Accelerate Content Creation and Delivery with AWS Outposts

AWS Outposts: The bridge between on-premises and the hybrid cloud for Media & Entertainment

Viewers are watching more content, in higher quality, on more devices, than ever before. They expect nearly endless choice, anytime, anywhere, and on every screen. To meet this growing demand, content creators need the tools to produce cutting-edge content and collaborate remotely. With AWS Outposts, media & entertainment firms can accelerate production and content delivery to delight audiences.

Viewers have a constantly growing appetite for content, whether they're watching videos on-demand through popular streaming services or following the latest YouTube sensation. It's no surprise the Over-The-Top (OTT) market alone is expected to reach $167 billion in revenue by 2025, more than double 2019 revenue ($83 billion).[1] Of course, 5G will only increase this demand by making it possible to deliver even higher-quality content to mobile users. By 2024, the amount of mobile data consumed will be 50% greater than broadband data.[2]

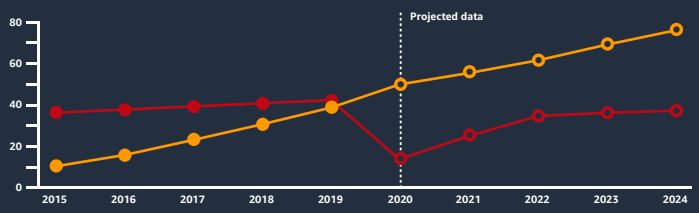
Content creators are responding to this demand by focusing on producing high quality, increasingly immersive content, and are committed to providing their talent with the right supportive tools. Across the media and entertainment industry, firms are finding new ways to accelerate content creation while managing the transition to a decentralized production model, securely and with minimal latency. At the same time, studios are competing to provide seamless experiences across multiple devices without interruption.

Using AWS computing services, AWS Outposts offers the services, tools and APIs to virtually any data center, colocation space or on-premises facility to help create a bridge to the regional cloud. Using AWS, studios can analyze vast amounts of data to better understand their customers, deliver personalized experiences and easily transition workloads to the cloud with minimal disruption.

Content demand continues to grow

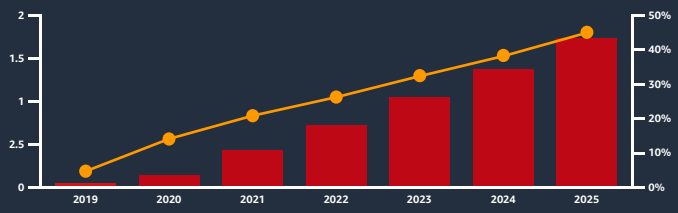
The fast-moving media and entertainment industry is continually transforming how content is produced, distributed, and consumed. Studios need the support from their talent and content libraries, while keeping costs low – and this begins with IT infrastructure.

Surging demand for on-demand[3]



— Subscription video on demand revenues
— Box office revenues

5G proliferates[4]



■ Global 5G connections
— Global 5G coverage

Note: 2019 is the latest available data. 2020 - 2024 values are forecasts.

Hybrid cloud model helps transform media and entertainment workloads

The public cloud provides flexibility, scalability, and efficiency, but sometimes that's not enough. When the public cloud is located too far away, on-premises infrastructure delivers the low latency capabilities essential for producing and distributing high-quality content. This is particularly important for content creators using virtual workstations, where 10–15ms is the maximum latency tolerance. As well as on the distribution side, where workloads such as streaming and transcoding are highly dependent on low latency to work effectively. This makes a hybrid cloud model the logical next step for producing and distributing content.

However, managing on-premises infrastructure can be a strain on time, company resources and decreases the ability to concentrate on what matters. Fortunately, AWS makes it easy to adopt a hybrid cloud model with AWS Outposts. Studios can access Amazon Media Services, and other services in the Region, with a fully managed on-premises infrastructure that delivers a truly consistent hybrid experience, while meeting their business needs.

How AWS supports media and entertainment

AWS brings highly scalable, elastic, and secure cloud and edge computing services to content production and distribution. With machine learning and analytics embedded throughout the media value chain, studios can make smarter content investments, better monetize content libraries, and delight users with personalized experiences.

Rather than having solutions scattered across multiple providers, AWS provides a comprehensive suite of cloud services to help studios run applications wherever they need them – whether that's in the public cloud or on-premises.

Introduction to AWS Outposts

AWS Outposts is a fully managed service that offers the same AWS infrastructure, services, APIs, and tools to almost any data center, colocation space, or on-premises facility.

Outposts is a great choice for media and entertainment workloads that require low latency access to on-premises systems, local data processing, and migration of applications with local system interdependencies. Amazon EC2 instances powered by Intel® Xeon® processors and AWS storage services (Amazon S3 and Amazon EBS), can be used to build, manage, and rapidly scale on-premises applications. Outposts infrastructure and AWS services are managed, monitored, and updated by AWS just as they are in the cloud, saving time and expense for media and entertainment films.

Studios can also use AWS Outposts to access Amazon Media Services in the AWS Region, including AWS Thinkbox and AWS Studio in the cloud.

AWS Services on Outposts for Media and Entertainment

AWS Thinkbox Helps creative studios and visual artists harness the power of the cloud by providing a conduit to AWS and near-limitless compute capacity. AWS Thinkbox develops Deadline, a high-volume compute management software application that helps studios optimize and scale their compute resources on premises or on the cloud.

AWS Studio in the Cloud is a set of solutions that helps studios who create live action and animated content, speed up rendering time while providing workstations on demand for artists and editors around the world. Studio in the Cloud makes it easier for media professionals to securely manage petabytes of data for hybrid or full cloud pipelines.

Discover more AWS services available on Outposts here.

Benefits of AWS Outposts for Media and Entertainment

Performance: Outposts delivers the same performance as compute instances in Amazon Regions, with the ultra-low latency required to produce and distribute content. Studios can process large amounts of data and work from anywhere securely with single-digit millisecond latency. As well as this, viewers can enjoy the content they produce in high-quality, without bottlenecks, thanks to Outposts located near the point of use. Outposts is powered by Intel® Xeon® Scalable processors with Intel® Mesh Architecture, specifically designed for efficient, scalable, low-latency data flow across both edge and cloud environments.

Agility: Outpost enables studios to focus on what they do best, supported by a seamless, fully managed service. Studios can concentrate on creating and distributing content, rather than managing data centers, with a truly consistent hybrid experience that offers the same hardware infrastructure, services, APIs, management, and operations on-premises as in the cloud, building on the innovative AWS Nitro hypervisor environment.

Security: Outposts helps studios keep content and customer data secure. Outposts builds on AWS's innovative Nitro hypervisor environment that enables AWS to provide an enhanced level of security that continuously monitors, protects, and verifies each Outpost's instance hardware and firmware. This includes managing data centers, patching hypervisors, or replacing failed components, just like in AWS Regions. Also, the Intel AES-NI encryption instruction set improves upon the original Advanced Encryption Standard (AES) algorithm to provide faster data protection and greater security. All current-generation EC2 instances used by Outposts support this processor feature.

Data residency: Studios need the ability to manage their data close to where their workloads run. With Outposts, studios can securely store and process data that needs to remain on premises or in countries where there is no AWS region. Outposts also allows low-friction movement of workloads between the public cloud and the edge, and vice versa, so they can easily adapt to any regulatory changes.

Migration & Modernization: Studio workloads that are often more challenging to move to a hybrid cloud model, such as latency-sensitive system interdependencies, can be modernized on premises, and then easily migrated to the cloud when ready, helping studios accelerate their modernization journey.

Discover more about AWS Outposts features here.

Use cases

AWS Regions meet most of the industry's requirements, especially when it comes to scaling workloads such as video rendering. However, for studios that need to manage and process their applications on-premises, and deliver uninterrupted content with ultra low-latency, AWS Outposts provides the solution. Media and Entertainment firms can use Outposts as part of a fully managed hybrid experience to enhance media and entertainment workloads such as content creation and distribution.

Content Creation

Low-latency, highly secure production from anywhere

As the demand for high quality content continues to grow, studios must equip content creators with the supportive tools to help them deliver their best work. However, studios face a number of challenges, such as running latency sensitive applications, managing data on-premises and data residency. Adding to these challenges, studios often work from a decentralized production model in which production teams collaborate across multiple locations and are largely self-sufficient.

AWS Outposts enhances M&E workloads:

- Provides ultra low latency
- Meets data residency requirements
- Run applications on-premises
- Use the same interface across IT infrastructure

When the nearest public cloud servers aren't close enough to meet application latency requirements, AWS Outposts can enable content creators to run applications where they need them. This includes access to the latest GPU

innovations on-premises or close to the source of production, for graphics processing, audio, and video rendering. Outposts provides the ultra-low latency required for VFX and animation, and the crucial 'first mile' for live events, bringing AWS compute, storage, and services closer to where video is captured and enabling fewer compromises on quality.

Outposts also enables studios to extend their clouds, with the ability to securely store and process customer data that needs to remain on-premises due to data residency requirements or, in countries where there is no AWS Region. Media and entertainment firms can use the same AWS APIs, tools, and security controls to run, manage, and secure applications on-premises just as in the cloud.

Extending your private content production environment with Outposts makes it easier to coordinate teams and accelerate their productivity. Studios can centrally manage permissions to add or remove artists and deploy global updates seamlessly while allowing remote teams to work together on the same source files. Studios can instantly scale creative talent for any project using Virtual Workstations, which run on the same Amazon Elastic Compute Cloud (EC2) G4 instances as AWS Regions. Outposts can also take care of resource-intensive workloads, freeing up local machines to focus on other tasks.

Distribution

Seamless streaming, personalization and security

Media and entertainment firms already rely on AWS video solutions to deliver broadcast-quality, live, linear, and on-demand content to any audience, anywhere, on any device. The streaming market is defined by high expectations and a low tolerance for interruptions. Viewers want high quality, consistent experiences, whatever and wherever they are watching. While media and entertainment films face the challenge of keeping up with this demand, and ensuring customer data is protected and secure.

When the nearest public cloud servers aren't close enough to meet application latency requirements, AWS Outposts featuring Intel Xeon Scalable processors can extend Amazon EC2 instances as well as AWS services to wherever content creators need them. This includes access to the latest GP innovations on-premises or close to the source of production, for graphics processing, audio, and video rendering. Outposts provides the latency required for VFX and animation, and the crucial 'first mile' for live events. Further enhancing the low latency delivered by Outpost edge instances, Intel® Xeon® Scalable processors with Intel® Mesh Architecture are designed for efficient and scalable, low latency data flow across both edge and cloud environments.

Even more opportunity lies in delivering exactly what each customer wants. Machine learning and analytics enables studios to monetize their existing content, make smarter investments in new content, and deliver highly targeted advertising that boosts revenue.

Media and entertainment firms are flooded with data, and can unlock the actionable insights it contains with Outposts and AWS machine learning and analytics. Using engagement metrics collected from multiple devices, such as content history, scrolling, and browsing time, media and entertainment businesses can analyze consumption habits to create sophisticated models of user behaviour and deliver highly targeted experiences that increase engagement and loyalty. AWS Outposts provides low latency IT resource near to end-users, allowing media and entertainment businesses to make enhanced predictions in real-time, to deliver better content recommendations and more relevant advertising. As well as increasing advertising revenue, machine learning and analytics can be used to reduce risks, including identifying suspicious patterns associated with content theft; and Quality of Service (QoS) analysis to flag anomalies and provide predictive analytics for possible points of failure for proactive remediation.

NEXT STEPS

Increasing demand and customer expectations—accelerated by 5G and relentless innovation—make the media and entertainment industry an exciting and fast-moving space with endless potential. From public cloud to on-premises infrastructure, AWS is helping studios usher in the future. AWS Outposts, together with Amazon Media Services, enables content producers and distributors to work from anywhere while winning the race for attention with ever-more sophisticated, personalized content – without interruption.

1. Engage

Reach out to your account team or fill out our contact form. Alternatively, go into the AWS Management Console.

2. Choose

Select your size and then order the Outpost rack configuration that best suits. Custom configuration is available.

3. Install and Launch

AWS will install and deliver your configuration. Use standard AWS APIs or Management Console to launch and run AWS resources locally.

1 https://www.digitaltvresearch.com/

2 https://www.pwc.com/gx/en/industries/tmt/media/outlook.html

3 PwC Global. https://www.pwc.com/gx/en/industries/tmt/media/outlook.html

4 https://www.gsmaintelligence.com/

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Scalable processors