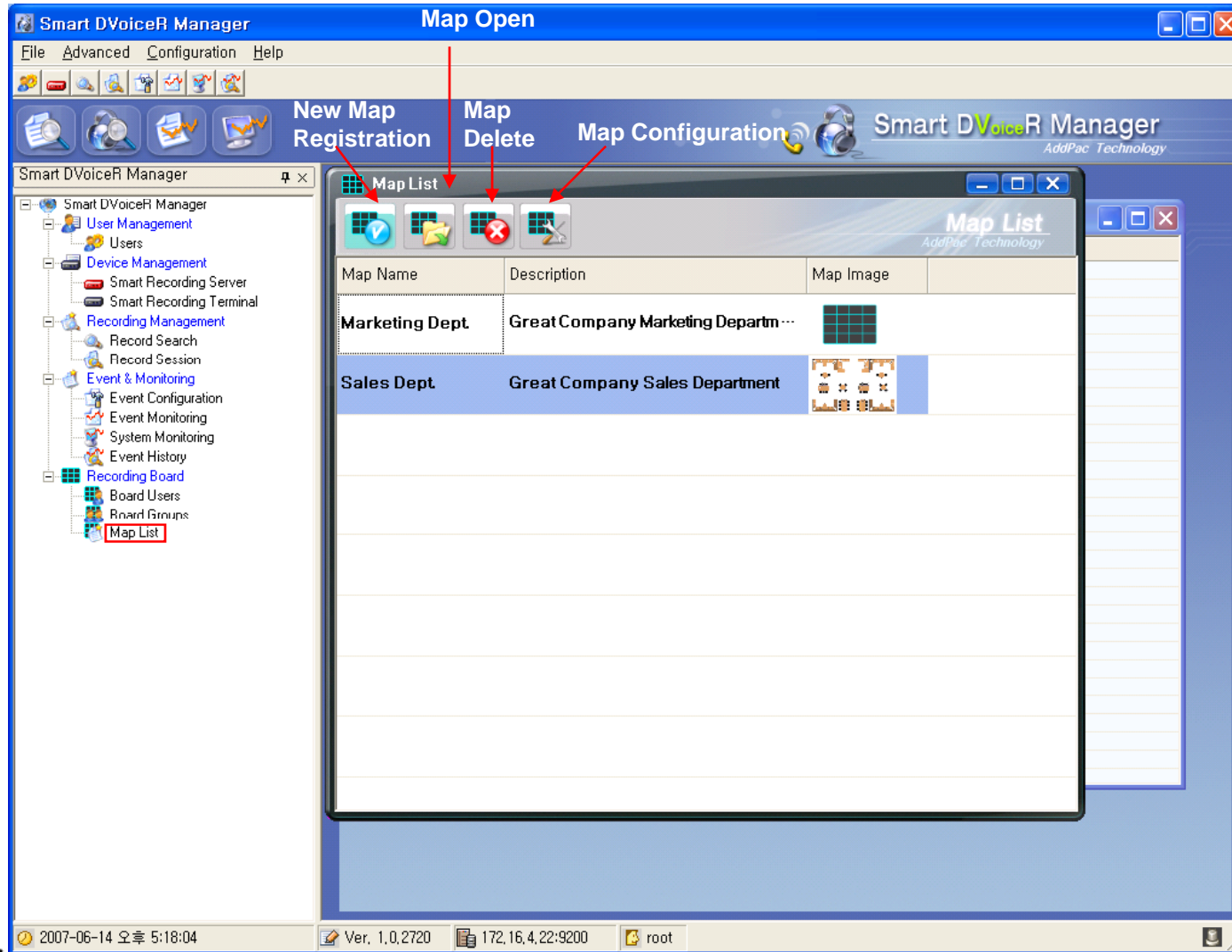
2007-06-15 오후 7:38:49 Ver. 1.0.2722 172,16,4,22:9200 root

Call User List Import

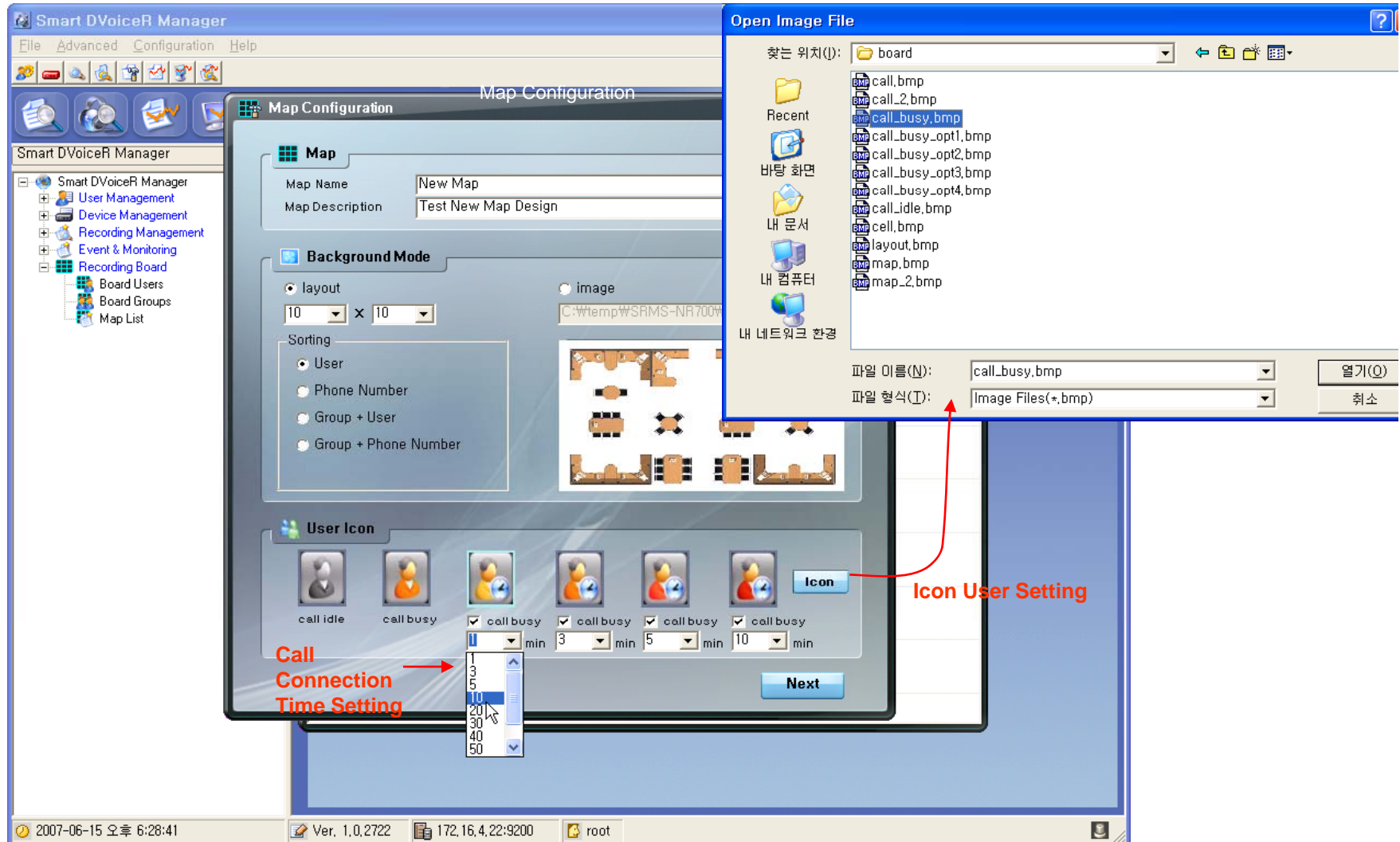
New Call User Registration

Recording Board Management

(Background Image (MAP) Selection)



Recording Board Management (Layout Configuration)



Recording Board Management

(Live Monitoring)

Map Configuration (edit)

Map Information Save

Recording Board (Marketing Dept.)

AddPac Recording Board AddPac Technology

Save Config Auto-Insert Edit Map

kwon young p jhkwon senior manage kkim dhkim smkim ohs mwlee mjlee bmllee

senior assistant jhjeon kscho jschoi

Dynamic Call Status Display (Icon Color)

Call Status Display Call Connection Time Icon Display

Map Name: Marketing Dept.

Session Information: Total 14, Idle 6, Busy 8

User Icon: Call Idle, Call Busy

Over 1 minutes, Over 3 minutes, Over 5 minutes, Over 10 minutes

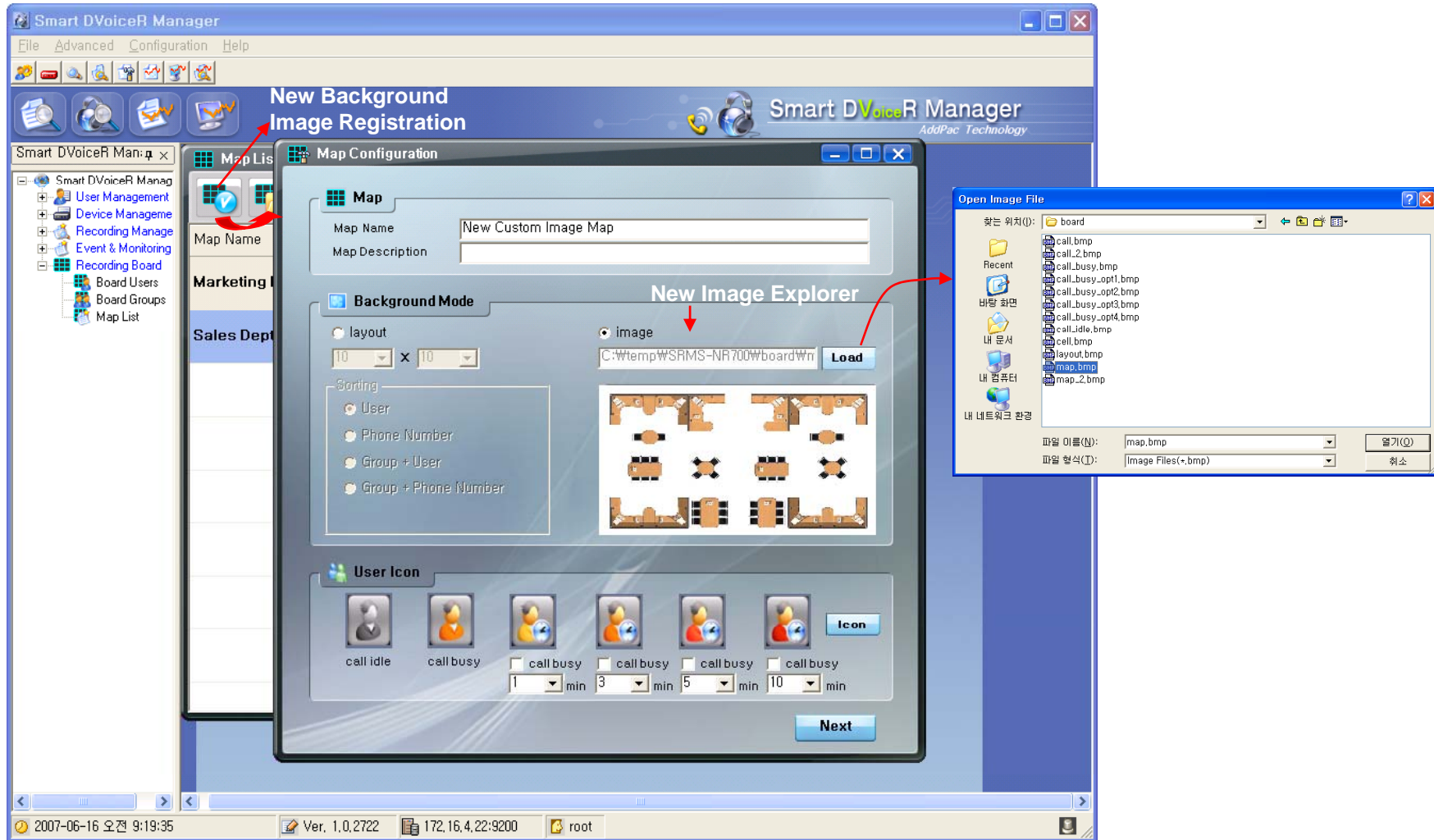
Recording Board Management

(Call User Insert/Remove in MAP)

The screenshot displays the 'Recording Board (Marketing Dept.)' interface. At the top, there is a menu bar with 'Save', 'Config', 'Auto-Insert', and 'Edit Map' options. A red arrow points to the 'Edit Map' option, labeled 'Call User List Display ON/OFF'. Below the menu is a grid of call user icons. A red dashed arrow labeled 'insert' points from the 'Board Users' list on the right to a specific user icon in the grid. Another red dashed arrow labeled 'remove' points from a user icon in the grid to the 'Board Users' list. The 'Board Users' list on the right is organized into a tree structure with categories like BCN, NMS, and SE, and lists individual user names such as jhjeon, kkim, kwon youn..., mwlee, ohs, senior assi..., senior man..., smkim, jhkwon, jschoi, mjlee, bmlee, dhkim, and kscho. At the bottom, there is a status bar with 'Map Name' (Marketing Dept.), 'Session Information' (Total 14, Idle 4, Busy 10), and 'User Icon' settings for Call Idle and Call Busy with duration thresholds (Over 1, 3, 5, and 10 minutes).

Recording Board Management

(Background Image Loading)



Recoding Board Management

(Call User Registration in Background MAP image)

The screenshot displays the 'Recording Board' software interface. The main window is titled 'Recording Board(New Custom Image Map)' and features a menu bar with 'Save', 'Config', 'Auto-Insert', and 'Edit Map'. The central area shows a floor plan with several workstations, each with a user icon and name: 'ohs', 'senior assistan', 'mwlee', 'jheon', 'kkim', 'dhkim', 'mjlee', 'jschoi', 'smkim', 'jhwon', 'bmlee', and 'kscho'. A 'Board Users' list on the right side shows a hierarchy of users: BCN (jhjeon, kkim, kwon young ..., mwlee, ohs, senior ass..., senior mana..., smkim), NMS (jhwon, jschoi, mjlee), and SE (bmlee, dhkim, kscho). The bottom status bar includes 'Map Name' (New Custom Image Map), 'Session Information' (Total 12, Idle 2, Busy 10), and 'User Icon' settings for Call Idle, Call Busy, and call duration thresholds (Over 1, 3, 5, 10 minutes).



Thank you!

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