

Disaster Recovery on AWS



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“Disaster recovery (DR) is about preparing for and recovering from a disaster. Any event that has a negative impact on a company’s business continuity or finances could be termed a disaster. This includes hardware or software failure, a network outage, a power outage, physical damage to a building like fire or flooding, human error, or some other significant event. ”

Amazon Web Services

Needs for Disaster Recovery



Data Center



Cloud Deployment

Overview

Understanding the need for a disaster recovery strategy

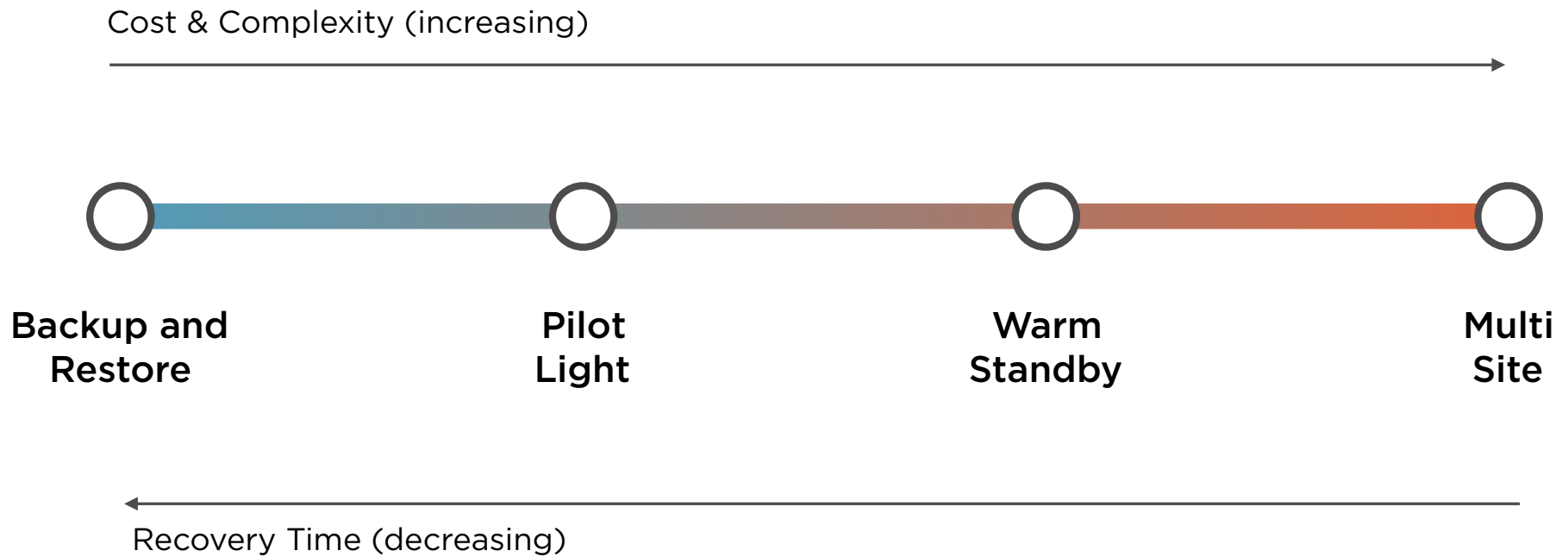
Reviewing the four different disaster recovery approaches on AWS

Exploring the factors to know when selecting an approach

Examining specific scenarios and disaster recovery needs

Disaster Recovery Architectures

Disaster Recovery Scenarios



Backup and Restore

Production data is backed up into Amazon S3

Data can be stored in either standard or archival storage classes

EBS data can be stored as snapshots in Amazon S3 also

In a Disaster Recovery event, a process is started to launch new environment

This approach has the longest recovery time

Pilot Light

Key infrastructure components are kept running in the cloud

Designed to reduce recovery time over the Backup and Restore approach

Does incur cost of this infrastructure continually running in the cloud

AMI's are prepared for additional systems and can be launched quickly

“The **pilot light** method gives you a quicker recovery time than the backup-and-restore method because the core pieces of the system are already running and are continually kept up to date.”

Amazon Web Services

Warm Standby

A scaled-down version of the full environment is running in the cloud

Critical systems can be running on less capable instance types

Instance types and other systems can be ramped up for disaster recovery event

Does incur cost of this infrastructure continually running in the cloud

Multi Site

Full environment is running in the cloud at all times

Utilizes instance types needed for production not just recovery

Provides a near seamless recovery process

Incurs the most cost over the other approaches

Selecting a Disaster Recovery Architecture

Disaster Recovery Approach Considerations

Recovery Time Objective
(RTO)

Recovery Point Objective
(RPO)

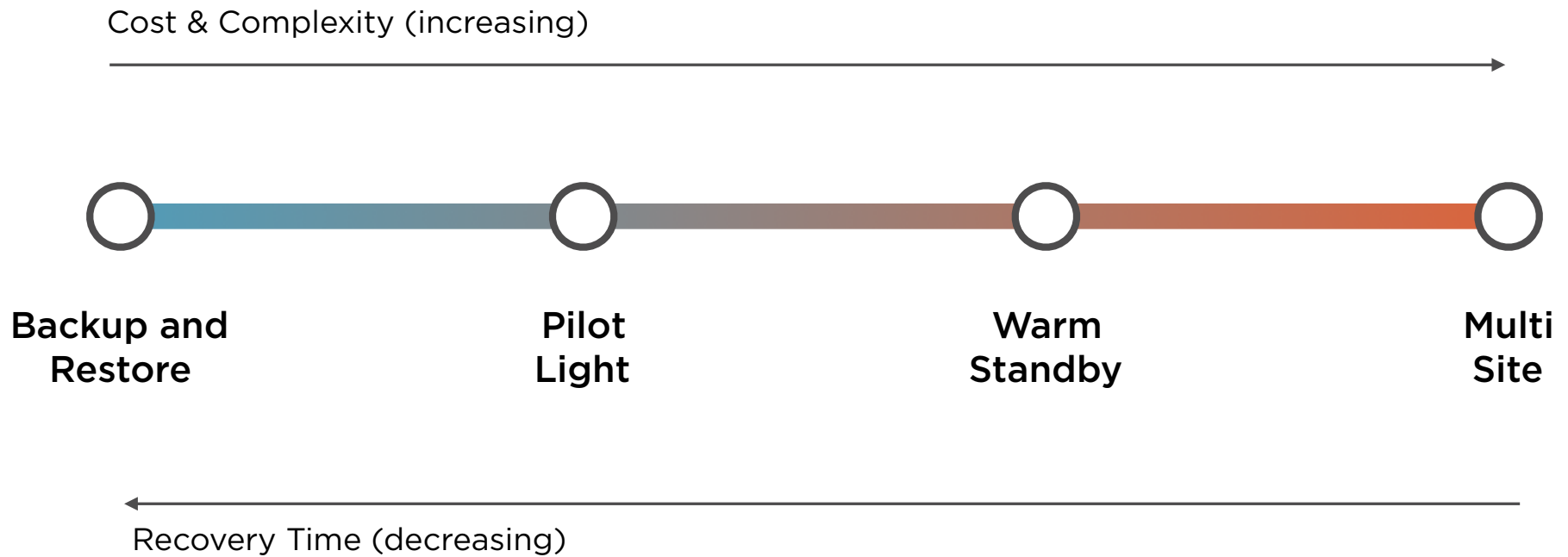
Recovery Time Objective (RTO)

The time it takes to get your systems back up and running to the ideal business state after a disaster recovery event.

Recovery Point Objective (RPO)

The amount of data loss (in terms of time) for a production system during a disaster recovery event.

Disaster Recovery Scenarios



Scenario Based Review

Scenario 1



Roger's company runs several production workloads in AWS

Roger is tasked with architecting the disaster recovering approach

His organization wants there to be a seamless transition during an event

Which disaster recovery approach would Roger's company use for this?

Scenario 2



Jennifer's company is a startup

They do not currently have a disaster recovery approach

In this case, minimizing cost is more critical than minimizing RTO

What disaster recovery approach would you recommend to Jennifer?

Scenario 3



Eliza is documenting her company's disaster recovery approach

They keep a few key servers up and running in AWS in case of an event

These servers have smaller instance types than what production would need

Which disaster recovery approach most closely matches this scenario?

Summary

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Understood the need for a disaster recovery strategy

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Solution: Multi Site approach

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What disaster recovery approach would you recommend to Jennifer?

Solution: Backup and Restore approach

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Which disaster recovery approach most closely matches this scenario?

Solution: Pilot Light approach