



WHITE PAPER

Building OTT Video Experiences with Headless CMS and AWS



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A guide for enterprises and media/entertainment properties to get the most out of live and video on demand content by building their OTT platform using a headless CMS on AWS

Video is now a key component of everyday life in the digital space. Whether as consumers or producers, video content is being used as a means of information delivery, whether the purpose is for education or entertainment. **According to Cisco**, by 2022, video streaming and downloads will be responsible for 82% of all internet traffic.

The growth of video is exponential, and brands will need a way to maximize their effectiveness. For enterprises, in particular, the one-to-many capabilities of video can be used in support of internal communications and training as well as the delivery of marketing and sales-related content.

Regardless of the purpose behind video content, enterprises and media/entertainment properties will need to rely on a platform and infrastructure that makes it easy to store and manage all of their video content.

For video content management supporting modern OTT experiences, a headless **video CMS** can provide an optimal solution.

However, the right choice of supporting infrastructure is still required. Enterprises are continually searching for cloud options for their technology, and Amazon Web Services (AWS) is a common choice, for a good reason.

AWS not only provides scalability and elasticity for content and web applications as a cloud provider, but it also offers AWS Elemental, which allows brands to create, produce and deliver video content at scale.

In this guide we'll cover:

- ◇ The challenges of managing video content
- ◇ Use cases for both video on demand and live video
- ◇ Video streaming infrastructure
- ◇ Why you should build an OTT video solution on AWS
- ◇ How to leverage the full power of AWS
- ◇ How a video center built on AWS works

Challenges of Video Content

The value of video content, especially from a marketing perspective is quite evident. Around **80% of marketers** have reported that video content has helped to increase sales. Video attracts customers and can have huge benefits when used internally as well. However, it's not without challenges.

Video is simply a type of content just as written content, images and more and this content needs to be stored somewhere. In many cases, brands opt for a video content management system to handle those storage and editing requirements.

The explosion of video content has also risen with the explosion of device types for receiving that content, from desktop and mobile devices to tablets, smartwatches and other IoT-connected devices.

A video CMS can handle the storage of these large video files, extensive video content libraries and meet the demanding workflow complexities of the teams managing that content. Nevertheless, that only covers creation and management. When it comes to delivery, there are other factors as well.

For instance, video content also comes in various formats (4K, 1080p, 720p, etc.), and it has to be delivered across multiple networks to reach the required end-consumer.

Each of these networks also has various bandwidth requirements which need to be taken into account. A headless video CMS solution, hosted on the right infrastructure, can make it easier to manage the storage and delivery of this video content, no matter the use case.

VIDEO ON DEMAND (VOD) USE CASES

When people think of video on demand, platforms like Netflix, Hulu and YouTube immediately come to mind. But that's only a portion of the video on demand market. Projected to reach **USD 87.1 billion by 2025**, the video on demand market is a vast market, consisting of video content libraries that are available at any time, on any device and across a range of networks and protocols.

Video on demand platforms need the capabilities to transcode files so that they can fit different file types, sizes and bitrates to allow for the multiple use cases they cover.

- ◇ *Public Relations* - News announcements and communications for the external world that include product updates, industry relevant news and more can be shared using video.
- ◇ *Investor Relations* - Investors are still people. Just as buyers and customers want access to video content for more information, video on demand content can provide investors with relevant information they need about a product in a suitable format. Shareholder meeting information and more can be delivered with video on demand, allowing secure access when necessary.
- ◇ *Training and Classrooms* - Recorded video is a fantastic substitute for live classes and allows students and employees to learn whenever it's suitable for their busy schedule.
- ◇ *Product & Customer Support* - Advertisements can be used to promote products, but video on demand also makes it possible for consumers to get faster answers to their questions.
- ◇ *Internal Communications and News* - In a world where everything can't be handled in a live capacity, video on demand provides enterprises with the flexibility to relay information internally and have the relevant audiences access it whenever it's most convenient for them.

LIVE VIDEO USE CASES

The opposite of video on demand is live streaming video. This broadcast style of video provides video content that is near real-time. It's frequently used for live event broadcasts, it can be consumed by any device and must also be capable of use across a range of networks and protocols. There are several use cases for live video streaming, including:

- ◇ *Live Events* - Virtual events have risen in popularity as a means of reaching a greater audience. In many cases, people may find themselves unable to attend the event simply because they're not at a particular location. Just like live TV presentations, live streaming video provides access to events on any device.
- ◇ *Live News and Communications* - Live streaming allows audiences to access the latest news information and content on any device as it happens. In a corporate setting, this allows for greater building of trust, and authentic engagement as news is disseminated in real-time.
- ◇ *Live Training* - Trainers and instructors can access a wider audience by streaming themselves as opposed to relying on a limited in-person group. With live streaming, organizations can do company-wide meetings. Also, training sessions can be done with attendees in multiple locations around the world.

FACTORS AFFECTING LIVE VIDEO

With the popularity of live video streaming, enterprises also need to consider the factors that can affect live video and the capabilities that help drive optimal performance.

With real-time video, a key feature of many live streams, there is little to no-delay during the streaming session. Location, network speed and bandwidth capacity all have a part to play in whether or not there is a delay or buffering when it comes to streaming live video.

No matter whether enterprises choose to use video on demand or live streaming video then they need the right infrastructure in place to keep everything running smoothly.

Read More: [WHY YOU MIGHT NEED A HEADLESS VIDEO CMS](#)

Video Streaming Infrastructure Requirements

Both live video streaming and video on demand are important methods for delivering video content today. Each has their own use cases, but they are still linked.

In many cases, companies will record live streams and then make the content available as video on demand. This practice is actually expected in a world where people are bombarded with so much digital information that it can be difficult to view everything immediately and maintain their daily lives.

To adequately meet the demands of both live streaming and video on demand, brands requiring an enterprise video platform or a headless video CMS, need to be able to rely on specific things.

ENTERPRISE AND MEDIA INDUSTRY VIDEO REQUIREMENTS

Online video platforms like YouTube, Facebook and other social media platforms are great for many basic consumer-grade video needs such as entertainment. However, when it comes to creating and storing video for the enterprise, the requirements aren't quite the same.

For businesses that solve problems, there are several drawbacks to these systems which make them inadequate for enterprise purposes. Here are some of the enterprise video platform requirements.

- ◇ Ease of Use
- ◇ Security
- ◇ Searchability and Personalization
- ◇ Analytics Measurement
- ◇ Branding Control and Flexibility

Value Added Feature Requirements

These value-added requirements can help improve the overall performance of a video CMS, but they are not necessarily standard features.

- ◇ Transcription
- ◇ Translation
- ◇ Auto-tagging
- ◇ Clipping
- ◇ Digital Rights Management

Non-Functional Requirements

These requirements make it possible to maximize the capabilities of a video CMS but don't affect how well it can function.

- ◇ Bring Your Own Device
- ◇ Network Flexibility
- ◇ Scalability
- ◇ Cost-Effectiveness

Why Build an OTT Video Solution on AWS?

AWS provides a highly scalable cloud service. Traditional CMS platforms can find difficulties scaling and lack the elasticity necessary for today's video content. A headless video CMS can connect to multiple devices using APIs and deliver high-quality content that enterprises need.

By migrating video infrastructure to the cloud, it's possible to realize some of these benefits:

1. Pay for only the media you store and process it as you go. This way, you can trade capital expenses for variable expenses.
2. AWS helps you adapt to media storage and computing needs. You can benefit from massive economies of scale.
3. Handle your unpredictable and bursty media needs and stop guessing at capacity requirements.
4. Shorten time-to-market and test out new approaches by automating the supply chain.
5. Focus your resources on your media needs, and stop maintaining data centers to store all of your video content.
6. Achieve global availability instantly, with no commitment. By building for one region, you can end up building for all of them thanks to AWS' global reach.

AWS Elemental Media Services

AWS Elemental provides media services that aid the creation and distribution of content using purpose-built media solutions. This allows your business to move faster and more efficiently. Here are the key elements of AWS Elemental.

- ◇ AWS Elemental MediaConnect: Reliable, secure, and flexible transport for live video
- ◇ AWS Elemental MediaConvert: Process video files and clips to prepare on-demand content for distribution or archiving
- ◇ AWS Elemental MediaLive: Encode live video for broadcast and streaming to any device
- ◇ AWS Elemental MediaPackage: Easily prepare and protect video for delivery to Internet devices
- ◇ AWS Elemental MediaStore: Store and deliver video assets for live streaming media workflows
- ◇ AWS Elemental MediaTailor: Easily personalize and monetize video content with server-side ad insertion

How does AWS manage live and video on demand?

LIVE VIDEO

Content is taken from a live video channel source before it gets moved to on-premises encoding with AWS Elemental Live.

Live video processing is conducted with AWS Elemental MediaLive. Next, just-in-time packaging and origin are completed with AWS Elemental MediaPackage before content delivery is handled with Amazon CloudFront Content Delivery Network before being distributed over managed networks to various devices.

VOD

Video on demand is sent from storage with Amazon S3 and then moved to file-based processing with AWS Elemental MediaConvert.

Workflow is handled with Amazon Lambda before VOD origin with Amazon S3 before content delivery is handled with Amazon CloudFront Content Delivery Network before being distributed over managed networks to various devices.

Organizations can deliver at scale by adopting AWS Cloud, and use it to leverage end-to-end live event and content monetization workflows that are only available through AWS Elemental Media Services.

Leveraging the Full Power of AWS

Get the most out of your video content with these AWS services for enterprise video.

Ingest Existing VOD Assets

Upload options for content and files of all sizes with Amazon Direct Connect; Amazon Snowball, Amazon S3 Transfer Accelerator.

Compute

Amazon EC2 - Resizeable general-purpose compute capacity featuring instance types optimized for processing video

AWS Lambda - Run code without provisioning or managing servers

Storage

Amazon S3, Amazon Glacier, Amazon EFS & Amazon EBS - Durable, performant, scalable and secure solutions for online and archival content storage

Delivery

Amazon CloudFront - Global Content Delivery Network (CDN) with Monitoring, Analytics and customization at the edge

Analytics/AI/ML

Amazon Kinesis, Amazon Redshift, Amazon Rekognition, Amazon Transcribe - Data ingest, event processing, deep-learning-based computer vision, and transcription

Crafter Video: Headless CMS Solution Fully-Powered by AWS

A headless video CMS provides the flexibility to build custom OTT solutions, and helps you get the most out of your video content. **Crafter** offers a headless video solution that is built on top of a fully-featured dynamic CMS. With Crafter, it's possible to build any consumer or enterprise video experience whether that be like Roku or Netflix, or a YouTube type channel experience. Best of all, Crafter is built for the AWS cloud and tightly integrated with all AWS services.

Crafter Video is a fully functional, and customizable, OTT solution built on Crafter CMS and AWS. It provides the end-user experience for all capabilities, both live and VOD. The user experiences which enterprise companies require can vary a lot, and the video center needs to facilitate this. Both enterprises and Media/Entertainment properties need control, flexibility, scalability, and cost-effectiveness, something they can't get with a typical solution.

With Crafter Video, you can build interactive video capabilities such as chatbots for feedback, surveys, quizzes or training. These are different compared to the limited options which platforms like Teams or Zoom provide when it comes to interactive live video. Crafter Video is open-ended and allows you to design the features that work best for your company, either via **Crafter Marketplace** for widgets or through your own custom development.

For enterprise use, videos can also be personalized for different departments. For franchises, there can be different videos for different regions. Global hotel company, Marriott International Inc, has leveraged the power of AWS Elemental MediaLive and AWS Elemental MediaPackage through Crafter Video Center to stream their live events.

Marriott has a corporate-wide platform, but then each brand/hotel itself can have its own video center. For a multinational organization especially, this caters for both the corporate rules and best practices, and also local issues that are specific to individual hotels to take into account local rules or laws or best practices.

Read More: [Marriott: Streaming Enterprise Video in the Hybrid Cloud](#)

Analytics are available to see who's watching and how much are they watching, providing you with the data to adjust campaigns as necessary. Crafter is also extendable with integrations to other enterprise applications. Whether you need a one-way broadcast or an interactive session, Crafter supports both. Internal webinars can also be created thanks to the interactive features.

Crafter CMS and Crafter Video combine to provide enterprises with everything they need for managing video content. With the power of AWS as well, enterprises can also scale and deliver content no matter the use case.