



TELESTE
OPTIMO

HEADEND PLATFORM FOR HIGH-DENSITY TRANSCODING

TELESTE

MORE STREAMS OR THE BEST QUALITY? CHOOSE BOTH!

The Teleste Optimo provides a compact carrier-class solution for multi-screen video transcoding plus Internet and mobile video streaming. It is a unified platform for a wide array of advanced video processing applications and it transcodes from any input resolution to any output resolution while maintaining the precise ratio of quality to bit rate. This is all done with unparalleled efficiency and service reliability.

Amazing experience on every screen

The consumption of TV services are increasing and rapidly spreading across a variety of connected, video-enabled consumer platforms, such as smartphones, tablet computers, PC's, gaming consoles, connected TVs and more. A digital lifestyle increases the need to access entertainment and news in broadcast-quality; this cannot be compromised. The novel ways to access TV and video services set new requirements for a service provider.

The Teleste Optimo, which supports any type of resolution video transcoding and codec audio transcoding, fits the bill by offering users the highest quality experience available. Adaptive streaming guarantees that viewers will enjoy uncompromised video quality, even in cases involving sudden changes in the network throughput. Uniquely, all the resolutions required for the multi-screen service are available at the same time from a single platform. It gives operators unprecedented amounts of scalability, flexibility and reliability and it is future-proofed to provide advanced video services for current and next-generation consumer devices.

No compromises in quality or quantity

Most consumers today expect a high degree of choice and quality in video. Pay TV providers have long offered extensive channel line-ups. Large TV screens at home and smaller mobile screens are becoming increasingly common and setting new requirements for video quality.

Quality and quantity may seem contradictory in terms of network capacity, but the limits can be extended. The Teleste Optimo preserves and enhances important visual details, and also reduces deterioration of picture.

The unified platform does it all

Density and multi-functionality in headend equipment often leads to power efficiency and cost savings. The advantage of low power consumption is multiplied by reduced cooling needs and is reflected in an increased product lifetime and a decreased risk of faults. Not to mention, it offers savings in rack space and cabling and allows for easier maintenance all of which benefits the service provider.

The Teleste Optimo is a single unified platform for a wide array of advanced video processing applications. Rate-clamping, multi-codec transcoding, real-time and off-line file processing, multi-rate, multi-resolution, multi-screen stream adaptation, IP aggregation and processing, and other software applications can all be loaded onto the same unified hardware infrastructure. And because the IP based platform uses Linux, it is unparalleled in its configuration flexibility and simplified system maintenance.

Easy to operate, yet provides full access to details

There are various parameters for adjusting the operation and fine-tuning the functionalities of professional equipment. Often, this involves a trade-off between usability and access to details. A simple user interface may lack the possibility for making detail-level adjustments, while a user interface that presents all the details can be complex and require high-level technical expertise on the part of the operating personnel.

The Teleste Optimo strives to combine first-class usability and detailed adjustments. The user interface is intuitive with default profiles that moderate the need for technical expertise. However, an advanced user will have the option to bypass the default values and fine-tune the details. The entire solution can be managed centrally as one solution entity, or else the management can be handled via the web-user interfaces of individual devices.

Flexibility for your benefit

Varying needs demand different solutions. Saving bandwidth or downscaling HD content to SD require efficient transcoding, whereas OTT and multi-screen services demand fragmenting and streaming. Furthermore, it is not uncommon that some system components exist already –and no one needs duplicates. Depending on the needs of the user, Optimo covers both transcoding and OTT or just transcoding.

The best of hardware and software

When it comes to video processing, hardware-based solutions are usually first class in terms of efficiency and powerfulness, but they lack flexibility. They are optimal when harnessed to perform tightly defined operations, which makes them perfect for specialised tasks. Software-based solutions are, in contrast to hardware-based solutions, flexible and can be adapted quickly to suit varying demands, but they cannot reach the same level of performance as hardware.

Until now, service providers have been limited to choosing between hardware- or software-based solutions. This has now changed, because the Teleste Optimo brings together the best of both approaches, thereby forming a unique solution offering. Operations requiring a high-processing capacity – like real-time transcoding – are performed by hardware, while software performs less heavy operations. The Teleste Optimo delivers high performance and flexibility and can be quickly and easily upgraded to support future requirements.

Be proactive with quality assurance

Signals received at the video headend can be corrupted in their transmission from the broadcaster and/or programmer. These errors can appear as a discoloration of a macroblock, as a “tear” in the video frame or as stuttering due to lost frames. These quality issues can greatly affect a subscriber’s service experience and should be proactively addressed and corrected before they reach the subscriber.



Teleste Optimo Live

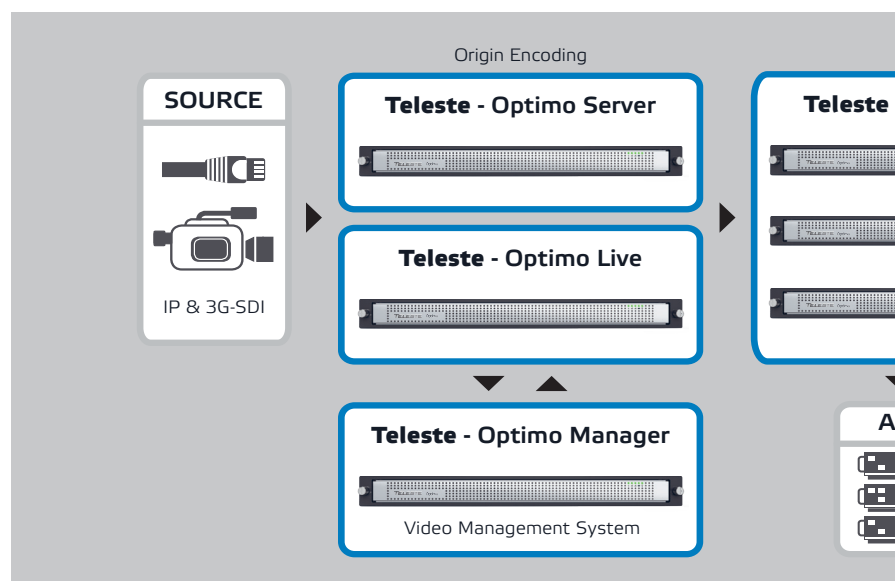
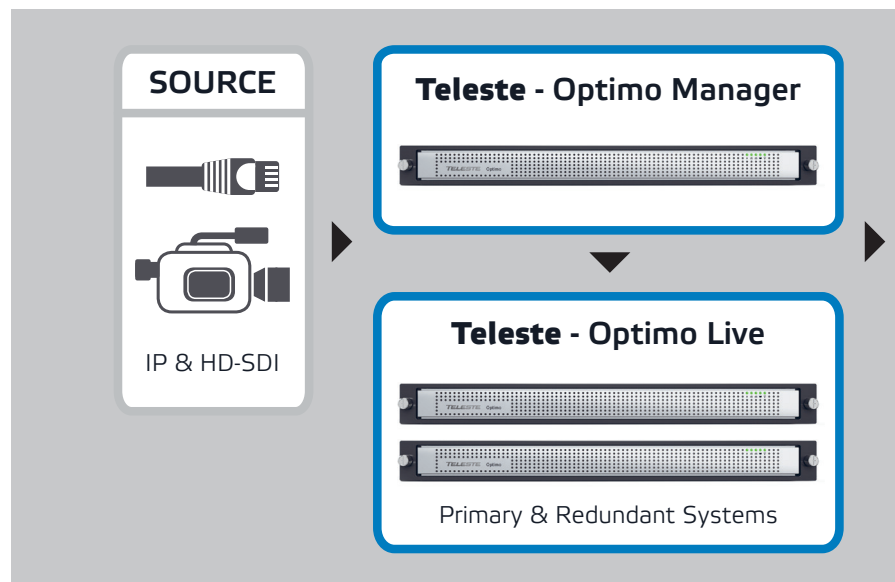
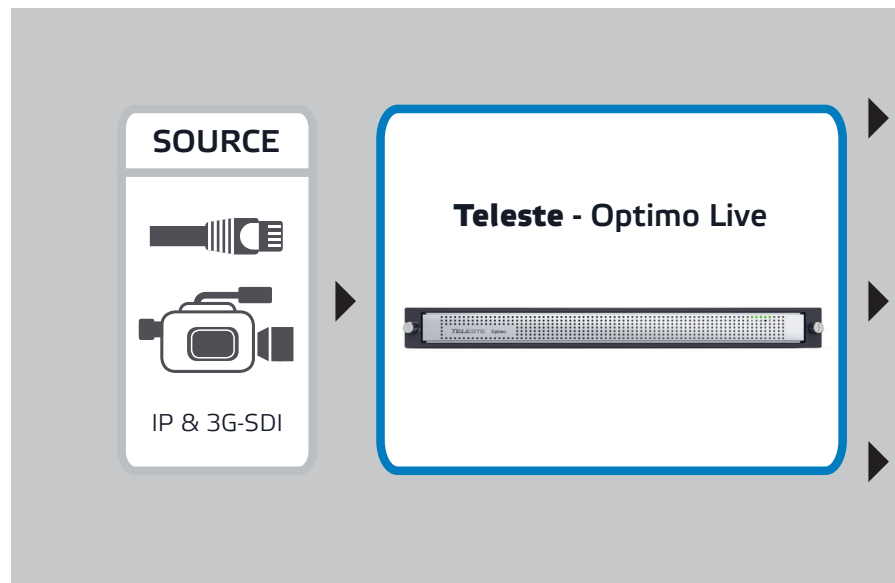
- Real-time video and audio encoding
- Live streaming
- Adaptive bitrate support
- Seamless Cloud integration

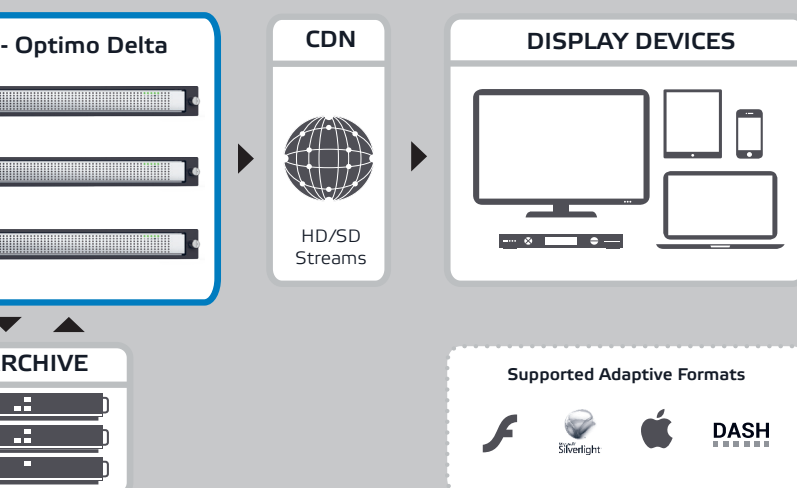
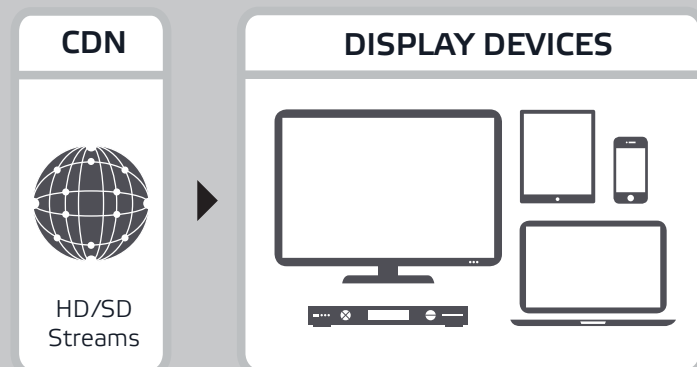
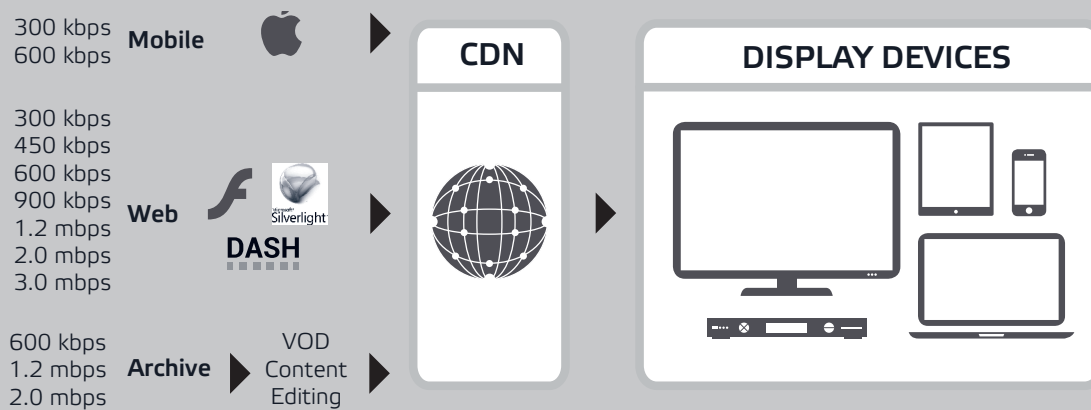
Teleste Optimo Manager

- Unified control and management
- Flexible redundancy scenarios
- Channel monitoring
- Ease of maintenance

Teleste Optimo Delta

- Just-in-time video packaging
- Intelligent caching
- Time-shifted TV services
- Network bandwidth optimization
- Embedded encryption and DRM wrapping







Teleste Optimo combines the best of hardware and software

VIDEO PROCESSING		CHASSIS (1RU SERVER)	
Encoding and transcoding	MPEG-2 High and Main Profile MPEG-4 AVC High, main and Baseline Profile H.265/HEVC IDR alignment accross unlimited profiles Multiple output profiles per input video CBR, VBR, and Capped VBR, CQ Frame rate reduction	Rack size	1 RU rack-mountable server chassis
Image processing deblocking	Motion adaptive interlacing Look ahead rate control Anti-alias scaling Noise reduction Bilateral filtering Scene change detection (automatic I-frame insertion) Aspect ratio and frame rate conversion	Dimensions/weight	WxHxD 437 x 43 x 777 mm, 22 kg
		Power supply	100-230 VAC Dual swappable power module Max 750W in full 1 RU transcoder
		Redundancy	N+M chassis Dual power supply
		Network interfaces	2 x Gigabit Ethernet ports Optional additional 4 x Gigabit Ethernet ports
AUDIO PROCESSING		Regulatory compliance	Electromagnetic emissions:FCC class A, EN 55022 class A, EN61000-3-2/-3-3, CISPR 22 class A Electromagnetic immunity: EN 55024/ CISPR 24, (EN61000-4-8, EN61000-4-11) Safety:CSA/EN/IEC/UL 60950-1 compliant, UL or CSA listed (USA and Canada), CE marking (Europe)
Engoding, transcoding	MPEG-1L2, AC-3, AAC, HE-AAC	TRANSPORTS	
Audio level	Manual adjustment Automatic loudness management	Inputs from IP network	MPEG-TS/UDP/IP RTP inputs IGMP v3 SSM Supports MPTS and SPTS, CBR or VBR Input stream redundancy (primary & secondary)
Capacity	Up to 16 audio programs per video program	SDI inputs	Max 4 3G-SDI in 1RU chassis Max 8 x HD-SDI in 1 RU chassis
DATA SERVICES		Outputs to IP network	MPEG-TS/UPD/IP SPTS Duplicate streaming (primary & secondary)
Services	Caption transcoding with multiple formats Caption burn-in DPI (SCTE-35) Logo insertion	ENVIRONMENTAL	
MANAGEMENT		Operating temperature	10 °C to 35 °C
Graphical UI	Embedded WEBUI Management system for multiserver management	Storage temperature	-40 °C to 60 °C
SNMP	SNMPV2c	Operating relative humidity	8% to 90% non-condensing
High availability	N+M chassis redundancy group Input stream redundancy	Storage relative humidity	5% to 95% non-condensing
API	Restful API	Storage shock	10 ms duration,20G, square wave, 1 shock/side
ADAPTIVE STREAMING			
Roles	Segmenter		
HTTP streaming	HLS, MSS, HDS,RTMP MPEG-DASH		
File transfer protocols	FTP, WEBDAV		

Key features and benefits of Optimo:

- Mpeg2/H.264/HEVC/SD/HD/UHD
- High density
- Best of software, hardware, and cloud
- Video quality assurance
- One linput to multiple bit rates and resolutions
- Adaptive streaming

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