AP-VWP100
Smart IP Video Wall PAD

High Performance IP Video Wall PAD Solution

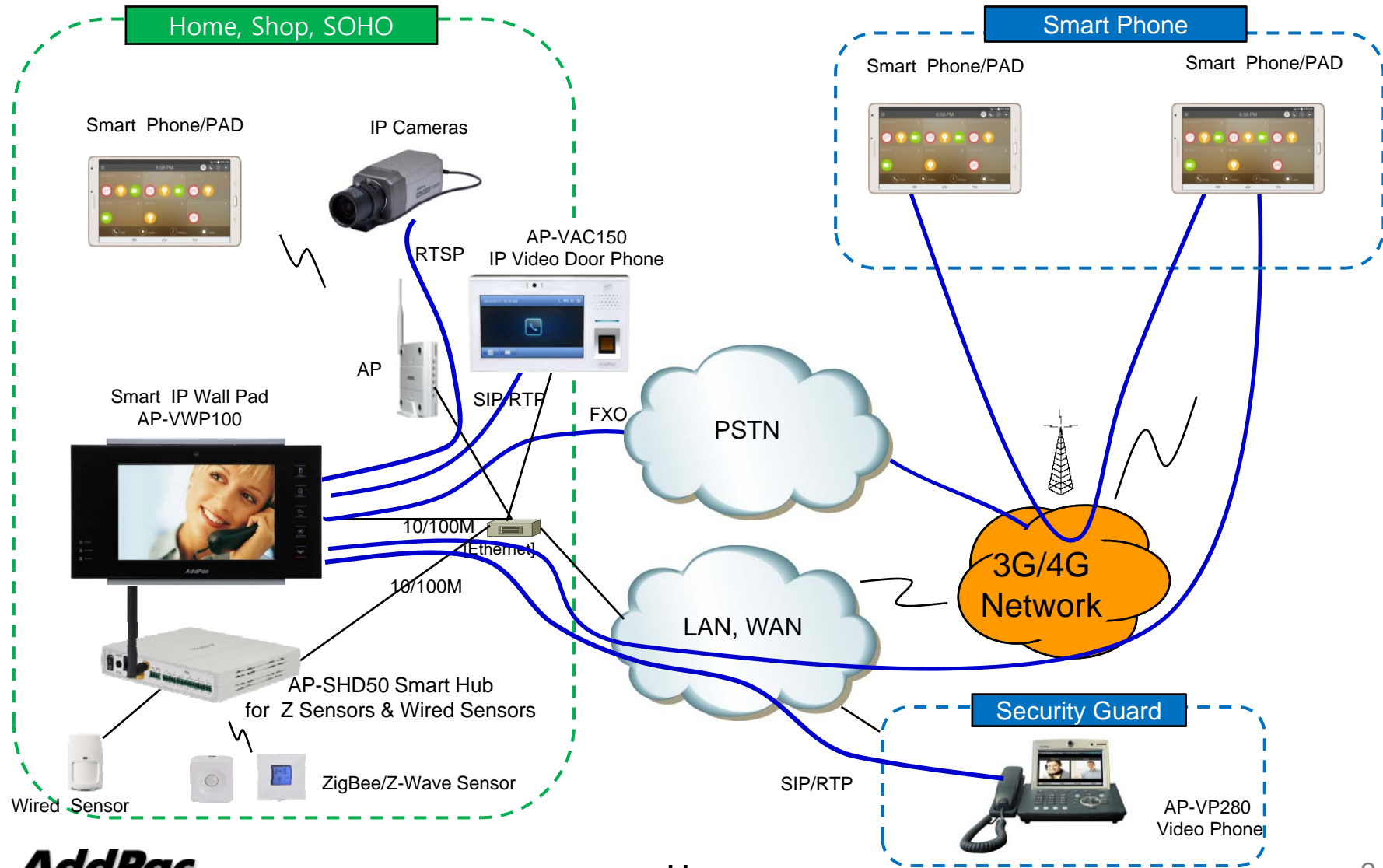## Video Conference Call Service

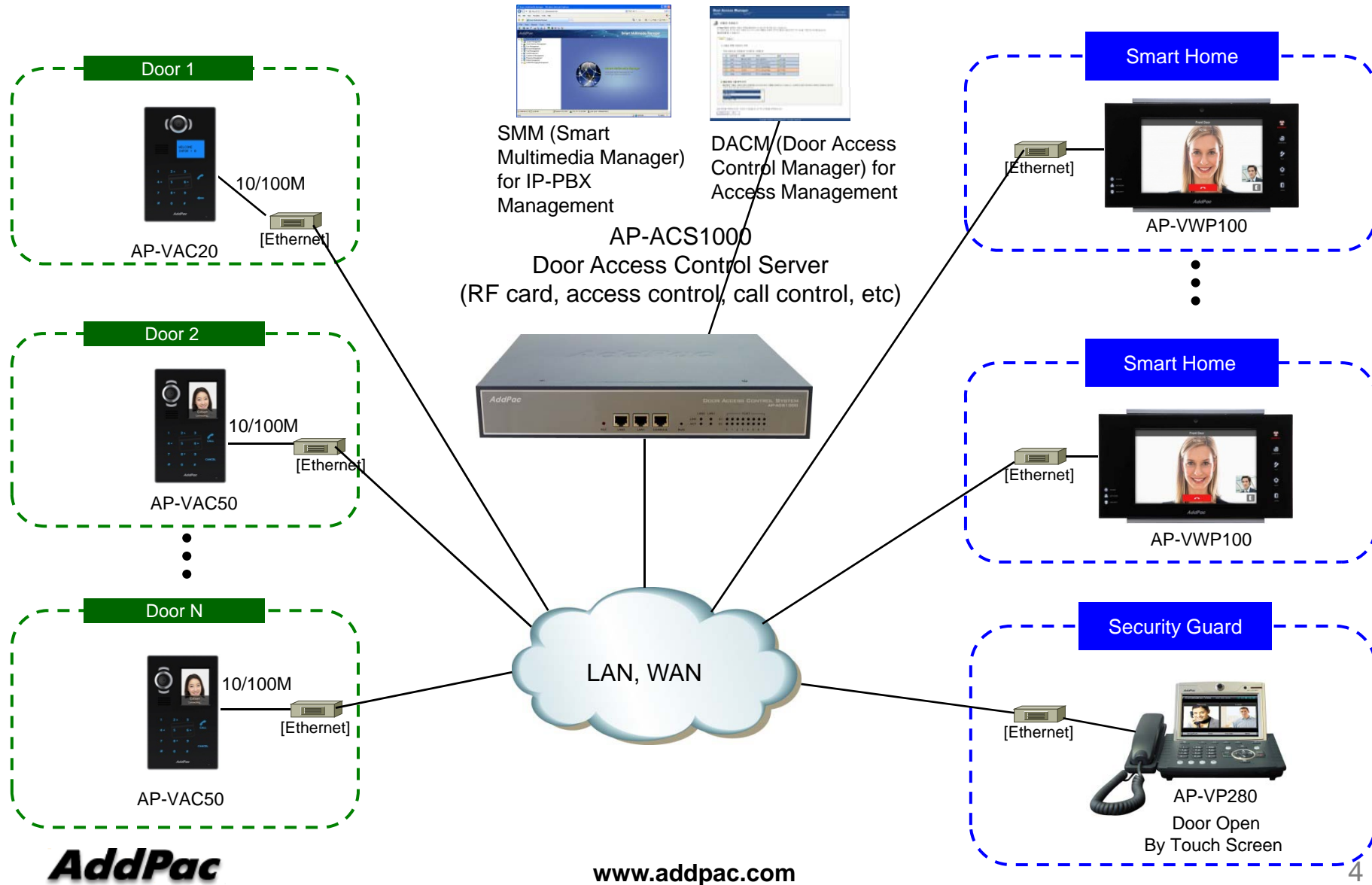**AddPac Technology**

2015, Sales and Marketing

Contents

- Smart Home Application Network Diagram
- Normal Video Call Model (Point-to-Point)
- Video Conference Call Model
- Call Manager + MCU Protocols
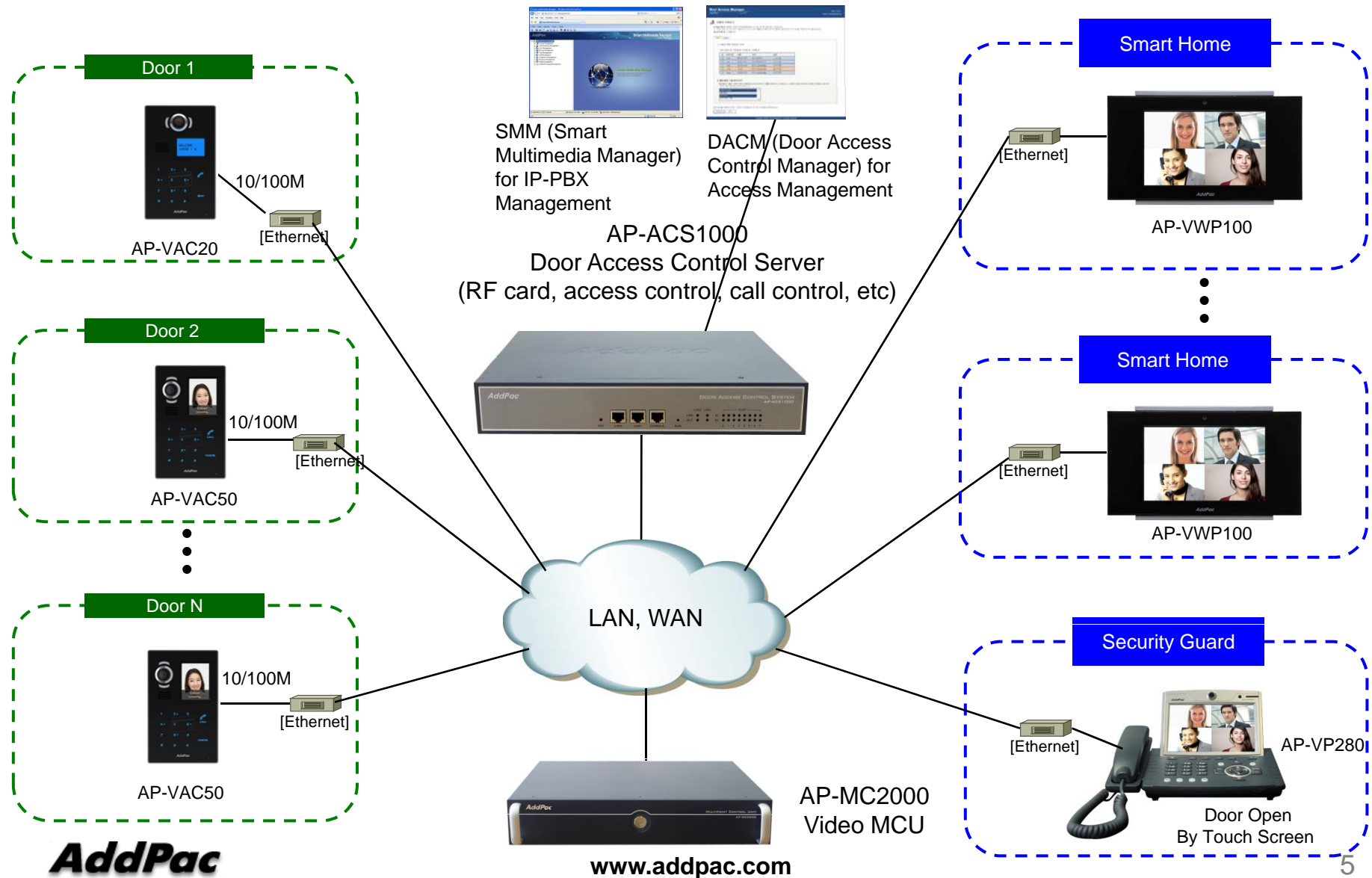- IP Video MCU (Ex: AP-MC2000)
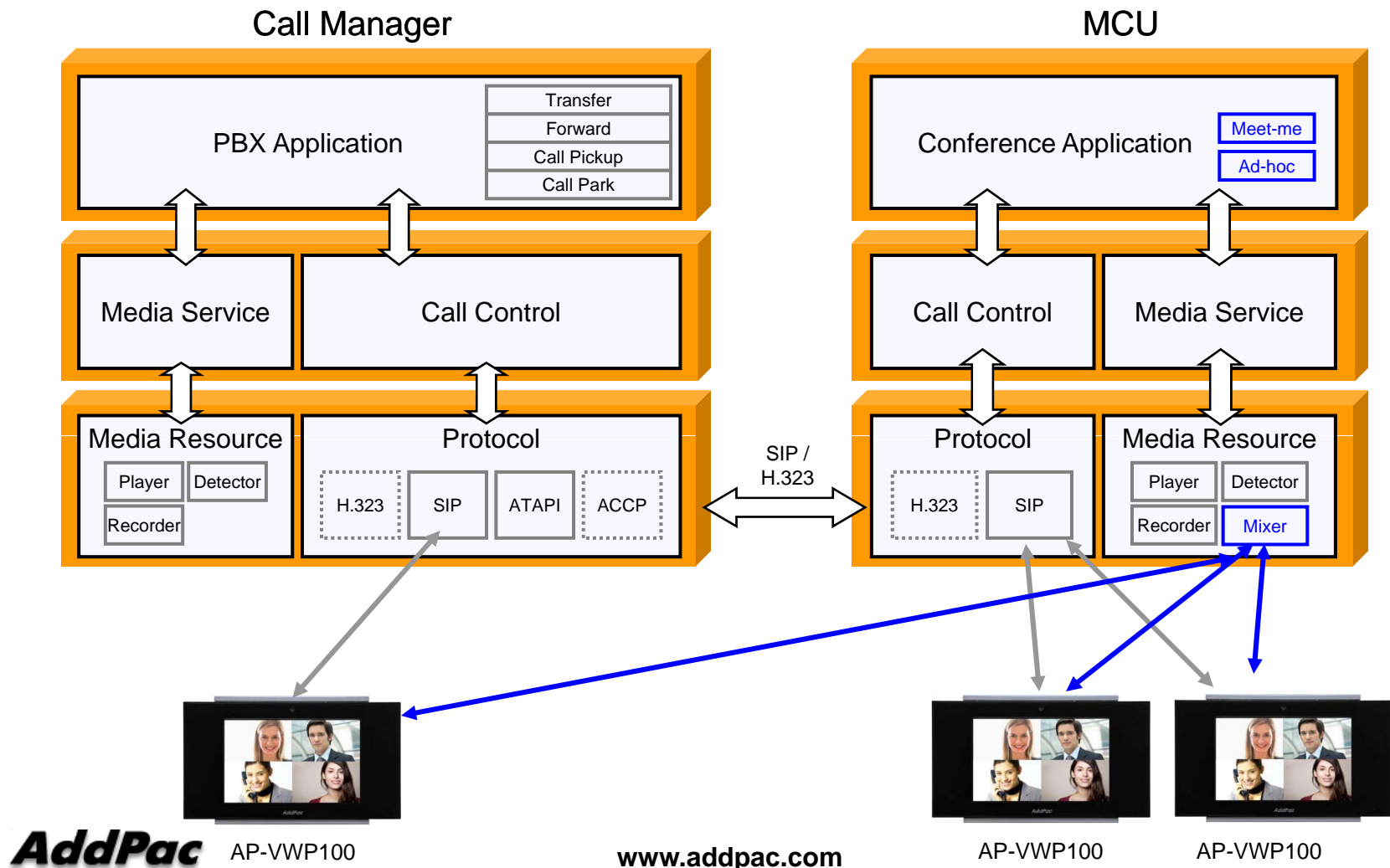- Video MCU Service Features

Smart Home Application

Home, Shop, SOHO

Smart Phone/PAD

IP Cameras

RTSP

AP-VAC150
IP Video Door Phone

AP

SIP/RTP

FXO

Smart IP Wall Pad
AP-VWP100

10/100M
(Ethernet)

10/100M

AP-SHD50 Smart Hub
for Z Sensors & Wired Sensors

ZigBee/Z-Wave Sensor

Wired Sensor

PSTN

LAN, WAN

3G/4G
Network

Smart Phone

Smart Phone/PAD

Smart Phone/PAD

Security Guard

SIP/RTP

AP-VP280
Video Phone

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Normal Point-to-Point Video Call Model

Door 1

10/100M

[Ethernet]

AP-VAC20

Door 2

10/100M

[Ethernet]

AP-VAC50

Door N

10/100M

[Ethernet]

AP-VAC50

SMM (Smart
Multimedia Manager)
for IP-PBX
Management

DACM (Door Access
Control Manager) for
Access Management

AP-ACS1000
Door Access Control Server
(RF card, access control, call control, etc)

LAN, WAN

Smart Home

[Ethernet]

AP-VWP100

Smart Home

[Ethernet]

AP-VWP100

Security Guard

[Ethernet]

AP-VP280
Door Open
By Touch Screen

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Video Conference Call Model

Door 1

AP-VAC20

10/100M

[Ethernet]

Door 2

AP-VAC50

10/100M

[Ethernet]

Door N

AP-VAC50

10/100M

[Ethernet]

SMM (Smart Multimedia Manager) for IP-PBX Management

DACM (Door Access Control Manager) for Access Management

AP-ACS1000
Door Access Control Server
(RF card, access control, call control, etc)

LAN, WAN

AP-MC2000
Video MCU

Smart Home

[Ethernet]

AP-VWP100

Smart Home

[Ethernet]

AP-VWP100

Security Guard

[Ethernet]

AP-VP280

Door Open
By Touch Screen

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Call Manager + MCU Interworking Protocol Stack

Call Manager

MCU

PBX Application	Transfer
	Forward
	Call Pickup
	Call Park

| Media Service | Call Control |

Media Resource	Protocol
Player Detector	H.323 SIP ATAPI ACCP
Recorder	

SIP / H.323

| Conference Application | Meet-me |
| | Ad-hoc |

| Call Control | Media Service |

Protocol	Media Resource
H.323 SIP	Player Detector
	Recorder Mixer

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AP-VWP100

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AP-VWP100   AP-VWP100

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Multipoint Video Service

A

B

C

D

E

IP Network

[MCU]

RTP Flow
Signaling Flow

Video Wall PAD   VWP # 1, Number :1001

Video Wall PAD   VWP #2, Number :1002

Video Wall PAD   VWP #3, Number :1003

Video Wall PAD   VWP #4, Number :1004

LAN
(IP Network)

Signaling

RTP

Call Manager

Video MCU

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AP-MC2000
IP Video MCU

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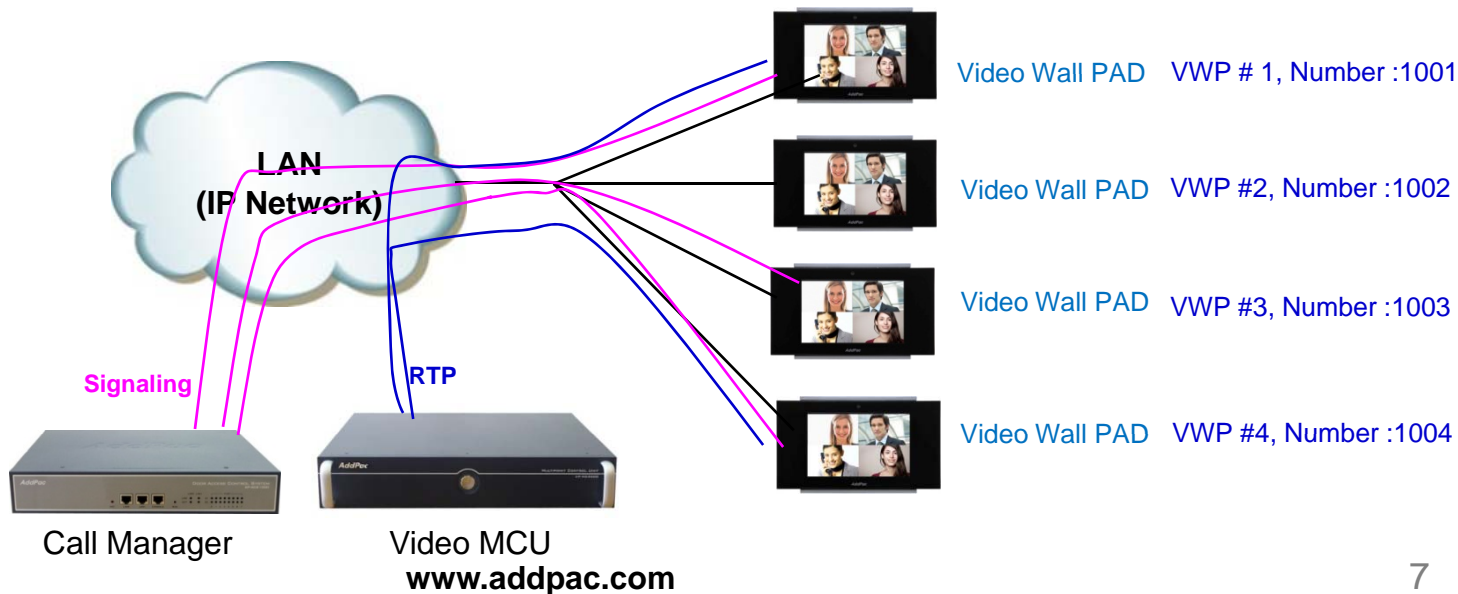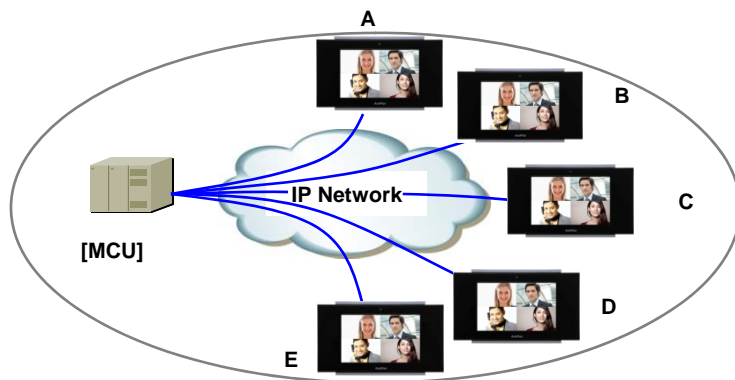
Main Features

AP-MC2000 IP Video MCU

- IP based Multipoint Audio/Video Mixing Solution
- Support Various Conference System Model(Add-Hoc, Dial-Out, Meet Me)
- Multi-User/Multi-Session Video Conference Support
- Up to 16-Party Video Conference Mode Support
- H.263, MPEG4, H.264 Video Codec Support
- G.722/G.711/G.726/G.729/G.723,etc Voice Codec Support
- H.323/SIP VoIP Signaling Support
- H.323 GateKeeper Internal Support
- External SIP Proxy Server Interworking Support
- Scalability and Flexibility
- High-performance Video, Audio, and Voice Service
- Firmware Upgradeable Architecture
- Video Solution with Outstanding Network Service Capability
- Audio/Video Privacy Protection

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Hardware Specification

- High Performance Computing Power

- Programmable Hardware Architecture

- Main Chassis
  - Network Interface
    - One(1) 10/100/1000Mbps Gigabit Ethernet
    - One(1) RS-232C Console (RJ45)
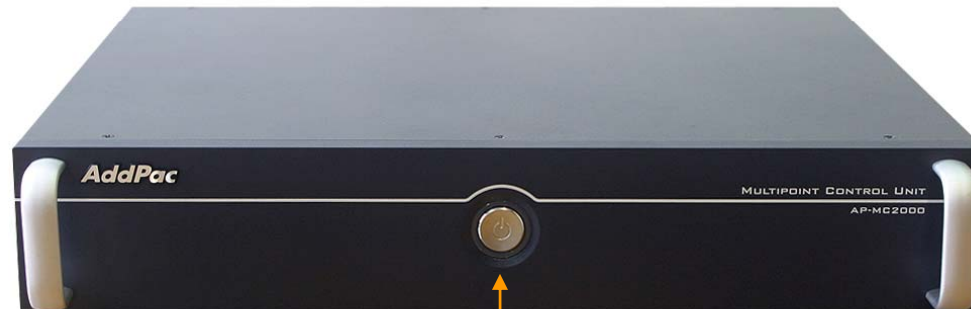
Power ON/OFF Switch

Hardware Specification

AP-MC2000 Video MCU

Gigabit Ethernet
Interface LAN

RS232C Console Interface

Power Switch & Power Inlet

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Video MCU
Service Features

Contents

- Video Display Layout
- Dynamic Session Management
- Personal Feature
- Video Conference Signaling
- MCU Management (SMM)
- OSD (Video Phone, Video Terminal, etc)
- Media Class
- Conference Room
    - Speaking Mode
    - Voice Switching
- Active Conference
- Conference Scheduling

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Video Display Layout

- **Various Layout**
  - 31 types (Symmetric Layout, Asymmetric Layout)
    - Symmetric Layout : same participant picture size
    - Asymmetric Layout : asymmetric participant picture size
  - Auto, Manually : can choice a specific video layout when a conference is started
- **Dynamic control**
  - Dynamic layout change
  - Dynamic participant movement
- **Floor**
  - Can distinguish a participant by using the concept of the right of a speaking participant
  - Floor to full screen
- **Name display**
  - Display or hide the name of a participant dynamically
- **Border**
  - Three kind of a participant picture border : empty border, a participant boarder, a speaker boarder

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Personal Feature*

- Individual (Per Connection) Rate Control for Down Stream
  - Codec, Picture Size, etc

- Personal Layout
  - Example, Zooming for Detailed View

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Video Conference Signaling

- Dial-in
  - Even in Dial-out started Video Conference, a participant can join the Video Conference if a participant knows the conference room number in outside.

- Mic off of invisible participant
  - Can turn off MIC of a invisible participant.

- Forced Mute (audio, video)
  - Can mute Audio/Video Capability of a participant via SMM or in Chair, Operator Terminal (Video Phone).

- Virtual Audience
  - Broadcasting solution
  - Can monitor the video conference via inter-working with AddPac Broadcasting Server.

- H323 Support *
  - Floor control(H.243)
  - Dual Video (H.239)

MCU Management (SMM)

Smart Multimedia Management

- Initial Setting
  - Video Layout Setting
  - User class
    - Chair, Operator, Participant, Audience
  - Initial position

- Active Monitoring
  - Monitoring
    - Snapshot
  - Control
    - Layout
    - Move party
    - Floor
    - Mute

- Video Conference Scheduling*
  - Scheduled Dial-Out Conference

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Conference Room

Conference Name & Description

Conference Number

Conference Type
: Dial-out, Meet me, AddHoc

Media Type
Select Conference Media Type

Audio Codec
Select a conference audio codec

Maximum Participant
(Can select in Meet-Me conference type only)

Close on Chair Out
Conference Disconnected if chair hang up phone)

Secret Room
-Secret room and Room Password
-(Can select in Meet-Me conference type only)

Video Endpoint
In case of Video Media type, select the video parameter of endpoint.

Video Support
In case of Video Media Type, select the video information

Add Conference

General | Participants | Virtual Audience |

Conference Name

Description

Conference Number

Conference Type   Dial-Out Conference

Partition   N/A   Edit

Media Type
○ Audio   ● Video + Audio

Audio Codec   G.711U

Max Participant   16

☑ Close on Chair Out
☐ Secret Room
Room Password   (4 digit)

Video
Support | EndPoint | Layout |

Video Type   Continuous presence
Target Rate   1024K
Picture Size   640x480
Video Codec   MPEG4
Frame Rate   30 fps

Ok   Cancel

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Conference - Layout

Conference - Participants

Conference – Virtual Audience
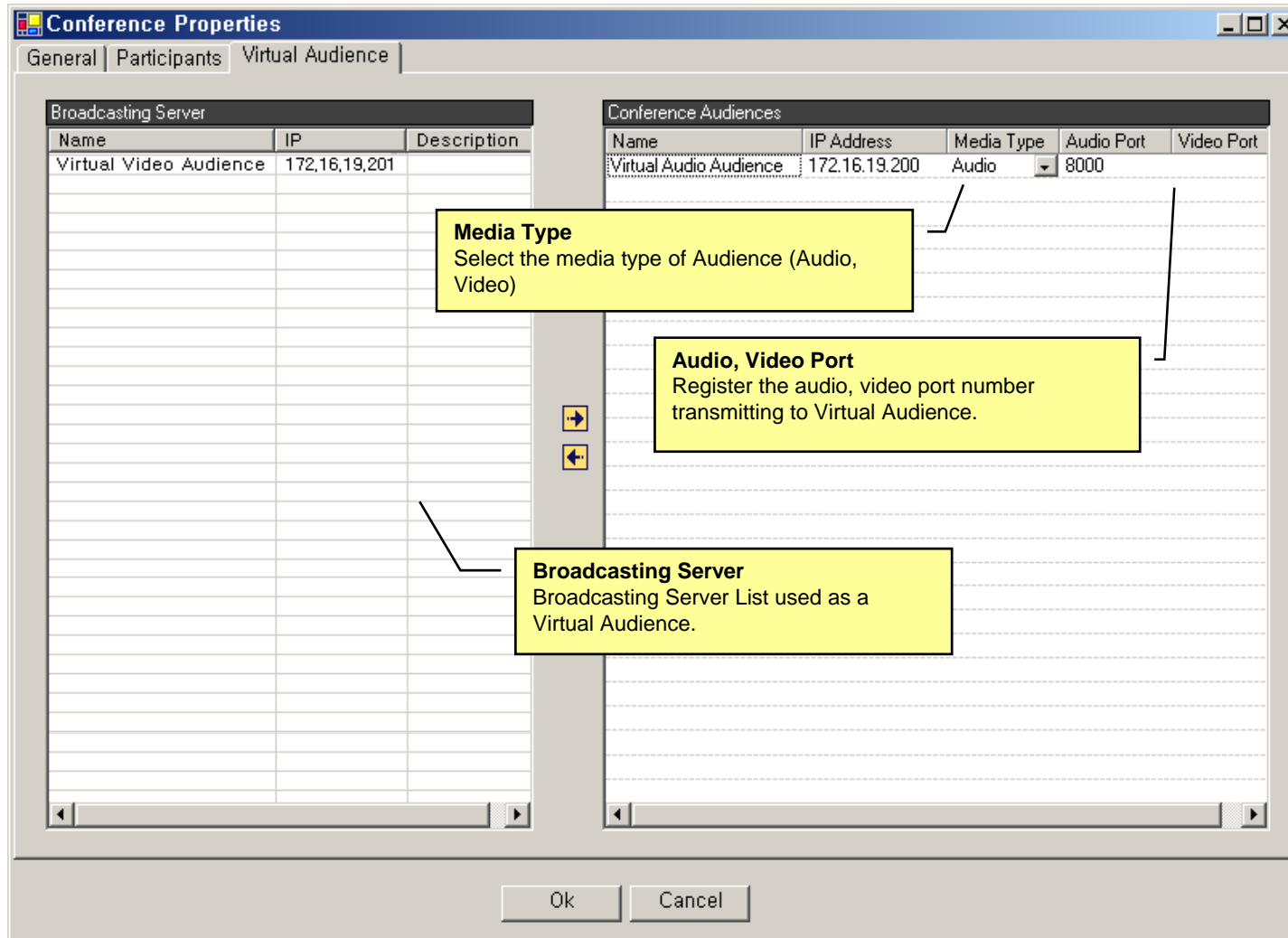
Active Conference (1)

Active Conference (2)

Active Conference (3)

OSD (Video Phone, Video Terminal, etc)

- Conference Management (Chair, Operator)
    - Layout
    - Move party
    - Floor
    - Mute
- Indicator
- Floor

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Conference Room

- Application >> Conference Room
  - conference list

Conference room
-Lock
-unlock

Conference type
-video
-audio

User in conference / maximum

Dial-in conference
- gray : not active
- Colored : active

Meet-me conference
- gray : not active
- Colored : active

Conference name

Conference number

Conference layout

See Detail Participant list

	Conference 1	1000	3/16			
	Conference 2	2000	0/4			
	Conference 3	8888	0/16			

Detail View

AddPac

Conference Open

- ## Conference open
  - OK or Send Key in Conference Room List
  - Dialing using Conference Room List

Indicators

- User conference status information
  (function key)

Mic mute
(Mic Off)

video mute
(Privacy)

Floor (Speaker)
(floor)

Number of Audio Participant
In current conference

Number of Audience in
Current conference
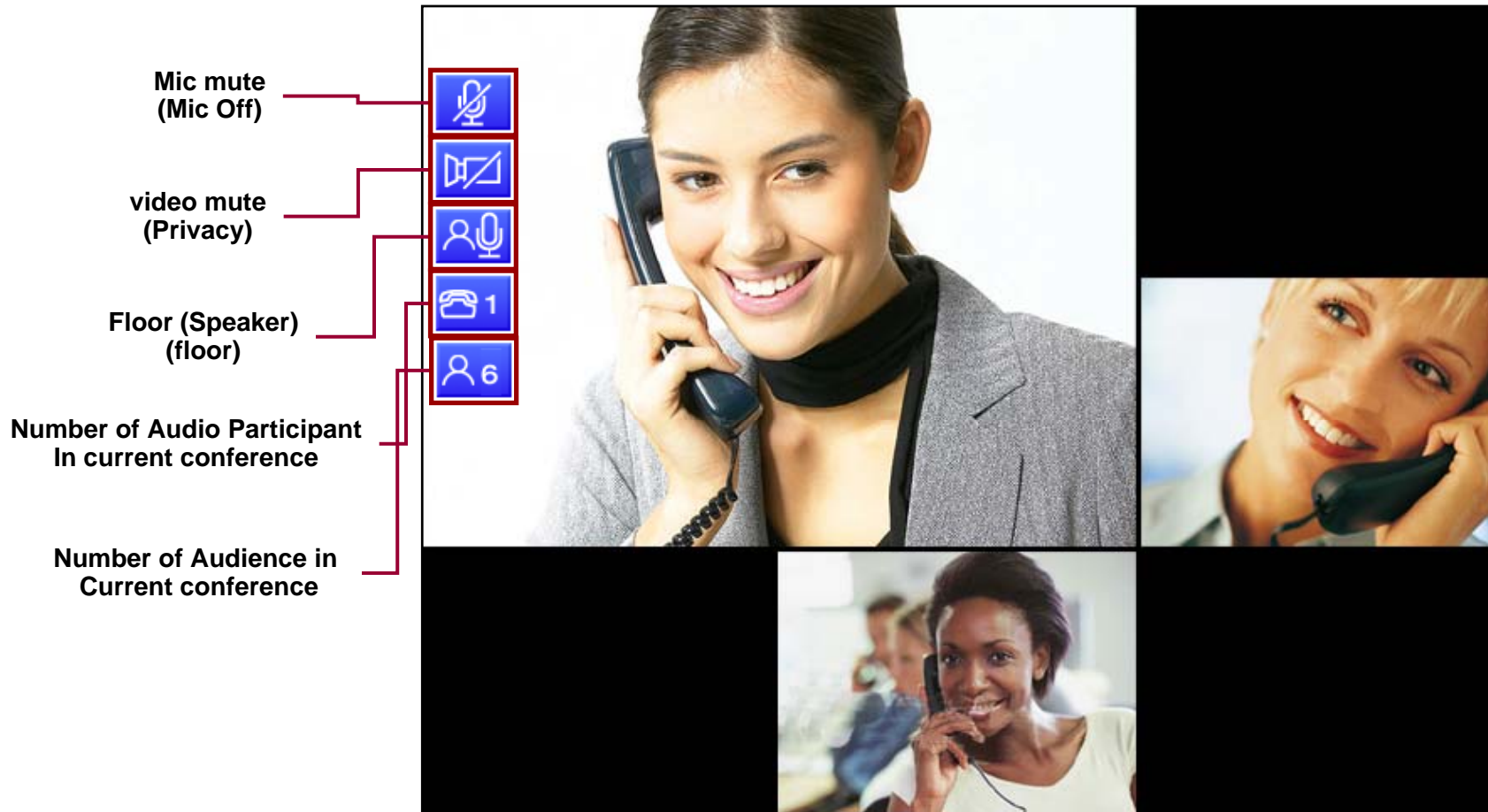
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Add Party

- New User Invite in Current Conference

Invite new user

Select User class
- participant
- audience

Select Media type
- audio call
- video call

Layout

- Video Layout Change in current conference
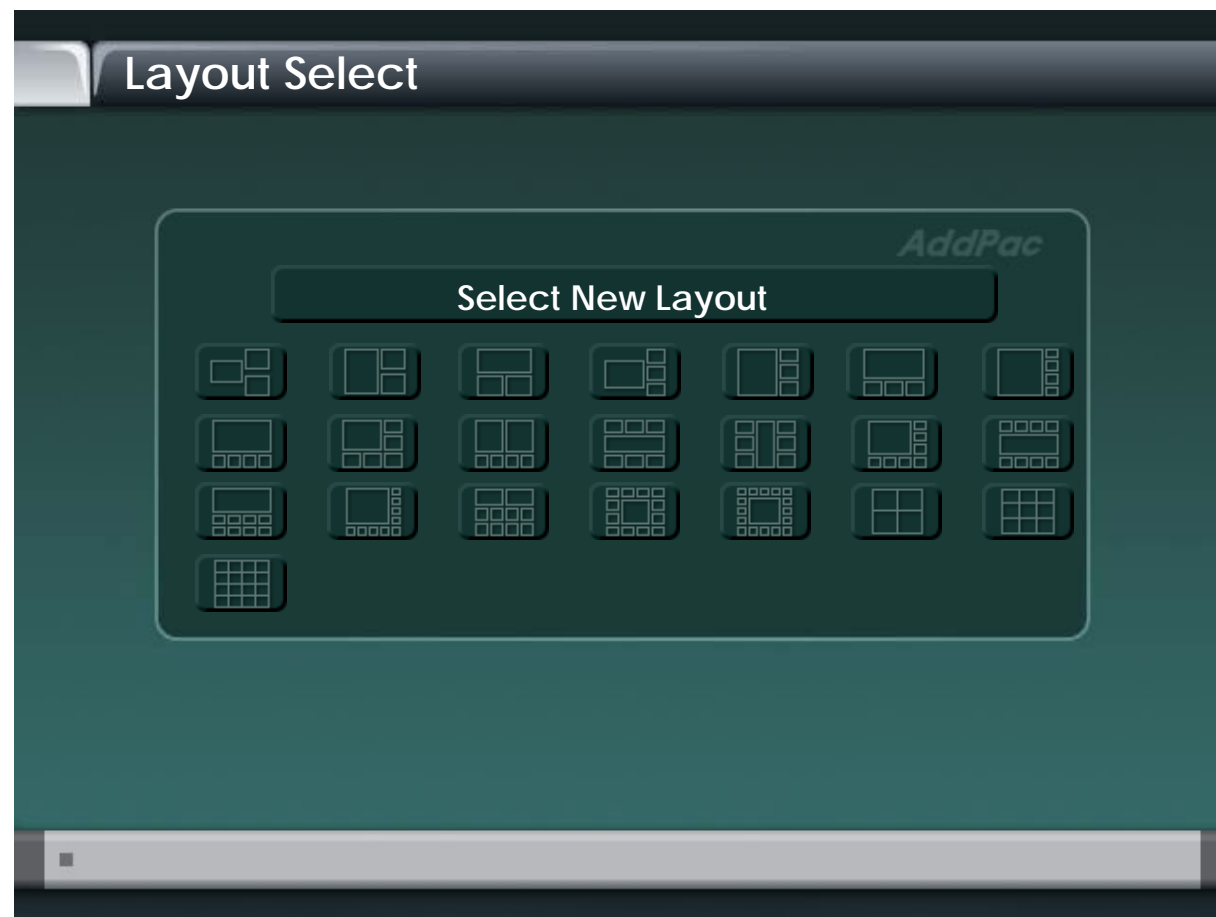
Floor To Full Screen

- Large view display mode : Floor Participant

Floor (speaker)
(floor)

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Display Name

- Conference Participant Name Display Enable/Disable

Display Name

Do not Display Name
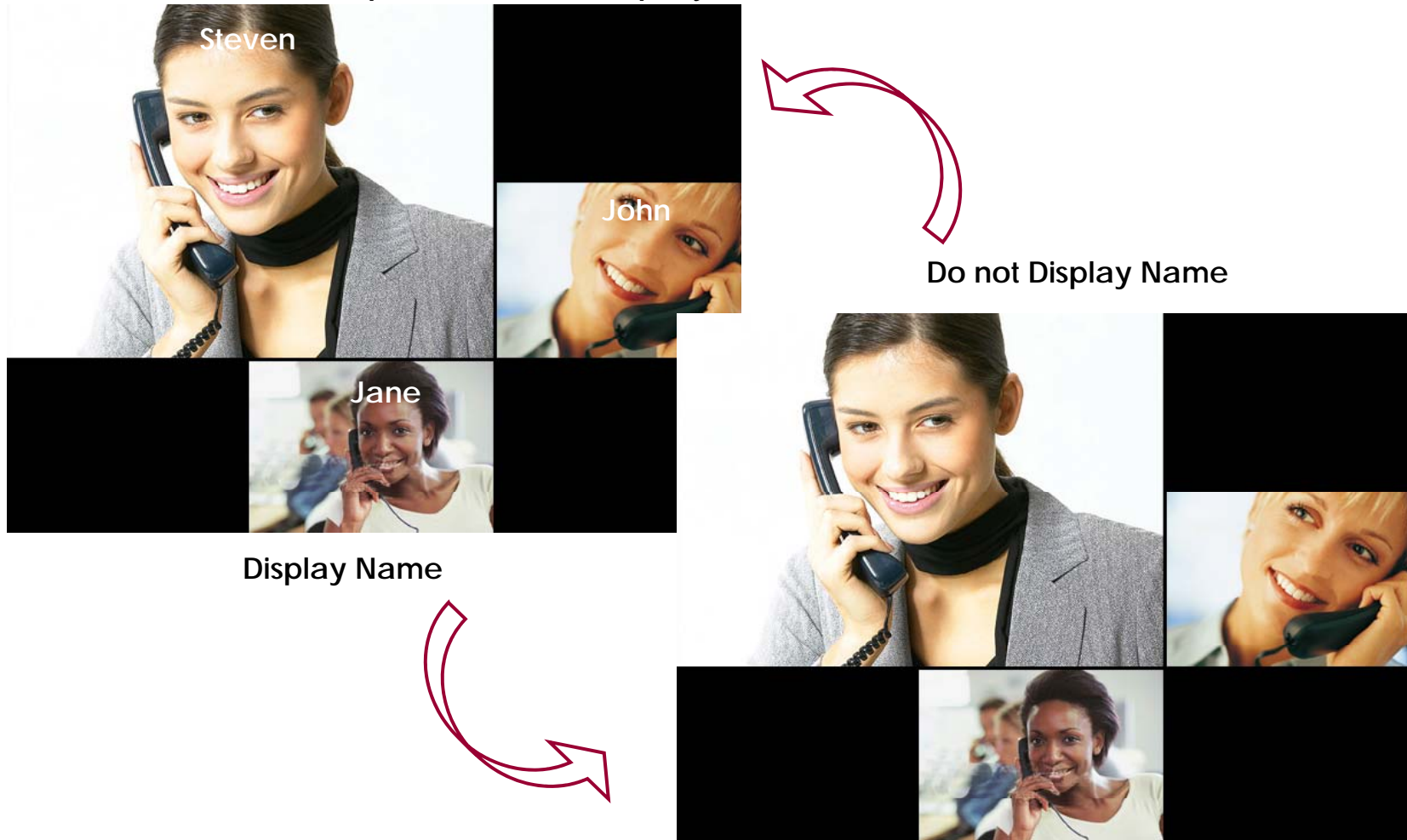
Accept

- User unregistered want to join the conference
  - User can join the conference by Chair or Operator's Permission,

Participant info

- Party Info
  - Simple Participant info list View/Modification
  - Chair, Operator can modify the status of participant
  - Participant, Audience can read only the status of participant

Detail participant list

- Can view the status information of member In conference

Media type
-video
-audio

Audio/Video enable status

Participant List

position

User class

	Sally	3010				
	Steven	3001				
	Jane	3005				
	John	3004				

Participant's name

Participant's number

- Assign Floor - Remove Party - Position - more

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Assign floor

- Give floor (Right of Speaking) to Participant selected in List
  - The ICON of Participant having Floor is changed as MIC ICON

Have a right of speaking

Don't have a right of speaking

Give Floor (Speaker) to Participant

Participant List

	Sally	3010
	Steven	3001
	Jane	3005
	John	3004

Assign Floor | Remove Party | Position | more

Remove Party

- Conference Call Disconnect of a Participant selected in List

Participant Select

Conference call disconnect
of a participant selected

Position

- Participant Location Change In Conference View Layout
- Display the Position List in current conference view layout

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User Class

- Change the Right of Participant selected in List
- User class icon change

Audio/Video Mute

- audio, video mute enable/disable
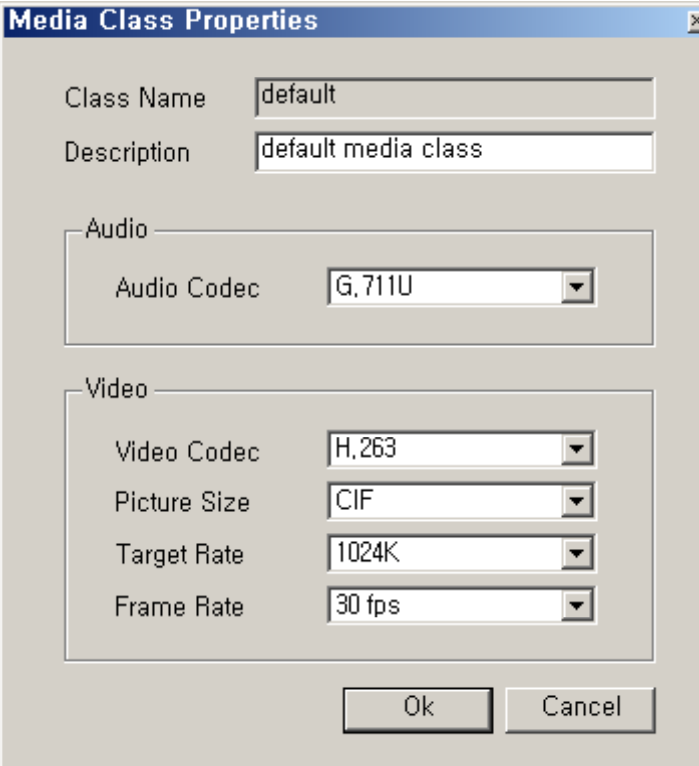
Audio Mute/Enable

Video Mute/Enable

Participant List

	Sally	3010					
	Steven	3001					
	Jane	3005					
	John	3004					

Audio, video mute/ enable

User Class	Audio Enable	Video Mute	more

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Media Class (New)

• **Media Class represents the profile information about Audio, Video Codecs, and is used for configuration at conference setup**

Conference Room

*Blue Box is newly implemented functions.

Conference Name & Description

Conference Number

Conference Type
: Dial-out, Meet me, AddHoc

Media Type
Select Conference Media Type

Video Terminal
In case of Video Media type, select the video parameter of endpoint.

Media Class
Select a Media Class for a conference room. Second, third media class are reserved for first media class Mismatch.

Speaking Mode
Set up Who can speak out at conference

Encryption Mode
Encryption mode setup for secure conference

Maximum Participant
(Can select in Meet-Me conference type only)

Conference Priority
Conference Priority Setting

Close on Chair Out
Conference Disconnected if chair hang up phone)

Enable Voice Switching
Provide the Voice Activity Switching Function

Secret Room
-Secret room and Room Password
-(Can select in Meet-Me conference type only)

Add Conference

General | Participants | Virtual Audience |

Conference Name

Description

Conference Number

Conference Type [Dial-Out Conference]

Media Type [Audio]

Partition [N/A] Edit

Media Class [default] Edit

Secondary Media Class [N/A] Edit

Third Media Class [N/A] Edit

Max Participant [16]

Conference Priority [3] (Zero is high priority)

Speaking Mode [All Participants]

Encryption Mode [off]

☐ Allow None Security Call

☑ Close on Chair Out

☐ Enable Voice Switching

☐ Secret Room

Room Password [ ] (4 digit)

Video

Terminal | Layout |

☐ Apply below settings to terminal

Target Rate [384K]

Frame Rate [30 fps]

Picture Size [CIF]

Dynamic Picture Size [enable]

Ok   Cancel

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Speaking Mode (New)

- ## Speaking Mode
  - Determine the scope of participant who can speak out at conference.

Floor Only Mode

Floor + Chair Mode

All Visible Participant Mode

All Participant Mode

Floor

Chair

Visible Participant

Invisible Participant

Audience
(including invisible operator)

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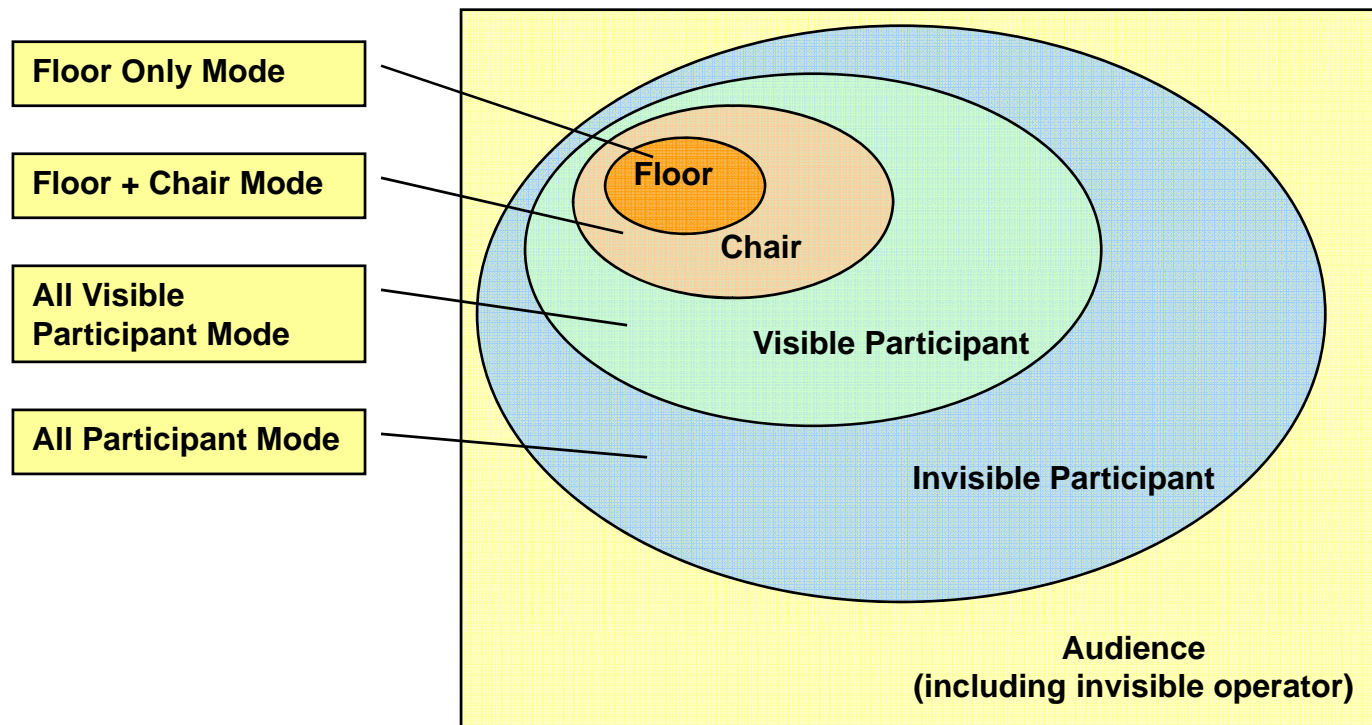
Voice Switching(New)

- ## Voice Switching
  - Voice Activity Switching or Voice Detect Switching
  - Detect the Voice Activity of participants during video conference, and dynamically change the MCU display layout mode to display a participant who is speaking out currently
  - If one participant obtains Floor, Voice Switching is inactive automatically till Floor is released.

- ## Display Priority Control
  - Floor > Voice Switching > Chair

Conference Room - Layout

Video Layout Mode
- Auto (symmetric, asymmetric)
- manual

Arrange Mode
-dynamic, fixed, fixed reserved

Video Layout
- Select the video layout

Floor Assign Mode
-After Release, On Request

Floor to Full Screen
- Floor to Full Screen Enable/Disable in symmetric, asymmetric Layout Mode.

Display Participant Name
- Participant Name Display Enable/Disable and Location of Name Display

Color
- Layout border and Floor, Background Color Setting.

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Conference Room - Participants

Conference Room – Virtual Audience

Media Type
Select the media type of Audience (Audio, Video)

Audio, Video Port
Register the audio, video port number transmitting to Virtual Audience.

Broadcasting Server
Broadcasting Server List used as a Virtual Audience.

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Active Conference (1)

Active Conference (2)

Active Conference (3)

Active Conference (4)

Layout view function provide the layout status of a conference participant
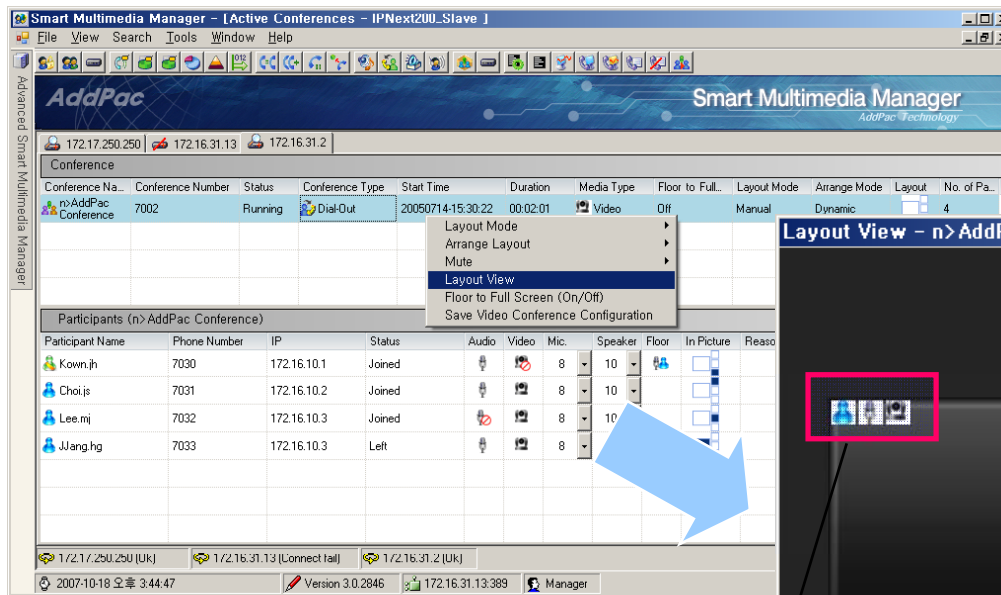
Layout View
User can change a participant layout easily via Mouse Drag & Drag at Layout view window. Floor configuration, participant add or delete function is also provided.
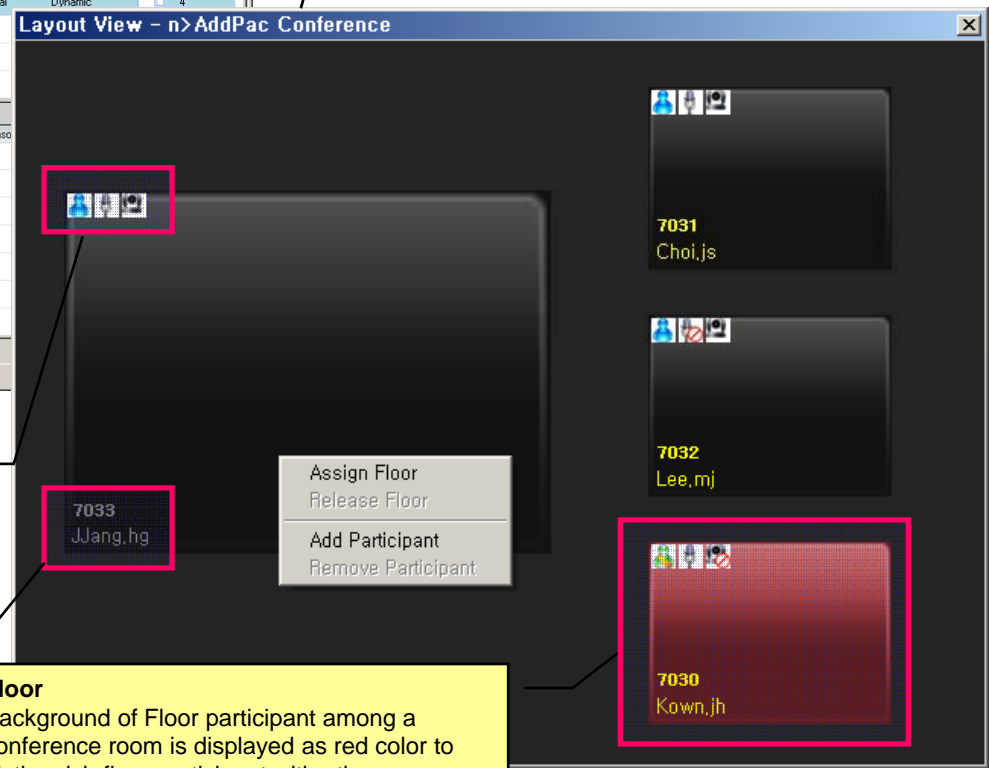
Indicator
User class configuration, audio/video on/off and configuration is possible

Status
Display the status of each participant such as phone number, nick name, alias. Using font color, show whether a user participate conference room or not. (yellow color : participating , grey color : not participating)

Floor
Background of Floor participant among a conference room is displayed as red color to distinguish floor participant with other participant.

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Conference Schedule

Conference scheduling is used for configuration of repeated conference or a specific day conference

Add a New Conference Schedule

Schedule Name, Description
Conference Schedule Name and Explanation

Schedule Name: Conference Schedule

Description:

Conference Room
Conference Room Setup

Conference Room: Dial

Start Date time
Schedule start day and time setup

Start Datetime: 2007-10-18   오후 4:00:45

Duration
Conference duration time (sec)

Duration: sec

Daily, Weekly, Monthly
Set up Conference schedule

Schedule Recurrence
Repeated conference setup

☑ Schedule Recurrence

Recurrence
○ Daily
◉ Weekly
○ Monthly

Weekly
Recur every ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 week
☐ Mon ☐ Tue ☐ Wed ☐ Thu
☐ Fri ☐ Sat ☐ Sun

Range Of Recurrence
End By : 2007-10-18

Range Of Recurrence
Schedule end-day setup

Enable Schedule
Schedule enable or disable Setup

☑ Enable Schedule

Ok   Cancel

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Thank you!

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