

Service Name

Amazon Interactive Video Service

Service Overview

Amazon Interactive Video Service (Amazon IVS) is a managed live-video streaming service powered by Twitch technology that enables developers to create channels, build interactive experiences, and distribute video at scale without managing infrastructure. It offers two streaming modes: Low-Latency Streaming with latency under 5 seconds for channels, and Real-Time Streaming with latency under 300ms for stages. The service handles video processing, delivery, and playback while allowing integration into websites and applications through comprehensive SDKs for web, iOS, and Android platforms.

Key Use Cases

- **Interactive Live Streaming:** Creating engaging experiences with real-time chat, polls, and Q&A alongside low-latency video streaming
- **Real-Time Collaboration:** Supporting collaborative live streams, host-vs-host events, live video auctions, and turning viewers into hosts
- **Community Building:** Building social communities with chat rooms, monetizing video content with e-commerce integration, and hosting collaborative audio rooms
- **Gaming and Entertainment:** Supporting live gaming streams, educational content delivery, and enterprise communications with interactive features
- **Video-on-Demand:** Recording live streams for later viewing and creating content libraries with automatic S3 storage integration

Features

- **Low-Latency Streaming:** Delivers video with latency under 5 seconds using optimized infrastructure and supports millions of viewers with automatic scaling
- **Real-Time Streaming:** Provides ultra-low latency under 300ms for up to 10,000 viewers and 12 hosts with collaborative live streams
- **Multi-Platform SDKs:** Broadcast and Player SDKs for iOS, Android, and web with support for RTMP, RTMPS, and SRT protocols
- **Interactive Chat:** Built-in chat APIs with message delivery, moderation capabilities, and integration with EventBridge for real-time interactions
- **Adaptive Bitrate Streaming:** Pre-configured transcoding with multiple quality levels and automatic bitrate adjustment based on viewer conditions
- **Recording and VOD:** Automatic recording to Amazon S3 with individual participant recording and composite recording options
- **Server-Side Composition:** Offloads composition and broadcasting of stages to IVS-managed service with customizable layouts

- **Multitrack Video:** Allows encoding multiple video quality levels from devices to reduce server-side transcoding costs by up to 75%

Value Proposition

Amazon IVS offers significant advantages over alternatives through its fully managed infrastructure that eliminates the need for custom video workflows, powered by proven Twitch technology for reliability at scale. The service provides industry-leading low latency with real-time streaming under 300ms and low-latency streaming under 5 seconds, coupled with global content delivery and automatic scaling:

- Cost-effectiveness is enhanced through pay-as-you-go pricing, multitrack video capability that reduces costs by up to 75%, and integrated AWS services ecosystem
- The comprehensive SDK support across web, iOS, and Android platforms, combined with built-in interactive features like chat and metadata injection, enables rapid development of engaging video experiences without infrastructure management complexity

Service Integration

Amazon IVS integrates deeply with core AWS services to provide a comprehensive streaming solution. Amazon S3 serves as the primary storage destination for recorded live streams and video-on-demand content with automatic recording capabilities:

- Amazon CloudFront acts as the content delivery network for global video distribution with optimized edge locations
- Amazon CloudWatch provides comprehensive monitoring, analytics, and alerting for stream health, viewer metrics, and performance indicators
- AWS Identity and Access Management (IAM) controls access and permissions for playback authorization and resource management
- Amazon EventBridge enables event-driven architectures by sending stream state changes, health updates, and composition events to trigger automated workflows
- Additional integrations include Amazon Kinesis Data Firehose for data streaming, AWS Elemental MediaLive for advanced broadcasting features, and Amazon Elastic Transcoder for additional video processing capabilities

Onboarding and Offboarding

Getting started with Amazon IVS involves creating an AWS account and setting up IAM permissions for service access. Customers begin by creating a channel through the AWS Management Console, AWS CLI, or SDKs, which provides a stream key and ingest endpoint for broadcasting:

- For low-latency streaming, users configure streaming software like OBS Studio with the provided credentials, while real-time streaming requires creating a stage and generating participant tokens for hosts and viewers
- The service offers comprehensive getting started guides for integrating player and broadcast SDKs across web, iOS, and Android platforms
- Optional configuration includes enabling recording to S3, setting up chat functionality, and configuring service quotas for expected usage levels
- The entire setup process can be completed in minutes with live streaming operational immediately after channel creation

Getting Started Guide:

<https://docs.aws.amazon.com/ivs/latest/LowLatencyUserGuide/getting-started.html>

Data Removal

Amazon IVS data removal involves deleting channels, stream keys, recording configurations, and associated resources through the console or APIs. Recorded content stored in Amazon S3 follows standard S3 data lifecycle policies and can be deleted using S3 operations. Real-time streaming resources including stages, participant tokens, and compositions must be individually deleted. Chat room data and message history are removed when rooms are deleted. Customers maintain full control over their data and can implement automated cleanup processes using AWS APIs and lifecycle policies.

Backup/Restore and Disaster Recovery

Amazon IVS provides limited native backup capabilities as a managed streaming service focused on live content delivery. Recorded live streams are automatically stored in Amazon S3 where customers can implement backup strategies using S3 Cross-Region Replication, versioning, and lifecycle policies. Configuration data for channels and stages can be backed up through infrastructure-as-code templates and API exports. Disaster recovery relies on the service's global infrastructure with automatic failover capabilities and regional redundancy for content delivery.

Backup Capabilities

Amazon IVS does not directly integrate with AWS Backup as it primarily handles live streaming rather than persistent data storage. However, recorded content stored in Amazon S3 can be protected using S3's native backup features and third-party backup solutions. Channel configurations and settings can be exported and version-controlled through infrastructure-as-code practices for configuration backup and recovery scenarios.

Disaster Recovery

Amazon IVS does not integrate with AWS Elastic Disaster Recovery as it is a managed service with built-in redundancy. The service operates on AWS's global infrastructure with automatic failover capabilities and regional availability. Disaster recovery planning focuses

on configuration backup through infrastructure-as-code and implementing multi-region streaming strategies where business requirements dictate geographic redundancy for content delivery.

Recovery Objectives

Amazon IVS supports recovery objectives through its managed service architecture with built-in high availability and automatic failover. For live streaming scenarios, the service provides rapid recovery through its global infrastructure and automatic scaling capabilities. RPO objectives are met through S3 recording with configurable frequency, while RTO objectives benefit from the service's immediate availability and global edge locations for content delivery resumption.

Service Constraints

Service Quotas: <https://docs.aws.amazon.com/general/latest/gr/ivs.html>

FAQ: <https://aws.amazon.com/ivs/faqs/>

Technical Requirements

Service Documentation: <https://docs.aws.amazon.com/ivs/latest/LowLatencyUserGuide/>

User Guide: <https://docs.aws.amazon.com/ivs/latest/LowLatencyUserGuide/>

API Reference:

<https://docs.aws.amazon.com/ivs/latest/LowLatencyAPIReference/Welcome.html>

Pricing Overview

Please see the AWS UK G Cloud 15 Pricing Document accompanying this service in the Digital Marketplace.

Public Pricing: <https://aws.amazon.com/ivs/pricing/>

Cost Optimization

Amazon IVS offers several unique cost optimization opportunities including Multitrack Video capability that reduces input costs by up to 75% by enabling client-side encoding of multiple quality levels instead of server-side transcoding. The service provides tiered pricing for video output based on resolution and geographic regions, with significant cost savings for standard channels using multitrack compared to traditional transcoded channels (\$0.50 vs \$2.00 per hour):

- Pay-as-you-go pricing eliminates upfront commitments, and customers can optimize costs by choosing appropriate channel types (Basic, Standard, Advanced) based on their transcoding needs

- The AWS Free Tier provides 5 hours of live video input, 100 hours of SD output, and other allowances monthly for the first 12 months

Savings Considerations

Primary cost savings strategies include implementing Multitrack Video for standard channels to achieve up to 75% reduction in input costs, selecting appropriate channel types based on transcoding requirements, and leveraging the global content delivery network to minimize data transfer costs. Customers can optimize recording costs by implementing S3 lifecycle policies for stored content and using intelligent tiering for long-term storage:

- Real-time streaming costs can be managed by monitoring participant hours and implementing efficient stage management practices
- Geographic region selection and usage pattern analysis help optimize output costs through tiered pricing structures, while integrated AWS services provide economies of scale compared to standalone solutions