



# Video On-Demand

*with Azure Media Services*



Ken Muse

@atlantabass

Microsoft Azure MVP

Microsoft ALM | DevOps Ranger

Microsoft  
Most Valuable  
Professional



# About Me

Consulting Director at **Wintellect**



## Consulting

Custom software application development & architecture



## Instructor Led Training

Microsoft's #1 training vendor in DevDiv



## On-Demand Training

World class, subscription-based online training

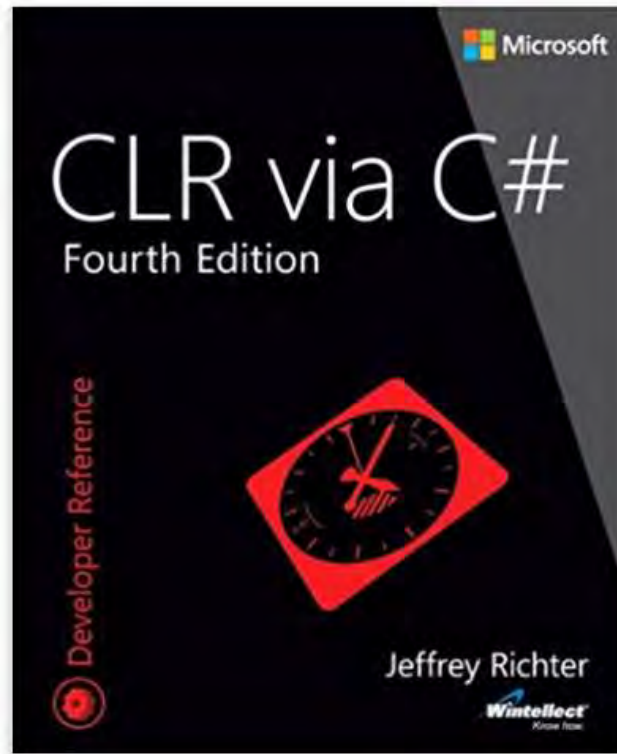


**Ken Muse**  
@atlantabass

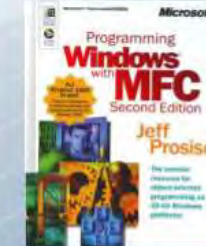
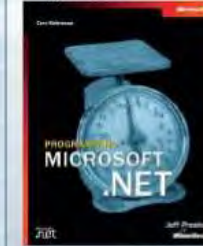
Microsoft ALM | DevOps Ranger  
Microsoft Azure MVP  
Microsoft Azure Advisor  
P-CSA / MCSE / MCT

# Industry Influencers

We wrote the book (over 30 of them)



Jeff Prosise



John Robbins



Jeffrey Richter



Ken Scribner



Justin Smith



We help  
companies  
build better  
software,  
faster.

# Some Highlights

- **Gold Cloud Platform** and **Gold DevOps** Partner
- Multiple **MVPs, ALM | DevOps Rangers**, and **Azure Advisors**
- 2018 IAMCP Worldwide and US Gold Partner of the Year
- CEO is Microsoft Regional Director (RD) for Atlanta
- Microsoft AI Inner Circle Partner
- Microsoft ALM Inner Circle Partner
- Xamarin Premier Consulting Partner  
with multiple Xamarin Certified Engineers
- Other: Visual Studio Integration Partner, MVP of the Year, and more...

# What to Expect

- How it works
- The manual process
- Automating with Functions and Event Grid

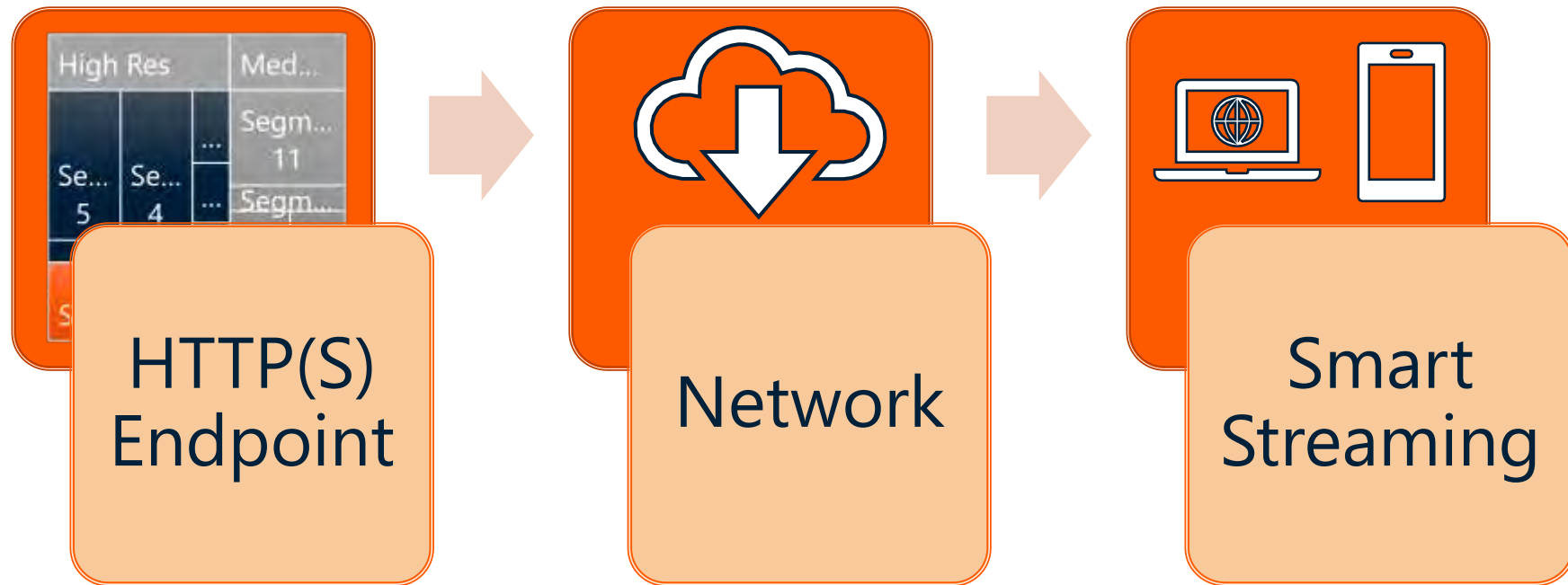
# Why do we care?





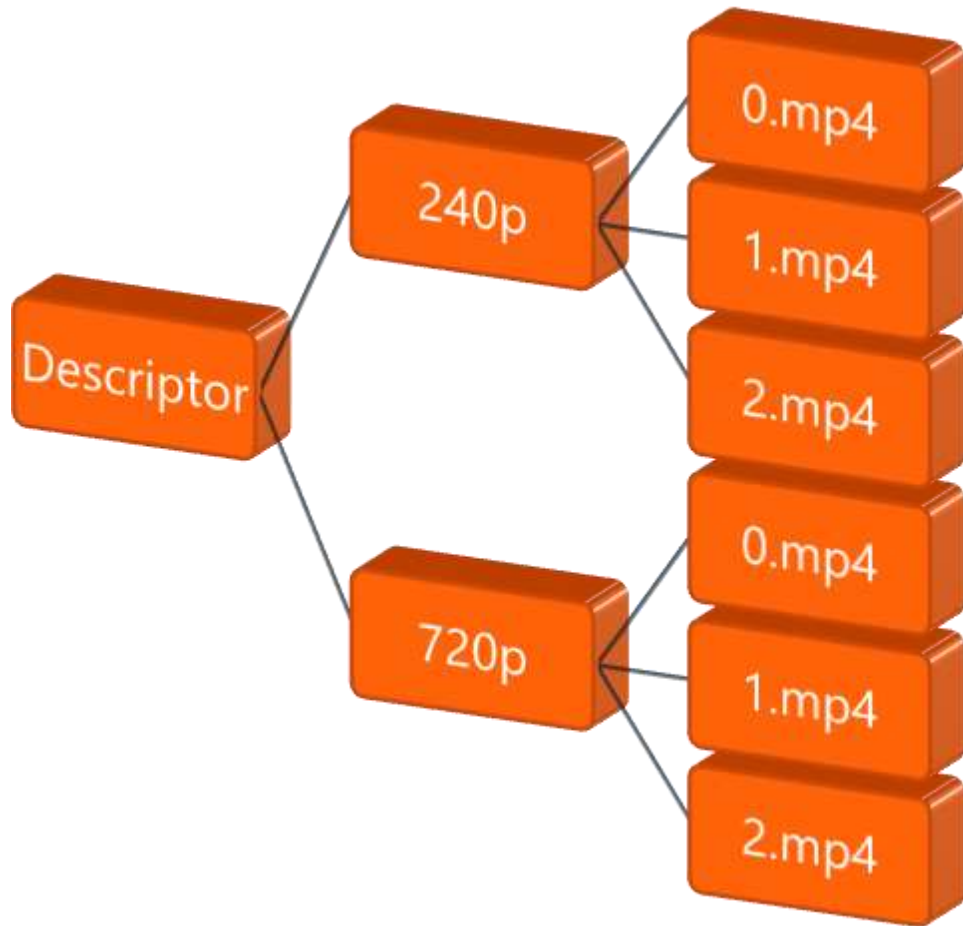
**Cat videos.**

# The Basics



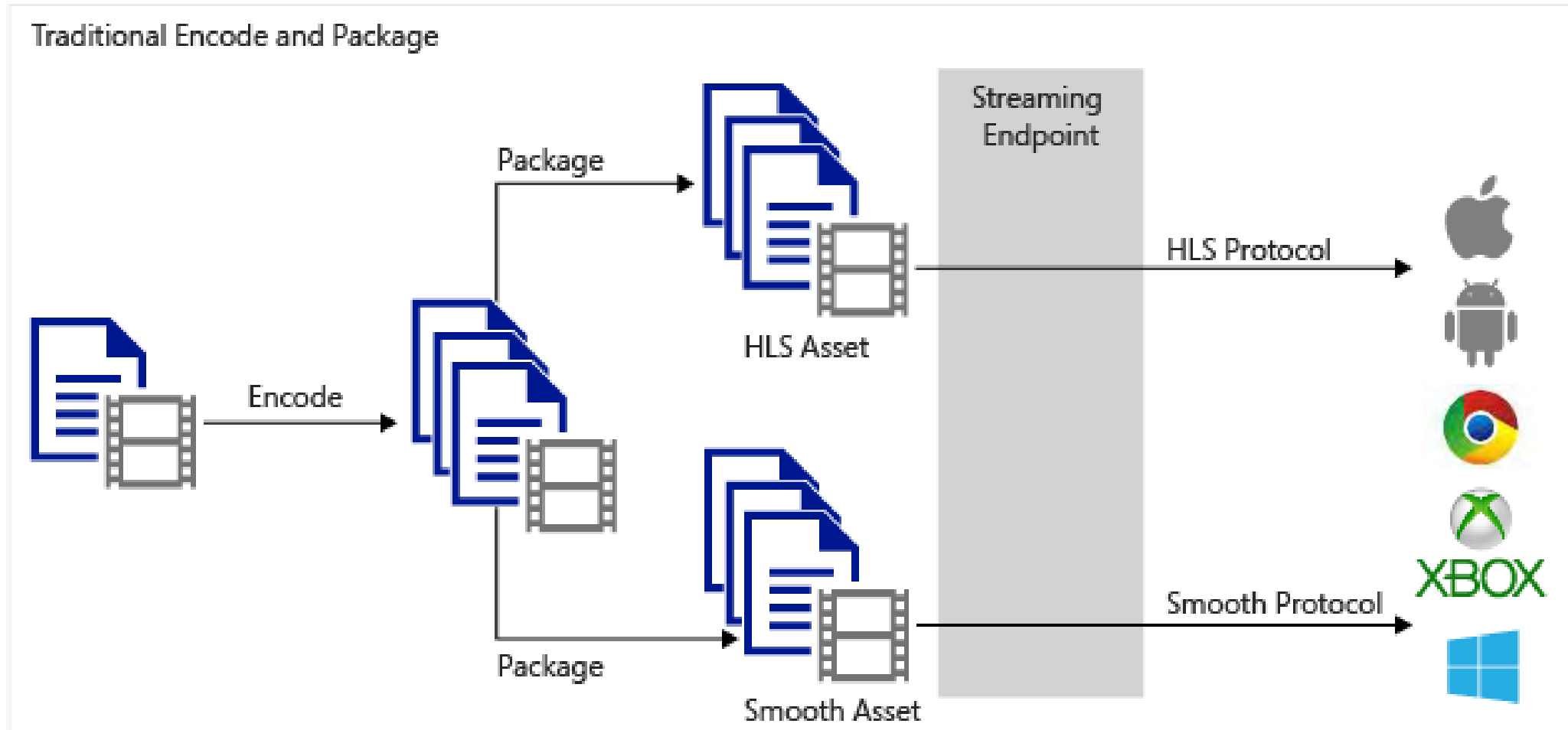


# Media Files

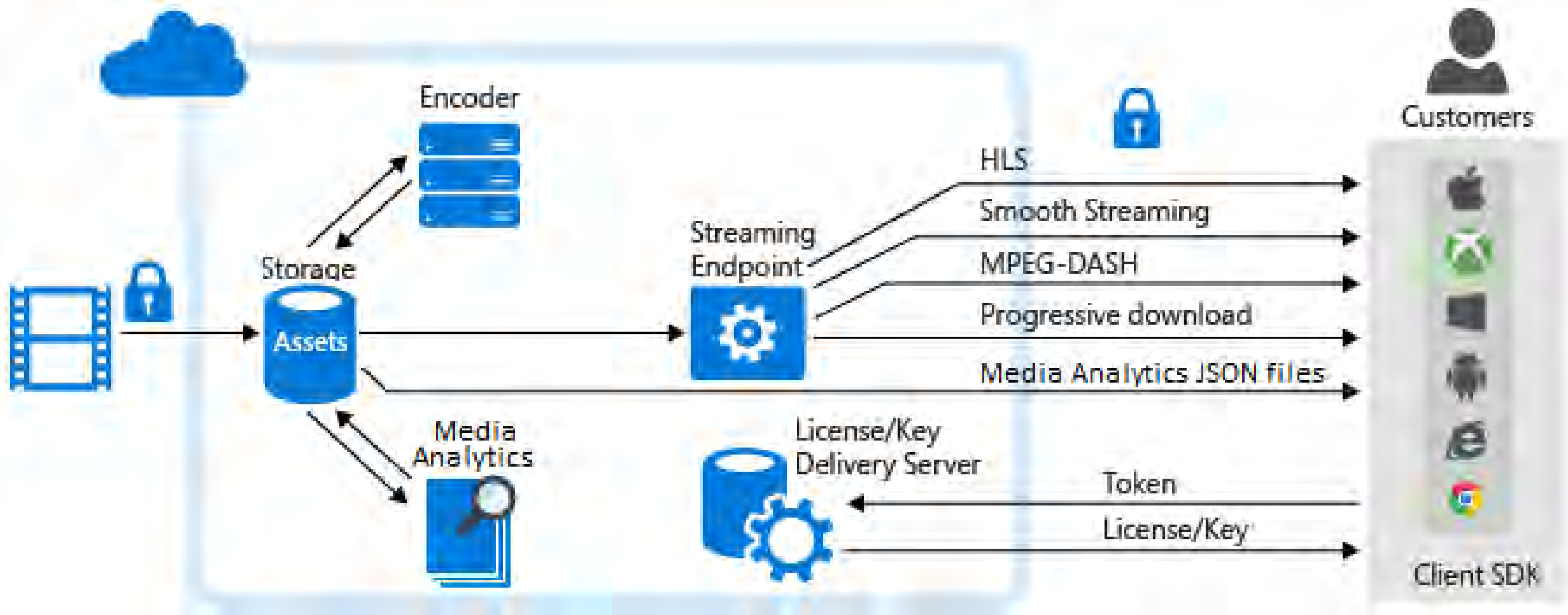


```
<Representation mimeType="video/mp4"
    frameRate="24"
    bandwidth="1558322"
    codecs="avc1.4d401f" width="1277" height="544">
  <SegmentList duration="10">
    <Initialization sourceURL="http://cdn.net/bbb/video-1500/init.mp4"/>
    <SegmentURL media="http://cdn.net/bbb/video-1500/segment-0.m4s"/>
    <SegmentURL media="http://cdn.net/bbb/video-1500/segment-1.m4s"/>
    <SegmentURL media="http://cdn.net/bbb/video-1500/segment-2.m4s"/>
    <SegmentURL media="http://cdn.net/bbb/video-1500/segment-3.m4s"/>
    <SegmentURL media="http://cdn.net/bbb/video-1500/segment-4.m4s"/>
  </SegmentList>
</Representation>
```

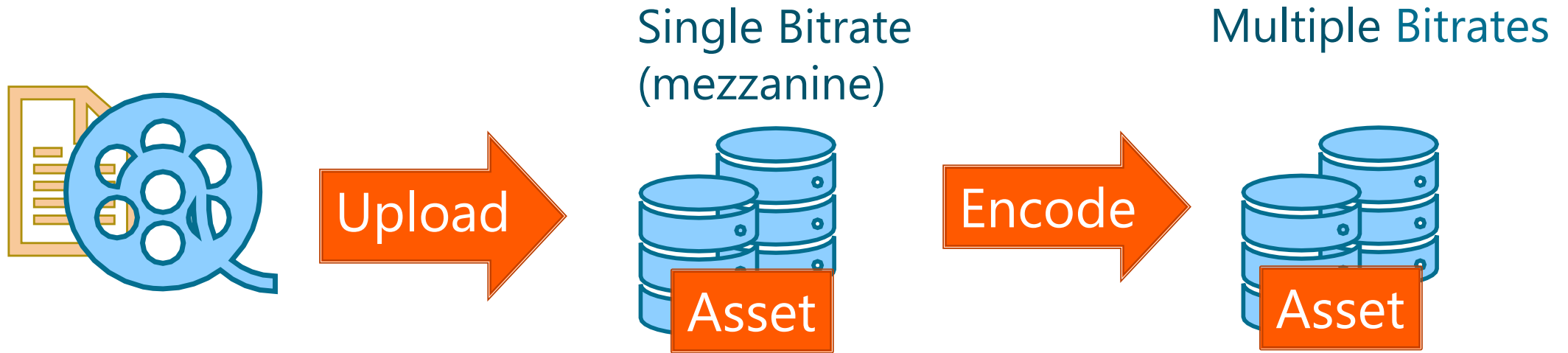
# Traditional Publish



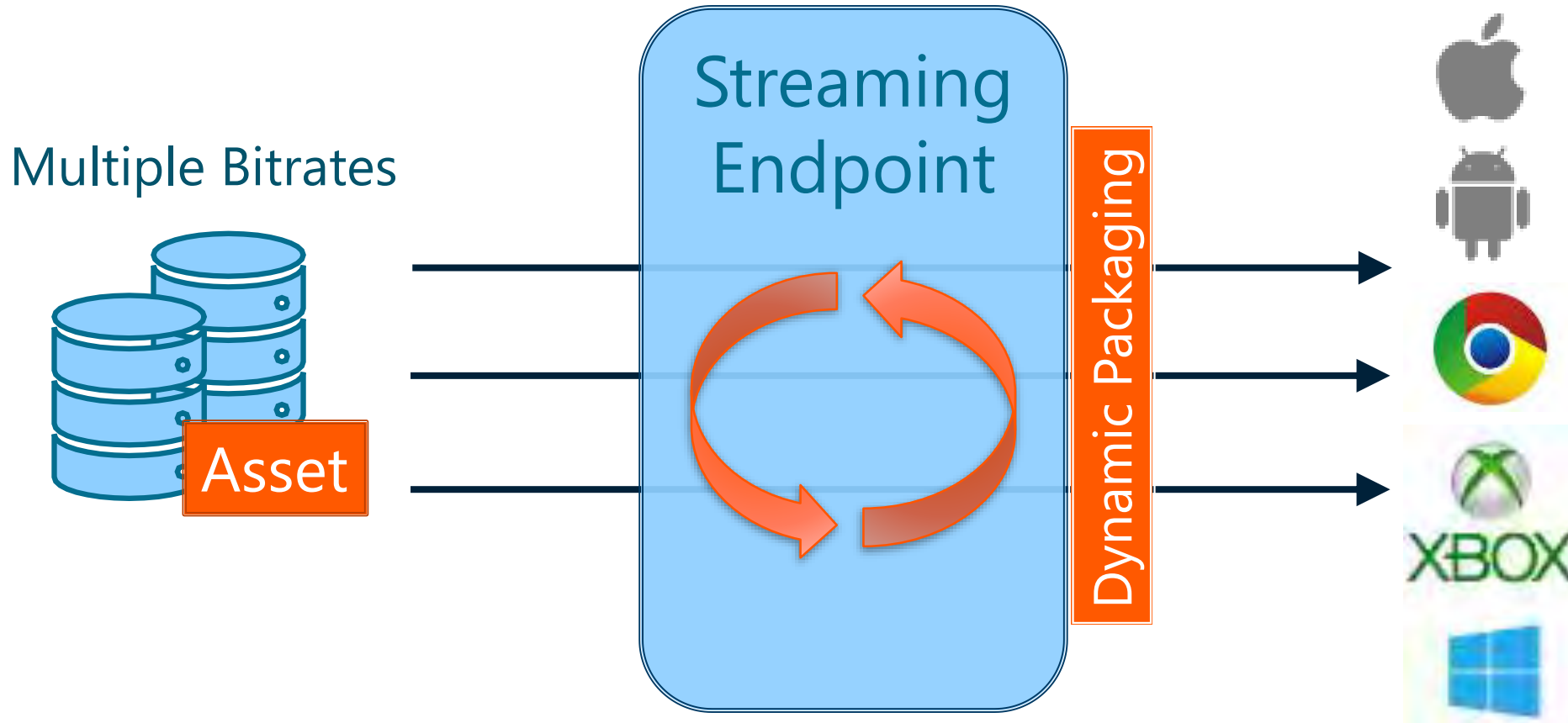
# Azure Media Services



# The Workflow



# Publication





# Getting Started

**Media Services**  
Introduction

Build workflows for the creation, management, and distribution of media. Media Services offers the flexibility, scalability, and reliability of a cloud platform to handle high-quality media experiences for a global audience. Media Services includes cloud-based versions of many existing technologies from the [Microsoft Media Platform](#) and our media partners, including ingest, encoding, format conversion, content protection, and both on-demand and live streaming capabilities. Whether enhancing existing solutions or creating new workflows, you can easily combine and manage Media Services to create custom workflows that fit every need.

Use Media Services to:

- Build end-to-end workflows
- Develop hybrid workflows
- Provide cloud support for multiple devices and platforms

[Save for later](#)

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**Publisher** Microsoft

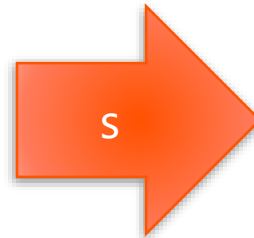
**Useful Links** [Documentation](#)  
[Service Overview](#)  
[Pricing details](#)

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Select a software plan

**Media Services**  
Encode, store, and stream video and audio at scale

[Create](#)



Dashboard > New > Media Services > Media service

## Media service

CREATE MEDIA SERVICE ACCOUNT

\* Account Name (lowercase only)

\* Subscription  
MVP Sponsorship

\* Resource Group ⓘ  
☐ Create new ☒ Use existing  
MediaServices

\* Location  
East US 2

\* Storage Account  
Please select a storage account

**Info** Please note you can only choose Locally Redundant, Geo-Redundant and Read-only Access Geo-Redundant as storage type to work with Azure Media Services.

# Account Setup

```
az ams account sp create --account-name media --resource-group mediaservices
```

```
{  
  "AadClientId": "00e93d9a-60ef-4c14-a9eb-b645c024eec3",  
  "AadEndpoint": "https://login.microsoftonline.com",  
  "AadSecret": "b0ea2cba-3927-445b-b8d2-a78470b26371",  
  "AadTenantId": "92f5f5ea-3209-41e4-acfb-3b39b950666b",  
  "AccountName": "media",  
  "ArmAadAudience": "https://management.core.windows.net/",  
  "ArmEndpoint": "https://management.azure.com/",  
  "Region": "East US 2",  
  "ResourceGroup": "mediaservices",  
  "SubscriptionId": "e1f11d50-fd47-46c9-9d58-7f453414b804"  
}
```

# DEMO

## Azure Media Services Explorer v3

<https://bit.ly/2WsqBY6>



# Let's Get Automated!

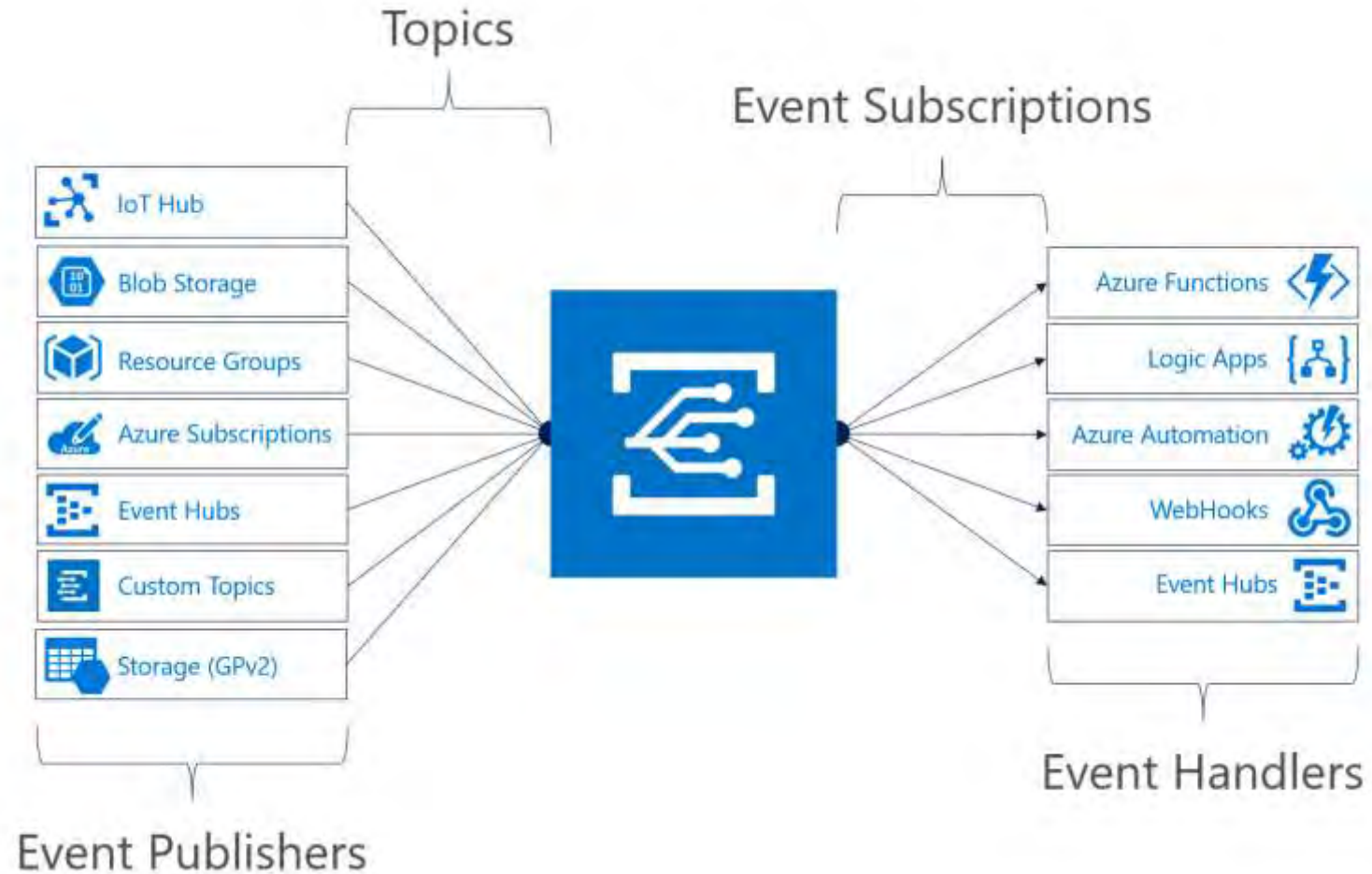
# Azure Functions

- Serverless, highly available and scalable architecture
- Suitable for trigger based action.
- Reactive programming model
- On-demand scale

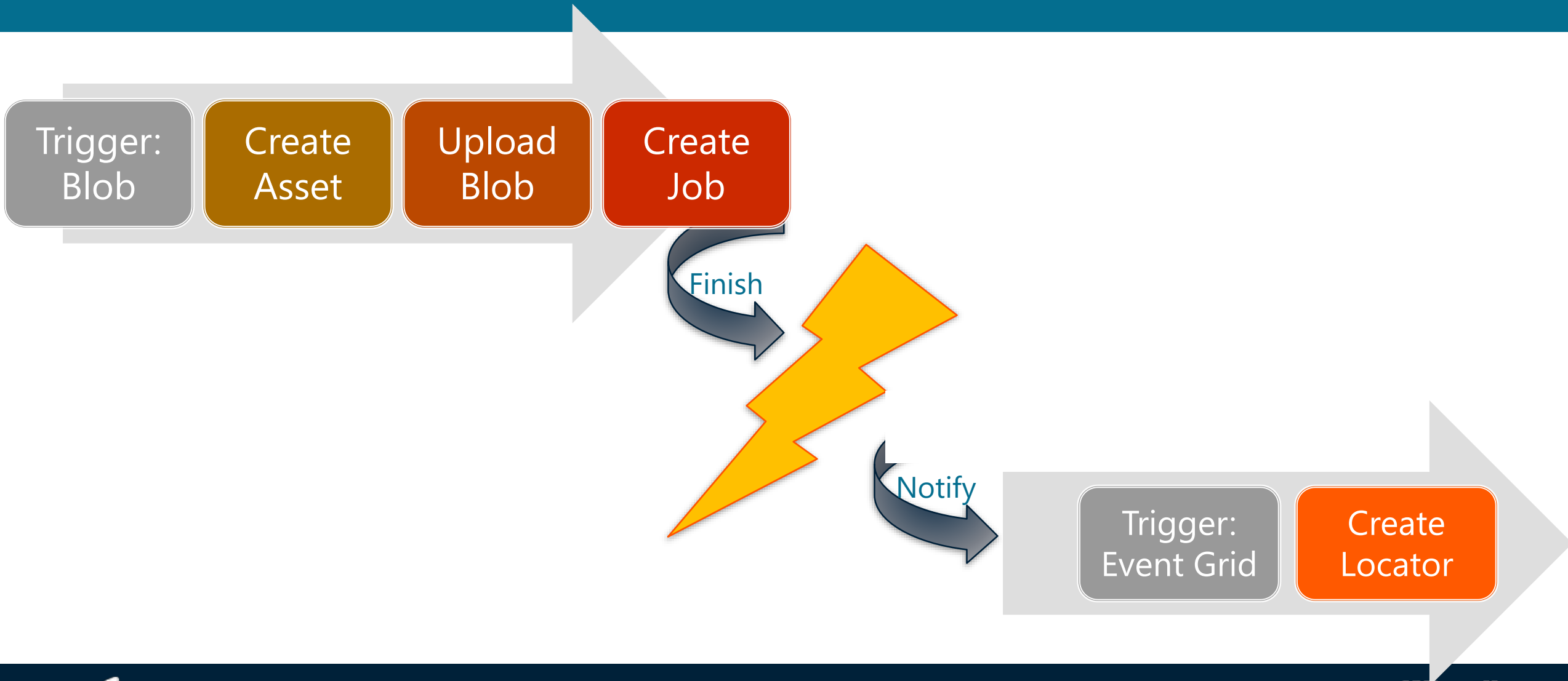




# Event Grid



# The Process



# DEMO

## Functions & Event Grid

# Connecting To Event Grid

Your app is currently in read-only mode because you have published a generated function.json. Changes made [more](#).

function.json

▶ Run

Add Event Grid subscription

```
1 {  
2   "generatedBy": "Microsoft.NET.Sdk.Functions-1.0.24",  
3   "configurationSource": "attributes",  
4   "bindings": [  
5     {  
6       "type": "eventGridTrigger",  
7       "name": "eventGridEvent"  
8     }  
9   ],  
10  "disabled": false,  
11  "scriptFile": "../bin/MediaServices.dll",  
12  "entryPoint": "MediaServices.MonitorEncoding.Run"  
13 }
```

# Configuring Event Grid

### EVENT SUBSCRIPTION DETAILS

Name

Event Schema 

Event Grid Schema

▼

### TOPIC DETAILS

Pick a topic resource for which events should be pushed to your destination. [Learn more](#)

Topic Types 

Microsoft Azure Media Services

▼

Subscription 

MVP Sponsorship

▼

Resource Group

MediaServices

▼

Resource

^

media



# Ingestion

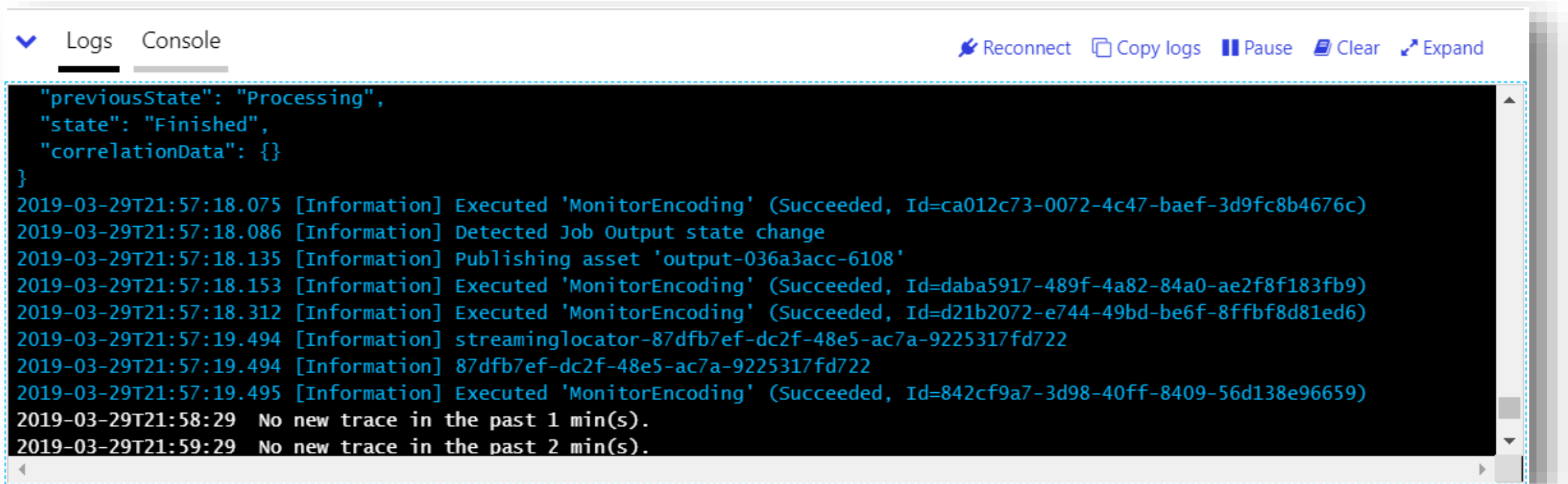
```
12 disabled : false;  
13 "scriptFile": "../bin/MediaServices.dll",
```

▼ Logs Console

Reconnect Copy logs Pause Clear Expand

```
2019-03-29T21:53:38 Welcome, you are now connected to log-streaming service.  
2019-03-29T21:54:20.205 [Information] Executing 'IngestBlob' (Reason='New blob detected: ingest/videoblocks-british-little-cat-  
looking-out-the-window_rya0cfxz7__D.mp4', Id=0986d21b-b056-401d-b5e2-d81528f57a2c)  
2019-03-29T21:54:20.483 [Information] C# Blob trigger function Processed blob  
Name:videoblocks-british-little-cat-looking-out-the-window_rya0cfxz7__D.mp4  
Size: 9977473 Bytes  
2019-03-29T21:54:25.139 [Information] Executed 'IngestBlob' (Succeeded, Id=0986d21b-b056-401d-b5e2-d81528f57a2c)
```

# Monitoring



The screenshot shows a monitoring interface with a 'Logs' tab selected. The console displays a JSON object and a series of log messages. The JSON object indicates a state change from 'Processing' to 'Finished'. The logs show several successful 'MonitorEncoding' operations and a 'streaminglocator' message. The interface includes controls for Reconnect, Copy logs, Pause, Clear, and Expand.

```
▼ Logs Console
Reconnect Copy logs Pause Clear Expand

{"previousState": "Processing",
 "state": "Finished",
 "correlationData": {}}
}
2019-03-29T21:57:18.075 [Information] Executed 'MonitorEncoding' (Succeeded, Id=ca012c73-0072-4c47-baef-3d9fc8b4676c)
2019-03-29T21:57:18.086 [Information] Detected Job Output state change
2019-03-29T21:57:18.135 [Information] Publishing asset 'output-036a3acc-6108'
2019-03-29T21:57:18.153 [Information] Executed 'MonitorEncoding' (Succeeded, Id=daba5917-489f-4a82-84a0-ae2f8f183fb9)
2019-03-29T21:57:18.312 [Information] Executed 'MonitorEncoding' (Succeeded, Id=d21b2072-e744-49bd-be6f-8ffbf8d81ed6)
2019-03-29T21:57:19.494 [Information] streaminglocator-87dfb7ef-dc2f-48e5-ac7a-9225317fd722
2019-03-29T21:57:19.494 [Information] 87dfb7ef-dc2f-48e5-ac7a-9225317fd722
2019-03-29T21:57:19.495 [Information] Executed 'MonitorEncoding' (Succeeded, Id=842cf9a7-3d98-40ff-8409-56d138e96659)
2019-03-29T21:58:29 No new trace in the past 1 min(s).
2019-03-29T21:59:29 No new trace in the past 2 min(s).
```

# More to Explore

- Traffic Manager
- Dynamic encoding and content protection
- Live-streaming channels

# Questions?



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<https://2mu.se/orlando2019>