Vcast (Asia) Limited
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Mandatory Requirements

VCAST All-In-One Server 4010SR (VC-SR4010SR)

General Features:

- Support high-quality video/audio broadcast at various bit-rates for multiple devices (PC, TV via VBOX or Windows Mobile)
- Support live and on-demand video / audio broadcasting via any TCP/IP networks
- Support ease-of-use web-based user interface for centralized content management
- Highly scalable and expandable from small to large scale of streaming
- Ease of support and maintenance with remote management
- Support latest streaming technologies for best user experience over Internet, Intranet or Wireless
- Reliable for 7/24 operation with high availability and backup options
- Support publishing, re-broadcasting and content delivery via Vcast Network for global broadcasting (optional at charge-basis)
- Provided by **Certified Windows Media Hardware Product Vendor** (Integrated Capture/Encoding Solutions and Appliances) listed in
  http://www.microsoft.com/windows/windowsmedia/service_provider/Hardware/default.aspx#capture
- Provided by **Certified Windows Media Software Product Vendor** (Software/Content Management) listed in
  http://www.microsoft.com/windows/windowsmedia/service_provider/Software/default.aspx#content

Encoding Features:

- Professional turnkey streaming video encoder with video/audio inputs and streaming outputs
- Support real-time encoding in multiple bit-rates for each channel
- Support professional quality of audio and video encoding from live input(s) and transcoding from archived media files
- Support conventional and professional audio and video interfaces (e.g. S-video, Composite Video, Aux, Line, Mic mini-jack audio)
- Fully synchronized audio and video streaming
- Elastic Frame Buffer architecture for absolute reliability and high image quality
- Integrated professional video and audio processing (e.g. high performance scalars, audio processor, video processor, AV matrix switch, etc)

Streaming Features:

- Support and compatible with Windows Media 6, 7, 8, 9, SMPTE VC-1, MP3 formats
- Support unlimited* no. of broadcasting channels
- Support "Fast Streaming" capabilities which can effectively eliminate buffering time, and reduce the playback interruptions due to network conditions. Features like Fast Start, Fast Cache, Fast Recovery, and Fast Reconnect provide an always-on viewing experience by streaming content with minimal buffering and down-time, even over high latency network connections such as wireless and satellite.
- Support instant-on/always-on playback which can dramatically improves streaming reliability, responsiveness user experience and virtually eliminating annoying buffering delays and interruptions when playing digital media content
- Support Advanced Fast Start (for Windows Media Player v10 or above only)
- Support Unicast streaming
- Provides simplified, flexible administration with increased reliability, security and scalability
- Support multiple streams failover and redundancy
- Support Internet authentication method (Digest, Kerberos or NTLM, NTFS ACL, Anonymous access or IP Address)
- Support traffic management and logging
- Support wireless adaptive streaming with enabled forward error correction (FEC)
- Support redistribution via Vcast Streaming Server, Vcast Network or Content Delivery Network (CDN) model using Vcast CDN add-on module (optional)

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Mandatory Requirements	
VCAST Content Management (VCM) Lite Features:	

	Video search and browsing	
	General features:	• Each video clip should contains at least the following information in their profile: - Title - Description - Keywords - Author - Copyright - Bandwidth - Duration - File size • Video duration can be auto-detected by the VCM • Local Database (Size up to 4GB limit)
	Upload video:	• Support at least 100 MB file size or above using web-based interface by HTTP protocol (TCP port 80 or 8080) • Progress status bar shows during file upload for the uploading status • Video clips will not be published to public until the approval of authorized users
	Search video:	• Support multiple criteria searching of video clips by the fields of video profile including title, description, keywords, author, copyright, bandwidth, duration and file size • Support video preview by unicast on-demand streaming model • Support sorting in order for searching results (e.g. by title, duration, etc.)
	Delete video:	• Video clips can be selected and deleted by authorized users • Video clips can be deleted in batch mode (i.e. delete multiple video by a simple click)
	Channel	
	General features:	• Support unlimited* of channels • Support Unicast streaming*
	Create channel:	• Administrator can create channel(s) which contains live or on-demand video streams
	Edit channel:	• Information and the scheduled content of the channel can be edited by authorized users
	Delete channel:	• Channels can be deleted by authorized users

Encoding Specifications	
Live Input Source:	**Video:** • S-Video (4-pin mini-DIN) • Composite Video (RCA) **Audio:** • Aux Stereo (Mini-jack) • Line / Mic Stereo (Mini-jack) • Camera Mic Mono (Mini-jack)
Media File Input Source:	• AVI, MP3, MPEG1, MPEG2-PS, MPEG2-TS, MP4, Windows Media, Real Media v9,10 (rm), Real Media v9,10 (rmvb), Flash VP6, Flash H.264, Quicktime-3GPP2, Quicktime-3GPP, Quicktime-iPod, Quicktime-iTune and Quicktime-Sorenson
Live and Archive Streaming Output Format:	• Windows Media 6, 7, 8, 9 and SMPTE VC-1 (Plus Silverlight publishing) Real, Real Helix 9, 10
Encoding Bit-rate & Frame Rate	• Up to 20Mbps@30fps (S-video / Composite)
Concurrent Streams:	• 1 independent video stream in multiple bit-rates or format • Internal video/audio multiplexing

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Mandatory Requirements	
	• Up to 50 live streaming connections output
Capture Format:	• Motion JPEG Compressed Video • Uncompressed Video (YUV4:2:2, YUV4:2:0, or RGB)
Supported Live Input Source Resolution & Frame Rates:	• Up to 640x480 30 fps (NTSC) or 704x576 25 fps (PAL) of S-video / Composite

Streaming Specifications	
Supported Streaming Protocol & Broadcasting Method:	• RTSP, HTTP • Unicast • Streaming Cache and Proxy • Wireless adaptive streaming • Re-broadcast from Vcast Streaming Servers or Vcast Streaming Encoders **Optional Add-on Module:** • Vcast CDN (Content Delivery Network)
Max. Concurrent Streams:	• 500 live concurrent streams for up to 150Mbps throughput • 150 on-demand streams for up to 50Mbps throughput
Support Broadcasting Channel:	• Unlimited*
Support Streaming Format:	• Windows Media 6, 7, 8, 9, SMPTE VC-1 and MP3
Advanced Streaming Technology:	• Fast Start, Fast Cache, Fast Recovery, Fast Reconnect, Instant-on/Always-on and Advanced Fast Start
Security Authentication	• Digest, Kerberos or NTLM, NTFS ACL, Anonymous access or IP Address
Failover and Redundancy	• Support multiple sources from Vcast Streaming Encoder and switch over automatically • Support resilience and failover
Activity Logging and Reporting	• Support Unicode or ANSI characters • Support specified logging cycle period
Bandwidth and Traffic Management	• Player connections • Outgoing distribution connections • Aggregate player bandwidth • Aggregate outgoing distribution bandwidth • Bandwidth per stream per player • Bandwidth per outgoing distribution stream • Connection rate • Player timeout inactivity • Connection acknowledgement • Incoming bandwidth • Fast Start bandwidth per player • Fast Cache content delivery rate

Hardware Specifications	
Processor:	• Dual Core Intel® Core2Duo E8500 or above
Memory:	• 1 x 2GB Unbuffered DDR2 ECC RAM
Video Input Interface:	• 1 x S-Video (4-pin mini-DIN) • 1 x Composite Video (RCA)
Audio Input Interface:	• 1 x Aux Stereo (Mini-jack) • 1 x Line / Mic Stereo (Mini-jack) • 1 x Camera Mic Mono (Mini-jack)
Storage Capacity:	**Main Storage:** • 2 x 500GB SATA2 HDD (RAID 1)

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Mandatory Requirements	
	• Optical Drive (DVD+/-DL, DVD+/-RW, DVD+/-R, DVD-RAM, CD-ROM, CD-RW)
	Optional Upgrades: • External USB Floppy Disk Drive
Network Interface:	• 2 x 10/100/1000Mbps Ethernet (RJ45, Copper)
Power Input Voltage:	• 115 VAC (90 to 132 VAC related input) or 230 VAC (180 to 264 VAC related input)
Output Power:	• 510W
Keyboard & Mouse:	• Wired keyboard and mouse
Chassis Enclosure and Dimension:	• 3U 19' inch rack-mountable chassis 660 x 430 x 132 (D x W x H) mm
Preinstalled OS & Software:	• Microsoft® Windows Server 2003 Standard Edition (32bits) • Microsoft® Windows Media Services 9 • Microsoft® Windows Media Encoder 9 • Microsoft® Windows Media Player 11 • Microsoft® SQL Server 2008 Expression Edition • Vcast Content Management (VCM) Lite Version • Remote control tools for remote administration via TCP/IP

* Limited by the hardware capability