Break down barriers to your media and gaming business' success with AWS

With a consistent AWS experience across cloud, on-premises, and at the edge, media and entertainment providers and gaming businesses can shorten time to market, resolve data residency issues, and provide differentiated and faster user experiences.

Many of the most exciting and boundary-pushing experiences today are in the digital media sectors of media and entertainment (M&E) and gaming. Despite a large dependency on the cloud for many modern gaming and media services, developers and content creators still face issues preventing them from keeping pace with industry demands.

These demands are commonly latency related, in video gaming for instance, popular multiplayer games need to ensure that players globally are getting the same performance to prevent any unfair advantages. For media companies with artists rendering visuals on powerful workstations, they need to be across cloud and their remote workstations without a drop in performance.

Other challenges exist around data residency. In the real-money gaming sector, transactions are often stipulated to take place in a particular jurisdiction, so the passing of customer data outside of those boundaries would not be permitted. The need exists for operations to take place more locally.

Amazon Web Services (AWS) hybrid and edge solutions are helping businesses in video gaming, real-money gaming, and M&E deliver differentiated end-user experiences by extending cloud infrastructure and services to on-premises locations, large metropolitan areas, and at the edge of 5G networks to serve the increasing demand for immersive mobile experiences. What's more, AWS tools and services help streamline the development of content and applications with a 'develop once, deploy anywhere' model that's consistent across hybrid and edge applications, for the highest level of productivity.

11.5%

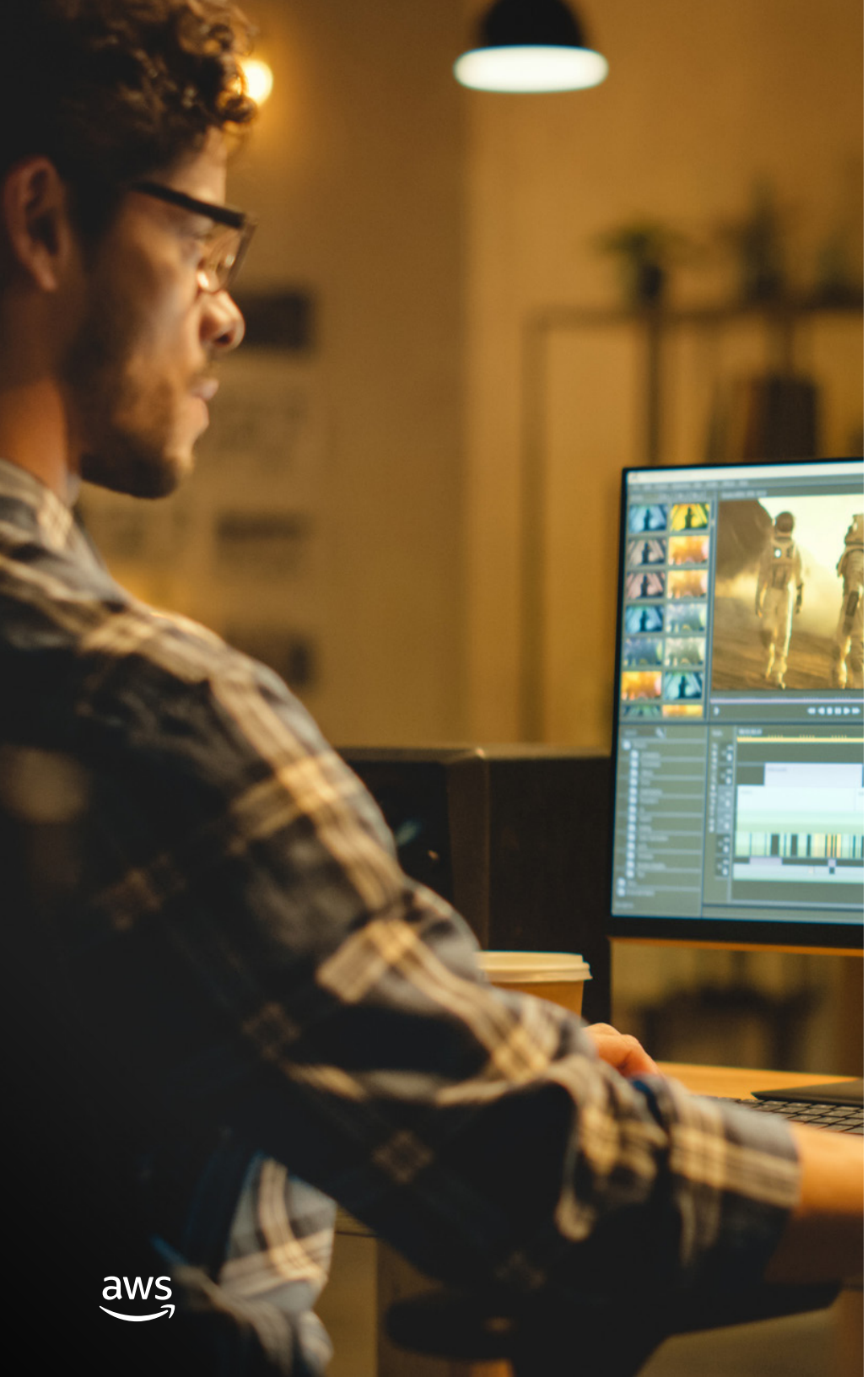
Real-money gaming industry is estimated to grow 11.5 percent from 2020 to 2027.[1]

$200B

The mobile gaming market is expected to hit $200 billion in annual revenues by 2023 (including 5G mobile and multiplayer gaming tournaments).[3]

[1] "Online Gambling Market Size, Share & Trends Analysis Report by Type (Sports Betting, Casinos, Poker, Bingo), by Device (Desktop, Mobile), by Region (North America, Europe, APAC, Latin America, MEA), and Segment Forecasts, 2022 – 2030," Grand View Research, May 2022

[2] "5G Statistics You Must Read: 2022 Adoption Analysis & Data," FinancesOnline, Accessed May 2022

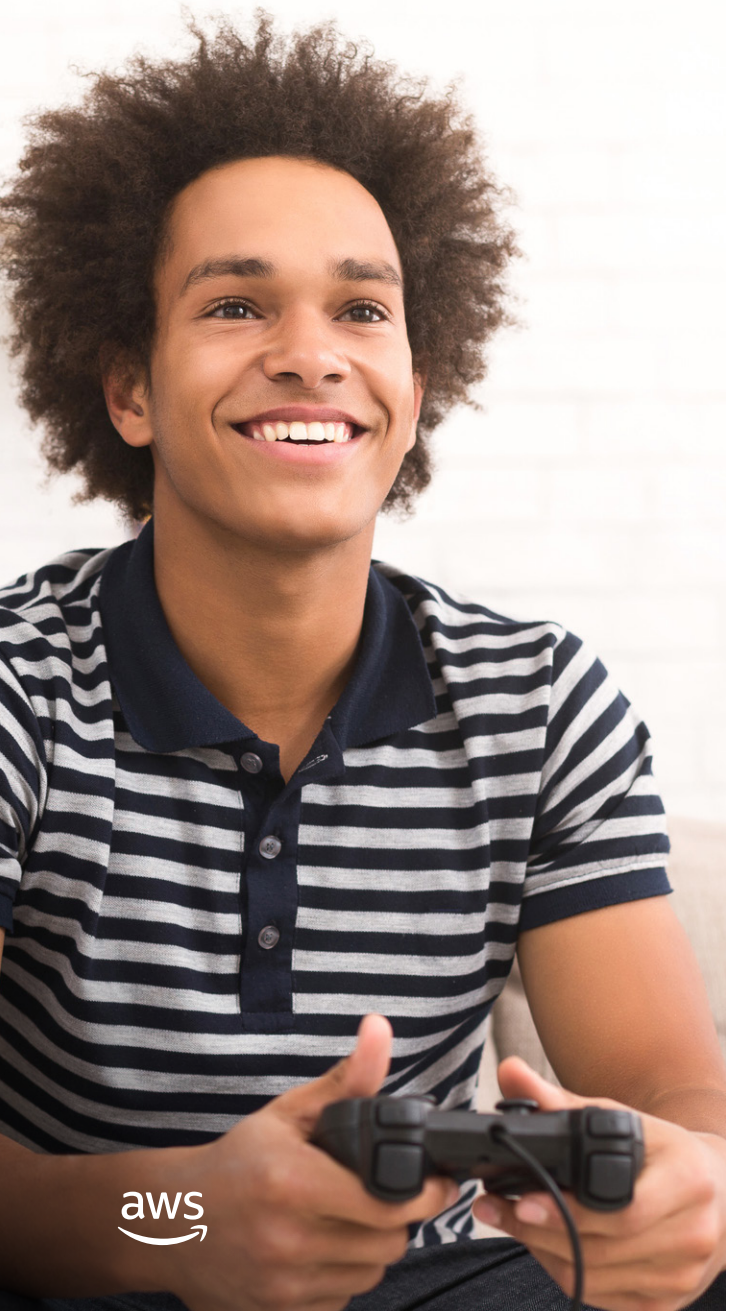


Driven by consumer demands, as well as the business need to be agile, media and gaming companies are developing increasingly sophisticated experiences. To meet these evolving demands with a competitive edge, media providers and game developers need to reimagine their creation, production, and delivery processes by getting access to the cloud but, in particular, locations to serve creators and end users.

Furthermore, companies can no longer afford to be held back by lengthy infrastructure procurement, rearchitecting apps, or failing to attain compliance with data residency regulations. AWS breaks these barriers down as well, ensuring creators can quickly deploy their apps, explore new markets and innovative experiences faster, and meet the regulations governing data compliance.

By extending the power of the AWS Cloud to on-premises or edge locations, media and entertainment providers and gaming providers get to leverage cloud resources when and where they need them. Read on to see how each of these exciting sectors is overcoming specific challenges with AWS.

[3]"Game On! How 5G Is Winning Over Gaming Enterprise Customers," Ericsson, March 2022



Cloud challenges holding back gaming, real-money gaming, and media and entertainment businesses

All media and entertainment businesses and gaming businesses are looking to offer their consumers richer experiences, get teams producing products and services faster, and explore new markets to sell into. Let's take a detailed look at some of the challenges organizations need to get around.

Video gaming

As game companies look for further growth opportunities, keeping a seamless customer experience is paramount for today's demanding players. To achieve this, there are some specific key challenges to address:

Fast and smooth in-game experiences

Cutting-edge online multiplayer games and other video game experiences need to have minimal latency to be as responsive to player input as possible. When latency is present, the gamer experiences lag times (preventing them from reacting quickly to in-game events), giving an unfair advantage to those closest to the data centers where the game is hosted.

Responsive experiences are the most critical aspect of gameplay among all gamers today. But even if game application servers are deployed in multiple AWS Regions, players in locations far from the server will not experience the same low-latency benefits.

Need to focus on game development

Development teams need to focus on creating unique games that serve the insatiable need for more immersive gameplay and not the "undifferentiated heavy lifting" associated with dealing with different IT environments.

Growing demands to utilize more resources

As games get bigger and target more platforms, build processes require more compute and storage resources. Better workflow comes from removing such undifferentiated heavy lifting, which means it's a faster and smoother path to deployment.

Real-money gaming

In the real-money gaming sector, national and regional laws govern exactly what needs to happen with customers' data. Let's explore that and other issues affecting such operators.

Data residency

Real-money gaming operators must comply with varied regulations. This can slow the pace of, or put a halt to, expanding into new markets. And complying with ever-changing regulations often comes back to infrastructure. How is it possible to meet data residency and security compliance when wanting to take advantage of the cloud if data must not leave a particular jurisdiction?

Imagine a real-money gaming operator wants to take advantage of new opportunities in the US market needs on-premises infrastructure to comply with data residency regulations. It needs a solution that will allow the flexibility of cloud services yet have infrastructure on premises to meet stringent data residency regulations. And where the operator is affected by regulation changes, there's consistency between Regions and on premises so it can easily move on-premises applications to the Regions.

Data security

As with data residency laws, the real-money gaming sector has concerns around data security. Data should be encrypted, and operators need the guarantee that customer data is properly protected.

Media and entertainment

Demands for new and differentiated services are increasing all the time, making it harder to serve consumers what they want and expect and serve content teams with the power and flexibility they need, where they need it most.

Low-latency access for resource-hungry applications

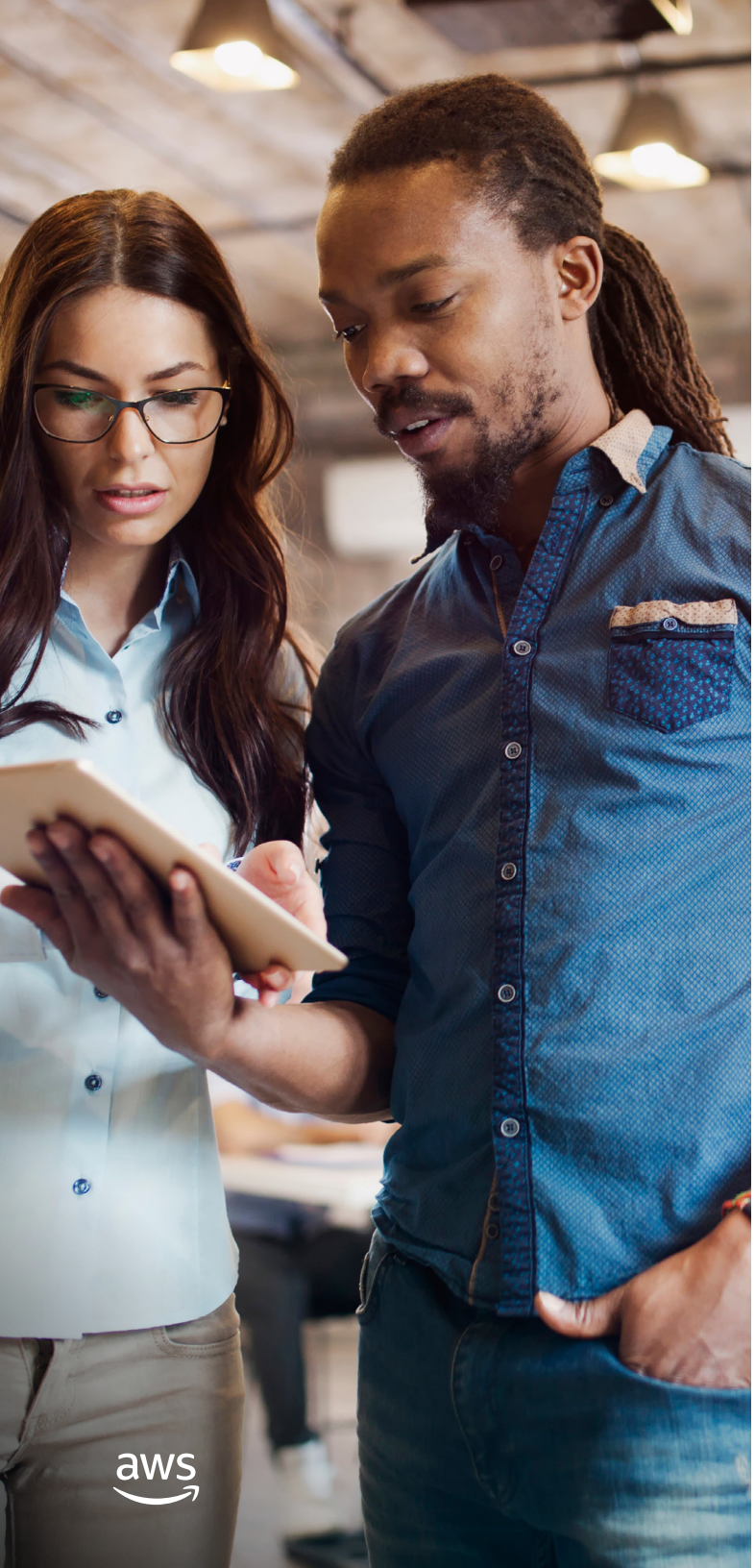
Production houses and creative studios need to run applications that require ultra-low latency, such as when collaborating via virtual workstations (as was the case with Netflix). Some workloads need to stay close to the source of production for graphics processing and audio and video rendering.

Delivering seamless experiences across multiple devices

Low latency is also an issue in the crucial "first mile" for live streaming events. The more interactive the services (360-degree cameras, real-time stats), the greater the need for powerful processing of data at the edge where the data is being generated.

Accelerating content teams' output

Media and entertainment firms are looking for easier ways to coordinate disparate teams and accelerate their productivity. Studios often want to 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. Some operations are so resource-intensive that they occupy local machines. The option to ease the burden on local machines is also a hindrance to content teams.



AWS brings innovative solutions to solve the challenges faced by gaming and media and entertainment businesses

With AWS hybrid cloud and edge computing solutions such as AWS Outposts, AWS Local Zones, and AWS Wavelength you can extend AWS cloud infrastructure and services wherever you need it–from on-premises, to large metropolitan areas, to the edge, and even all the way to the disconnected or rugged edge. AWS has hybrid cloud and edge computing solutions that are designed to bring reliable tools and services to satisfy a variety of workloads and customer expectations. Companies are already seeing the benefits of bringing AWS closer to the locations where they are consumed by end users, as well as where teams are building new content and services for customers. Let's explore these solutions in detail.

AWS Outposts Family

AWS Outposts serves gaming, real-money gaming, and media and entertainment demands for on-premises solutions even when they want to leverage cloud services such as Amazon Elastic Compute Cloud (Amazon EC2) compute, storage and database services, and containerized applications. AWS Outposts is a family of fully managed solutions delivering AWS infrastructure and services to virtually any on-premises or edge location. AWS Outposts enable firms to extend and run native AWS services on premises and are available in a variety of form factors, from 1U and 2U AWS Outposts servers to 42U AWS Outposts racks and multiple rack deployments.

With AWS Outposts, you can run some AWS services locally and connect to a broad range of services available in the local AWS Region. Run applications and workloads on premises using familiar AWS services, tools, and APIs. AWS Outposts support workloads and devices requiring low-latency access to on-premises systems.

In the video games sector, AWS Outposts can help providers deploy game servers closer to players to achieve the low latencies required for today's most demanding online titles. This results in better experiences and fairness for players, and that means they stay engaged and want to play more. AWS Outposts serve gaming companies well when they are too distant from an AWS Region or AWS Local Zone to get the low latency they need. Riot Games was able to use AWS Outposts to solve the latency issues they faced for its online game *Valorant*. Peeker's advantage, benefiting players with a latency advantage, did not give the game the competitive integrity it demanded, so AWS Outposts were deployed in various locations to ensure latencies were reduced by 5–10 milliseconds—which makes all the difference in such fast-paced action on screen.

AWS Outposts also addresses data residency requirements by keeping data on premises. This is particularly prevalent in the real-money gaming industry. AWS Outposts can be deployed in different geographical locations around the world—Las Vegas, Atlantic City, New Jersey in the US or Malta in Europe, for example, and can still meet any local, governmental, or contractual data residency requirements. As a fully managed solution, AWS Outposts provide access to the same AWS services, tools, and APIs to help maintain customer data within a specific region where an AWS Region or an AWS Local Zone might not be.

Low latencies are also desirable in the real-money gaming sector. Take Tipico as an example of a customer benefiting from AWS Outposts. Its online betting slips are now delivered through its mobile app in just 150 milliseconds rather than the 400–500 milliseconds response time from its legacy on-premises data center.

AWS Outposts is also 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. AWS Outposts can be used to build, manage, and rapidly scale on-premises applications. AWS Outposts infrastructures 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. Creative 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 Local Zones

AWS Local Zones are a type of infrastructure deployment that places compute, storage, database, and other select AWS services in large metropolitan areas where no AWS Region exists today. With AWS Local Zones, all kinds of gaming and media organizations can easily run latency-sensitive portions of applications local to endpoints and resources in a specific geographies, delivering single-digit millisecond latency. This can revolutionize businesses that need low latency for content creation applications and real-time gaming.

As we've seen from companies like Netflix, AWS Local Zones can be an ideal solution to providing the low latency needed to empower virtual workstations.

In gaming, Ubitus uses AWS Local Zones to deploy game servers close to players but had found it far too costly and time-consuming without a solution like Local Zones. AWS Local Zones provided the alternative so Ubitus could easily deploy and test clusters of game servers in numerous cities across the country, ensuring all customers got a more consistent experience regardless of where they were located.

AWS Local Zones offer access to compute, storage, networking (including VPCs), containers, and a wide variety of services and tools available in the Region. AWS Local Zones also support AWS Direct Connect to further streamline application development, deployment, and migration.

Data residency requirements, such as those critical to real-money gaming operators, are also addressed by AWS Local Zones. Customers can configure their data to remain on AWS Local Zones using Amazon EC2, Amazon Elastic Block Store (Amazon EBS), Amazon FSx, and other local services. To ensure a jurisdiction's unique data residency requirements are met, AWS recommends customers work closely with their compliance and security teams for confirmation.

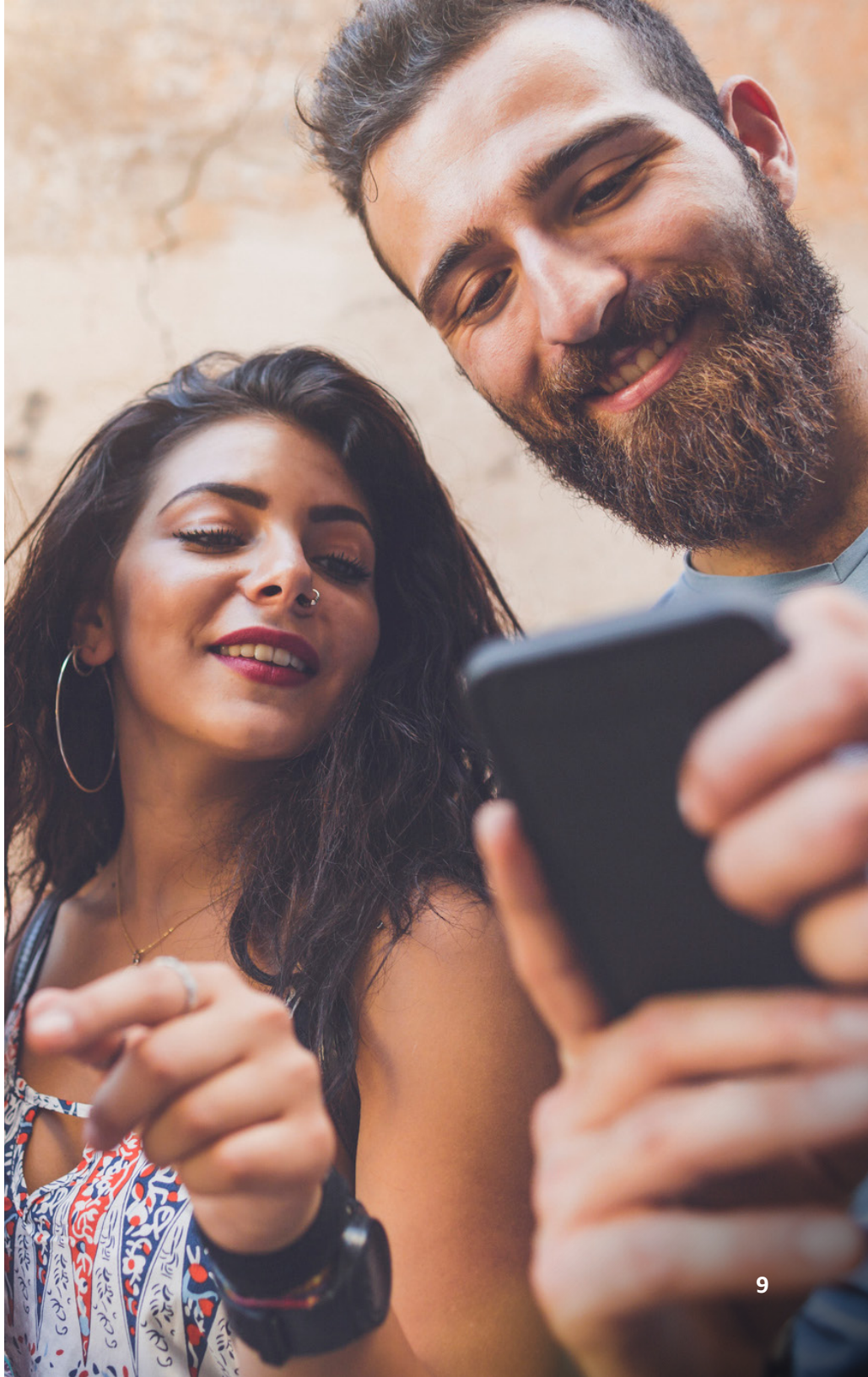
AWS Local Zones are available in 17 metro areas in the US, with 32 new AWS Local Zones in metropolitan areas around the world already announced. See here for the latest information.

AWS Wavelength

AWS Wavelength embeds AWS compute and storage services within 5G networks, providing mobile edge computing infrastructure for developing, deploying, and scaling low-latency applications.

Gaming at the edge is a rapidly evolving market with the acceleration of 5G network areas. AWS Wavelength utilizes the benefits of 5G networks to deliver innovative and interactive gaming experiences, such as virtual reality (VR) and augmented reality (AR) games to mobile players. Gamers can utilize their lightweight devices and save battery time during their gaming experience as the AWS Wavelength allows for compute offloading from the device to the edge.

AWS Wavelength technology with 5G can deliver immersive entertainment for live events. Customer YBVR was able to deploy AWS Wavelength, providing real-time 360-degree video experiences for sports, music, and other entertainment events. To give the smooth experience of feeling like you're really there from home, you need a massive amount of bandwidth. An AWS Wavelength Zone delivers this (embedding AWS compute and storage services within a carrier's data center at the edge of the 5G network), preventing the many network hops that would normally be required to give such a low-latency experience.



tipico

AWS Outposts help online betting provider comply with local regulations

Tipico is one of the biggest sports betting and online casino platforms in the German-speaking market and in Europe.

> "Outposts lets us ensure compliance with the residency standards, while leveraging the same expertise, common code, and APIs that we had created in the public AWS Cloud. This lets us accelerate the introduction of new feature offerings, be more nimble, and adapt quickly to market changes."
>
> **Thorsten Hanf**, Head of Enterprise Operations, Tipico

NETFLIX

AWS Local Zones improve productivity of Netflix artists

Netflix is the world's leading internet television network, with more than 200 million members in more than 190 countries enjoying 125 million hours of TV shows and movies each day.

> "AWS Local Zones, which bring cloud resources closer to our artists, have been a game-changer for these applications. By taking advantage of access to AWS's highly performant and cost-effective compute resources, we have been able to migrate portions of our content creation process to AWS Local Zones, while ensuring an even better experience for artists."
>
> **Nils Pommerien**, Director, Cloud Infrastructure Engineering, Netflix

ybvr

AWS Wavelength helps uplevel streaming experiences

YBVR is a technology startup building the next-generation VR video distribution platform using 5G technology.

> "Our entire infrastructure was already working on AWS. So porting that from AWS to Verizon MEC, which is based on Wavelength was really simple. One of the great things about edge computing is that you can offload computing from your device to the edge, so your device can become smaller, can be lighter, and can have longer battery times."
>
> **Sebastián Amengual**, Co-Founder & CTO, YBVR

aws

Next steps

From the cloud to on premises, and at the edge, AWS is helping online entertainment operators take advantage of truly global opportunities. With AWS hybrid and edge solutions, which extend AWS infrastructure and services to where they are most needed, you can move quickly to pursue growth and meet the increasing demands of digital audiences while seamlessly managing operations.

Learn more about AWS hybrid and edge solutions here.