# Start Next session at 15:10

# Feel free to break or play lab

# Part 2

# AWS Workshop Series

# Day 4: Modernization

Taking Enterprise Beyond the Cloud by TrueIDC

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# Presented by

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trueIDC

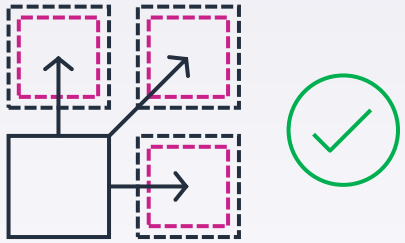
# Agenda

- Modernization Overview
- App2Container
- Database Migration Service
- Lab: Modernize with AWS App2Container

Source: AWS Immersion day


Modernize in 2022?

# Key pillars of modernization



**Technology & Architecture**

Independent business functions

**People, Process, & Culture**

Organized for value

**Ops & Governance at Scale**

Automate, enable, & self-service

**Modernization** is the refactoring of legacy technology by combining modern infrastructure, architecture, organization patterns together to maximize resiliency, engineering efficiency, and business agility

Source: AWS Immersion day

# Migration and modernization benefits

**409%**
ROI over five years

**43%**
Fewer security incidents per year

**89%**
Faster compute deployment

**3x**
More features delivered per year

**9**

**months to payback!***

Sources: IDC, Nucleus Research, AWS Analysis
*Based on five year ROI analysis of Serverless adoption

Source: AWS Immersion day

# Know your application portfolio and understand your options

**Reduce** the size of your estate*

**Retire**

**SaaS**

**Move** to AWS

**Lift and shift (Re-host)**

**Modernize** on AWS

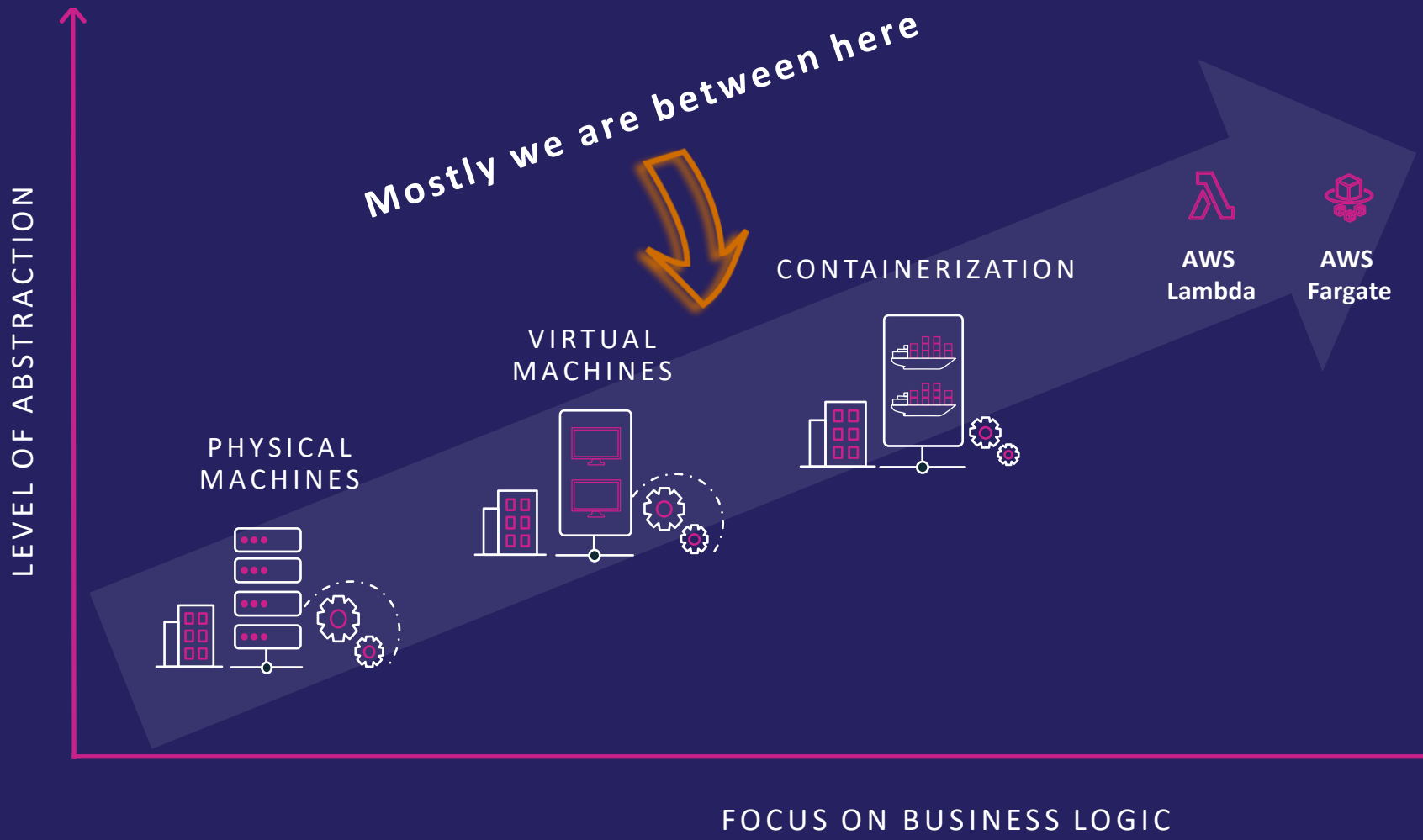
30%

**Re-architect**

**Re-platform**

Source: AWS Immersion day

# Move up the stack = less work for you

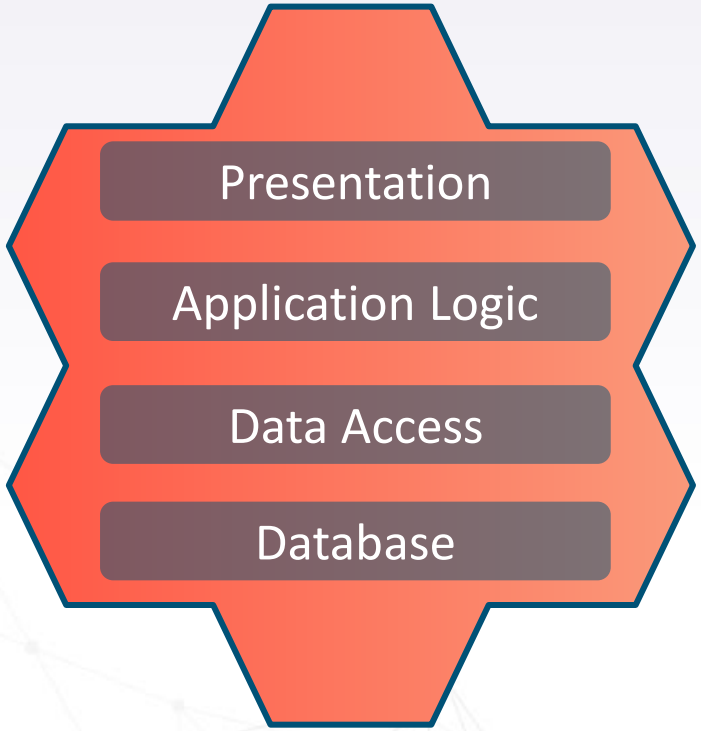



**SERVERLESS**

- Continuous scaling
- Fault tolerance built-in
- Pay for value
- Zero maintenance
- Focus on business value

# The Monolith

Although it has advantages…

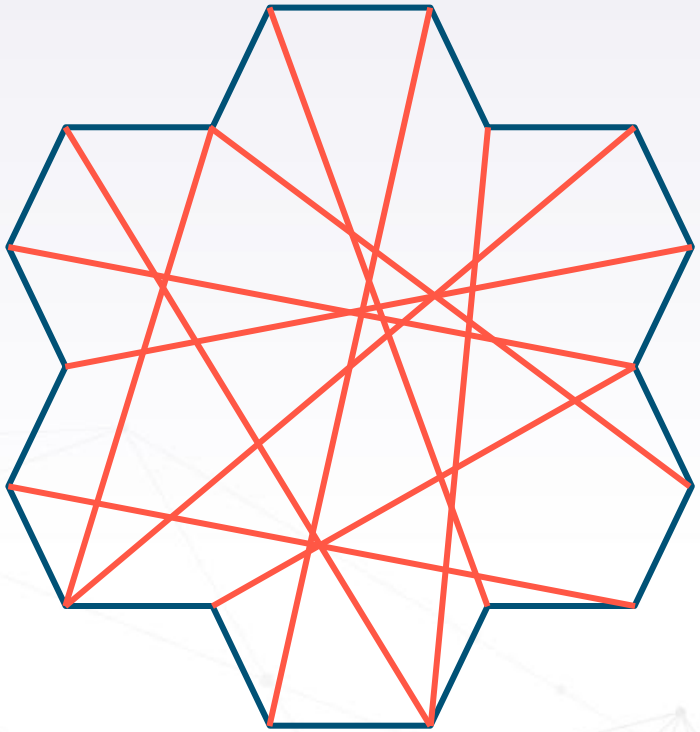



- Simple to develop and refactor
- Simple to test (integration, end-to-end)
- Single deployment process
- Single application to monitor
- Consistency

Source: AWS Immersion day

# The Monolith

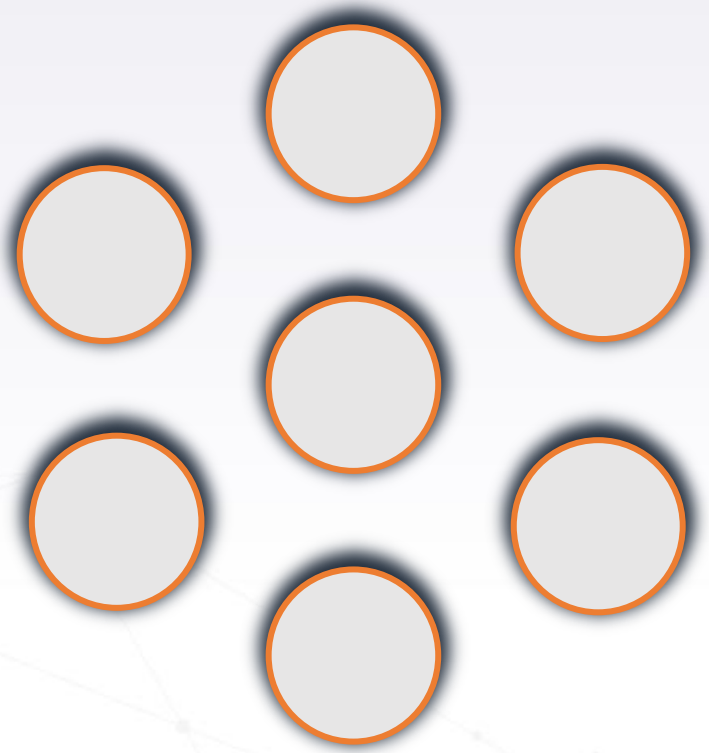
… it also has some limits:



- **Does Everything**
- **Strong coupling:**
  - Less flexibility / agility
- **High impact of change**
  - Redeploy everything
  - Risks of blast radius
- **Reliability**
  - One failure can bring down the whole application
- **Rigid scaling**
  - Often stateful
  - Limited to the database scalability
- **Development lifecycle is typically slow**
  - Continuous deployment is difficult
- **Barrier to adopting new technologies**


Source: AWS Immersion day

# Microservices



**Microservices to the rescue…**

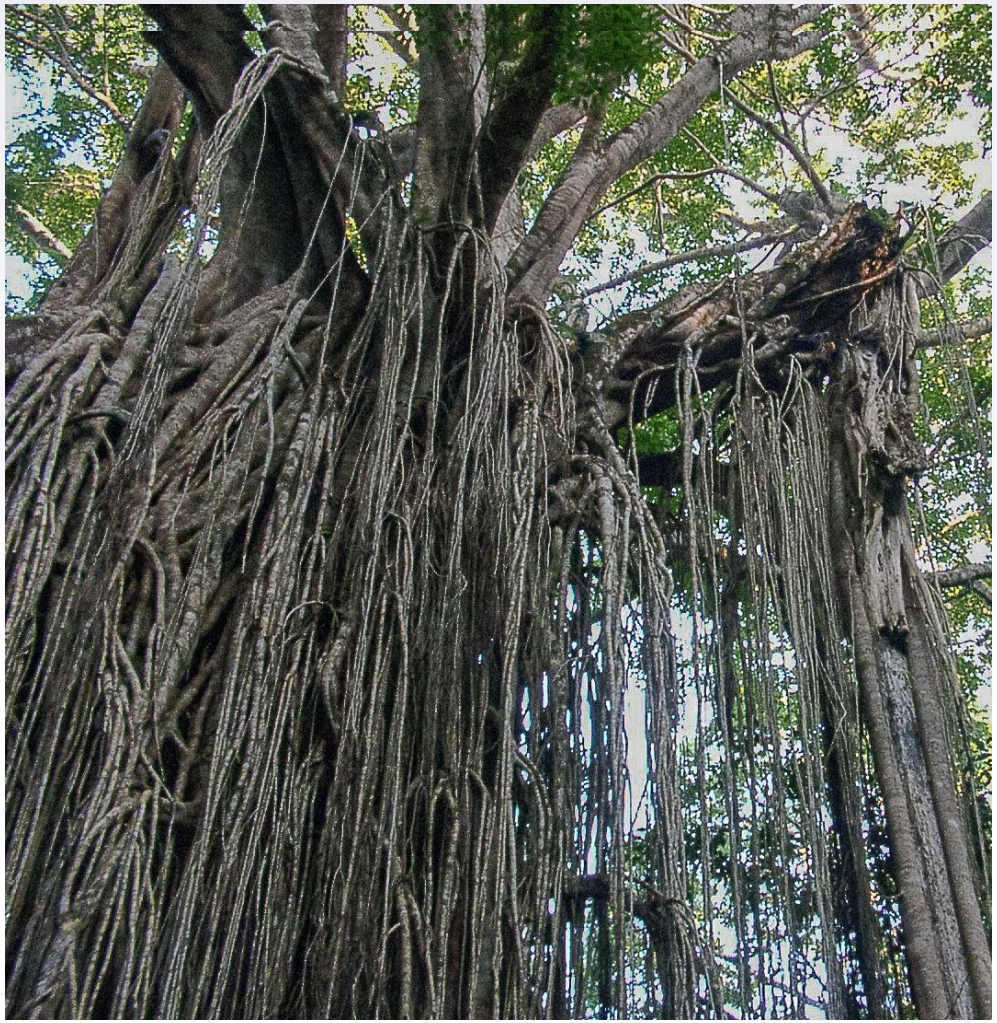
- Does one thing
- Reduced coupling
- Smaller impact of changes
- Independent deployments
- Better reliability
- Independent scaling
- Smaller unit of development:
  - Humanely understandable
  - More suitable for adopting new technologies

Source: AWS Immersion day

# Need a helping hand for modernization

Source: AWS Immersion day

# Martin Fowler's Strangler Pattern

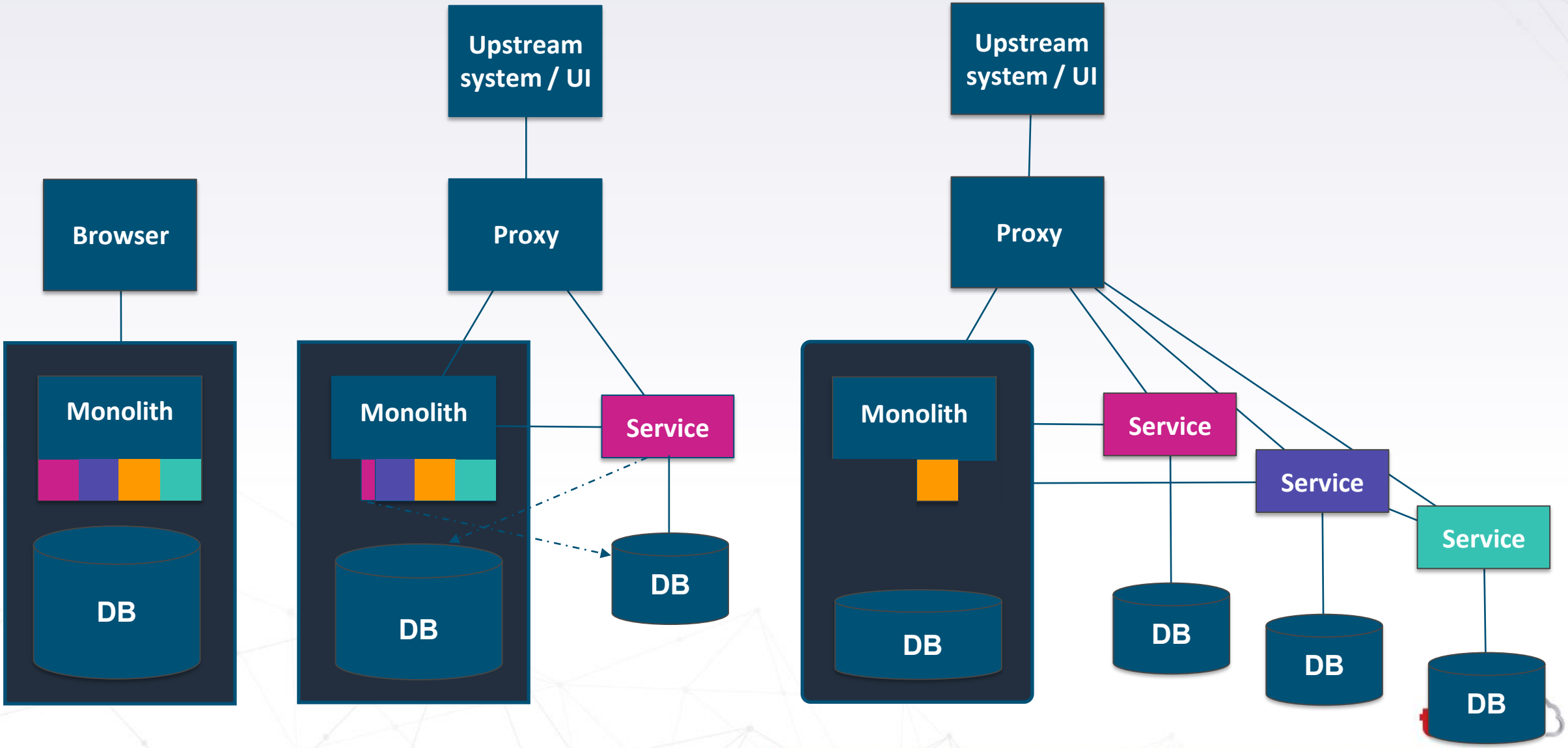


*"…gradually create a new system around the edges of the old, letting it grow slowly over several years until the old system is strangled."*

*Martin Fowler*
*June 29, 2004*

Source: AWS Immersion day

# Strangler Pattern: Creating a new system around the edges




Source: AWS Immersion day

# Accelerate Application Containerization

App2Container helps customers to transform their applications running in virtual machines into containers and easily deploy them to Amazon ECS or EKS with minimal effort

**Benefits**

- Legacy app containerization with minimal efforts
- Containerization at scale
- Best practices for containerization
- Opinionated AWS Deployment artifacts

Source: AWS Immersion day

# AWS App2Container – How does it work?

## Discover and analyze

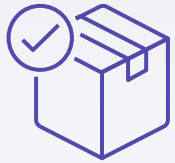
Create application inventory and analyze runtime dependencies

1

## Extract and containerize

Extract application with dependencies and create container image

2



## Create deployment artifacts

Generate the ECS tasks or Kubernetes pod definitions and create CI/CD pipelines

3

## Deploy to AWS and launch

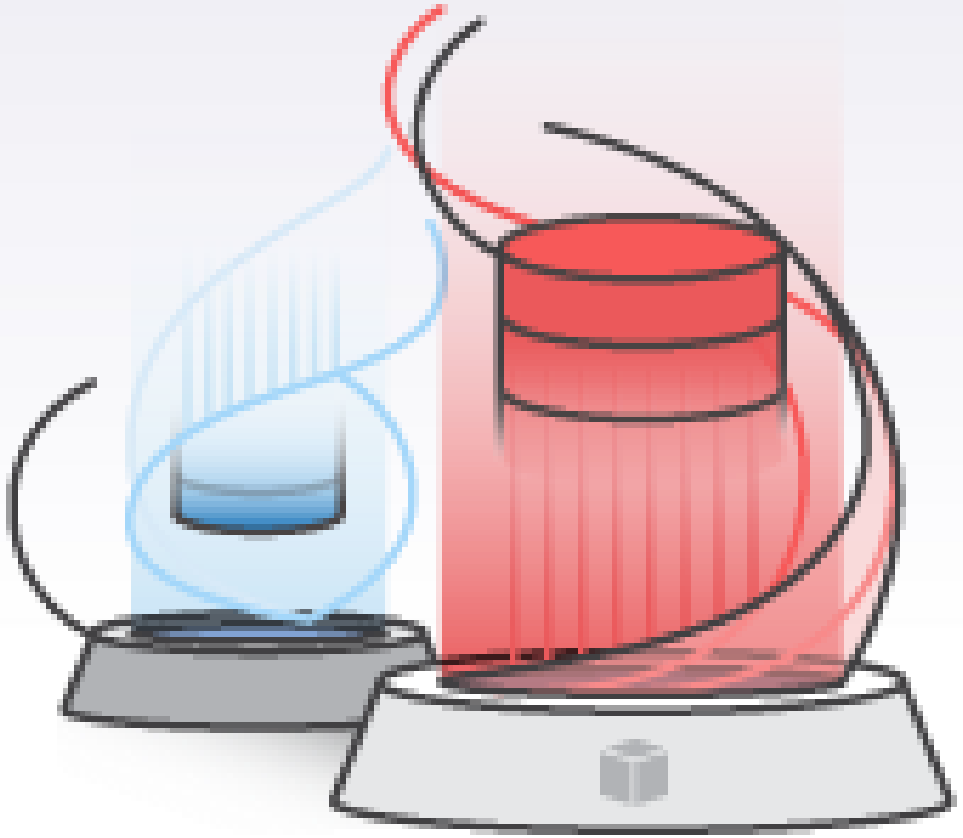
Store image in Amazon ECR and deploy to Amazon ECS or Amazon EKS

4

Source: AWS Immersion day

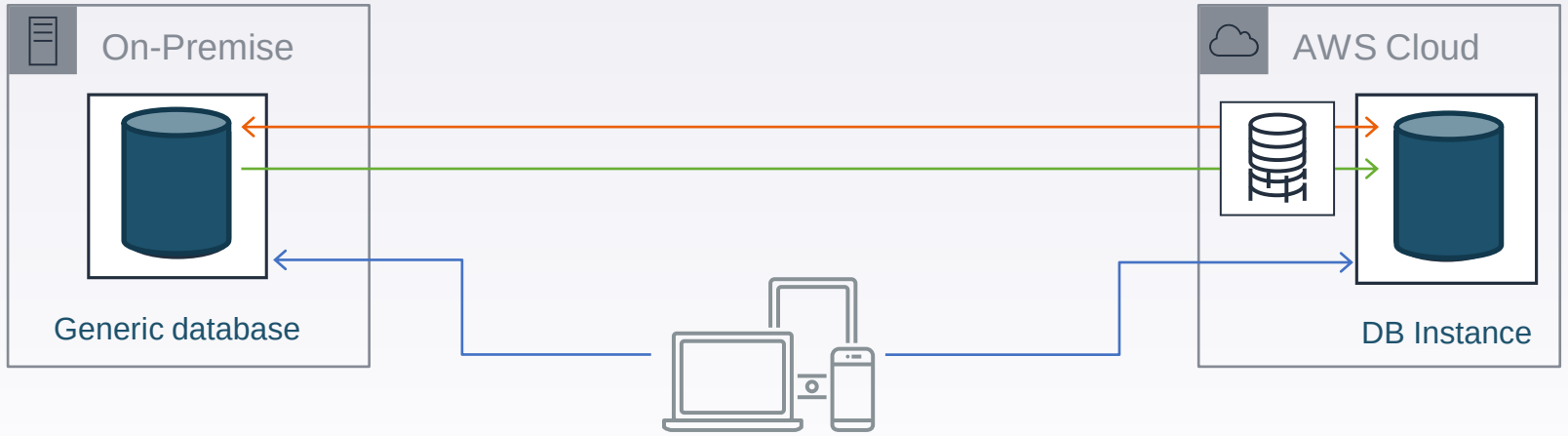
# Migrate your databases with minimal downtime

AWS Database Migration Service helps you migrate databases to AWS quickly and securely. The source database remains fully operational during the migration, minimizing downtime to applications that rely on the database.



Source: AWS Immersion day

# Keep your application running during migration




Start a replication instance

Connect to the source and target

Select tables, schemas, or databases

Let DMS create the target objects

Move data and synchronize objects

Switch applications when ready

Source: AWS Immersion day

# Finally, time is an issue…

- Monolith applications are complex
- Time consuming process before business value is realized
- High risk from a big bang approach
- Difficult to gain stakeholders buy-in

Source: AWS Immersion day

# Lab: Modernize with AWS App2Container

## Cancel Lab – Event Engine error

Source: AWS Immersion day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