

Service Name

AWS Elemental MediaConnect

Service Overview

AWS Elemental MediaConnect is a reliable, secure, and flexible transport service for live video that enables broadcasters and premium video providers to ingest live video into the AWS Cloud and distribute it to multiple destinations, both within and outside AWS. The service provides the reliability, security, and visibility of traditional distribution methods with the flexibility and cost-effectiveness of internet-based transmission. MediaConnect adds a quality-of-service layer over standard IP transport, enabling uninterrupted live video connections through packet recovery and supports industry-standard video encryption. Users create flows to establish transport between sources and one or more outputs, enabling content sharing through entitlements with other AWS accounts.

Key Use Cases

- **Contribution:** Ingest content from on-premises encoders into AWS Cloud using transport stream or CDI flows
- **Distribution:** Deliver content to different geographical locations using multi-region flows
- **Entitlements:** Share content securely with other AWS accounts through permission-based access
- **Replication and Monitoring:** Distribute video to multiple destinations and enable real-time monitoring of multiple video signals

Features

- **Multiple Protocol Support:** Supports Zixi, RIST, SRT, RTP, RTP-FEC, NDI, and other industry-standard protocols for reliable video contribution
- **CDI and JPEG XS:** Provides uncompressed and visually-lossless video transport using AWS Cloud Digital Interface and JPEG XS compression
- **Source Failover:** Offers Merge and Failover modes using two redundant sources to minimize disruption
- **End-to-End Encryption:** Built-in security with AES encryption, SPEKE key management, and IP allow listing
- **Real-Time Monitoring:** Provides network health metrics, content quality monitoring, and EventBridge integration
- **Workflow Monitor:** Discover, visualize, and monitor live video resources across workflows
- **Router Integration:** Real-time routing of live video streams between sources and destinations in the cloud

Value Proposition

MediaConnect offers significant advantages over traditional satellite and fiber solutions including faster deployment (minutes vs months), pay-as-you-go pricing without upfront commitments, and integrated AWS billing and support. Unlike infrastructure providers, MediaConnect provides better long-distance performance, supports multiple protocols, enables both contribution and business-to-business distribution workflows, and includes built-in security and sharing capabilities. The service delivers professional-grade quality of service, strong encryption, flexible routing, comprehensive monitoring, and seamless integration with other AWS Media Services, making it ideal for broadcasters who need reliable, secure, and cost-effective live video transport.

Service Integration

MediaConnect integrates seamlessly with AWS Media Services ecosystem including AWS Elemental MediaLive for live video processing and encoding, AWS Elemental MediaPackage for content packaging and distribution, AWS Elemental MediaStore for media storage, and AWS Elemental MediaTailor for ad insertion. The service also integrates with Amazon EventBridge for real-time event monitoring, AWS CloudWatch for metrics and alarms, AWS Secrets Manager for SPEKE encryption key management, Amazon VPC for secure network connectivity, AWS Direct Connect for dedicated network connections, Amazon S3 for backup storage, and Amazon Route 53 Application Recovery Controller for disaster recovery orchestration.

Onboarding and Offboarding

Customers get started by creating an AWS account and setting up IAM users with necessary permissions. The initial setup involves accessing the MediaConnect console, creating a flow with specified source details including transport protocol and encryption type, and configuring destinations:

- Users can optionally store encryption keys in AWS Secrets Manager and grant MediaConnect permission to access them
- The service provides step-by-step tutorials for common scenarios like creating flows for contribution, distribution, and entitlements
- Getting started requires minimal infrastructure setup as MediaConnect is a fully managed service that can be deployed in minutes using the AWS Management Console, CLI, or API

Getting Started Guide: <https://docs.aws.amazon.com/mediaconnect/latest/ug/getting-started.html>

Data Removal

When offboarding from MediaConnect, customers must stop and delete all flows to avoid continued charges. Data removal involves deleting flow configurations, source settings,

output destinations, and entitlements through the console, CLI, or API. Since MediaConnect is a transport service for live video streams, it does not persistently store customer video content, but customers should ensure all associated resources like encryption keys in Secrets Manager and related monitoring configurations are properly cleaned up.

Backup/Restore and Disaster Recovery

MediaConnect supports source failover with redundant sources using Merge and Failover modes to minimize service disruption. The service provides built-in reliability through redundant infrastructure and automatic recovery from issues. For disaster recovery, customers can deploy flows across multiple AWS regions and use Amazon Route 53 Application Recovery Controller for automated failover orchestration. However, as a live video transport service, MediaConnect does not provide traditional backup capabilities for video content itself.

Backup Capabilities

MediaConnect does not provide traditional backup capabilities as it is a live video transport service that does not persistently store video content. The service focuses on real-time transport and replication of live streams. Backup strategies would need to be implemented at the source or destination endpoints, such as using AWS Elemental MediaLive to create archive outputs to Amazon S3 for content backup purposes.

Disaster Recovery

MediaConnect supports disaster recovery through multi-region deployment capabilities, source failover with redundant sources, and integration with Amazon Route 53 Application Recovery Controller for automated failover. The service provides built-in infrastructure redundancy and automatic recovery mechanisms. However, it does not integrate with AWS Elastic Disaster Recovery as MediaConnect is a live streaming transport service rather than a traditional application or data workload.

Recovery Objectives

MediaConnect helps customers achieve low RPO and RTO objectives through source failover capabilities that can switch between redundant sources in 500 milliseconds during failures. Multi-region deployment enables quick regional failover for distribution flows. The service's built-in redundancy and automatic recovery mechanisms minimize downtime. For live video workflows, customers can achieve near-zero RPO through real-time replication and sub-second RTO through automated failover mechanisms.

Service Constraints

Service Quotas: <https://docs.aws.amazon.com/mediaconnect/latest/ug/quotas.html>

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

Technical Requirements

Service Documentation: <https://docs.aws.amazon.com/mediaconnect/latest/ug/what-is.html>

User Guide: <https://docs.aws.amazon.com/mediaconnect/latest/ug/what-is.html>

API Reference: <https://docs.aws.amazon.com/mediaconnect/latest/api/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/mediaconnect/pricing/>

Cost Optimization

MediaConnect offers reserved outbound bandwidth pricing with up to 12-month commitments for discounted internet data transfer rates. The service uses pay-as-you-go pricing with no upfront commitments, charging only for running flows and data transfer. Cost optimization strategies include stopping flows when not in use (idle flows incur no charges), using reserved bandwidth for predictable workloads, optimizing bitrates and compression settings, leveraging VPC outputs to avoid internet transfer charges, and selecting appropriate flow types (transport stream vs CDI) based on quality requirements to balance cost and performance.

Savings Considerations

Main cost savings come from eliminating traditional satellite and fiber infrastructure with their high upfront costs and long-term commitments. MediaConnect's pay-as-you-go model allows customers to scale dynamically without overprovisioning:

- Reserved outbound bandwidth pricing provides additional savings for consistent usage patterns
- The service reduces operational costs through automated management, integrated billing with other AWS services, and elimination of hardware maintenance
- Regional data transfer within AWS avoids internet egress charges, and the ability to start/stop flows on-demand prevents unnecessary charges during inactive periods, making it significantly more cost-effective than traditional broadcast infrastructure