
AWS
re:Invent

DOP301

Testable infrastructure: Integration testing on AWS

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AWS

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Has this happened to you?

Make changes



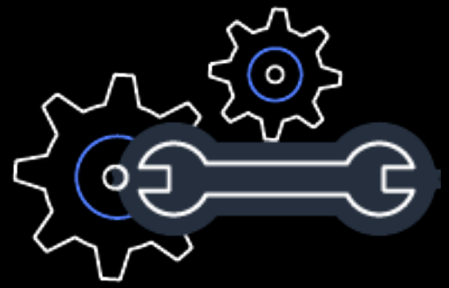
Deploy changes



Something breaks



Mad dash

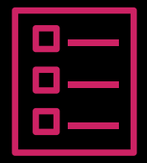


What is integration testing?

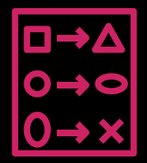


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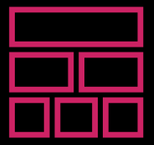
What is integration testing?



Test deployed units as a group



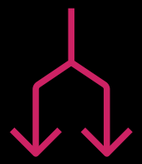
Expose problems in the interaction between components



Expose downstream failures



Expose security gaps in deployed systems



Production-like environment

How is integration testing different on AWS?



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How is integration testing different on AWS?

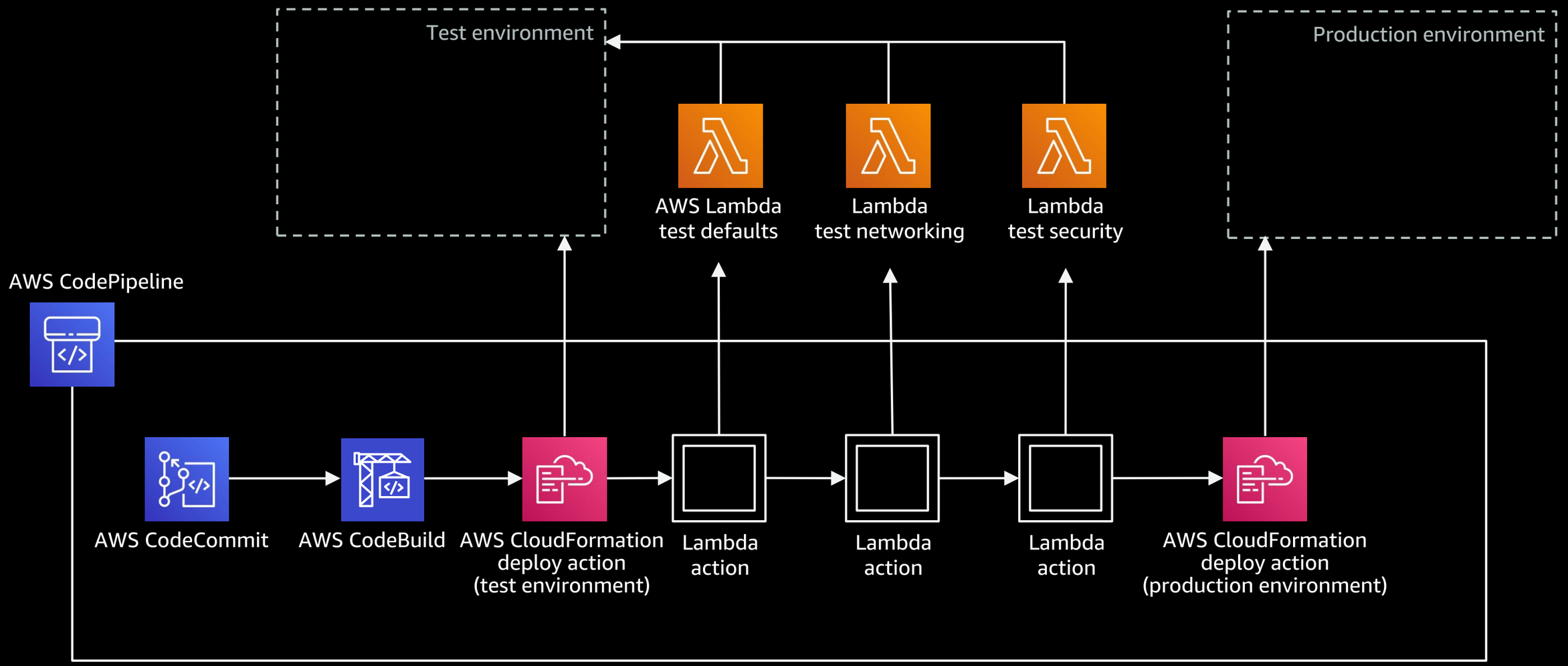
On premises	AWS
Stale / inconsistent environments	Infrastructure as code
Simplified test environments	Production-like test environments
Functional silos	Overlapping responsibilities and ownership

Three patterns



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Pattern 1: Standalone Lambda functions



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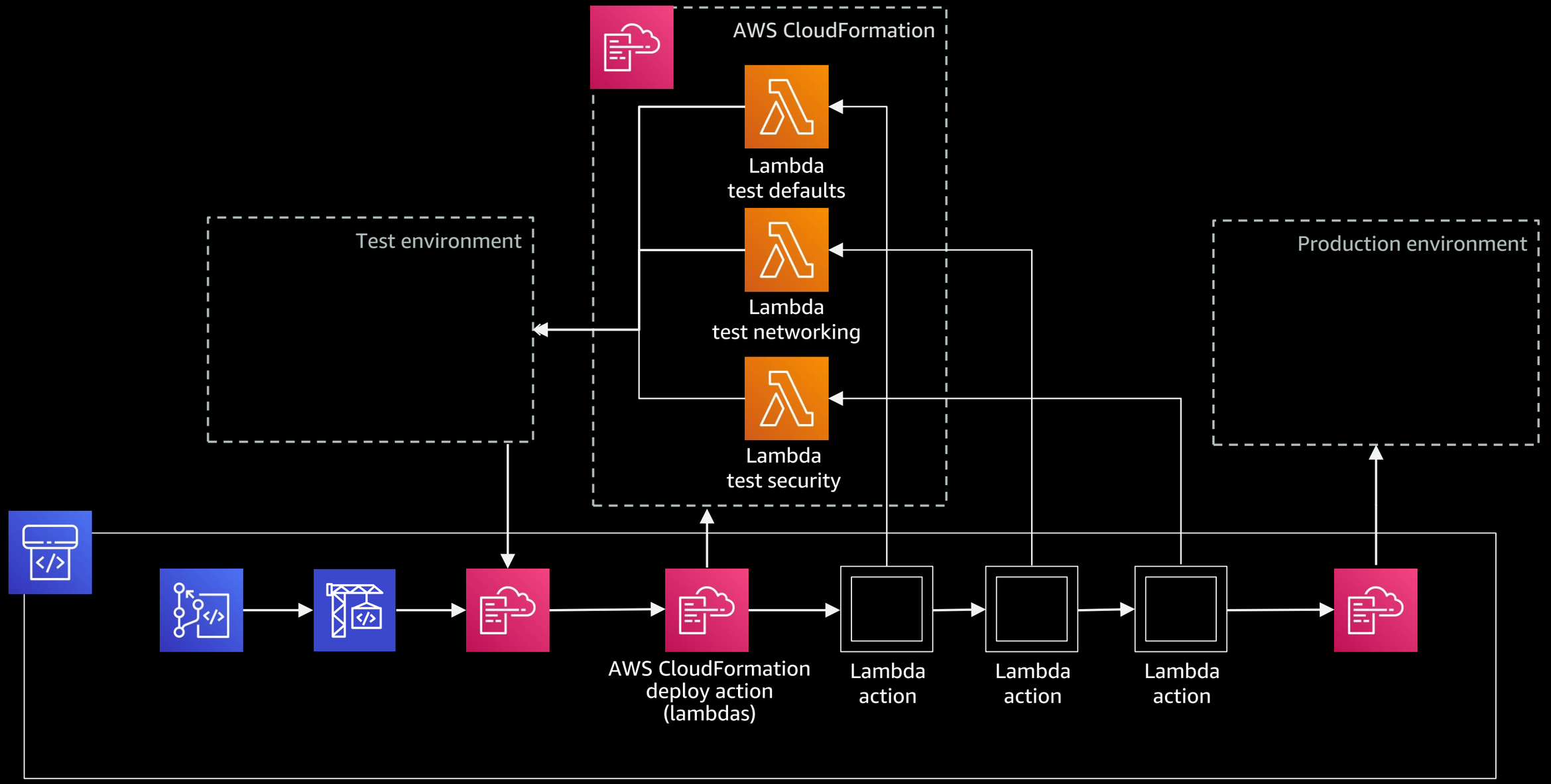
Advantages

- Simple
- Test scope is readily apparent

Drawbacks

- Lambdas provisioned outside the pipeline
- CodePipeline action limits

Pattern 2: Lambdas deployed with AWS CloudFormation



Pattern 2: Lambdas deployed with AWS CloudFormation

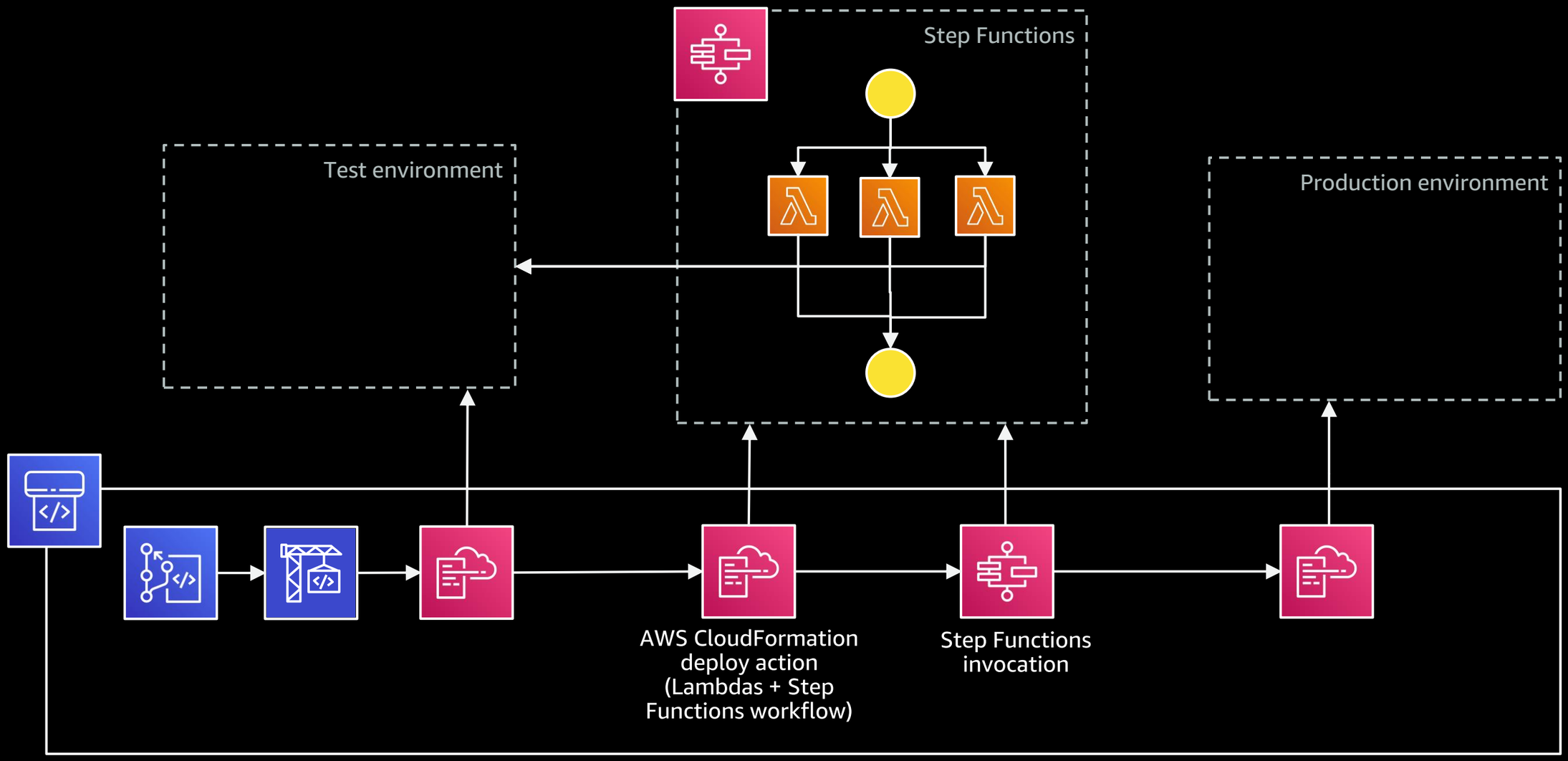
Advantages

- Tests close to code
- Tests are always up to date

Drawbacks

- Brittle → commit churn
- Limited workflows

Pattern 3: AWS Step Functions



Pattern 3: Step Functions

Advantages

- Tests close to code
- Consolidated test results
- Tests are always up to date
- Dynamic workflows

Thank you!



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BLD201

Testing Software and Systems at Amazon

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