Video Transcoding on AWS

V0.5

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Overview

This paper discusses the advantages and disadvantages of different approaches to implement transcoding on AWS.

Approaches

There are many ways to transcode video files on AWS. Here is a list of the most common approaches and some of their advantages and disadvantage:

Transcode on an EC2 Instance

Run one or multiple EC2 instances on AWS and install the transcode software of your choice on the instances. This is sometimes called “lift and shift”.

Your cost is the license of the transcode software and the per minute uptime of the EC2 instance(s).

Advantage:

- You have complete control over the transcode software you use (versions, patches, etc.)
- You can install other software components (specialized audio tools, etc.)
- Windows and Linux based software is supported.

Disadvantage:

- You have to design and provision the infrastructure on AWS. You have to architect for scalability, high availability, etc. You have to chose the right type of storage, create a virtual network, pick the right EC2 type, maintain the operating system, implement a load balancer, etc.

Using a SaaS service

You can use a SaaS service such as Dolby’s Hybrik or Telestream’s Vantage Gateway.

Cost is typically based on the number of output minutes.

Advantage:

- Scalability and redundancy are provided by the SaaS vendor.
- You have access to support from the vendor.
- You have access to the specialized capabilities of a particular vendor.

Downside:

- You must learn a new encoder.
- You must learn the API to drive the encoder and integrate it in your workflow.
- Since the transcoding is performed in the vendors VPC there are security considerations. (The vendor must access the media in your VPC from their VPC)
- You also must engage in a new business relationship with the vendor and manage things such as volume discounts and annual commits.

AWS Elemental Media Convert

AWS Elemental Media Convert is AWS SaaS transcoding service.

MediaConvert is similar to the other SaaS transcoding services, but it is part of AWS, so you can use your existing business relationship with AWS for billing and other contract terms.

MediaCovert is also billed for by the output minute.

AWS Lambda with FFMPEG

This was outlined in a previous whitepaper: FFMPEG and Lambda.

You can download it here: Whitepapers

Other Options

There are other features of AWS that can be used for scalable and redundant transcode workflows:

- Running a transcoder in a Linux container using the AWS Elastic Container Service (ECS)
- Running a Linux container using the serverless AWS Fargate service.