

# Package, Secure and Deliver Any Content to Any OTT Device

Synamedia's vDCM Packager is a line of pure, software-based solutions designed to package, secure and deliver media content to the market's widest range of OTT consumer devices. Serving all applications, from live to on-demand, the solutions open the door to value-added services and ad insertion to increase your monetization opportunities. And thanks to Synamedia's low latency technology, vDCM Packager delivers near-real-time user experiences for streamed live events such as sports events.

The infrastructure-agnostic solutions run either on-premises as a software-defined appliance or on a public or private cloud. Pre-integrated with myriad DRMs and CDNs worldwide and built with high-availability mechanisms, the vDCM Packager ensures easy, rapid deployment and peace of mind for your mission-critical operations. The product line consists of vDCM Packager, including local origin, vDCM Media Scalable Origin, and vDCM Just-in-Time (JIT) Packager.

## Key Functionalities

### Monetize myriad video applications with no market-reach limits

- Serves live, VOD and time-shift TV – including start-over and catch-up – and cloud DVR applications to extend monetization opportunities
- Supports an extensive set of packaging protocols and DRMs to address a wide range of devices
- Deploys per-track encryption, key rotation support, and Synamedia's headend watermarking to meet stringent security-compliance requirements
- Supports a wide range of end devices and players

### Easily deploy and configure, while increasing operational efficiency

- Leverages extensive set of pre-integrated DRMs, key stores, and CDNs to reduce integration time
- Features multi-protocol wizard covering all processing use cases to facilitate configuration of outgoing ABR streams
- Offers JIT packaging to optimize storage and bandwidth costs
- Provides logs and metrics to handle large operational datasets
- Includes high-availability mechanisms to enable mission-critical service delivery

### Improve streaming experience

- Harnesses Synamedia security expertise to deliver premium audio and video quality up to UHD resolution
- Takes advantage of leading low latency technology to enable near-live user experiences in massive scale and well-proven deployments

## Technical Advantages

- Broad range of supported ABR protocols
- Integration with widely deployed DRMs completed by CPIX support for key server integration
- Unified JIT packager (live, VOD, TSTV, and cDVR)
- Rich set of processing capabilities with audio and subtitling filtering, large conversion combinations, and live-to-VOD capability
- Optimized low latency with chunked transfer encoding
- High packager throughput
- External origin server capacity up to 42 Gbps
- High availability, including HA synchronization
- Easy expandability for recording capabilities
- Flexible software subscription model
- Large SCTE-35 signaling support

# Product Specifications

Packaging	
Input Formats	<ul style="list-style-type: none"> <li>• Adaptive transport stream with encoder boundary points (CableLabs-compliant)</li> <li>• Adaptive transport stream with encoder boundary points (CableLabs-compliant) without audio EBP</li> <li>• IDR-based</li> </ul>
Output Formats	<ul style="list-style-type: none"> <li>• Apple HTTP Live Streaming (TS and fMP4)</li> <li>• Microsoft HTTP Smooth Streaming</li> <li>• MPEG-DASH</li> <li>• High Efficiency Streaming Protocol (HESP)</li> <li>• Synamedia Common Intermediate Format (CIF)</li> <li>• Shared CMAF</li> </ul>
Filtering and Conversion	<ul style="list-style-type: none"> <li>• Audio and subtitle filtering</li> <li>• SCTE-35 markers conversion into cue points in client manifest using CableLabs event signaling and management interface (ESAM)</li> <li>• SCTE-35 signalling: Google Ad Manager, AWS Mediatailor, Freewheel, custom plug-in, and others</li> </ul>
Video	<ul style="list-style-type: none"> <li>• H.26</li> <li>• H.265</li> </ul>
Audio	<ul style="list-style-type: none"> <li>• AAC-LC</li> <li>• HE-AAC v1/v2</li> <li>• Dolby Digital/Dolby Digital+</li> <li>• Support of multiple audio streams per output</li> </ul>
Subtitling Input Formats	<ul style="list-style-type: none"> <li>• CEA-608/708</li> <li>• DVB-TXT</li> <li>• DVB-SUB</li> </ul>
Subtitling Output Formats	<ul style="list-style-type: none"> <li>• WebVTT</li> <li>• TTML</li> <li>• EBU-TT-D</li> <li>• SMPTE-TT</li> </ul>
Low Latency	<ul style="list-style-type: none"> <li>• Chunked transfer encoding – DASH CMAF</li> <li>• Apple low latency HLS</li> <li>• HESP</li> </ul>
Other	<ul style="list-style-type: none"> <li>• DVR window support (RAM or SSD)</li> <li>• Integrated with Synamedia's vDCM Recorder solution (TSTV and cloud DVR, common and unique copy)</li> </ul>

Content Protection	
Encryption Algorithms	<ul style="list-style-type: none"> <li>• AES-CBC-128</li> <li>• HLS ClearKey</li> <li>• SAMPLE-AES</li> <li>• PIFF 1.1 encryption with AES-CTR</li> <li>• CENC v2 with AES-CTR</li> <li>• CENC v3 with AES-CBC</li> </ul>
Integrated DRMs and Key Management System	<ul style="list-style-type: none"> <li>• Apple Fairplay</li> <li>• Microsoft PlayReady</li> <li>• Google Widevine</li> <li>• Synamedia VideoGuard</li> <li>• Synamedia Key Schedule and Management</li> <li>• Nagra/Contego</li> <li>• Axinom</li> <li>• Pipselguard</li> <li>• EZ-DRM</li> <li>• Verimatrix</li> <li>• Yotta Labs</li> <li>• BuyDRM (OVH)</li> <li>• Irdeto</li> </ul>

	<ul style="list-style-type: none"> <li>• Castlabs</li> </ul>
Key Provisioning	<ul style="list-style-type: none"> <li>• Key server integration with CPIX 2.0 standard interface</li> <li>• Open KMS interface</li> </ul>
Advanced Features	<ul style="list-style-type: none"> <li>• Periodic key rotation</li> <li>• Per-track encryption</li> <li>• Synamedia headend watermarking</li> </ul>

## Publication

Mode	<ul style="list-style-type: none"> <li>• Packager pull mode (via vDCM JIT Packager)</li> <li>• Packager push mode (via vDCM Packager)</li> </ul>
CDNs	<ul style="list-style-type: none"> <li>• Integration with CDNs worldwide, including Synamedia Edge, Akamai (MSL 4.0 certified), Fastly, and other 3<sup>rd</sup>-party CDNs</li> </ul>

## Origin Server

Input Traffic	<ul style="list-style-type: none"> <li>• HTTP/HTTPS</li> </ul>
Output Traffic	<ul style="list-style-type: none"> <li>• HTTP/HTTPS</li> </ul>
Internal Storage	<ul style="list-style-type: none"> <li>• In-memory and enterprise SSD</li> </ul>
External Storage	<ul style="list-style-type: none"> <li>• Synamedia Cloud Object Store (COS)</li> <li>• AWS S3</li> <li>• 3<sup>rd</sup>-party object storage interface</li> <li>• Network Attached System (NAS): network file system for VOD applications</li> </ul>
Technologies	<ul style="list-style-type: none"> <li>• Standalone, virtual machines or containerised infrastructure</li> </ul>
Redundancy	<ul style="list-style-type: none"> <li>• Internal load balancing mechanisms and Kubernetes-based resiliency mechanisms</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Single- or multi-node deployment</li> <li>• Multiple resiliency mechanisms</li> <li>• Cache/shield capabilities</li> <li>• Auto-scaling support</li> <li>• URL signing</li> <li>• Integrated with Synamedia Fluid EDGE CDN</li> </ul>

## Monitoring and Management

Configuration GUI/REST API	<ul style="list-style-type: none"> <li>• Easy output configuration due to protocol-dedicated streaming creation wizard</li> <li>• Automation through REST API</li> <li>• Integrated into Synamedia Video Service Management (VSM)</li> </ul>
Redundancy	<ul style="list-style-type: none"> <li>• High availability through packager synchronization for seamless failure</li> <li>• N:M and 1:1 redundancy options</li> </ul>
Monitoring	<ul style="list-style-type: none"> <li>• Integrated Grafana dashboards</li> <li>• Elasticsearch, Logstash and Kibana (ELK) stack support</li> <li>• Alarm notifications, including SNMP traps</li> <li>• Syslog</li> <li>• Easily controlled local web GUI</li> <li>• VSM</li> <li>• Fully documented open API enabling third-party component integration</li> </ul>

## Platform Support and Compatibility

### Deployment

Appliance	<ul style="list-style-type: none"> <li>• See details below</li> </ul>
Private Cloud	<ul style="list-style-type: none"> <li>• Virtual machine, Docker container</li> </ul>
Public Cloud	<ul style="list-style-type: none"> <li>• Multi-cloud supporting all major cloud providers</li> </ul>
SaaS	<ul style="list-style-type: none"> <li>• Available via SaaS portfolio</li> </ul>

# vDCM Appliance & Worker Node Specifications

## Physical and Power

Size	• SFF chassis: 1.69 x 17.11 x 27.83 in, 4.29 x 43.46 x 70.7 cm
Weight	• 28.74lb/13.04 kg minimum, 35.86 lb/16.78 kg maximum
Power Supply	• AC input 100-240 VAC
Consumption	• 800W (power supply) – 500W (for VN-Node XS)

## Environmental

Operating Temperature	• 50-95°F (10-35°C)
Storage Temperature	• -40-140°F (-40-60°C)
Cooling	• Smart array controller and seven fans
Operating Humidity	• 8-90% (non-condensing)
Operating Altitude	• 0 to 3050m (0 to 10,000 ft.)

## Regulatory Compliance

Compliance	• CE Markings per directives 2004/108/EC and 2006/95/EC
Safety	• UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment -Safety -Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment -Safety -Part 1: General Requirements)
EMC Compliance	• EN 55032:2015/AC:2016 EN 61000-3-2:2014 • EN 61000-3-3:2013 • EN 55024:2010 +A1:2015 • EN 61000-4-2:2009 • EN 61000-4-3:2006 +A1:2008 +A2:2010 EN 61000-4-4:2012 • EN 61000-4-5:2014 • EN 61000-4-6:2014 • EN 61000-4-8:2010 • EN 61000-4-11:2004

# Ordering Information

For ordering information, please contact your sales representative.

## Services & Support

Synamedia provides a broad portfolio of services and support to increase your network's business value and return on investment. We take a customer-centric approach, aligning our level of support to your technological requirements and network complexity. That way, you can successfully operate our products and solutions to ensure that you achieve optimal performance throughout your network's life cycle.

## Warranty & Contact Information

[Read our detailed warranty information.](#)

## About Synamedia Video Network Solutions

Synamedia is a leading global provider of video distribution, streaming, processing, and network delivery solutions for content owners and service providers. Our comprehensive, cloud-based SaaS and managed service solutions and software products enable customers to manage OTT media streaming and broadcast workflows, secure video content and services, and deliver premium user experiences across all screens. Leveraging expert know-how and 30-plus years of experience for over 1,000 customers worldwide, Synamedia helps video businesses launch, monetize and scale services across all devices to capture a greater share of the consumer video wallet.

## Next Steps

Learn more about **Synamedia Video Network solutions**

For more information, contact your account manager or **visit our site.**