AWS re:Invent

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

STG311-R3

Backup for applications running on the AWS Cloud

Adam Hunter

Principal Solutions Architect
AWS

Rolland Miller

Global Solutions Architect, AWS Backup
AWS

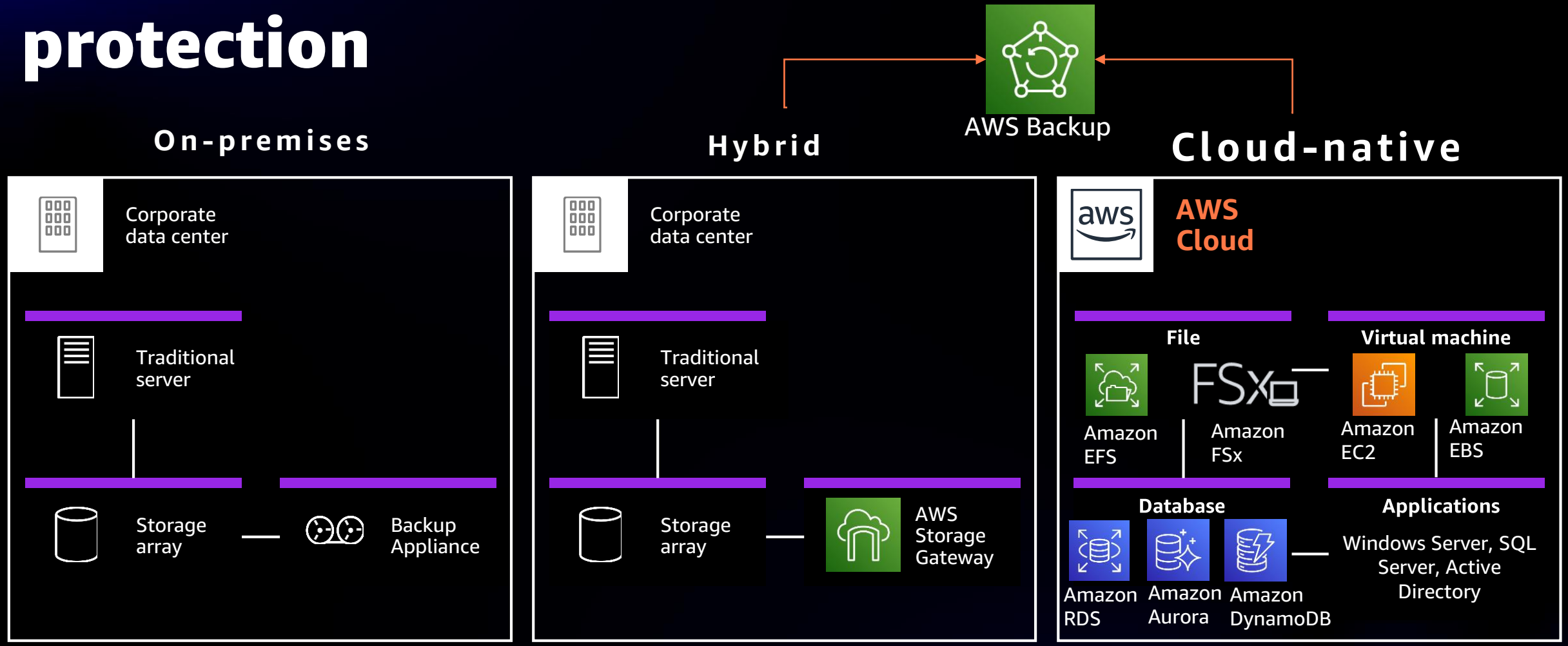
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Typical customer journey with AWS



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An AWS-native solution for centralized data protection



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Why centralized data protection?

Applications span across multiple AWS services



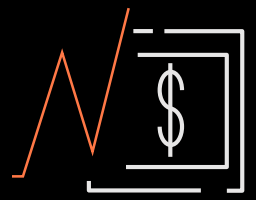
Management

- Centralized monitoring of backup operations
- Auditing distributed logs
- Automated tooling to manage backup of applications



Compliance

- Reporting for audit and compliance
- Automated policy enforcement for data protection
- Managing per-service AWS Identity and Access Management (IAM) roles



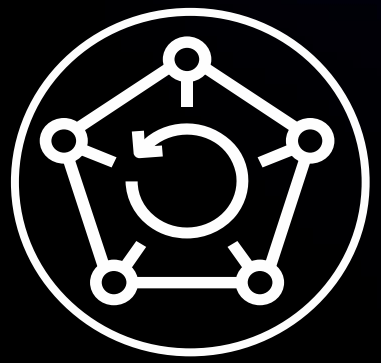
Cost

- Time and resources allocated to building, maintaining, and supporting data protection tools
- Efficiency of disaster recovery and retention practices

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AWS Backup

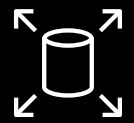


AWS Backup

A fully managed, policy-based backup service that makes it easy to centrally manage and automate the backup of data across AWS services



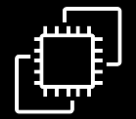
Amazon RDS



Amazon EBS



Amazon EFS



Amazon EC2



FSx for Lustre



AWS Storage Gateway



Amazon DynamoDB



FSx for Windows



Amazon DocumentDB



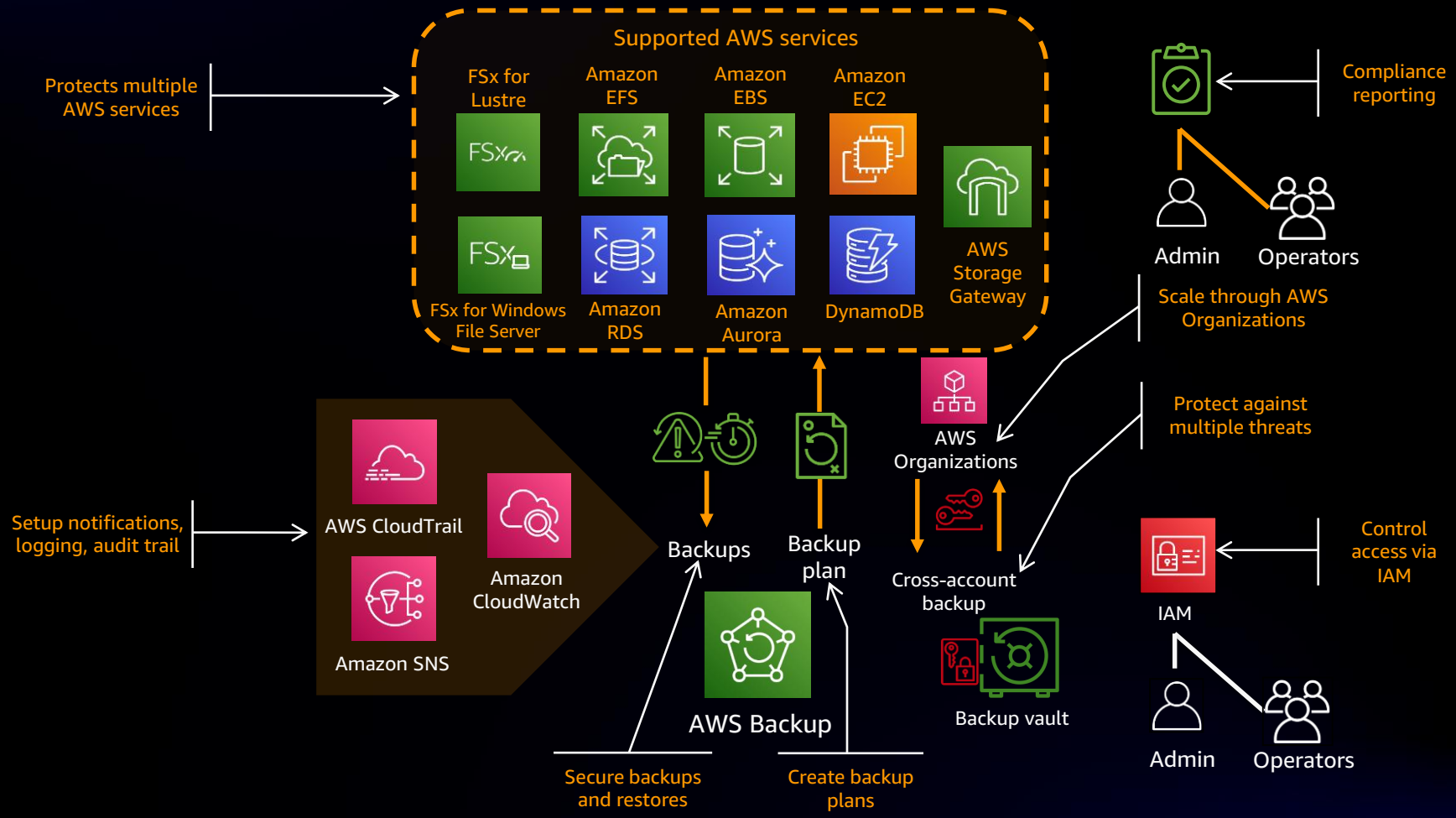
Amazon Neptune



Amazon Aurora

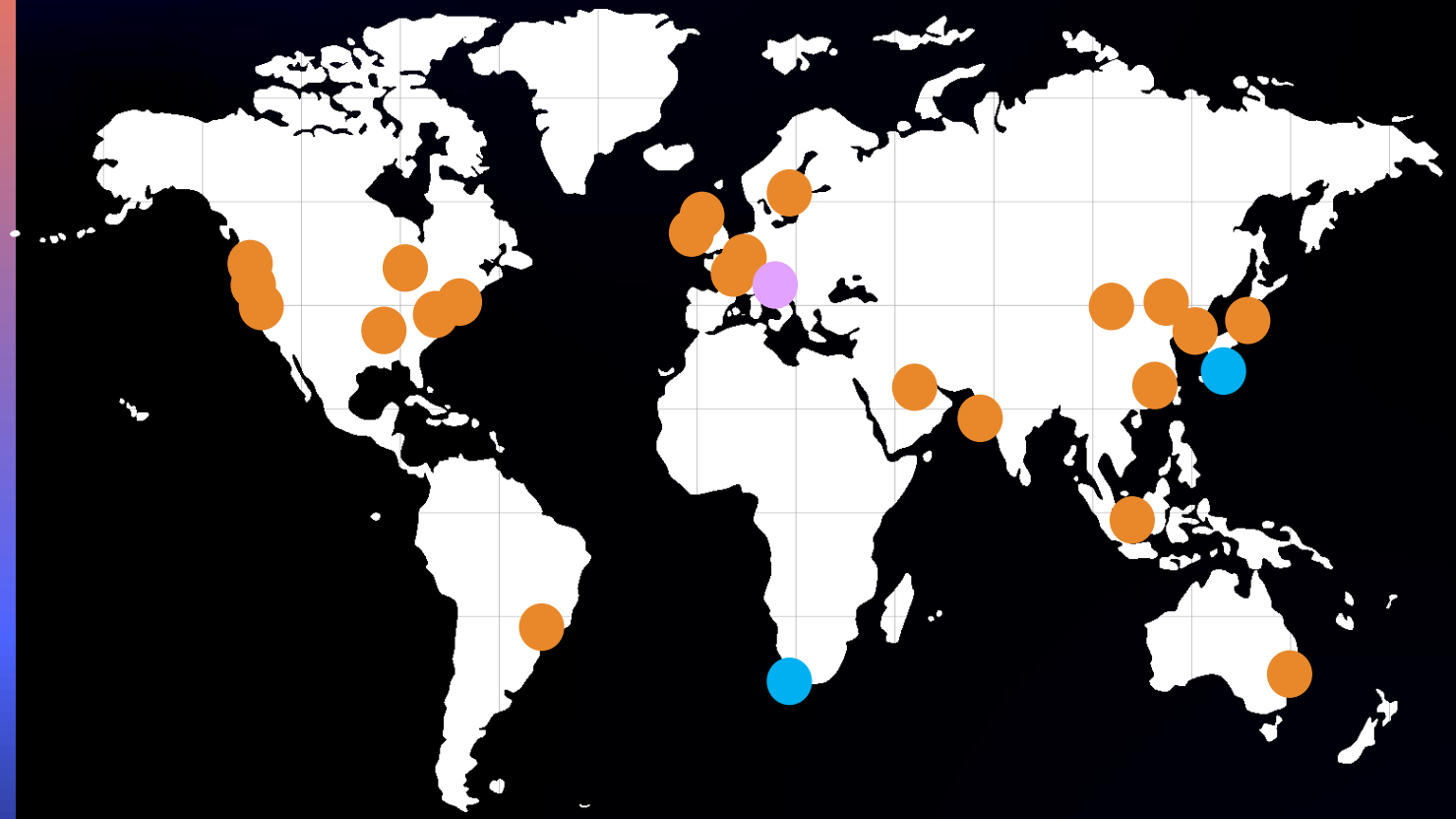
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How AWS Backup works



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AWS Backup is live in 25 Regions today



North America
- US-West-2 (Oregon)
- US-West-1 (N. Cal.)
- US-East-1 (N. Va.)
- US-East-2 (Ohio)
- Canada-Central-1 (Montreal)

GovCloud (US)
- GovCloud-East
- GovCloud-West

Europe
- EU-West-1 (Ireland)
- EU-West-2 (London)
- EU-West-3 (Paris)
- EU-Central-1 (Frankfurt)
- EU-North-1 (Stockholm)
- EU-South-1 (Milan)*

South America
- South America-East-1 (São Paulo)

Middle East
- ME-South-1 (Bahrain)

Africa
- Africa-South-1 (Cape Town)*

Asia Pacific
- APAC-Southeast-2 (Sydney)
- APAC-Southeast-1 (Singapore)
- APAC-Northeast-1 (Tokyo)
- APAC-Northeast-3 (Osaka)**
- APAC-Northeast-2 (Seoul)
- APAC-South-1 (Mumbai)
- APAC-East-1 (Hong Kong)

China
- China (Beijing) region
- China (Ningxia) region

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Key benefits of AWS Backup

Cloud-native data protection



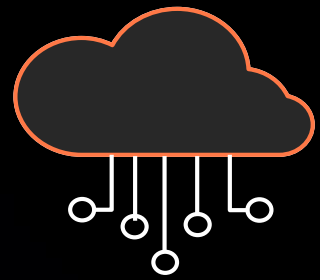
Protect your critical data across AWS services

Compliance



Simplify management of business & regulatory compliance

Disaster recovery



Reduce risk of downtime and build foundation for business continuity

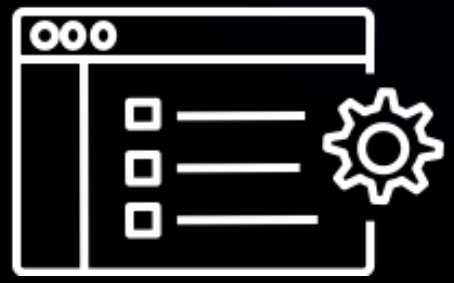
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Getting started with AWS Backup

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Backup policies

Single backup plan



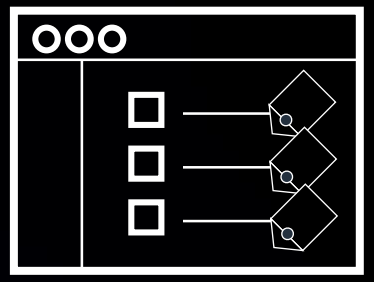
Define a backup schedule to specify the timing and frequency of backups, assign IAM roles

Step 1



Create a lifecycle policy to define timing of movement and period of retention

Step 2



Assign resources to the backup plan using tags or ARNs

Step 3



Manage and monitor backups

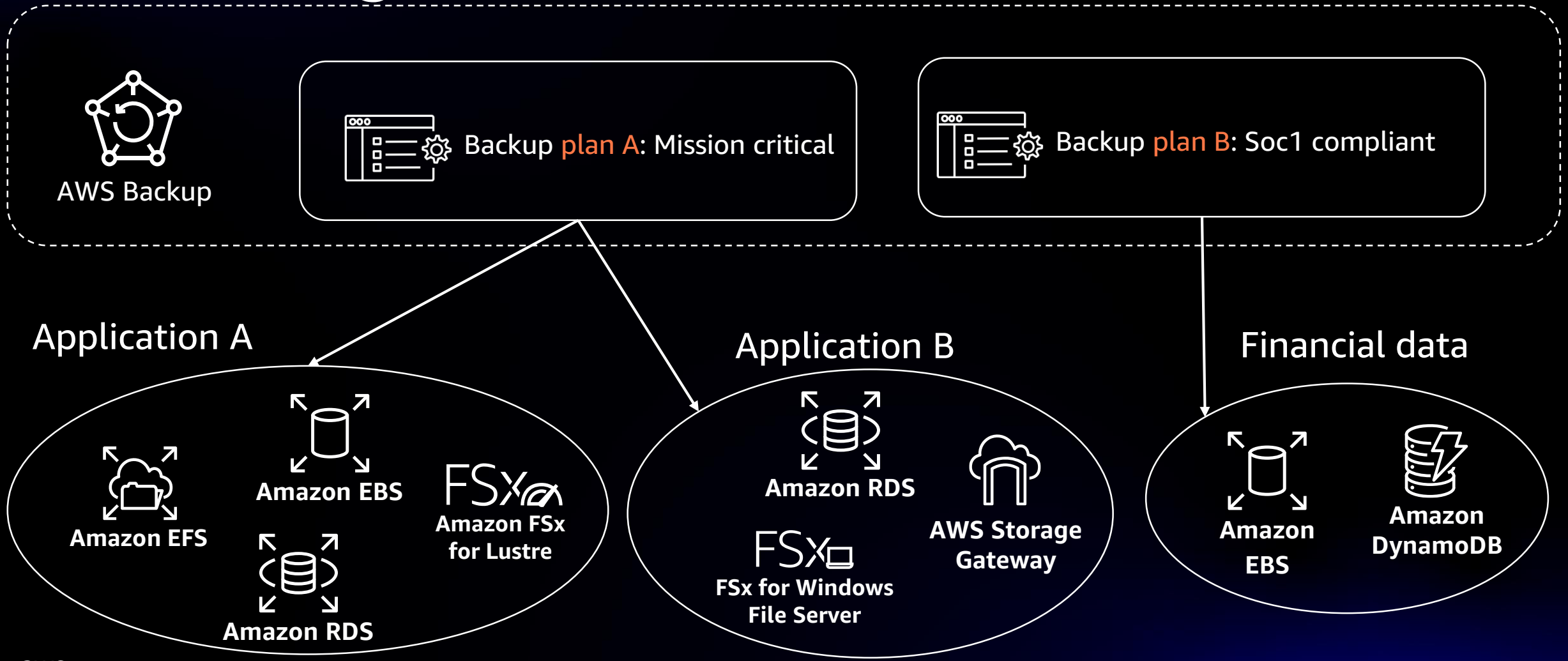
Step 4

A backup policy is a set of rules. Rules are created through these steps.

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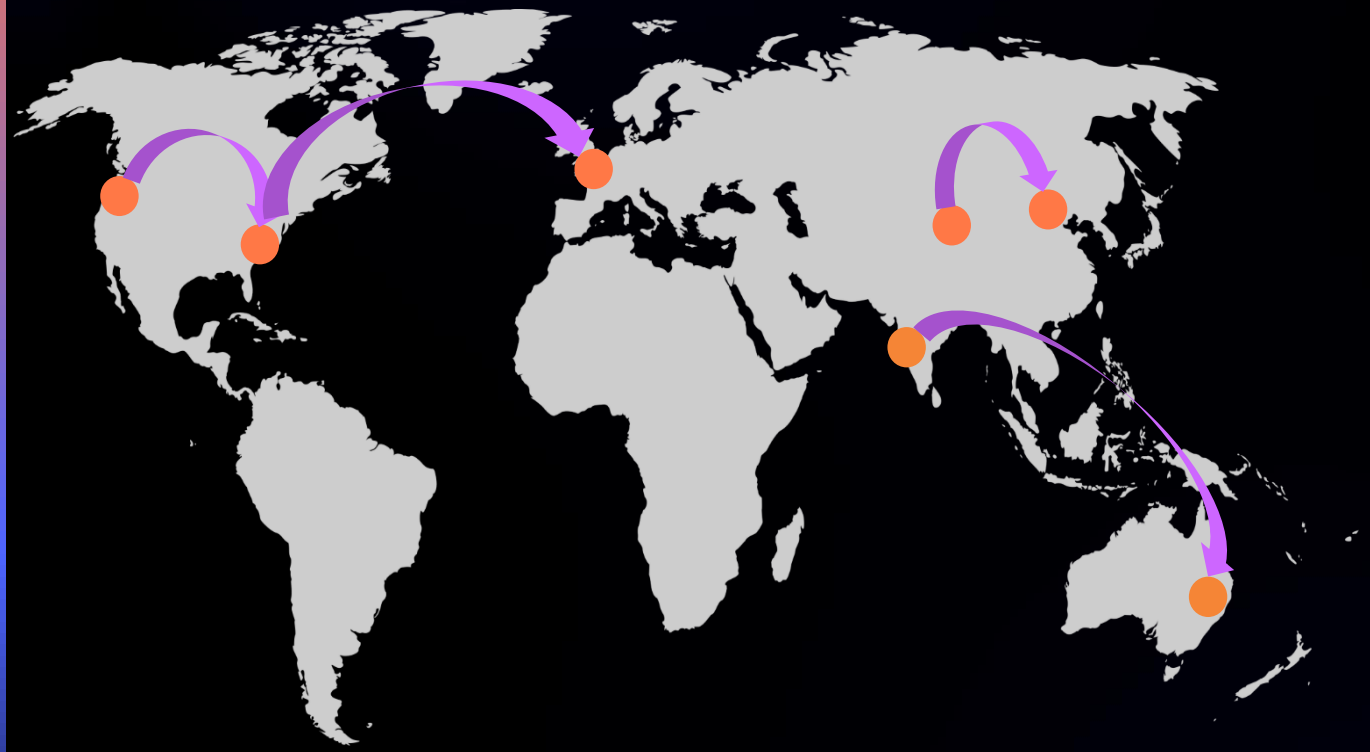
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AWS Backup plans simplify data management on AWS



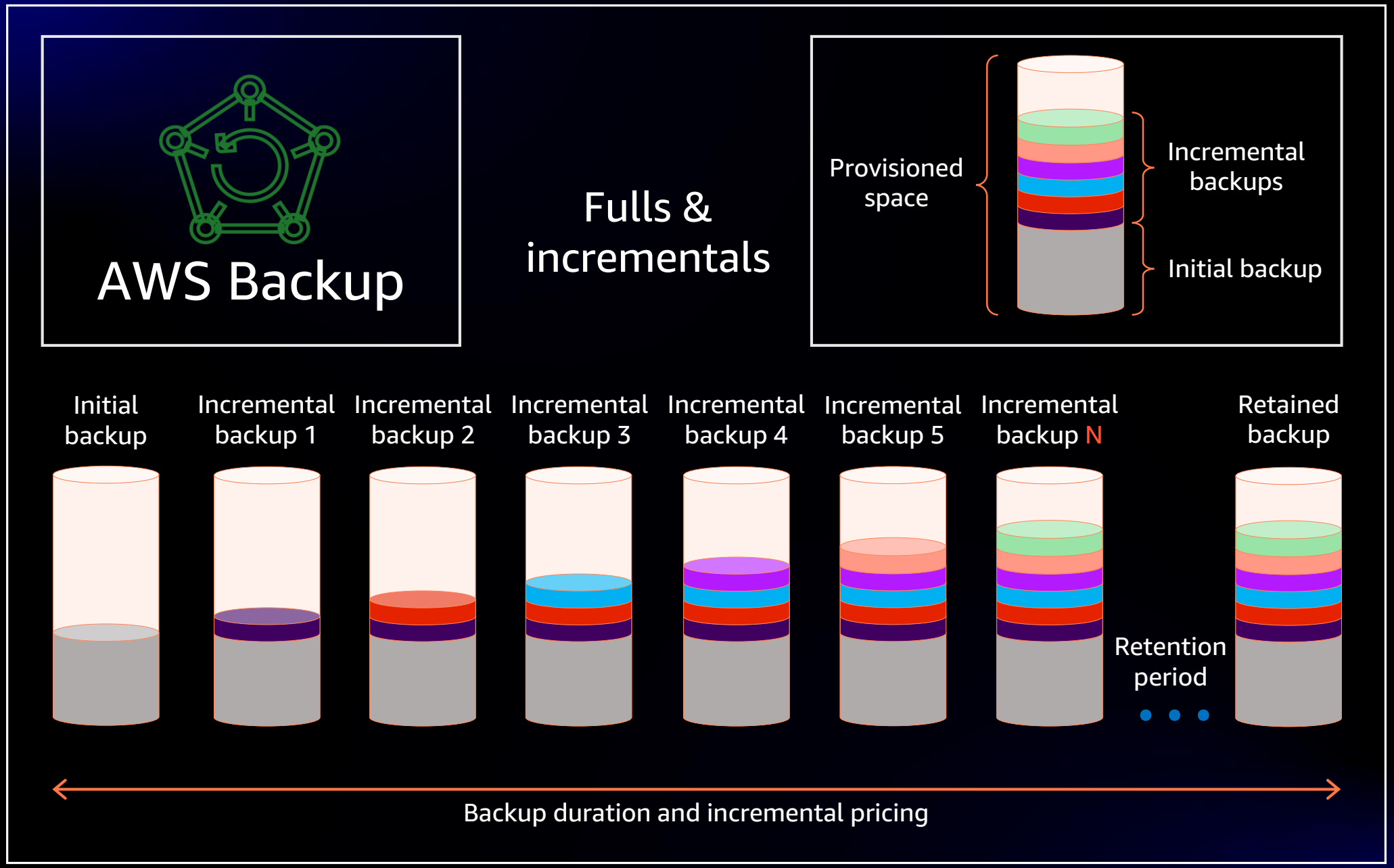
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Cross-Region/cross-account copy of backup



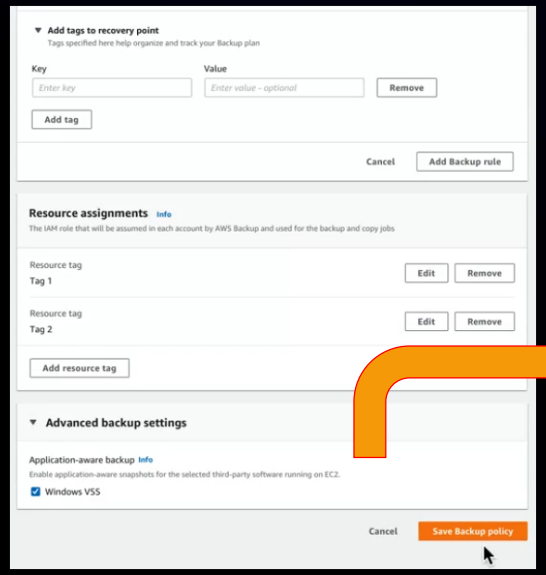
- Copy backups across Regions on demand
- Schedule copies across Regions
- Helps with business continuity and compliance policies
- Use via AWS Backup console, API, or CLI

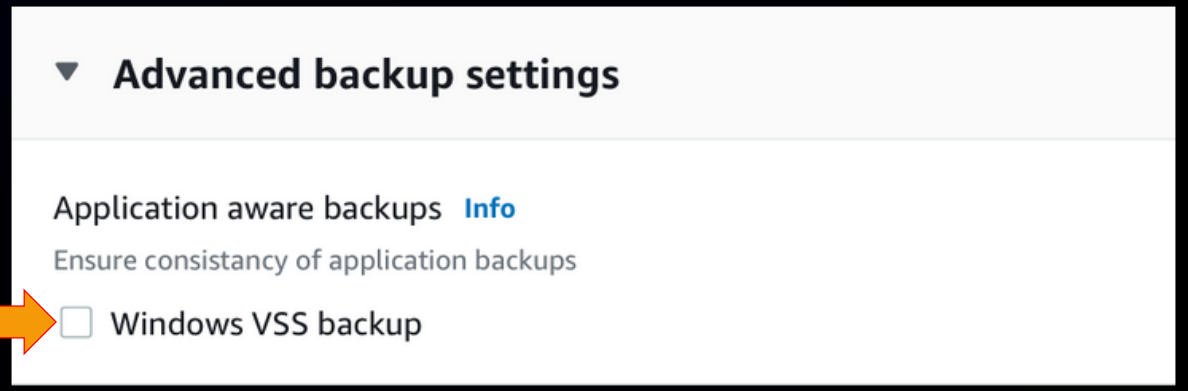
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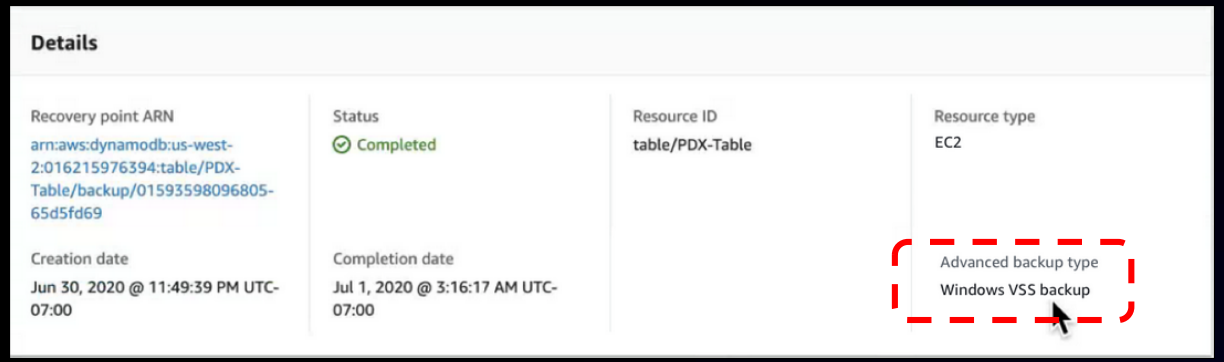
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Application-consistent backup for EC2 Windows/SQL





Example: Windows File System on EC2



VSS-consistent restores are identified within **Resource type** area of console

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Backup vaults: logical constructs for additional security



Backup vault

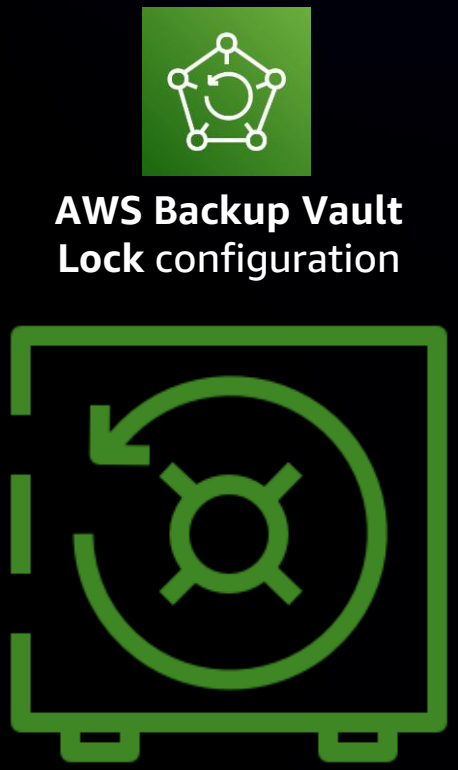


- Logical constructs – backup vaults are AWS Backup managed resources for storing backup data
- Control access – vaults are configurable to support resource level permissions via IAM and to separate permissions for different backups
- Encrypt separately – use a CMK or a service-specific default key for each vault
- Protect against deletion – vault data is visible to the respective service, but managed under vault access policy

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AWS Backup Vault Lock

AWS Backup Vault Lock protects your backups against malicious or accidental actions



- Attached to the backup vault – you enable AWS Backup Vault Lock configuration at the backup vault level
- Protects against deletion – no user, including the root account, can delete your backups
- Protects against lifecycle changes – no user, including the root account, can change your backups' retention periods or update backups' transition to cold storage settings
- Enable AWS Backup Vault Lock using AWS Backup API, CLI, or SDK

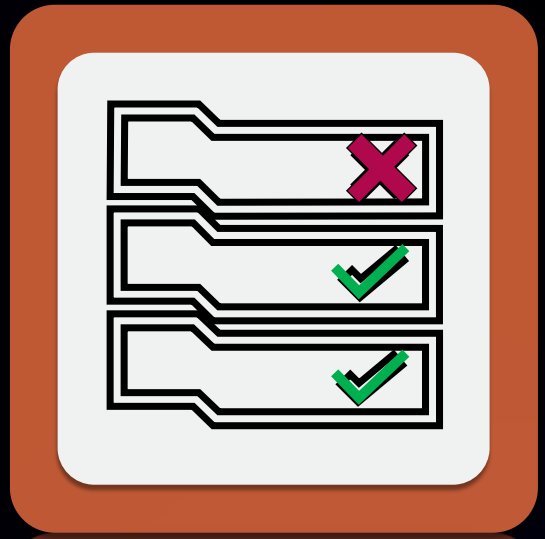
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AWS Backup Audit Manager

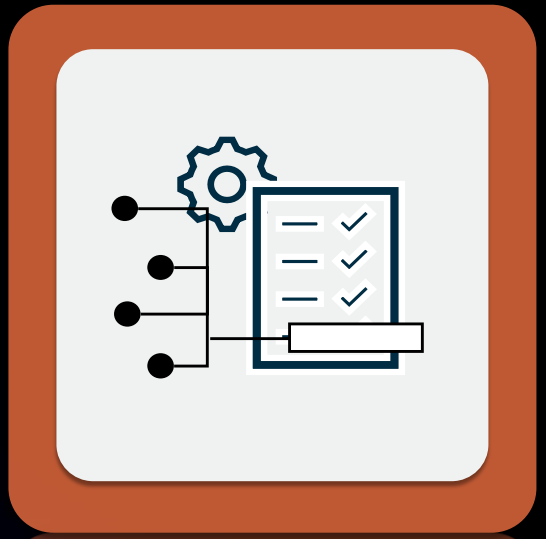
Monitor, evaluate, and demonstrate your backup compliance posture for centralized data governance



Continuously track your backup activities



Automatically audit your backup practices



Generate periodic and on-demand audit reports

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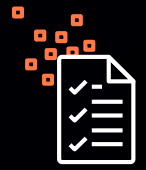
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Summary of activities of AWS Backup



Simplify backup operations

- Automate backup scheduling, retention management, and life cycle management
- Manage throughout entire organization and across multiple accounts
- Centralize monitoring & alerting
- Improve consistency across backup operations with tagging



Ensure compliance & security

- Centrally enforce backup policies & audit backup activity across AWS services
- Secure backups with secondary backup encryption
- Prevent malicious or accidental deletion of backups through IAM policies
- Implement cross-Region backups for disaster recovery planning



Save time and money

- Remove need for costly, custom solutions or manual processes
- Centralize backup operations for improved organizational efficiencies

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Let’s begin the workshop

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Welcome to the STG 311 workshop

AWS Backup for applications running on the AWS Cloud

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STG311 workshop speakers



Rolland Miller
AWS Backup Svc Team
Sr. Solutions Architect



Adam Hunter
Principal Solutions
Architect

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STG311 workshop lab helpers



Brian Benscoter
Sr. Solutions Architect



Adam Provost
Principal Storage
Solutions Architect



Allyn Henderson
Sr. Storage Architect



Fathima Kamal
Sr. Storage Architect



Victor Munoz
Sr. Storage Architect

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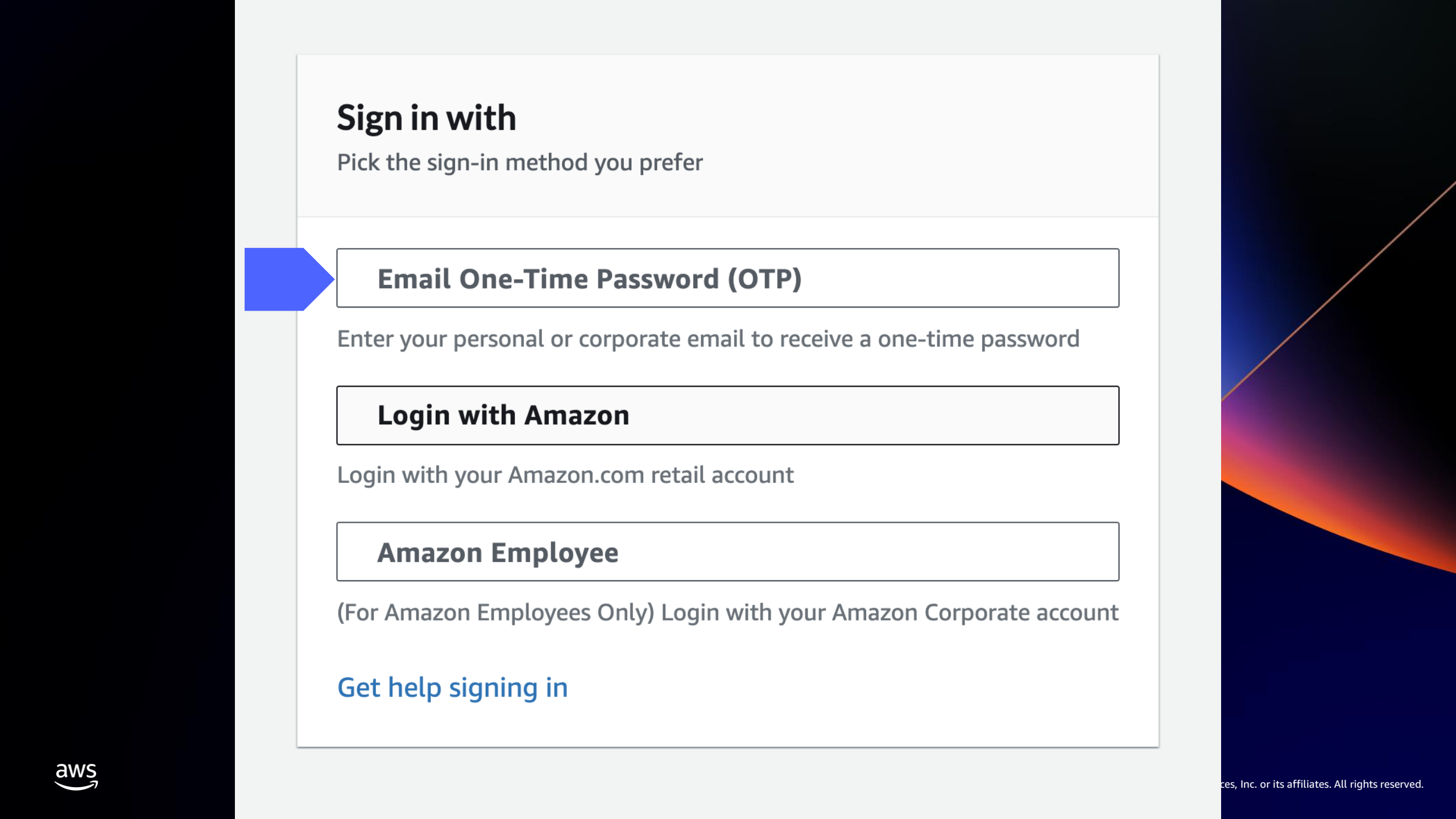
AWS Backup workshop link

https://catalog.us-east-1.prod.workshops.aws/v2/workshops/74237958-77c8-4e7f-a02f-ae201a04d759/en-US/aws-backup-lab

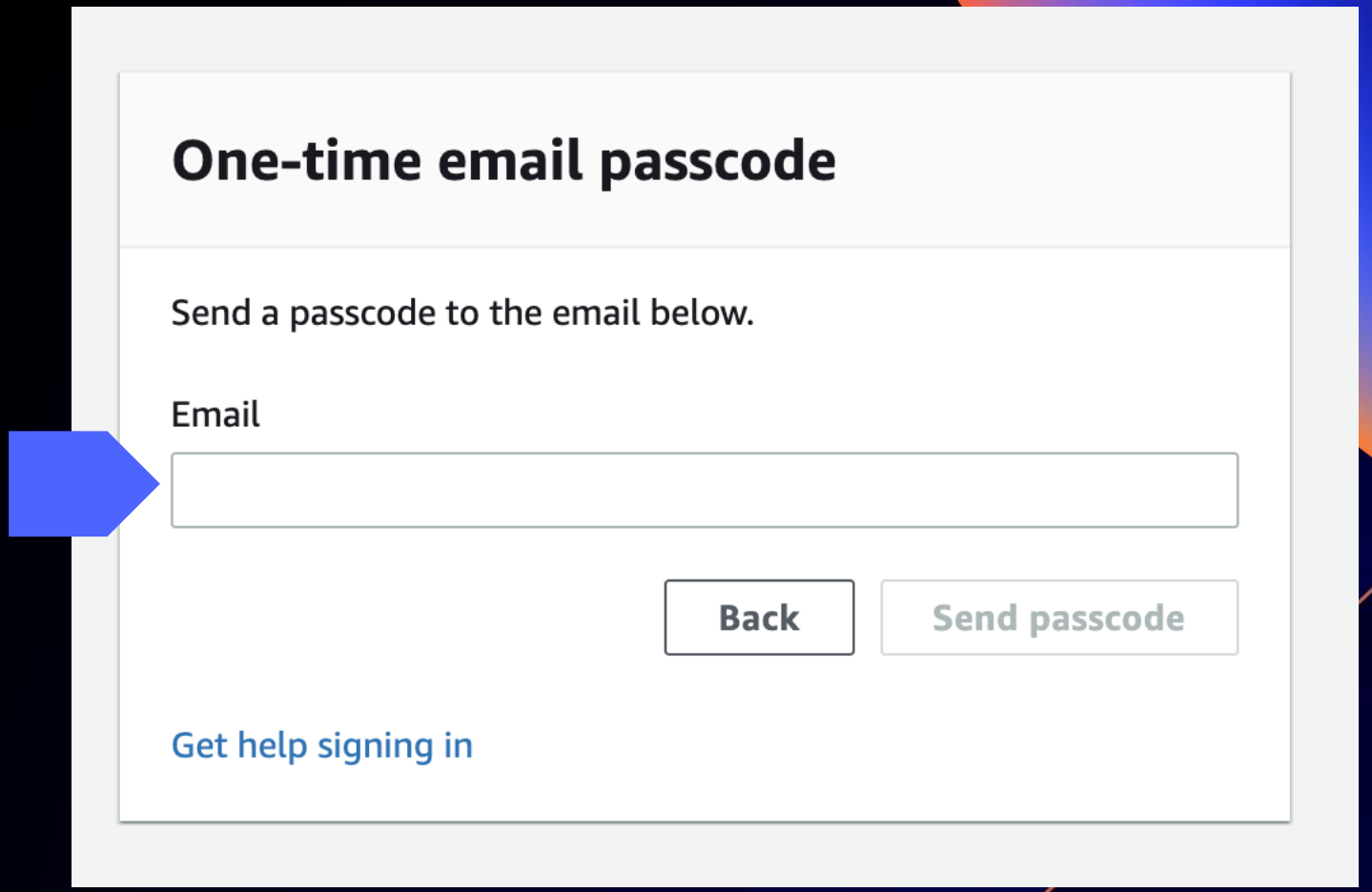
Event Engine dashboard

https://dashboard.eventengine.run/login

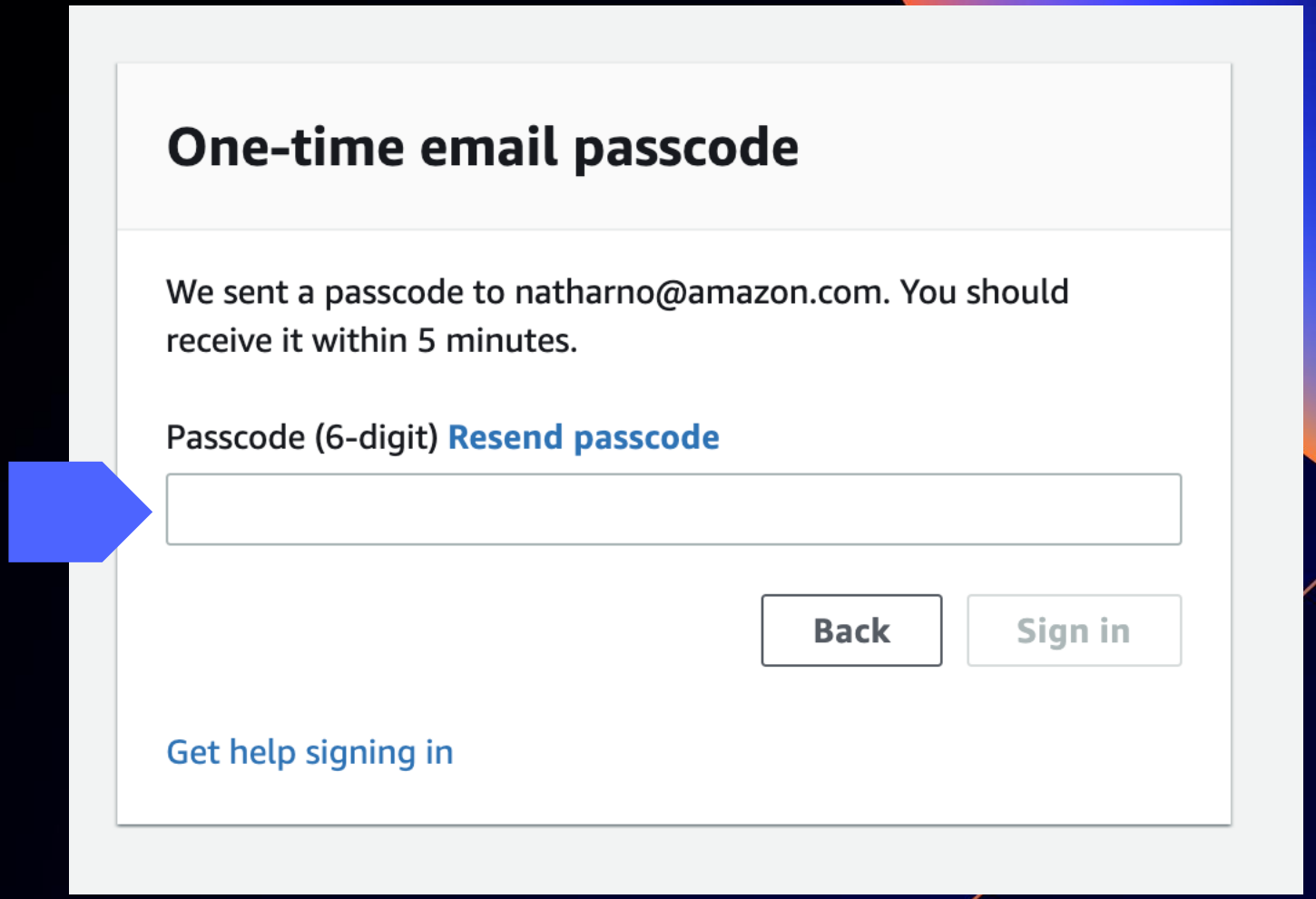
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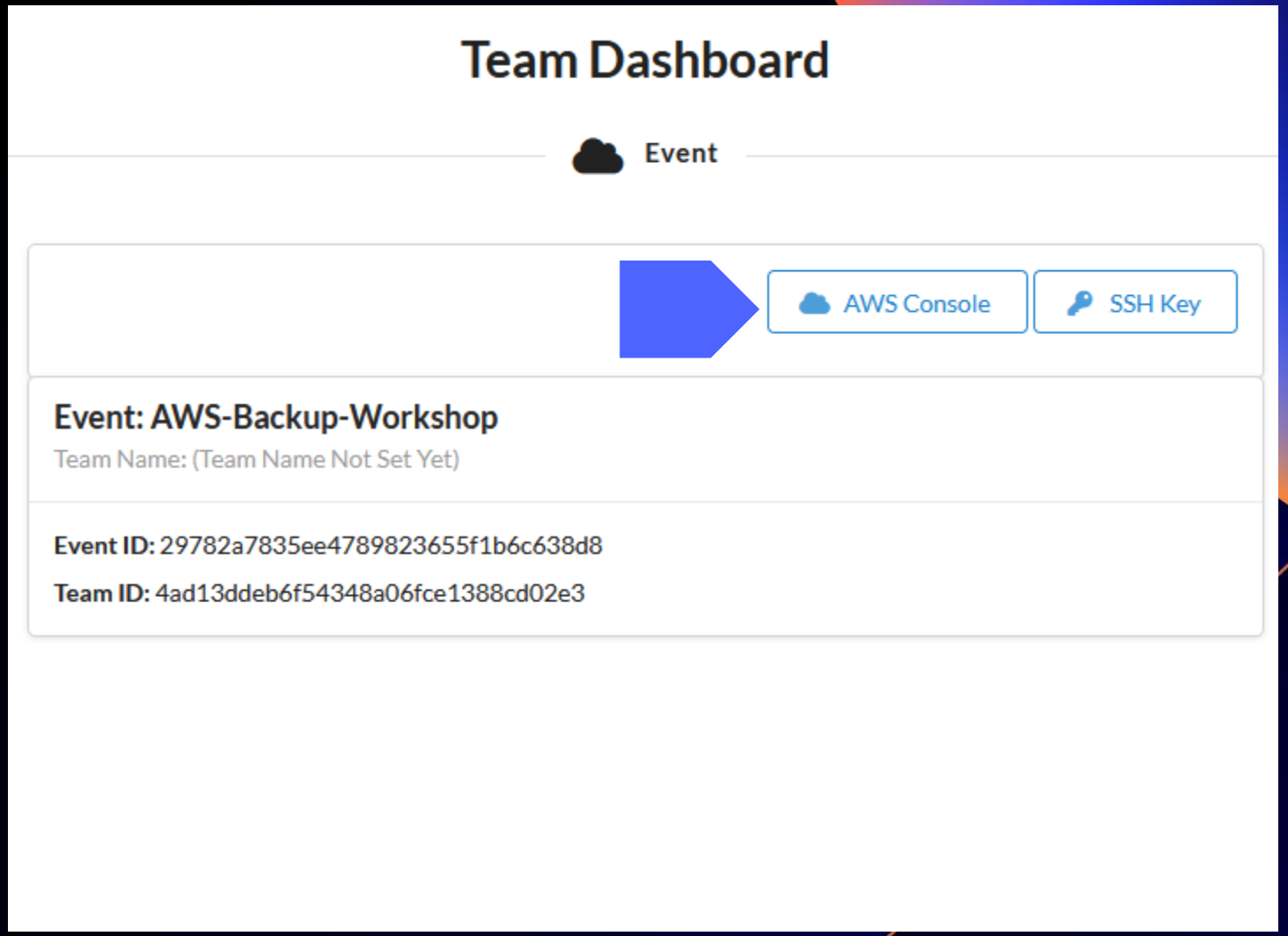
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AWS Console Login

Remember to only use "us-east-1" as your region, unless otherwise directed by the event operator.

Login Link

Open AWS Console | Copy Login Link

Credentials / CLI Snippets

Mac / Linux | Windows

Mac or Linux

```
export AWS_DEFAULT_REGION=us-east-1
export AWS_ACCESS_KEY_ID=ASIAQG5DSLGOCNFLYDV4
export AWS_SECRET_ACCESS_KEY=8CYjOn2jccj2Sn8FnTRhxZkc/Fjhd8xdr4Md7tua
export AWS_SESSION_TOKEN=IQoJb3JpZ2luX2VjEPz//////////wEaCXVzLWVhc3QtMSJGMEQCIErLi6ivrBFsX9IQ+hjO2xLzSREJBBI/
```

How do I use the AWS CLI?

Checkout the AWS CLI documentation here: https://docs.aws.amazon.com/cli/latest/userguide/cli-chap-welcome.html

OK

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AWS Management Console

AWS services

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- EFS

All services

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