



# Packager JITP

## Just-in-time Packaging

Imagine's Packager JITP is one of the world's most advanced and feature-rich software-based products that enables video content to be viewed on the ever-expanding array of consumer devices. With the versatile Packager JITP, packaging of assets is performed only when content is requested by a user; this saves storage costs associated with pre-packaging video-on-demand assets and simplifies migration to new packaged formats.

For VOD applications, rather than having to pre-package all profiles of every program in all adaptive streaming protocols, Imagine's Packager JITP packages content in real time into the appropriate protocol when that content is requested by viewers. Packaged streams are delivered to web servers or a content delivery network for distribution to end user devices. This innovative just-in-time packaging (JITP) capability enables video service providers to keep their storage and bandwidth costs in check as their multiscreen distribution content libraries grow.

## Benefits

- **Storage cost savings** — Assets need only be stored in a single mezzanine format with Just-in-Time packaging. Content is then packaged just when the asset is requested for playback. Without JITP, every asset must be stored in multiple formats, increasing storage costs
- **Prevent DRM lock-in** — By encrypting when the assets are requested, service providers prevent DRM lock-in by not requiring pre-encryption when assets are stored
- **Format future-proofing** — VOD libraries do not need to be repackaged when new HTTP streaming protocols emerge.
- **Hot record playback** — Ability to deliver content that is still being recorded.
- **One system for all uses** — Using JITP for VOD with a caching CDN can automatically lead to caching of short tail assets in the CDN and the use of JITP for un-cached long-tail assets.
- **Simplified operations** — Adding new package formats does not require changes to existing content processing workflows; changes are instead made on the JITP server.

## Features

- Just-in-time packaging for on-the-fly segmentation, packaging, and encryption
- Cloud-ready for virtualized deployments
- Ingest mezzanine files - either H.264, MPEG2 over transport, DASH-TS files, or HLS
- Supports all leading delivery protocols — HLS, MSS, HDS, MPEG DASH
- Outputs segmented "packaged" streams or files with full VOD manifests suitable for HTTP delivery
- Support for DVB subtitles in HLS and MSS output
- IGMP v3 Source Specific Multicast (SSM) ingest
- Encrypts traffic using standard AES-128 for HLS or PlayReady for Smooth Streaming, FairPlay for HLS, Widevine for DASH and CENC
- Integrates key exchange with leading digital rights management (DRM) servers

- CDN-friendly — Origin server, reverse proxy, expires headers
- Dual transcoder input stream “striping” redundancy
- Flexibility of software or hardware

## Specifications

*Specifications and designs are subject to change without notice.*

Input	H.264/TS, HLS, or DASH-TS
Output	Apple HTTP Live Streaming (HLS); Microsoft Smooth Streaming; Adobe HTTP Dynamic Streaming (HDS); MPEG DASH
Ancillary Data	Processes 608/708 closed captioning, DVB subtitling, other
Encryption	AES-128 for HLS; Microsoft PlayReady for Smooth Streaming, FairPlay for HLS, Widevine for DASH and CENC
CDN/Origin Server Interface	WebDAV, HTTP PUT/POST, reverse proxy

### MANAGEMENT

Features	Web browser GUI; Secure shell (SSH); XML-RPC 1.2; In-band / out-of-band support; SNMP traps; Remote upgrades
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