AWS re:Invent

NOV. 29 – DEC. 3, 2021 | LAS VEGAS, NV

STG312

Building a disaster recovery solution with AWS storage services

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AWS

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Agenda for today's workshop

- 5:45 PM – 6:10 PM: Scenario and review of workshop
- 6:10 PM – 7:45 PM: Hands-on workshop time

Am I in the right place??

- 300-level workshop – assumes you already know the basics of AWS and core services (e.g., Amazon EC2, Amazon S3, AWS CLI, etc.)
- You have a laptop that you can leverage for the actual workshop portion

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“Who are these people, and how do I get help when I am stuck in the lab!? ”

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“We have backups and everything right? Hey where did everyone go?”

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tes. All rights reserved.



April 29, 2021

Day zero

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Recovery point



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Panic

Systems are not normal

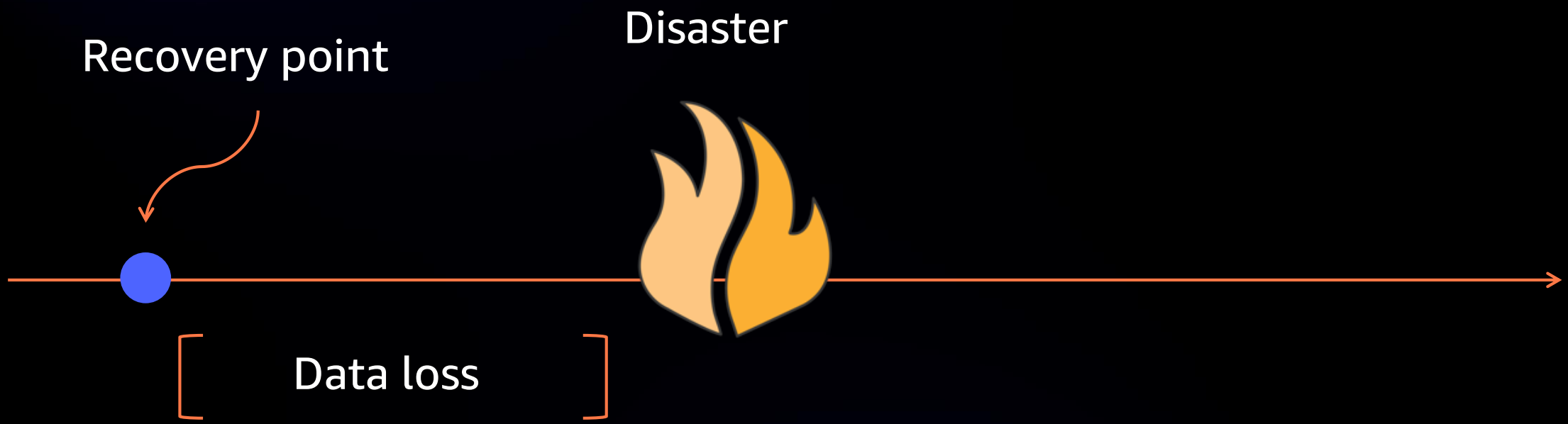
Double extortion note sent

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“It was a complicated password, I want to be clear on that. It was not a Colonial123-type password…”

Joseph Blount, Chief Executive Officer

Colonial Pipeline

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Lessons learned?

Failure is not one thing.

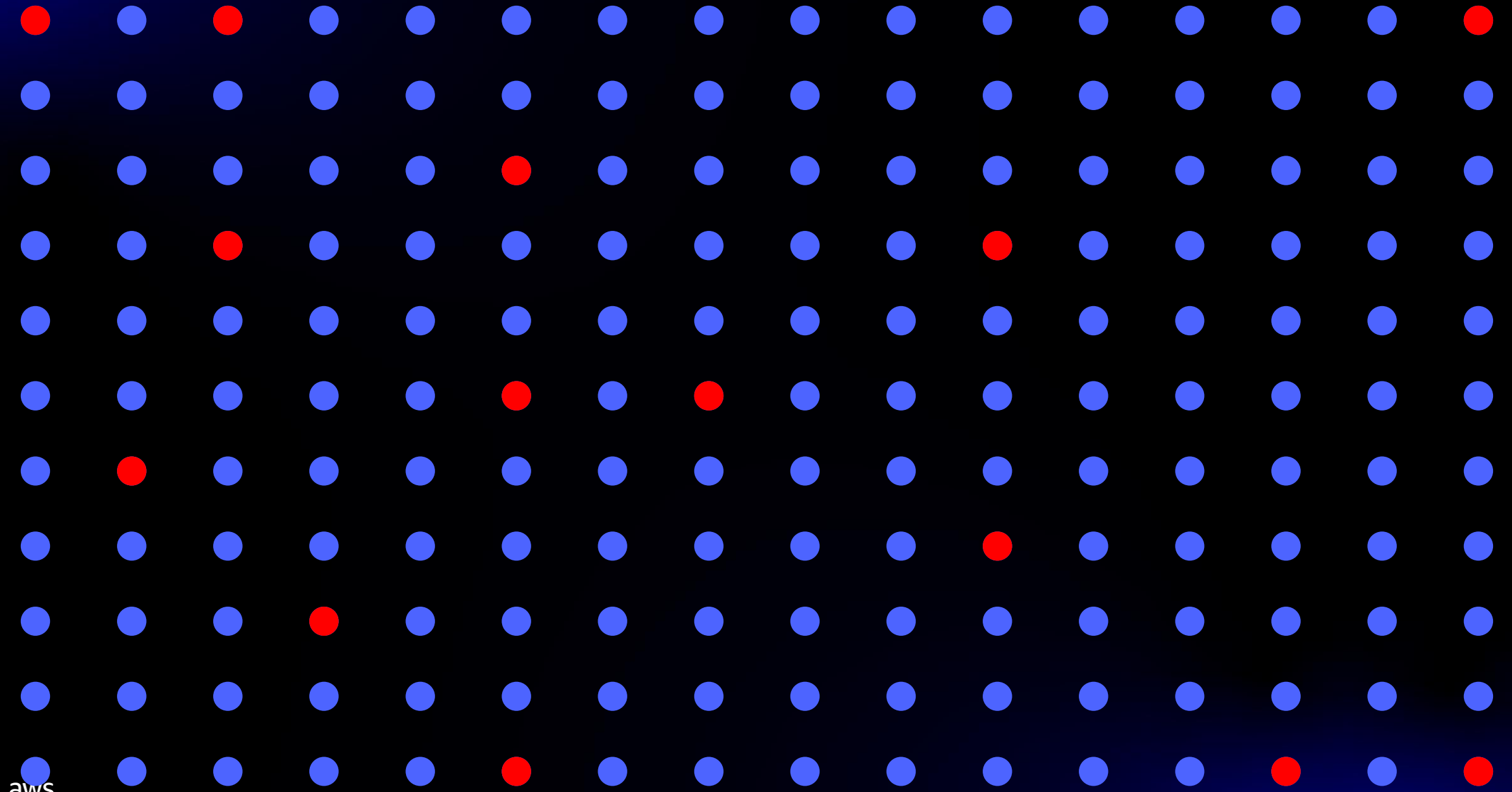
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What are we *really* planning for?

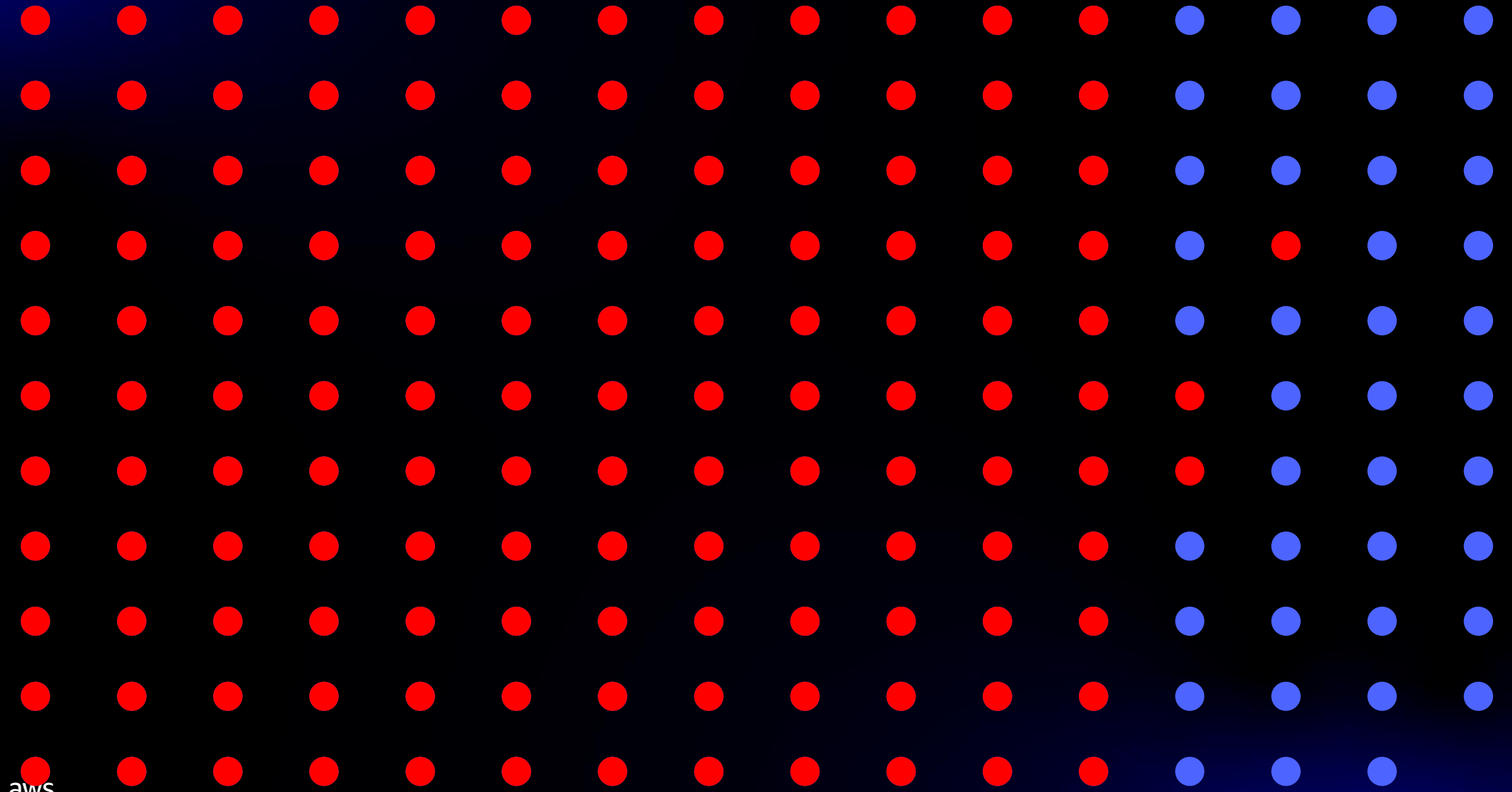
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Techniques:
Common disaster recovery methods

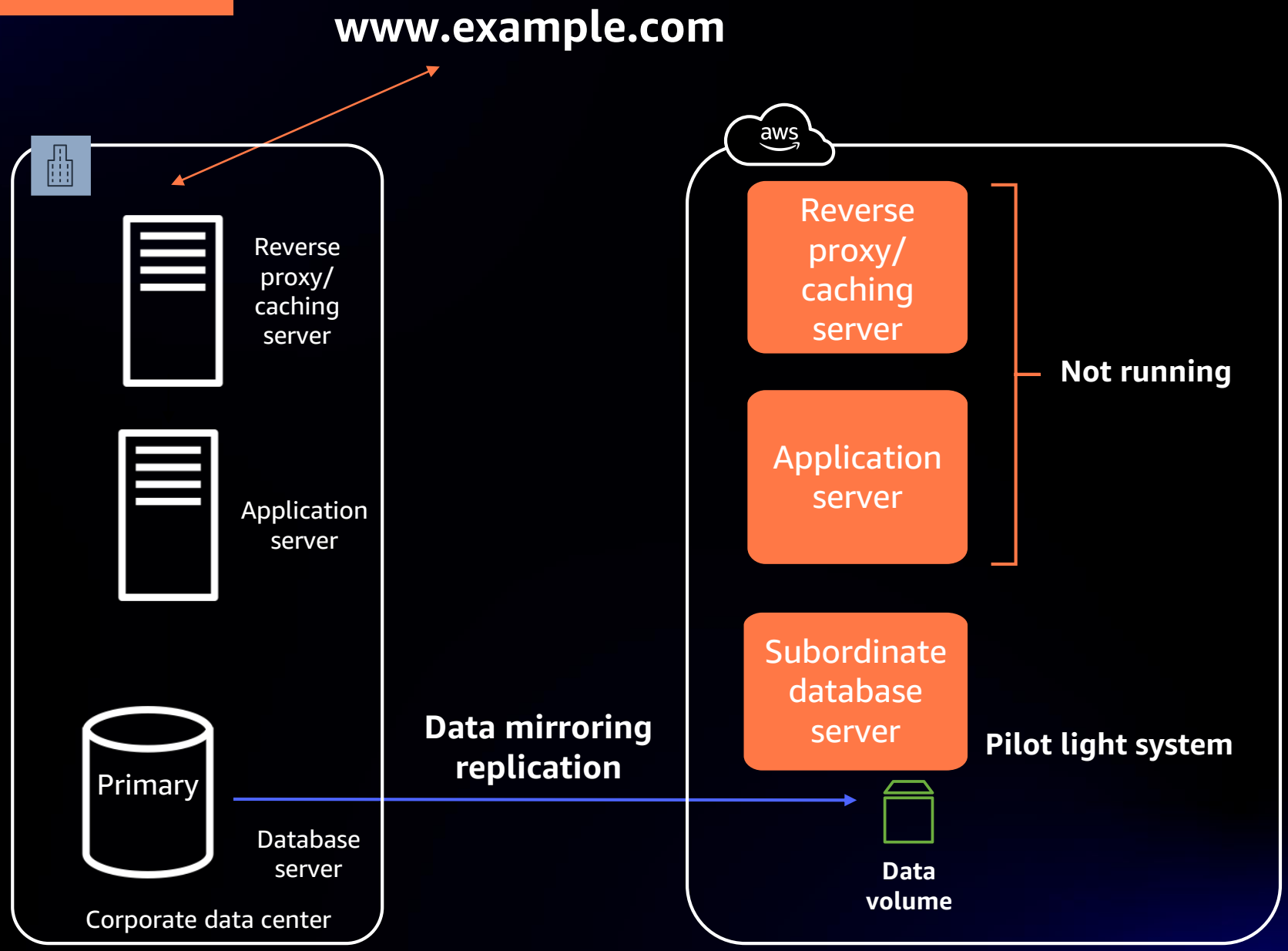
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Pilot light



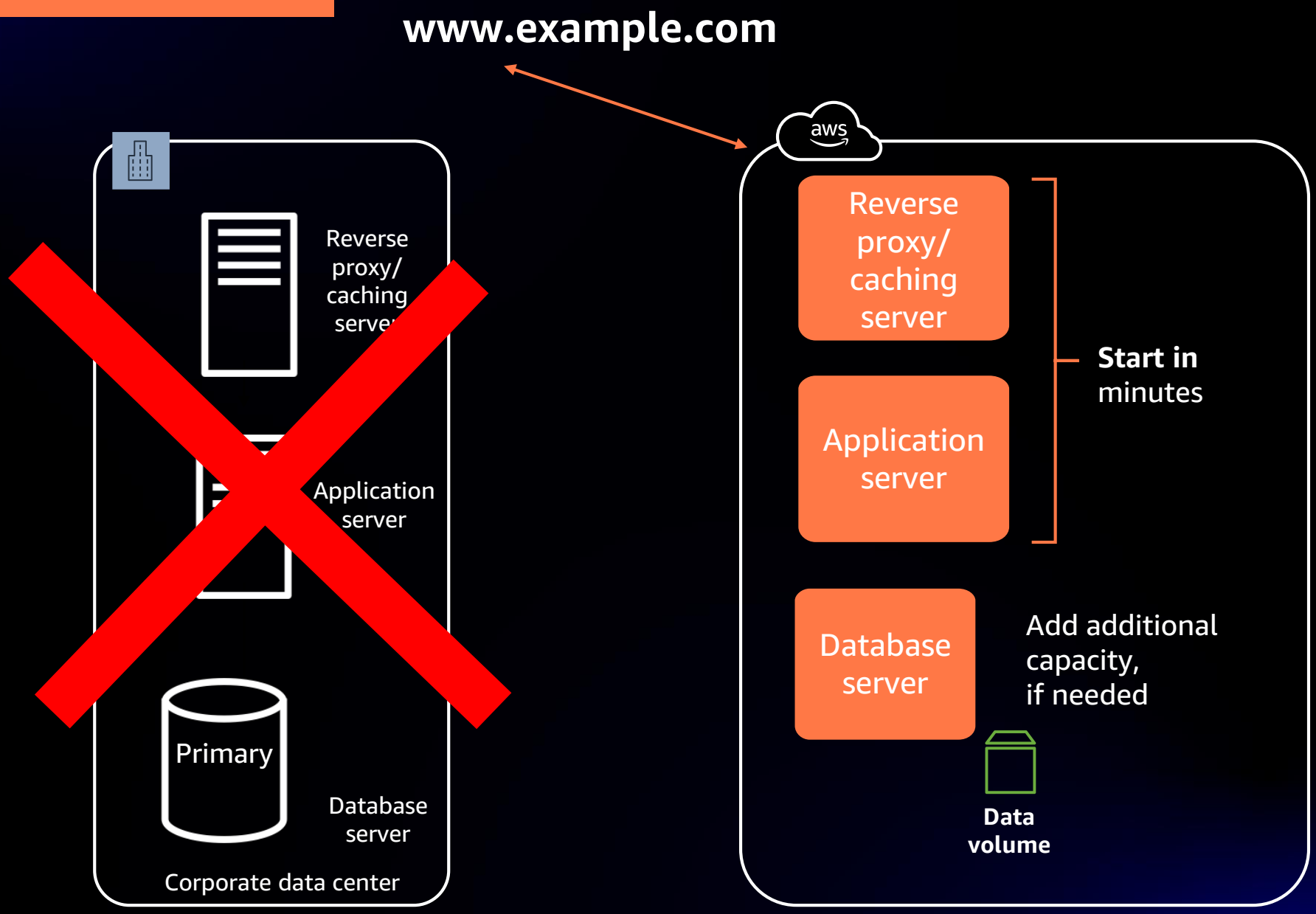
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Pilot light – Prep



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Pilot light – Recovery



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Warm standby

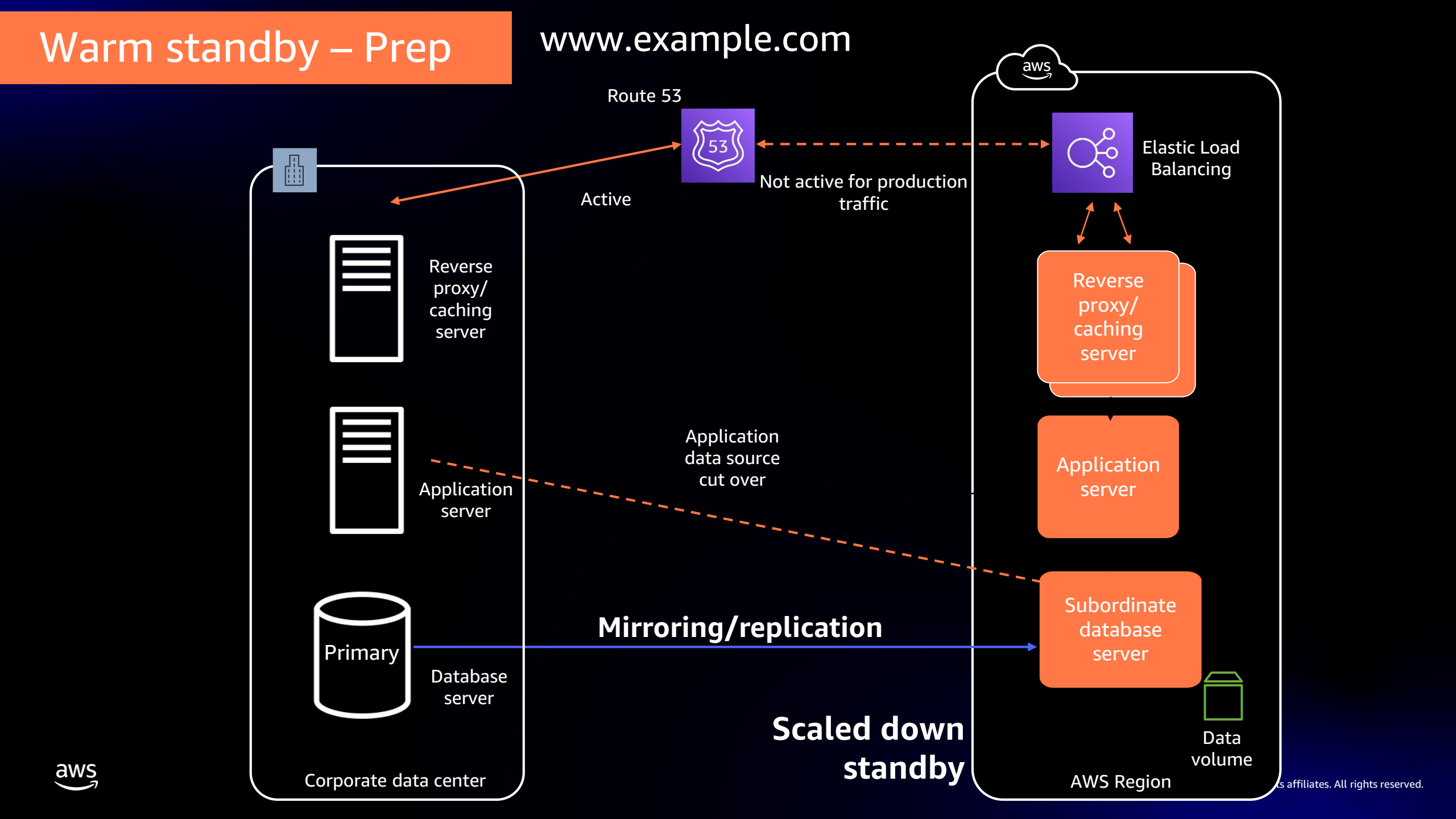


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Warm standby – Prep



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Warm standby – Recover

www.example.com

Route 53

Active

Elastic Load Balancing

Reverse proxy/ caching server

Application server

Database server

Data volume

Scaled-up production

AWS Region

Reverse proxy/ caching serve

ication

Master

Database server

Corporate data center

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Hot site

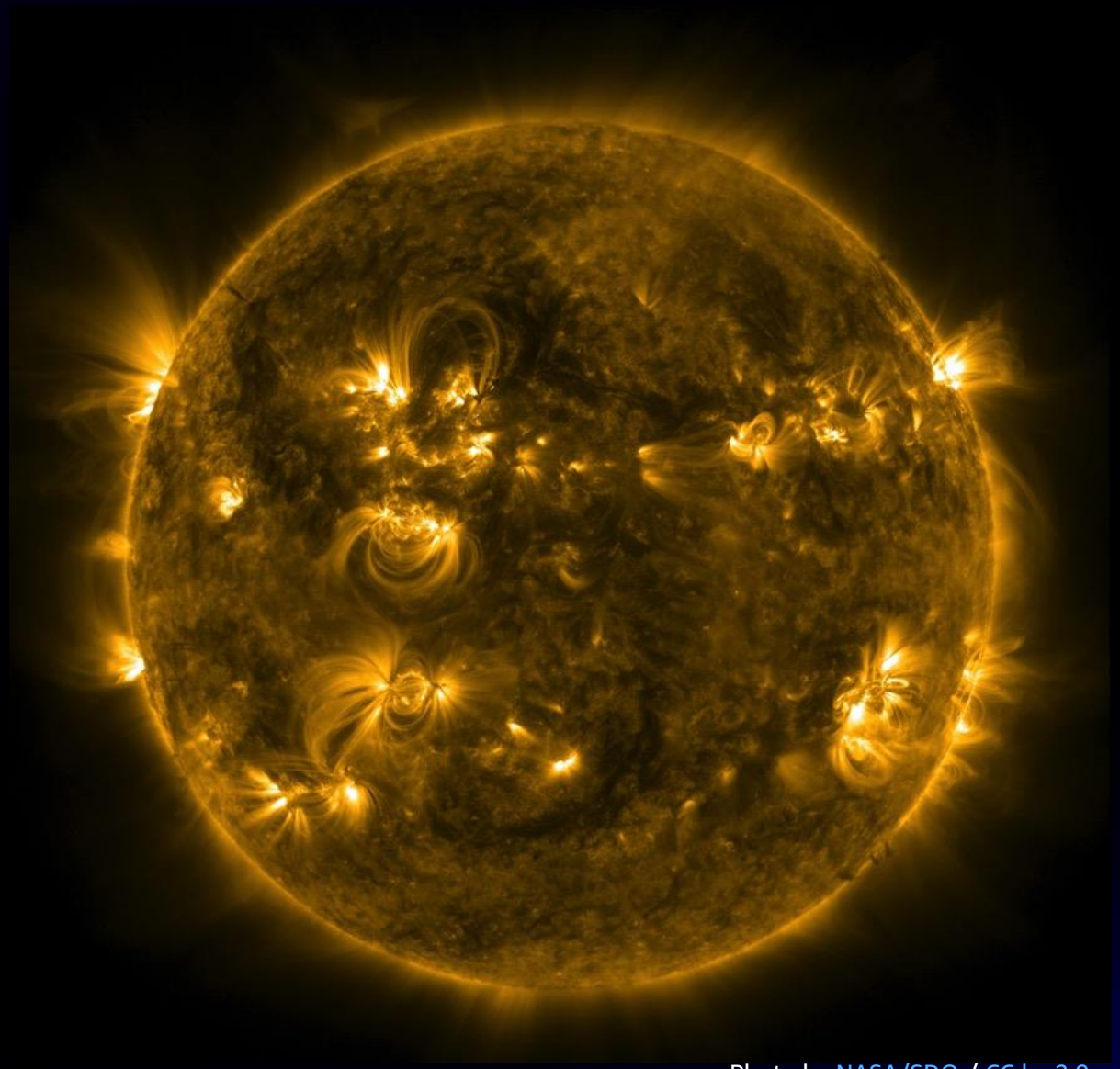
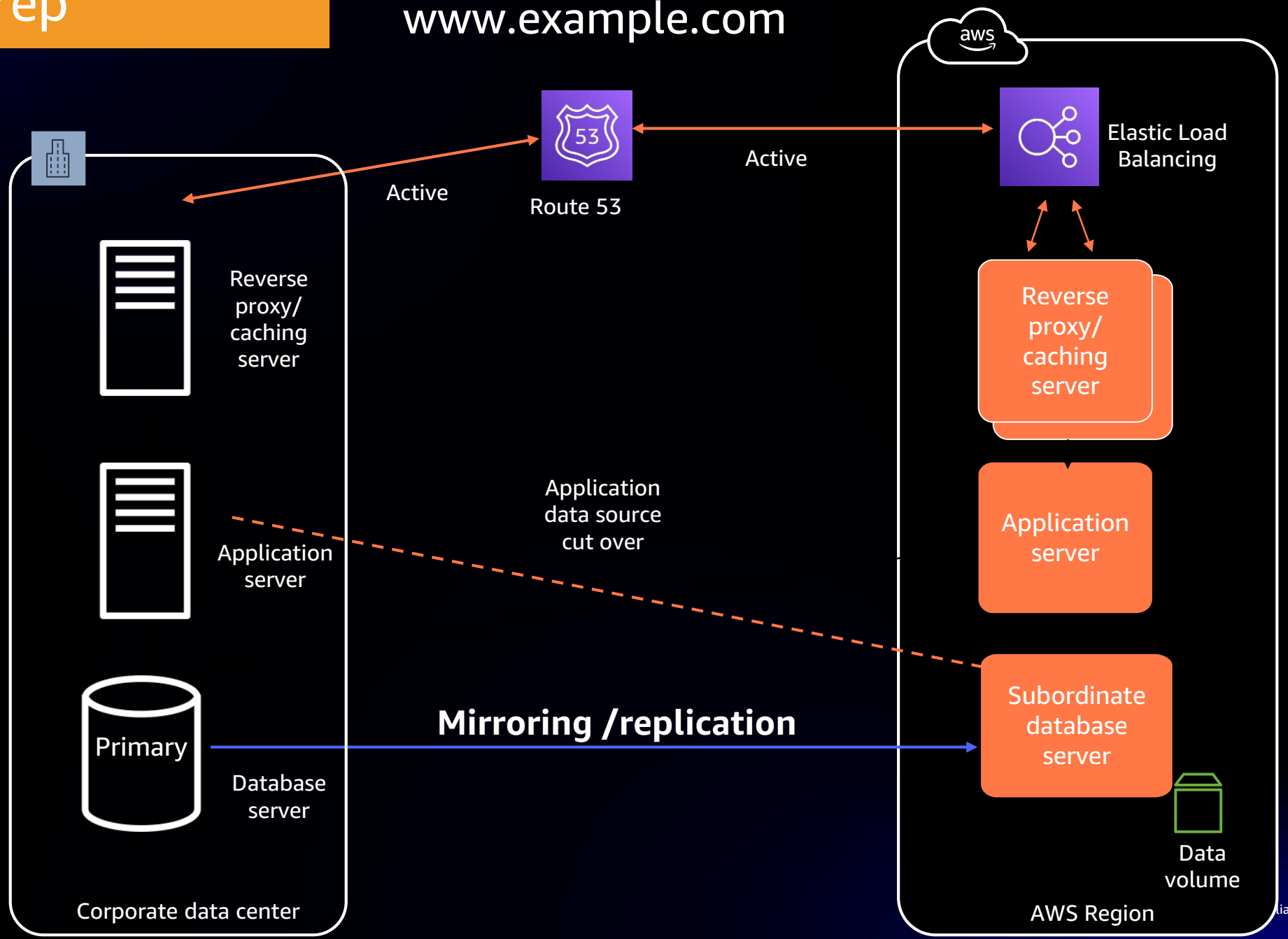


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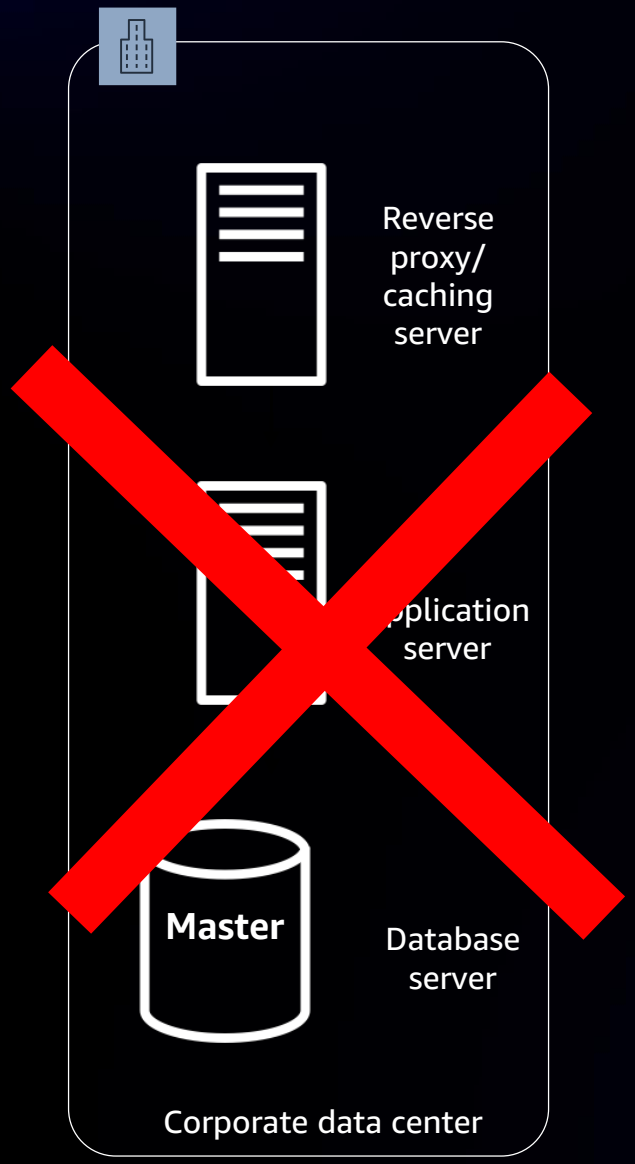
Hot site – Prep

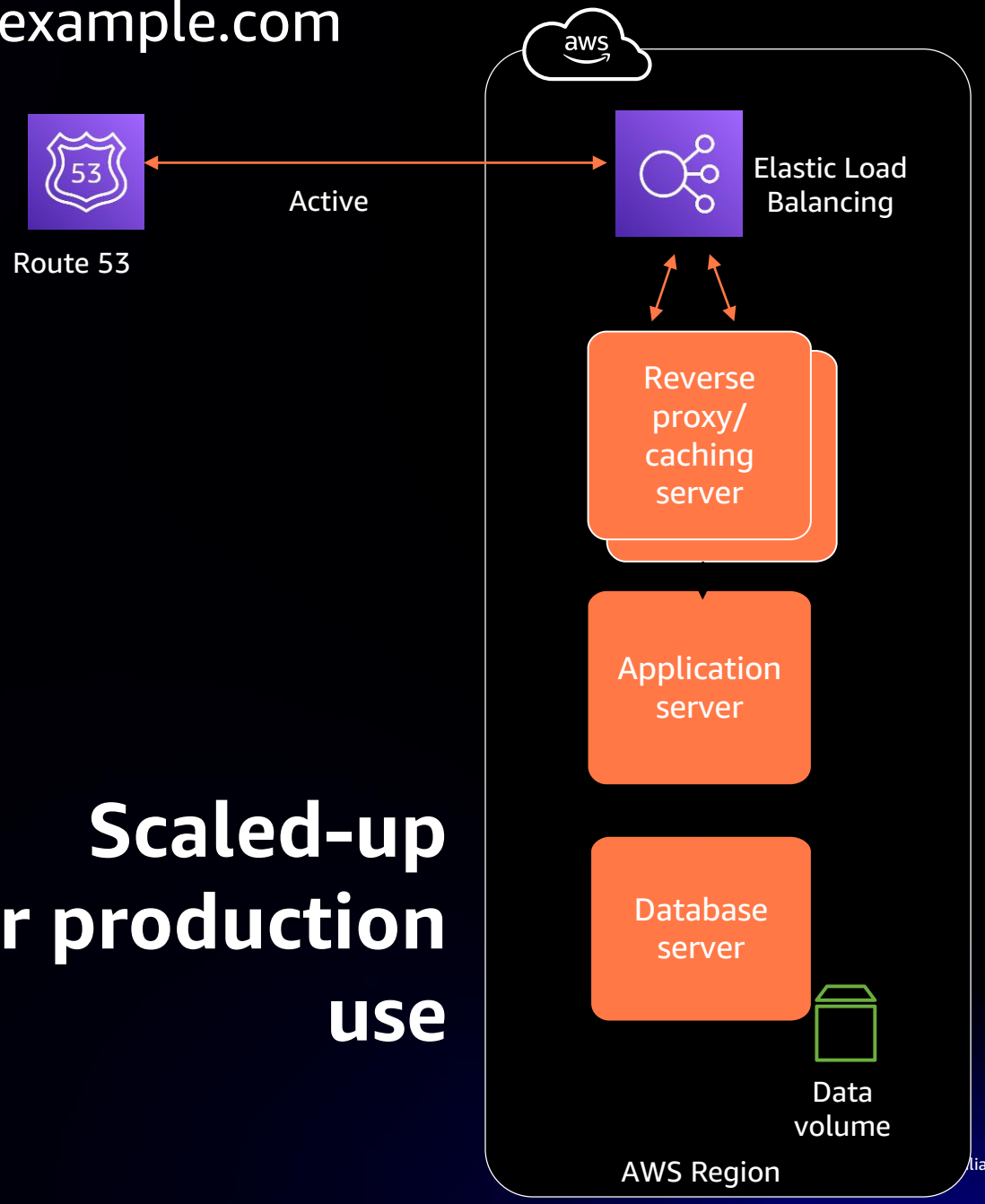


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Hot site – Recovery

www.example.com





Scaled-up for production use

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Disaster recovery is not just backups

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“Everybody has a plan until they get punched in the mouth.”



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Mike Tyson

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Putting it all together

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Lessons from history

Plan for more than just what you expect to happen

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Lessons from history

Test your execution plan before you think you can implement it

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Lessons from history

Knowledge is critical. Know how to interpret an alarm on events

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Words of advice

People generally don’t do well under pressure

- Automate as much as you can
- Table top exercises can really help you understand roles and responsibility
- Not all services have to require the same RTO/RPO
- Seriously, automate as much as you can ahead of time
- If you don’t have a run book, it’s time to make one
    - If you have one, have you tested it?

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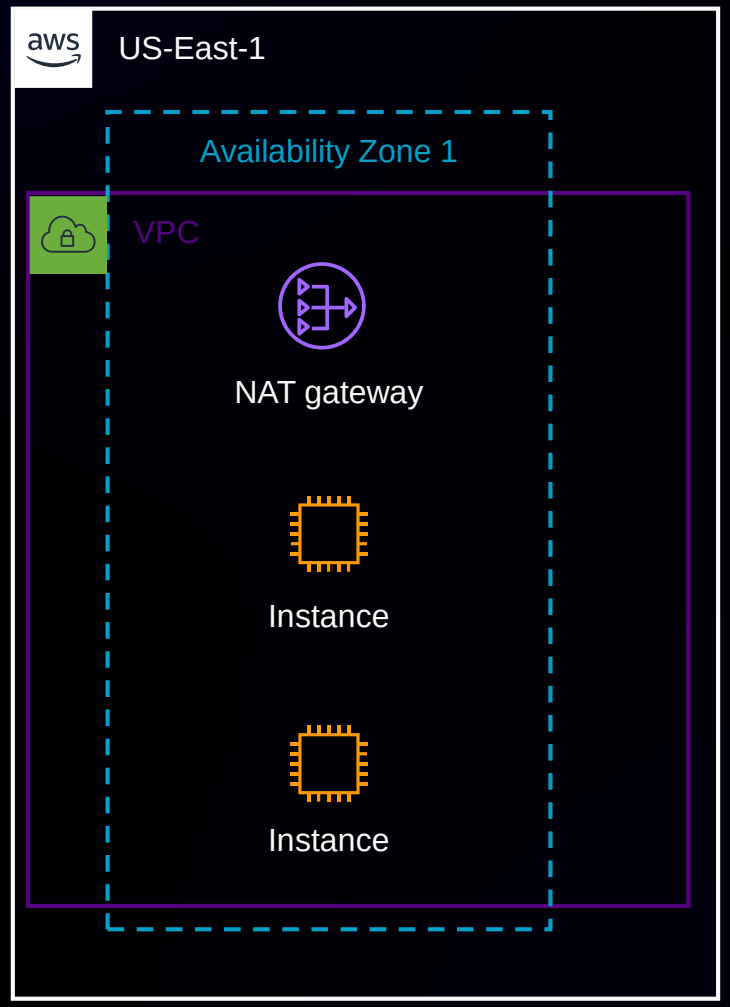
Lets get to the lab already!

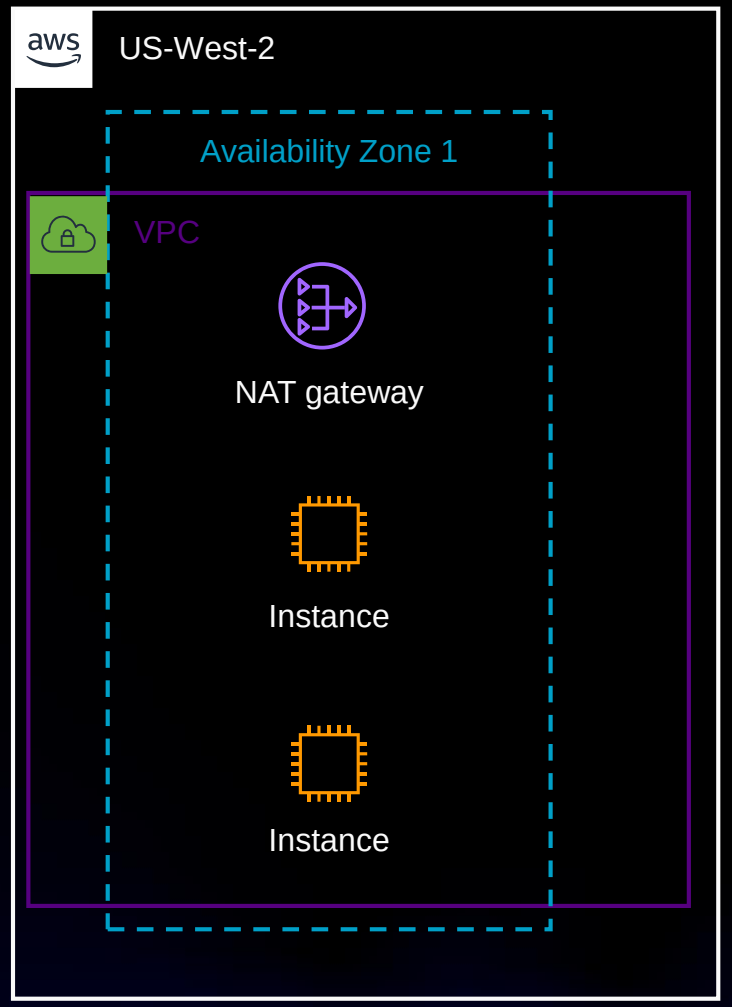
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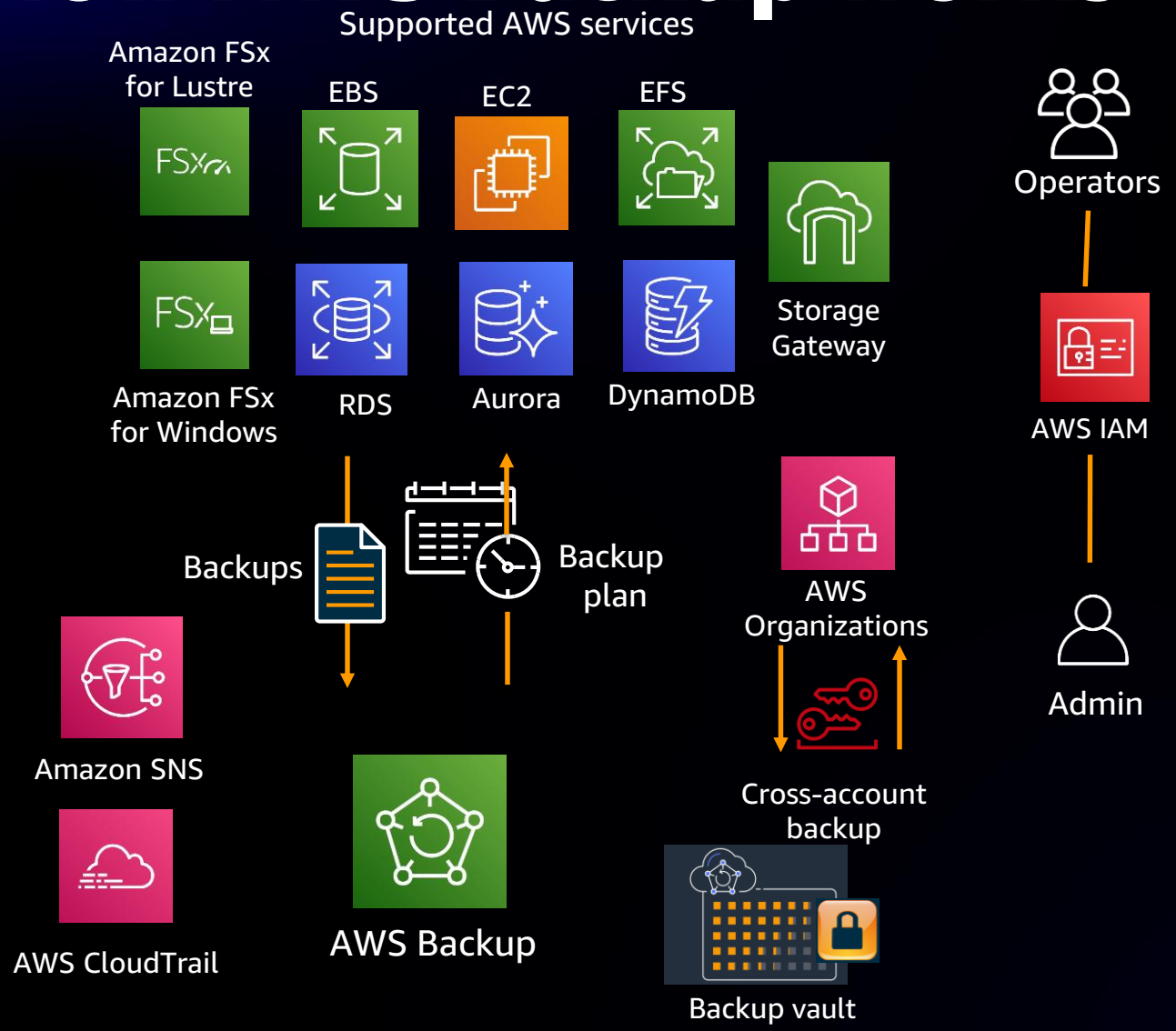
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How AWS Backup works



With AWS Backup, you can

- Create backup plans that orchestrate backup operations per policy
- Secure backups and manage restore processes
- Control access for managed resources via IAM
- Setup notifications/logging via Amazon SNS & AWS CloudTrail
- Manage all via AWS Organizations
- Protect EC2 Windows/SQL with app consistency
- Automate backups for Amazon FSx
- Backup to other accounts to protect against multiple threats

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Chaos engineering: Testing the unknowns

What chaos engineering is

- Experimenting on a system
- Identify failures
- Fix failures before they become outages



Chaos engineering is meant to

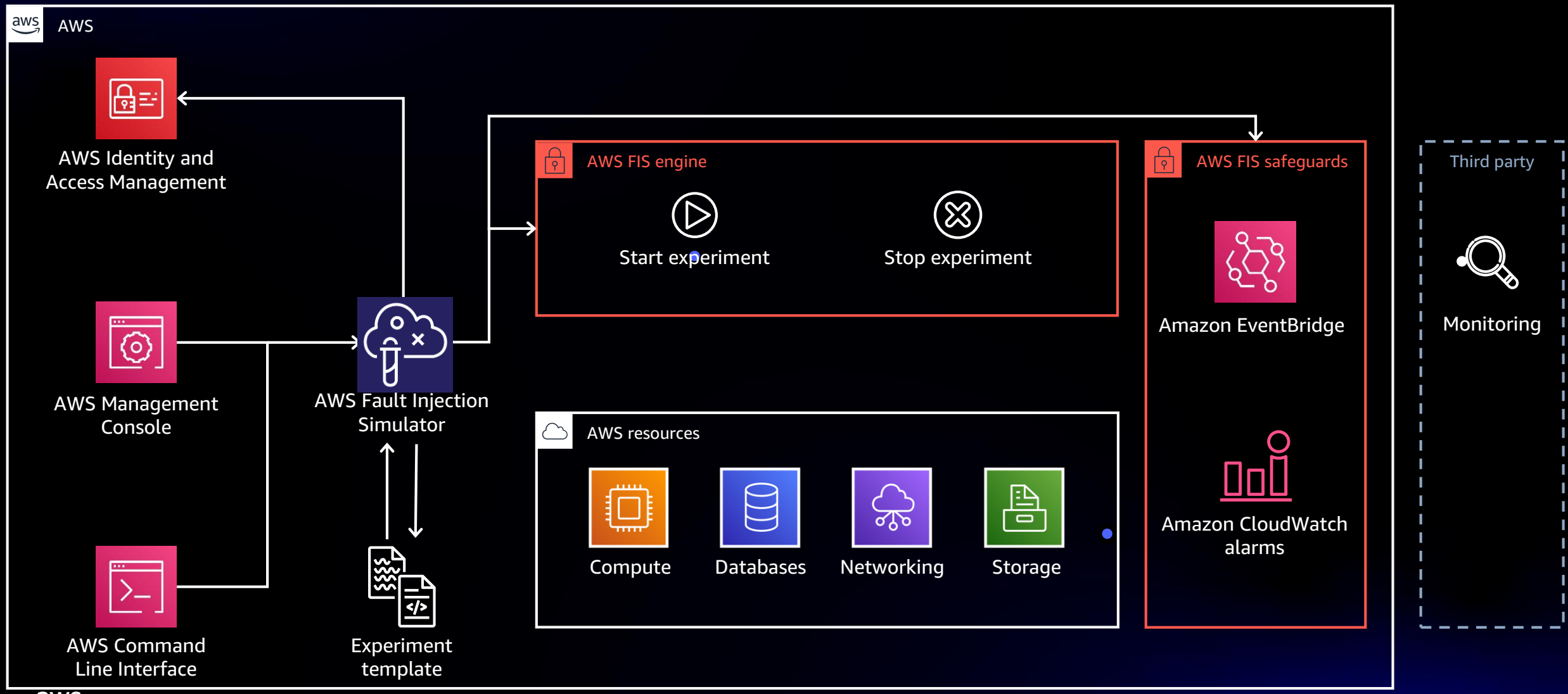
- Improve resilience and performance
- Uncover hidden issues
- Expose blind spots (monitoring, observability, and alarms)

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AWS Fault Injection Simulator

OVERVIEW



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“You’ve just been hired to protect our company from a ransomware attack. We have no disaster recovery plan, HELP!”

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Thank you!

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