
AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

API206

# Amazon EventBridge Pipes simplifies connecting event-driven services

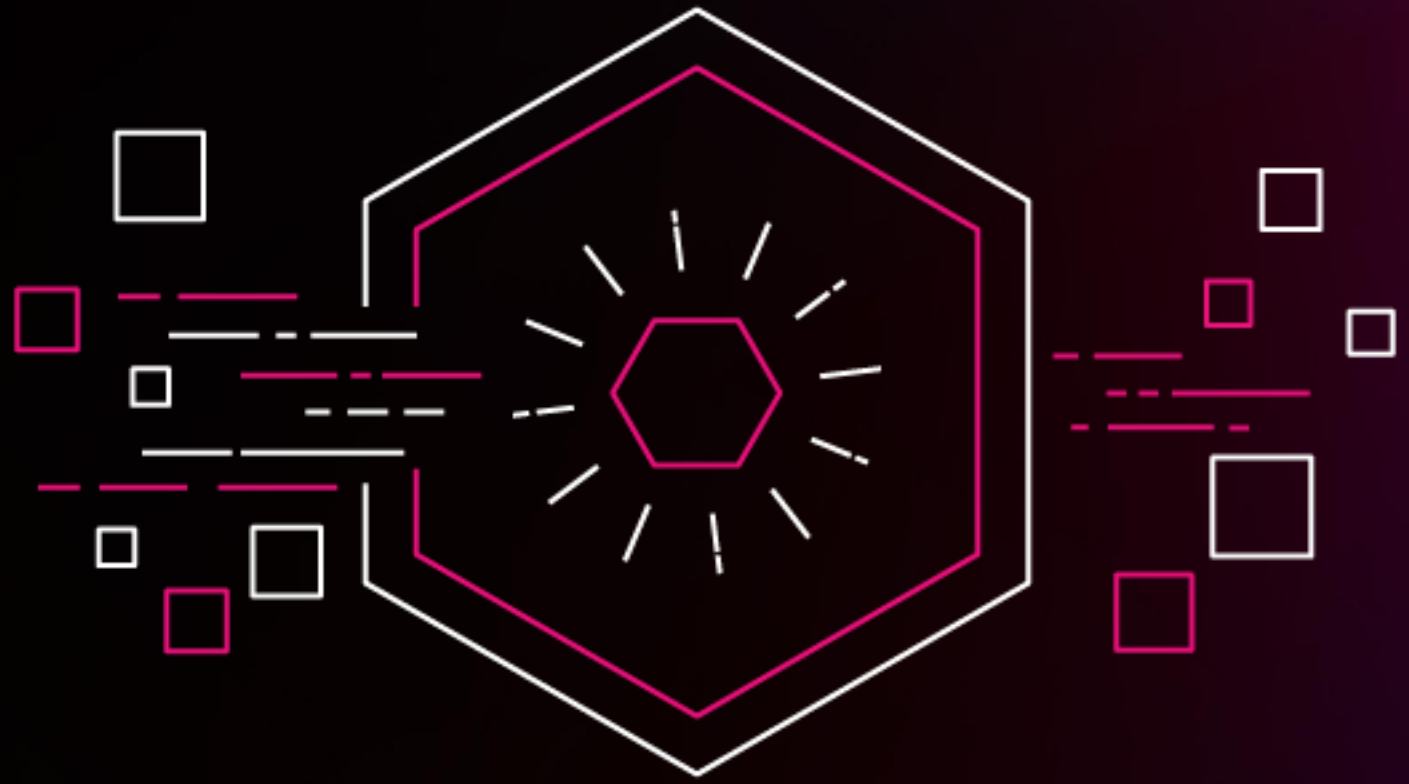
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# Agenda

- Integrating AWS Services
- Introducing Amazon EventBridge Pipes
- Common use cases
- Demo
- What’s next?

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# Integrating AWS services

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# Building blocks

Over 200 AWS services.

More features within those services than any other cloud provider.

Innovate faster. Focus on differentiation.



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# Purpose-built services



AMAZON DYNAMODB

High performance, low latency database



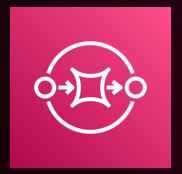
AWS LAMBDA

Run code without servers or clusters



AMAZON KINESIS

Real-time analytics



AMAZON SQS

Massively scalable queue



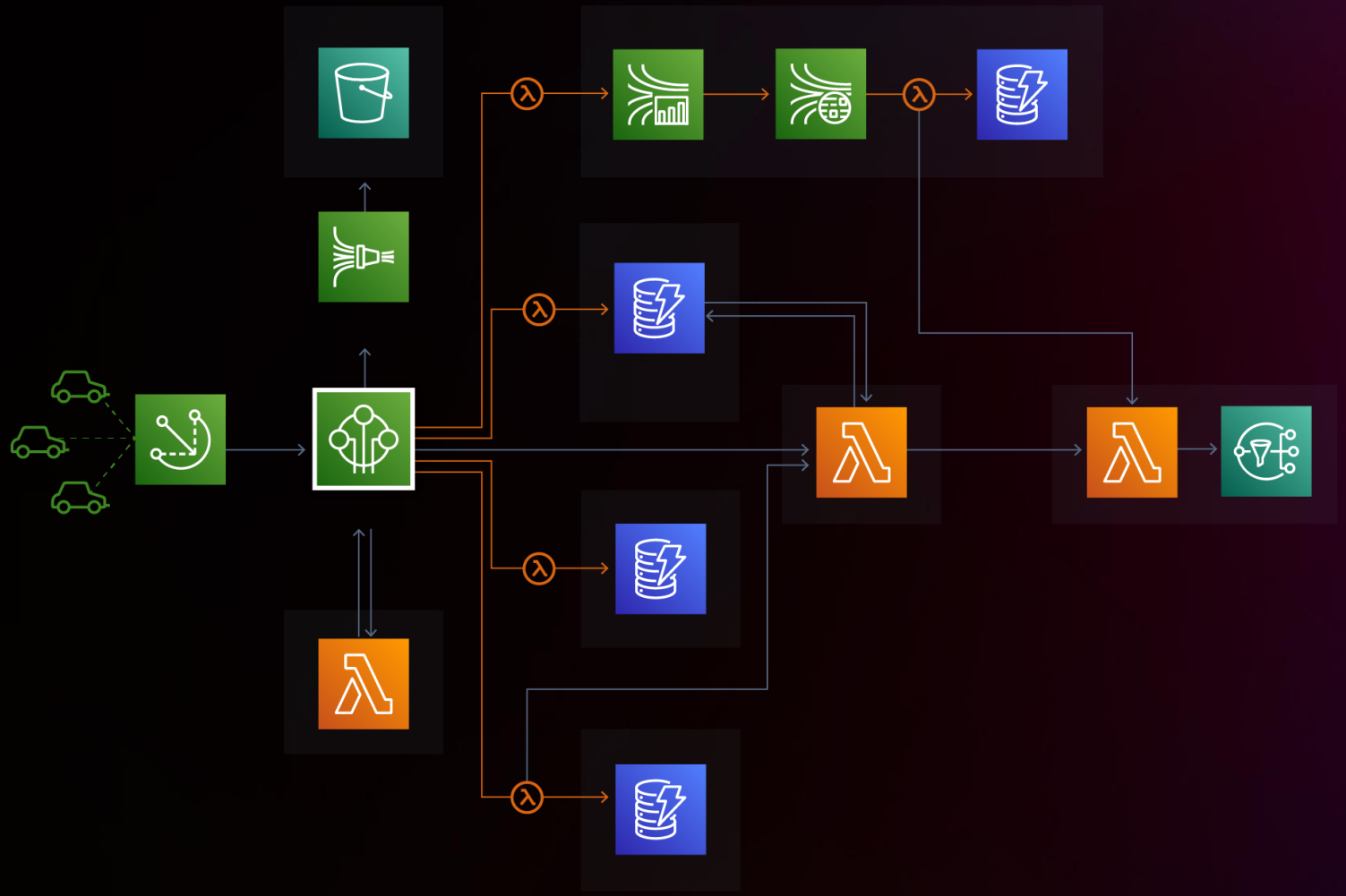
AMAZON S3

Store any amount of data

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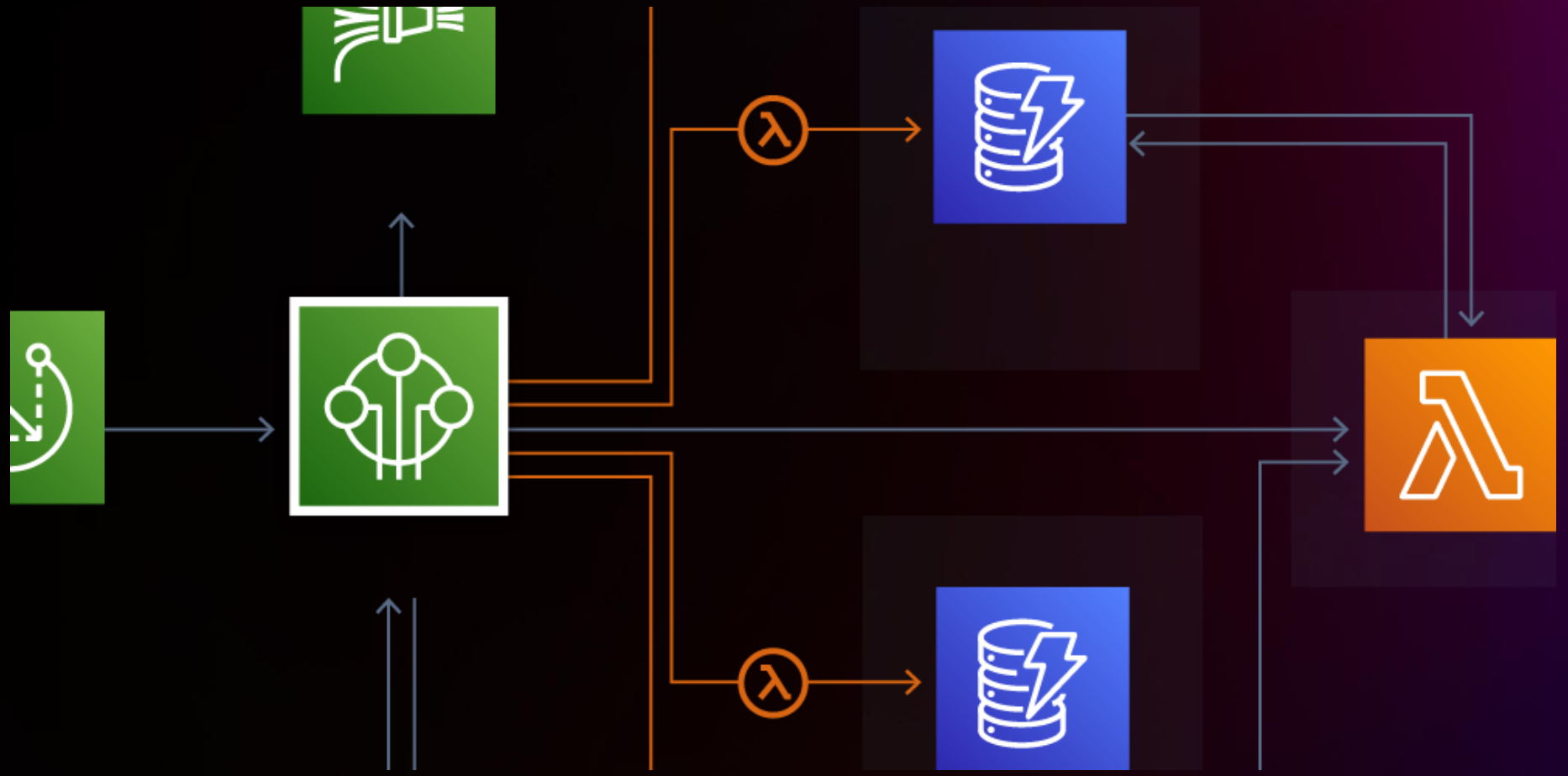
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# Assembling the building blocks

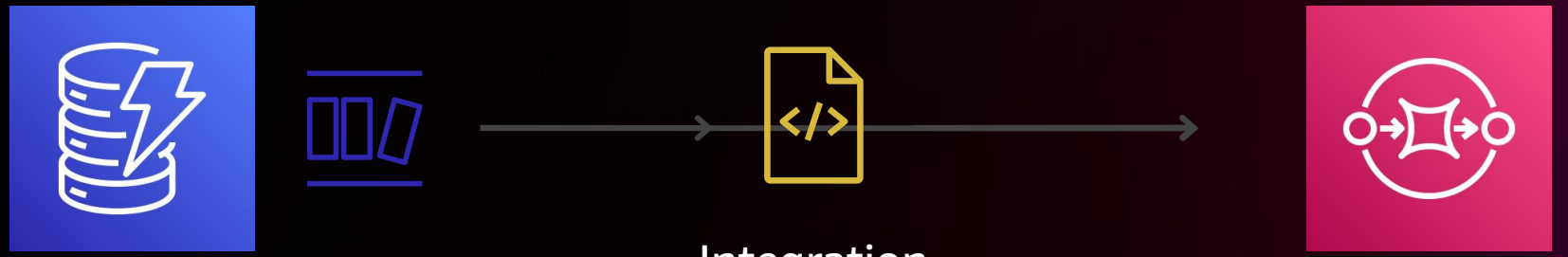


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# Assembling the building blocks



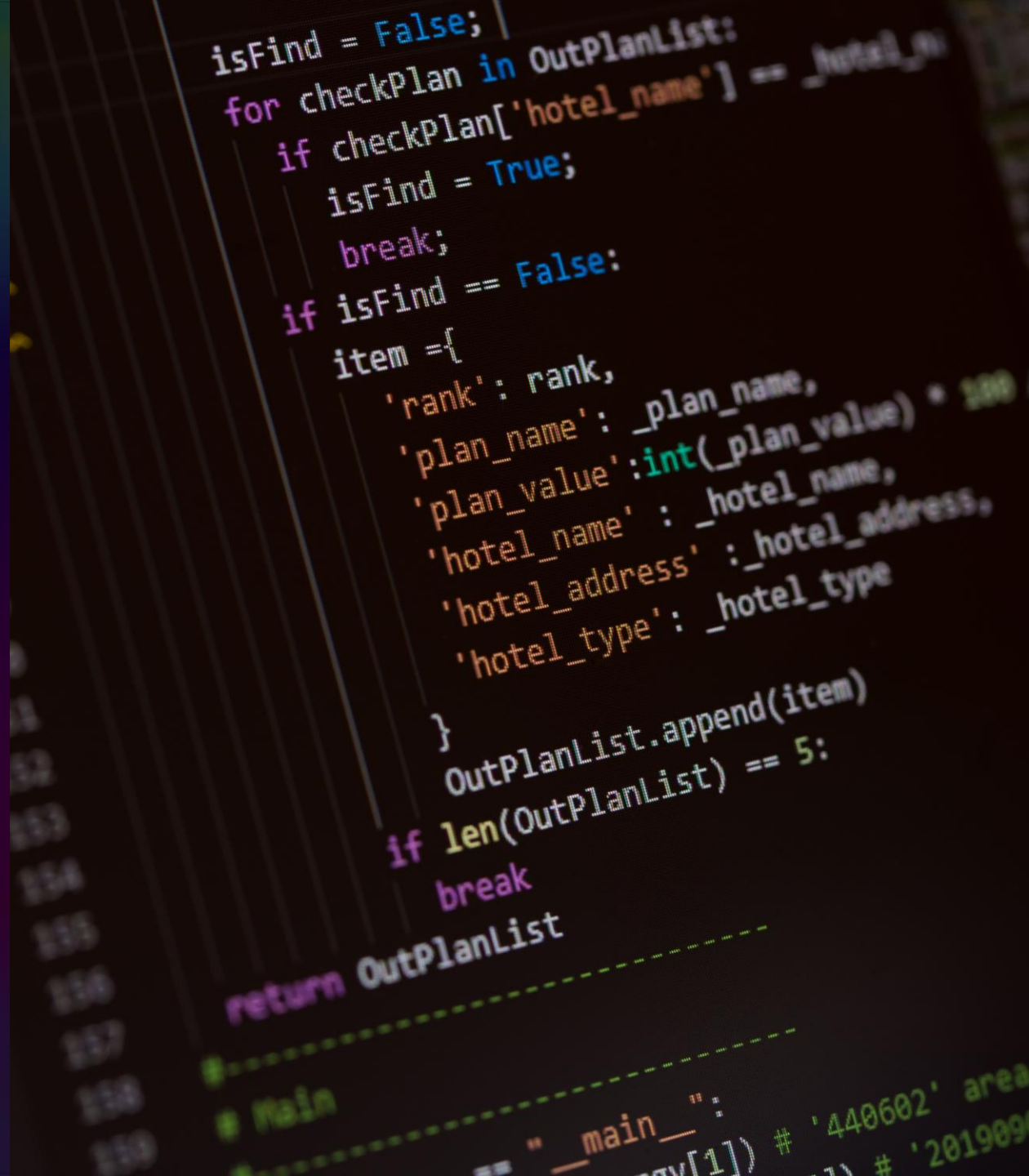
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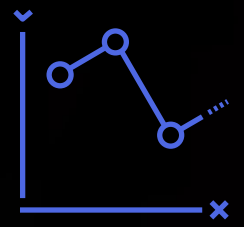
# Challenges integrating

- Nuances of each technology
- Error handling
- Ordering
- Target considerations: Authentication, retries, and rate control
- Performance testing
- Deployment
- Operations and monitoring




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# The cost of integration code



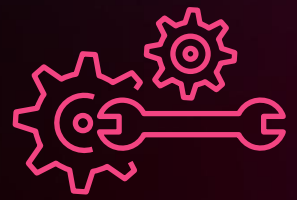
Decreased development velocity



Increased risk of bugs



Increased complexity



Increased operational load

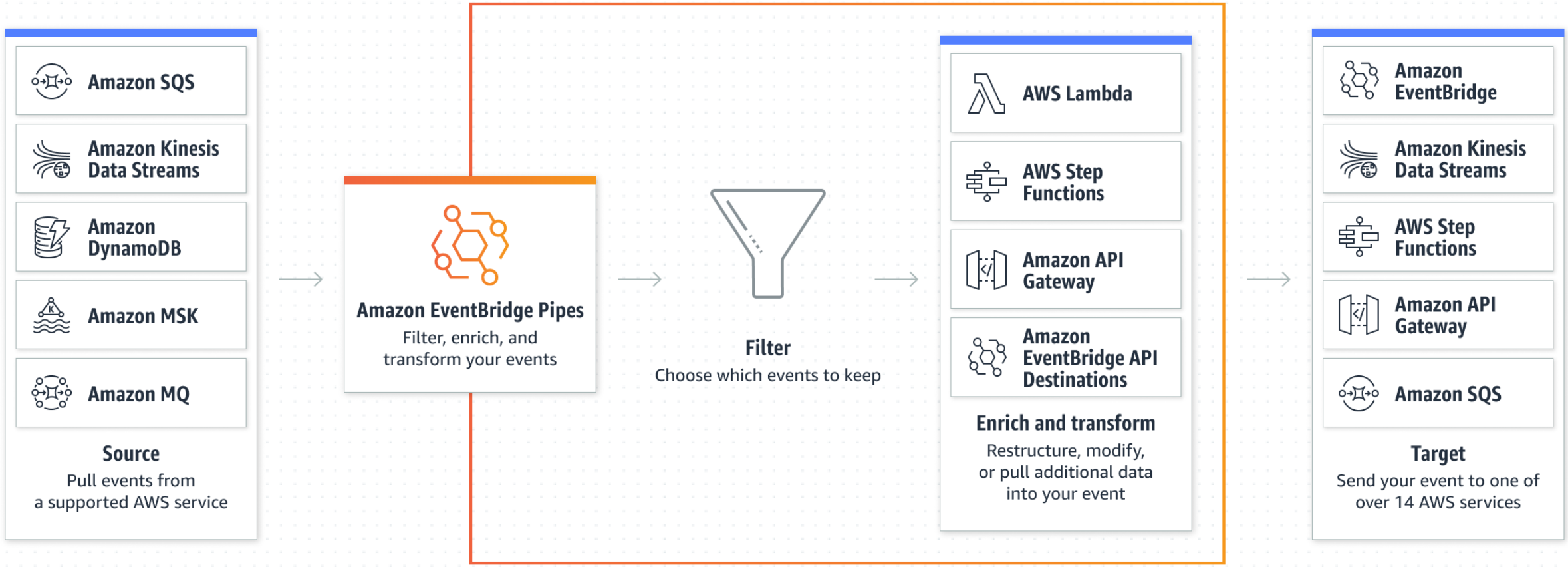


Inefficient polling

**High total cost of ownership**

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# Introducing Amazon EventBridge Pipes




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# Features/capabilities

## Filter events

Ensure your applications process only the events they need by adding filters to provide a subset of events for consumption.

## Batch events

Retrieve from event consumers and deliver to event producers in batches, making integrations more efficient.

## Order events

Provide guaranteed ordering of events for applications where the ordering is critical.

## High concurrency

Support high concurrency, so you can process large volumes of events quickly.

## Advanced enrichment

Offers support for enrichments using AWS Lambda, AWS Step Functions, API Gateway, or an API call to a third-party API (using API Destinations).

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# Benefits

## Write less integration code

Build fully managed integrations quickly with an easy to use interface that seamlessly connects event producers with event consumers.

## Save costs with filtering and built-in integrations

Lower compute and usage costs by using event filters and built-in integrations – only process and pay for events that you need.

## Source events in real time

Deliver events to over 14 AWS services with EventBridge Pipes seamlessly polling for new events.

## Reduce operational load

Reliably connect services without worrying about scalability, security, patching, and provisioning your infrastructure.

Price: $0.40 per million 64KB requests

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# Why “Pipes”?

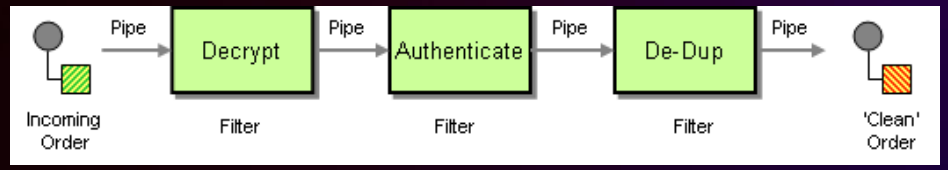
First added to Unix (”|”) in 1973.



One of the original architectural styles from Mary Shaw and Dave Garland's book “Software Architecture.”

```
command1 | command2 | command3
```

Gregor Hohpe’s “Enterprise Integration Patterns.”




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# How are Pipes different from Event Buses?

Event Buses



Many publishers to many consumers

Pipes



Single publisher to single consumer

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# Wait, this all sounds familiar …

Pipes share the same polling infrastructure as Lambda Event Source Mappings.

Pipes extends managed polling and delivery to over 14 AWS services.

Lambda Event Source Mappings is trusted at scale with over 150,000 users, over 1M ESMs deployed, processing 1M transactions per second.

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# Use cases

With the combination of supported sources and targets, Pipes allows for over 100 integrations without requiring any integration code.

Next we will highlight a few of the most popular use cases.

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# Use case 1: Connect a queue to a Step Function

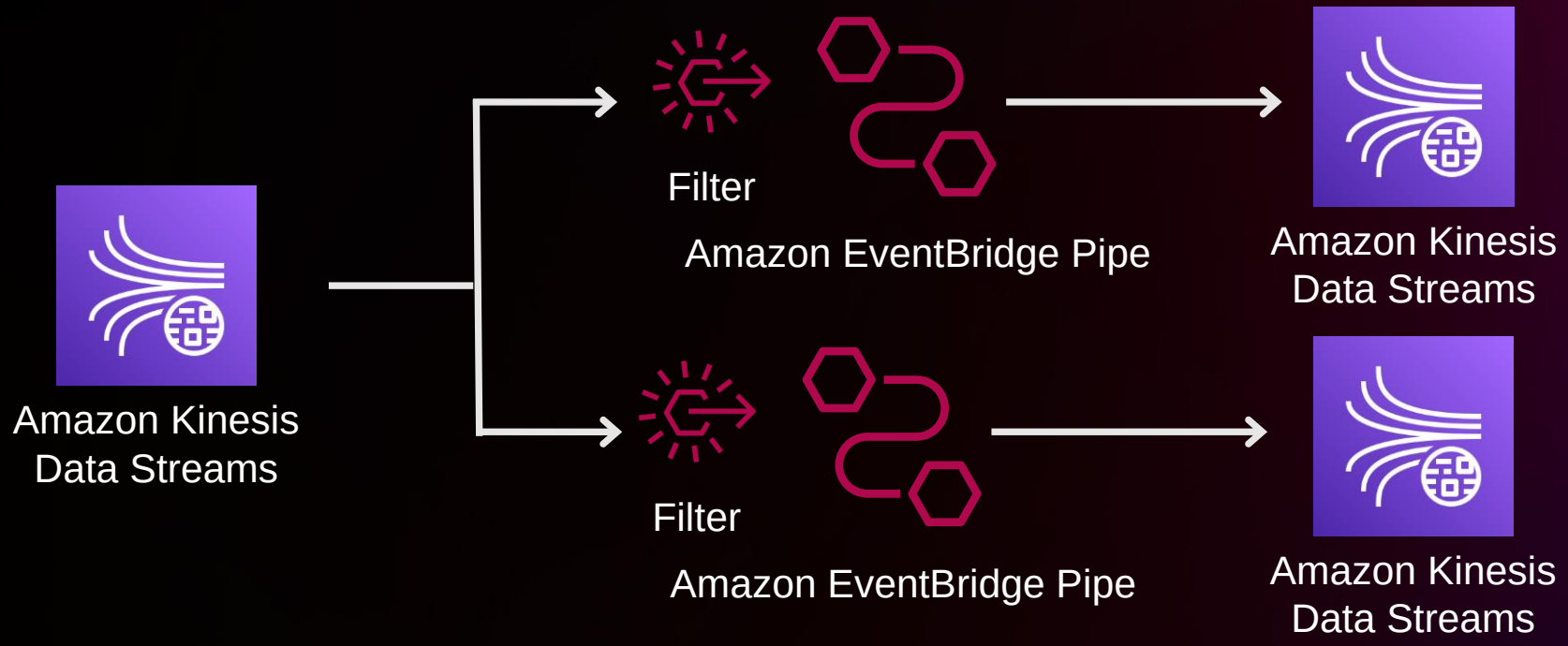
Process an SQS queue with a Step Function without writing any code.




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# Use case 2: Splitting Kinesis Data Streams

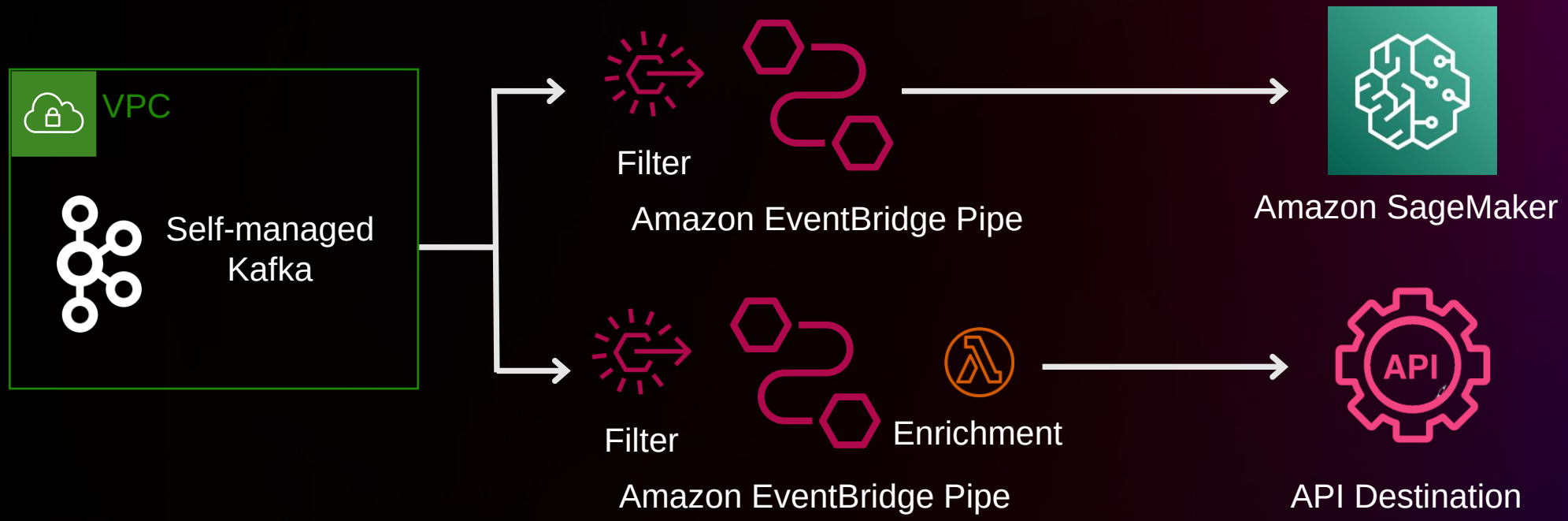
Split multiplexed data streams into multiple domain streams without writing any code.




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# Use case 3: Kafka to API Destination

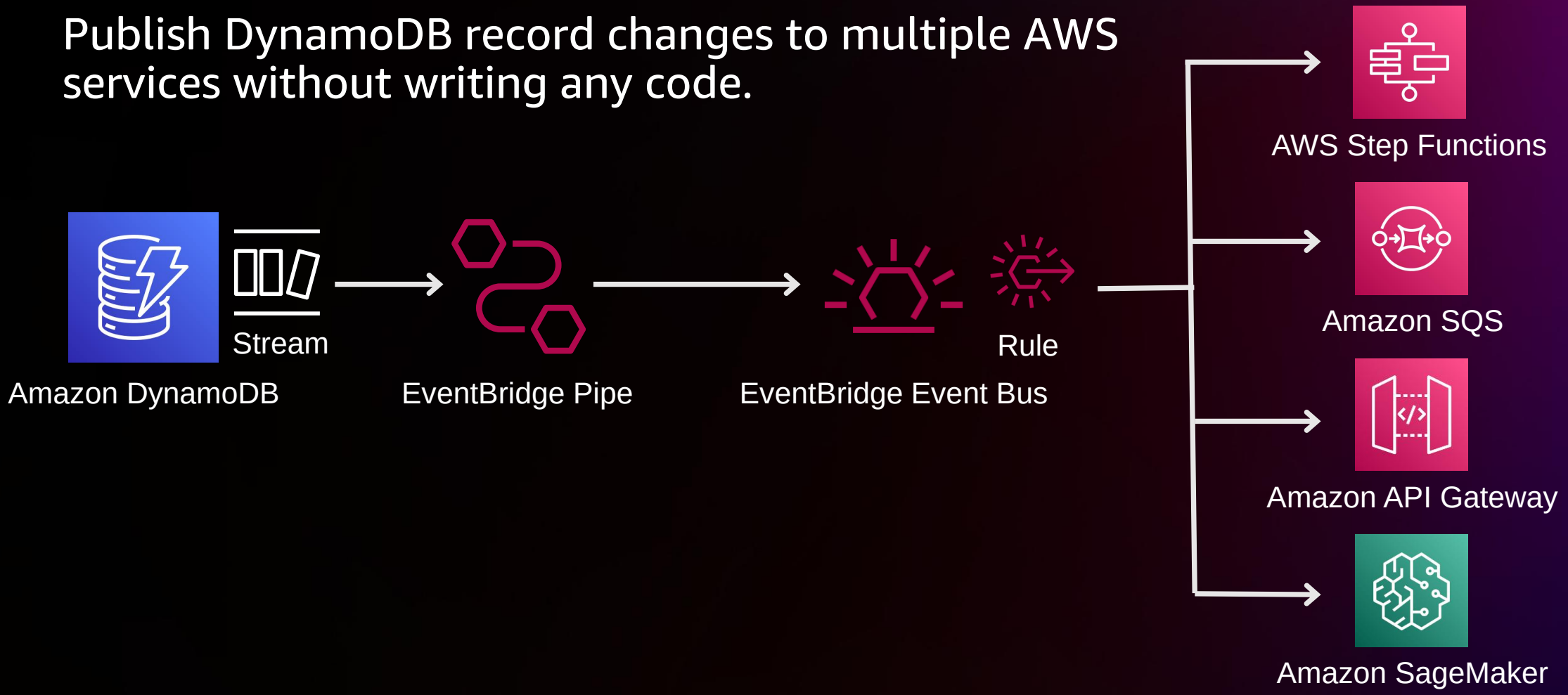
Connect your self-managed Kafka cluster to other AWS services and HTTP APIs without writing any code*




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# Use case 4: DynamoDB to EventBridge

Publish DynamoDB record changes to multiple AWS services without writing any code.




+15 supported AWS services including HTTP endpoints

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# What’s next

CloudWatch Logs support

VPC Endpoints/PrivateLink support

AWS SDK service integrations

Deliver to services across accounts

Archive and Replay support

SAM/CDK (L2)/IDE support

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# Recap – What have we learned

A Pipe connects a data source to a destination with optional filtering and enrichment steps.

EventBridge Pipes allow for over 100 point-to-point integration combinations between event producers and consumers without writing any code.

Pipes leverage the same polling infrastructure as Lambda Event Source Mappings.

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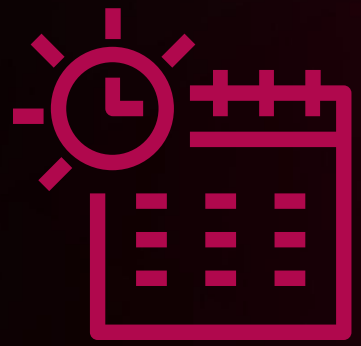
# EventBridge for event-driven applications



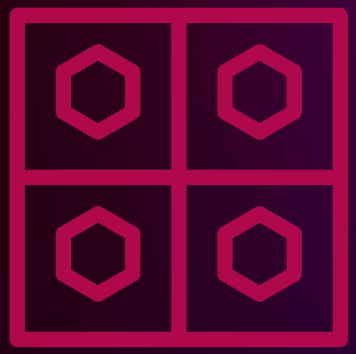
Event Buses



Pipes



Schedules



Schema Registry

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# Getting started

## Blog post

## AWS Console

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# Thank you!

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