Microsoft

The Ops in Serverless



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Source: https://www.mobygames.com/game/apple2/transylvania/screenshots/gameShotId,44285/



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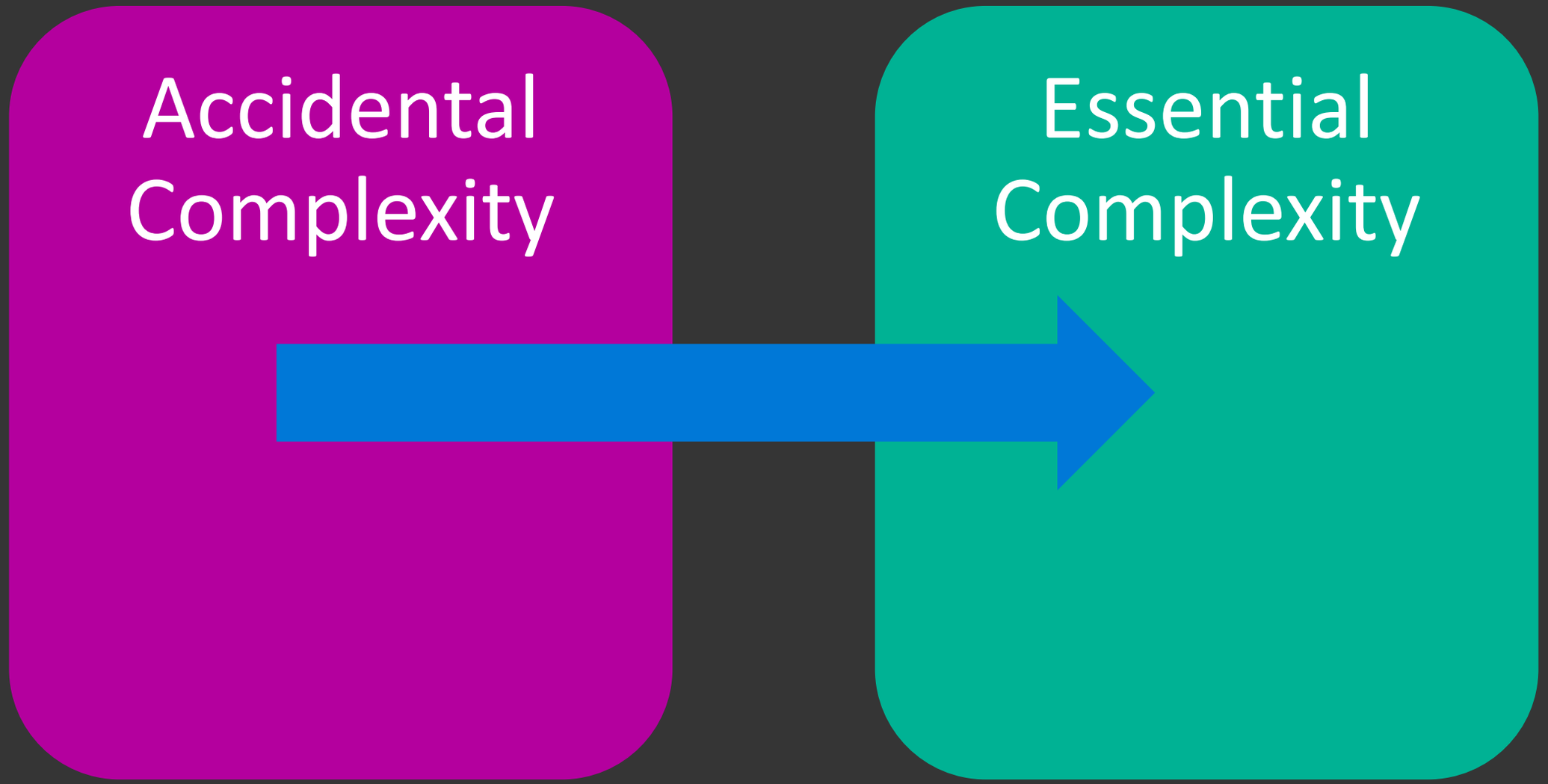
Accidental Complexity
Essential Complexity

Operations

- Capacity Management
- Security
- Service Health
  - Availability, Performance, Resilience
- Networking
- Database Management
- Incidence Response
- Disaster Planning and Recovery



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CODE
CODE

Serverless - FaaS

- No server provisioning
- Scales automatically
- No idling costs
- Increased availability

Use Cases

- Web Applications
- Data Processing
- Chatbots
- IT Automation



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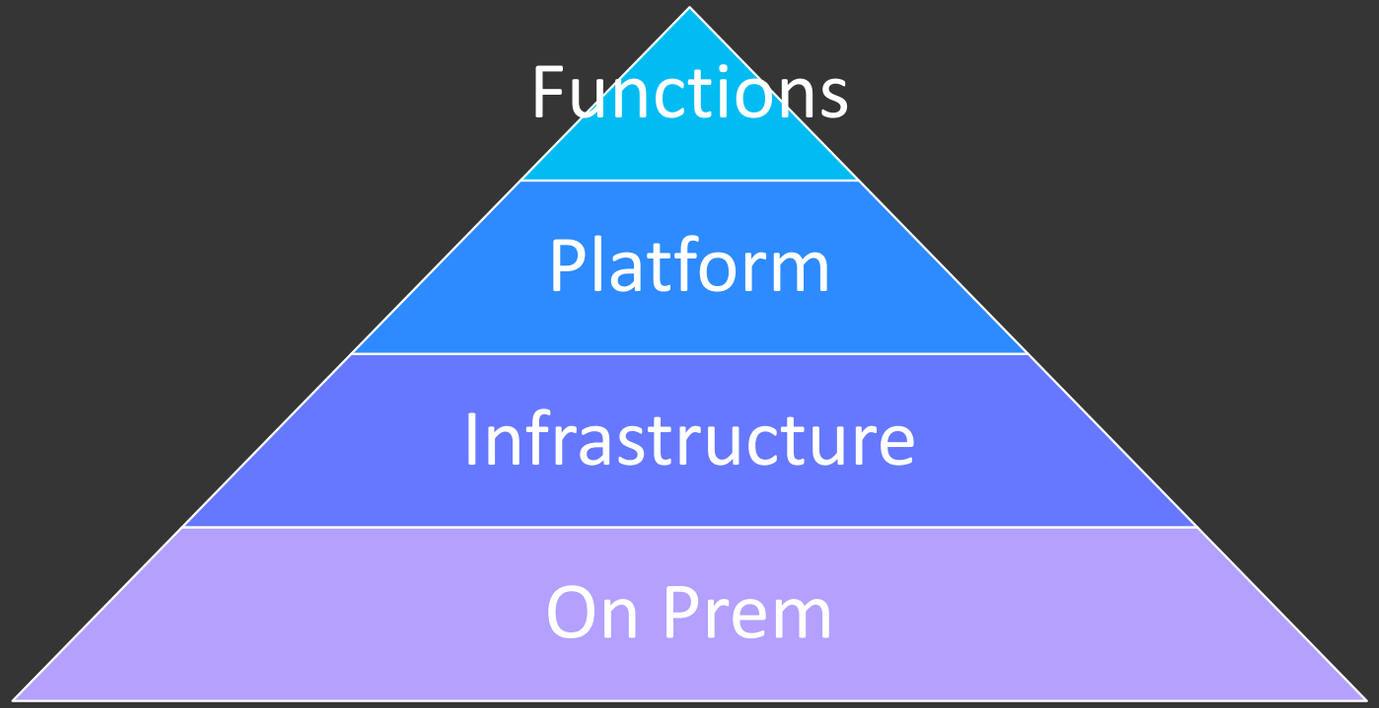
Perceived versus Actual Benefits

Simplified Operational Model

Pay for use

Additional Choice

Reduction of cost



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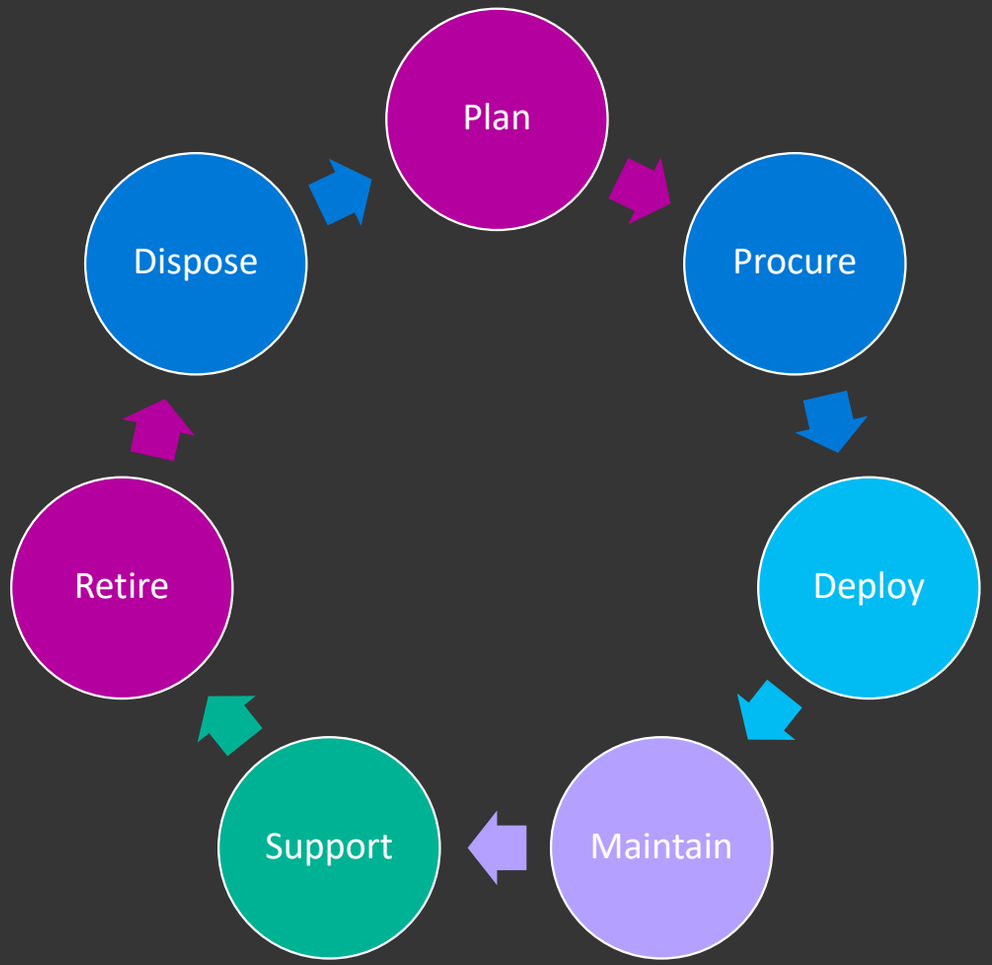
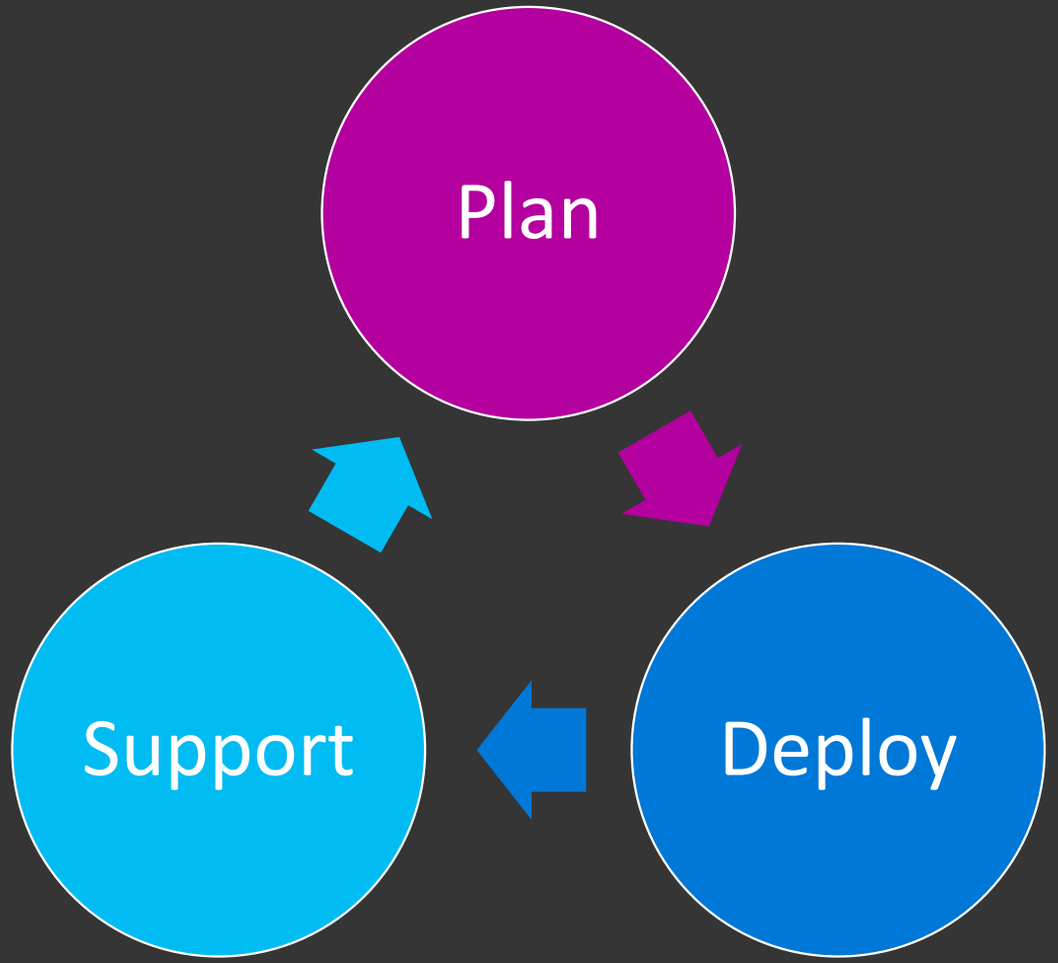
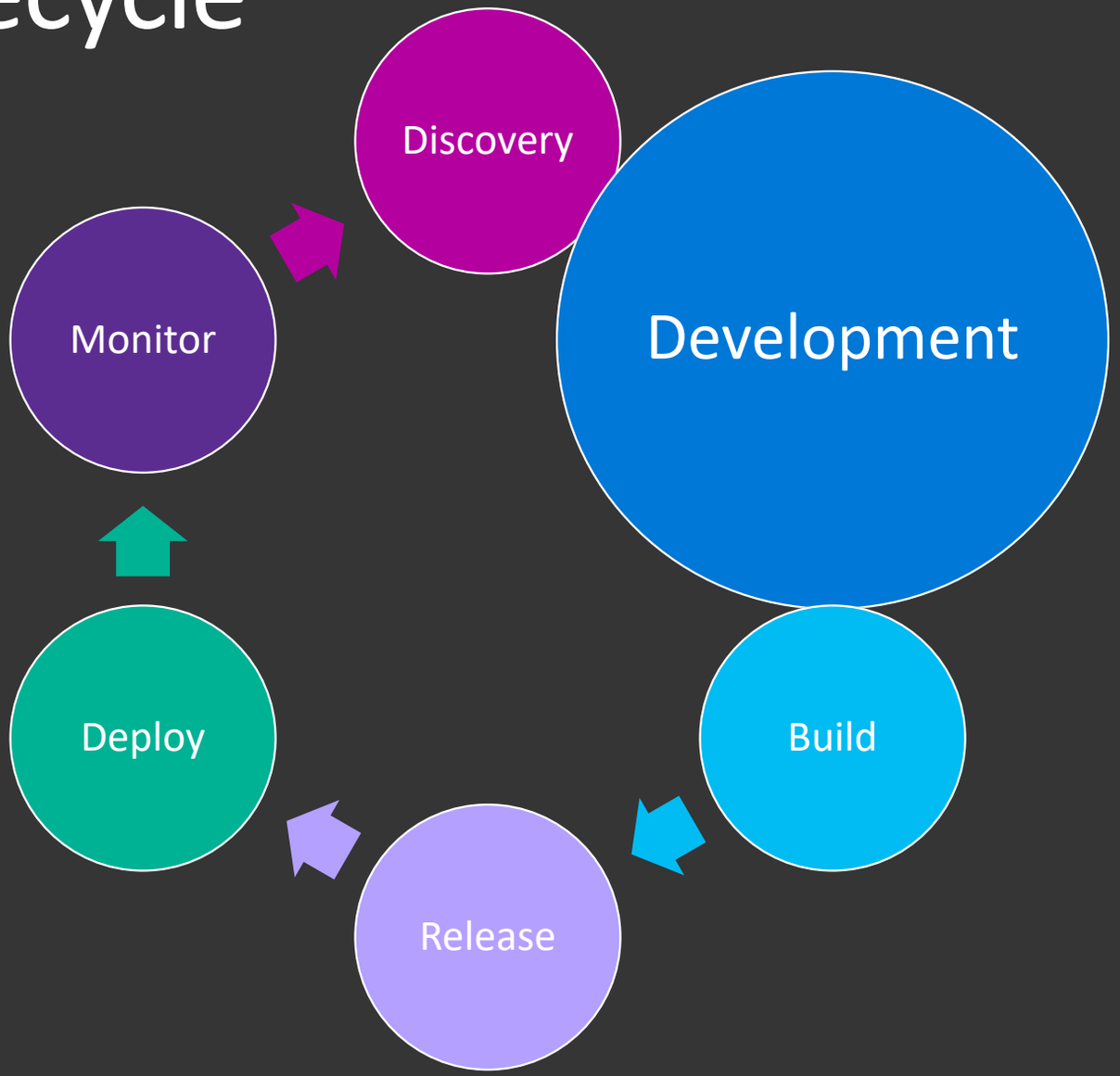
Hardware Asset Lifecycle



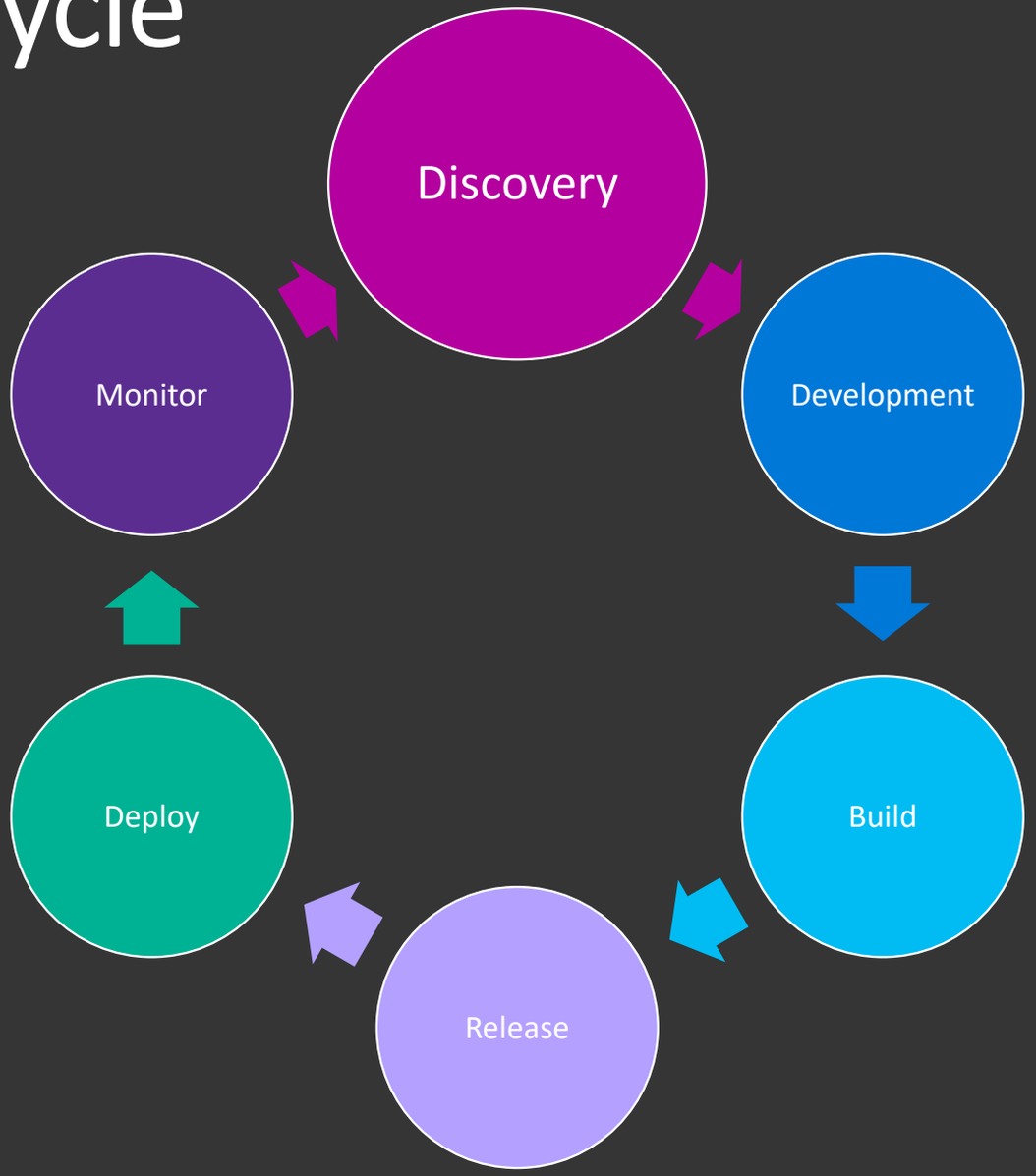
Serverless Asset Lifecycle



Software Lifecycle



Software Lifecycle



Governance



Function Rot



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Capacity Planning



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THIS is FINE

Service Resilience



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Branch: master ▾ hello-retail / web / serverless.yml

Find file | Copy path

nanxiliu Commit errors 576b0cf on Jul 2

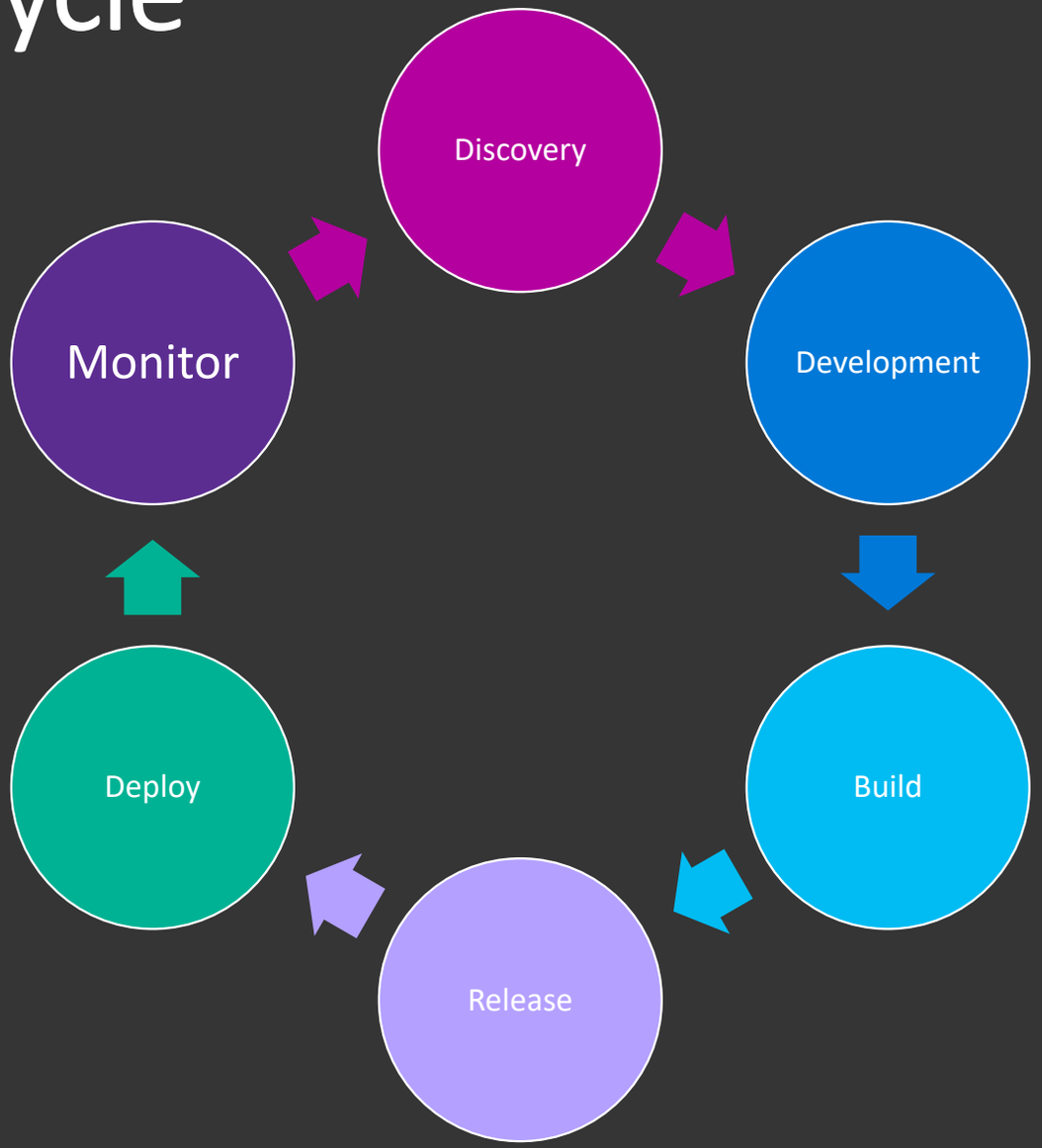
4 contributors

281 lines (247 sloc) | 9.36 KB

Raw | Blame | History

```
frameworkVersion: '>=1.0.0 <2.0.0'

service: ${self:custom.helloRetail.name}-website

plugins:
  - web-app-build-plugin

custom:
  # AWS ARN for the S3 bucket used to host the site.
  bucketArn:
    Fn::Join: # e.g. arn:aws:s3:::stage.hello-retail.biz/*
      - ''
      - - 'arn:aws:s3:::'
        - Ref: HelloRetailWebBucket
        - '/*'

  oAuthClientId: ${self:custom.private.loginWithAmazonClientId}
  oAuthAppId: ${self:custom.private.loginWithAmazonAppId}

  # Domain name for CloudFront distribution.
```

Software Lifecycle





Service Health

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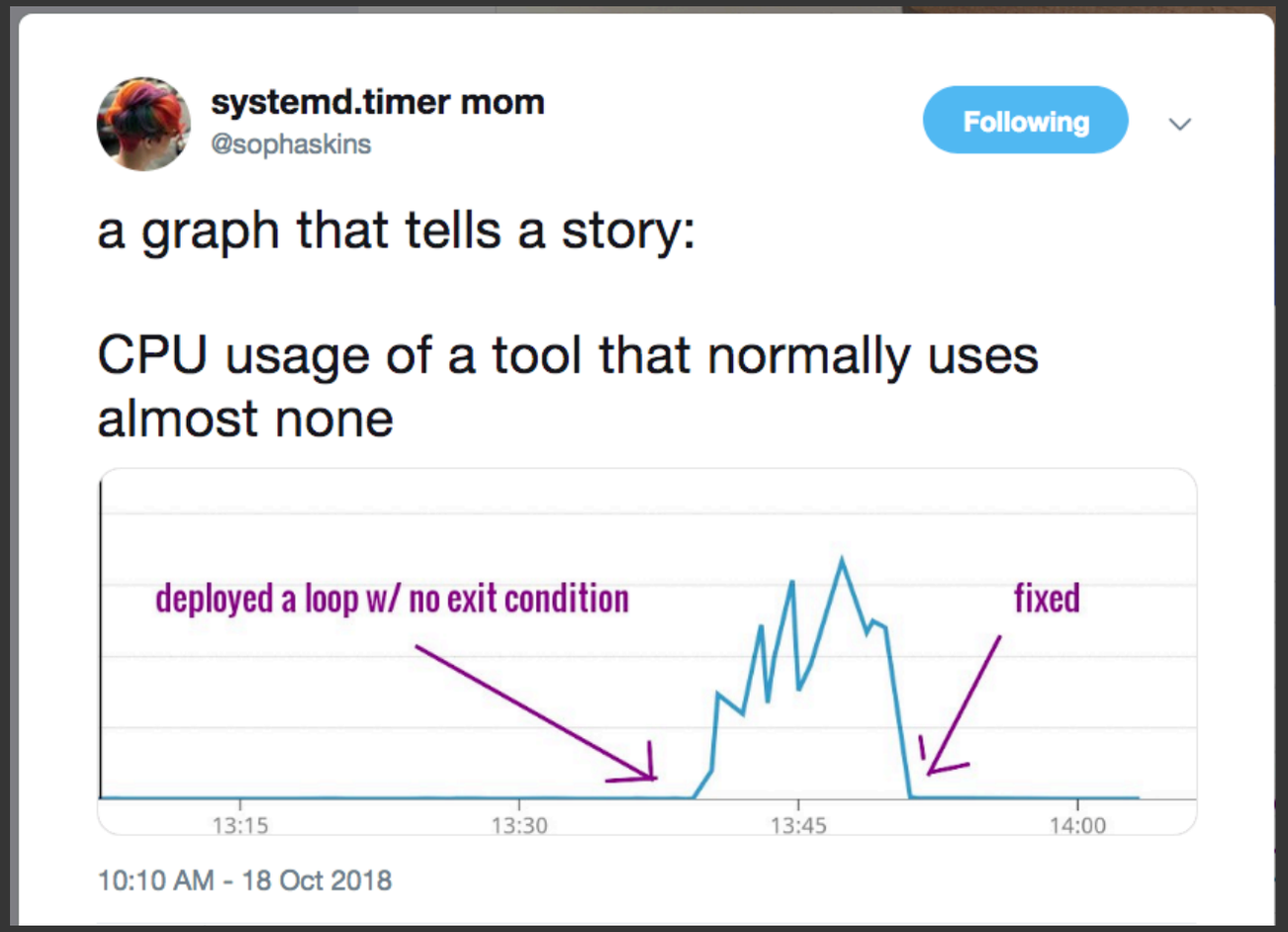
”Free” Insights

System Metrics

- CPU
- Memory
- Disk Utilization



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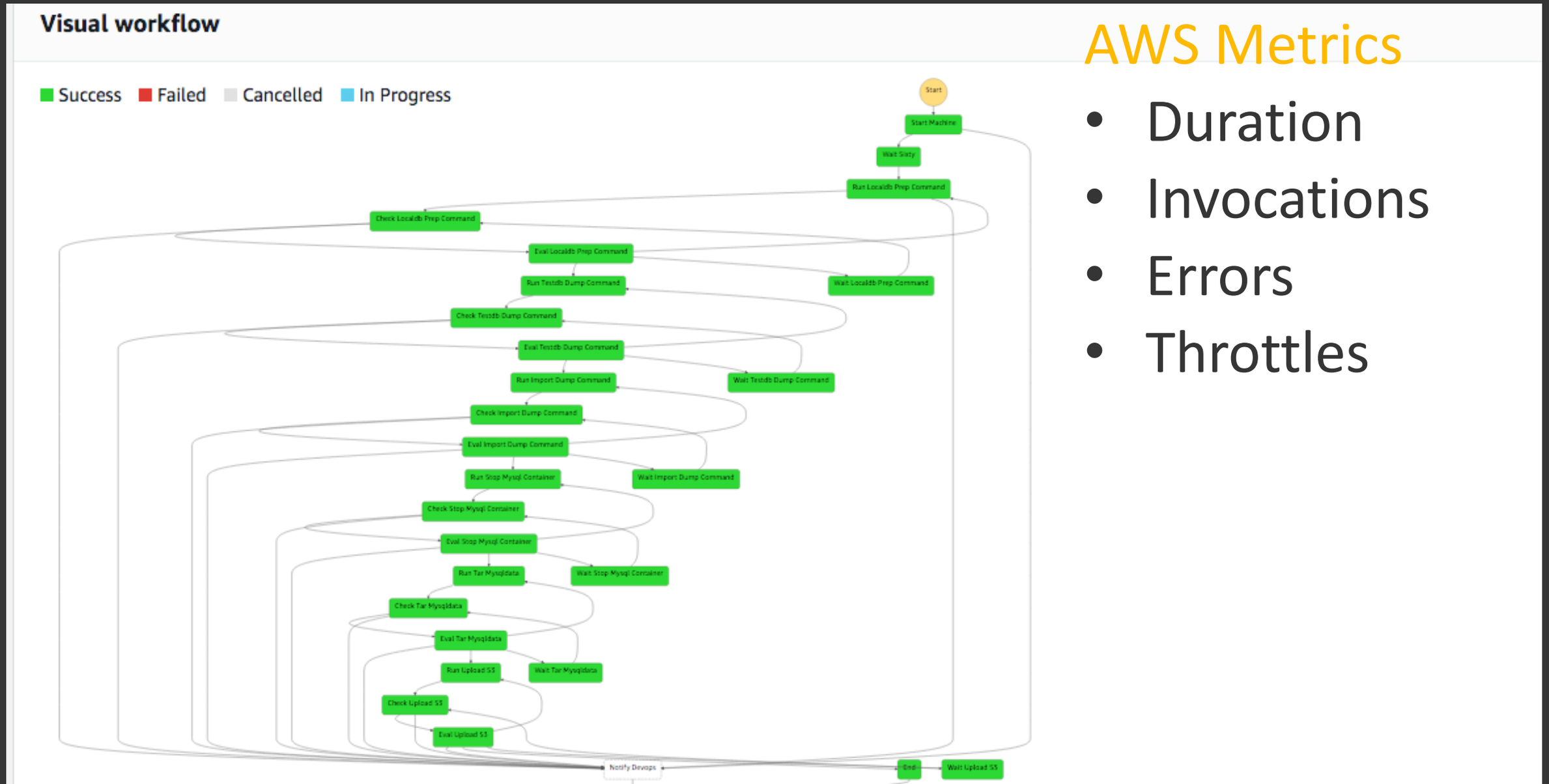
Story



AWS Metrics

- Duration
- Invocations
- Errors
- Throttles

Service Failure



ps

In their efforts to compensate for the unreliability of human performance, the designers of automated control systems have unwittingly created opportunities for new error types that can be even more serious than those they were seeking to avoid.

— James Reason

Managing the Risks of Organizational Accidents



Shaping Operability of Serverless



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