Citrix

Compute Service
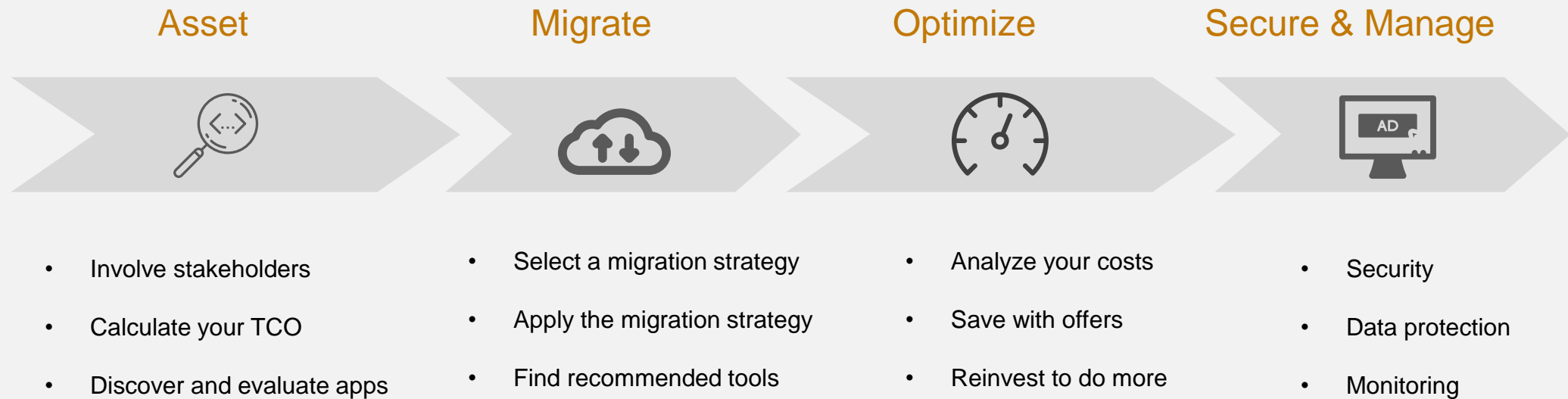
- **Virtual Machines**

- **HPC & App Service**

- **Microservice**

- **Serverless**

Virtual Machines

Migration Workflow

Asset

- Involve stakeholders
- Calculate your TCO
- Discover and evaluate apps

Migrate

- Select a migration strategy
- Apply the migration strategy
- Find recommended tools

Optimize

- Analyze your costs
- Save with offers
- Reinvest to do more

Secure & Manage

- Security
- Data protection
- Monitoring

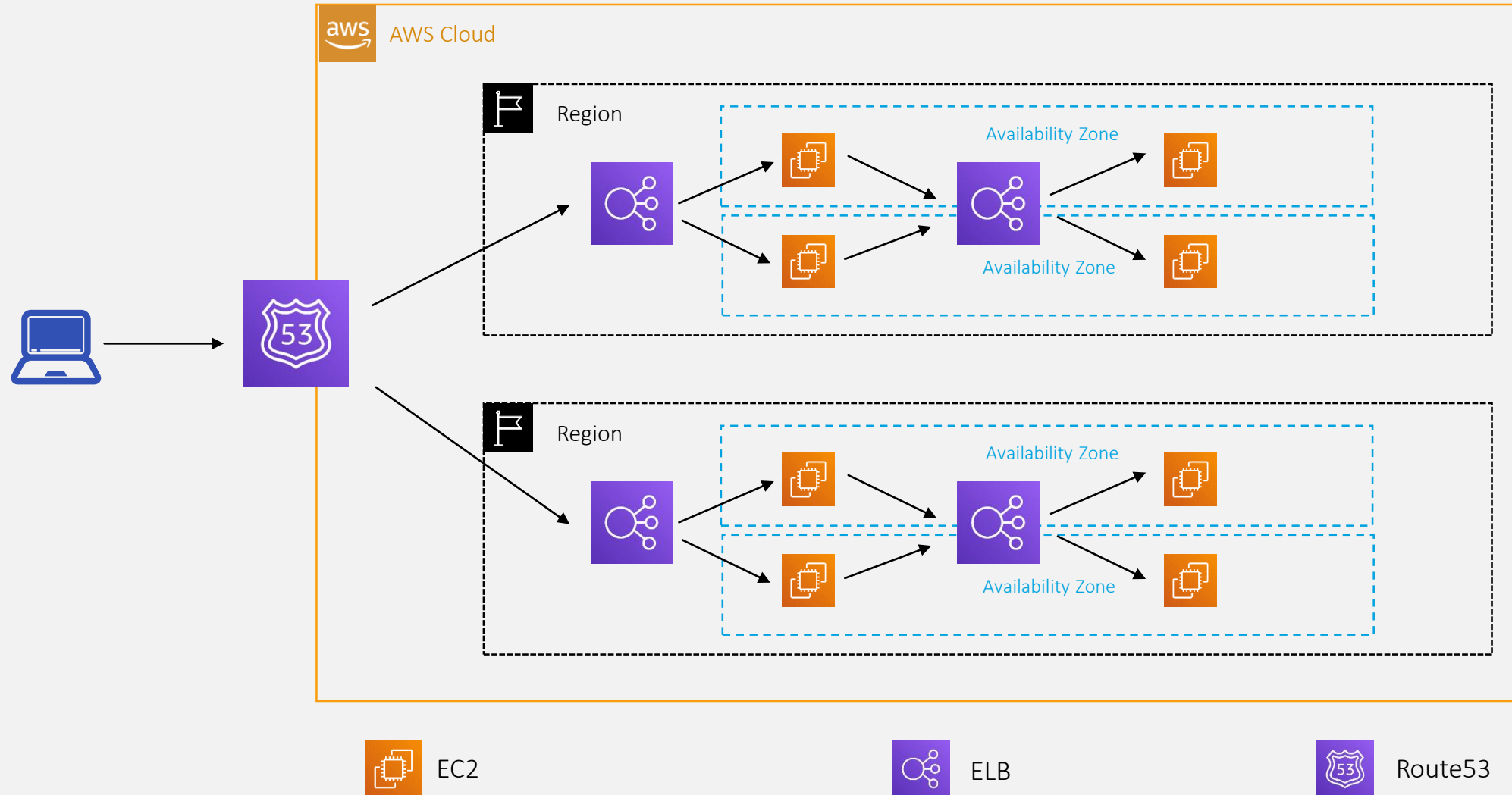CiTR!X

Migration Service

Asset

- AWS Application Discovery Service

- Azure Migrate

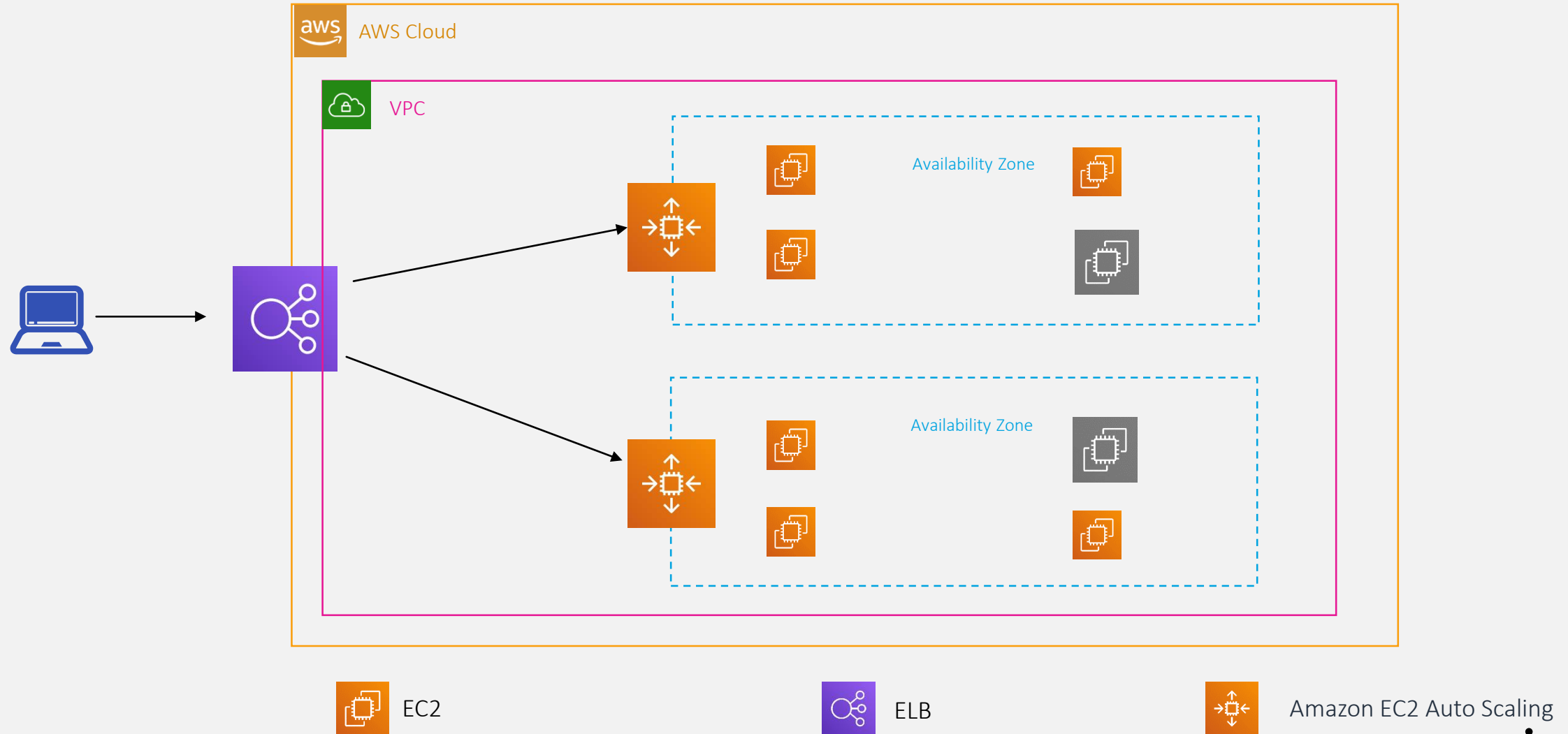- AWS Database Migration Service

- Azure Database Migration Service

Migrate

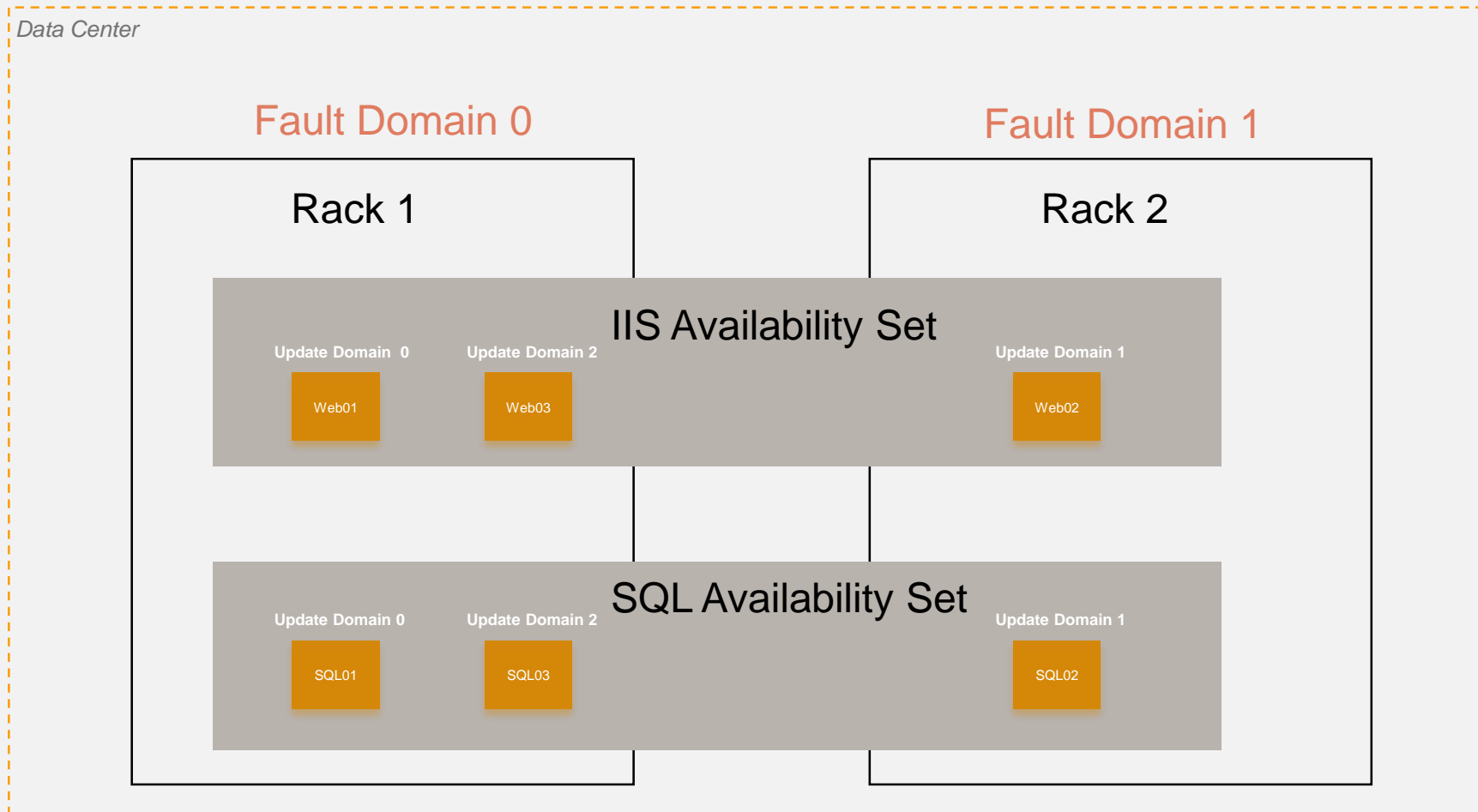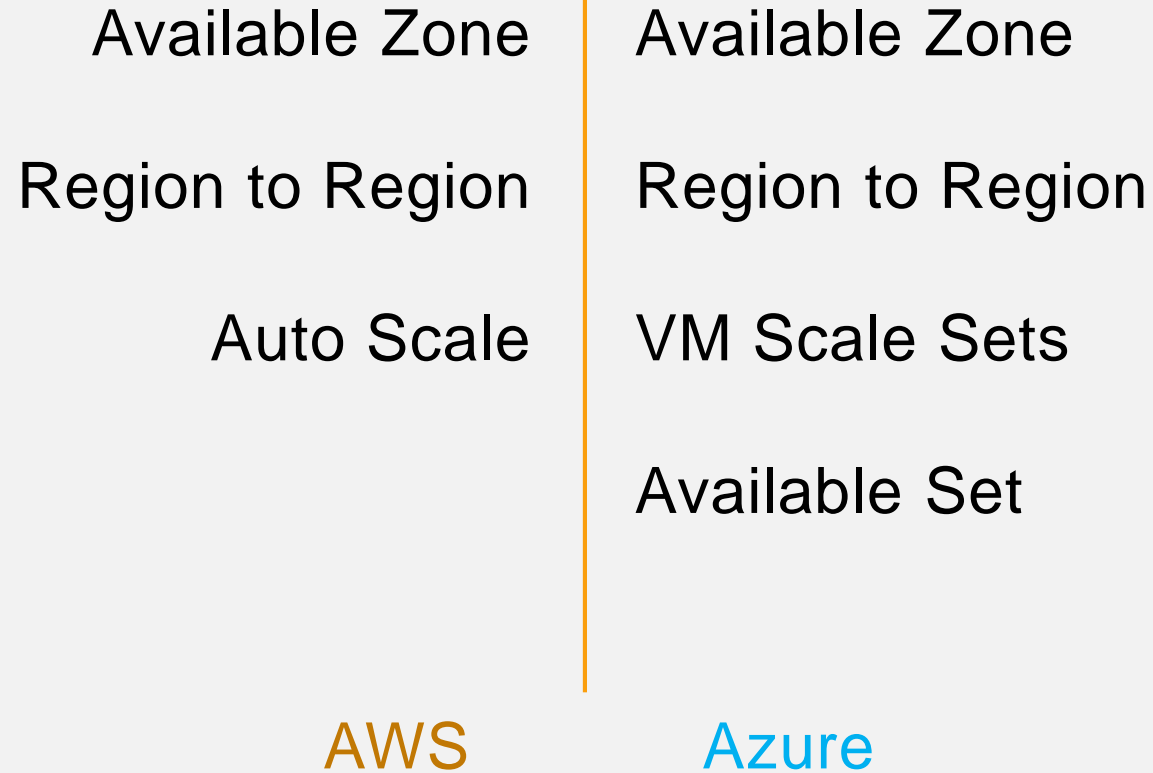- AWS DISASTER RECOVERY

- Azure Site Recovery

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AZ & Region

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Auto Scaling

EC2   ELB   Amazon EC2 Auto Scaling

VM Available

AWS	Azure
Available Zone	Available Zone
Region to Region	Region to Region
Auto Scale	VM Scale Sets
	Available Set

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HPC & Application Service

High Performance Compute

- **Big Compute** use raw computing power to perform complex computing task

- **Big Data** is about an entire data pipeline that includes data ingress, transform, storage, analysis and presentation

AWS Batch、 Place Group、 EMR & Azure Batch、 HDInsight

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APP Service

- Deploy and manage application without infrastructure and runtime

- Support multiple language

- Window and Linux Solution

- Auto deployment and scaling

- Web Apps ,API Apps , Mobile Apps

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App Services

- **AWS Elastic Beanstalk**

- **Best for developers**

- **Azure Application Service**
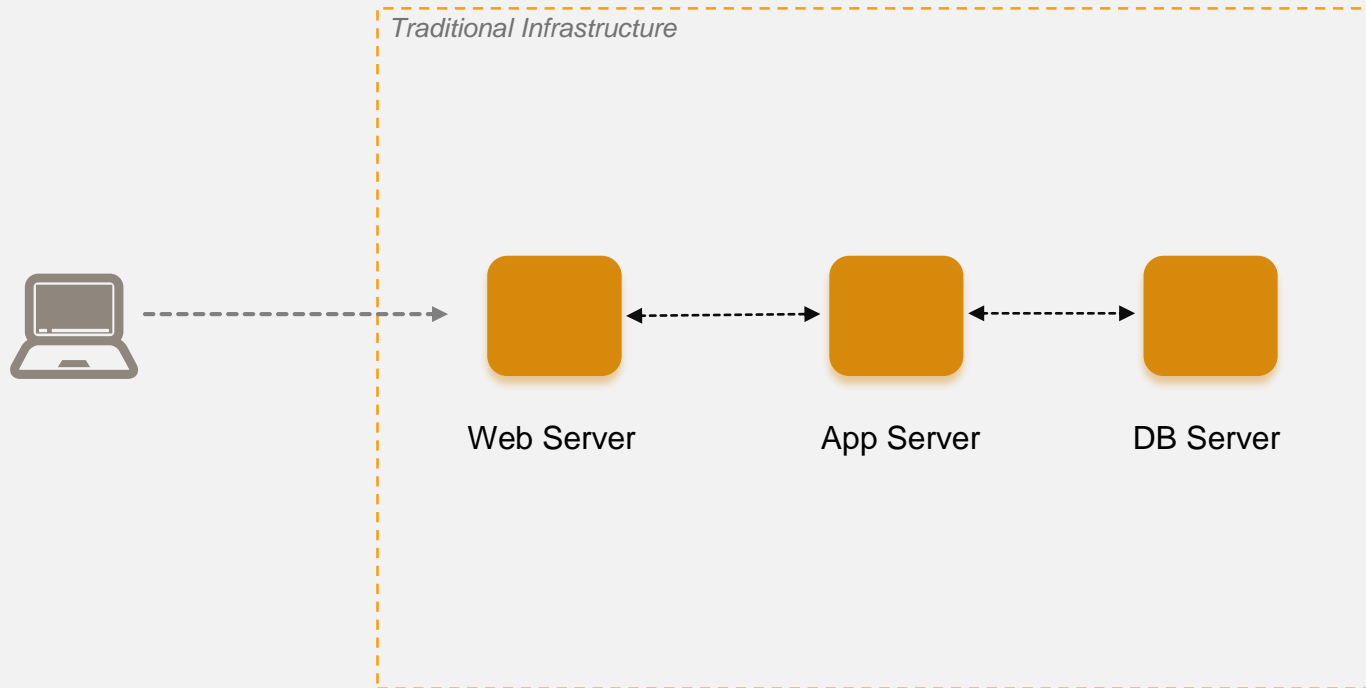
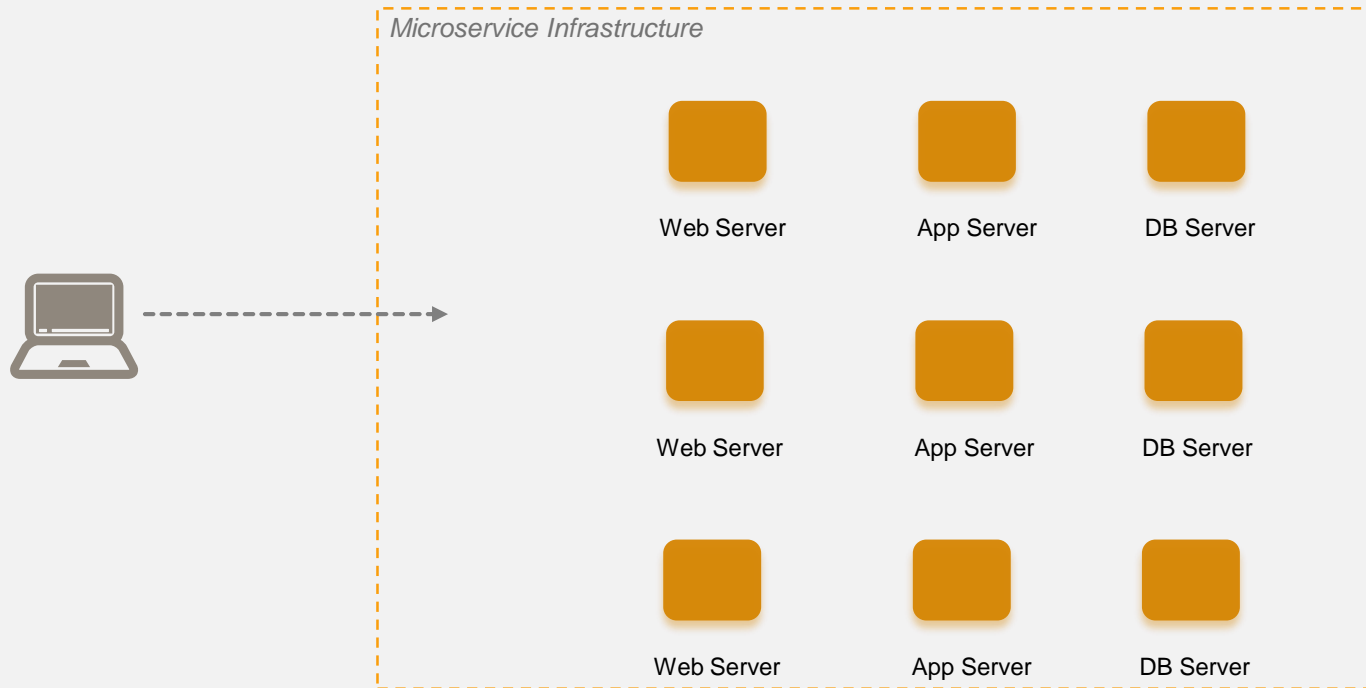- **App Service Plan**

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Microservice

Microservice:

a software development technique —a variant of the service-oriented architecture (SOA) structural style that arranges an application as a collection of loosely coupled services

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Application Architecture

Traditional Infrastructure

Web Server　　　　App Server　　　　DB Server

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Application Architecture

Microservice Infrastructure

Web Server   App Server   DB Server

Web Server   App Server   DB Server

Web Server   App Server   DB Server

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How it work

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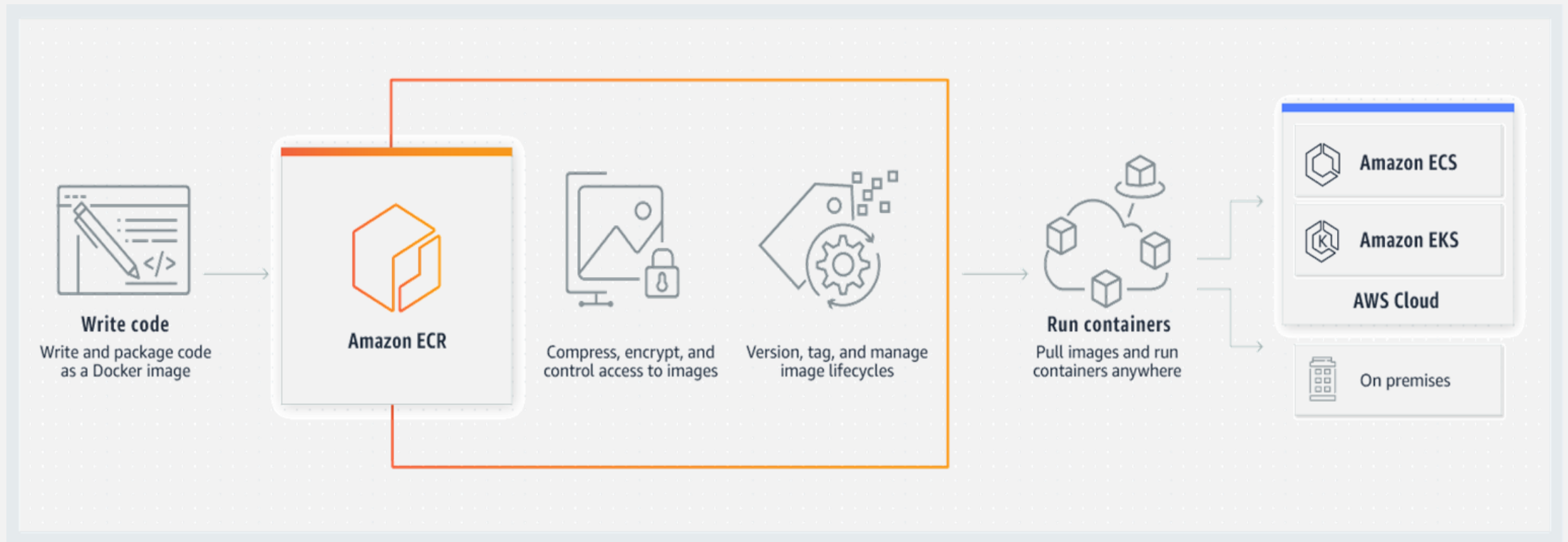
Docker Compose

Dockerfile

```
FROM alpine:latest
MAINTAINER Paul Mao <paul.mao@citrix.com>

ENV TERM=xterm

RUN apk update && \
    apk add freeradius tcpdump

ADD scripts/users /etc/raddb/users
ADD scripts/clients.conf /etc/raddb/clients.conf

ADD scripts/entrypoint.sh /usr/bin/entrypoint.sh
RUN chmod +x /usr/bin/entrypoint.sh

EXPOSE 1812 1813

ENTRYPOINT ["entrypoint.sh"]
```

Docker-compose

```
version: '2'
networks:
  front-tier:
    driver: bridge
  back-tier:
    driver: bridge
services:
  web:
    image: paulmao1/paul:web
    container_name: web
    hostname: webserver
    ports:
      - 80:80
    networks:
      - front-tier
      - back-tier
    links:
      - app
      - db
    environment:
      - APPSERVER=http://app:8080
      - DBSERVER=db
    depends_on:
      - app
  app:
    image: paulmao1/paul:app
    container_name: app
    hostname: appserver
    networks:
      - back-tier
    links:
      - db
    environment:
      - DBSERVER=db
    depends_on:
      - db
  db:
    image: paulmao1/paul:db
    container_name: db
    hostname: database
    networks:
      - back-tier
```

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- Build your docker

- Compose your docker

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Container

Elastic Container Service

Elastic Kubernetes Service

EC2 Container Registry

Azure Container Service

Azure Service Fabric

Azure Kubernetes Service

Azure Container Registry
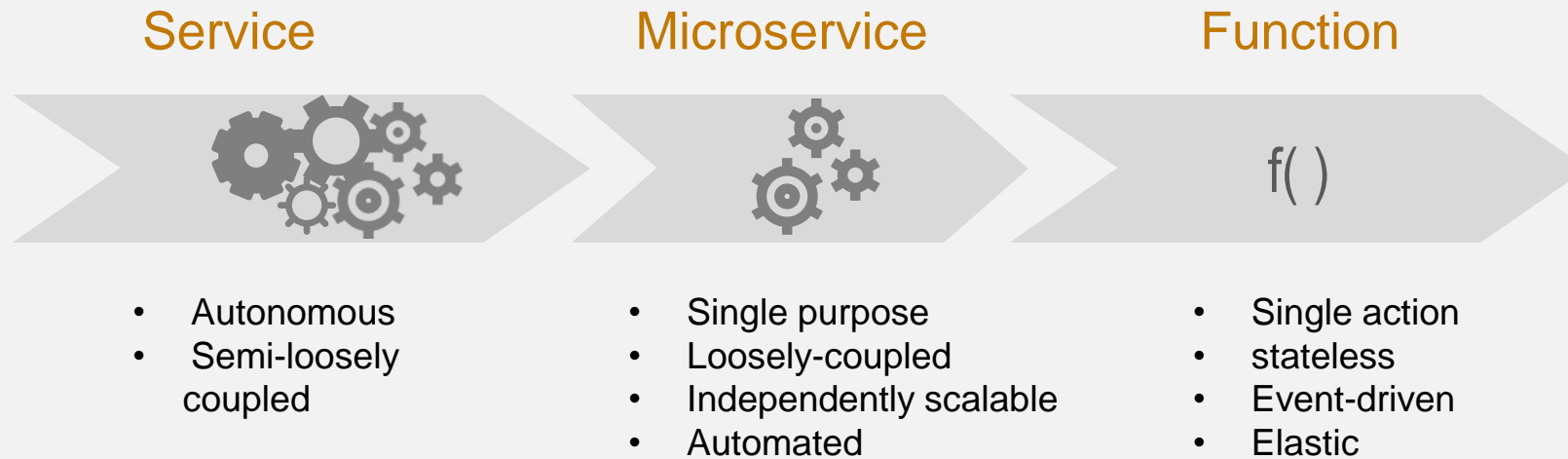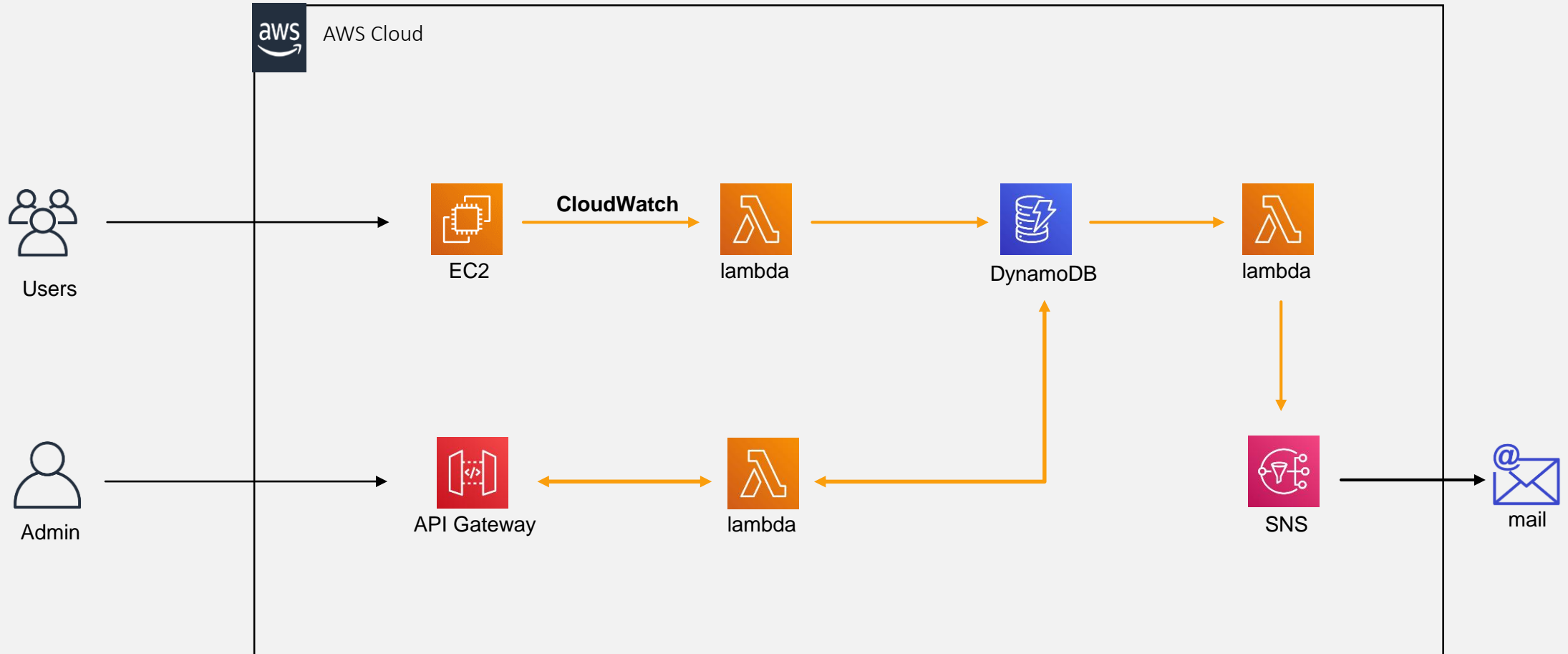
AWS

Azure

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Serverless

Serverless:

a cloud-computing execution model in which

the cloud provider runs the server, and dynamically

manages the allocation of machine resources.

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Service History

Service	Microservice	Function
		f( )

Service
- Autonomous
- Semi-loosely coupled

Microservice
- Single purpose
- Loosely-coupled
- Independently scalable
- Automated

Function
- Single action
- stateless
- Event-driven
- Elastic

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EC2 Track Scenario

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Serverless

AWS lambda | Azure Function

Simple Workflow Service | Azure Logic Apps

AWS | Azure

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Compute History

1977
Personal Computer

2006
AWS EC2/S3

2013
Docker

2005
VMware OS virtualization

2014
AWS Lambda

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Group Discussion

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