

AP-SDRS2000 RTSP based HD/D1 NVR Storage Server Solution



IP Camera Interworking



AddPac

AddPac Technology

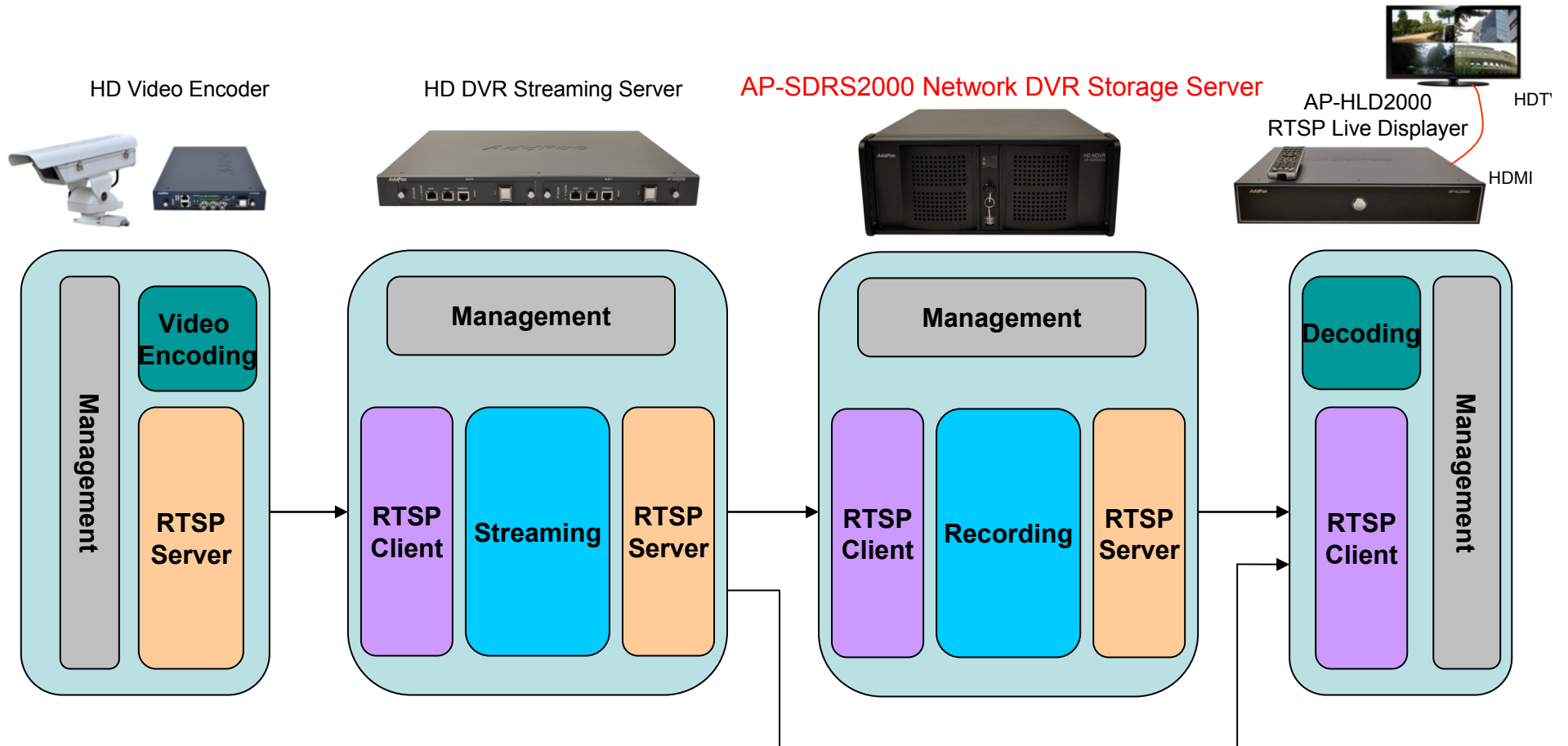
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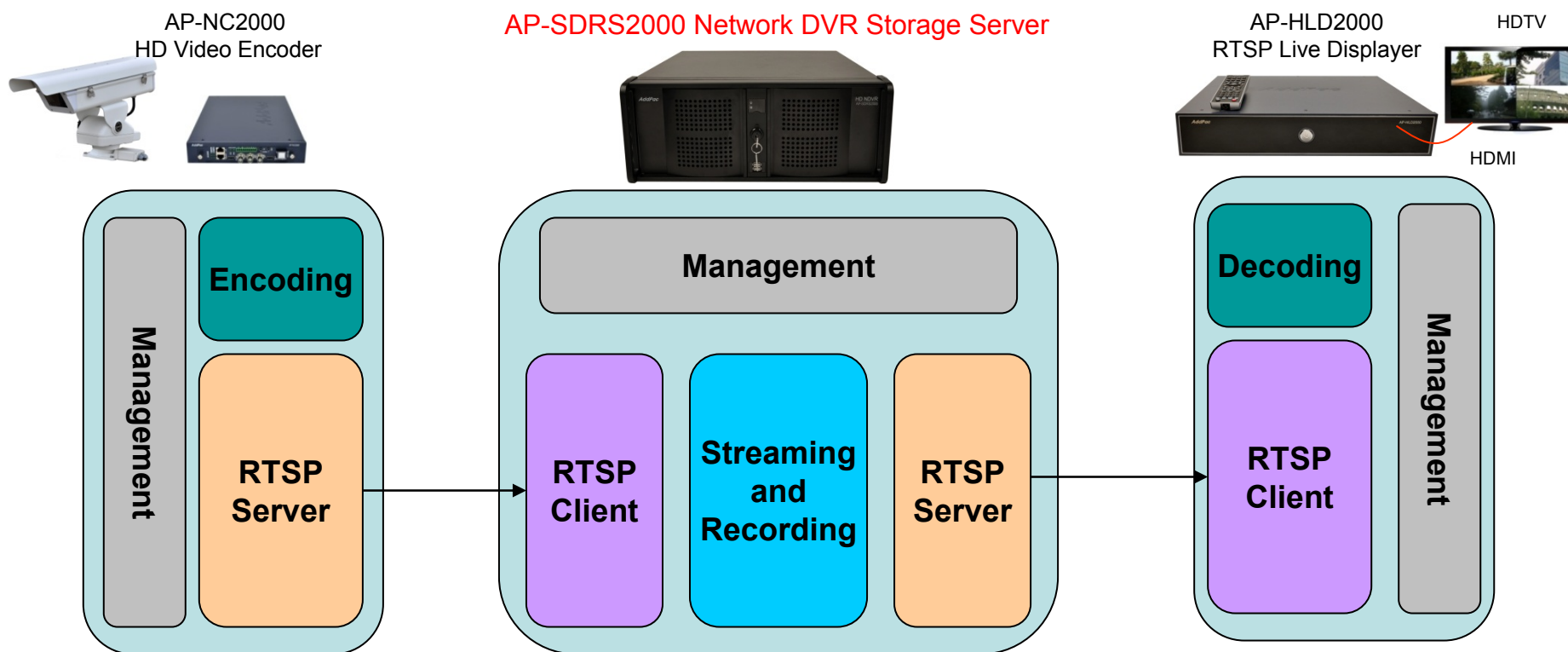
NVR Storage Server Protocol Block Diagram

Medium & Large Scale Network DVR Solution

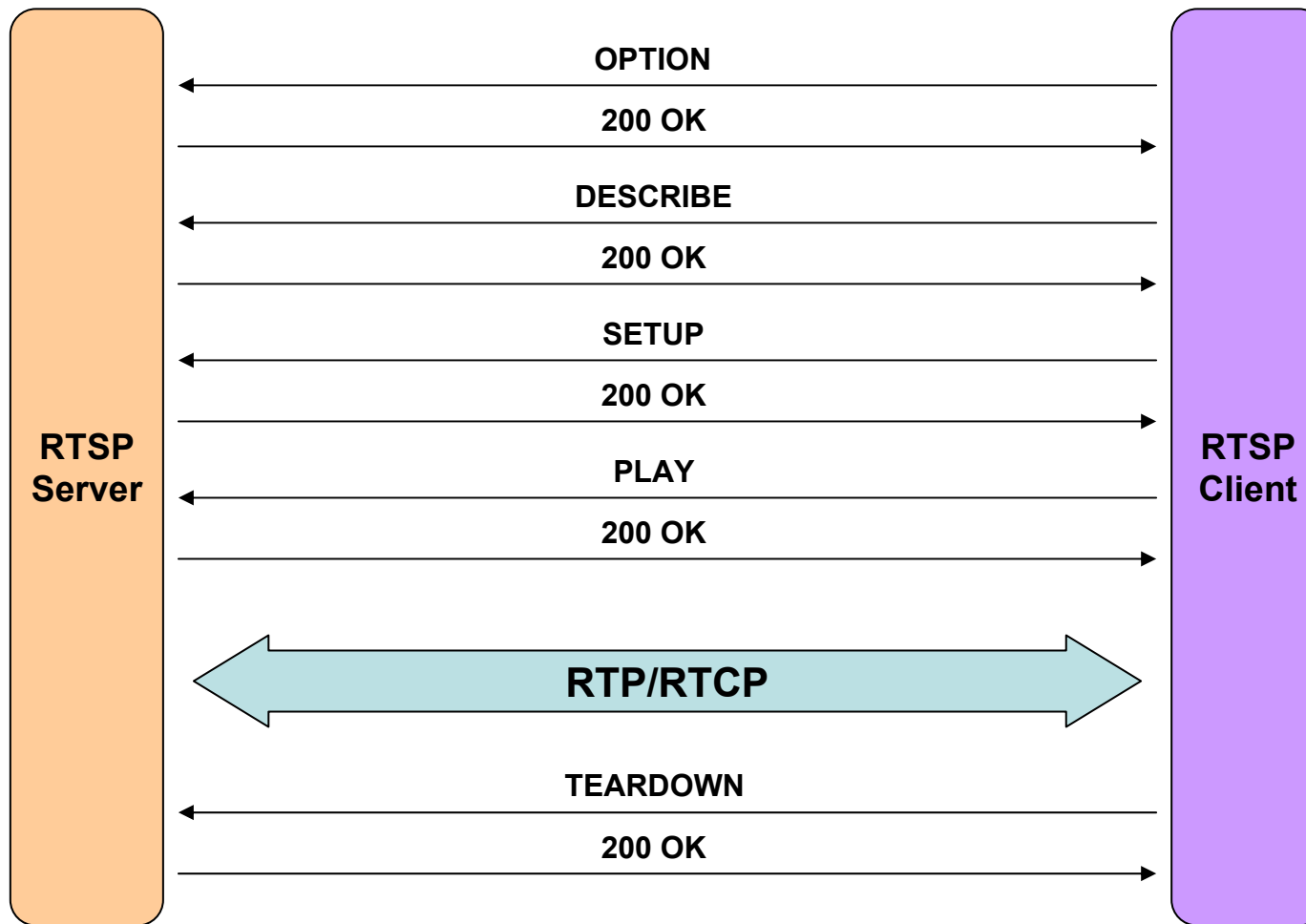


NVR Storage Server Protocol Block Diagram

Small Scale Network DVR Solution (All in One)



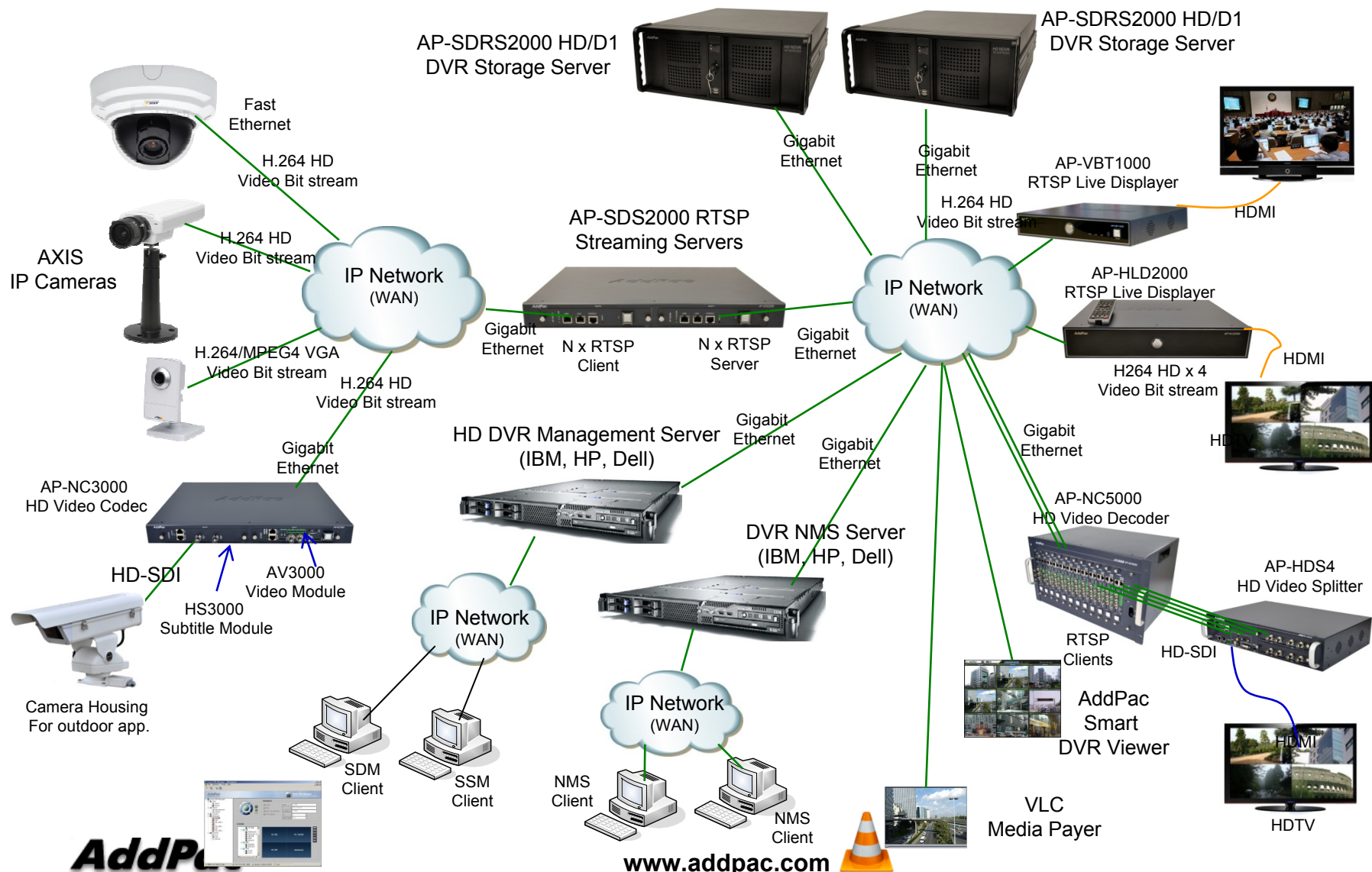
Basic RTSP Message Flow



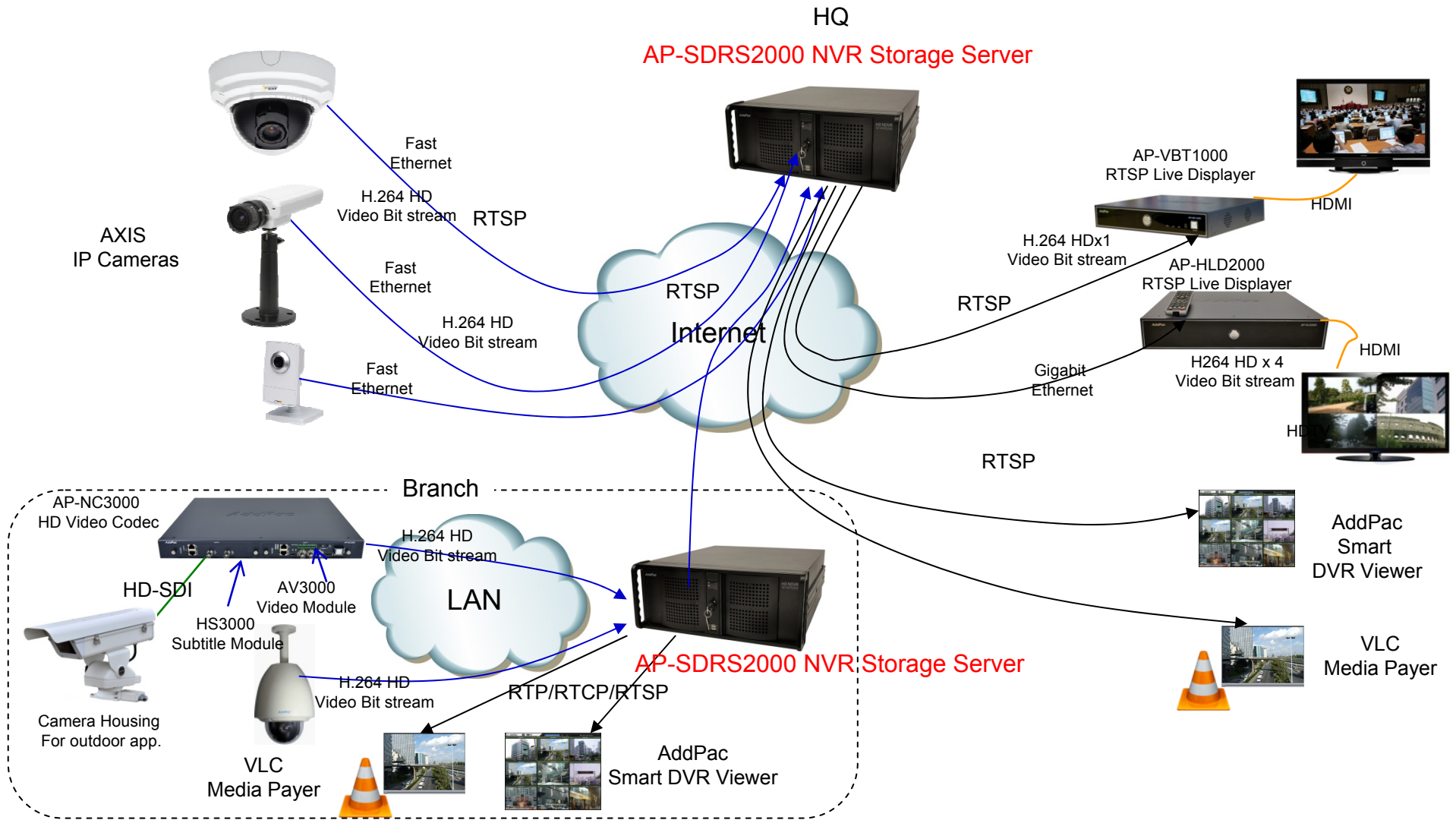


IP Camera Interworking

IP Camera Interworking Diagram (Large Scale)






IP Camera Interworking Diagram (Small Scale)



IP Cameras (AXIS)

AP-SDRS2000 HD NVR Storage Server

AXIS M10 Series	M1011 VGA IP Camera H.264, MPEG-4 Interworking Test	
AXIS P13 Series	P1344 HD IP Camera H.264/Audio Interworking Test	
AXIS P33 Series	P3344 HD IP Camera H.264/Audio Interworking Test	

IP Cameras (SAMSUNG)

AP-SDRS2000 HD NVR Storage Server



SNB-5000 1.3
Megapixel HD
Network Camera

1.3MP CMOS Sensor
HD(720P) Support
H.264 Interworking Test



IP Cameras (CNB)

AP-SDRS2000 HD NVR Storage Server

IDP4000VR	Hybrid IP D&N IR Dome Camera Progressive 1/4" CCD sensor Max. 640(H) x 480(V) VGA H.264	
IDC4050VR	HD IP Mega-pixel TDN Dome Camera DC Iris Vari-focal Mega Pixel Lens (f=3~10mm) 1/3" Progressive CMOS Sensor Max. Full HD(1920x1080)	



HD NVR Storage Solution Component Features



AP-SDRS2000 HD NVR Storage Server

Product Overview

AP-SDRS2000 HD NVR Storage Server

- High-Performance HD/D1 Network DVR Features
- Linux Operating System (Option : Window Version)
- H.264 Video Codec BP/MP/HP
- Full HD, HD, D1 Video Resolution Support
- HD Video Recording and Streaming Service
- Smart DVR Viewer Support (MS-Window S/W)
- Smart DVR Manager Support (MS-Window S/W)
- File Back Manager Support (MS-Window S/W)
- Powerful Management and User Friendly Features
- High-performance Audio and Video Service
- Firmware Upgradeable Architecture
- Up to 4 x 3.5Inch Hard Disk (SATA Type, 2Tera Byte Support)
- One(1) DVD Writer for Video File Backup
- One(1) 10/100/1000Mbps Gigabit Ethernet Interface
- USB Interface Support (Front Side, Back Side)

Hardware Specification

AP-SDRS2000 HD NVR Storage Server

High End
Processor

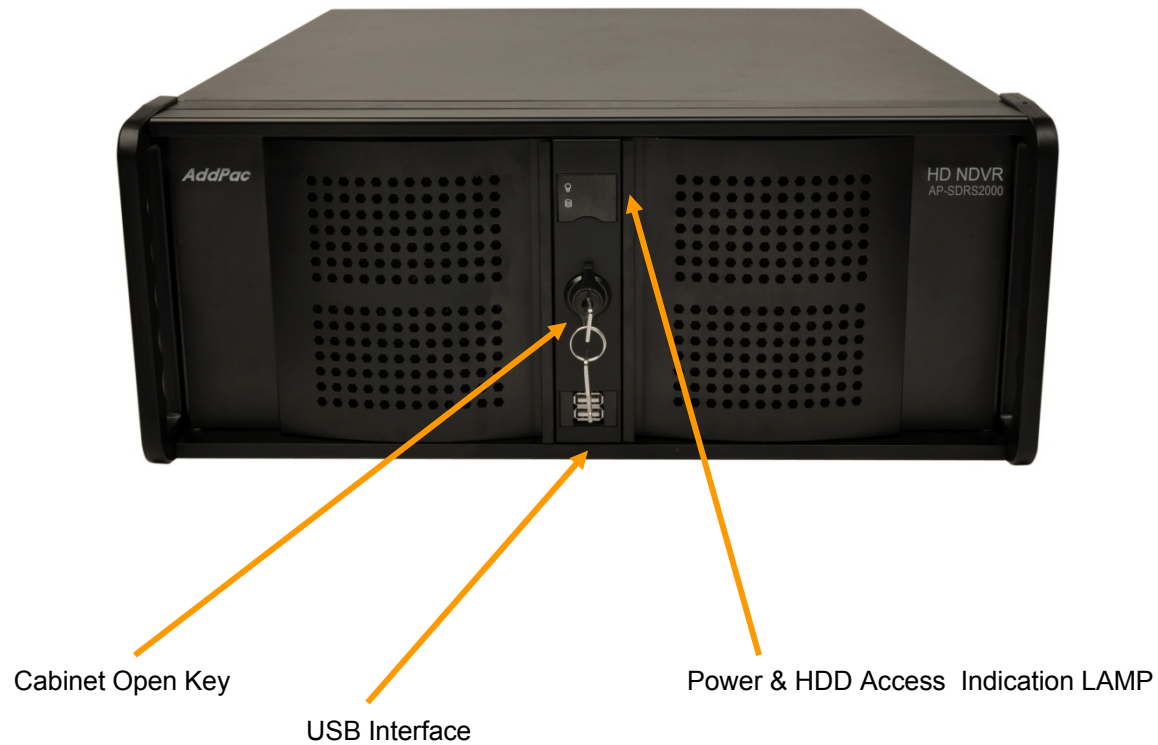
- High Performance Computing Power
- Main Chassis
 - Network Interface
 - One(1) 10/100/1000Mbps Fast Ethernet
 - Video Output Interface
 - HDMI, DVI, RGB Video Output
 - USB 2.0 Interfaces for Mouse, Keyboard, etc
 - One(1) DVD Writer for Video File Backup
 - Up to Four(4) Hard Disk

Hardware Specification

AP-SDRS2000 HD NVR Storage Server

High End
Processor

AP-SDRS2000 Front Side

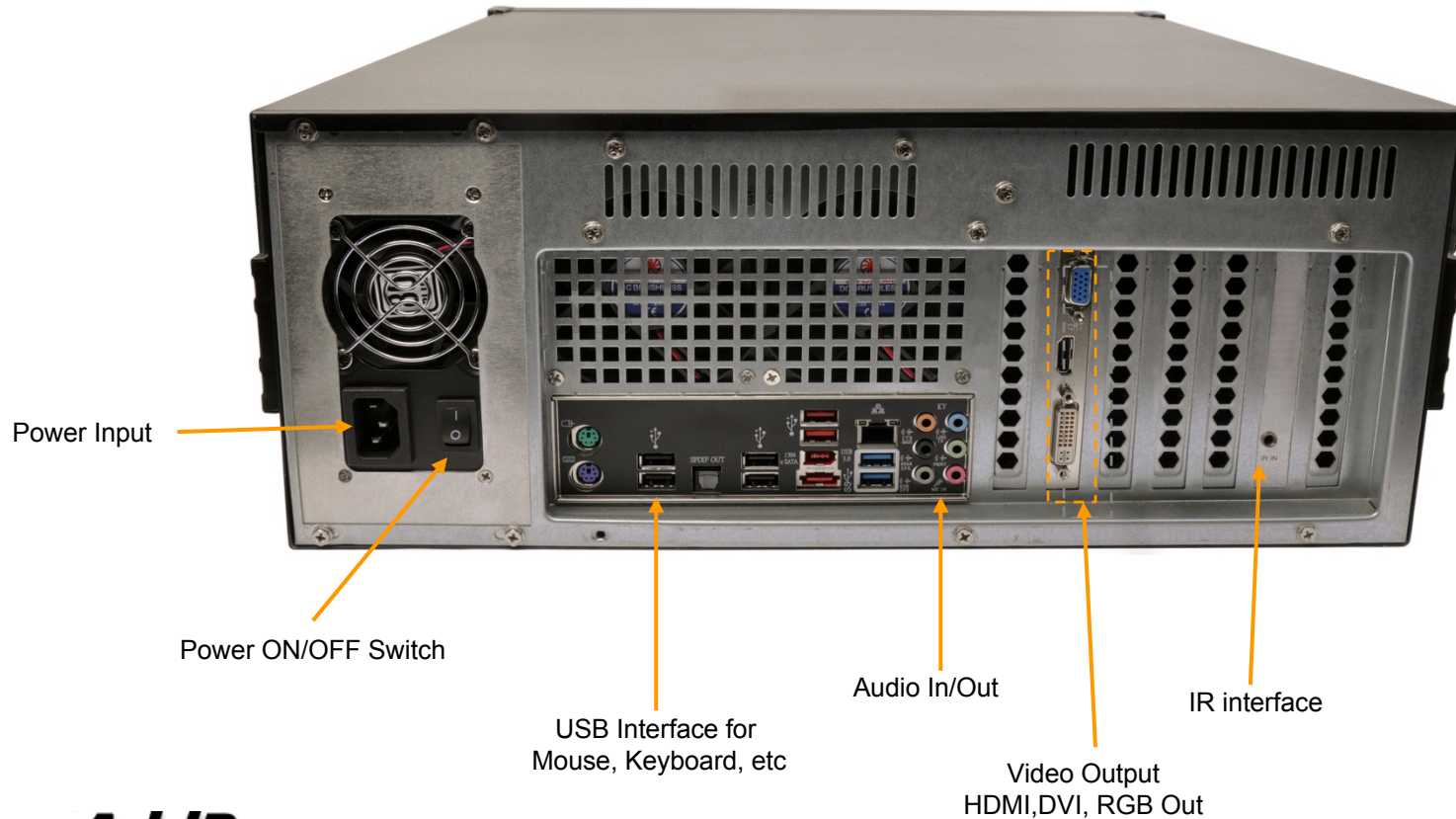


Hardware Specification

AP-SDRS2000 HD NVR Storage Server

High End Processor

AP-SDRS2000 Back Side



HD NVR Storage Server Features

- Encoder / Decoder Interface
 - UDP/RTP
 - RTSP (Real Time Streaming Protocol)
- Recording
 - Manual Recording
 - Schedule Based Recording
 - Recording Monitoring
 - Recording Media File Maintenance
- Management
 - Web Based Management
 - Smart DVR Manager (SDM)
 - SNMP (Simple Network Management Protocol)



Smart DVR Manager

Smart DVR Manager Features

- System Management
 - User, Group Management
 - Camera Management
 - Schedule Management
- Recording
 - Recording Start/Stop
 - Recording Media File Searching and Maintenance
 - File Download and Excel Exporting
- Monitoring
 - System Resource Monitoring (CPU, Memory, HDD and etc)
 - Live Session Monitoring
 - Media File Play Session Monitoring

Smart DVR Manager : Main Layout

The screenshot shows the Smart DVR Manager application window. The title bar reads "Smart DVR Manager" and the menu bar includes "File", "Tool", "Configuration", and "Help". The main interface is divided into several sections:

- Header:** "Smart DVR Recording Server" on the left and "Smart DVR Manager AddPac Technology" on the right.
- Left Panel:** A tree view showing the system structure under IP 172.16.14.113. It includes folders for "User", "Server", "Management", "Diagnostic", "Record", "Stream", "Camera", "Relay", and "Session".
- Right Panel:** Contains configuration tabs ("General", "Configuration", "Schedule", "Holiday") and a "Client Session" section. It features two tables: "Viewer List" (showing 10 user licenses) and "Manager List" (showing 5 user licenses).

Yellow callout boxes highlight the following features:

- Camera Searching:** Points to the search bar in the left panel.
- System User configuration:** Points to the "User" folder in the tree view.
- Camera List:** Points to the "Camera" folder in the tree view.
- Session Monitoring:** Points to the "Session" folder in the tree view.
- Login User Monitoring:** Points to the "Manager List" table.

The status bar at the bottom displays the date and time (2010-03-12 오후 3:42:59), the server IP and port (172.16.14.113 : 8020), the version (Version 2.1.3723), the current user (root), and the number of active viewers and managers (Viewer : 0 Manager : 3).

Smart DVR Manager : Recording File Searching

The screenshot displays the Smart DVR Manager web interface. On the left is a navigation tree for IP address 172.16.14.113, with the 'Record' option selected. The main area shows a 'Record History' table with search filters and a table of results. Three yellow callout boxes highlight key features: 'Recording File Download' (pointing to a download icon), 'Excel Exporting' (pointing to an Excel icon), and 'Recording Media Searching Result' (pointing to the table). A fourth box, 'Recording Media Management', points to the 'Record' menu item in the navigation tree.

CameraNa...	StartTime	EndTime	Duration	URL	Camera Gr...	User ID	Description	Video Size	FPS
3층창문_HD	2010-03-1...	2010-03-1...	00:00:00	file/1001v...	/	root	no contents	1280X720	30
3층창문_HD	2010-03-1...	2010-03-1...	00:00:10	file/1001v...	/	root	no contents	1280X720	30
3층창문_HD	2010-03-1...	2010-03-1...	00:00:39	file/1001v...	/	root	no contents	1280X720	30

Total 3 results found.

Smart DVR Manager : Advanced Recording Searching

Advanced Searching Menu

Advanced Searching

Advanced Searching Rules

Selected Searching Rule Clear

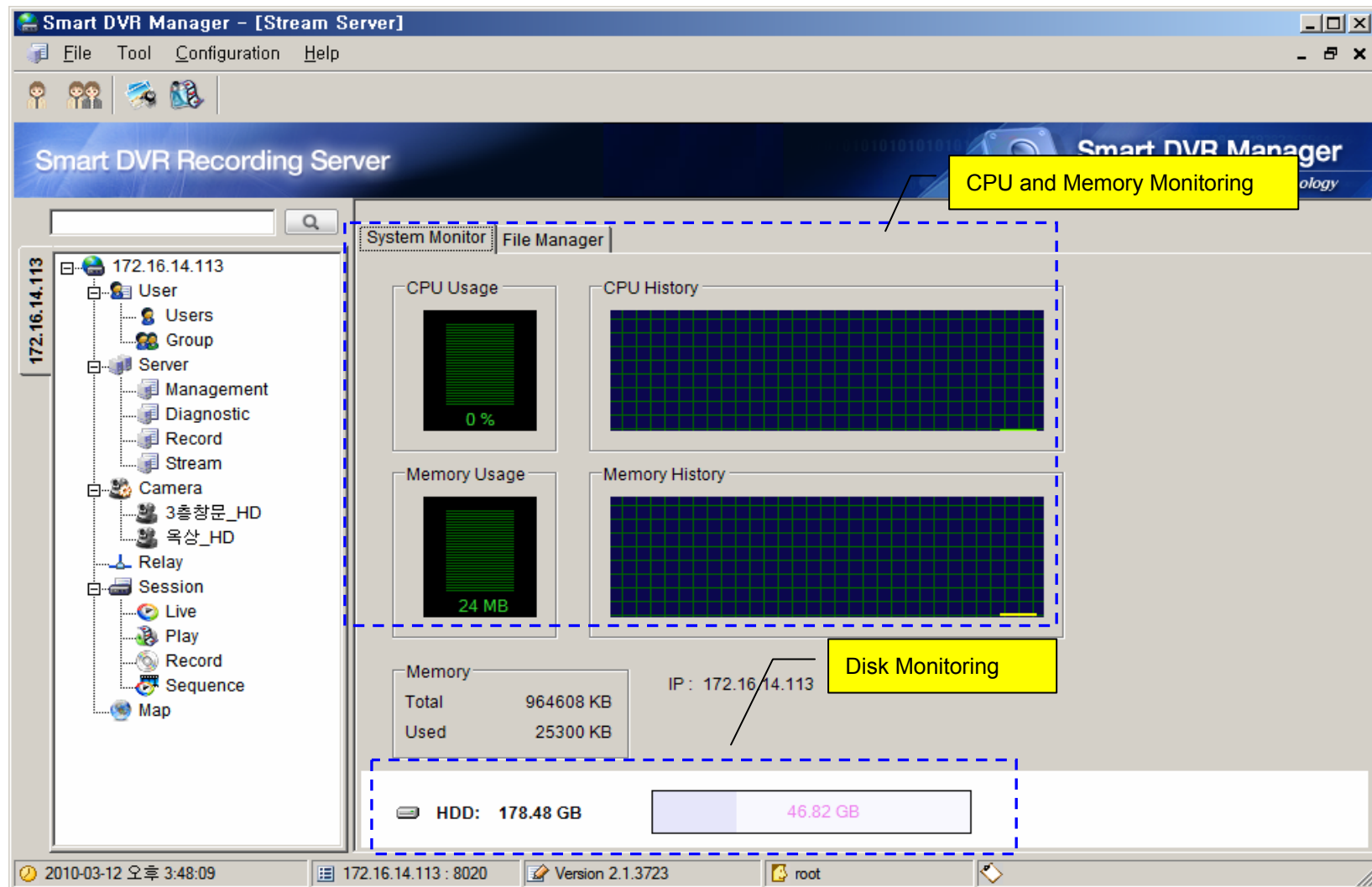
Searching Rule All Clear

CameraName	StartTime	EndTime	Duration	URL
목상_HD	2010-03-1...	2010-03-1...	00:00:00	file/100
목상_HD	2010-03-1...	2010-03-1...	00:00:10	file/100
목상_HD	2010-03-1...	2010-03-1...	00:00:39	file/100

Total 3 results found.

2010-03-12 오후 3:44:48 | 172.16.14.113 : 8020 | Version 2.1.3723 | root | Group : 0 Camera : 2 (Active : 2) Seq : 0

Smart DVR Manager : System Monitoring



The screenshot displays the 'Smart DVR Manager - [Stream Server]' application window. The interface is divided into several sections:

- System Monitor:** A central area containing four monitoring graphs:
 - CPU Usage:** A gauge showing 0% usage.
 - CPU History:** A line graph showing CPU usage over time.
 - Memory Usage:** A gauge showing 24 MB usage.
 - Memory History:** A line graph showing memory usage over time.
- Disk Monitoring:** A section at the bottom showing a bar chart for HDD usage. The total capacity is 178.48 GB, and the current usage is 46.82 GB.
- System Information:** A table showing memory statistics:

Memory	Value
Total	964608 KB
Used	25300 KB
- Navigation:** A left sidebar with a tree view for the IP address 172.16.14.113, including categories like User, Server, Camera, and Session.

Yellow callout boxes highlight 'CPU and Memory Monitoring' (pointing to the graphs) and 'Disk Monitoring' (pointing to the HDD bar chart).

At the bottom of the window, the status bar shows: 2010-03-12 오후 3:48:09 | 172.16.14.113 : 8020 | Version 2.1.3723 | root

Smart DVR Manager : Schedule

User Defined Schedule Lists

Delete Schedule

Weekly and Daily Time Schedule

Add Schedule

User define Special Day

Set Special Day using calendar

Week	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon																								
Tue																								
Wed																								
Thu																								
Fri																								
Sat																								
Sun																								
Holiday																								

Special Day	Duration
2010-03-19	00:00-00:00
2010-03-28	00:00-00:00



Smart DVR Media Manager

Smart DVR Media Manager Features

- Recording History Searching
- Recording History Management
- Recording File Upload / Download
- Play Recording Media File
- Schedule Backup
- Event History

Smart DVR Media Manager : Main Layout

***Searching and Download/Upload Function about selected Window : Camera Search, Update, File Searching, Download/Upload, Delete, Replay, etc**

Recorded File Searching at Server using Group and Camera Tree

카메라 이름	IP 주소	그룹	설명	녹화시간	진행시간	파일 이름	파일 크기
3층청문_HD	172.16.23.97	/	(null)	2010-03-12 15:4...	00:00:09	2010031206474...	8,890 KB
3층청문_HD	172.16.23.97	/	(null)	2010-03-12 11:4...	00:00:00	2010031202450...	214,637 KB
3층청문_HD	172.16.23.97	/	(null)	2010-03-12 10:0...	00:24:17	2010031201065...	1,424,769 KB
3층청문_HD	172.16.23.97	/	(null)	2010-03-12 10:0...	00:00:00	2010031201025...	90,190 KB
3층청문_HD	172.16.23.97	/	(null)	2010-03-11 17:3...	00:00:00	2010031108373...	286,144 KB

Recorded File Display at Server

Recorded File Searching at Local PC using Group and Camera Tree

카메라 이름	IP 주소	그룹	설명	녹화 시간	진행시간	파일 이름	파일 크기
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Recorded File Display at Local PC

2010-03-12 오후 5:21:49 version 1.0.3723 172.16.14.113 : 8020 root Scheduler waiting

Smart DVR Media Manager : Recorded File Upload / Download

The screenshot displays the 'Smart DVR Manager' interface with a 'Download' dialog box open. The dialog box contains a table of files to be downloaded and two progress bars for the transfer and conversion processes.

Download Dialog Box:

- Total : 2
- Progress Time : 00:00:03

파일 이름	총 시간	파일 크기	녹화시간	상태
20100312064746.pma	00:00:09	8,890 KB	2010-03-12 15:4...	Done
20100312024507.pma	00:00:00	214,637 KB	2010-03-12 11:4...	Downlo...

File Transfer Progress:

980095015124/2010/03/12/20100312024507.pma downloading.. (2/2)

- Progress: 17%
- Progress: 20%
- 받은 크기 : 38,438,428 / 219,787,909 Bytes
- 전체 크기 : 47,541,688 / 228,891,169 Bytes
- Transfer Time : 00:00:03

File Conversion Progress:

Converting.. D:\work\sdv\sdmm\sdmm\bin\Debug\record\980095015124\2010\03\12\20100312064746.p

- Progress: 69%
- Converting Time : 00:00:03

Callout Boxes:

- Recorded File List for File Backup**
: File Name, Recording Duration Time, File Size, File Backup Status
- Display the File Transfer Progress Status for Backup**
(Server to Local PC)
- Display File Conversion Progress Status**
: PMA to AVI format (Option), etc

System tray information: 2010-03-12 오후 5:22:47, version 1.0.3723, 172.16.14.113 : 8020, root, Scheduler waiting

Smart DVR Media Manager : Media Replay

The screenshot displays the AddPac Smart DVR Media Manager interface. A yellow callout box points to the VLC media player window, which is playing a recorded file. The VLC window title is "rtsp://172.16.14.113:554/file/1001/video1/20100311054337.pma - VLC 미디어 플레이어". The video content shows a busy street scene with cars and buildings, with Korean text overlaid: "경인선 도화-3 (전환중)". The VLC interface includes standard playback controls like play/pause, stop, previous, next, and volume. The background AddPac interface shows a file tree with "Remote Database" and "Local Database" sections, and a table of recorded files.

카메라 이름	IP 주소	그룹	설명	녹화시간	진행시간	파일 이름	파일 크기
옥상_HD	172.17.120.99	/	(null)	2010-03-11 14:4...	00:00:39	2010031105433...	39,052 KB
옥상_HD	172.17.120.99	/	(null)	2010-03-11 14:2...	00:00:10	2010031105252...	10,298 KB
옥상_HD	172.17.120.99	/	(null)	2010-03-11 14:0...	00:00:00	2010031105015...	436 Byte

Smart DVR Media Manager : Media File Attribute

The screenshot displays the Smart DVR Manager interface. A central dialog box titled '녹화파일 속성' (Recorded File Attribute) is open, showing the following details:

속성 이름	값
Record ID	3
Comment	No Comment
Camera GUID	745430054867
Camera Name	옥상_HD
Camera Group	/
Camera URL	rtsp://172.16.14.113/1001/video1
Camera IP Address	172.17.120.99
Description	(null)
Video Codec	H264
Video Bandwidth	8192
Resolution	1280*720
FPS	30
Audio Codec	G711A
Audio Bandwidth	8192
SDP	
Start Time	2010-03-11 14:43:37
End Time	2010-03-11 14:44:16
Duration	00:00:39
File Directory	745430054867/2010/03/11/
File Name	20100311054337.pma
File Size	39,052 KB
File URL	file://1001/video1/20100311054337.p...
User	AddPac (root)

A yellow callout box with the text 'Recorded File Attribute Display' points to the dialog box. The background interface shows a tree view of camera databases (Remote and Local) and a table of recorded files with columns for '진행시간' (Progress Time), '파일 이름' (File Name), and '파일 크기' (File Size).

Smart DVR Media Manager : Schedule

Schedule Backup Configuration :
Scheduled Backup Configuration for Automatic File Backup
- Start Time, Repetition (Daily, Weekly, Monthly)

Schedule Backup Option
-Backup Duration, File Delete, File Conversion, Camera Setting, etc

스마트 DVR 미디어 관리 프로그램
파일 관리 도움말
AddPac Smart DVR Series
11010101010
Smart DVR Manager
AddPac Technology
서버 > 새로 고침
Remote Database (172.16.14.113:8020)
카메라 이미지 목록
3층청문_HD (5)
육상_HD (3)
Local Database
3층청문_HD (2)
육상_HD (3)
Records
카메라 이미지 목록
진행시간 파일 이름 파일 크기
진행시간 파일 이름 파일 크기
Records: 0 Search Constraints :
2010-03-12 오후 5:28:00 version 1.0.3723 172.16.14.113 : 8020 root Scheduler waiting



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