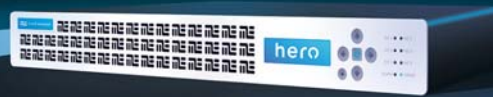
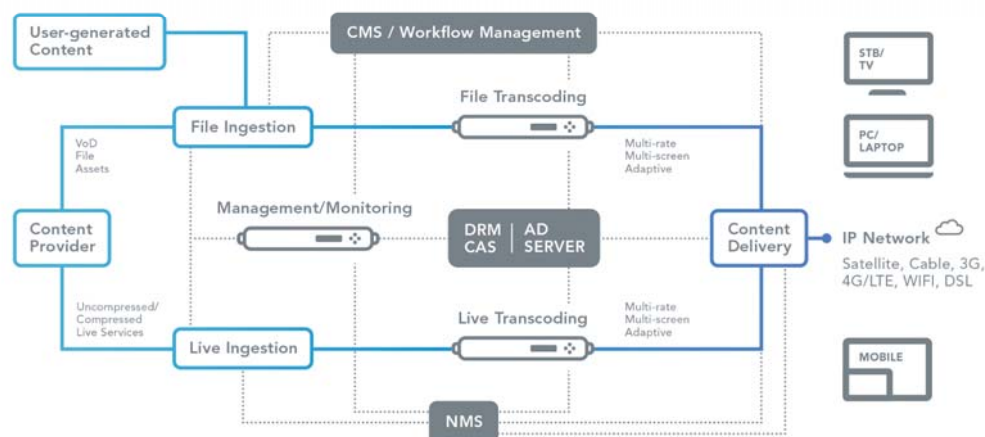


Multiscreen File Transcoder

4K



Media Excel defines the adaptive bitrate, multi-device transcoding standard for multiscreen video delivery. The HERO product line enables Live and File workflows in a single platform and delivers content to over 400 million multiscreen subscribers worldwide. Media Excel's five 9s reliability powers the 24/7, mission critical deployments of Fortune 500 companies and global brands in Broadcast, Cable, Satellite, IPTV, Pay TV, OTT/TVE, Mobile and Government/DoD.



Unique advantages

Video quality

- Industry-leading quality video for HEVC, AVC and MPEG-2
- Superior compression performance and rate control
- Native support for mezzanine, playout and adaptive formats

reliability

- 99.999% proven uptime in 24/7 operations
- Quality control monitoring and reporting
- Enhanced workflows management and load balancing

VERSATILITY

- Local and cloud storage integration with progressive ingest
- Multi-language subtitle and audio sidecar processing
- On-premise, Virtual, Cloud and Hybrid deployments

Advantages

- Delivers unmatched video quality & service reliability
- Installs on virtualized architectures, x86 blades or COTS/IT servers
- Enables both Live/Linear and File/VoD workflows
- Cooperates seamlessly with local & remote HERO units
- Scales with service demand and business growth
- Sync across instances for frame-accurate adaptive and highly-available workflows
- CPU/GPU/SoC hybrid encoding for best performance and quality

Input

INTERFACE

- Gigabit ethernet (up to 6 ports)
- Fibre channel interface *

NAS/SAN

- NFS, CIFS/SAMBA
- Cloud object storage (Amazon, Azure etc)

AUDIO/VIDEO CODECS

- Avid DNxHD
- Apple ProRes
- Canopus HQ Video
- DVCPro
- H.265/HEVC
- H.264/AVC, AVC-Intra
- H.263, MPEG-4
- IMX 30/40/50
- MPEG-2 (4:2:2, 4:2:0)
- MJPEG
- XDCAM
- VP6, VP6F, VP6A
- Windows Media WMV/VC-1
- Windows Media Audio & Audio PRO
- PCM
- MPEG-1 Audio Layers I, II & III

- AAC/AAC-HE v1 & 2 (MPEG-2, MPEG-4)
- AC-3 (DD), E-AC-3 (DD+)

CONTAINERS

- MPEG-2 TS
- MPEG-2 PS VOB
- 3GP, 3GPP
- AVI, MP3, MP4, FLV, F4V
- Quicktime MOV
- MXF (OP1A, OPAAtom)
- ProRes
- WMV, WMA, ASF

AUXILIARY DATA

- Line 21, CEA 608/708 closed captions
- OP-47, DVB-Teletext subtitles
- SCC, TTML, DFXP, SMPTE-TT, SRT, DFXP
- DVB-Teletext
- Multiple subtitle tracks/languages
- Multiple audio tracks/languages
- MIPS KLV metadata sync/async
- SCTE-35 ad signaling

Output

AUDIO/VIDEO CODECS

- H.265/HEVC Main and Main-10 *
- H.264/AVC BL/MP/HP
- MPEG-2
- AAC/AAC-HE, v1 & 2
- Dolby EAC3/AC3+ *
- MPEG-1 Audio Layers I & II

- 4K/8K Ultra HD, 1080, 720, 540, PAL, NTSC
- Custom resolutions down to QCIF
- Rec 2020 WCG
- HDR-10, HLG, SDR

AUXILIARY DATA

- CEA 608/708 closed captions
- OP-47, DVB-Teletext subtitles
- WebVTT, TTML, DFXP, ISMT subtitles
- DVB-Teletext passthrough, burn-in
- Multiple subtitle tracks/languages
- Multiple audio tracks/languages
- Multiple subtitle tracks/languages
- Multiple audio tracks/languages

CONTAINERS

- Apple HLS, TS/fMP4
- Microsoft Smooth Streaming
- MPEG-DASH, TS/fMP4 CMAF
- MPEG-2 TS
- MXF
- ISMA MP4

FORMATS

- Progressive and interlaced output
- Frame rates: 1 - 60 Hz

Transcoding features

PRE-PROCESSING

- Cloud storage progressive ingest
- Auto/manual program/language selection
- Aspect ratio detection (AFD, V-Index, WSS)
- VBI black-out control
- Contrast/Brightness/Gamma control
- Audio gain control
- Error concealment logic
- De-blocking & noise reduction filters
- Content adaptive de-interlacing
- Frame scaling with anti-aliasing options
- Smoothness/Sharpness control
- Cropping per output
- Graphic overlay (4 layers with alpha color)
- Timecode burn-in
- EIA 608/708, OP47, DVB-Sub burn-in/OCR

VIDEO

- Up to 4:2:2 10 bit WCG support
- Frame rates (Hz): 1 – 60
- Rate control: CBR, VBR, ABR
- Look ahead and dual pass options
- Progressive and interlaced encoding
- High quality frame rate conversion
- Low latency mode

AUDIO

- Audio-only/radio processing option
- Pass-through option
- Re-sampling, down-mix processing
- Multiple audio tracks/languages

- Dynamic audio normalization
- Loudness management

POST-PROCESSING

- Adaptive/multi-rate output
- NTP-synced, GOP-aligned outputs
- Multiple audio tracks/languages output
- Multiple publishing points for redundancy
- Auto-generation/retrieval of DRM keys
- Network traffic shaping/smoothing
- Aspect ratio adaptation
- WebDAV/FTP/HTTP support
- R-sync/reverse-proxy support
- CDN authentication and publishing
- PlayReady v.2, AES & CENC encryption
- DRM/CA KMS integration

AUTOMATION FEATURES

- Watch folder automation
- Cloud storage direct integration
- Job prioritization and queue management
- Job parallelization
- MP4 & TS archival/recording automation
- Dynamic mosaic screen generation
- Customizable thumbnail extraction
- Customizable file naming options
- Ad avail generation (CableLabs ESAM)
- Ad replacement/blocking automation
- Quality control reporting

Management

MANAGEMENT/CONTROL

- Central management for Live & File workflows
- Watch folder based automation
- Manual job creation via API
- Web-based management console
- SOAP/XML & REST APIs
- LDAP-based multi-tier user authentication

- Automatic load balancing
- Batch, secure remote firmware upgrade
- Configurable audio/visual alarms and SNMP v.2 traps/alarms
- NIC bonding/teaming & VLAN support
- NAS integration (NFS, SAMBA)

Ecosystem

MEDIA SERVERS

- Amazon S3 Storage
- Azure Media Services
- Unified Streaming (USP)

VIRTUAL/CLOUD

- VMWare, KVM, HyperV
- Docker, Kubernetes, AKS
- Azure, AWS, Google

Chassis

FORM FACTOR

- 1U 19" wide (rack mount)
- 25.6" (650mm) depth
- 20lbs (9.3kg)

POWER SUPPLY

- AC 90-264V, 47- 63Hz
- 350~600w

ENVIRONMENTAL

- Op. temp: 0 ~ 50° C (32 ~ 122° F)
- Storage temp: -20 ~ 65° C (-5 ~ 150° F)
- Humidity: 5 to 90 %
- Shock: 10G / 11ms in all axis
- Vibration: 0.8G / 5 to 100 Hz

REDUNDANCIES

- Dual hot-swappable PSU
- Up to 6 GigE ports, bonding

DISPLAY & INTERFACE

- 32-character LCD
- front panel controls

COMPLIANCE

- FCC Class A
- CE/RoHS 5-compliant
- WEEE-compliant
- EN61000-6-2
- EN55022/24
- EN60950:2000
- UE 89/336/EEC
- UE 73/23/EEC

Product ordering options

<p>CODEC</p> <p><input type="checkbox"/> MPEG-2, H.264 HP</p> <p><input type="checkbox"/> +HEVC Main 4:2:2 10</p>	<p>RESOLUTION</p> <p><input type="checkbox"/> Up to FHD 60fps</p> <p><input type="checkbox"/> Up to UHD 4K 60fps</p> <p><input type="checkbox"/> Up to UHD 8K 60fps</p>	<p>DEPLOYMENT</p> <p><input type="checkbox"/> Hardware appliance</p> <p><input type="checkbox"/> VM, docker on cloud</p>	<p>IO/PROCESSING MODULE 1 & 2 (TWO OF FOLLOWINGS)</p> <p>1. <input type="checkbox"/> 2p NIC <input type="checkbox"/> 4p NIC <input type="checkbox"/> RJ-45 <input type="checkbox"/> SFP</p> <p>2. <input type="checkbox"/> GPU/SoC HW accelerator (not user selectable)</p> <p>IO MODULE 3</p> <p>1. Low Profile <input type="checkbox"/> 2p NIC <input type="checkbox"/> 4p NIC <input type="checkbox"/> RJ-45 <input type="checkbox"/> SFP</p>
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* Optional items: certain features are available in specific models only
 ** Specifications subject to change without notice