mediaexcel

Presence:
- Austin TX, USA: Global Headquarters
- Seoul, Korea: Hardware & Software R&D
- Established global reseller/support network
- In-region ecosystem/technology partners

Mission:
To deliver **premium video quality** and **carrier-grade** products by continually evolving the most advanced network video processing technologies

Technology Leadership:
24 Years of R&D for advanced video compression systems from MPEG-2, AVC/H.264 ,HEVC/H.265, AV1 to VVC standards and delivery technologies from TS/UDP, HLS, RTMP, RTSP, etc to CMAF Ultra Low Latency
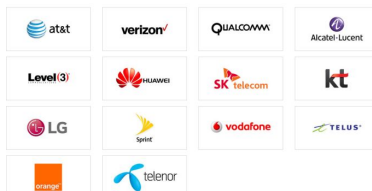
Reliability & Trust:
Supporting **Fortune 500 clients** and global brands for their **24x7, mission critical deployments** in broadcasting, cable, satellite, IPTV, PayTV, OTT/TVE, Mobile and Government/DoD with **six nines reliability**

Proven Expertise:
Media Excel's HERO product line empowers over **350 million multi-screen subscribers**
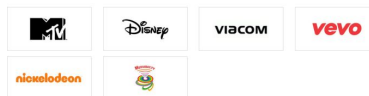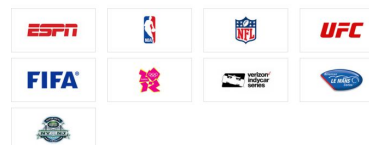
Telecom – Network Operators
at&t · verizon · QUALCOMM · Alcatel-Lucent
Level(3) · HUAWEI · SK telecom · kt
LG · Sprint · vodafone · TELUS
orange · telenor

Cable TV Operators
MTV · Disney · viacom · vevo
nickelodeon

IT - Digital
Atos · Aereo · QuickPlay MEDIA · TDC
Dogan · Akamai · Limelight · SK broadband

Sports Channels
ESPN · NBA · NFL · UFC
FIFA · verizon indycar series · al arabi

Defense
GENERAL DYNAMICS · LOCKHEED MARTIN · U.S. ARMY

Multi-Screen – Broadcast
RTL · sky · arqiva · CNN TURK
SWR · ENCOMPASS · mobitv · vidmind
SAIC · Simplestream · VIMOND
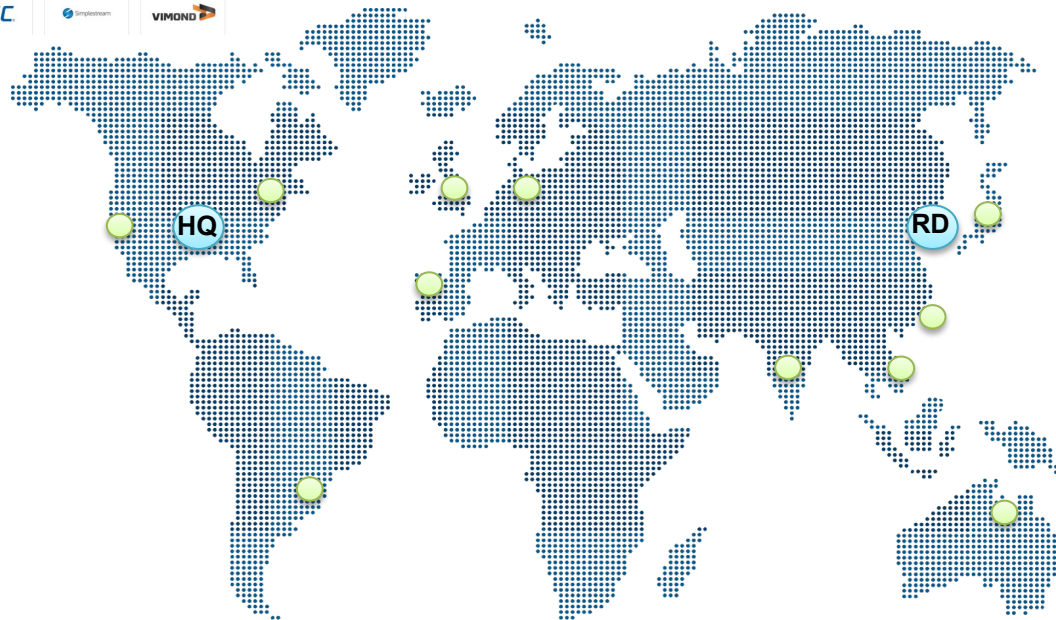
MEDIA EXCEL VALUE PROPOSITION

Product Coverage:
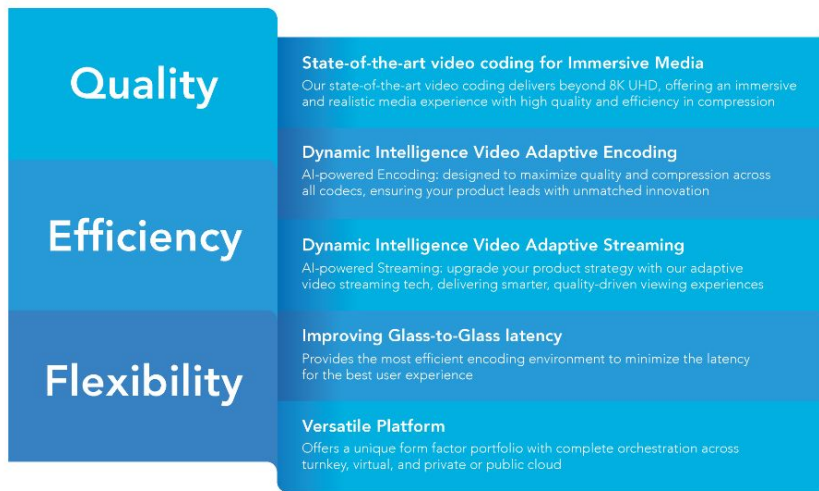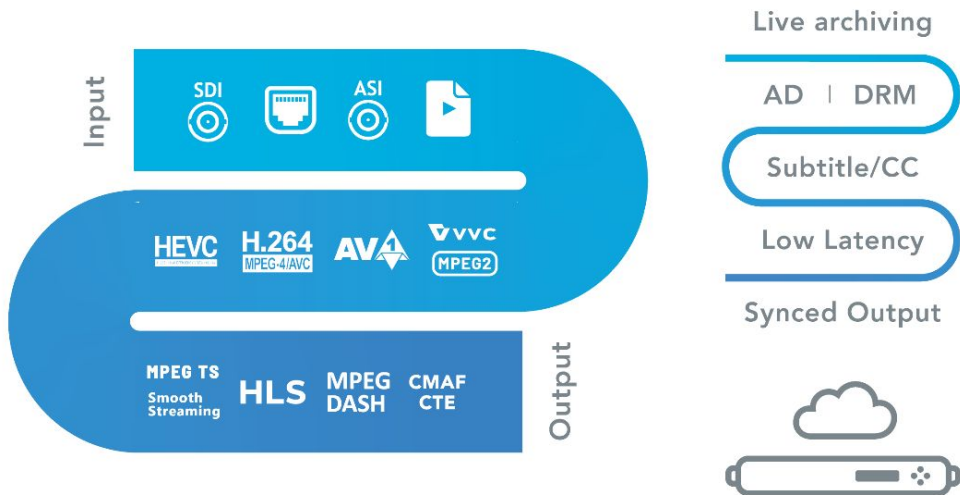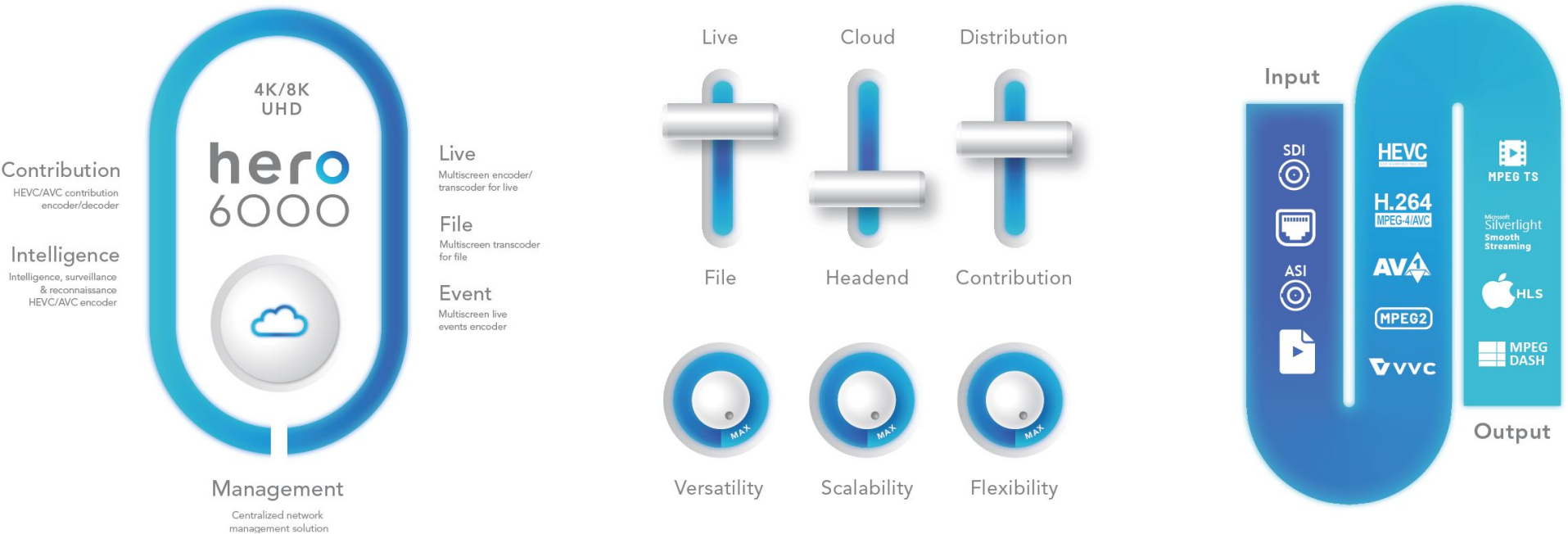- Multiscreen up to 8K
- Encoding
- Transcoding
- Decoding
- Live
- File/VoD

- Play-out
- DVR
- Ad Signaling & insertion
- Multi-DRM protection
- Ultra low latency streaming
- Central configuration & telemetry
- Watermark

Product form-factors:
- On-premise hardware appliance
- Virtual appliance (Software License)
- Commercial Cloud(Software License)
- Hybrid orchestration across form-factors

Input
SDI   ASI

HEVC   H.264 MPEG-4/AVC   AV1   VVC   MPEG2

MPEG TS Smooth Streaming   HLS   MPEG DASH   CMAF CTE

Output

Live archiving
AD | DRM
Subtitle/CC
Low Latency
Synced Output

Quality

State-of-the-art video coding for Immersive Media
Our state-of-the-art video coding delivers beyond 8K UHD, offering an immersive and realistic media experience with high quality and efficiency in compression

Dynamic Intelligence Video Adaptive Encoding
AI-powered Encoding: designed to maximize quality and compression across all codecs, ensuring your product leads with unmatched innovation

Efficiency

Dynamic Intelligence Video Adaptive Streaming
AI-powered Streaming: upgrade your product strategy with our adaptive video streaming tech, delivering smarter, quality-driven viewing experiences

Improving Glass-to-Glass latency
Provides the most efficient encoding environment to minimize the latency for the best user experience

Flexibility

Versatile Platform
Offers a unique form factor portfolio with complete orchestration across turnkey, virtual, and private or public cloud

PRODUCT PORTFOLIO

4K/8K UHD

hero 6000

Contribution
HEVC/AVC contribution encoder/decoder

Intelligence
Intelligence, surveillance & reconnaissance HEVC/AVC encoder

Live
Multiscreen encoder/transcoder for live

File
Multiscreen transcoder for file

Event
Multiscreen live events encoder

Management
Centralized network management solution

Live   Cloud   Distribution

File   Headend   Contribution

Versatility   Scalability   Flexibility

Input

SDI
ASI

HEVC
H.264 MPEG-4/AVC
AV1
MPEG2
VVC

MPEG TS
Microsoft Silverlight Smooth Streaming
HLS
MPEG DASH

Output

PRODUCT STRATEGY

Quality

Efficiency

Flexibility

State-of-the-art video coding for Immersive Media
Our state-of-the-art video coding delivers beyond 8K UHD, offering an immersive and realistic media experience with high quality and efficiency in compression

Dynamic Intelligence Video Adaptive Encoding
AI-powered Encoding: designed to maximize quality and compression across all codecs, ensuring your product leads with unmatched innovation

Dynamic Intelligence Video Adaptive Streaming
AI-powered Streaming: upgrade your product strategy with our adaptive video streaming tech, delivering smarter, quality-driven viewing experiences

Improving Glass-to-Glass latency
Provides the most efficient encoding environment to minimize the latency for the best user experience

Versatile Platform
Offers a unique form factor portfolio with complete orchestration across turnkey, virtual, and private or public cloud

hero

HERO 6000 PRODUCT ADVANTAGES

- Superior video quality

- UHD **8Kp60** or **4Kp120** (HFR) OTT encoding/transcoding

- Less-than **2 seconds** delay for OTT (**CMAF CTE**)

- Enhanced error resiliency to input source disruption

- Enhanced ad signal handling

- **Synchronization across multiple inputs** for large-scale events

- Support for Secure Reliable Transport (**SRT**)

- Live capture for catch up

- 6 nines reliability

4K/8K
UHD

hero
6000

Contribution
HEVC/AVC contribution
encoder/decoder

Intelligence
Intelligence, surveillance
& reconnaissance
HEVC/AVC encoder

Live
Multiscreen encoder/
transcoder for live

File
Multiscreen transcoder
for file

Event
Multiscreen live
events encoder

Management
Centralized network
management solution

MULTI SCREEN – FILE & LIVE TRANSCODING

Dynamic handling of all workflows:

- **Live to Live** (e.g. OTT, IPTV, Hybrid)
- **File to File** (e.g. VoD libraries)
- **Live to File** (e.g. archive, DVR)
- **File to Live** (e.g. playout)

File assets can be stitched together using API based control.

Live content can be spliced in dynamically to create a playout-based live output without the need for an external dedicated playout server, SDI routing, etc.
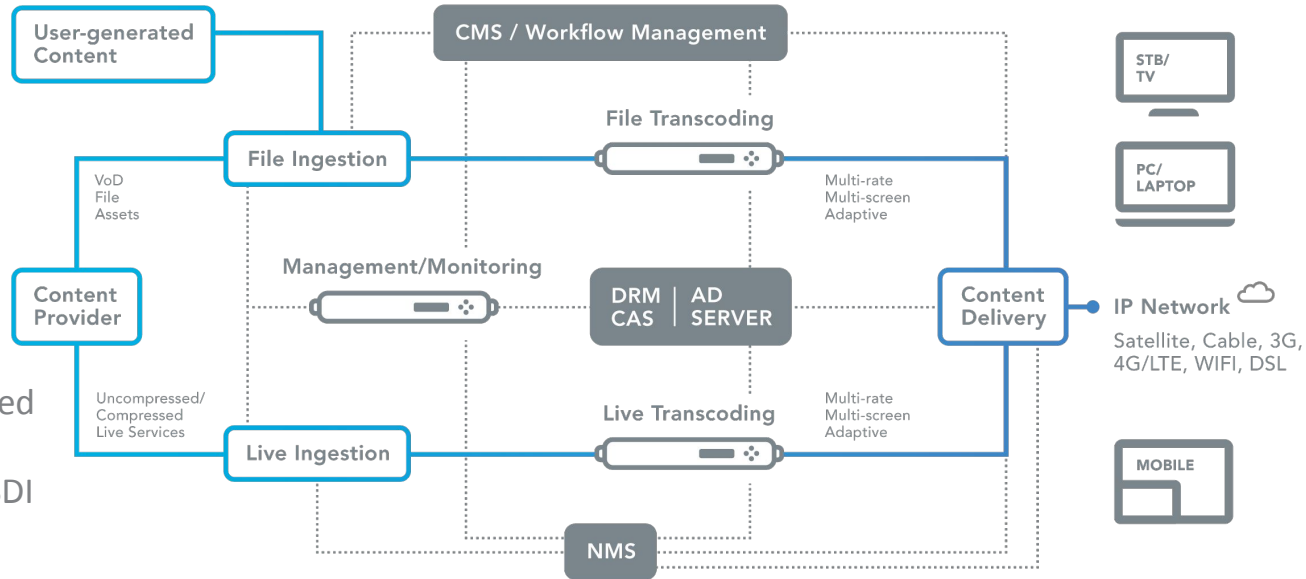
CONTRIBUTION – POINT-TO-POINT/MULTIPOINT

Multiple Codecs
- MPEG-2
- AVC/H.264
- HEVC/H.265

Multiple Profiles
- Resolutions up to UHD
- Frame rates up to 60Hz
- 4:2:2/4:2:0
- HDR/SDR WCG up to 10bit

Multiple Delivery Protocols
- ASI/RTP/UDP TS
- HLS
- DASH
- Smooth
- RTMP
- RTSP
- FILE
- SMPTE-2022, ZIXI, SRT
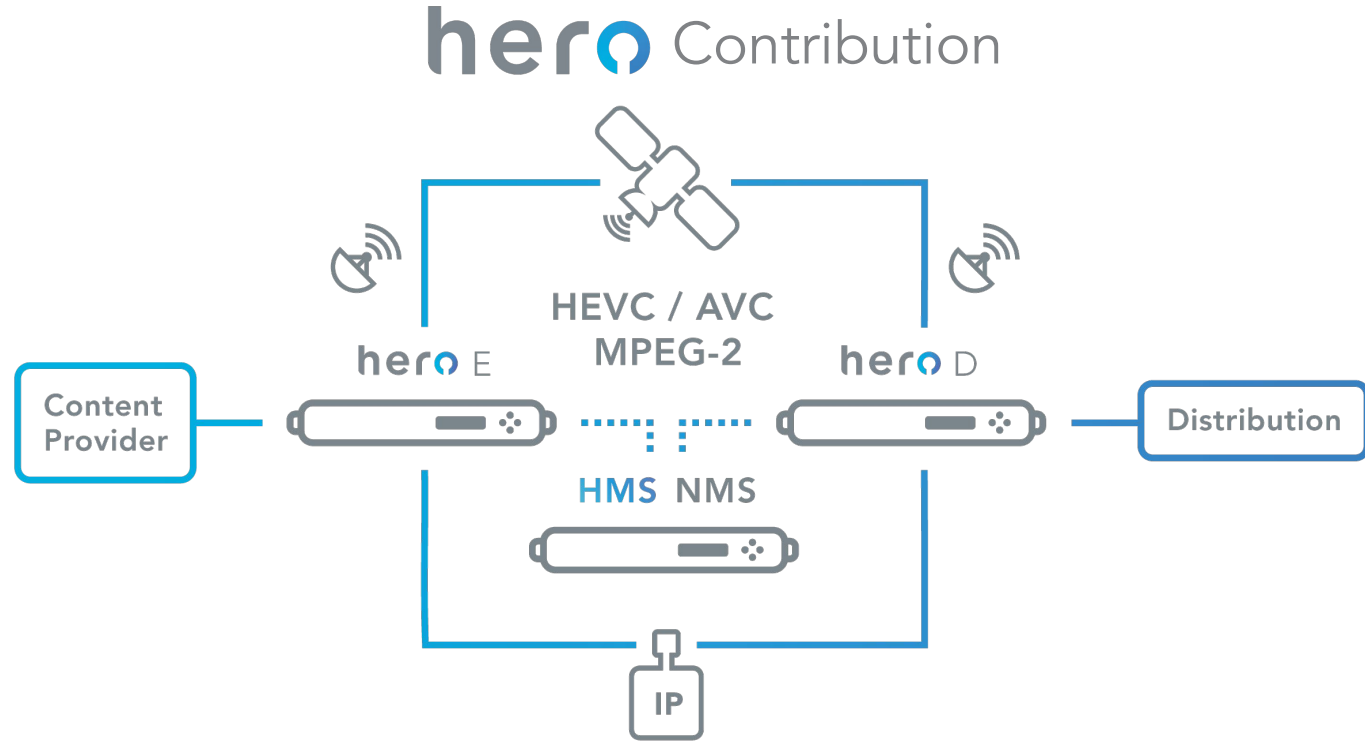
HERO EVENT ENCODER

Low-latency, multi-channel, multi-format, multi-screen encoding solution for broadcasting of all your most important events, regardless of the venue.

- Up to 2FHD SDI Channels per 1RU

- **Under 2 sec. end-to-end latency (CMAF-CTE)**

- **HLS, RTMP/RTMPS (Push/Pull), Smooth, MPEG-DASH, CMAF**

- SCTE-104/35 ad signaling and CC/Subtitles support

- Fully validated with Online Video Platforms, CDNs, Social Media, Ad Platforms and Media Servers
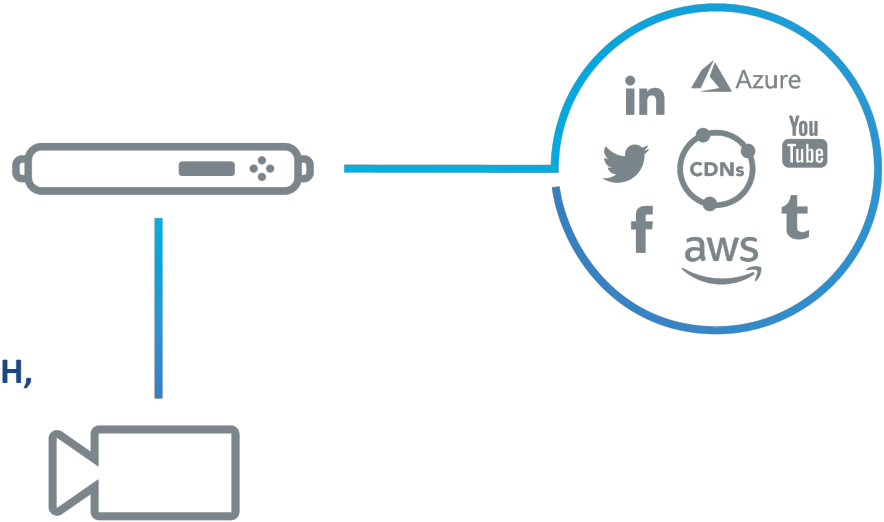
HERO Synchronizer

Achieve Perfect Sync with Media Excel's Timecode Embedder and HERO Management System's Frame Synchronizer.
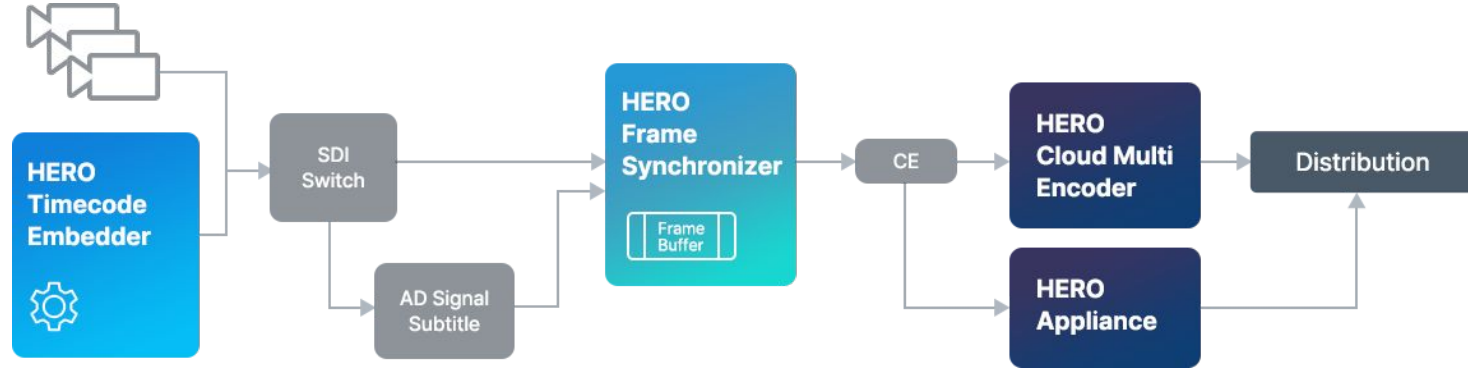
Anywhere, Any Environment:
• Enable synchronization across multiple encoders and locations with NTP synchronized timecodes

Customizable for Every Scenario:
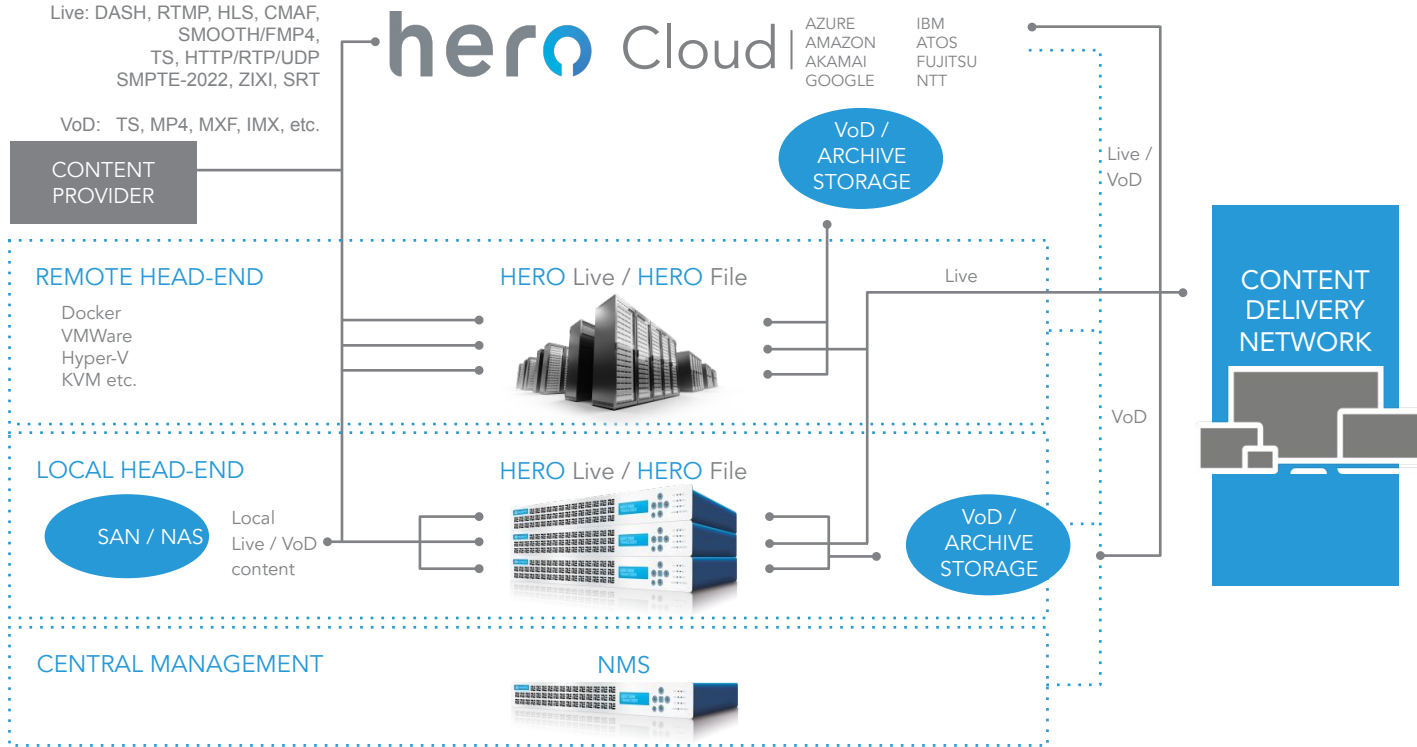• Flexibly configured to suit various service scenarios and environments

Commercially Deployed, Field-Proven Solution:
• Already deployed in various fields like sports events and musical performances, proving its effectiveness in the field

CLOUD - VIRTUAL SOFTWARE

Benefits

- Rapid deployment of Live and VoD encoding/transcoding services

- Installation on virtual appliances, containers, x86 processing blades or standalone servers

- Dynamic scalability and **orchestration** based on operating and strategic metrics

- Central, remote configuration and monitoring

- Seamless high availability policies with 1+1, N+M and service level fail-over

Live: DASH, RTMP, HLS, CMAF, SMOOTH/FMP4, TS, HTTP/RTP/UDP SMPTE-2022, ZIXI, SRT

VoD: TS, MP4, MXF, IMX, etc.

hero Cloud | AZURE AMAZON AKAMAI GOOGLE   IBM ATOS FUJITSU NTT

CONTENT PROVIDER

VoD / ARCHIVE STORAGE

Live / VoD

CONTENT DELIVERY NETWORK

REMOTE HEAD-END

Docker
VMWare
Hyper-V
KVM etc.

HERO Live / HERO File

Live

LOCAL HEAD-END

SAN / NAS

Local Live / VoD content

HERO Live / HERO File

VoD / ARCHIVE STORAGE

VoD
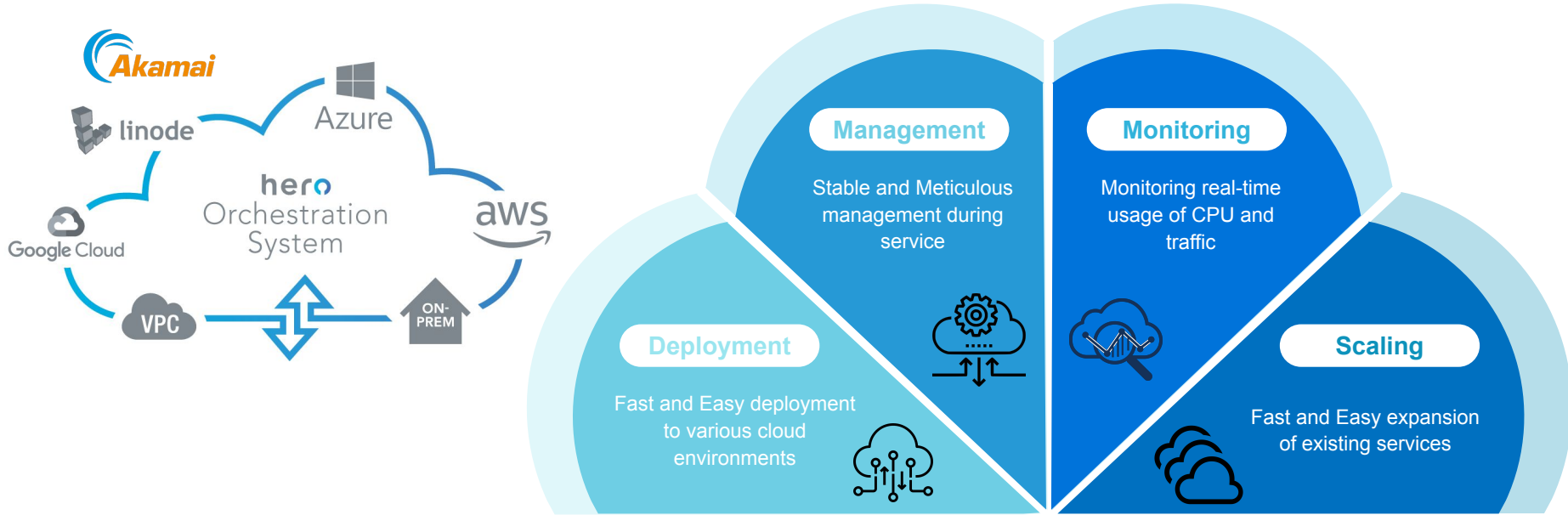
CENTRAL MANAGEMENT

NMS

HERO Orchestration System

HERO Orchestration System(HOS) is a collection of automated tools for **deploying Hero VS** on public clouds (**AWS, Akamai/Linode, Azure, and GCP**) and building clustering farms.
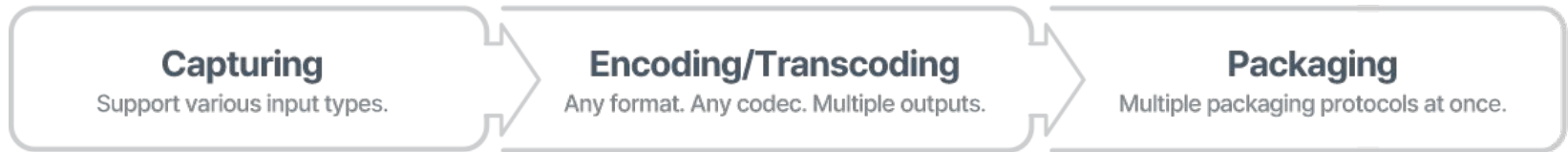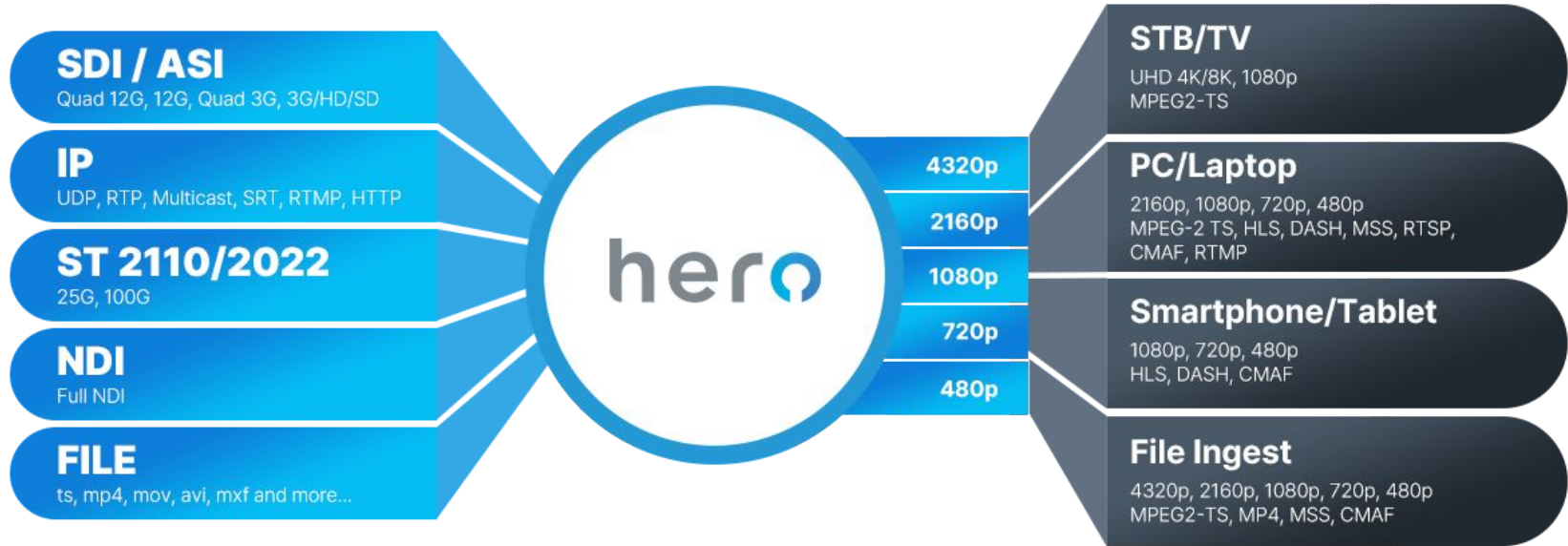
HOS also supports the management and monitoring of clustering farms.

HOS is preparing to support **fast and easy auto-scaling and load-balancing** features.

Management
Stable and Meticulous management during service

Monitoring
Monitoring real-time usage of CPU and traffic

Deployment
Fast and Easy deployment to various cloud environments

Scaling
Fast and Easy expansion of existing services

KEY FEATURES: UHD 4K/8K ABR VVC, AV1, HEVC and AVC Hybrid Outputs

The HERO Ultra HD Encoder supports hybrid adaptive bitrate output workflows of **simultaneous UHD & HD** outputs in **VVC, AV1, HEVC and AVC** codecs in multiple container formats.


SDI / ASI
Quad 12G, 12G, Quad 3G, 3G/HD/SD

IP
UDP, RTP, Multicast, SRT, RTMP, HTTP

ST 2110/2022
25G, 100G

NDI
Full NDI

FILE
ts, mp4, mov, avi, mxf and more...

hero

4320p
2160p
1080p
720p
480p

STB/TV
UHD 4K/8K, 1080p
MPEG2-TS

PC/Laptop
2160p, 1080p, 720p, 480p
MPEG-2 TS, HLS, DASH, MSS, RTSP, CMAF, RTMP

Smartphone/Tablet
1080p, 720p, 480p
HLS, DASH, CMAF

File Ingest
4320p, 2160p, 1080p, 720p, 480p
MPEG2-TS, MP4, MSS, CMAF

Capturing
Support various input types.

Encoding/Transcoding
Any format. Any codec. Multiple outputs.

Packaging
Multiple packaging protocols at once.

KEY FEATURES: Smart Encoding & Efficient Streaming

- Designed to **integrate** effortlessly within **any video ecosystem.**

- Ensures the **most optimal encoding** tailored to your specific needs.

- Guarantees a **seamless, high-quality** output.

Experience unmatched compatibility and performance, no matter the environment.
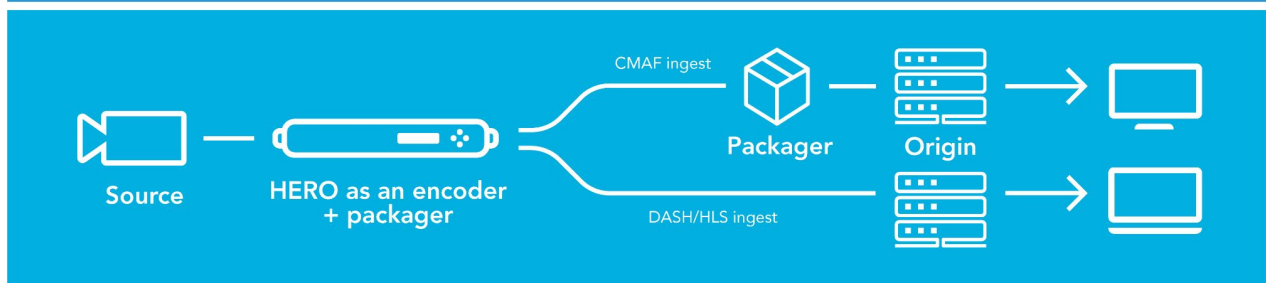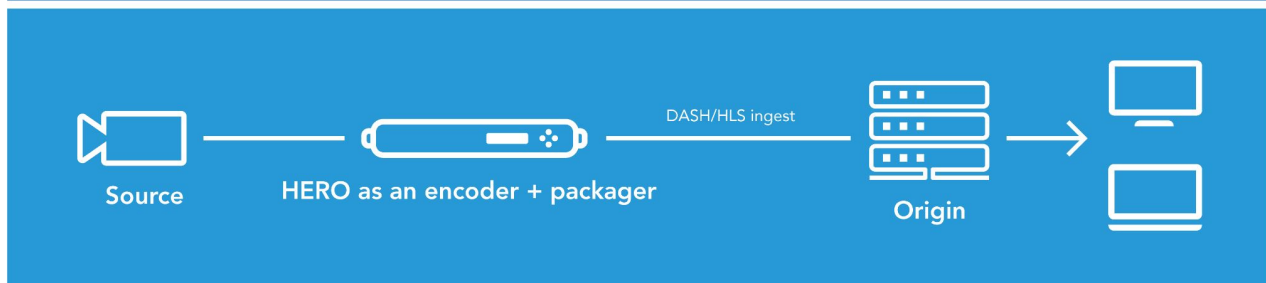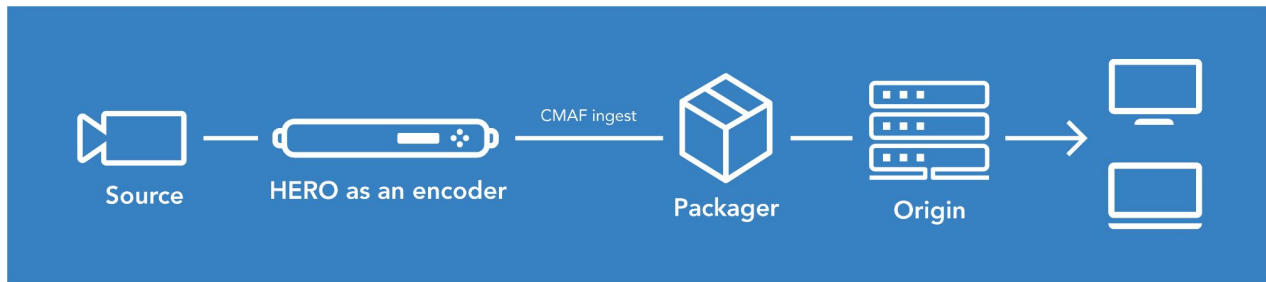
KEY FEATURES: Synced Outputs

- By including time information, we ensure **synchronized outputs** even in the face of delays!

- No time data in your input? Our technology **seamlessly embeds time information**, delivering always-aligned, perfect signals.

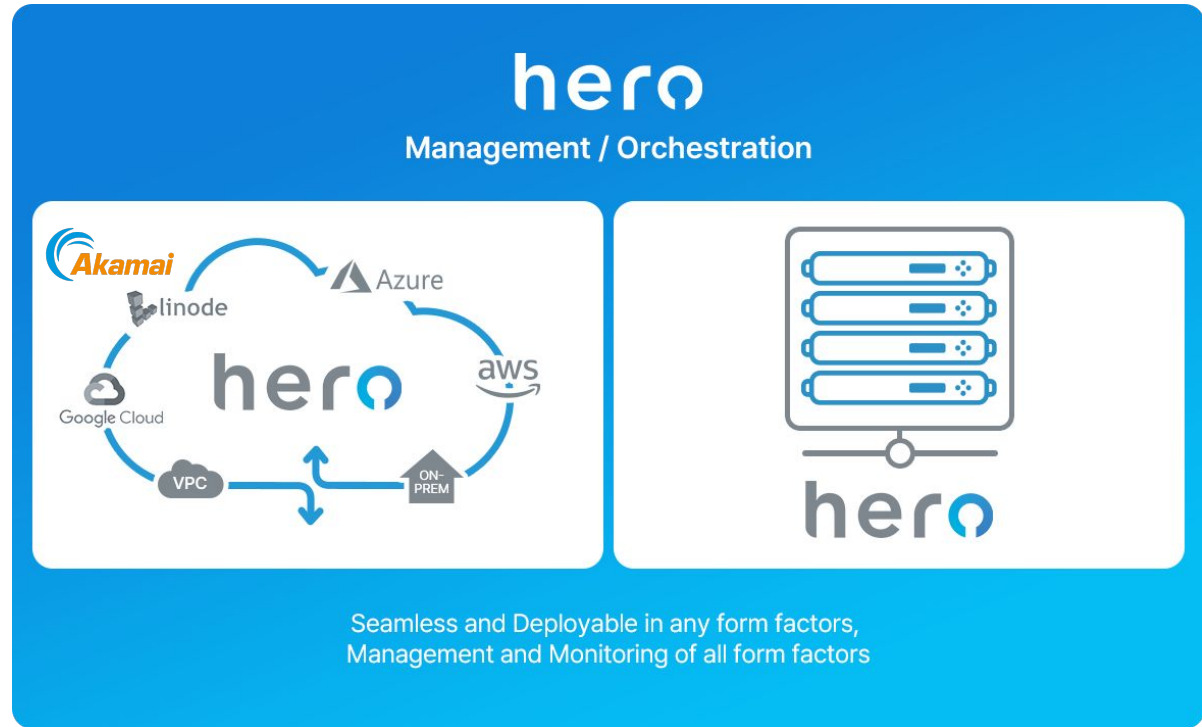- Live archiving, ad signaling, **DRM, Watermarking,** and **Subtitle/CC**

We offer you top-tier features, all delivered with low latency and perfectly synchronized outputs!
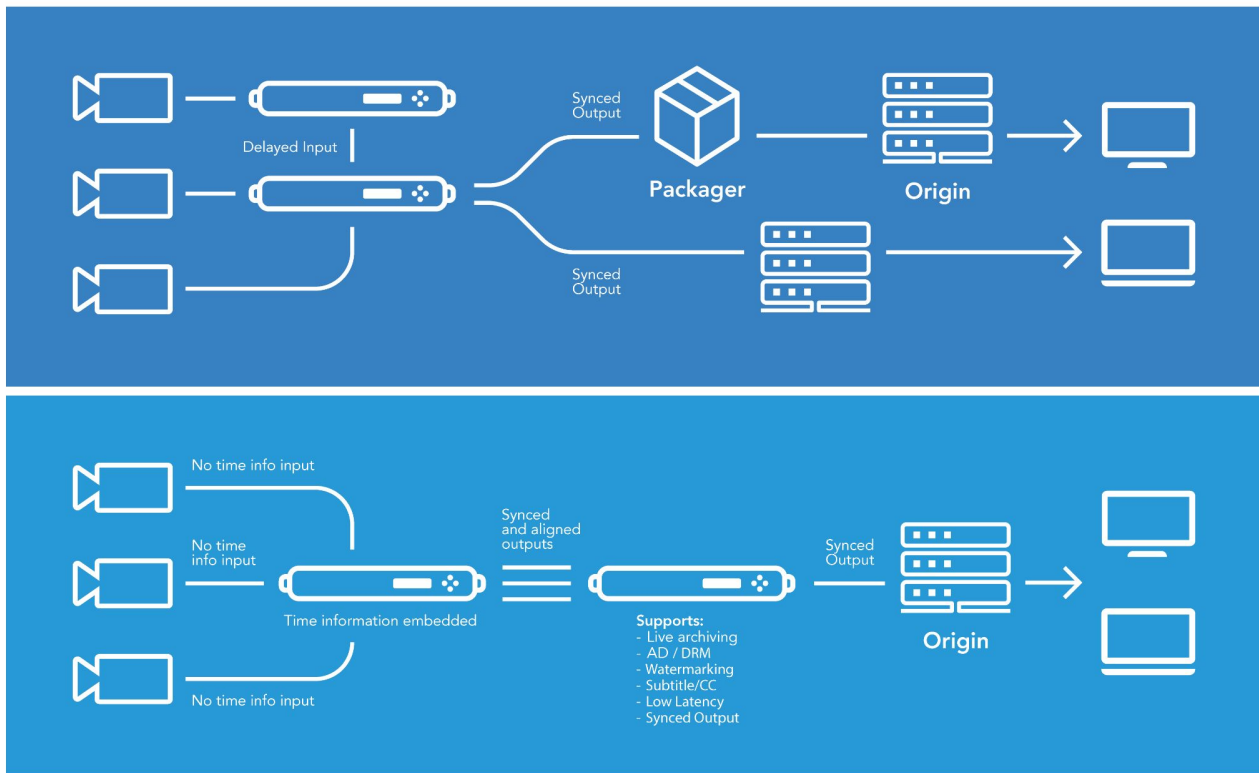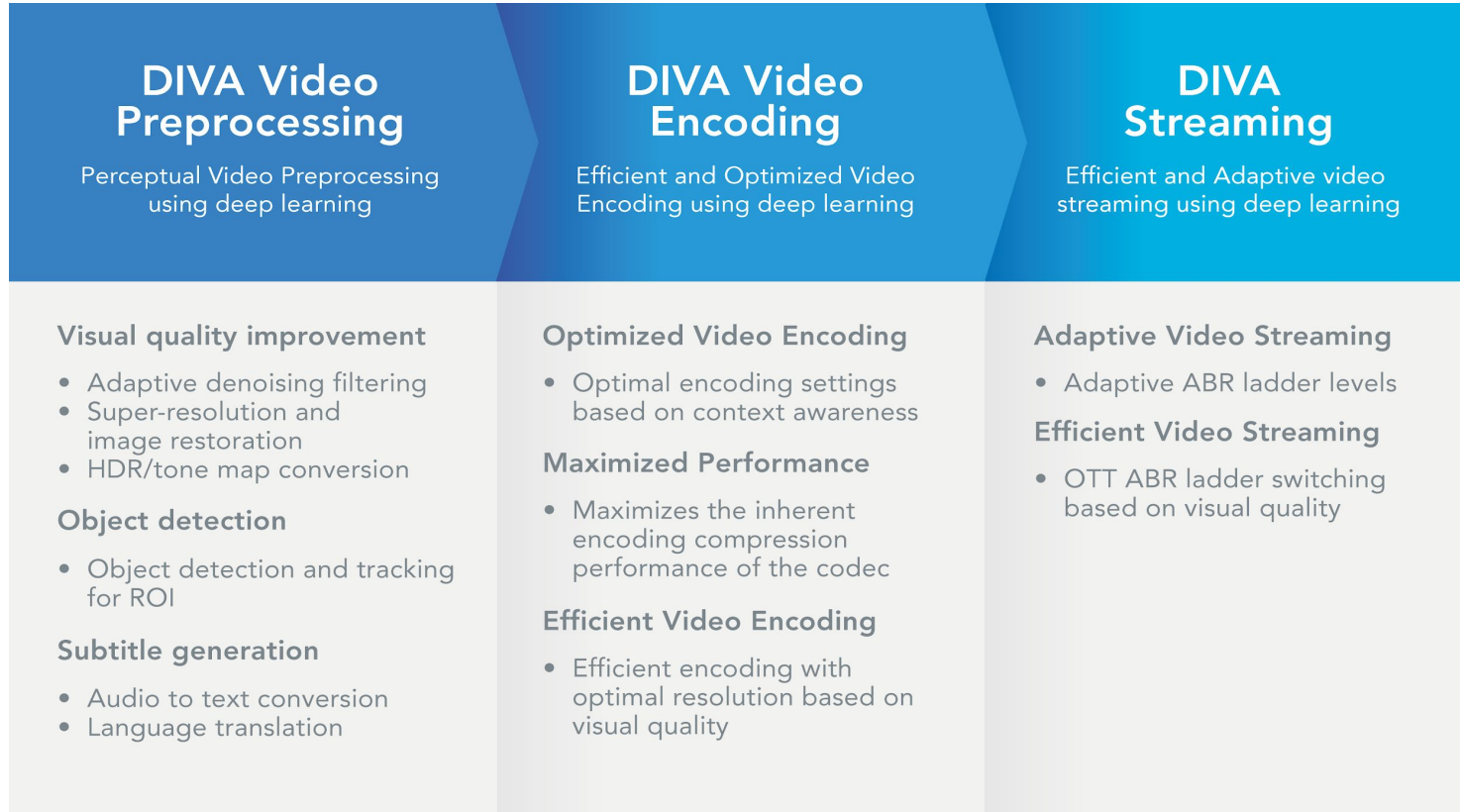
KEY FEATURES: Versatile Platform

- **Versatile Deployment**: HERO fits every environment and any setup, offering a comprehensive range of forms for every need.

- **Unified Control**: Despite diverse environments, HERO ensures stable device management and monitoring with the HERO Management Server (HMS), adapting perfectly to your needs.

With Media Excel's HERO, elevate your streaming experience to new heights, combining unparalleled flexibility and efficiency to meet the demands of any project.


Seamless and Deployable in any form factors, Management and Monitoring of all form factors

KEY FEATURES: DIVA Encoding System

DIVA Video Preprocessing

Perceptual Video Preprocessing using deep learning

Visual quality improvement

- Adaptive denoising filtering
- Super-resolution and image restoration
- HDR/tone map conversion

Object detection

- Object detection and tracking for ROI

Subtitle generation

- Audio to text conversion
- Language translation

Coming soon

DIVA Video Encoding

Efficient and Optimized Video Encoding using deep learning

Optimized Video Encoding

- Optimal encoding settings based on context awareness

Maximized Performance

- Maximizes the inherent encoding compression performance of the codec

Efficient Video Encoding

- Efficient encoding with optimal resolution based on visual quality

Available now

DIVA Streaming

Efficient and Adaptive video streaming using deep learning

Adaptive Video Streaming

- Adaptive ABR ladder levels

Efficient Video Streaming

- OTT ABR ladder switching based on visual quality

Coming soon

DIVA VIDEO ENCODING™

Result: Experience crystal-clear visuals with minimal blocking artifacts, even at incredibly low bit rates!

diva on [2Mbps]

diva off [2Mbps]

diva on [2Mbps]

diva off [2Mbps]
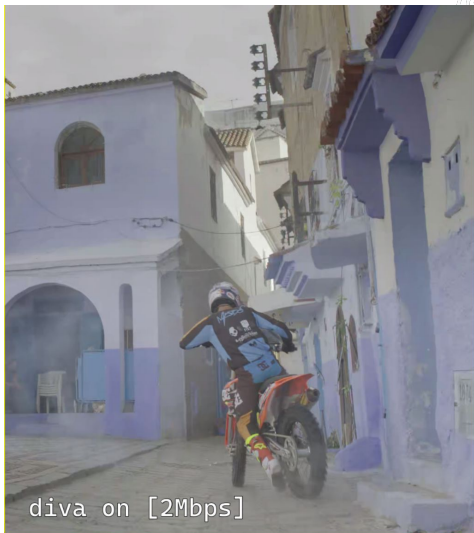
3840x2160, HEVC main10, 2Mbps

hero **DIVA** Encoding

DIVA VIDEO ENCODING™

Result: Even after the scene change in the video, any distortion is swiftly corrected to deliver optimal quality!
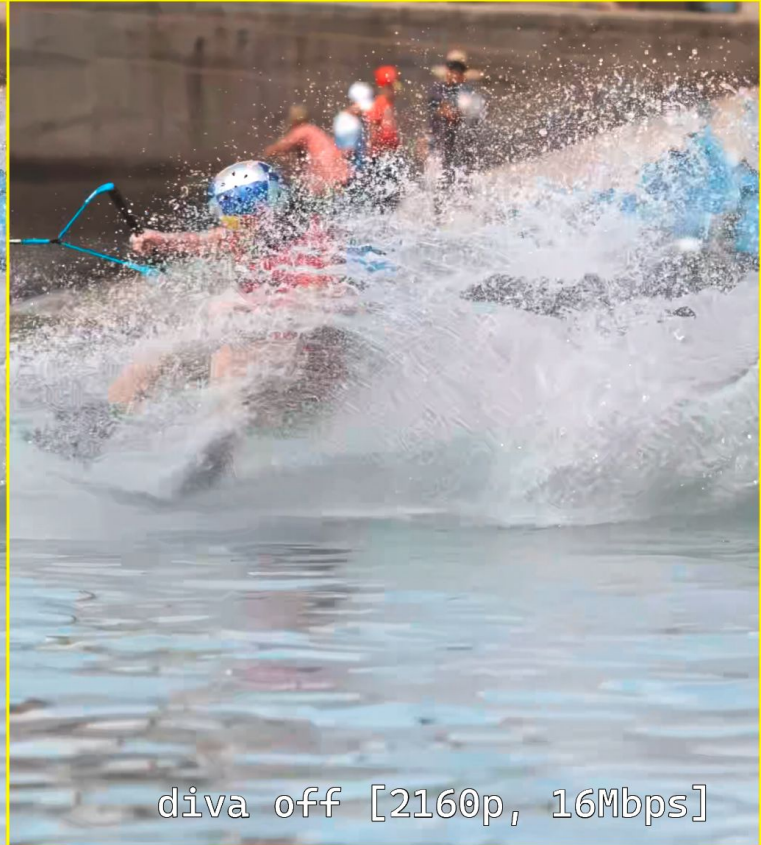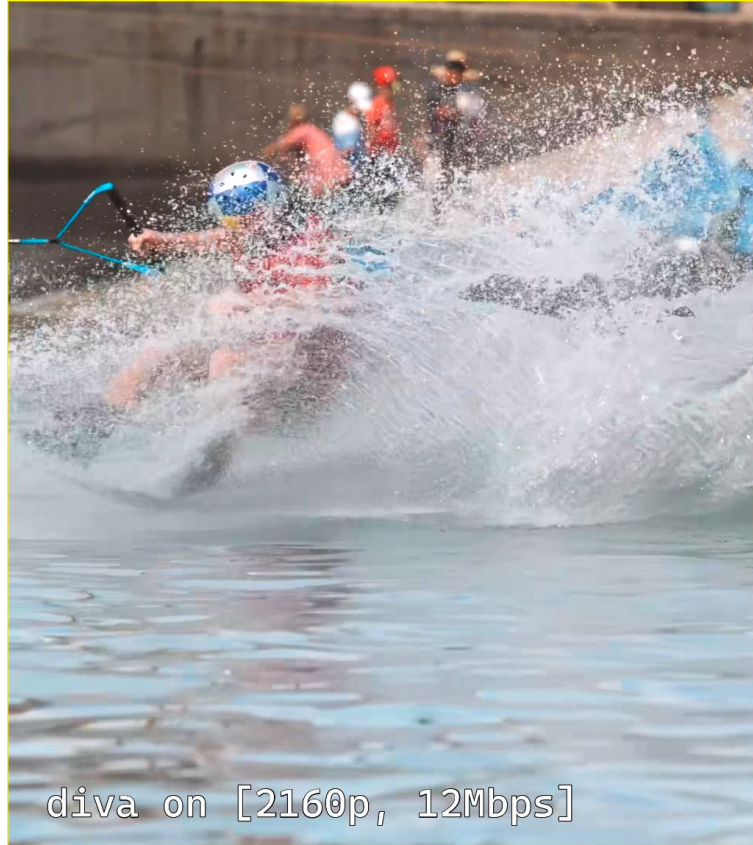

(N-1)th frames

Nth frames, Scene change

(N+1)th frames

(N+2)th frames, fast adaptation

DIVA VIDEO ENCODING™

**Result:** Lower Costs, Same Great Quality! Experience and Enjoy Maximized Compression and bit Savings Effect!

diva on [2160p, 12Mbps]

diva off [2160p, 16Mbps]

Qualified Computing Partner

Media Excel, as part of Akamai Quality Computing Partners, synergizes by providing the most powerful Media Encoding Services on the Akamai cloud platform.

Customer Benefits

- AI-driven, optimal video encoding (DIVA) for the best quality video or maximum bandwidth saving
- Ultra Low Latency Encoding
- Rapid deployment of Live and VoD encoding/transcoding services
- Central, remote configuration and monitoring
- Seamless high availability policies with 1+1, N+M and service level fail-over
- Feature rich encoding service such as Subtitles, Ad marker, DRM/Watermarking, Live archiving, and many more.

Empowering Live Streaming with Media Excel & Akamai
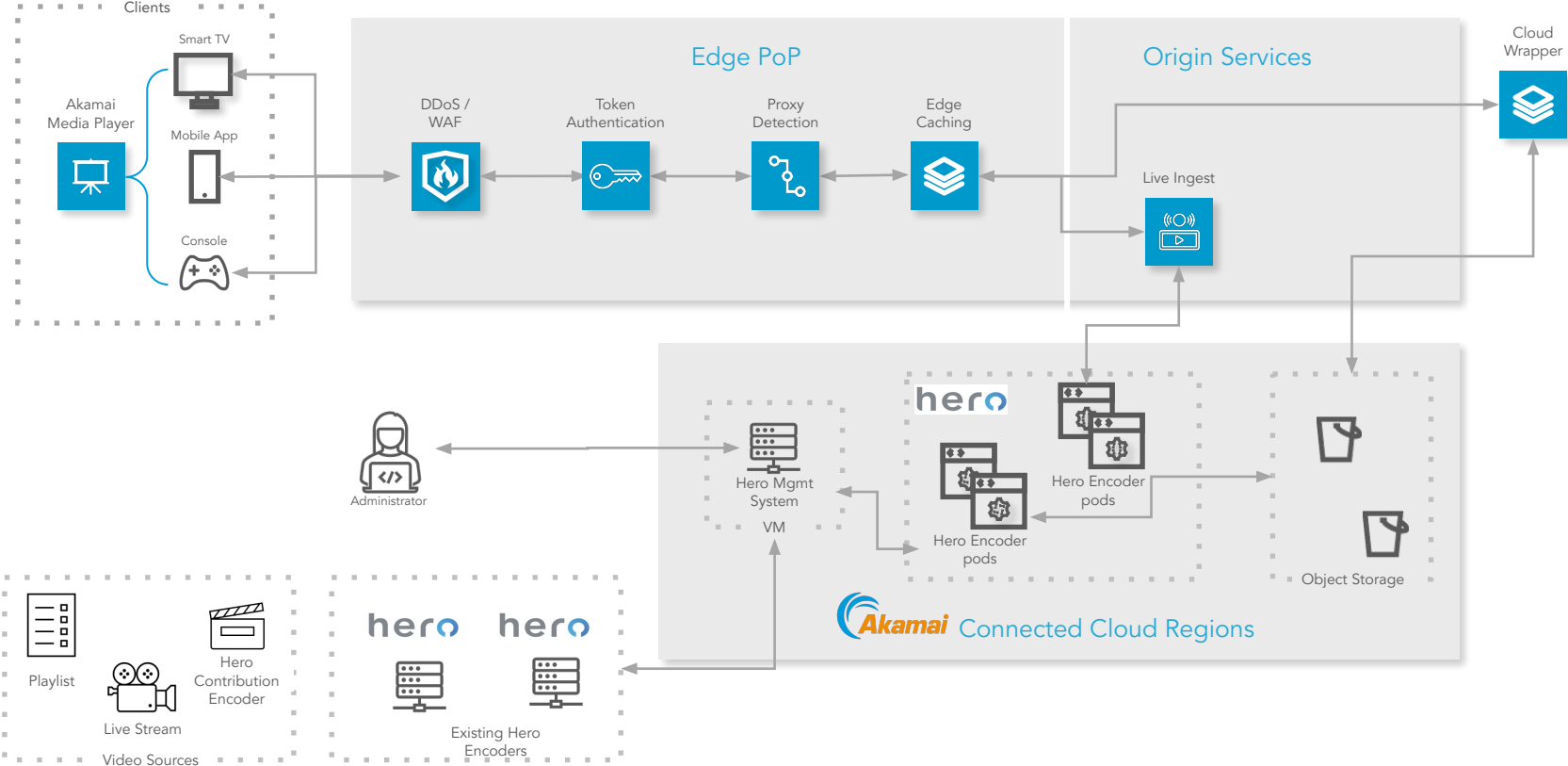
SUMMARY: WHY MEDIA EXCEL

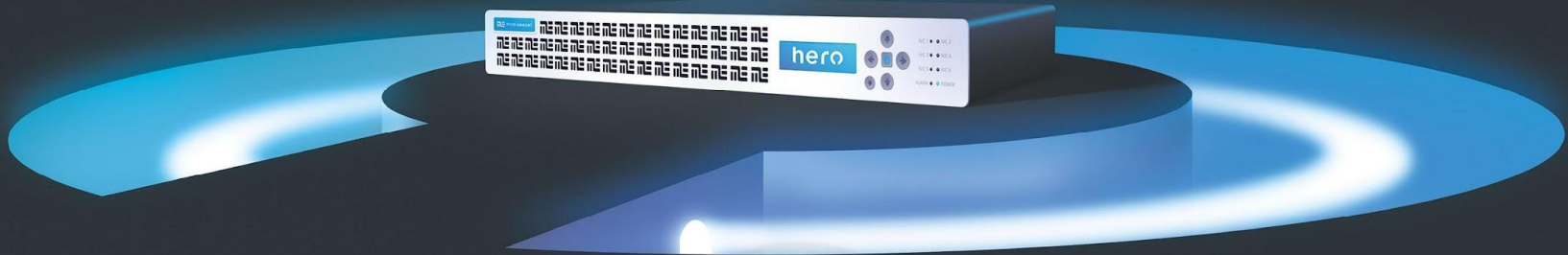|	
PRODUCT PORTFOLIO	**Solid product portfolio** for multiscreen and contribution video services for the head-end, cloud and field.
	Comprehensive coverage for all **workflows** (Live-to-Live, Live-to-File, File-to-File, File-to-Live)
	Established and proven **leadership** in **video quality**, **reliability** and **innovation**
OPERATIONS	**Consistent** Revenue and Profit Margins: Cash-flow Positive, **Profitable**, Gross **Margin > 70%**
	Lean operations: **Very low burn rate** and short-term debt, **No long-term debt**
	Customer-oriented roadmap and unmatched **feature turn-around time**
CUSTOMERS	**Global** and **Recurring customer base** across**: Telecom, Pay-TV & Online Video Platforms, Content Providers & Sports, DoD**
	Diversified revenue sources across **offerings** (HW, SW, SLA), **regions** (NA, EMEA, APAC) and **customers** (Telcos, DoD, OVPs)
	Comprehensive network of **channel** and **ecosystem partners** across the globe
PROVEN EXPERTISE & POTENTIAL	Core team with **decades of experience** in technology product development, **video compression** and **HW/SW design**
	Exceptional reputation of customer support and track record of addressing customer needs
	Media Excel powers **Fortune 500** clients and the most **demanding high-profile services worldwide**: Verizon, AT&T, Telus, Telenor, Orange, Telstra, Optus, LGU+, MTV, SK Telecom, Akamai, Level3, RTL, Arqiva, Encompass, IMG, SONY, ESPN, NFL, NBA, FIFA, F1, WTA, Olympic Games, US Army, US Air-Force, British Forces, Japanese Navy

mediaexcel.com