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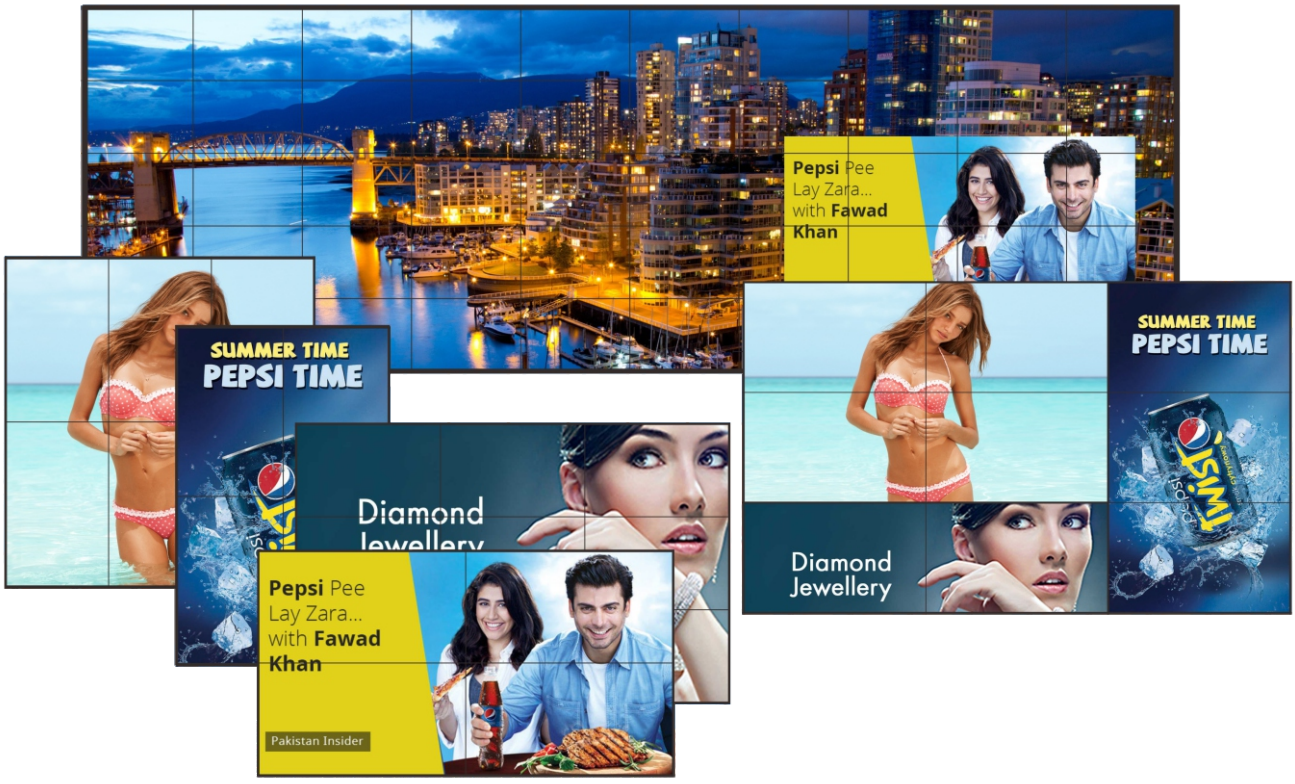
NP Distributed Display Wall System

Powerful Video and Image Processing Device



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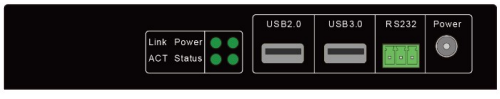
NP Distributed Display Wall System

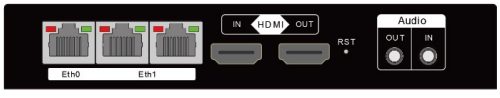
NP Distributed video wall system is a multi-signal processing device designed for distributed large-screen display system. It can realize various wall display on different signal sources, support multi-layer overlay, roaming, arbitrary splicing, zoom in/out, base map online replacement, subtitle scrolling, web desktop screen capture, network camera decoding, audio and video switching output, etc.

The device is designed with highly integrated functions, integrated audio and video capture processing, central control, mobile APP control and visualization control. it's a distributed integrated processing platform integrating image processing, network function, log management and equipment maintenance. The use of this system not only makes the whole monitoring system more concise, but also makes installation and debugging, maintenance easy, and has good compatibility and scalability. It can be widely used in various types: network command and dispatch center, network conference center and exhibition project.

Input Node

- ✓ The network interface adopts full-duplex mode
- ✓ Support 1 channel HDMI input (only single channel 1080P / 4K ultra high definition video encoding card)
- ✓ Support ONVIF / RTSP
- ✓ Support image parameter setting
- ✓ Support dual stream output
- ✓ Low power consumption power design





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Output Node

✓ Intel high-performance / low-power chip; embedded Linux system, efficient and stable operation

✓ Support external network connection, facilitate the establishment of Internet-based monitoring systems and other applications, can uniformly manage monitoring resources and remote large-screen operation control

✓ Support vertical screen mode

✓ Support access and manage all brands of IPC, and mainstream brands NVR / DVR / DVS

✓ Support IPC main stream and sub stream can only be switched, greatly improving decoding efficiency

✓ Support streaming media forwarding function, can copy any video signal to multiple display

✓ Support split / splice / roaming / overlay / stretch / zoom

✓ Support preview

✓ Support uploading multimedia resources (video / picture / audio / text) via network / local

✓ User management

✓ Support multiple PC / Android / ios end real-time preview

✓ Support computer desktop push

✓ Support scene save and call round robin

✓ Support multi-screen single-window polling

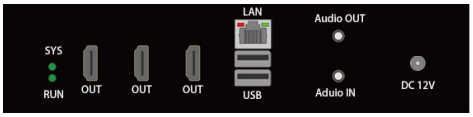
✓ Support output channel customization

✓ Support PTZ

✓ Support image enhancement, video denoising and other technologies to enhance the viewing experience, and can adjust the contrast / brightness / color / saturation of any picture

✓ Support GB28181 protocol

✓ Support product overlay use, unified management / operation



CVR Stroage

✓ Support hard disks of 8T and below as video disks

✓ Support hard disk dynamic detection

✓ Support graphical RAID5 disk array configuration

✓ Support plan / video / alarm linkage video configuration (support recording audio); support local export backup of video

✓ Support item retrieval and tracing by type / date / time etc

✓ Support restart termination / pause / single frame / capture

✓ Support product combination use, unified management / operation

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Web Server

✓ Industrial-grade PCB sheet, server-level embedded Linux system, efficient and stable operation

✓ Support open multiple different webpages at the same time

✓ Support static / dynamic web pages

✓ Support to set the web page refresh frame rate

✓ Support to control crawling web pages (click / enter / delete / wheel)

✓ Support remote control / management / upgrade

KVM Server

✓ KVM server adopts server architecture, embedded Linux system, efficient and stable

✓ The KVM server can have a built-in 3.5-inch hard disk to realize the recording and broadcasting function

✓ Simple installation, each source computer or agent can be plugged into USB wireless KVM node

✓ The main control computer supports multi-monitor mode, each monitor can be split-screen display to control other source computers

✓ With video recording and playback function: can record all desktop video control computer

✓ Each monitor of the host computer supports multi-screen display of different computer desktops and arbitrary control. Roaming can be seamlessly switched between multiple monitors

Centralized Chassis

✓ Standard cabinet size (optional for 1U or 4U chassis)

✓ The plug-in structure provides a stable working environment such as stable power supply / heat dissipation / electromagnetic shielding for the node modules in the entire chassis

✓ Cover all input / output node functions

✓ Support up to 16 HDMI inputs / outputs

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Center Management

✓ Industrial-grade PCB sheet, server-level powerful performance and embedded Linux system, efficient and stable operation

✓ Support access and manage peripherals such as IPC, DVR, NVR and disk array

✓ Support 512Mbps stream forwarding

✓ Support plug-in servo to improve system stability

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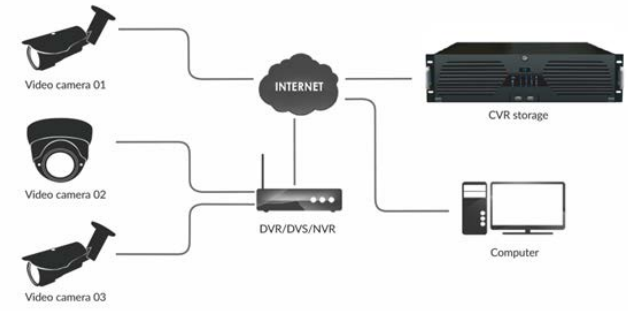
FUNCTION

Ultra high definition display

Appropriate designs can be made according to the project's real needs; the display system, mainly composing DID screen, DLP splicing screen, LED display screen with little space, the system can support multiple 1080P HD input sources, and max input resolution supports up to 3840x2160@30Hz.Single channel max output resolution supports up to 3840x2160@30Hz.
Support any number of screen splicing display, ultra high-definition video playback (accurate synchronization of high-definition video above 8K), and audio and video synchronization.

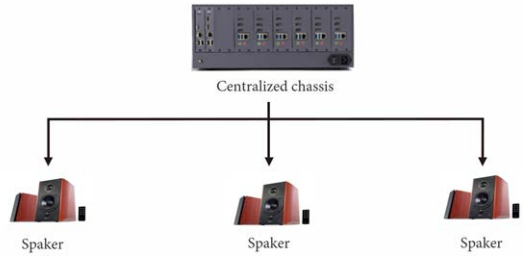


Recording & Playback function

All input sources in the NP Pro system support recording and playback, all resources are stored in CVR storage, and the size of the storage space can be freely matched, and retrieval by / device name / type / duration / start time / end time , Support 1/4/6/9/16 split playback at the same time, and support Capture, you can take screenshots of the playback video and save it.

Super long running time

The system can support 365 days x24 hours of continuous operation, with an average failure time of MTBF up to 50 thousand hours.



Audio matrix design

Support audio output and support selection of window audio output channels, Sound at the site is uniform, clear and loud, without echo feeling and howling. Full and soft voice clear bass, alto, deep and strong, distinct; with enough acoustic pressure level and signal dynamic range, showing high quality, high standard, high quality voice.

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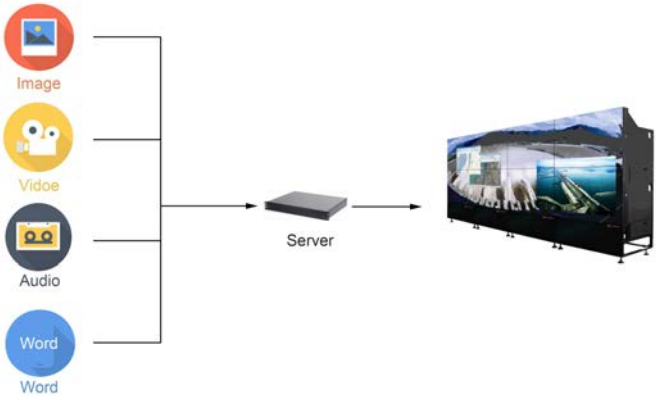
FUNCTION

Support a variety of protocols

NP Pro supports access to various protocols, so it greatly improves the compatibility of the input source, supports RTSP / ONVIF / RTP / RTMP and other protocols, And support desktop screen capture and desktop wireless sharing, perfectly transmits video and audio, and improves the viewing effect.

HDMI RTSP RTMP RTP ONVIF

Multimedia storage and publishing



NP Pro supports storing image / Video / Audio / Word in the server's built-in storage, it can be called anytime and anywhere, just like an input source, so even if there is no input source device in the NP Pro system, the system can still play the same Various resources,Since there are many multimedia formats supported for storage, it is easier and faster to publish information.

Stability and reliability

The system adopts industrial grade centralized control system, and can be used only by power supply without any settings; it is convenient, direct and professional, not affected by the network or network viruses. The system adopts the embedded system and industrial products, to ensure that the project is stable and reliable which is better than equipment adopting Android, IOS system and windows system. Matured and high speed processor in the control industry, plus of programming software with most compatibility and flexibility make the control program more profound understanding of control requirements of the system, more thoughtful care of every detail, so as to make the control system more stable and reliable.

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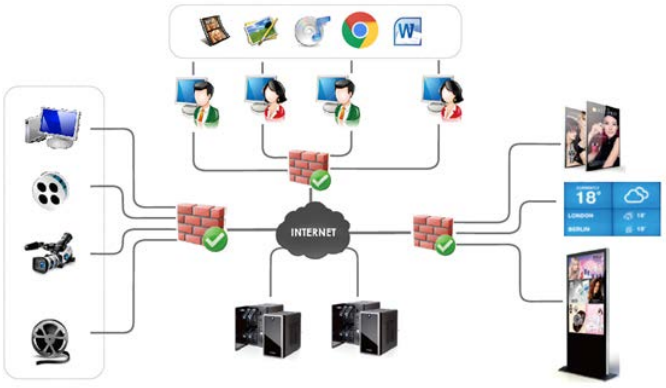
FUNCTION

Real-time release and preview

Information release can release routine information, emergency events, etc. in a timely manner, and can achieve the simultaneous release of a variety of information through the crawling of web pages, such as bank's foreign exchange, ad, fund interest rates, policies and regulations, promotion activities, weather forecasts, clocks and others.



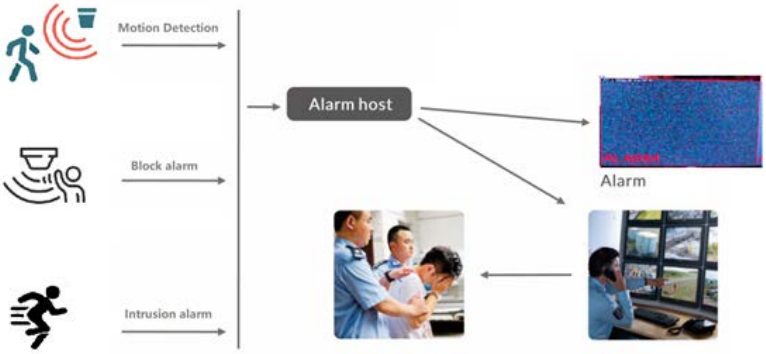
Vertical screen mode

In addition to the normal splicing display, NP Pro also supports vertical screen mode, suitable for more scenes .

Visual display

All systems will be presented in related ways, such as pictures, data, video, software interface, which are more intuitive and vivid.

Linkage alarm



Compatible with all kinds of alarm services of mainstream IPC. When IPC detects an abnormality, it will trigger an alarm, such as an intrusion alarm, block alarm, etc., and send the alarm to the corresponding IPC mapping window as soon as possible to facilitate rapid action To mitigate unexpected accidents.

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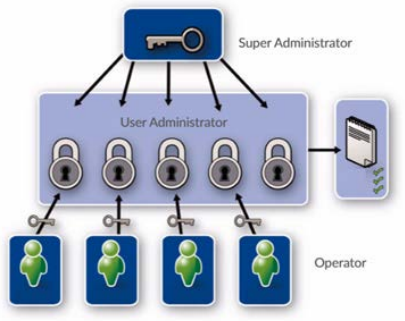
FUNCTION

Electronic map

Support uploading high-definition maps, add IPC at the corresponding location, double-click to directly monitor the display screen, and simplify the management of IPC, easy to add / delete / move, support simultaneous playback of multiple IPC screens, which is more intuitive and faster To understand the situation on the spot and respond accordingly.

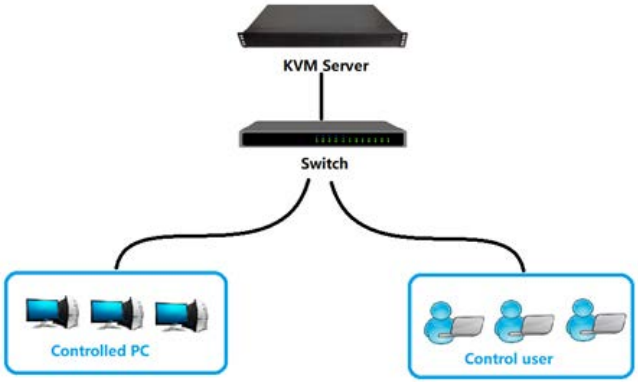
User management

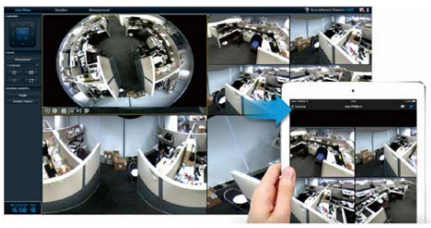


Support to add / save / modify / delete users, and support to modify user name and password, support different users to manage different grouped screens, realize the group's control authority distribution, and avoid the misuse and other special circumstances.

KVM

Support up to 20 controlled computers and 10 master computers， one user supports simultaneous display and control of multiple hosts, and multiple display hosts support seamless switching, realizing remote cluster control.





iPad control

Support iPad control, support to open window, move window, call scene, Preview, etc., reasonable and intuitive operation interface, realize portable control.

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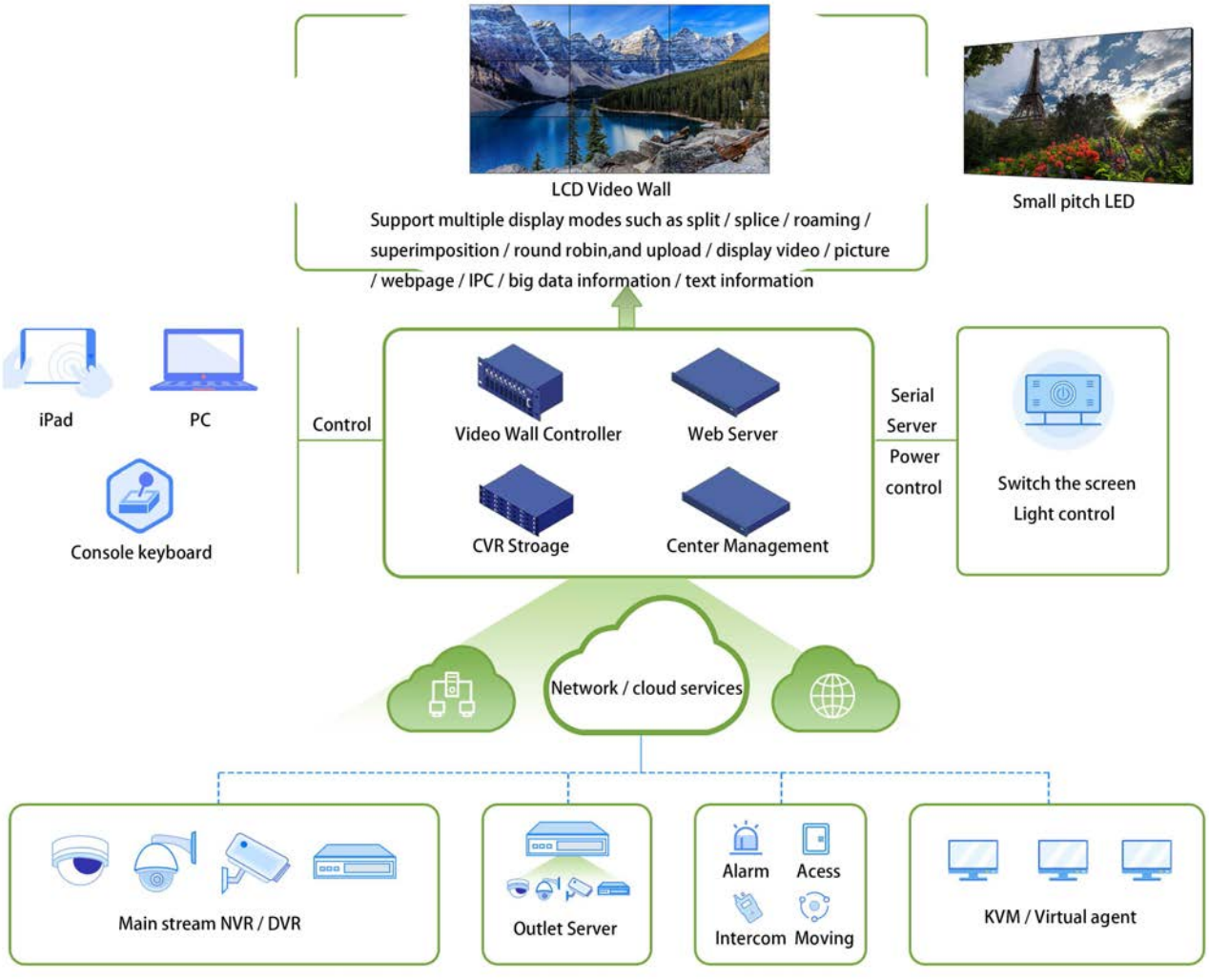
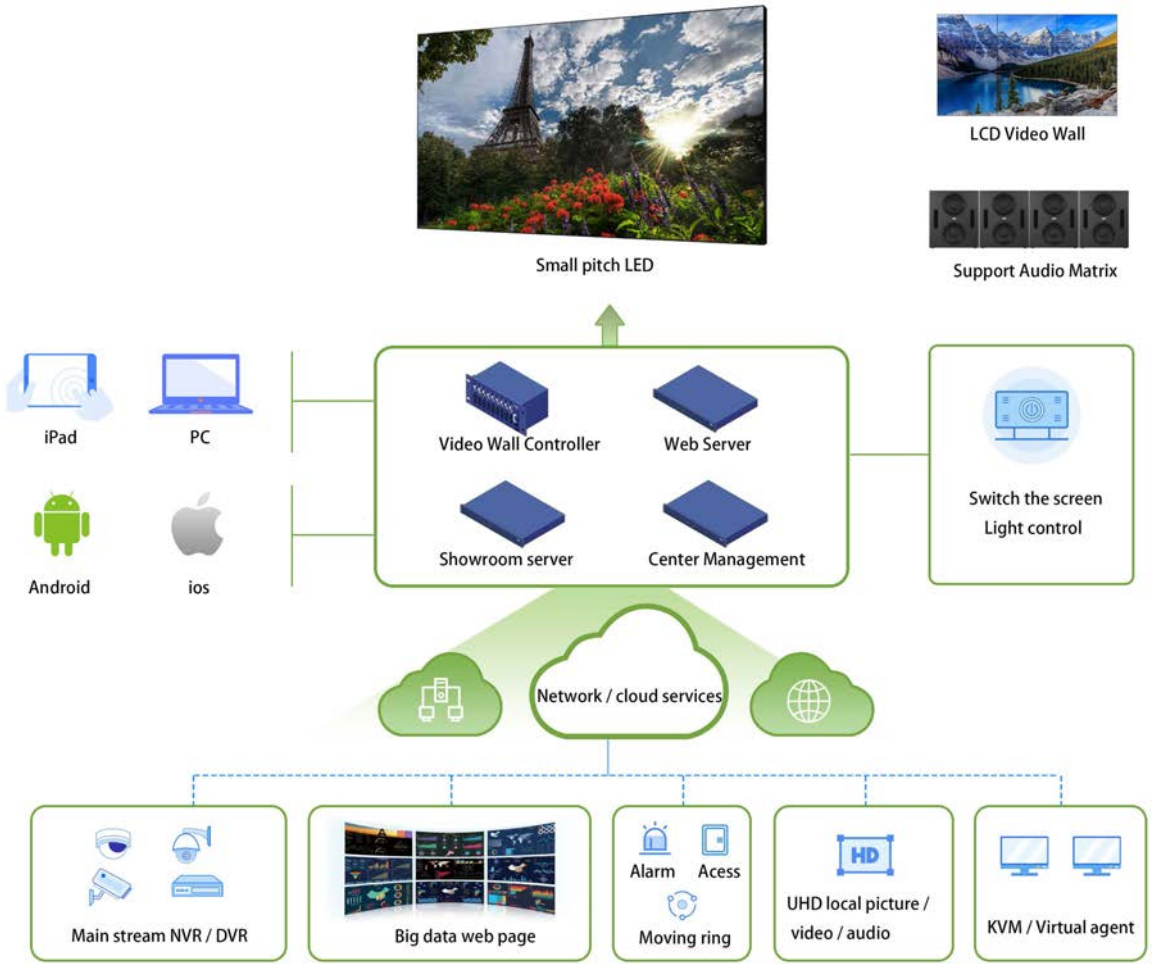
Application

Intelligent Command Center



Application

Smart Showroom System



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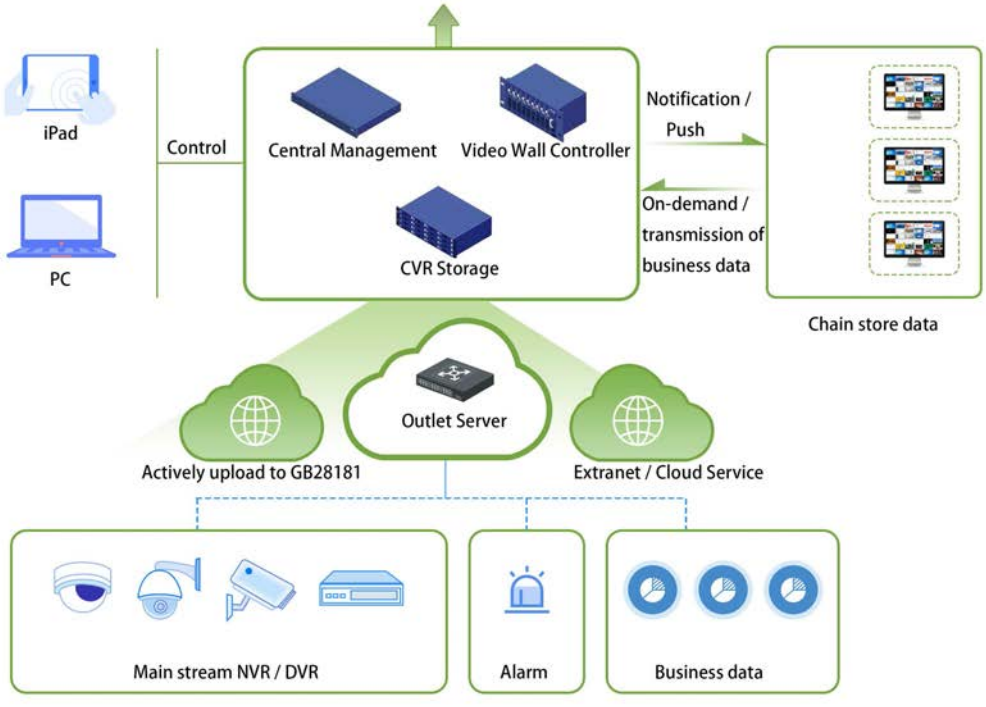
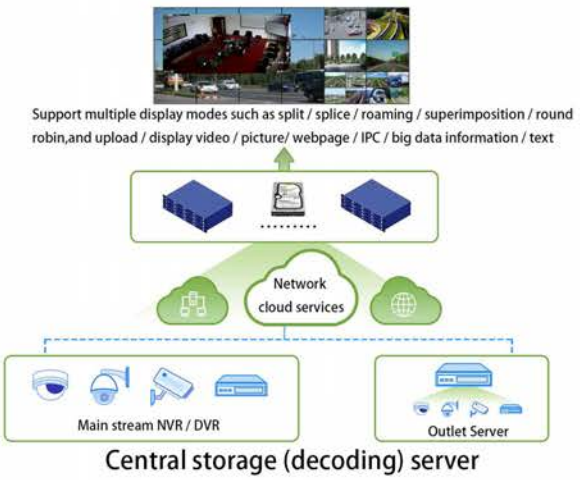
Application

Information Release System

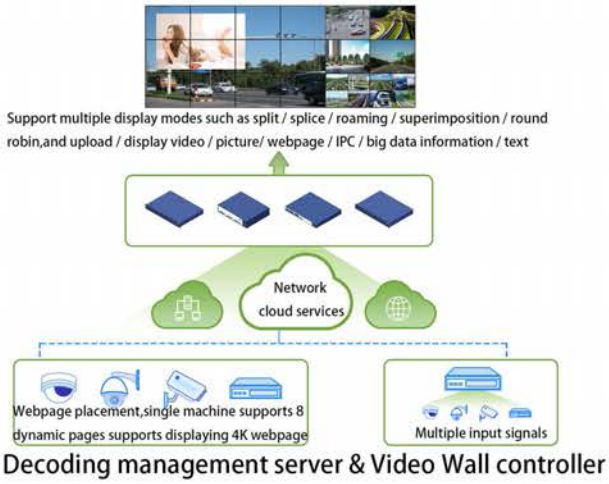
Headquarters data processing (storage and display)



Multiple Application Scenarios

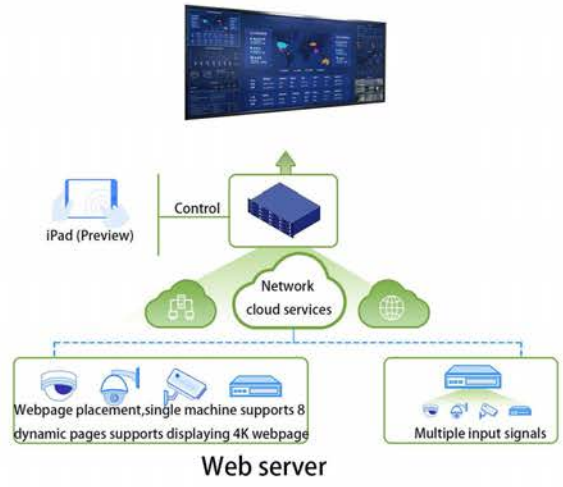


Central storage (decoding) server



Decoding management server & Video Wall controller

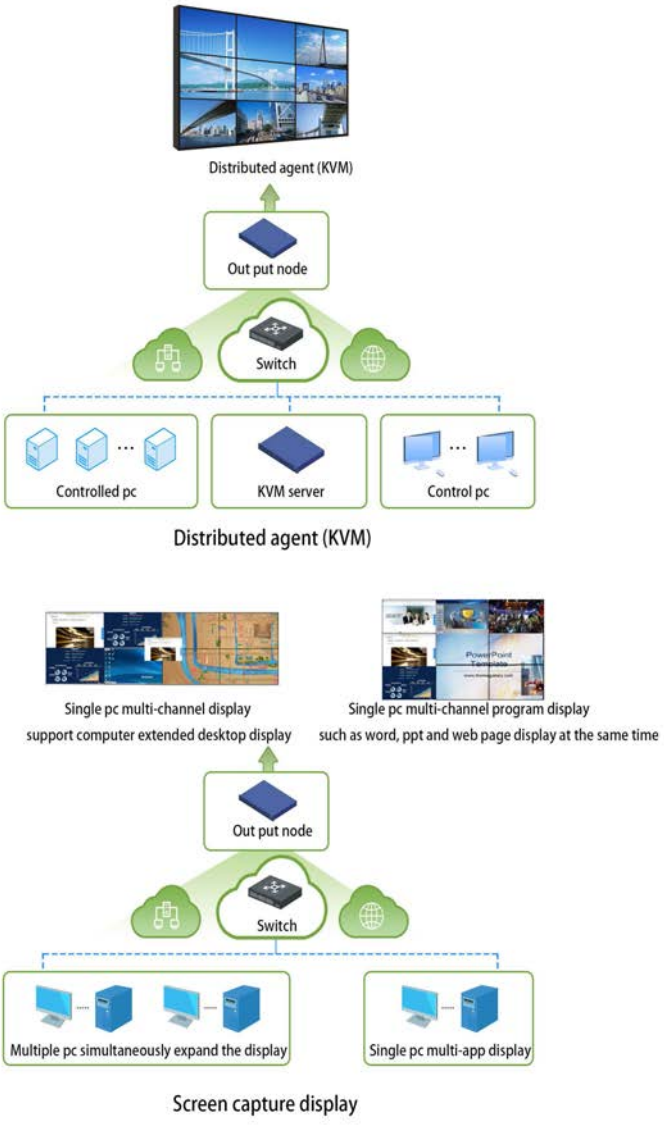
Multimedia Exhibition Hall & Smart Conference



Web server

Application

Multiple Application Scenarios



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SPECIFICATIONS

Input Node

Input interface	HDMI
Resolution	1920 x 1080@60HZ (1080P version) / 3840 x 2160@30HZ (4K version)
Coding	H.264 / H.265
Rate	0.5Mbps ~ 12Mbps
Sampling accuracy	24bit
Lan	RJ45 100M
Temperature range	0~45℃(Working) / -20~80℃(Save)
Power supply	12V / DC
Power consumption	5W

Web Server

CPU	Intel Skylake multi-core processor
RAM	8G
Storage	SSD
Board	Inter chipset
Maximum web pages	6~8 x 1080P 5fps / 1 x 4K 5fps
Frame rate	1-25fps(Adjustable, default 5fps)
Mouse interaction	support
LAN	4 x RJ45 1000M
USB	4 x USB
Power supply	AC 220V 50HZ
Power consumption	≤200W
Temperature range	-10~55℃(Working)
Working humidity	10%~90%
Size	430mm x 45mm x 490mm
Weight	≤6KG

Centralized Chassis

Maximum input nodes	16 (1080P) / 16 (4K)
Maximum output nodes	8
Power supply	AC 220V 50HZ
Power consumption	≤200W
Temperature range	-10~55℃(Working)
Working humidity	10%~90%
Size	440mm x 176mm x 300mm
Weight	≤10KG

Output Node

CPU	APOLLO multi-core processor
RAM	4G
Storage	SSD
Board	Inter chipset
Output interface	HDMI x 3
Input interface	RJ45
Resolution	1920 x 1080@60HZ (3 Channel)/ 3840 x 2160@30HZ (1 Channel)
Rate	≤48Mbps
Frame rate	1-30Fps
Video format	H.264 / H.265
Audio format	MP3 / FLAC / WAV
Decoding performance	3 x 4K / 12 x 1080P / 48 x D1
Maximum number of windows	3
Number of split windows	1 / 4 / 6 / 8 / 9 / 16
LAN	RJ45 1000M
USB	2 x USB
Audio interface	1 x 3.5mm input / 1 x 3.5mm output
Power supply	AC 220V 50HZ
Power consumption	≤20W
Temperature range Working	-10~55℃(Working)
humidity	10%~90%
Size	125mm x 48mm x 185mm
Weight	≤1KG

Center Management

CPU	Haswell multi-core processor
RAM	4G
Storage	SSD
Board	Inter chipset
Bandwidth	512Mbps
Stream	512K/1M/2M/4M/6M/8M
LAN	1 x RJ45 1000M
USB	4 x USB
Power supply	AC 220V 50HZ
Power consumption	≤200W
Temperature range	-10~55℃(Working)
Working humidity	10%~90%
Size	437mm × 400mm × 88mm
Weight	≤5KG

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SPECIFICATIONS

CVR Storage

System	CVR-24B	CVR-16B
CPU	Intel performance chip	Intel performance chip
RAM	2 x 4G	2 x 4G
Storage	SSD	SSD
Board	Inter chipset	Inter chipset
Video output		
Output interface	/	/
Resolution	/	/
Rate	/	/
Frame rate	/	/
Decoding		
Video format	/	/
Audio format	/	/
Decoding performance	/	/
Storage		
Quantity	160 x 2Mpbs	160 x 2Mpbs
Interface	24 x SATA	16 x SATA
Single disk capacity	≤8T	≤8T
Interface		
LAN	2 x RJ45 1000M	2 x RJ45 1000M
USB	4 x USB	4 x USB
Audio	/	1 x 3.5mm input / output
Electrical parameter		
Power supply	AC 220V 50Hz	AC 220V 50Hz
Power consumption	≤100W	≤100W
Temperature range	-10~55℃(Working)	-10~55℃(Working)
Working humidity	10%~90%	10%~90%
Size	438mm x 178mm x 520mm	437mm x 143mm x 490mm
Weight	≤15KG	≤10KG

KVM Server

CPU	Inter multInter multi-core processor	USB	2 x USB
OS	Linux	Power supply	AC 220V 50Hz
Storage	SSD	Power consumption	≤200W
Board	Inter chipest	Temperature range	-10~55℃(Working)
Management	Unlimited controlled pc / 30 x Host pc	Working humidity	10%~90%
Bandwidth	256M	Size	440mm x 55mm x 360mm
LAN	1 x RJ45 1000M	Weight	≤5KG

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