

Combining Step Functions and EventBridge: Use cases and best practices

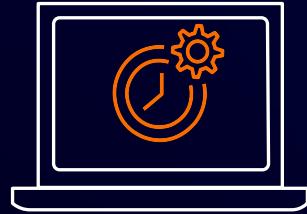
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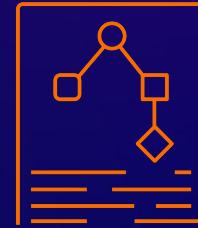
Traditional ways of workflow coordination



Coupling
applications using
synchronous APIs

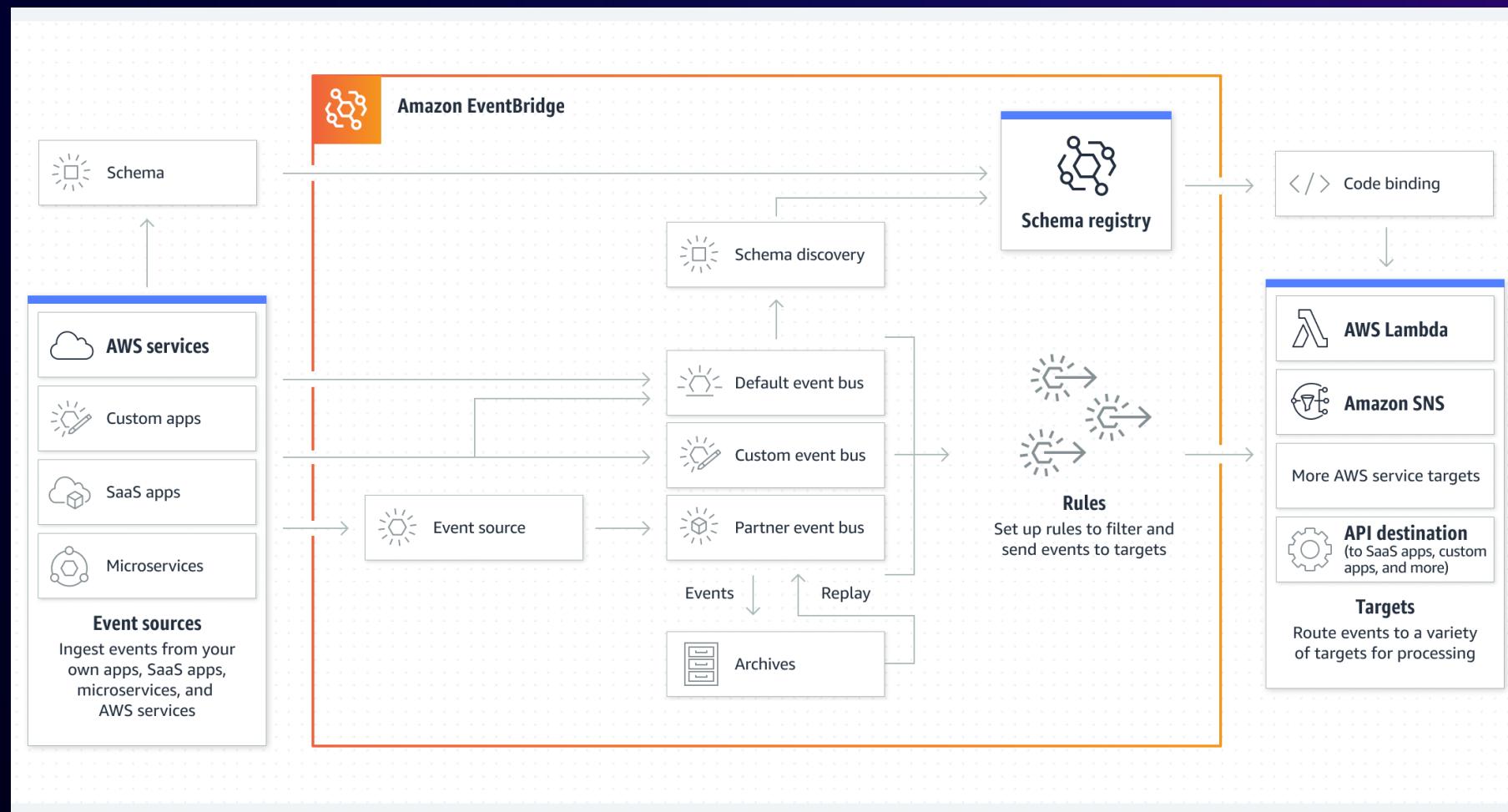


Coordination via self-
managed message
queues/topics

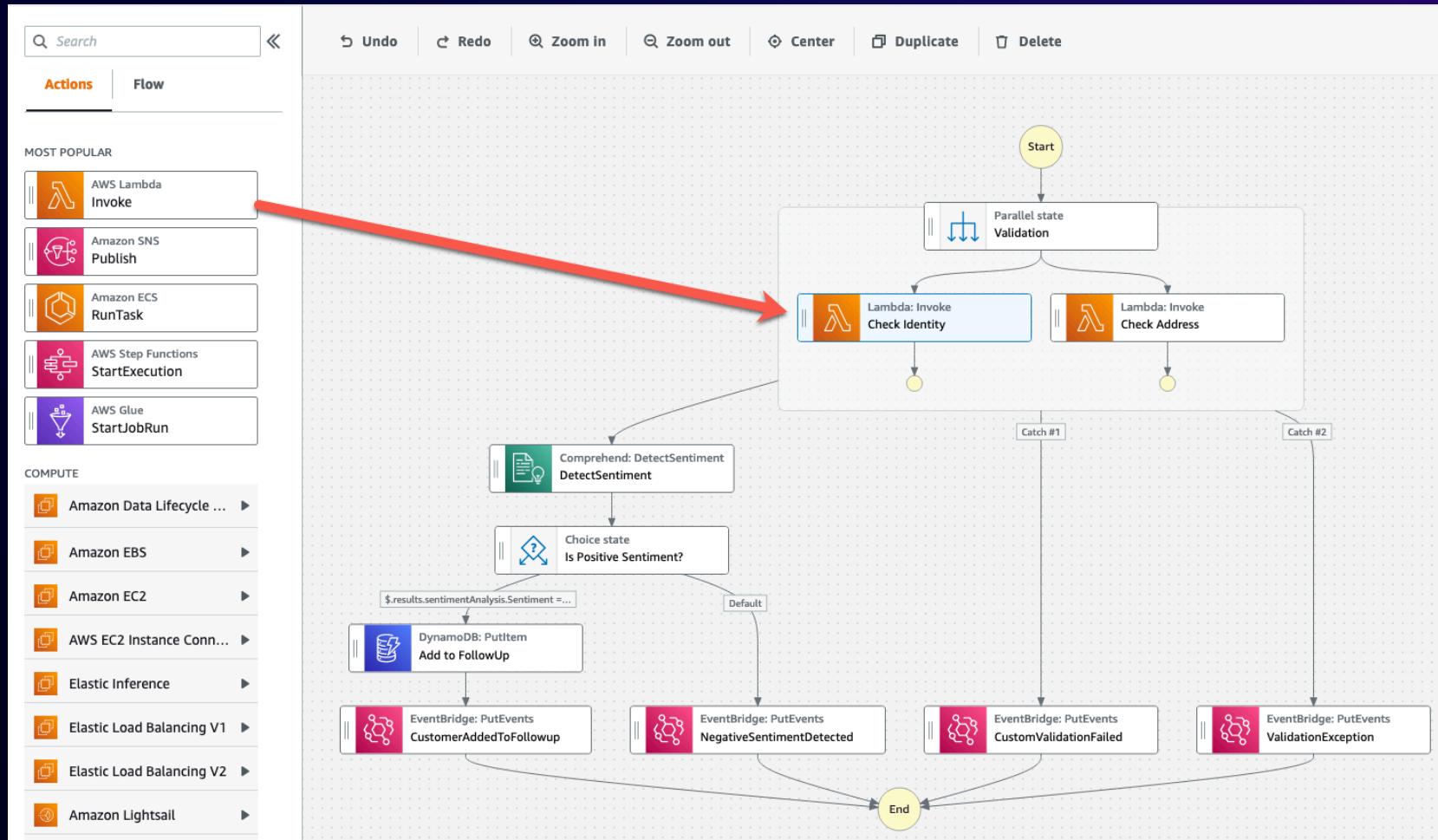


DIY orchestration in a
single monolithic
application

Amazon EventBridge



AWS Step Functions



Use cases we will focus today

- Claims documents processing and its evolution
- Amazon S3 object processing at scale
- Streaming and on-demand video playback



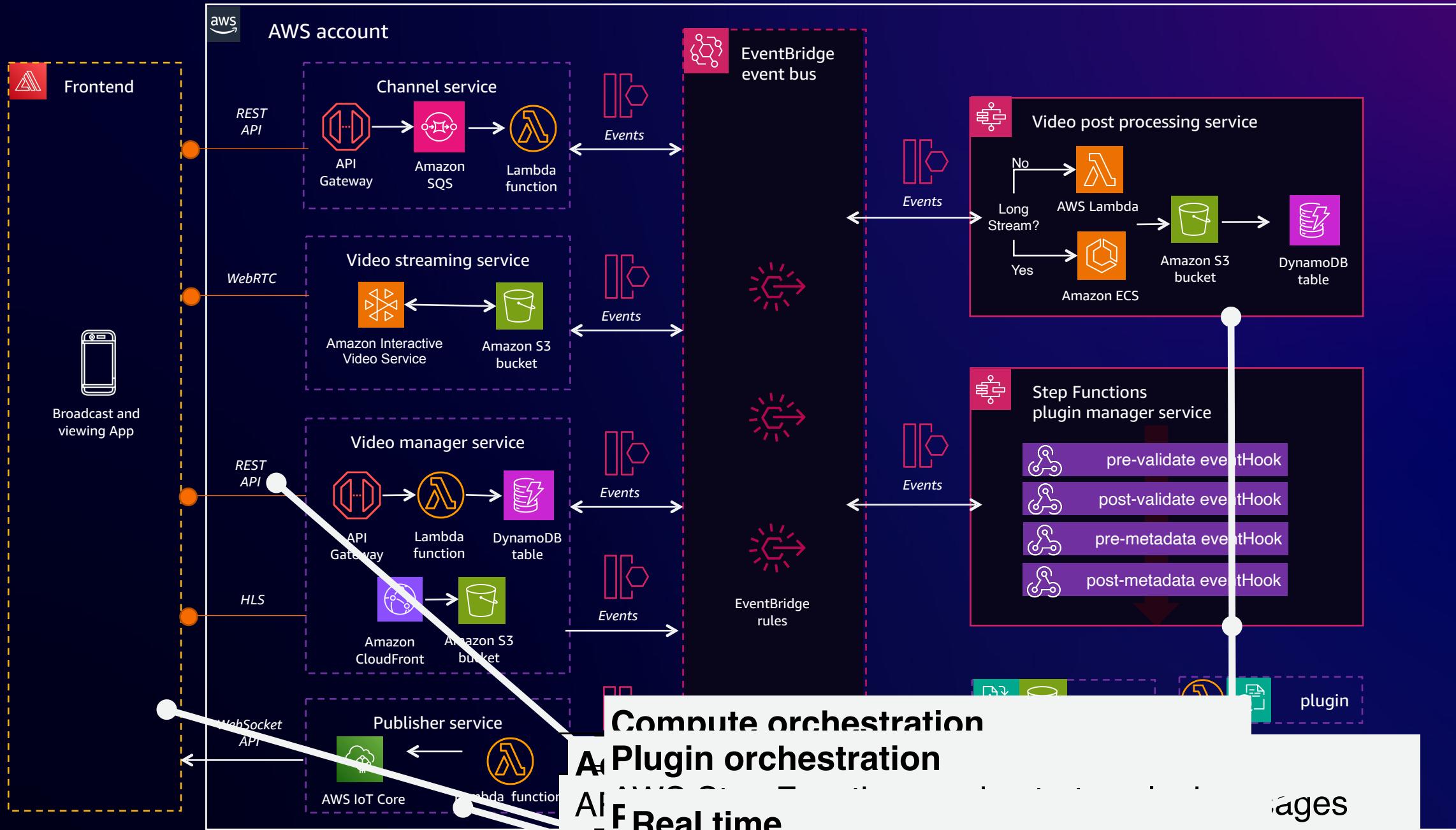
Serverless Video



Try it out! Go to: <https://s12d.com/video>



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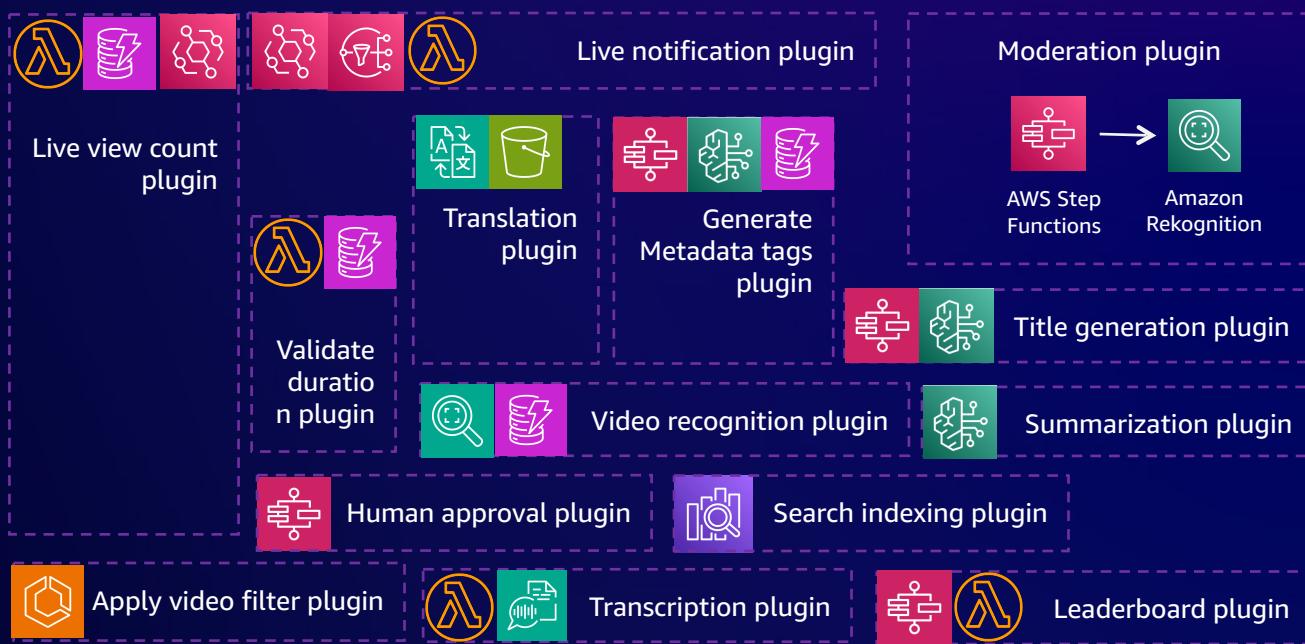


Extensible with plugin architecture

The core functionality is extended by multiple plugins

The plugins add capabilities for:

- AI and ML workloads
- Human approval
- Notifications
- Translations
- Transcriptions
- Observability
- Searching
- Validation
- Reporting
- Video filters
- Leaderboards
- Gamification
- And more...



<https://s12d.com/video>

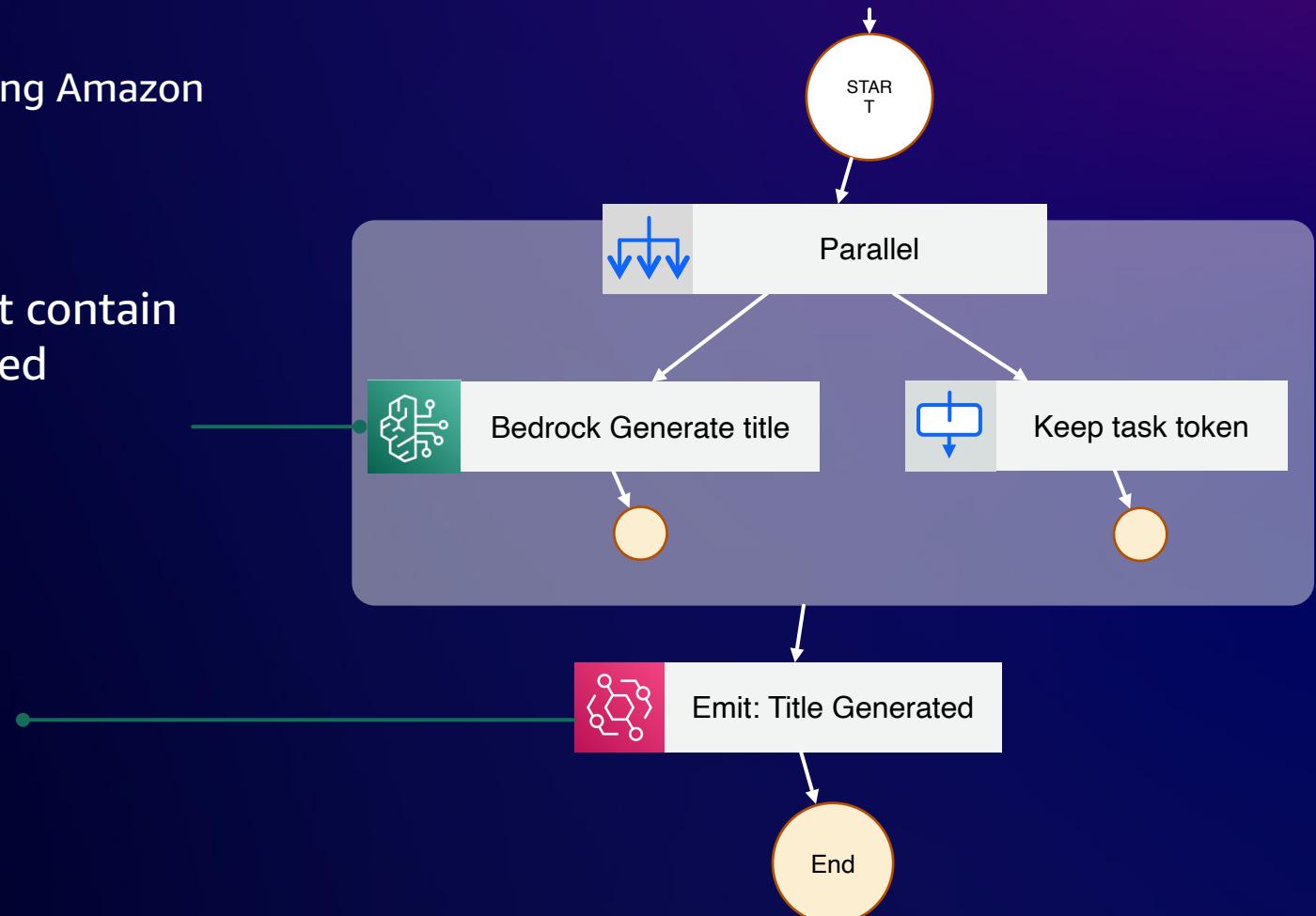
Machine learning and generative AI

"Hello Everyone, thanks for joining, I want to tell you all about the newest feature from AWS that was announced today..."

A video title is generated from the text transcript using Amazon Bedrock

prompt = `generate a video title that does not contain any offensive words, for the following truncated transcript:"\${truncatedTranscript}...`;

Title: "AWS Announces New Feature"



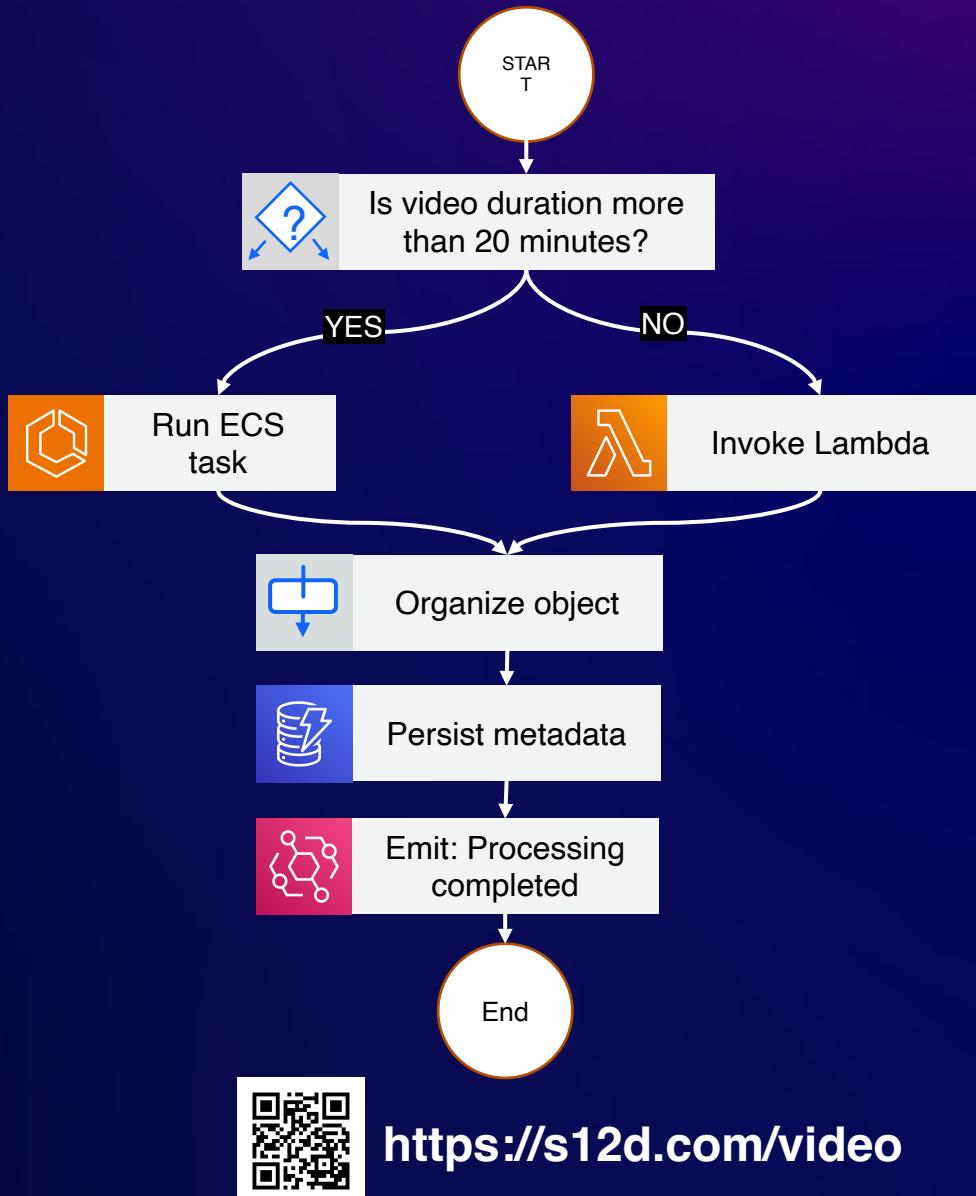
Try it out! Go to: <https://s12d.com/video>

Multiple serverless compute substrates

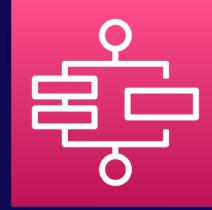
- Convert multiple TS files into a single .MP4
- Orchestrate multiple compute substrates with AWS Step Functions
- Amazon ECS for longer running tasks
- AWS Lambda for short duration
- Same code (minus the Lambda event handler)

```
 - exports.handler = async (event) => {
```

```
 + async function main() {
```



Takeaways



AWS Step Functions



Amazon EventBridge

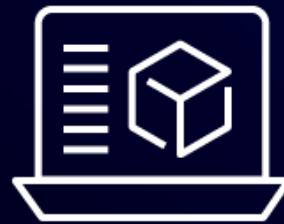
- With Serverless services like **Amazon EventBridge** and **AWS Step Functions**, you spend maximum time *implementing business value*
- Developers can maintain and *evolve* their solutions *without impacting their setup*
- Opens up many possibilities with *hundreds of supported integrations* available in both the services

Check out these other sessions

- **API206:** Bringing workloads together with event-driven architecture
- **API302:** Building next-generation applications with event-driven architecture
- **API303:** Navigating the journey of serverless event-driven architecture
- **API401:** Advanced workflow patterns and business processes
- **SVS204:** Building Serverlesspresso: Creating event-driven architectures

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Best practices, for **everyone**



Powertools for AWS Lambda

Python | TypeScript | Java | .NET

Batch processing

Observability

REST/GraphQL API

Input/Output validation

Self-documented
schemas

Caching

Streaming

Config management

Secrets handling

Idempotency

BYO middleware

Feature flags

Data extraction

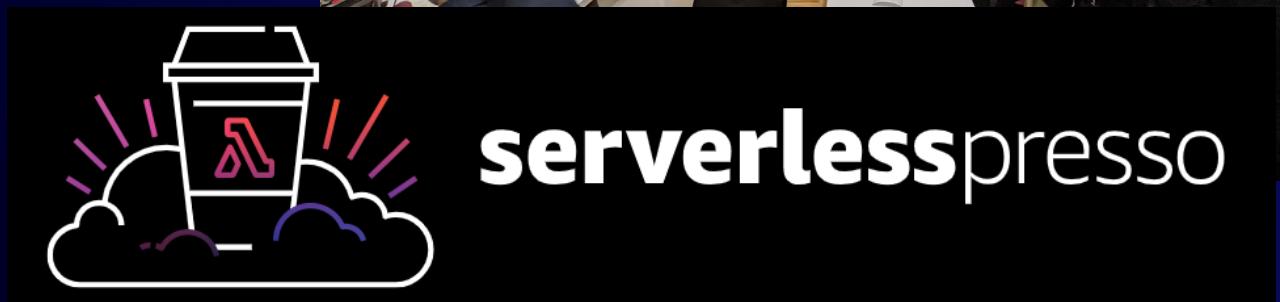
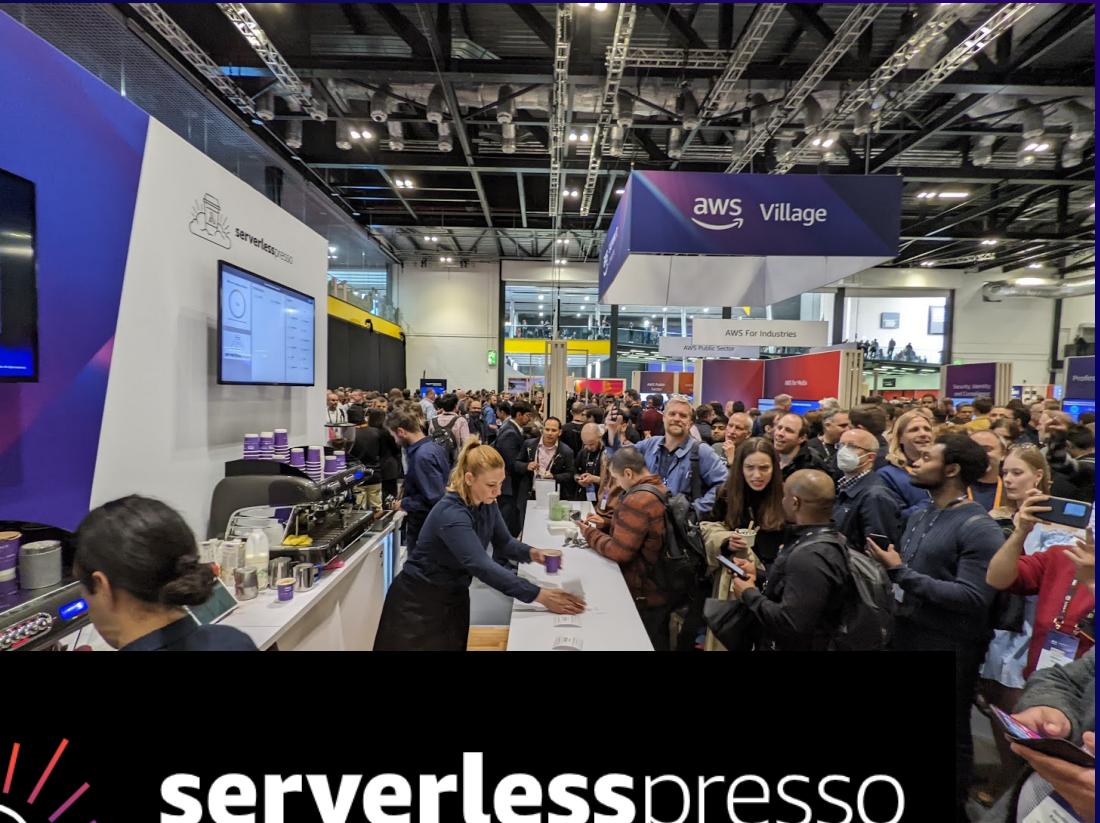
**feature set may vary across languages*



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Thank you!

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