

Kinesis in Production



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Module Overview



Server-side encryption
with Kinesis



Kinesis monitoring
with CloudWatch



Kinesis autoscaling



Kinesis Data Encryption



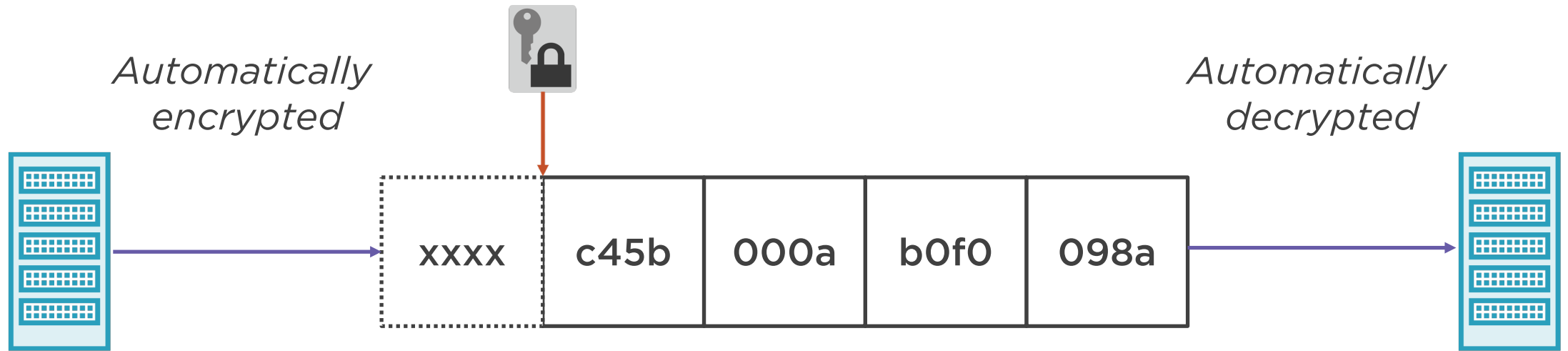
Data at rest not encrypted

Can implement custom encryption

Can use KMS integration

- Kinesis encrypts/decrypts data
- Encrypts data at rest
- Can enable or disable at any time
- Allows to meet data management requirements
- Uses AES-256 algorithm

Server-side Encryption



```
{  
  "EncryptionType": "KMS",  
  "KeyId": "kms-key-id",  
  "StreamName": "twtrStream"  
}  
  
{  
  "EncryptionType": "KMS",  
  "KeyId": "kms-key-id",  
  "StreamName": "twtrStream"  
}
```

- ◀ **StartStreamEncryption**
- ◀ **Only KMS is available**
- ◀ **KMS key id**
- ◀ **Stream name**
- ◀ **Returns HTTP 200**
- ◀ **StopStreamEncryption**



Demo



Enable server-side encryption



Demo



Monitoring Kinesis with CloudWatch

Write simple script to produce data



Kinesis Autoscaling



Kinesis throughput proportional to number of shards

- More shards – higher throughput
- More shards - more expensive

Can't set a very high number of shards

- Should change number of shards

Will learn how to do this automatically

Kinesis Autoscaling Configuration

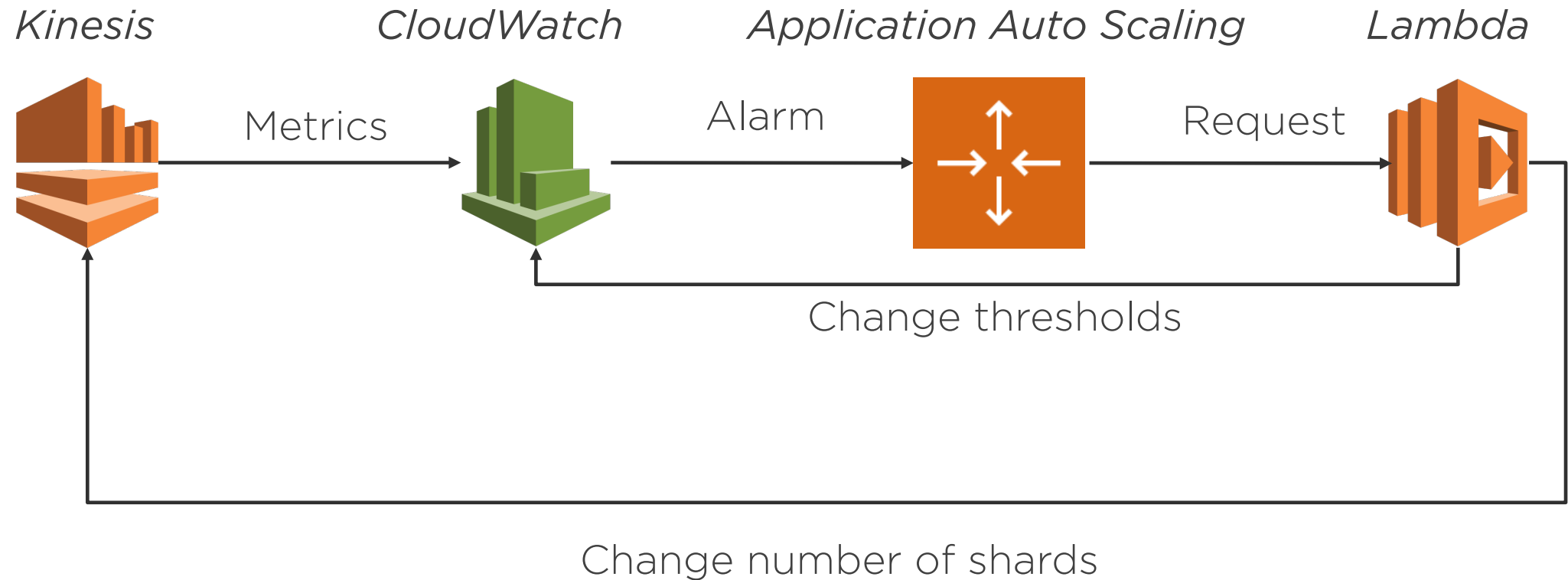


Not supported by Kinesis directly

Implemented by a Lambda function

- Supported by AWS
- Can be installed easily

Kinesis Autoscaling with Lambda



Kinesis Autoscaling Configuration



AWS provides sample CloudFormation configuration

- Can be added to your CloudFormation templates
- Should be configured

Limitations

- Uses UpdateShardCount method
- Scale up to 2 times per day
- Scale no more than 2x up or down

Demo

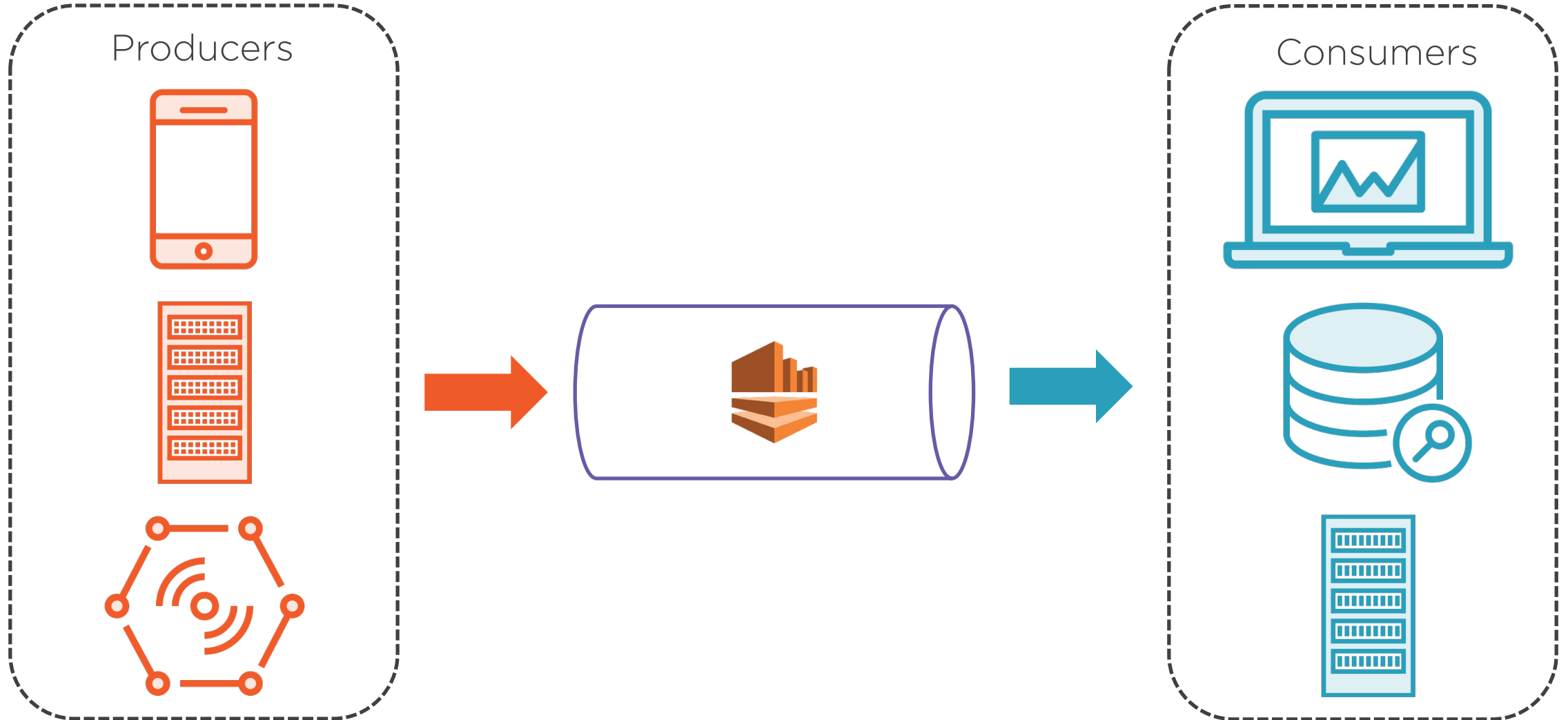


Configure Kinesis autoscaling

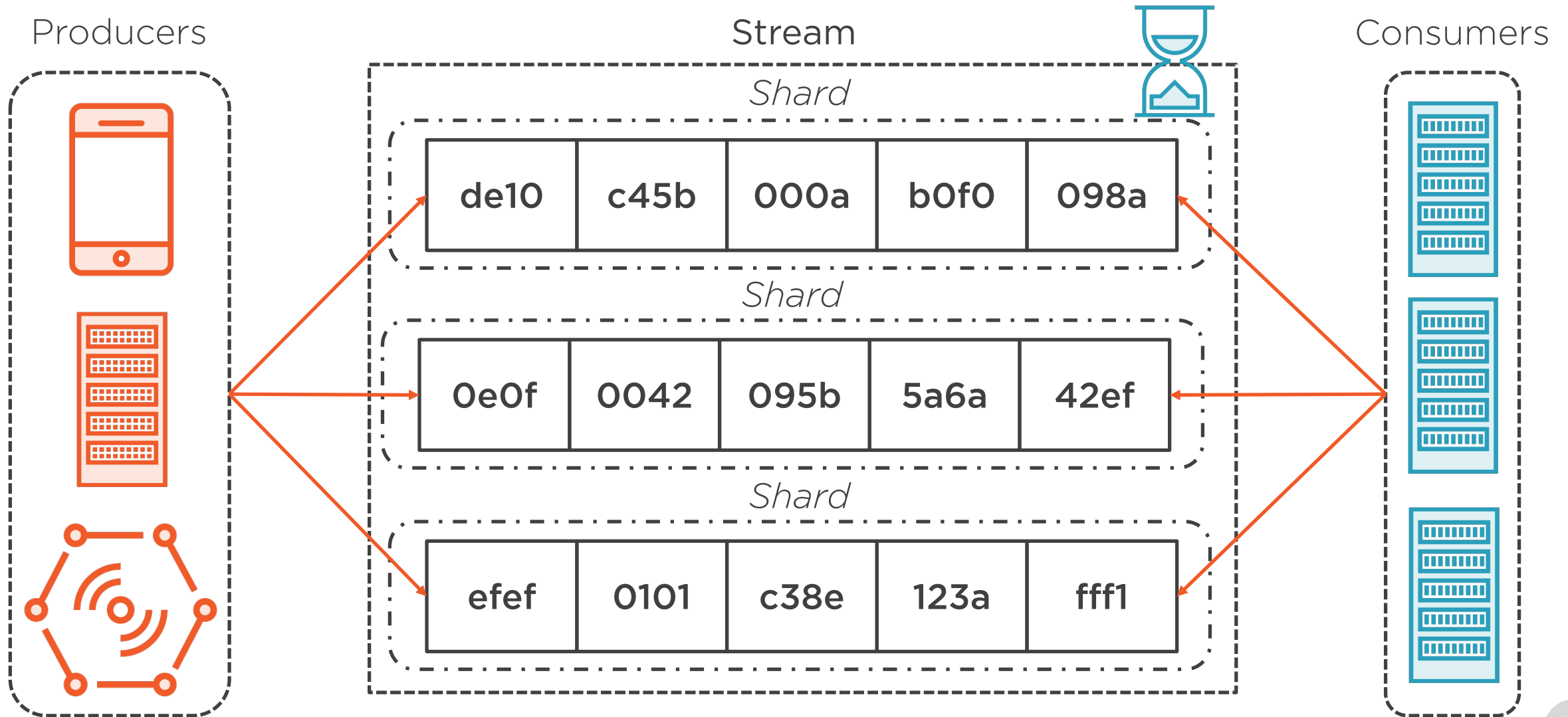
Generate traffic and see how it works



Course Summary



Summary - Kinesis Streams



Summary - Consumers

Low-level API

Kinesis Client
Library

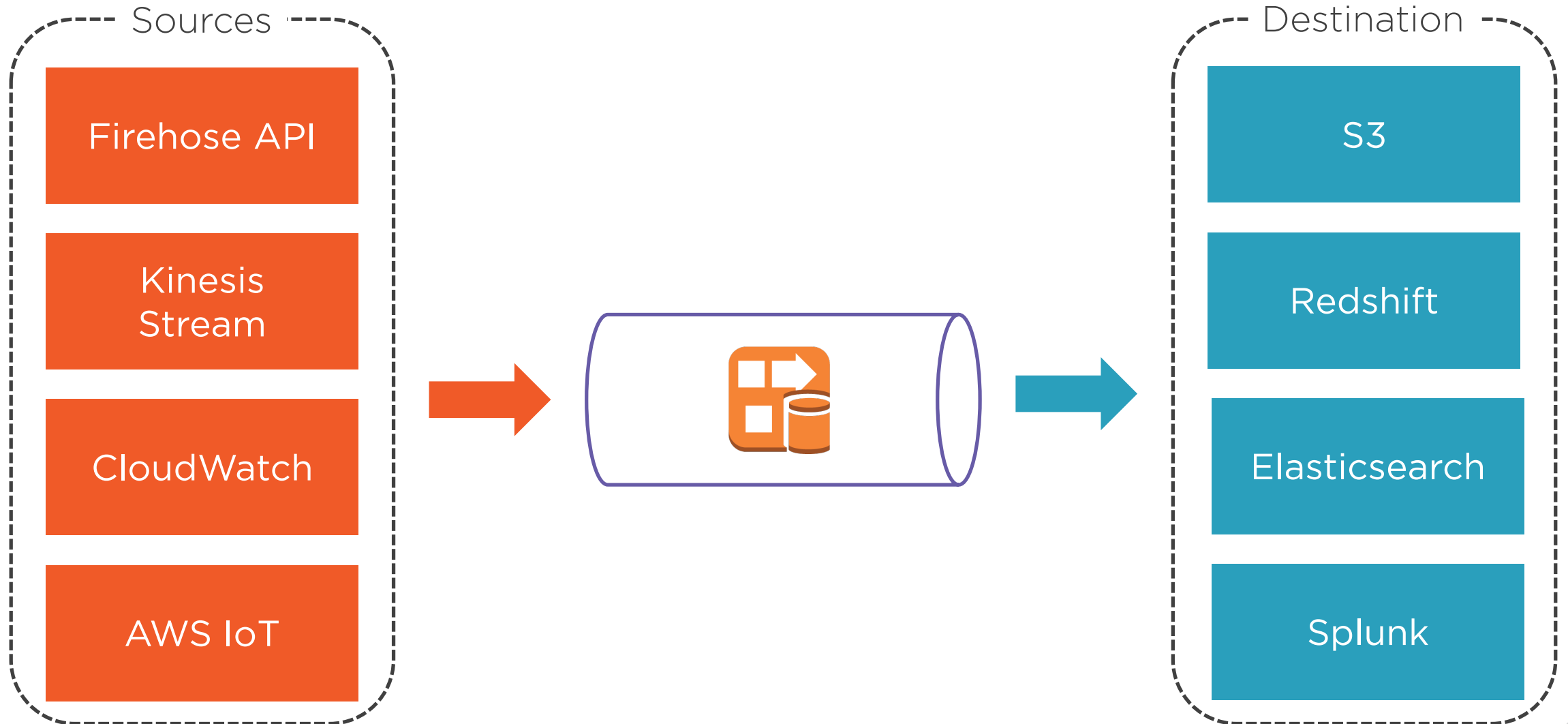
Kinesis
Connectors
Library

AWS Lambda

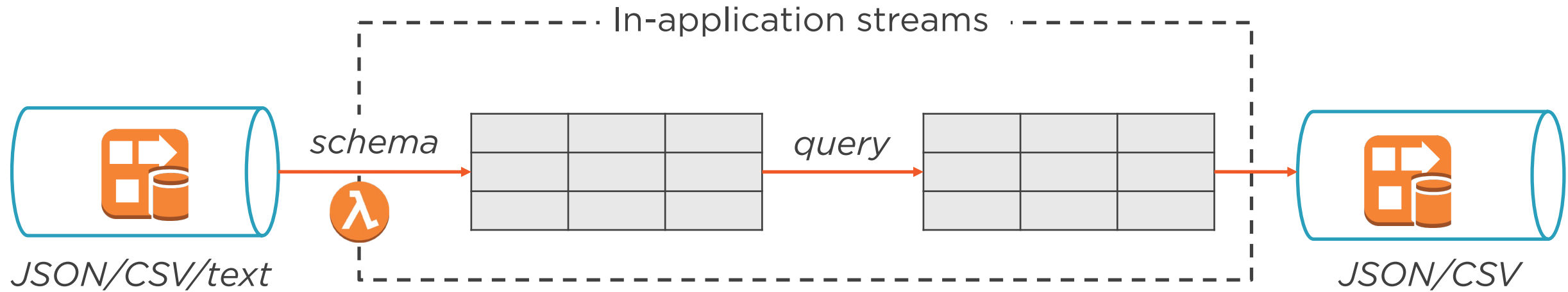
Apache Flink



Summary - Kinesis Firehose



Summary - Kinesis Analytics



Module Summary



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Kinesis monitoring
with CloudWatch



Kinesis autoscaling



Thank You!



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