

Blackhawk Network

Lunch and Learn

AWS S3 Events + Lambda + DynamoDB

23-July-2015

Agenda

- Goals
- Functional views
- POC design
- Walkthrough
- Demo
- Q and Q

Goals of the POC

- Learn about S3 events
- Learn about Lambda
- Explore the advantages of eliminating EC2

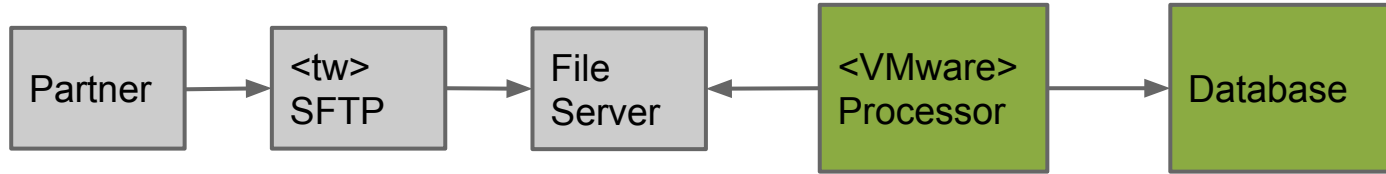
Anti-Goals of the POC

- Show off brilliant code
 - I'm not even an amateur JavaScript coder
 - First time I ever saw node.js and it was **not** love at first sight
- Replace Order Central
 - even though the incoming file processing technique might be applicable

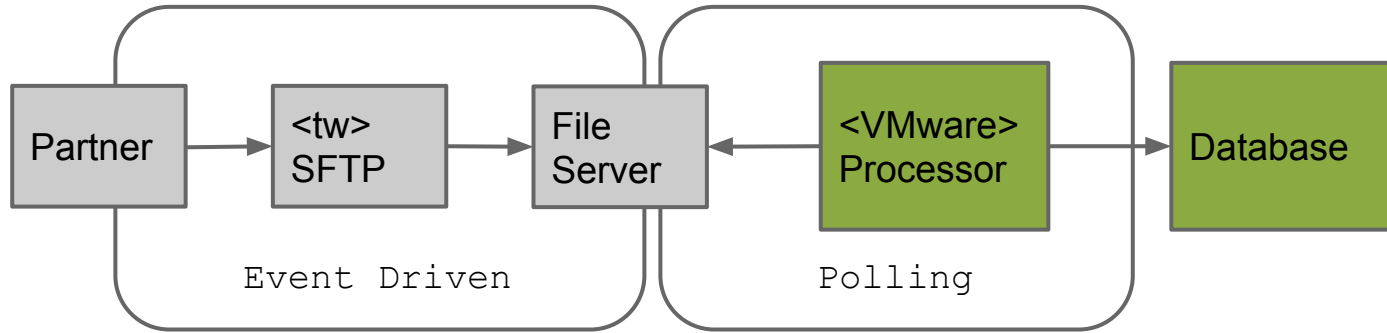
Motivation

- File-based interfaces are not going away
- File-server based interfaces are not easily scalable
- Batch processing benefits from event-based triggers
- Using EC2 for event handling is (relatively) costly

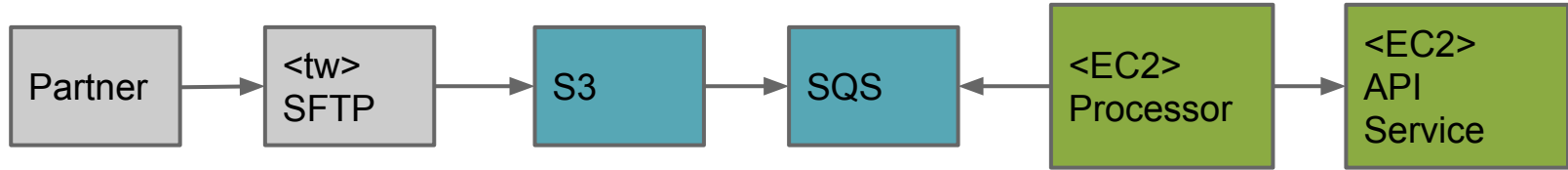
Yesterday's World



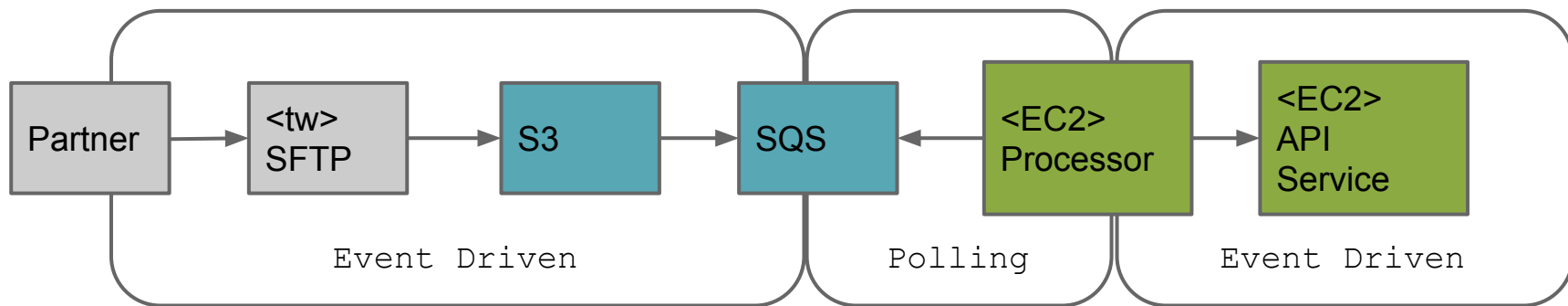
Yesterday's World



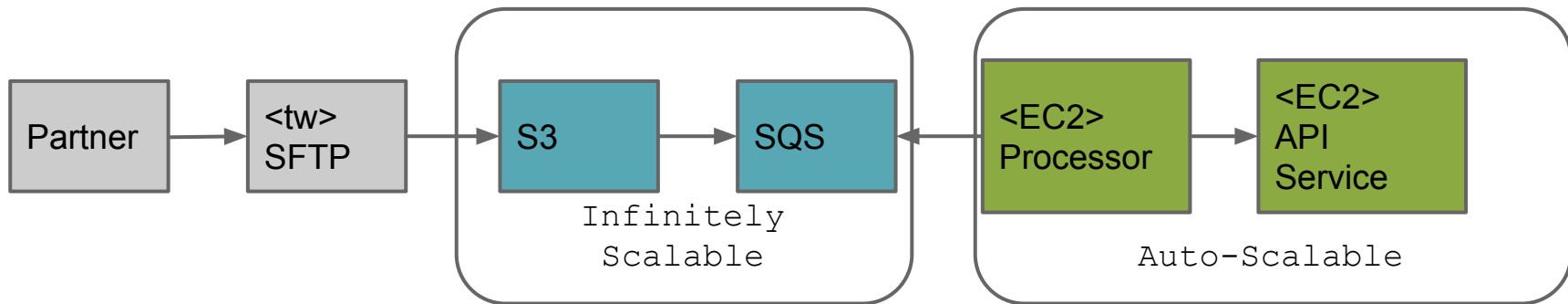
Today's World



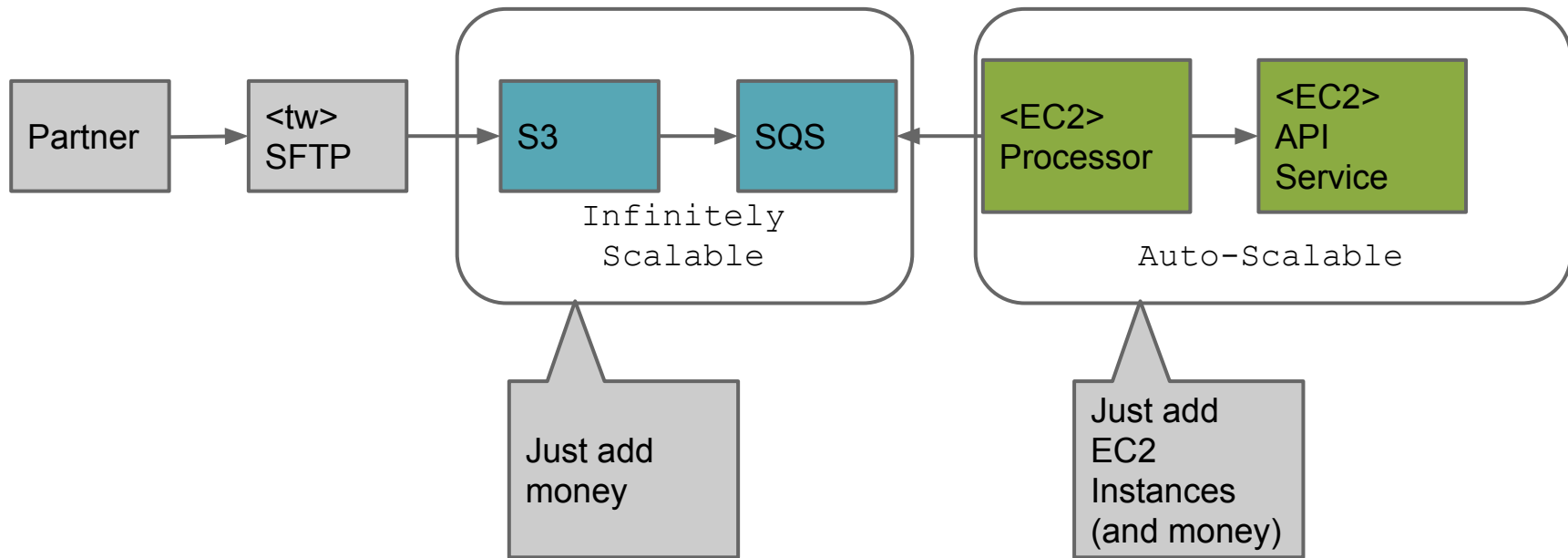
Today's World



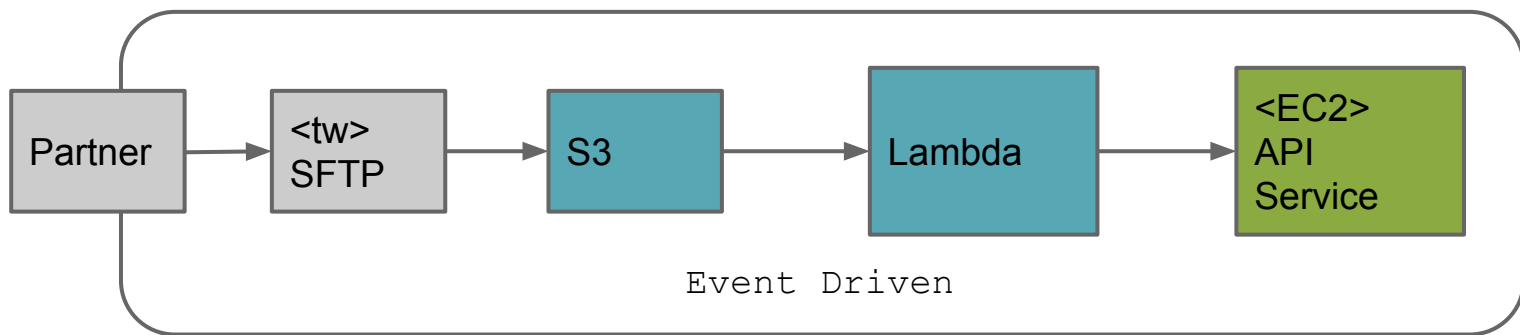
Today's World



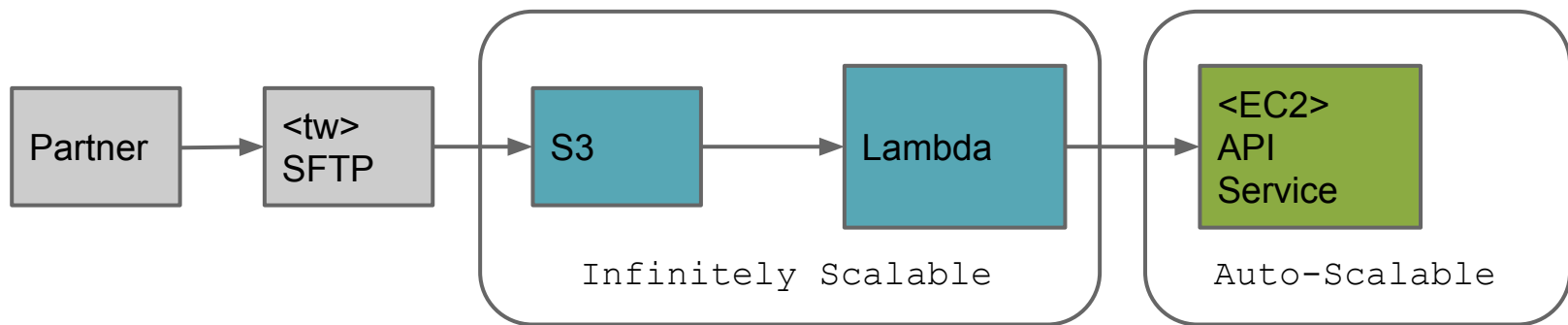
Today's World



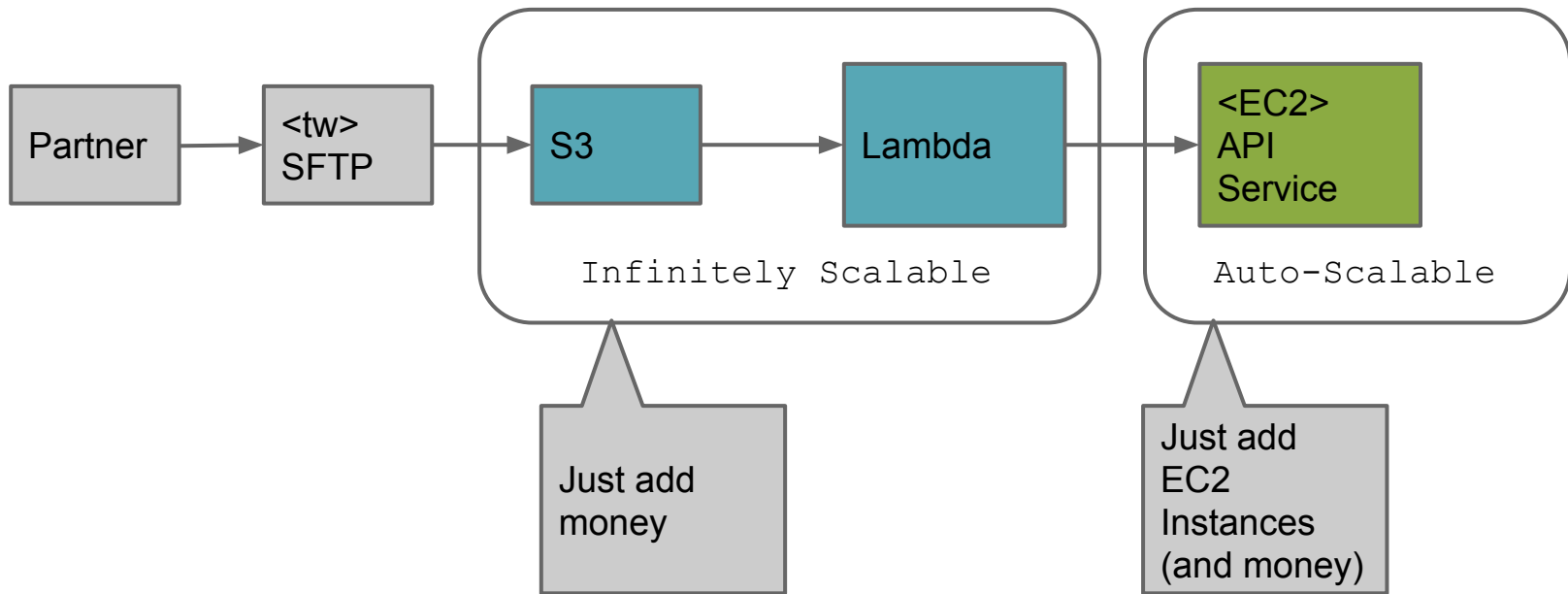
(The Day After) Tomorrow's World



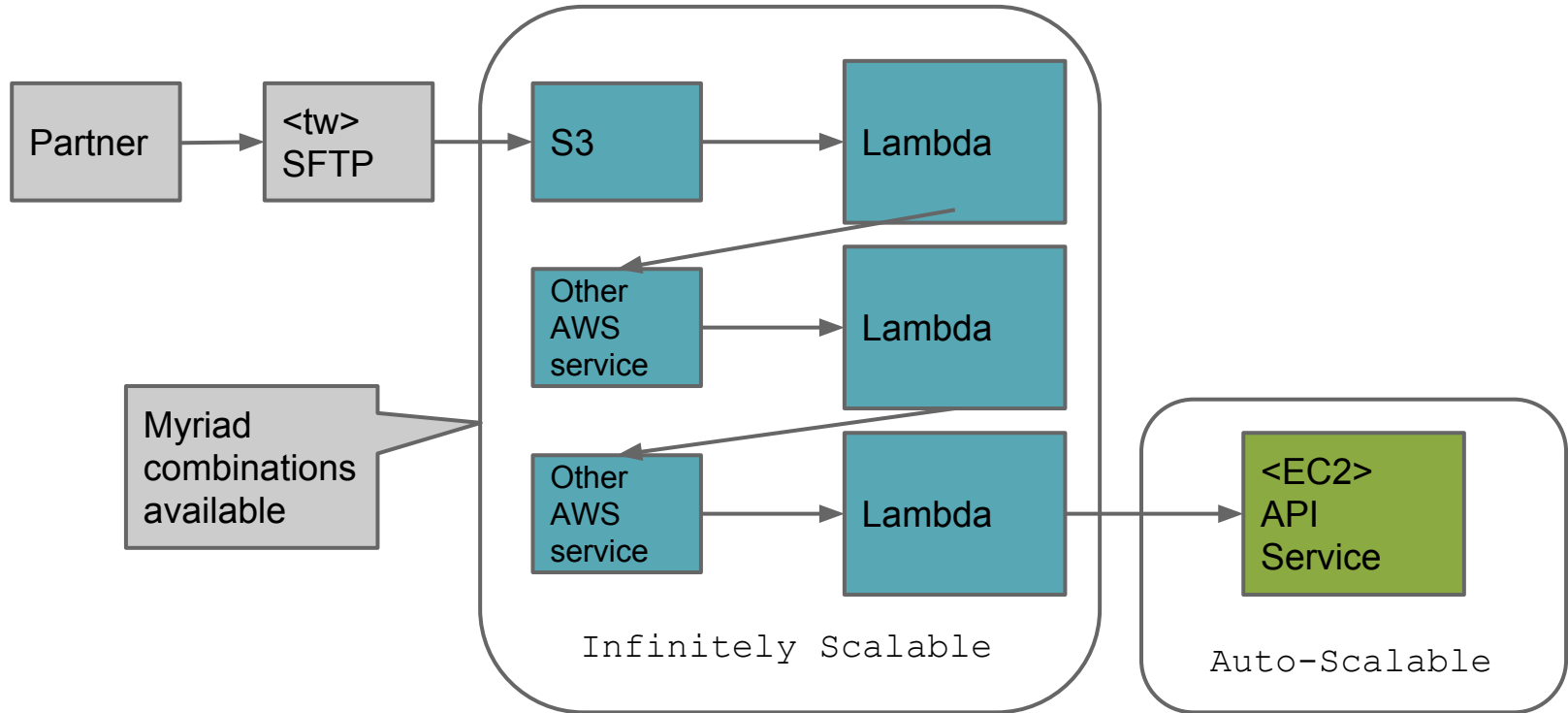
(The Day After) Tomorrow's World



(The Day After) Tomorrow's World



Later that same afternoon

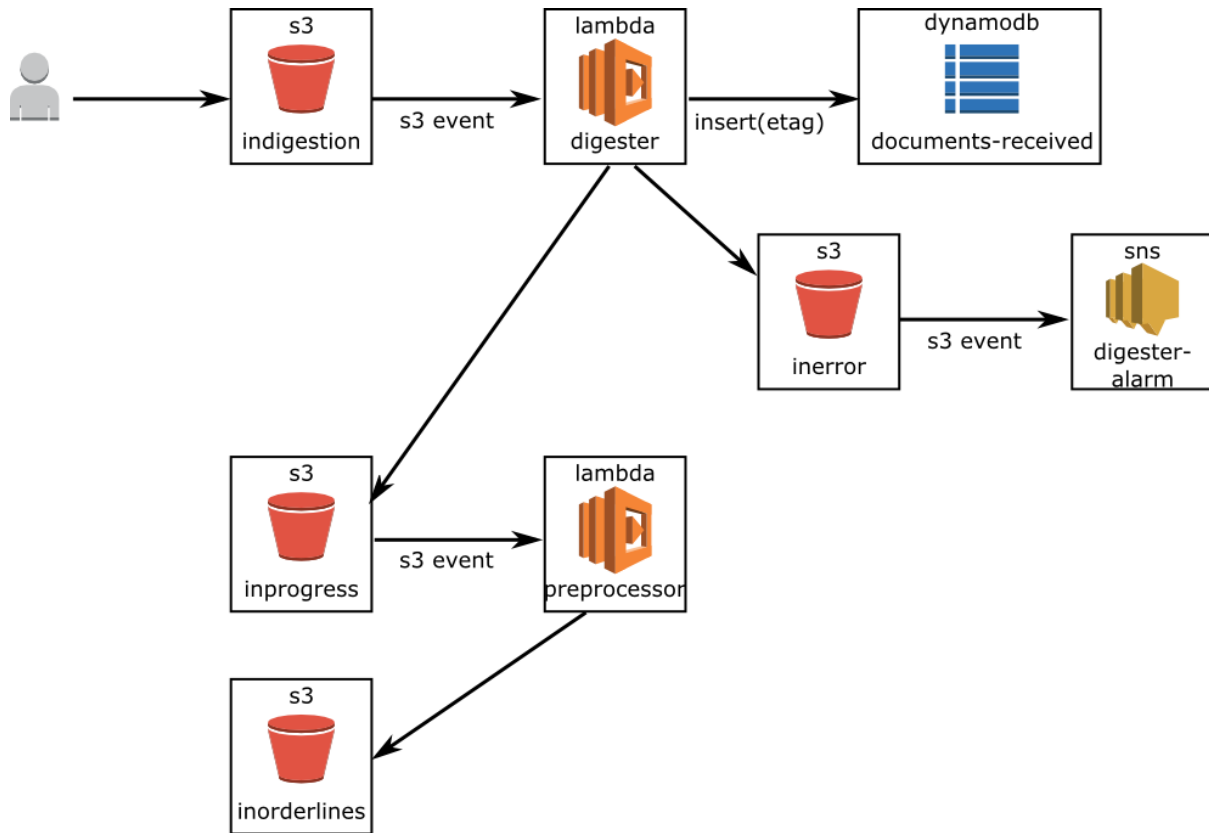


The POC Design

```
// when an S3 object arrives in the bucket
// trigger a handler

// get event data
// perform an idempotency check - only process a file once
// if (file is a duplicate) {
//   move the file to an error bucket
//   send an SNS notification
// } else {
//   move the file to the in-progress bucket
//   where another lambda function actually processes it,
//   creating more S3 objects as input to another
//   processing step, etc.
// }
```


The POC Design



Walkthrough

- S3
 - <https://console.aws.amazon.com/s3/home?region=us-west-2#>

Walkthrough

- Lambda

- <https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/functions>

Walkthrough

- IAM
 - https://console.aws.amazon.com/iam/home?#roles/lambda_s3_exec_role

Walkthrough

- DynamoDB

- <https://us-west-2.console.aws.amazon.com/dynamodb/home?region=us-west-2#table:name=documents-received>

Walkthrough

- SNS

- <https://us-west-2.console.aws.amazon.com/sns/v2/home?region=us-west-2#/topics/arn:aws:sns:us-west-2:134529390395:digester-alarm>

Demo

- . . .

Q and A

Questions?

Thanks

`craig.thomas@bhnetwork.com`