

AWS
re:Invent



ARC301-PT2

Multi-Region deployment – Part 2: Architectural best practices

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Agenda

What is disaster recovery?

Disaster recovery strategies

Best practices

Reference architecture walkthrough

What is disaster recovery?



Regions and Availability Zones

aws AWS Cloud



Disaster recovery

Latest backup



Data loss

Service interruption



Downtime

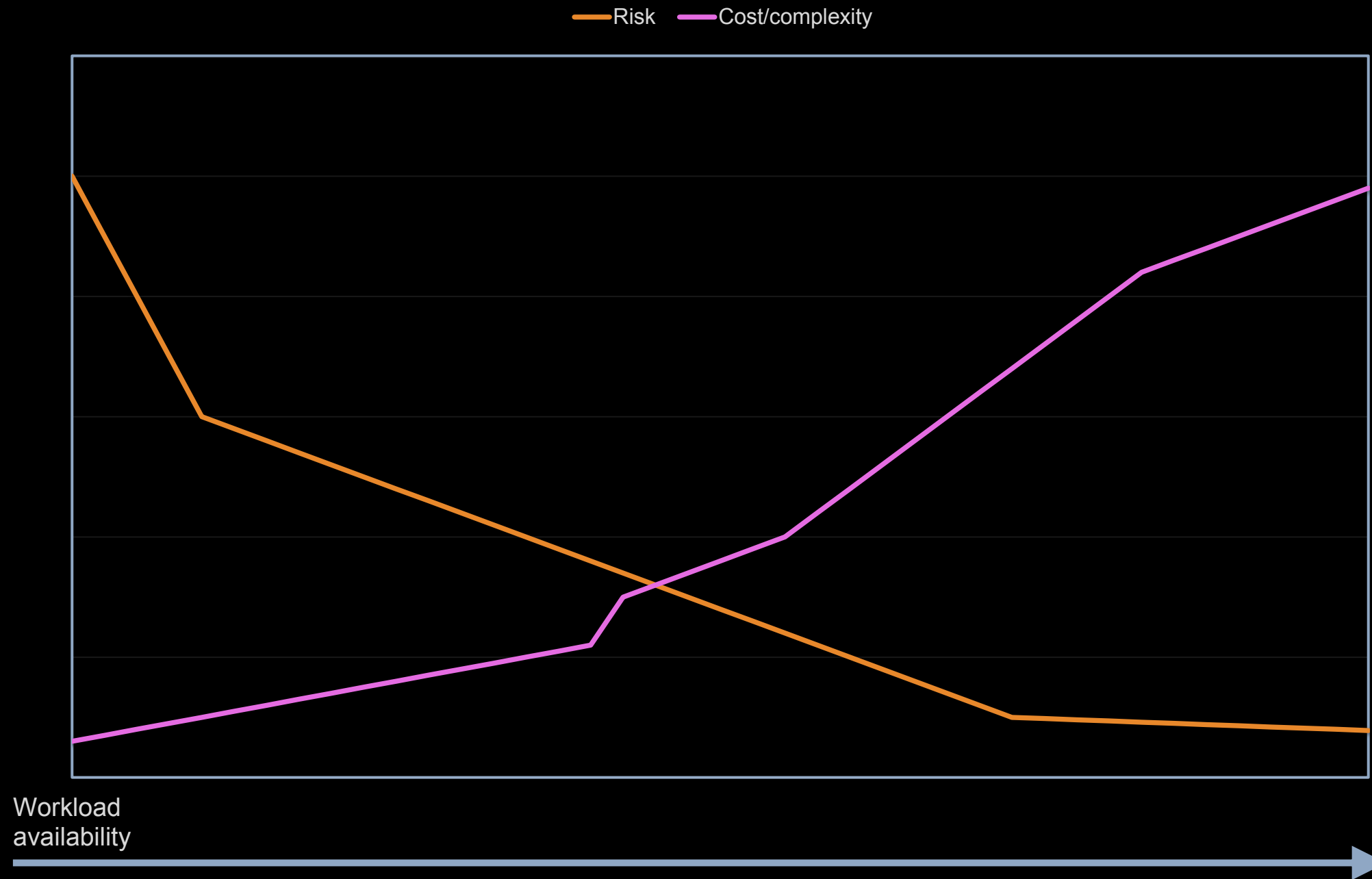
Recovered



RPO

RTO

Cost and complexity trade-off



Disaster recovery strategies



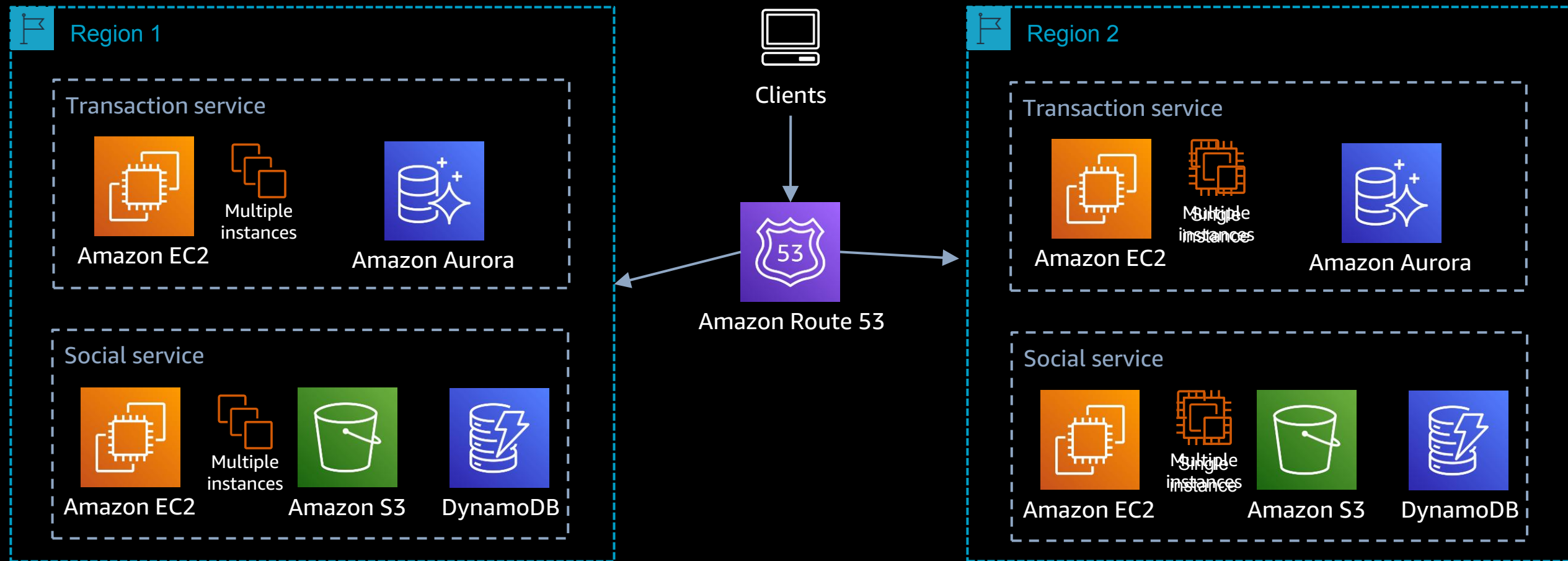
Disaster recovery strategies

Backup & restore

Pilot light

Warm standby

Active/active



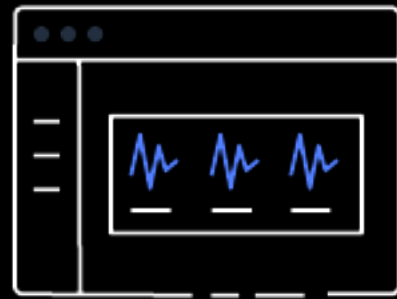
Best practices



Best practices



Interrogate
your
workload



Enable
detailed
monitoring



Test
your
DR plan

Back up data



AWS
Backup



Amazon
DynamoDB



Amazon S3

Operations Conductor

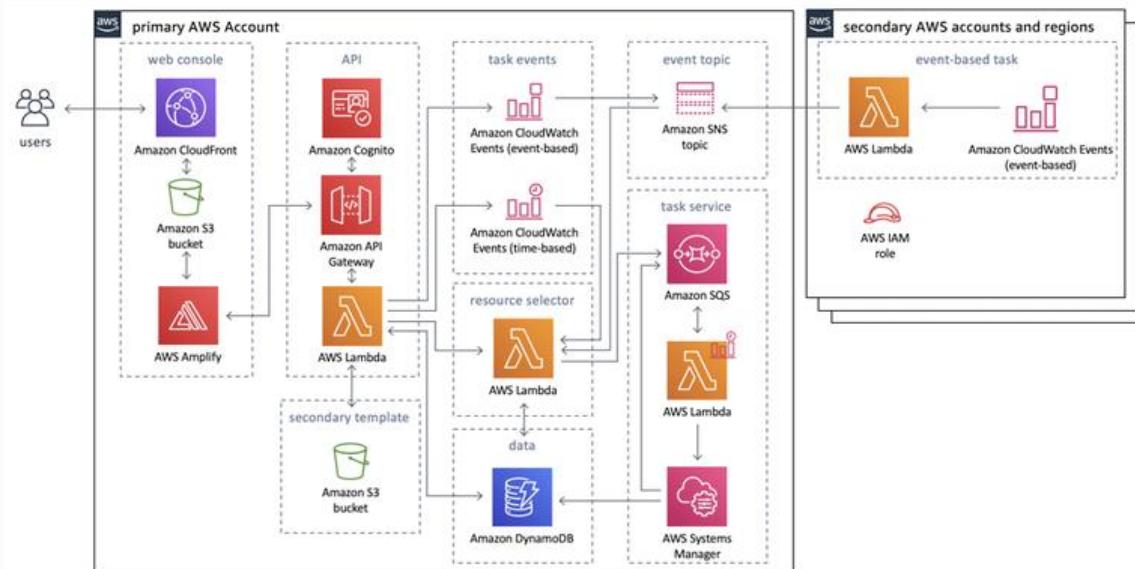
What does this AWS Solutions Implementation do?

Operations Conductor helps customers reduce operational complexity and enables administrators to quickly create manual, event-based or time-based triggers for managing resources.

This solution creates a simple web interface for automating and orchestrating operational tasks, and deploys a set of common operational actions that can be configured to automate administration tasks, resource scaling, and cost management. The solution can be customized and extended to fit your business needs.

AWS Solutions Implementation overview

The diagram below presents the architecture you can automatically deploy using the solution's implementation guide and accompanying AWS CloudFormation template.



Operations Conductor

Version 1.0

Last updated: 11/2019

Author: AWS

Estimated deployment time: 30 min

[Source code](#)

[CloudFormation template](#)

[View implementation guide](#)

[Launch in the AWS Console](#)

<https://aws.amazon.com/solutions/implementations/operations-conductor/>

Cross-Region Replication Monitor

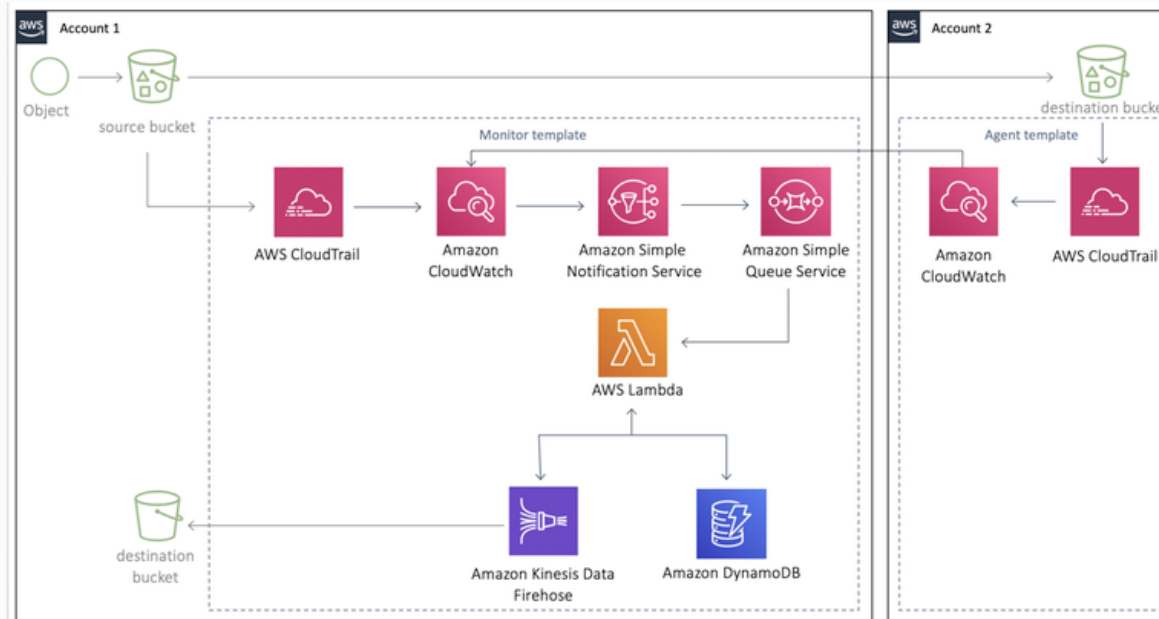
What does this AWS Solutions Implementation do?

The Cross-Region Replication Monitor (CRR Monitor) solution automatically checks the replication status of Amazon S3 objects across all AWS Regions in a customer's account, and provides near real-time metrics and failure notifications to help customers identify failures and troubleshoot problems.

The solution automatically provisions the necessary AWS services to monitor and view replication status, including AWS Lambda, Amazon CloudWatch, Amazon Simple Notification Service (Amazon SNS), AWS CloudTrail, Amazon Simple Queue Service (Amazon SQS), and Amazon DynamoDB, and offers an option to use Amazon Kinesis Data Firehose to archive replication metadata in Amazon S3.

AWS Solutions Implementation overview

CRR Monitor automatically monitors the replication status of your Amazon S3 objects across all accounts in your AWS Regions. The diagram below presents the architecture you can automatically deploy using the solution's implementation guide and accompanying AWS CloudFormation template.



Cross-Region Replication Monitor

Version 2.0.1

Last updated: 03/2020

Author: AWS

Estimated deployment time: 5 min

[Source code](#)

[CloudFormation template](#)

[View implementation guide](#)

[Launch in the AWS Console](#)

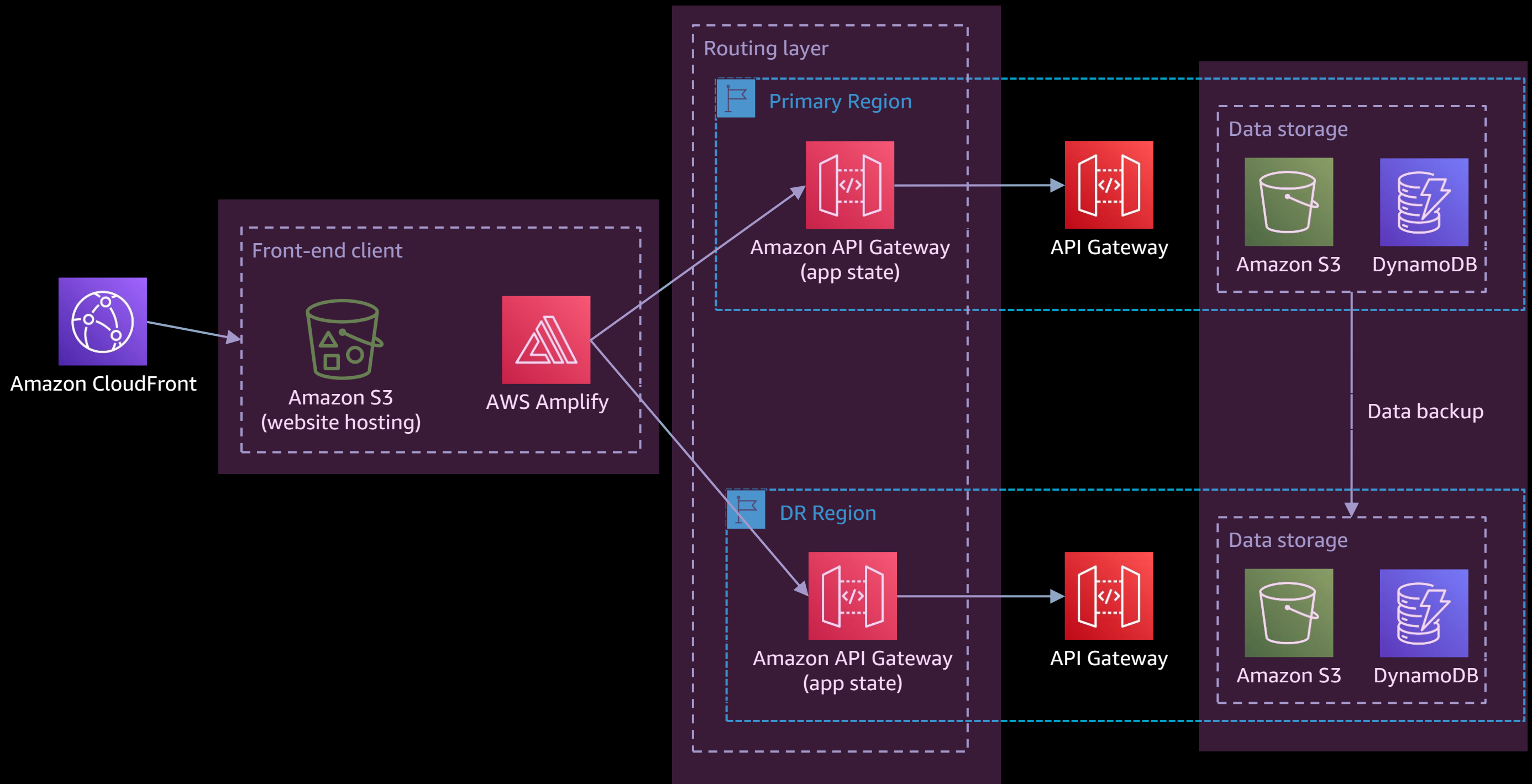
[Deploy with an AWS IQ expert](#)

<https://aws.amazon.com/solutions/implementations/cross-region-replication-monitor/>

Reference architecture walkthrough



Reference architecture overview



Sample application

Sign in to your account

Username *

Password *

Forget your password? [Reset password](#)

No account? [Create account](#)

References

- **AWS re:Invent 2020: Multi-Region deployment – Part 1: Needs, challenges, and approaches (ARC301-PT1)**
- **AWS re:Invent 2019: Backup-and-restore and disaster-recovery solutions with AWS (STG208)**
<https://youtu.be/7gNXfo5HZN8>
- **AWS Well-Architected Framework: Reliability pillar**
<https://docs.aws.amazon.com/wellarchitected/latest/reliability-pillar>
- **Multi-Region Application Architecture**
<https://aws.amazon.com/solutions/implementations/multi-region-application-architecture/>

Thank you!





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