

About This Class

- You will have access to the recording within 24 hours of the completion of this course.
- To get the most out of this course, please do not follow along in your AWS account during the live class.
- Please do your best to eliminate distractions as the lessons build upon each other.
- Make a goal and write it down! For example, complete all the demos in your own AWS account within 1 week.

Route 53 Concepts Overview

- Route 53 concepts and basics
- Purchase a Domain
- Register a Domain with Route 53
- Configure the Route 53 simple routing policy
- Configure the Route 53 weighted routing policy
- Configure the Route 53 latency-based routing policy
- Configure the Route 53 failover routing policy
- Configure the Route 53 geolocation routing policy

Route 53

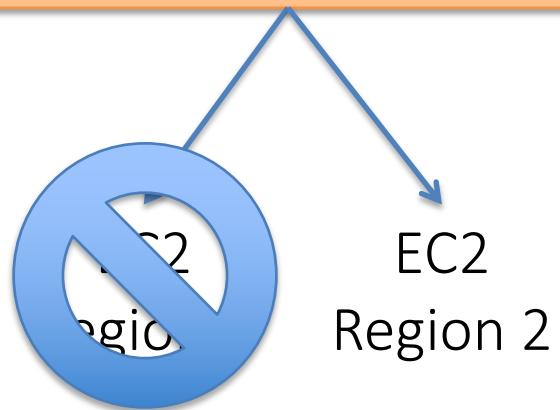
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162.241.225.36

On-Premise Web Server EC2

Route 53 Heath Checks

Route 53



Poll Slide

- How does Route 53 detect the failure of a resource?
- By receiving heartbeats originating from the resources
- By sending periodic health checks
- By making API calls

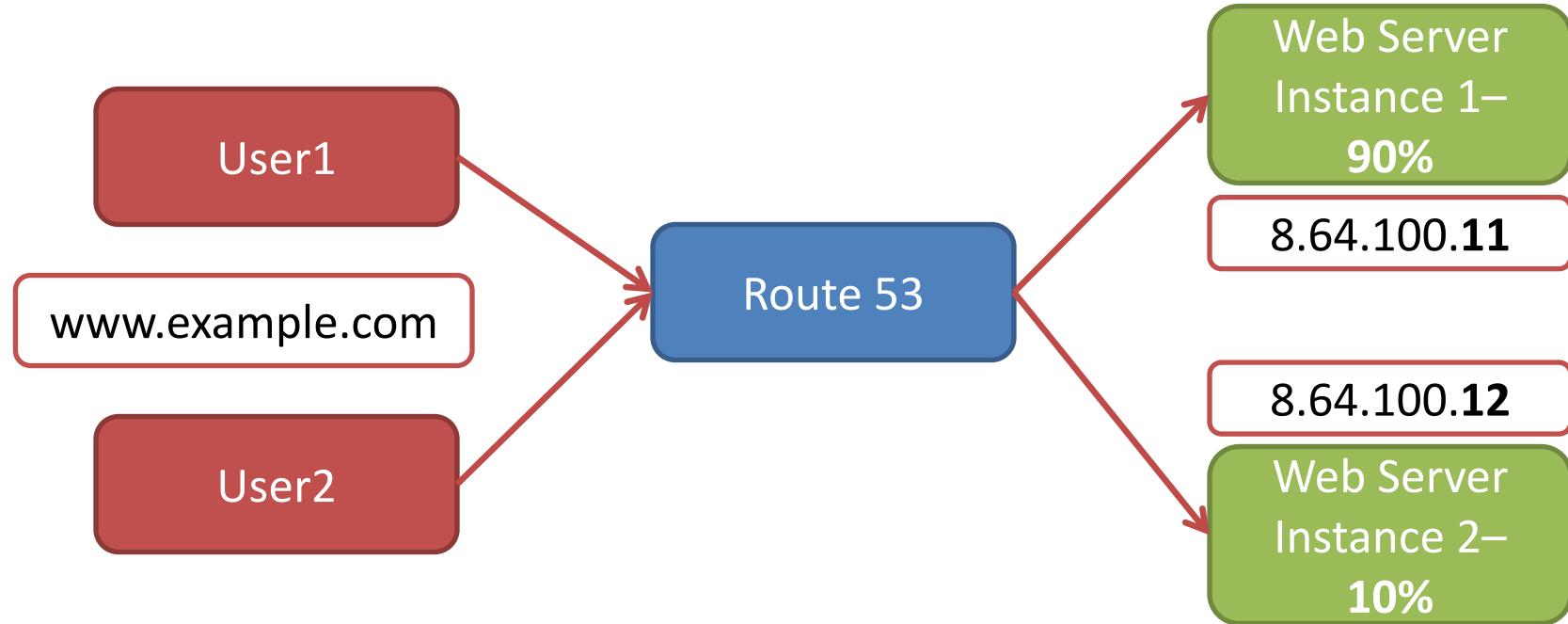
Route 53 Simple Routing (A Record)



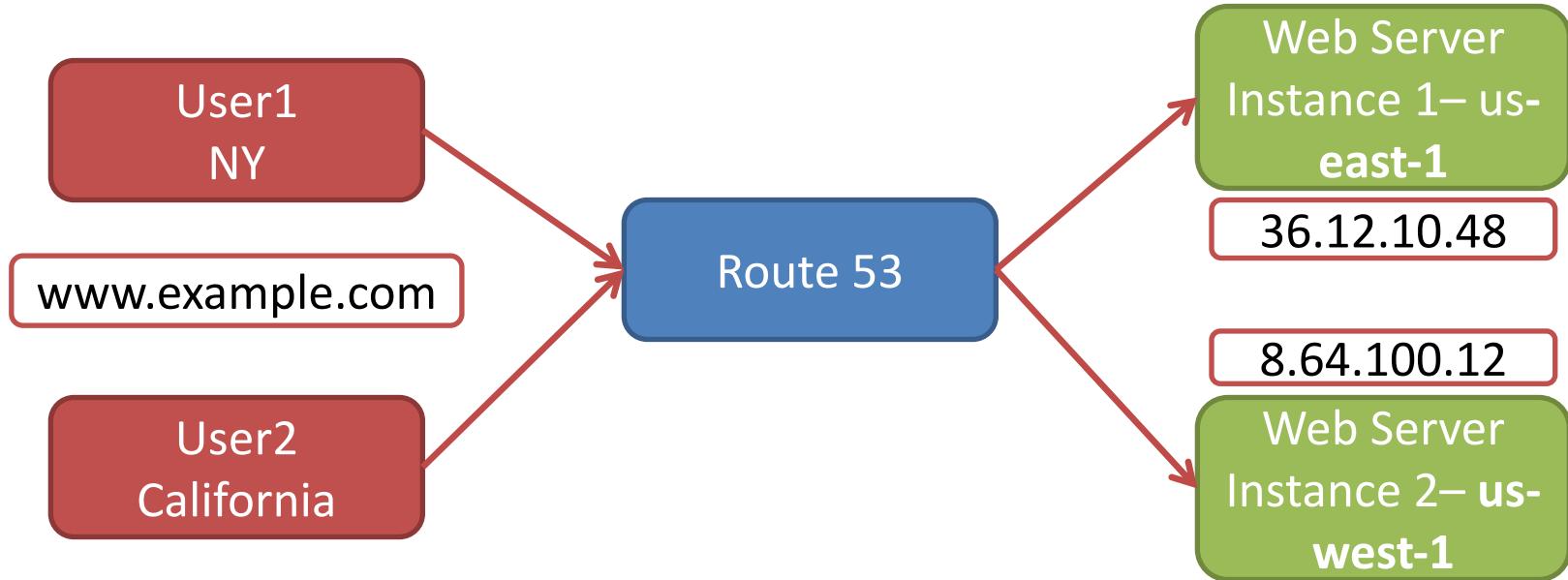
Poll Slide

- What type of DNS record resolves an FQDN to an IPv4 address?
- AAAA record
- A record
- CNAME record
- Alias record

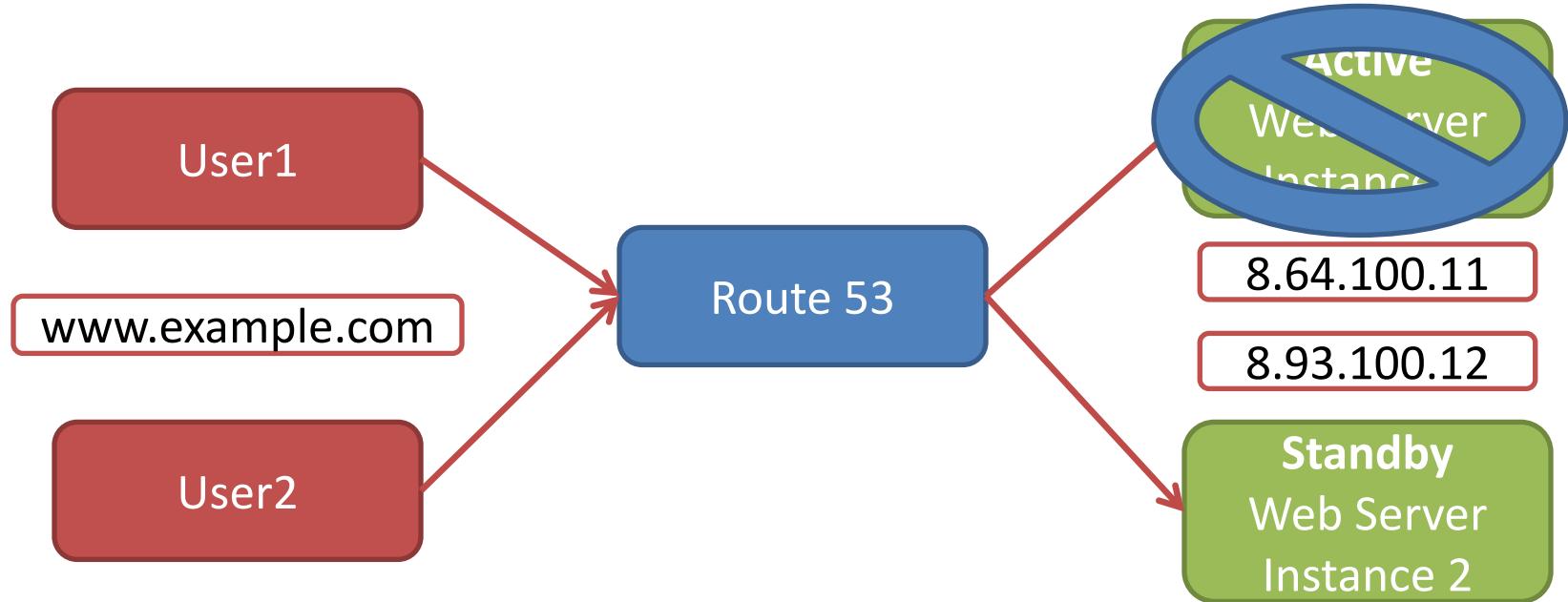
Route 53 Weighted Routing



Route 53 Latency Routing



Route 53 Failover Routing



Route 53 Geolocation Routing



Poll Slide

- Which type of Route 53 routing policy sends traffic to multiple resources based on percentages you define?
- Failover Routing
- Weighted Routing
- Simple Routing
- Latency-based Routing

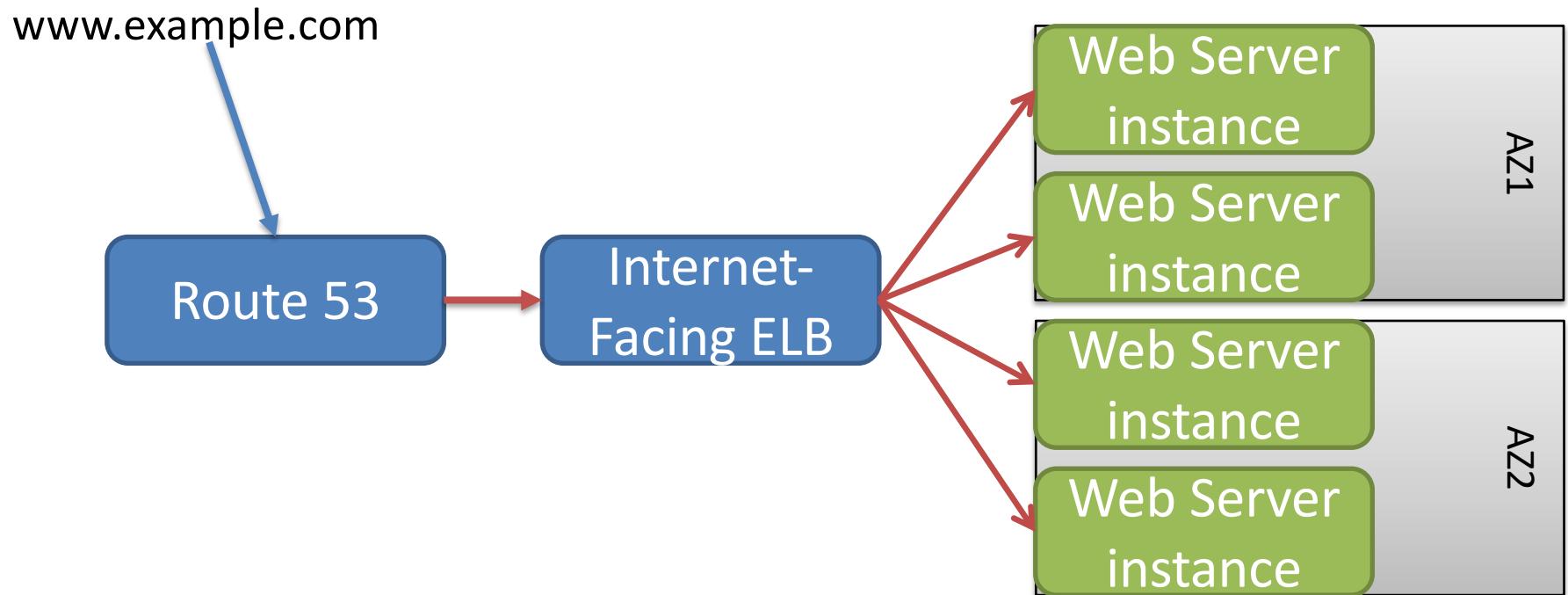
Poll Slide

- Which type of Route 53 routing policy sends traffic to different websites depending on the location of the user?
- Failover Routing
- Weighted Routing
- Geolocation Routing
- Latency-based Routing

High Availability and Disaster Recovery

- Route 53 and an Elastic Load Balancer
- Use Route 53 to establish high availability across AWS regions
- Route 53 with a Pilot Light Disaster Recovery design
- Route 53 with a Warm Standby Disaster Recovery design
- Route 53 with a Full-Capacity Standby Disaster Recovery design
- Understand Route 53 DDoS mitigation

Route 53 Alias Record and ELB

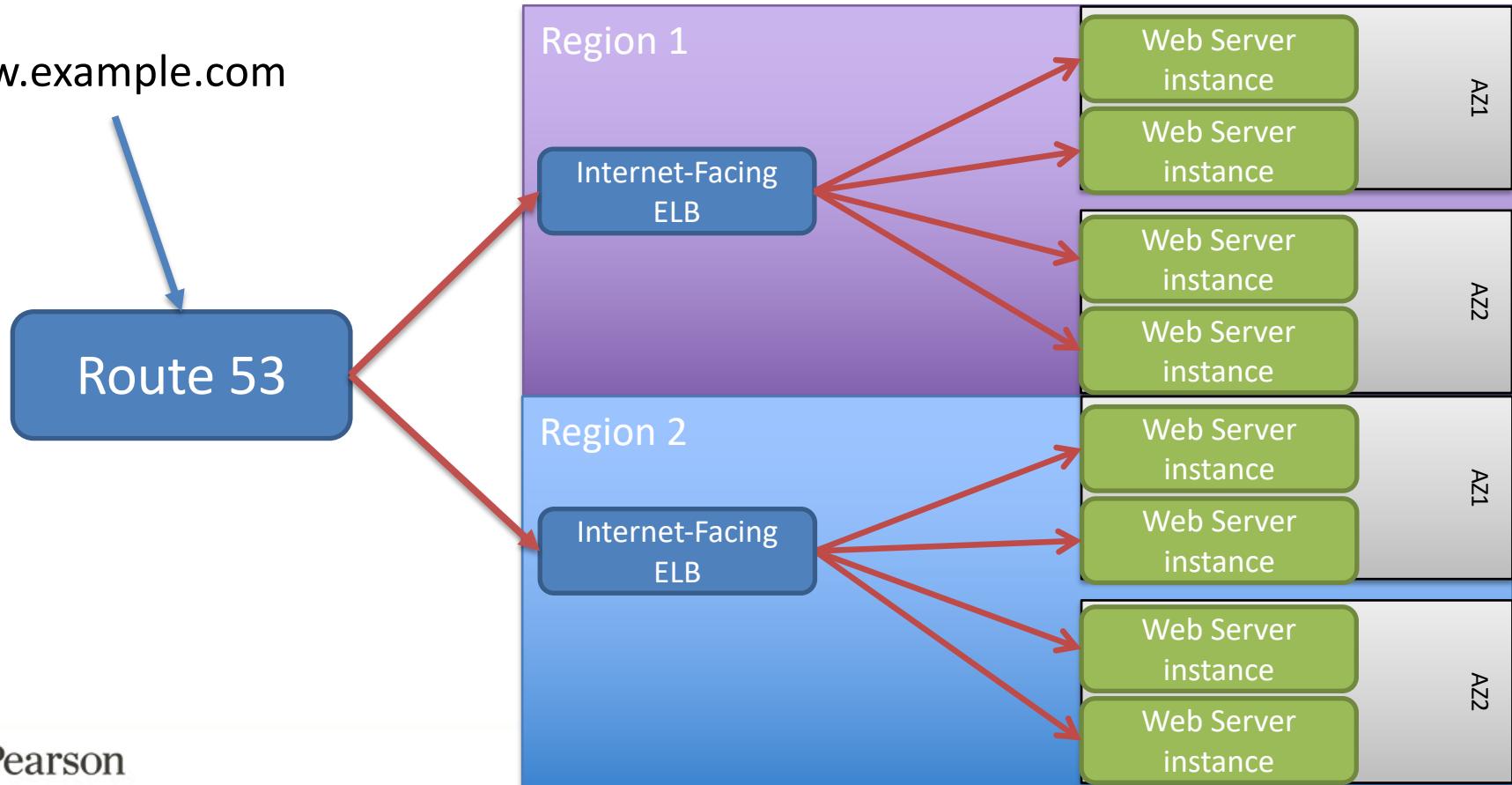


Poll Slide

- What type of DNS record resolves an FQDN to the DNS name of a Network Load Balancer?
- AAAA record
- A record
- CNAME record
- Alias record

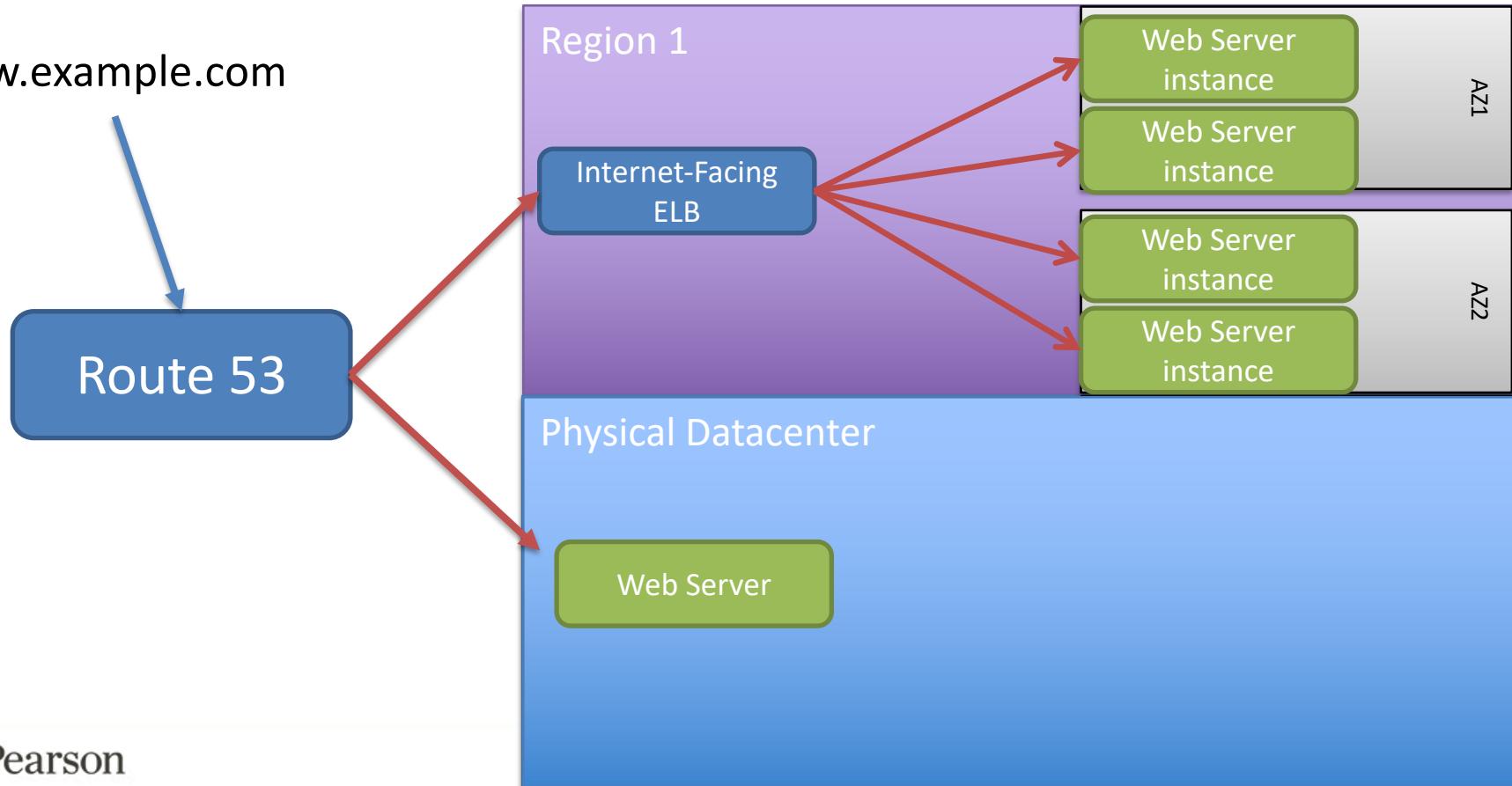
Route 53 Availability Across Regions

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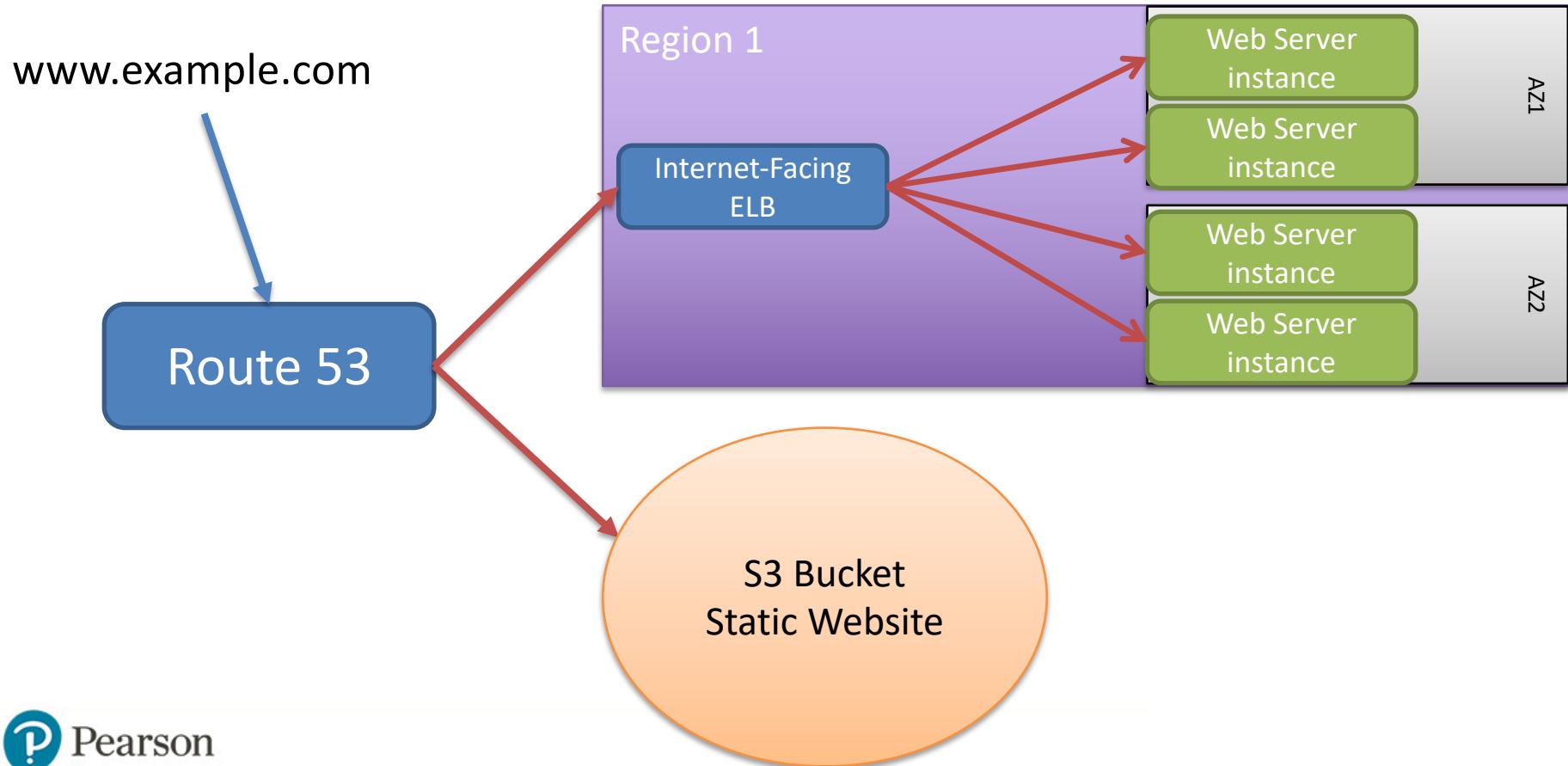


Route 53 Availability Across Regions

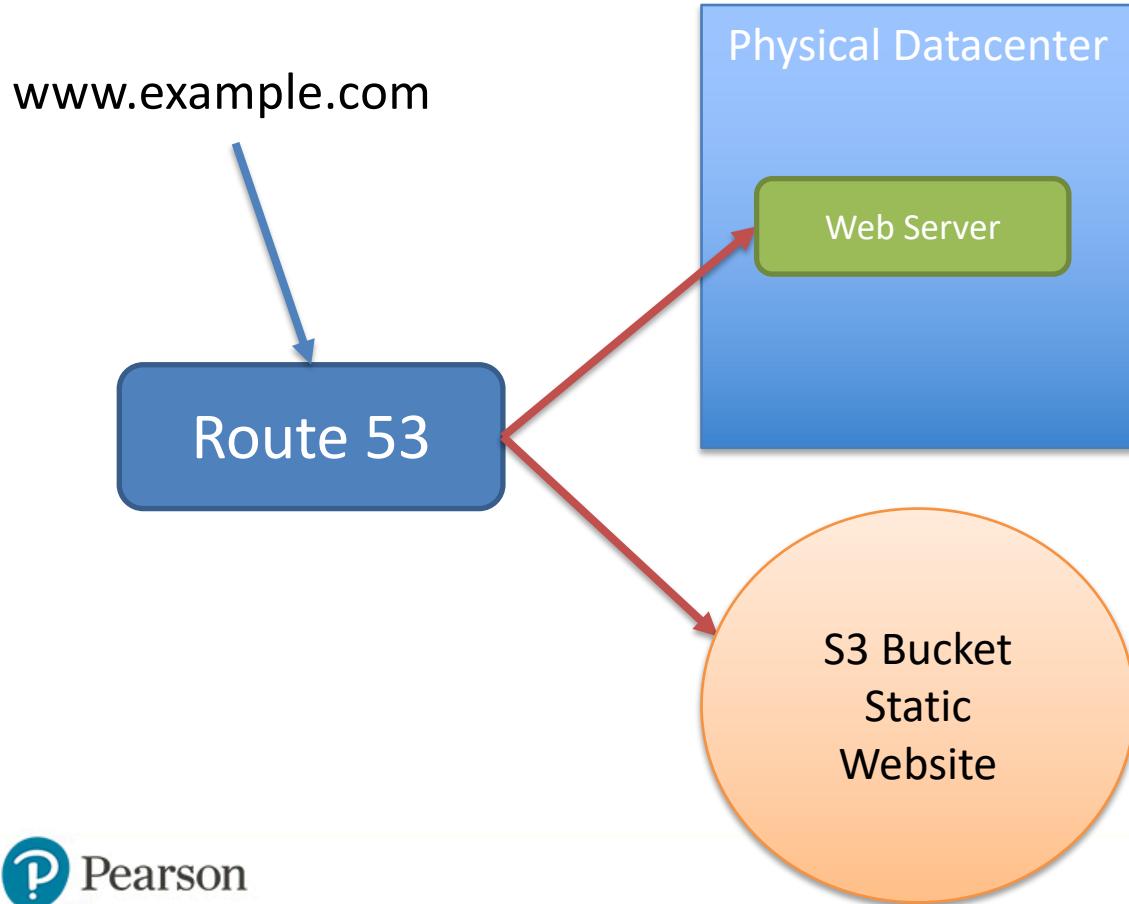
www.example.com



Route 53 Availability Across Regions



Route 53 Availability Across Regions



Poll Slide

- Which AWS product is ideal for creating high availability across AZs within a region?
- Route 53
- DRS
- ELB
- Auto-Recovery

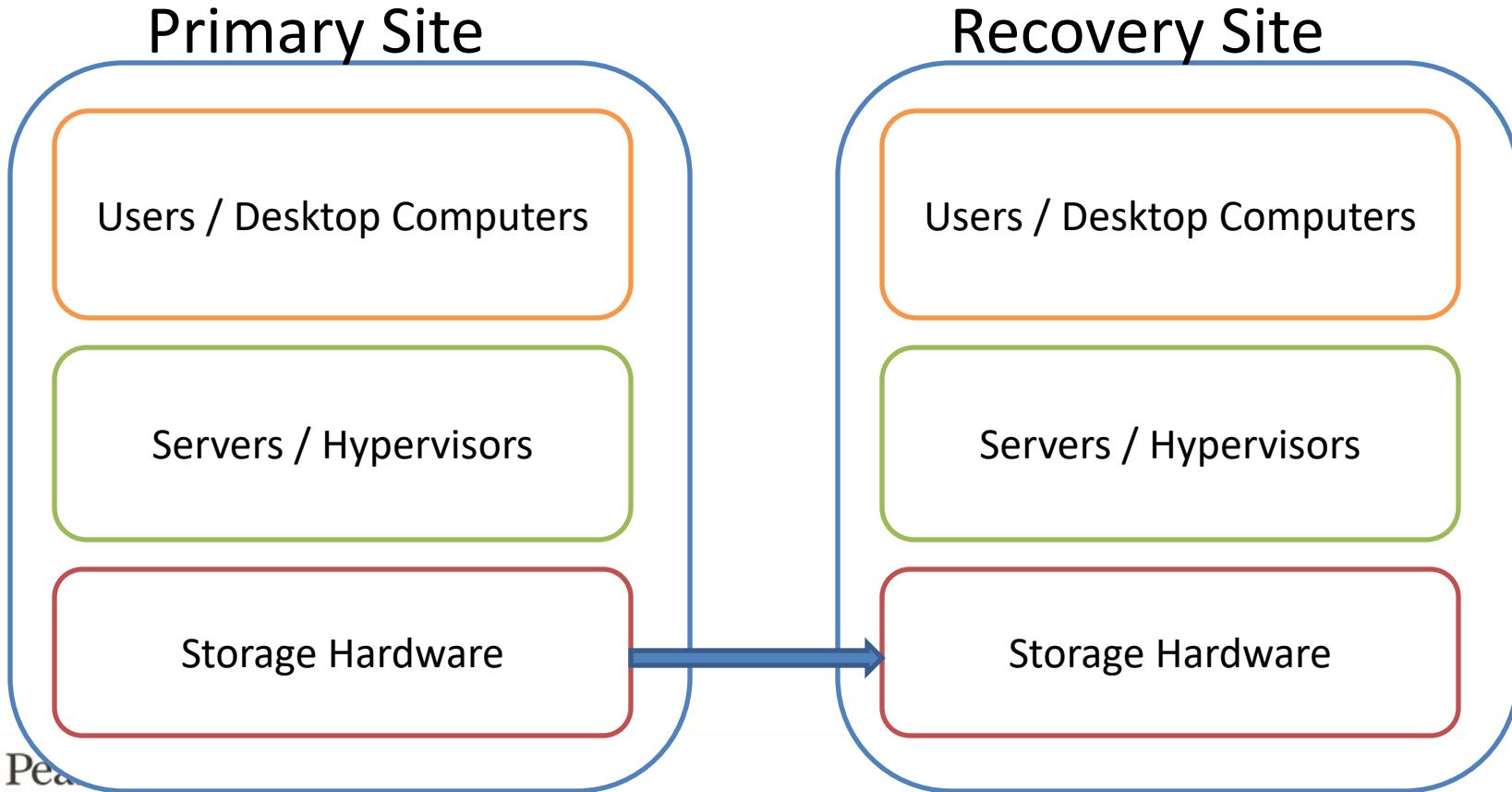
Poll Slide

- How is Route 53 failover different than an Elastic Load balancer health check? (Choose two.)
- Route 53 can failover from one region to another
- Route 53 can failover from one AZ to another
- Route 53 can failover from on-prem to the cloud, and vice-versa
- Route 53 cannot detect failures on-prem

RTO and RPO

- Recovery Time Objective (RTO)
- How soon do we need to be back up?
- Recovery Point Objective (RPO)
- How much data loss is acceptable?

Traditional Disaster Recovery



Poll Slide

- When measuring acceptable data loss, which term is applicable?
- RPO
- RTO

Backup and Restore

Primary Site

AWS

DR PLAN MUST

BE TESTED

REGULARLY!

Pilot Light

Primary Site

Web Server

App Server

Database

Route 53

Web Server

Web AMI

App Server

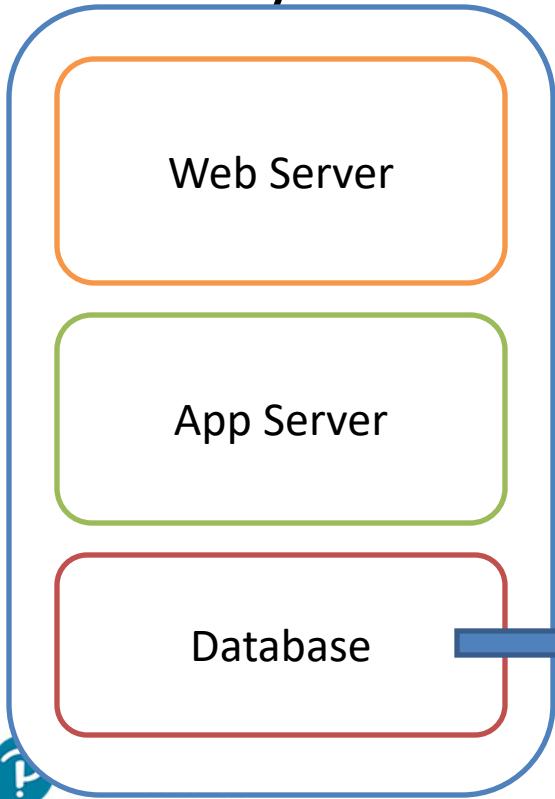
App AMI

Database

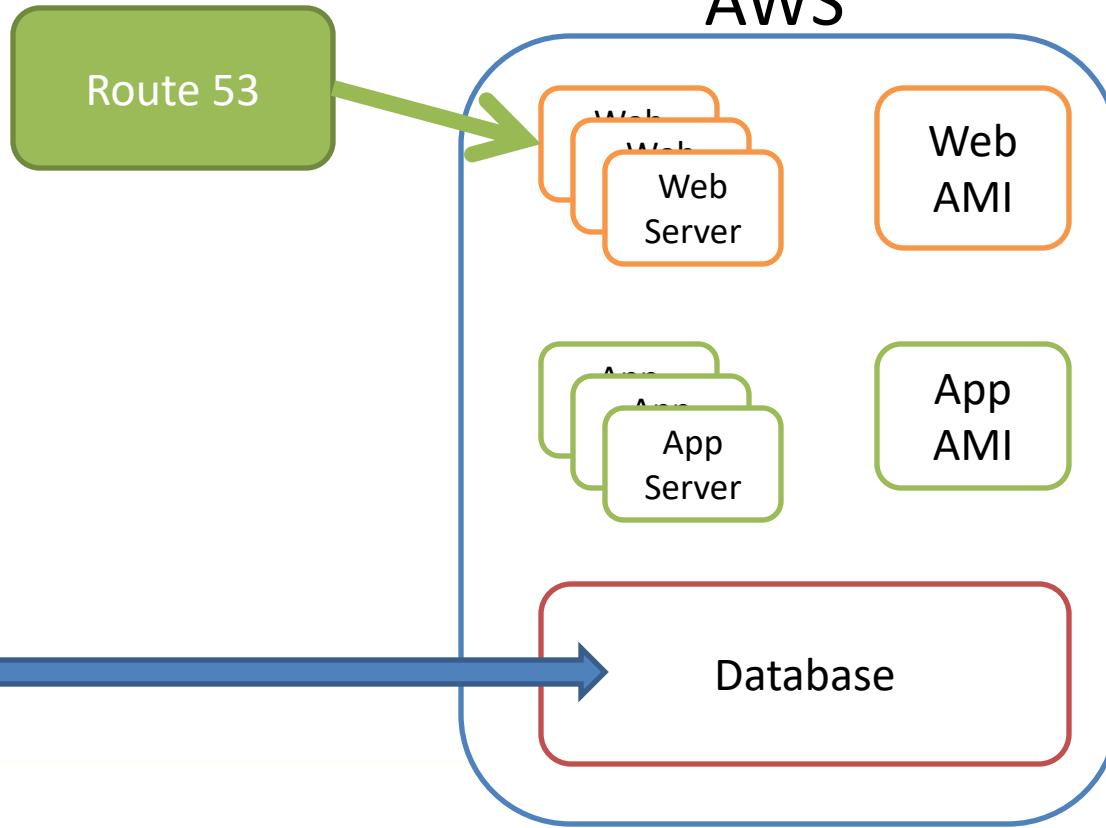


Warm Standby

Primary Site

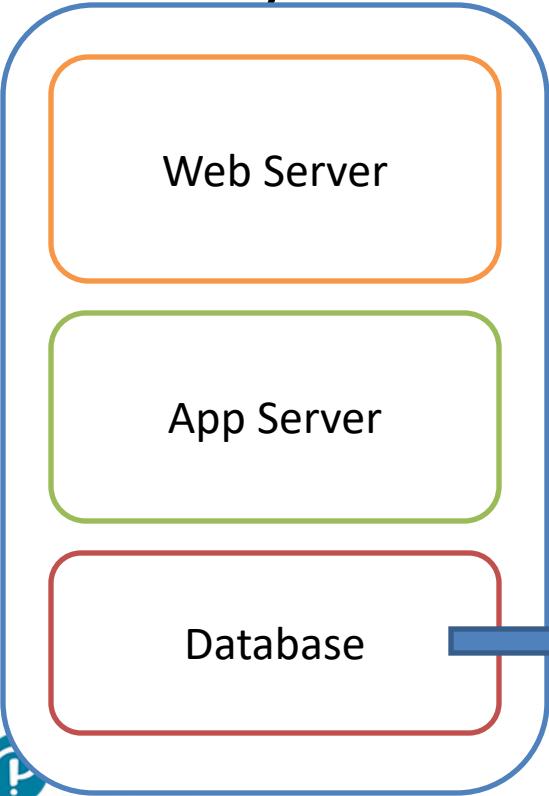


AWS



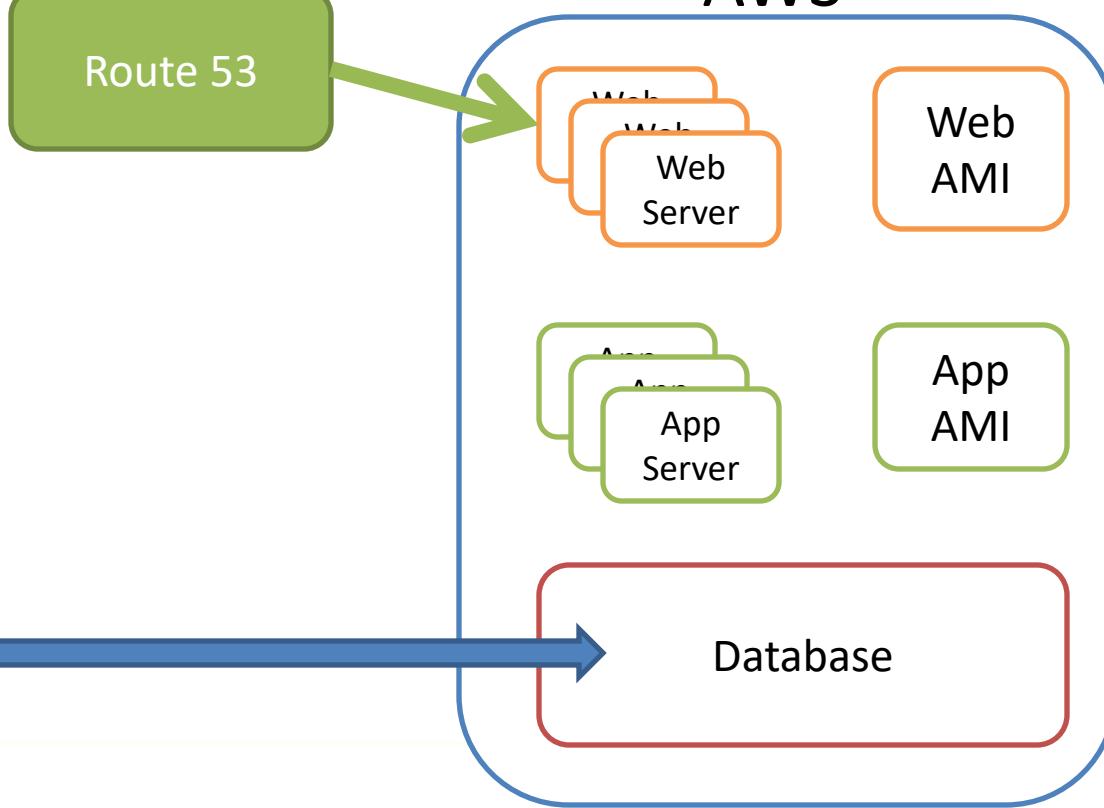
Full Capacity Standby / Multisite

Primary Site

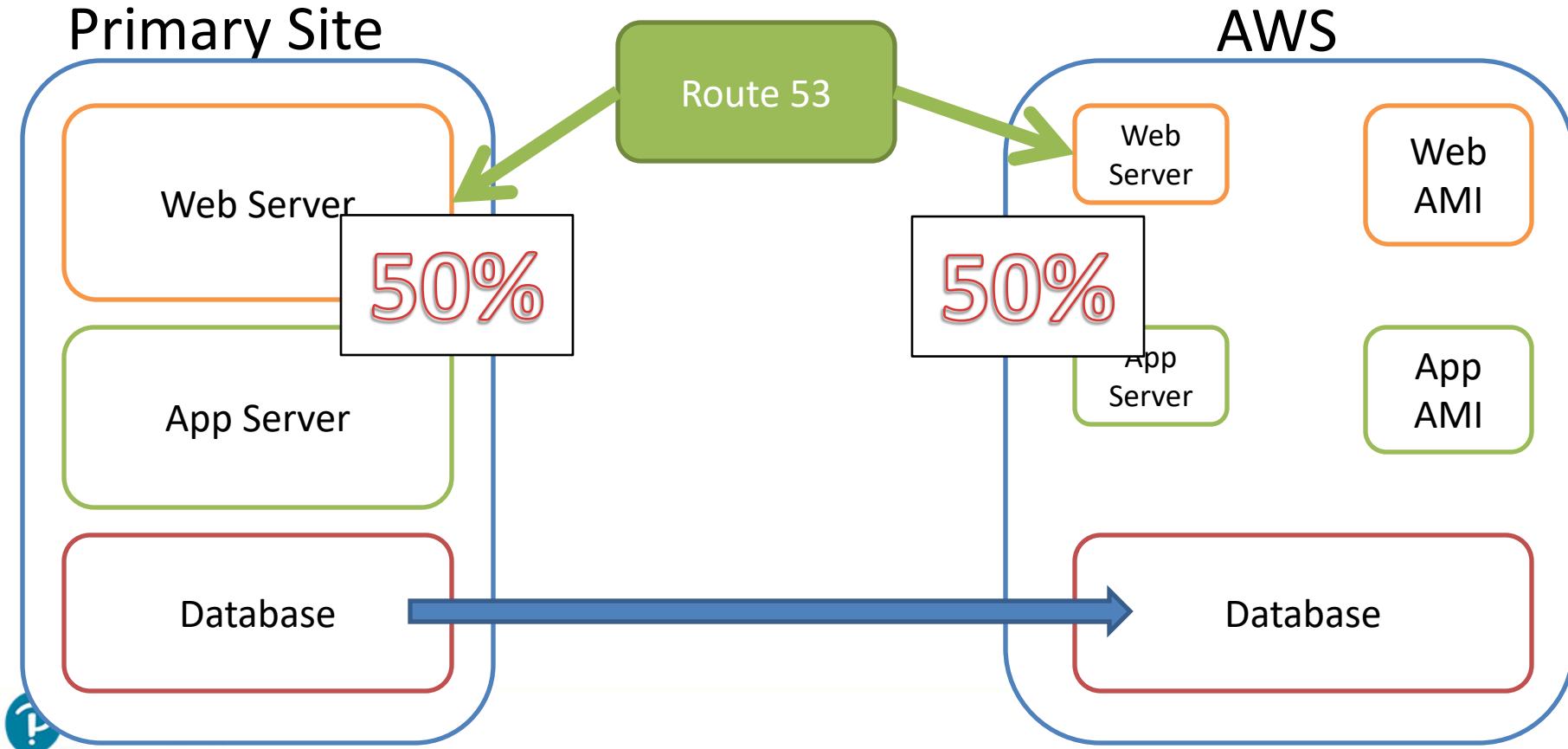


Route 53

AWS



Route 53 Weighted Routing



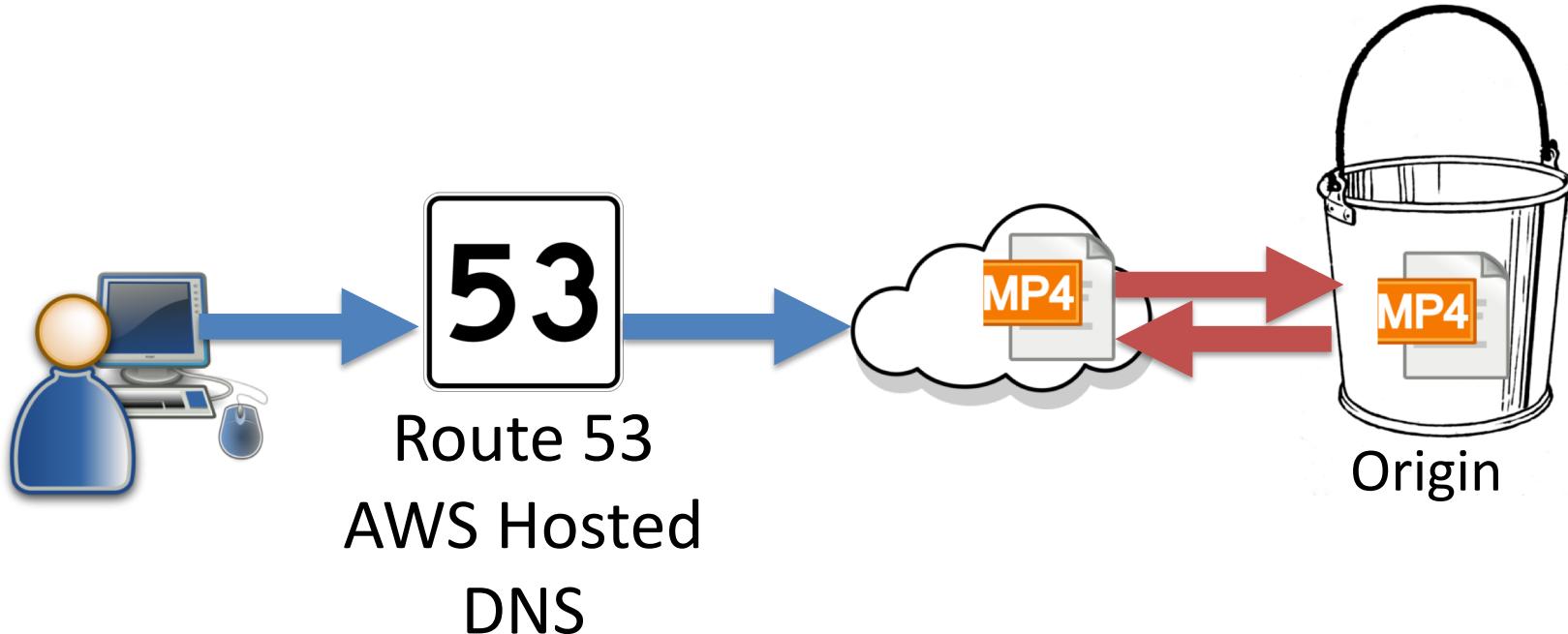
Poll Slide

- Which DR design is the most expensive?
- Warm standby
- Pilot light
- Full-capacity standby
- Backup and restore

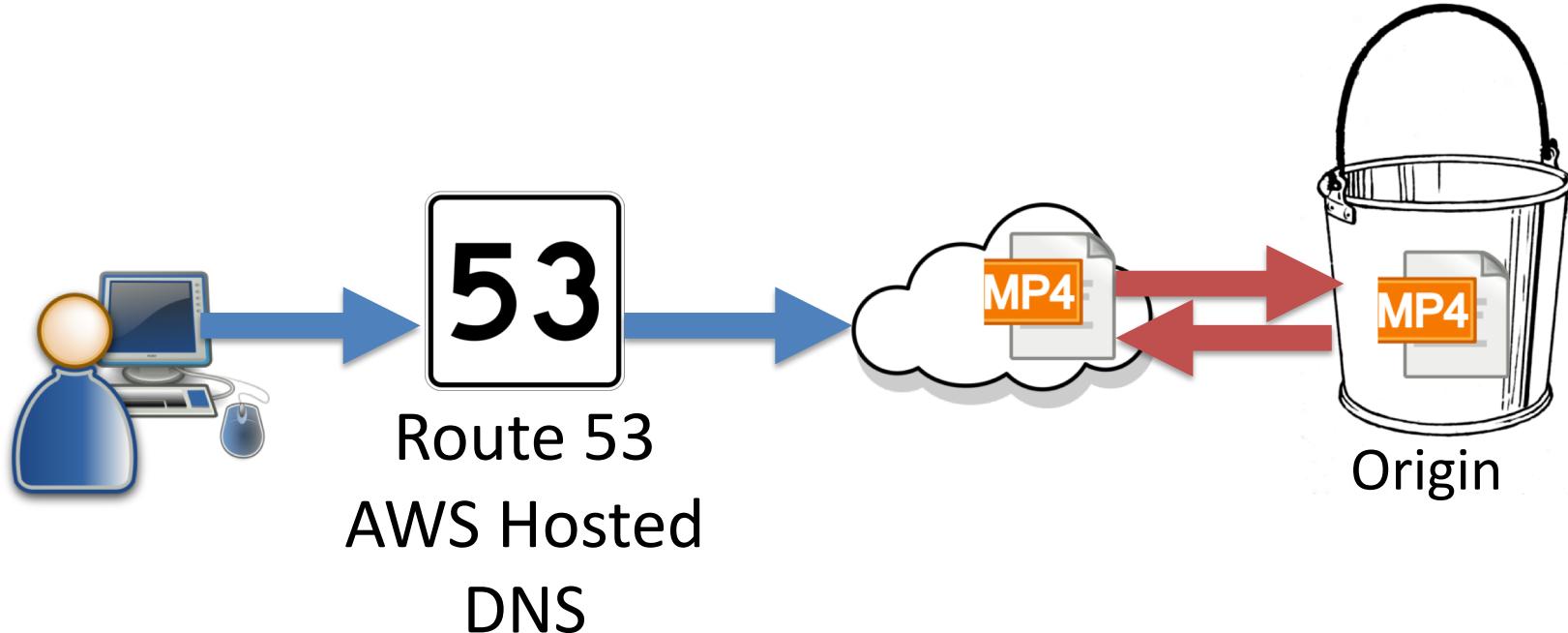
CloudFront

- Create an S3 Origin
- Configure a CloudFront Distribution with S3 as an origin and verify proper operation
- Create a CloudFront Origin Access Identity (OAI) to secure the contents of the S3 origin
- Configure Route 53 to direct traffic for a domain to a CloudFront distribution
- CloudFront and DDoS mitigation
- Using the AWS Web Application Firewall (AWS WAF) with CloudFront

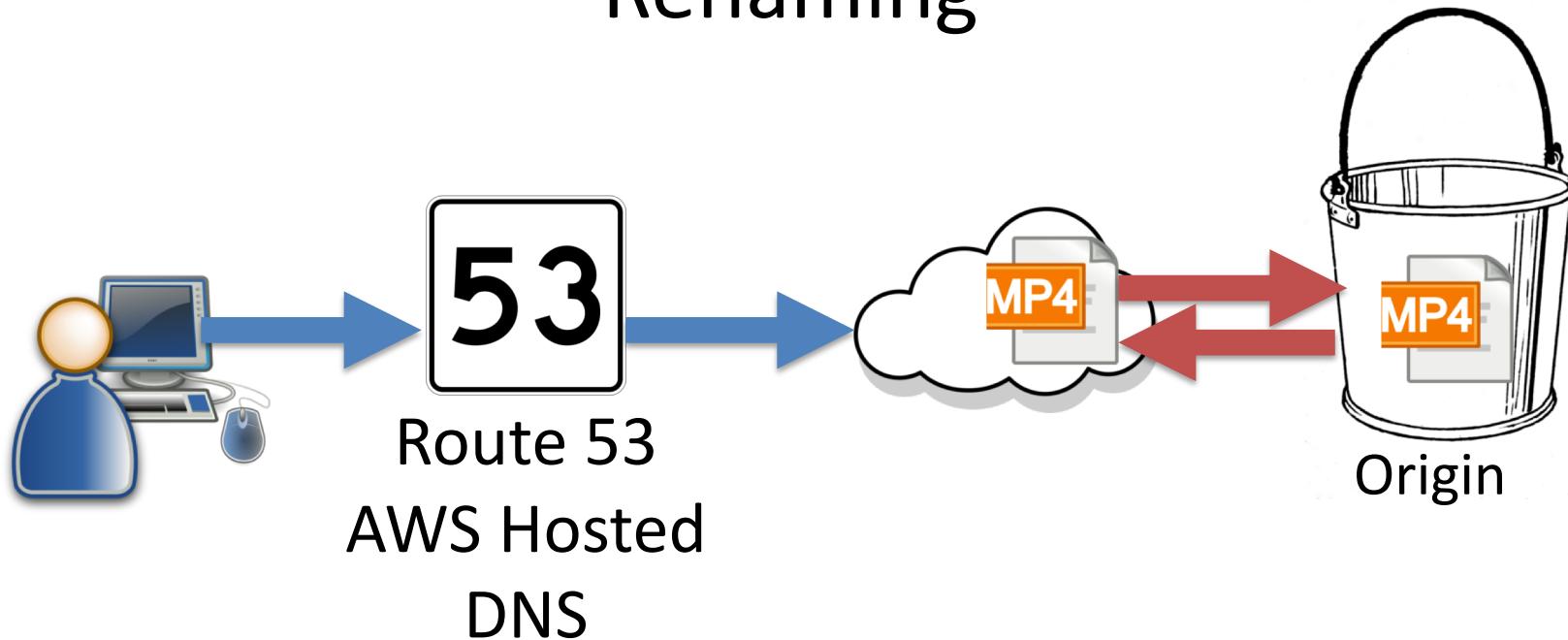
Route 53 and CloudFront



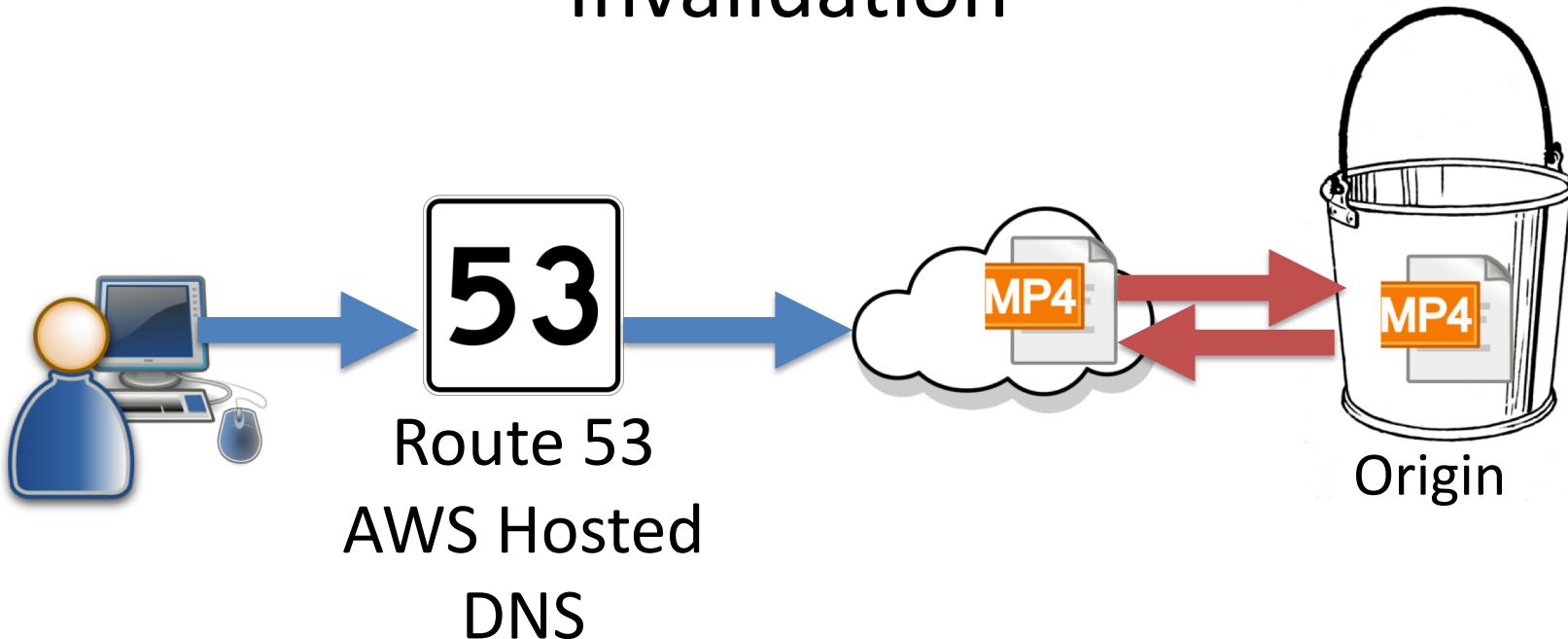
Removing Content from CloudFront using TTL



Removing Content from CloudFront using Renaming



Removing Content from CloudFront using Invalidation



Poll Slide

- What is the best way to eliminate old content from a CloudFront Distribution quickly?
- TTL
- Invalidation
- Rename the object

DDoS Attacks

- An attempt to make your website or application unavailable to users, such as by flooding it with network traffic
- Tie up bandwidth or other system resources
- Distributed Denial of Service comes from many sources
- Common at Layers 3,4,5,6,7 of the OSI model

AWS Shield

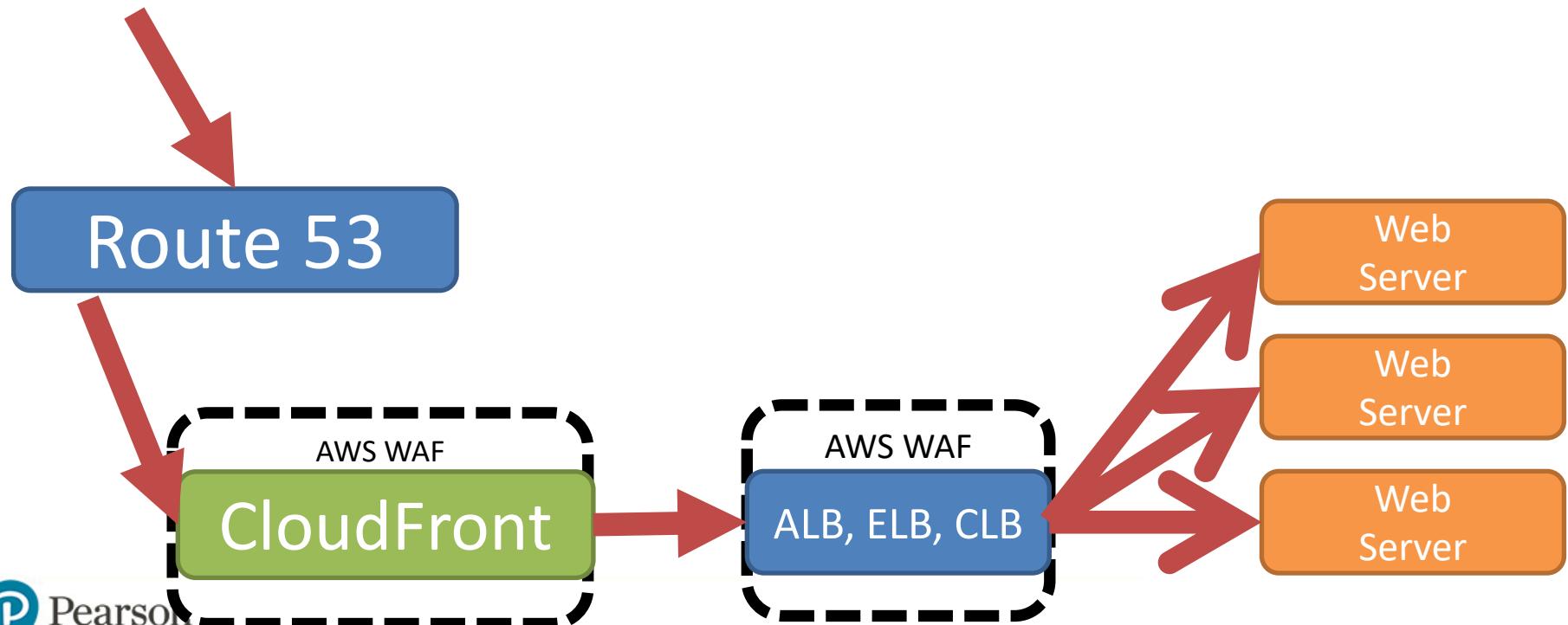
- Standard is free, Advanced is \$3000 per month (April 2020)
- Automatically baselines traffic, identifies anomalies, and, as necessary, creates mitigations
- Integrated into Route 53 and CloudFront

AWS WAF

- Monitor HTTP and HTTPS requests
- CloudFront, Application Load Balancer, or API Gateway
- Create security rules that block common attack patterns
- Create security rules that filter out specific traffic patterns you define
- Get started quickly using Managed Rules for AWS WAF
- Managed rules are automatically updated

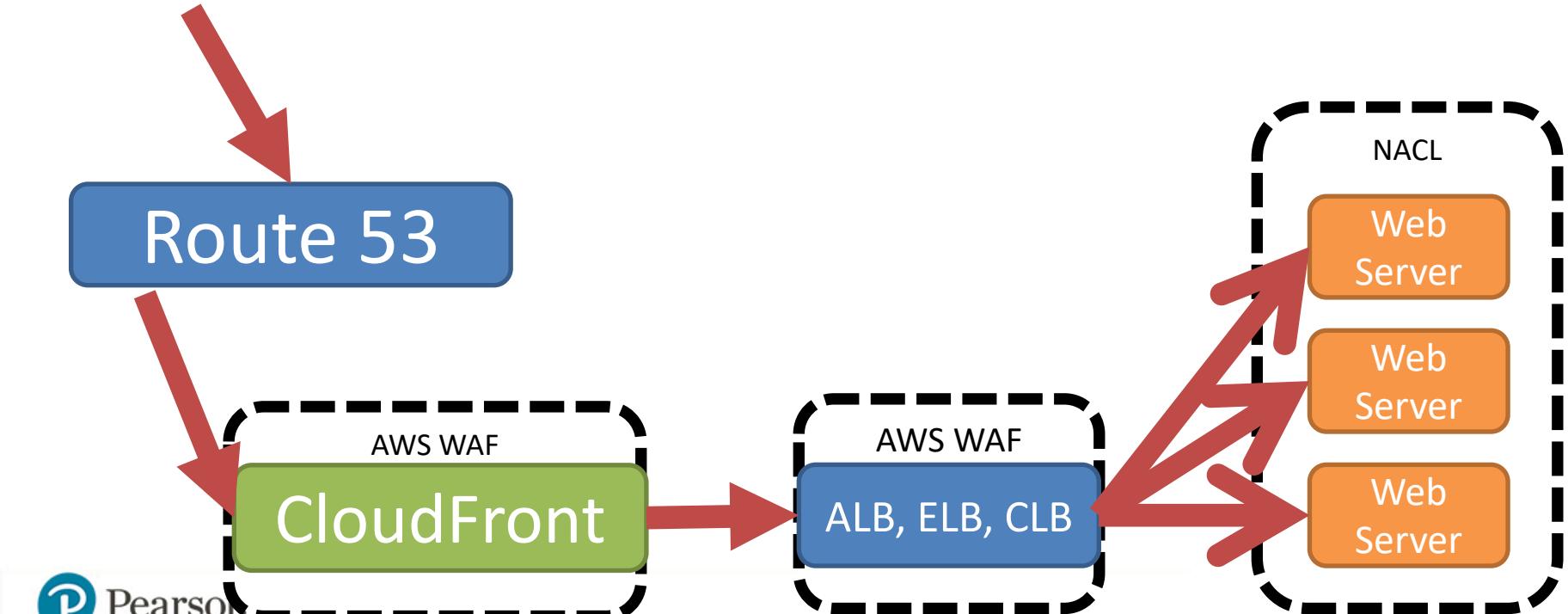
DDoS Mitigation

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