



# MediaWarp Edge Multiscreen Delivery

## MediaWarp Edge Multiscreen Delivery

MediaWarp Edge Multiscreen Delivery is a video delivery solution built on top of the MediaWarp end-to-end Content Delivery Platform designed to optimize the monetization, management and distribution of multiscreen video over the public Internet. Through just-in-time (JIT) video packaging and intelligent CDN caching, MediaWarp Edge Multiscreen Delivery converts popular VOD libraries and live streams to all ABR formats through just-in-time packaging to play on any device. Supports Live Rewind, Catch-up TV, Live to VOD, and targeted ad insertion services.

### Just-In-Time Packaging

- All Video assets are stored in a single mezzanine format and re-packaged on the fly
- Support re-packaging to all major ABR formats: HLS, HSS, HDS and MPEG-DASH
- Network traffic and storage costs are significantly reduced

### Just-In-Time DRM

- Transparently translate between leading DRM systems such as PlayReady, Adobe Access and Marlin on-the-fly
- Per session encryption and decryption is supported.

### pDVR, Pause/Rewind Live

- Pause and rewind Live and Linear streams
- Record for convenient playback
- No HW required for subscribers

### Edge-based Ad Stitching

- Supports pre-roll, post-roll, mid-roll and interstitial insertion models
- Geographical content blocking (blackout) and substitution
- Network based - No client dependencies

## Benefits

Multi-bitrate ABR video generates considerable network traffic. When multiple HTTP streaming formats are used, every asset must be stored in multiple bitrates and formats with associated storage costs. This is especially true for network DVR where legal requirements in some regions mandate that separate copies are stored for each customer. Integrating JIT packaging with intelligent CDN caching automatically leads to significant storage cost savings and efficient distribution of content – popular assets are cached and delivered directly from the cache. In addition, JIT packaging eliminates the need to re-package libraries when new ABR formats emerge in the market place. The solution also supports JIT Digital Rights Management (DRM- wrapping wherein traffic is encrypted on demand) using leading DRM systems such as PlayReady, Adobe Access, Marlin, and standard AES-128 encryption.

The MediaWarp Edge Multiscreen Delivery solution supports per session control of ABR streams enabling TV-Quality server-side ad-insertion and bandwidth enforcement based on prevailing network conditions. Ads are dynamically stitched into content for seamless TV-Quality playback and delivered as part of the same URL and session based on meta-data. Ad stitching also prevents users from blocking ads. In contrast to existing client-based approaches, the MediaWarp solution is completely network-based, that is tailored per session to geography or the individual device. Per session control also enables services such as geographical blocking (blackouts), content substitution and ad-skip prevention.

The following ad-insertion models are supported: pre-roll, post-roll, mid-roll and interstitial. Interoperability with SCTE-30/VAST enabled ad delivery systems and SCTE-135 cue points is also supported. Third-party integration with external ad management systems is supported through an extensible REST API. Tight Integration with the underlying cache framework ensures superior QoE since ads can be fetched and delivered directly from the MediaWarp Edge Cache. In summary, the server-side approach allows for TV-size audience scalability.



# MediaWarp Edge Multiscreen Delivery

## Deliver Video to All Devices

Reach all customers regardless of viewing device, SmartPhones, Tablets, SmartTV, Laptop all with a single mezzanine format VOD file or single live stream.

## Capitalize on new revenue opportunities

Participate in the OTT delivery chain by offering subscribers new value added services, superior QoE, and Ad Insertion

## Just-In-Time Packaging

Support multiple output formats including HLS, HSS, HDS and MPEG-DASH

JIT packaging at the edge – fewer requests back to Origin – Huge bandwidth savings

Supports DRM and encryption (PIFF to CENC, Playready, Widevine, Adobe Access, AES, Marlin and CENC)

Trans-DRM – convert from one DRM format to another on the edge at time of delivery

Support advanced audio features like DTS Express or Dolby Digital Plus

## Edge-based Ad Management

Ads stitched directly into the stream at the edge and delivered as part of the same URL and session based on meta-data

Support Live, Linear and VOD content

Best QoE by fetching Ad content directly from MediaWarp Edge Cache

Support OTT Ad Stitching – integration with all major ad networks

## Personal DVR

Edge based DVR provides best possible QoE

Supports Catch-up TV, Start-Over TV, Time-shift/Pause TV

Supports both private and shared copies

## Live-to-VOD Asset Creation

Store at Edge, superior QoE and reduce network bandwidth by avoiding sending requests to Origin

Better QoE leads to better customer retention and ad revenue

## Adaptive Content Insertion

Generate unique manifest file personalized to the user

Real-time adaptation of content

Dynamically enforce bitrate constraints based on network, guaranteeing subscriber QoE

## Content Substitution

Alternate live channel substitution

Per-session, per-zone alternate content targeting

Supports geo-restrictions, content blackouts and custom slates