Cloud Computing Architecture

Routing Across Regions with Route 53

SWINBURNE UNIVERSITY OF TECHNOLOGY

Image licensed under creative commons

Routing Across Regions with Route 53

This presentation:

- High Availability between multiple regions
- Types of Routing
- Use this to achieve reliability

Images licensed under creative commons.

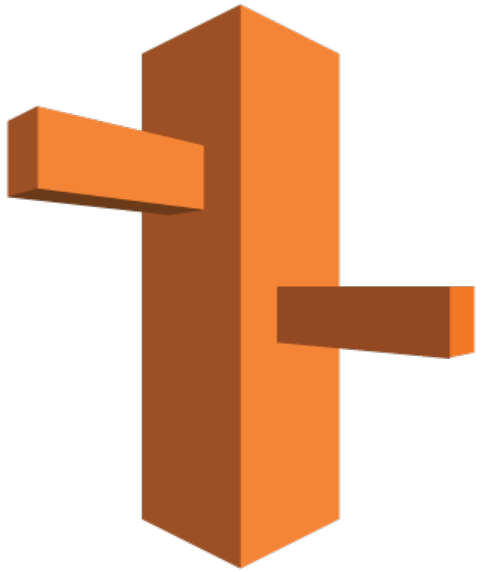
SWINBURNE UNIVERSITY OF TECHNOLOGY

Amazon Route 53

Amazon Route 53 is **an authoritative DNS service from AWS** with the following characteristics:

- DNS translates domain names (like www.amazon.com) into IP addresses.

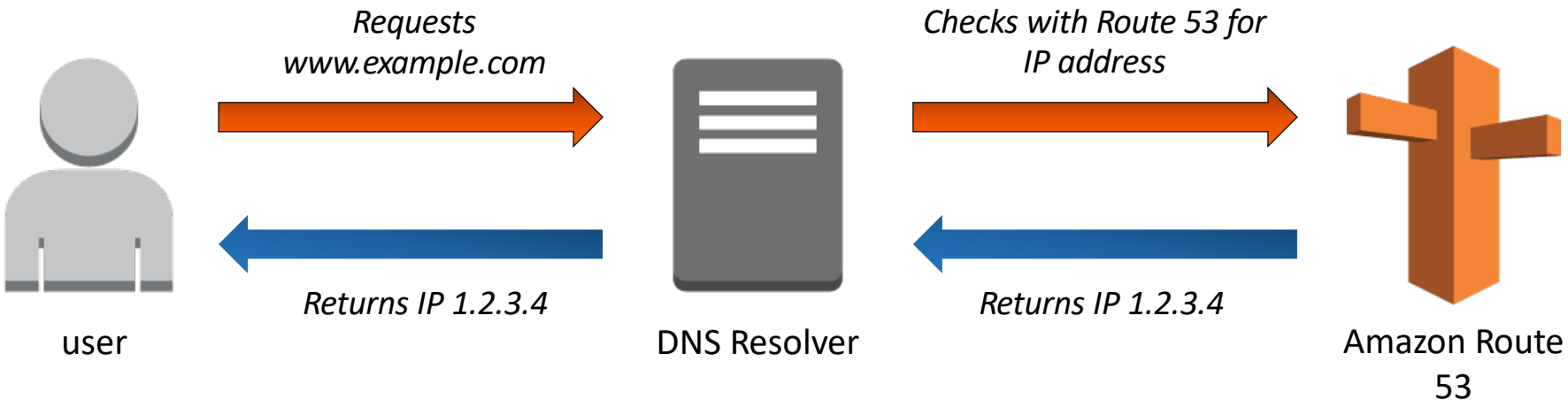
The name refers to the fact that DNS servers respond to queries on port 53.



Amazon Route 53

© 2018, Amazon Web Services, Inc. or its Affiliates. All rights reserved.

Amazon Route 53 DNS Resolution



© 2018, Amazon Web Services, Inc. or its Affiliates. All rights reserved.

Amazon Route 53

Reliable
- Redundant locations
- Backed with 100% Service Level Agreement (SLA)

Easy to Use
- Console
- Programmatic API
- Domain name management

Fast
- Worldwide anycast network
- Fast propagation of changes

Cost-Effective
- Inexpensive rates
- Pay-as-you-go model

Integrated with AWS
- ELB-Alias Queries
- Latency-based routing

Flexible
- Geolocation routing
- Weighted round robin
- Self-aliasing

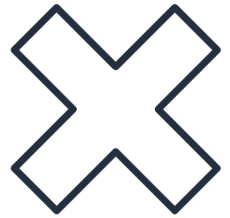
© 2018, Amazon Web Services, Inc. or its Affiliates. All rights reserved.

Route 53 routing policies

Simple

Weighted

Latency

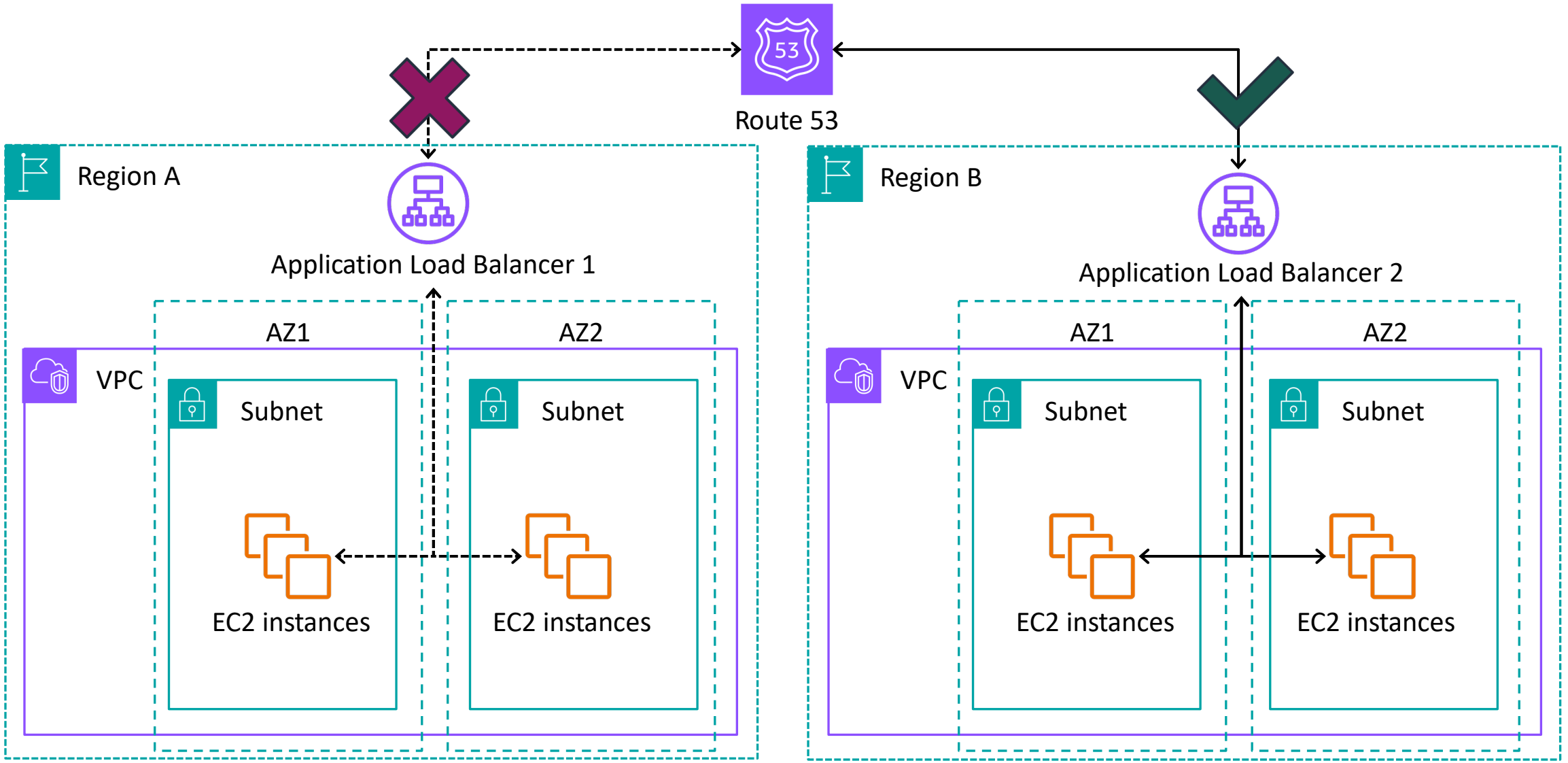


Failover

aws

©2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Multi-Region failover



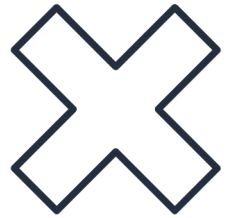
©2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Route 53 routing policies

Simple

Weighted

Latency



Failover

Geoproximity

Geolocation

Multivalue answer

IP-based

aws

©2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.

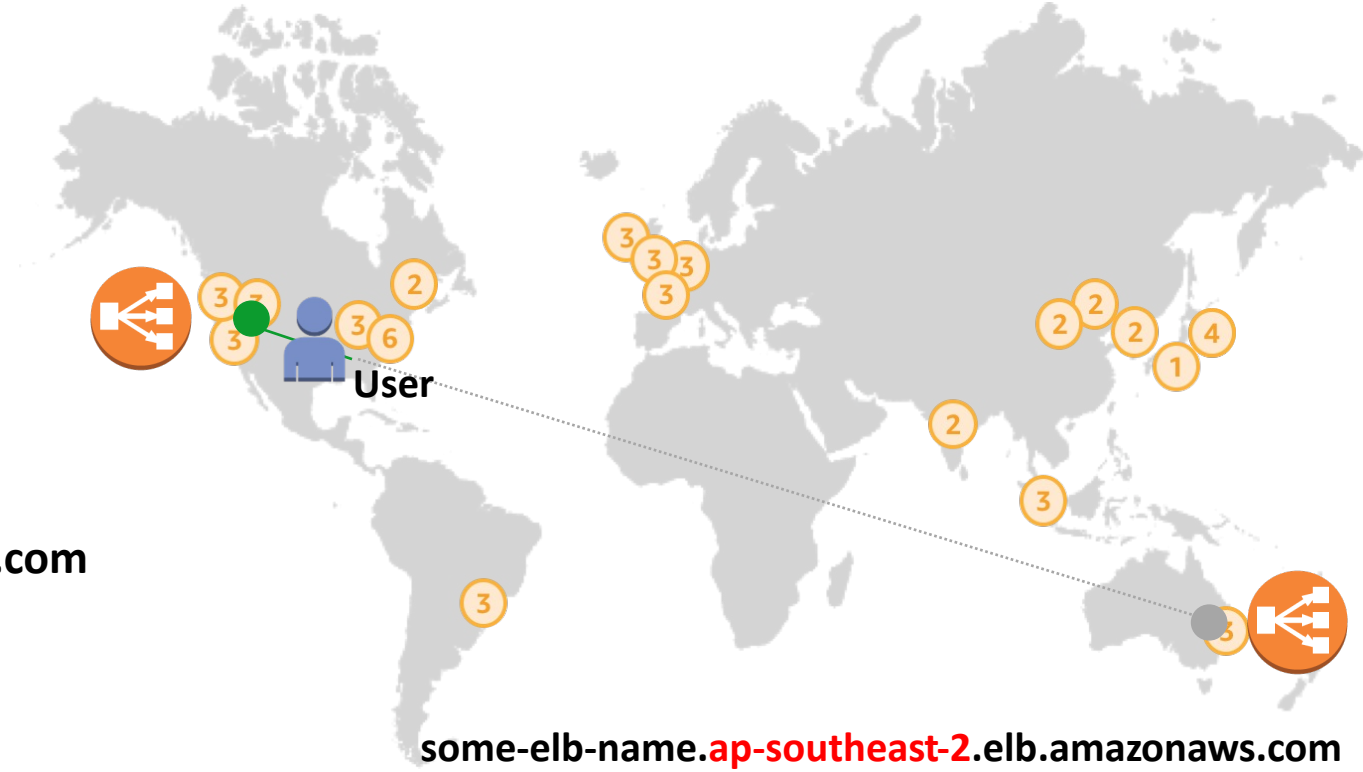
Amazon Route 53 DNS Failover

- Route 53 tracks health status of resources and take action when error occurs. Configure failover with Amazon Route 53.
- Configure backup and failover scenarios for your own applications.
- Improve health checks by combining multiple health checks, domain name–based health checks, string matching, specifying the request interval, and more.

© 2018, Amazon Web Services, Inc. or its Affiliates. All rights reserved.

Use Case: Multi-Region Deployment

some-elb-name.us-west-2.elb.amazonaws.com

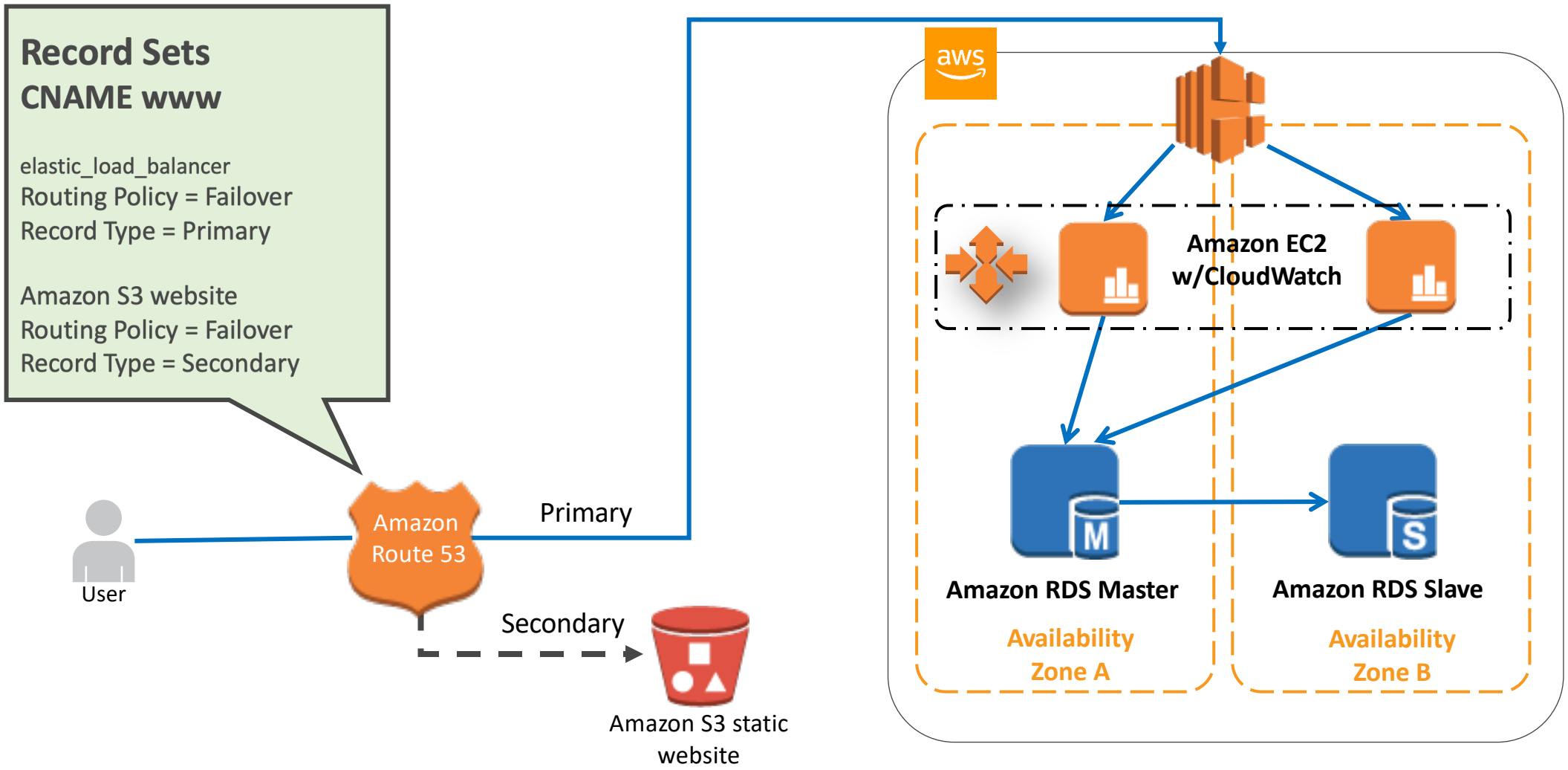


some-elb-name.ap-southeast-2.elb.amazonaws.com

Name	Type	Value
amgogreen.com	ALIAS	some-elb-name.us-west-2.elb.amazonaws.com
amgogreen.com	ALIAS	some-elb-name.ap-southeast-2.elb.amazonaws.com

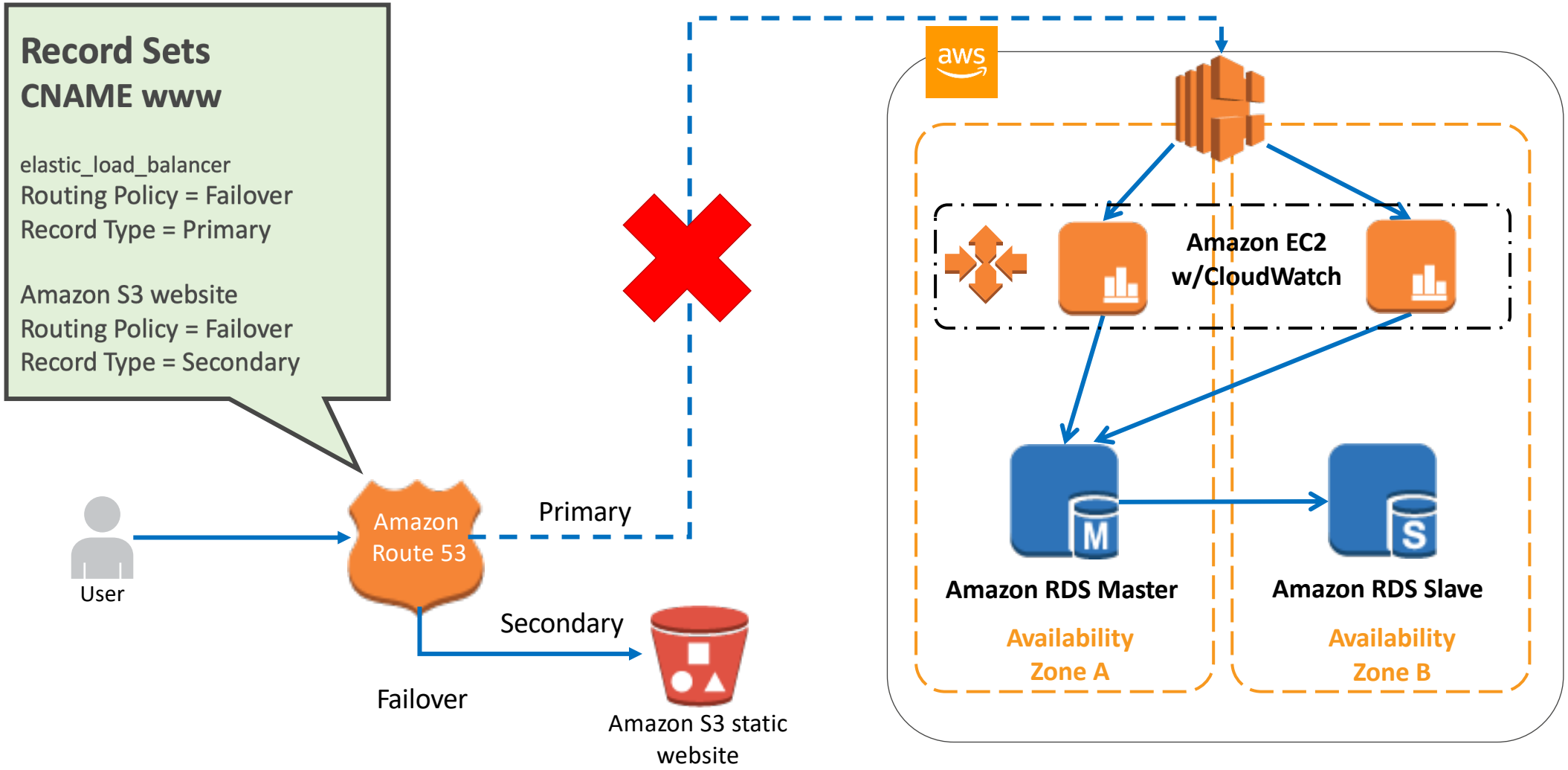
© 2018, Amazon Web Services, Inc. or its Affiliates. All rights reserved.

Typical Architecture



© 2018, Amazon Web Services, Inc. or its Affiliates. All rights reserved.

Typical Architecture



© 2018, Amazon Web Services, Inc. or its Affiliates. All rights reserved.

Lecture References

Recommend Viewing

Swinburne Lecture – High Level Overview

AWS Academy – Deeper dive

ACA Module 10

SWINBURNE UNIVERSITY OF TECHNOLOGY