AWS re:Invent

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

STG336-R2

Building multi-Region storage for global applications

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Agenda

- Why store your data in multiple AWS Regions?
- Introducing Amazon S3 Multi-Region Access Points
- How S3 Multi-Region Access Points work
- Demo
- Q&A

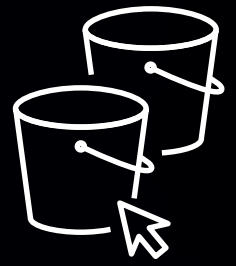
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Why store your data in multiple AWS Regions?



Performance

Maintain different copies of data in different AWS Regions to optimize for latency and performance



Resiliency

Maintain secondary copies of data in different AWS Regions for operational resiliency



Compliance

Adhere to business requirements related to data residency

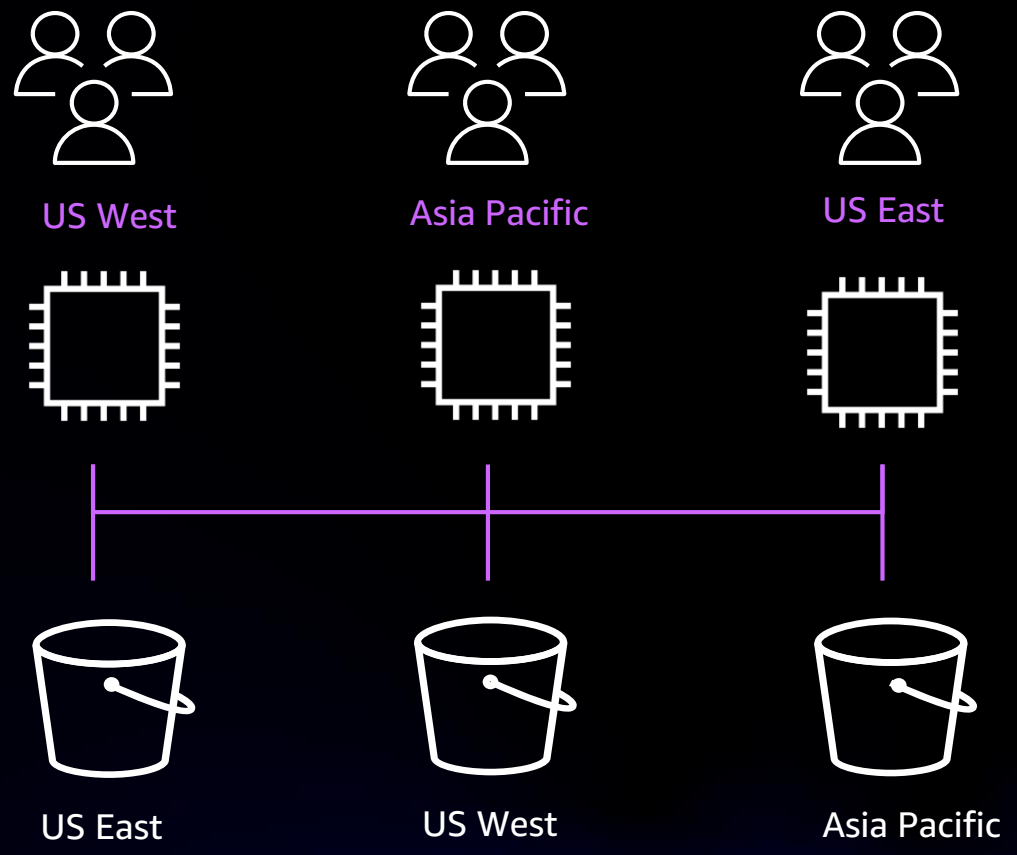
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Challenges implementing multi-Region storage

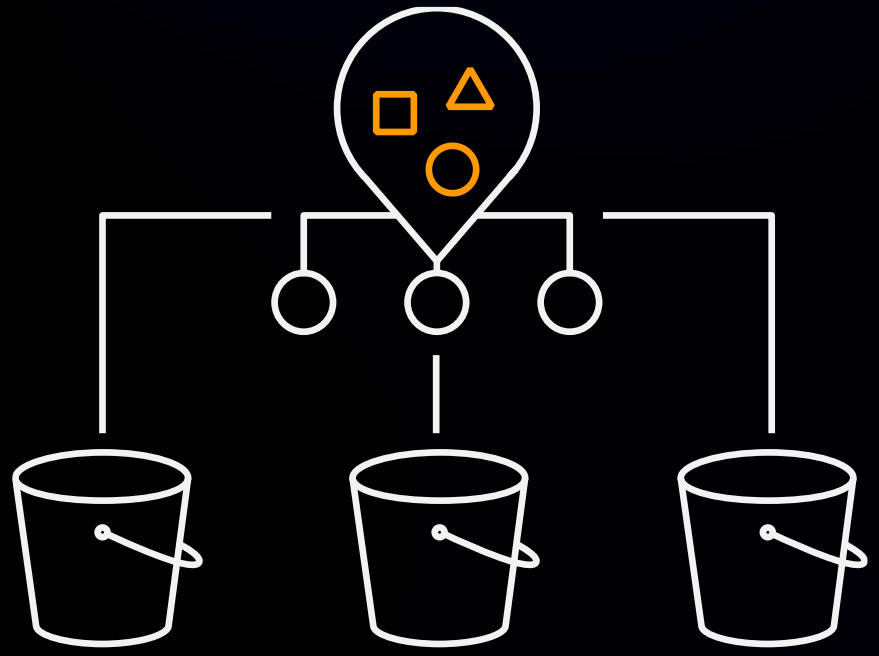
- Traditionally, accessing multi-region storage required custom regional logic that routes requests to the closest bucket

- The logic became more complex when you added advanced traffic management such as failover and latency-based routing



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Introducing S3 Multi-Region Access Points



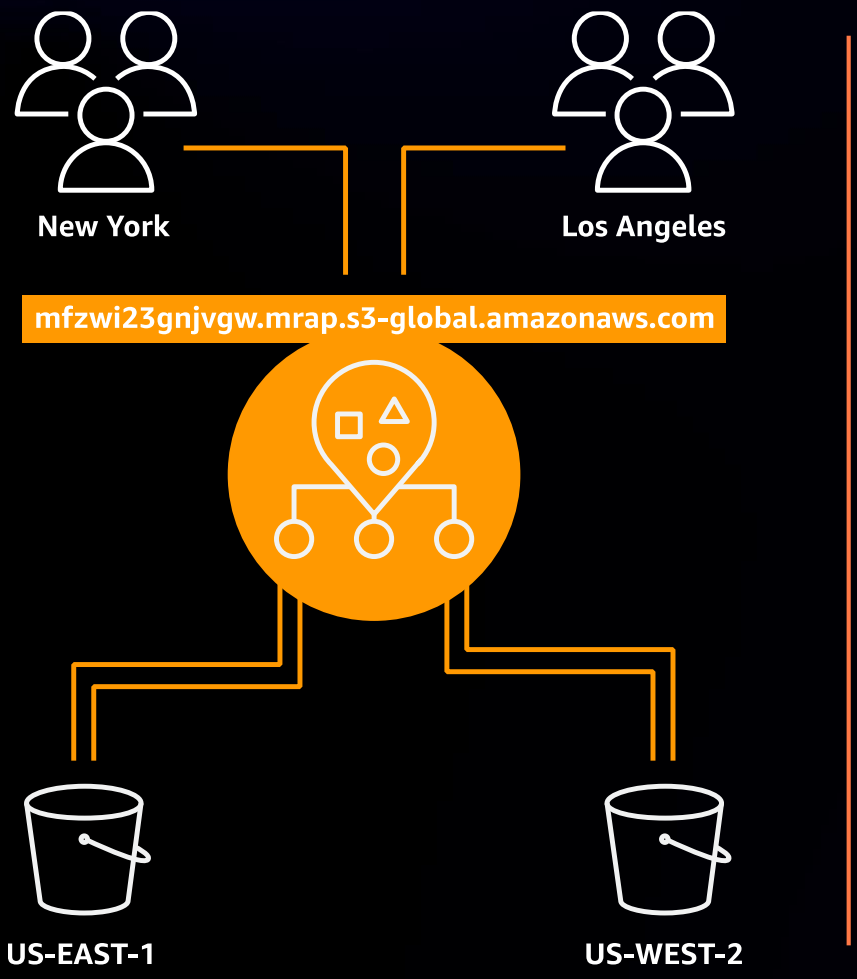
- Add multiple S3 buckets to new global S3 Multi-Region Access Points
- Create a new unique global hostname to access data in buckets in multiple AWS Regions
- Allows applications to operate across multiple AWS Regions without code changes
- Requests made to S3 Multi-Region Access Points global hostname are routed and accelerated across AWS Global Accelerator network

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Configuring S3 Multi-Region Access Points

BACKED BY AWS GLOBAL ACCELERATOR



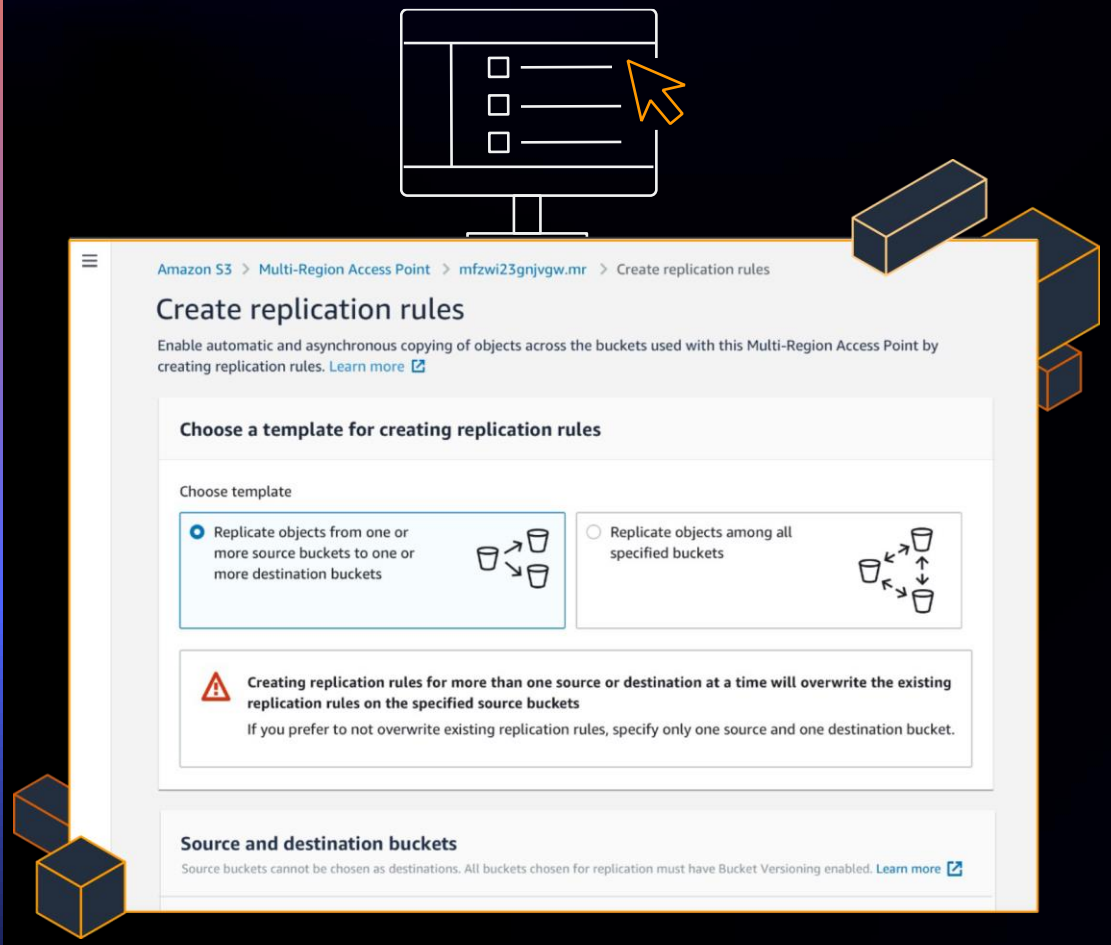
1. Create S3 Multi-Region Access Points in front of one or more S3 buckets with a few clicks in the S3 Management Console, or a single CLI command
2. Once the S3 Multi-Region Access Points have been created, you can configure permission, public access, and replication if you desire

After this set-up, requests made to S3 Multi-Region Access Points global hostname are routed and served by the bucket with the lowest latency

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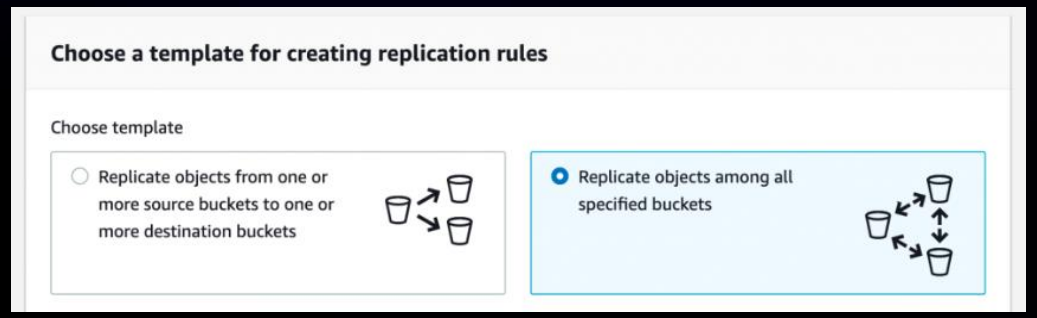
Centrally configure Amazon S3 Cross-Region Replication

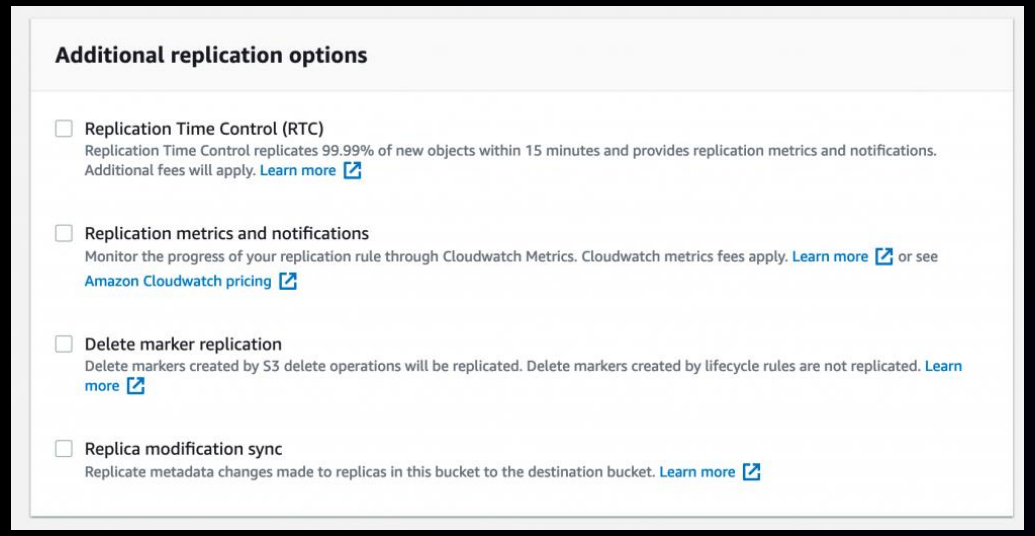


- Simplified experience to easily configure S3 Multi-Region Access Points
- Centrally configure Amazon S3 Cross-Region Replication rules for all source and destination buckets
- Replication rule flexibility and precision to replicate some or all data to one or many destinations
- Configure S3 Replication Time Control (S3 RTC) for SLA-backed replication

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Configuring S3 replication

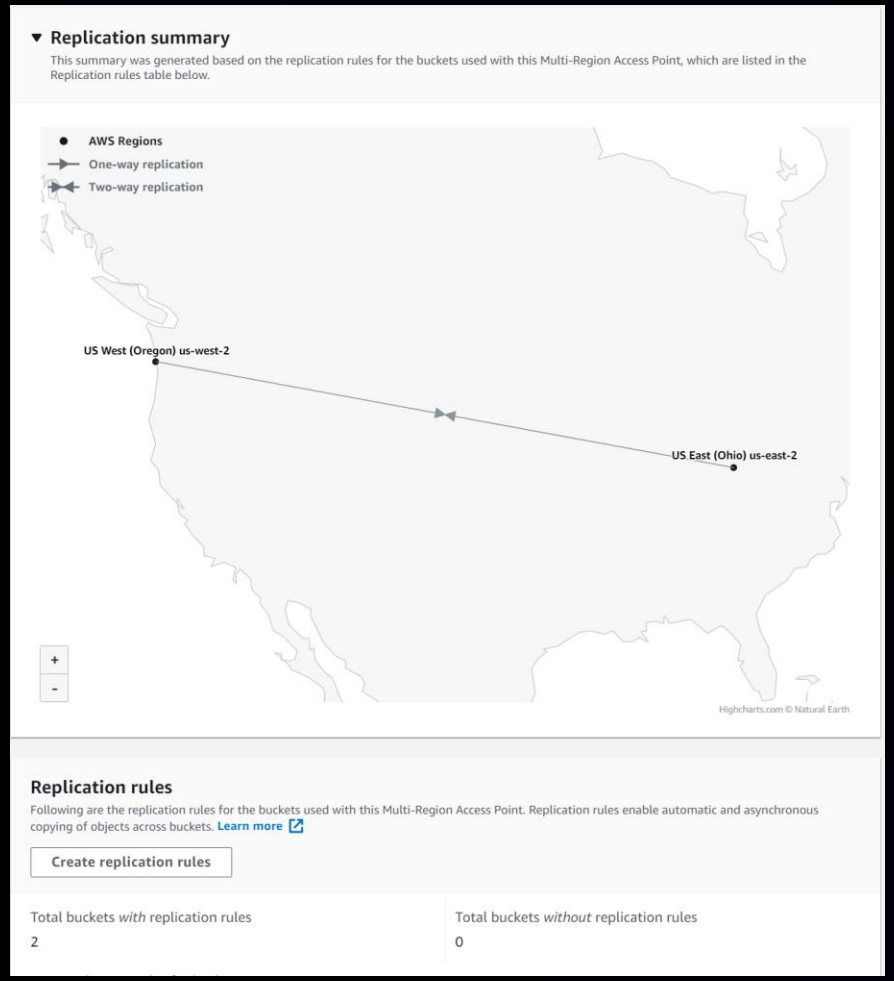


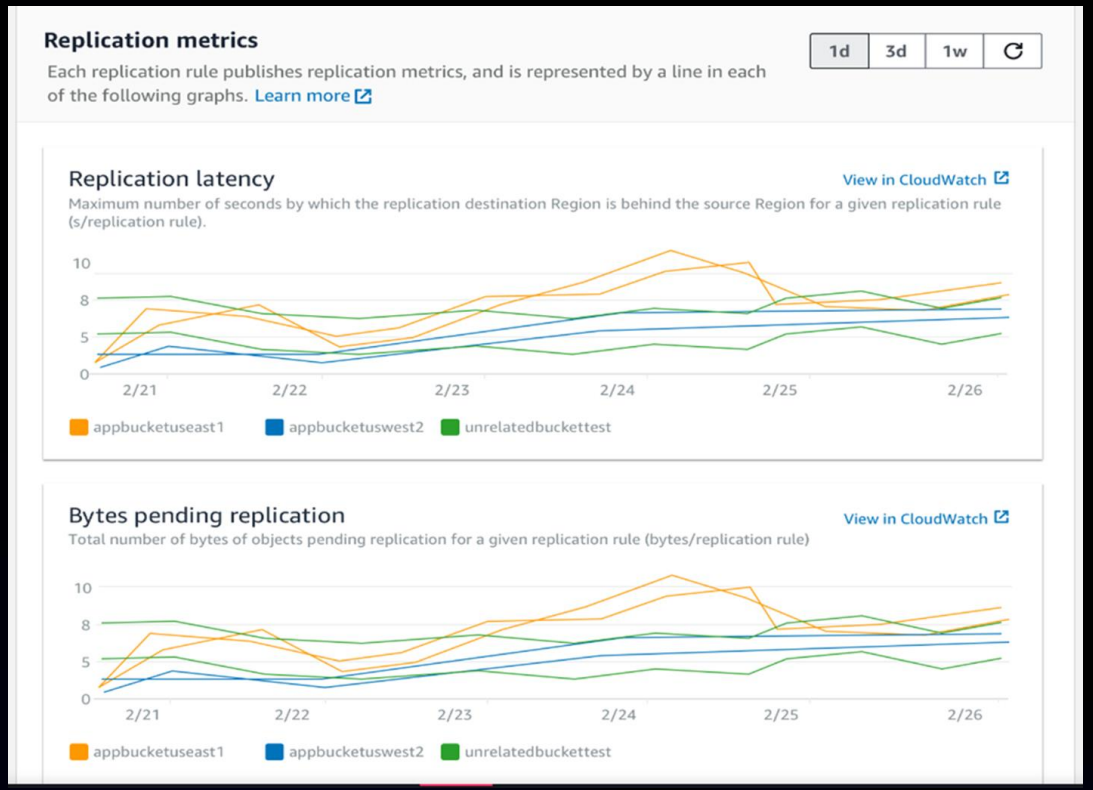


- Using the S3 Multi-Region Access Points console, you can configure from two templates: replicate from one source bucket to destination bucket(s), or have buckets mirror each other
- The console will then create and configure the replication rules and IAM roles
- Configure additional replication options such as S3 RTC, replication metrics and notifications, and bi-directional sync

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S3 Multi-Region Access Points replication metrics and summary map





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Multiple ways to connect to S3 Multi-Region Access Points

Cross-Region VPC with no VPC peering via AWS PrivateLink



On-premise to S3 via AWS PrivateLink

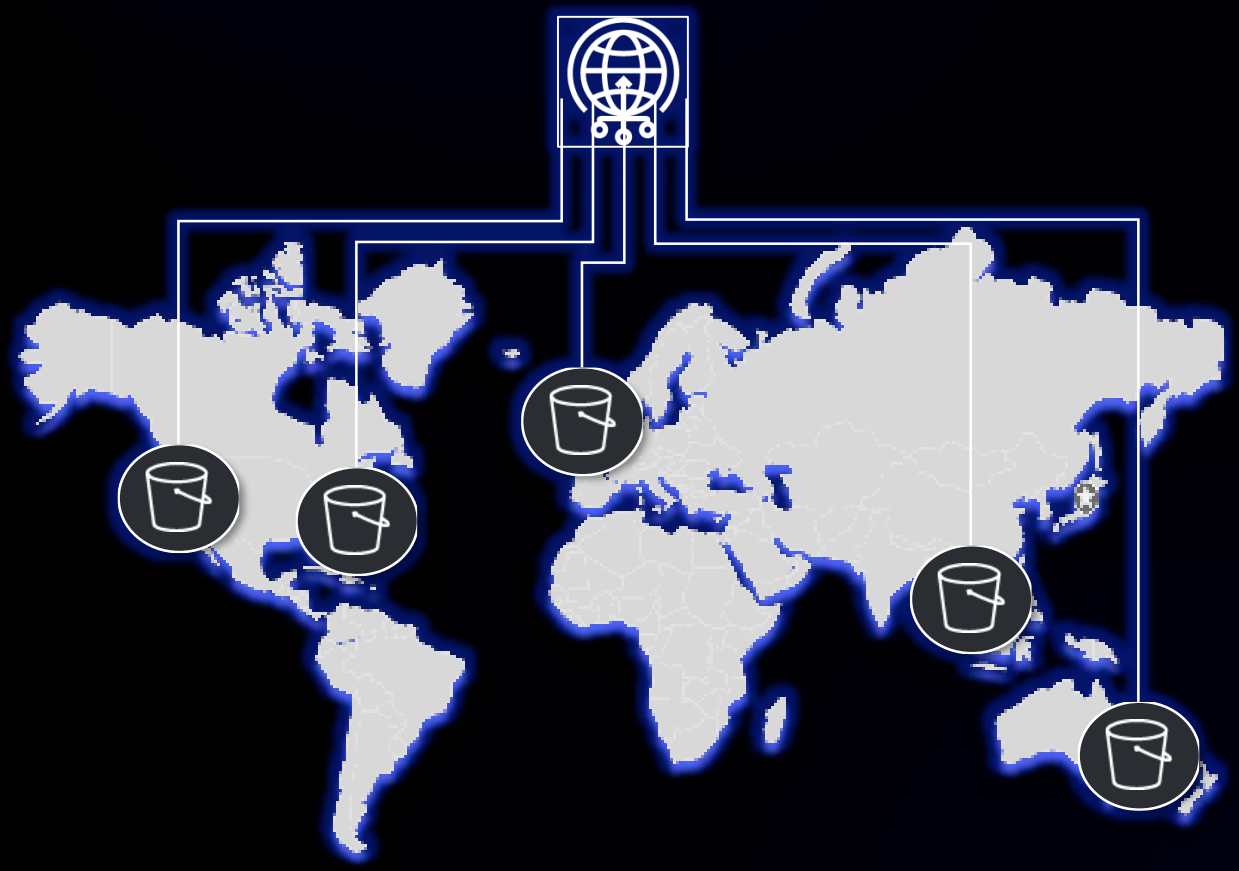


Internet based



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Benefits of Amazon S3 Multi-Region Access Points



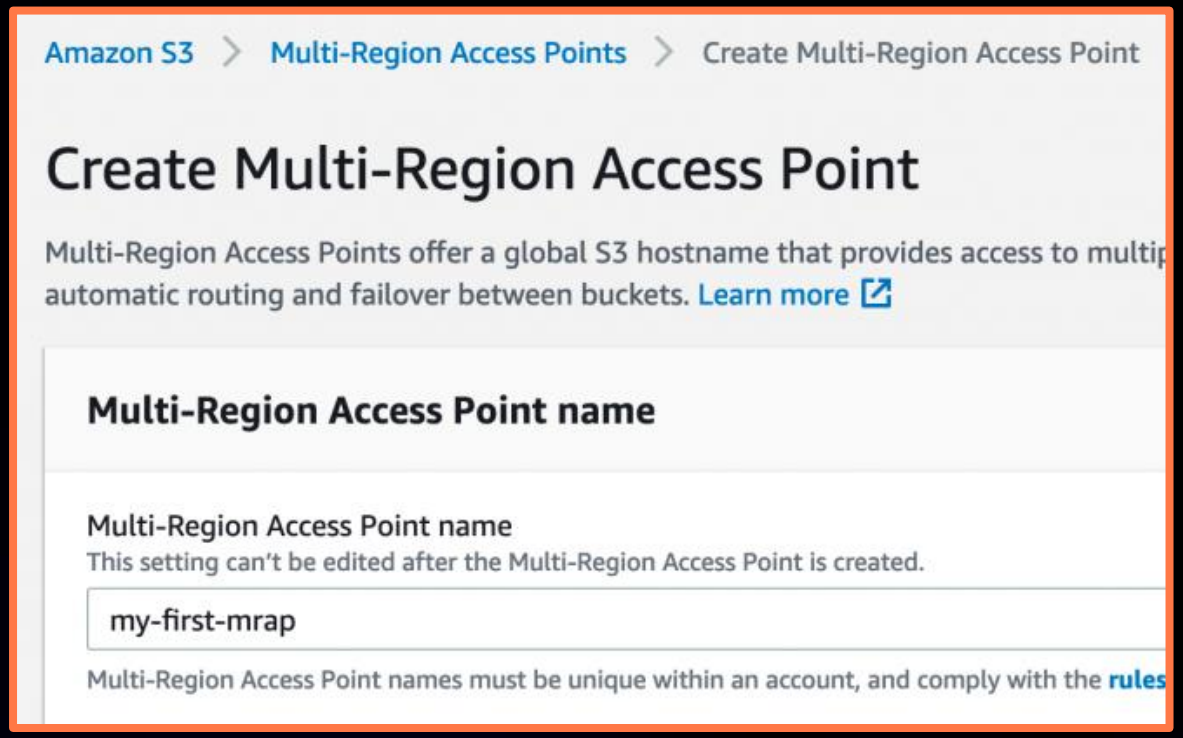
- Improve **performance** with dynamic request routing over the AWS backbone
- **Simplify** development of multi-Region apps with a Region-agnostic storage architecture

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Demo

Next we will go over a demo that shows

- Setting up S3 Multi-Region Access Points
- Accessing buckets via S3 Multi-Region Access Points hostname
- Monitoring replication using summary map and metrics



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Thank you!

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