Ad-Flow SCTE-35 Automated Insertion - QuickStart Guide

Overview

'Ad-Flow SCTE-35 Automated Insertion' container features:

* Capture live video (RTP and SRT) containing ad content
* Add SCTE-35 markers to streams that don't have them
* Re-stream the video with the added markers
* Monitor performance through pre-configured Grafana dashboards
* View errors and information in CloudWatch logs

The workflow involves capturing a live video stream from an RTP or SRT source (typically a contribution encoder), processing it through Ad-Flow, and re-streaming it with SCTE-35 markers to a video encoder such as Elemental MediaLive.

Delay-Flow is used as a companion. Configure it to delay the input video stream by the same amount as Ad-Flow, and send that stream to the Secondary Input of the video encoder (eg MediaLive).

Initial Setup

There are two CloudFormation templates provided with Ad-Flow and Delay-Flow. The Cluster template will set up an ECS Cluster. It will be backed by a single EC2 instance and it will attach an Elastic IP to that instance. The Task/Container template sets up the containers (Prometheus, Grafana, Ad-Flow/Delay-Flow) which will run on that ECS Cluster.

Deployment steps:

1. Read this guide and modify the CloudForrmation Task/Container template. The Ad-Flow/Delay-Flow configuration will need to be modified. The configuration will depend on protocol used, and the input and output video streams required.
2. Use the CloudFormation service to deploy the Cluster template, followed by the Task/Container template. Click ‘Add Task’ to deploy a template.

Once deployed, Ad-Flow and Delay-Flow can be tested by feeding it a video stream generated by the free AMI called ‘RTP/SRT Streamer for Ad-Flow (SCTE-35 Automated Insertion)’, available from the AWS Marketplace.

Configure Grafana Access

The CloudFormation templates will deploy Grafana and a Dashboard which shows input/output transfer rates, number of ad breaks detected, and various health metrics. To access it:

1. In EC2 Instances page, select the instance associated with your ECS cluster
2. In Details section, copy the address under "Public IPv4 DNS".
3. In your browser, navigate to https://[publicIPv4DNs]:3000. For example, https://11.22.33.44:3000
3. Accept the browser warning about self-signed TLS certificate
4. Log in to Grafana:
 - Default username: admin
 - Default password: admin
 - Change password if prompted
5. Navigate to Dashboards and "Capture Metrics Dashboard"

Configure Stream Settings

The ECS CloudFormation script for the containers will need to be adjusted. The container settings for Ad-Flow or Delay-Flow will have to be set.

For RTP Input/Output:

Prerequisites:
- MediaLive input created and set to RTP

Steps:

1. Edit the ECS CloudFormation template for task/container:
   - Set INPUT_IP to 127.0.0.1
   - Set INPUT_PORT to 5004
   - Set OUTPUT_IP to MediaLive RTP input IP address
   - Set OUTPUT_PORT to MediaLive RTP input port

2. In the CloudFormation page, click ‘Add Task’. Load the CloudFormation templates and go through their configuration. Add the Cluster template first, followed by the Task/Container template.

Note: Configure your contribution encoder to output to Ad-Flow's Elastic IP address.

For SRT Input/Output:

Prerequisites:
- Have a SRT input (contribution encoder) ready

Steps:
1. Edit the ECS CloudFormation template for task/container
   - Set INPUT_IP to SRT source location
   - Set INPUT_PORT to SRT source port
   - Set OUTPUT_IP to 0.0.0.0
   - Set OUTPUT_PORT to 5005

2. In the CloudFormation page, click ‘Add Task’. Load the CloudFormation templates and go through their configuration. Add the Cluster template first, followed by the Task/Container template.

3. In MediaLive:
   - Create new SRT caller input
   - Set "SRT listener address" to Ad-Flow's elastic IP address
   - Set "SRT listener port" to configured OUTPUT_PORT

Note: Streaming will start automatically when MediaLive channel is started.