Video Conference Controller

Embedded software: HD video conference server software V3.346

VCS8000 (Specification B32C4D)



Description

The new-generation server integrates CMS, CRS, MCU, GK, live broadcast, and storage services. It adopts a plug-in module design and supports HD resolution, bringing the ultimate remote video conference experience.

Feature:

* Standard cabinet structure, using professional domestic audio and video codec chips, carrier-grade plug-in design, support 7*24 hours of continuous work.
* Adopt B/S architecture, support management through the built-in web, support Chinese and English language; support hierarchical and decentralized management functions; assign different permissions to different levels of users.
* Support ITU-T H.323 and IETF SIP protocols; devices that are compatible with H.323, SIP, RTSP and other protocols can join the conference together; support good compatibility.
* Support 64Kbps-8Mbps bandwidth rate; support CIF, 4CIF, 720P, 1080P video resolution; support 4K30fps video resolution.
* Support H.263, H.263+, H.264, H.264 HP, H.265 video codec protocols, support G.711, G.722, G.722.1, G.722.1C, OPUS and other audio codecs protocol, the sound quality is up to 48KHz.
* Support intelligent mixed speed, mixed protocol and mixed format functions, allowing terminals with different rates, different protocols and different video formats to access the conference at the same time.
* Support the display of the server's CPU usage and memory usage by day, week, month, year and other time lengths in the form of graphs; support real-time statistics and display of the online number of terminal devices and conference details (including the number of conferences, conference names, conference status, conference duration, etc.) in the form of graphs.
* A single machine supports 4 groups of physical conferences, 32 channels of 1080P concurrent users, and 20 concurrent virtual conferences.
* Support MCU cascading function, cascading mode can support more than 1000 users joining the conference; support forming MCU resource pool, MCU distributed architecture, realize unified management of MCU resources, dynamic allocation of MCU resources, and mutual backup.
* Support H.239 digital dual-stream technology, both main and auxiliary streams can reach 1080P.
* The virtual conference mode supports all terminals sending auxiliary streams at the same time (supports N terminals in the same conference sending N auxiliary streams at the same time), and supports mixed images of mainstream auxiliary streams; when supporting the main video 1080p60fps, the auxiliary video can achieve 1080p60fps HD effect at the same time.
* Support 19 multi-screen layouts, each screen has up to 64 images; support Auto split screen function; auxiliary stream images can be synthesized into multiple images; the image window supports functions such as auto fill, voice activation, video polling, auxiliary stream display, etc. Support watching the real-time video of the conference directly on the same interface.
* Support multi-screen polling function, support up to simultaneous 4 1080P conferences with 64 split-screen multi-screen polling capabilities; specify polling window, polling venue, polling time interval, etc.
* Support the preview of the screen snapshot of the conference venue, and save it to the server as a jpg image.
* The built-in GK module supports the terminal to register the E.164 extension number and use the E.164 extension number to call each other. Support NAT, H.460 and other technologies, support passing through the firewall.
* The built-in conference recording module can record and store multiple conference videos and audios in real time; support a maximum of simultaneous 4 1080P conferences with 64 split-screen multi-screen recording capabilities.
* The server comes standard with 240G of storage space (about 200G of user space), which is used to store data files such as voting, sign-in, roll call, shared files, recorded videos, and photos of video conferences; it supports expansion of storage capacity to 4TB.
* Support video roll call function, you can set the roll call theme, screen layout, main venue, main venue display window, and roll call venue display window. After the roll call is completed, an excel form of the complete roll call result can be downloaded and saved.
* Support the function of broadcasting site. In the broadcasting site mode, the conference layout is switched to the mode where only the site being broadcast is displayed, and all the sites can only view the screen of the site being broadcast.
* Support RTSP video stream access to equipment, support monitoring IP cameras directly accessing the conference through RTSP video stream, and seamlessly connecting with the monitoring platform.
* The built-in video wall output function can output the composite images of different conferences, and can also choose to output a single image of any venue of different conferences, and supports 8 HDMI video output interfaces.
* Support video wall output HDMI interface hot-plug board detection function, identify the board connected to the HDMI cable when scheduling a conference, and designate the board to be used for conferences.
* Support classified management of conference media resources, including voting information, sign-in information, roll call information, shared files, recording videos, and photos.
* Support network ping test, route trace test, network bandwidth test on the background web management interface; support real-time display of audio, mainstream, auxiliary stream network status, including packet loss rate, code stream, frame rate, delay and other parameters.
* Support FEC forward error correction function. When reaching 30% network packet loss, the sound is clear and continuous, and the video is clear and smooth, without lag or mosaic; when reaching 80% network packet loss, the sound is clear and smooth and can be accurately understood.
* Support live broadcast function, support RTMP, HLS live broadcast mode; support up to simultaneous 4 1080P conferences with 64 split-screen multi-screen live broadcast capabilities; you can freely select one venue in the conference or a synthetic media stream as the live broadcast source, and can switch the live broadcast source at any time; support mobile phones and other devices watching live broadcasts by scanning the code. During the live broadcast, text chat can

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Feature:

be performed, and the chat content can be automatically saved to the server.
* Support the browser or player access to the live link address to watch the conference live broadcast, and support live broadcast accessing the password management function; a single machine supports a maximum of 500 concurrent live broadcasts, and the number of viewers can be viewed through background management. Support live streaming push function, which can push live streams to third-party live platforms.
* Support setting conference password, conference control password and administrator password; support AES 256-bit dynamic encryption algorithm and H.235 video conference encryption standard to ensure the security of the conference.
* Support third-party systems calling the system functions through API to schedule conferences, get conference list, stop conferences, delete conferences, call offline members, set the watch content, set recording, set live broadcast, set polling, adjust cameras, send scrolling messages, and set banners, switch the screen layout, control the speech of each venue and so on.
* The conference notification method supports text message or email; corresponding notification messages can be set for conference convening, conference change, and conference cancellation.
* Support Chinese and English subtitles, banners, scrolling messages, and display of conference venue names, meet the auxiliary display function of conferences.
* Support all conference terminals sending dual streams and watching multiple auxiliary streams at the same time.
* Support video soft terminal access to the conference, and realize the dual-stream function of data; support functions such as electronic whiteboard, voting, and conference sign-in. The soft terminal can be installed on Windows or MAC computer version, IOS or Android mobile phone tablet.
* Supports intelligent flow control functions, including notification encoding and automatic bit rate adjustment functions. After notification encoding is activated, the MCU will automatically adjust the encoding parameters of the terminal according to the window size displayed on the MCU by the terminal. After the automatic bit rate adjustment function is activated, the MCU will automatically adjust the sending bit rate and resolution of the MCU according to the packet loss and delay of the sending signal.
* Support rich audio processing mechanisms and management modes; support lip synchronization, intelligent multi-channel mixing, echo cancellation, automatic gain, noise cancellation, and venue speech management; support automatic mute function after joining a conference; the background management terminal supports all mute, all speak, all silent function, etc.
* Support intelligent multi-channel audio mixing, support broadband voice above 20KHz.
* Supports the voice excitation control mode, and the site with the loudest speech automatically switches to the specified voice excitation window for display.
* The virtual conference supports the chairman-controlled conference mode and free mode. In this mode, the chairman terminal can realize functions such as conference management and screen layout.
* When scheduling conferences, you can select the conference media type as pure audio or audio+video.
* Support the function of re-invite at conference site breakpoint; when always invite is selected, after the terminal is abnormally disconnected, the MCU will re-invite the terminal to join the conference every 10 seconds until the terminal joins the conference. When limited invitation is selected, the number of invitations needs to be preset. If the invitation exceeds the preset number, the MCU will not invite anyone. If you choose not to invite, the MCU will not actively invite the terminal to join the conference after the terminal is abnormally disconnected.
* Support moving up, down, left, right, and zooming operations of the terminal cameras through the background remote control.
* Support the function of setting and displaying the name of the conference site; set whether to display the name of all the conference sites and the display position, font color, background color and font size of the name in the conference screen.
* Support the banner function, you can add a banner on the conference screen, and you can set whether to enable the banner and the font size, font color, and background color of the banner.
* Support scrolling message function, send scrolling messages, and set whether to enable scrolling messages and the font size, font color, background color and scrolling times of scrolling messages.
* Support conference time extension, conference closure, auto-fill, layout switching, audio reception, audio transmission, video reception, video transmission, video adjustment, information query, roll call, hang up/call, and group management for ongoing conferences , designated viewing screen and other conference management functions.
* Adopt Chinese and English management interface; realize Chinese and English WEB management; realize device management, user management, conference management through Web; support Telnet, ssh and other remote maintenance methods; conduct zone management according to user characteristics and regional characteristics.
* Support integrating with voice transcription system, transmit the conference audio to the voice transcription system and transcribe it into text. The voice transcription system then transmits the transcribed text back to the MCU, and the MCU can superimpose the returned text on the synthesized screen for display.
* Support log management function, you can choose to enable different levels of log management such as debugging, information, warning, error, fatal error, etc.
* Support monitoring system hardware functions, including CPU usage, memory usage, disk usage, etc.
* Support remote control and remote upgrade functions.
* Support voice priority, support QOS strategy mode.
* Support IPV4 and IPV6 protocols; support the ability to cross routers and firewalls to ensure system security; support the settings of parameters such as QOS, NAT, and H.245 tunnels.
* Support the function of virtual conference room. The system can independently allocate virtual conference rooms for individual users, and can convene multi-party conferences without platform reservation; when there are no venues to join the virtual conference room, it does not occupy port resources.
* Support dual network port backup, any network port failure will not affect the normal operation of the device; support board backup, when a single board fails, the MCU switches the data and services on the single board to another within 8 seconds, without affecting the conference, meet the 7 * 24 hours of continuous normal work.
* Support the establishment of resource pools to achieve unified management of MCU and support dual-system hot backup function. When one MCU fails, the terminal can automatically connect to another MCU within 15 seconds, and the conference automatically resumes.
* Support batch upgrade of terminal device software versions, and the upgrade time can be customized. No need to upgrade the devices one by one through other tools; the terminal can be automatically upgraded when it is turned on.
* Support device management, operation and maintenance functions; modify the configuration of manageable devices, such as name, call bandwidth, audio and video devices, registration and network; view the IP address, MAC address, registration status, version information of the terminal.
* Support dual network ports, two independent IPs can be set; the internal and external two independent networks can be interconnected within the MCU, and the terminals in the two networks can be interconnected.

Specification:

Model	VCS8000
Capacity	32 channels
Concurrent conference	4 groups of physical conferences
Card board quantity	3 cards: 2 resource cards and 1 network card
Video output	8 HDMI ports
Power supply	100VAC～240VAC 50Hz～60Hz
Network port	2 RJ45 standard network ports, 100M/1000M
Ambient temperature	0℃～35℃ (working state) -40℃～55℃ (non-working state)
Relative humidity	10%～80% (working state) 0%～95% (non-working state) (no condensation)
Dimension	484×530×176mm
Weight	15Kg