
AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

IMP203

Manage the costs of mission applications in the cloud

Michelangelo Markus (he/him)
Solutions Architect
AWS

Patrick Guha (he/him)
Solutions Architect
AWS

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Agenda

- Why costs matter for mission-driven organizations
- Cost concerns in the cloud
- 3 pillars to manage costs and guard against overspend

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Why costs matter for mission-driven organizations

- Grants take time and effort to apply for
- Stakeholders need clear insight to IT spend
- Resources should go towards the cause

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Cost concerns in the cloud

- Scalability is a double-edged sword
- Billing data is not real time
- Pay-as-you-go is great because you only pay for what you use, unless you didn’t intend to use it

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

“Good intentions never work, you need good mechanisms to make anything happen.”

Jeff Bezos

Founder and Executive Chair of Amazon

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Successful Cost Management

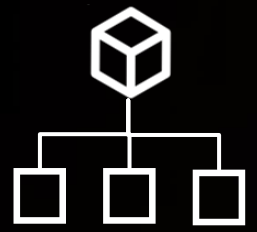
Enforce

Monitor

Build

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Enforce



Embrace multi-account to easily control expenditures

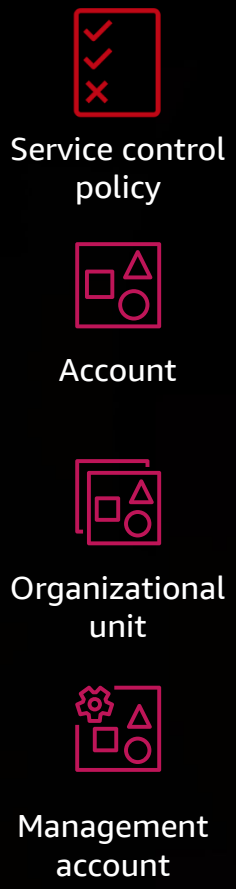
Set guardrails on actions and require tags via service control policies

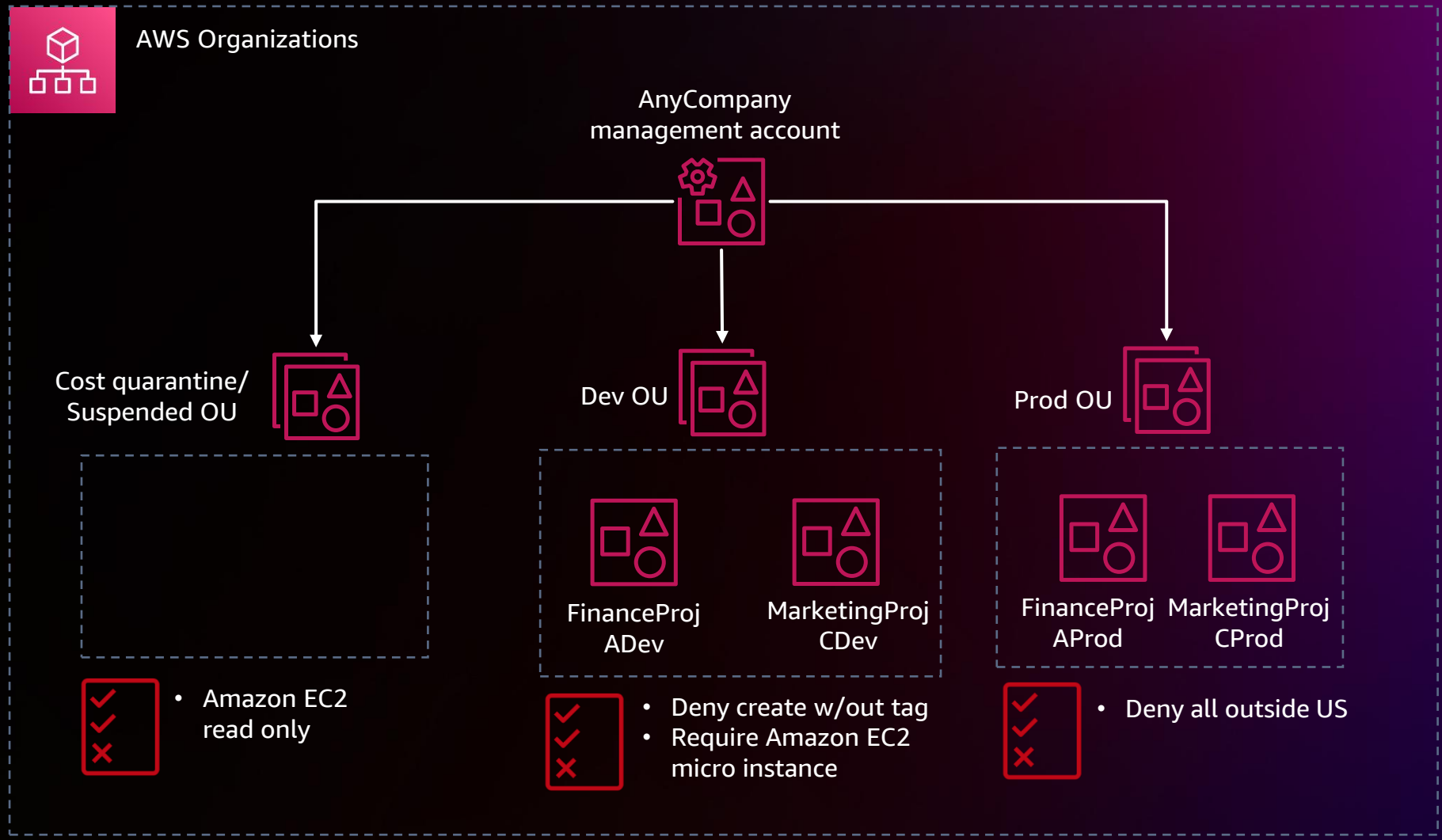
Enforce standardized tags via tag policies

aws

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Enforce





© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Monitor

Use Amazon CloudWatch metrics as proxy measures

Create budgets with multiple thresholds

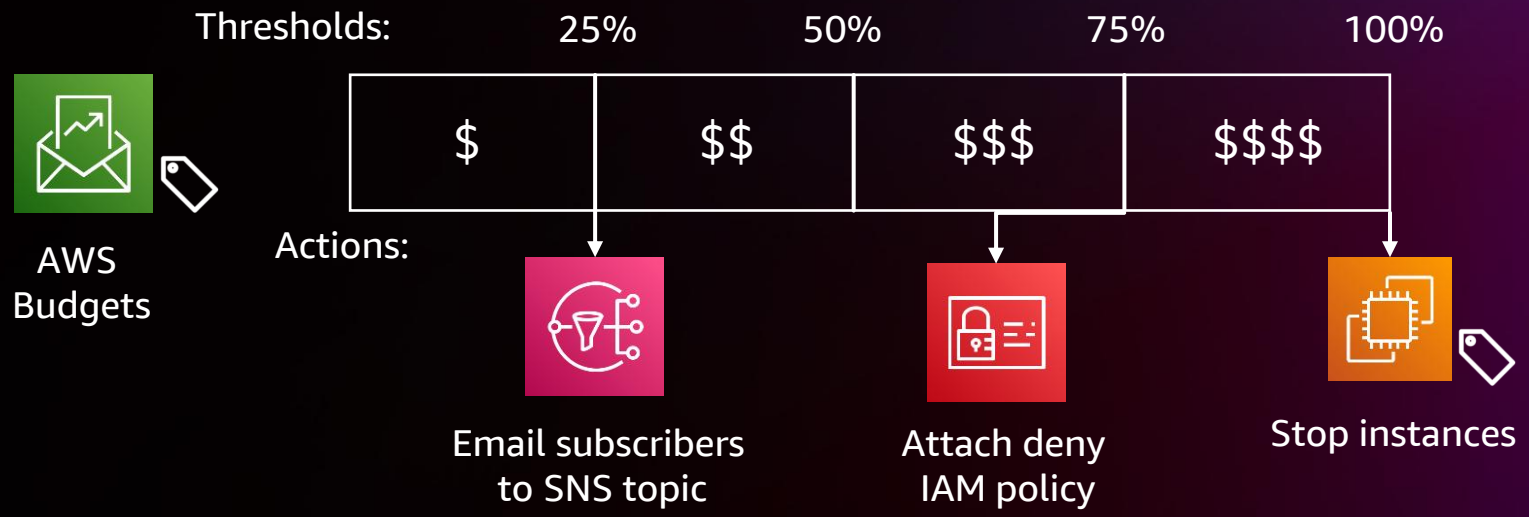
Enable cost allocation tags

aws

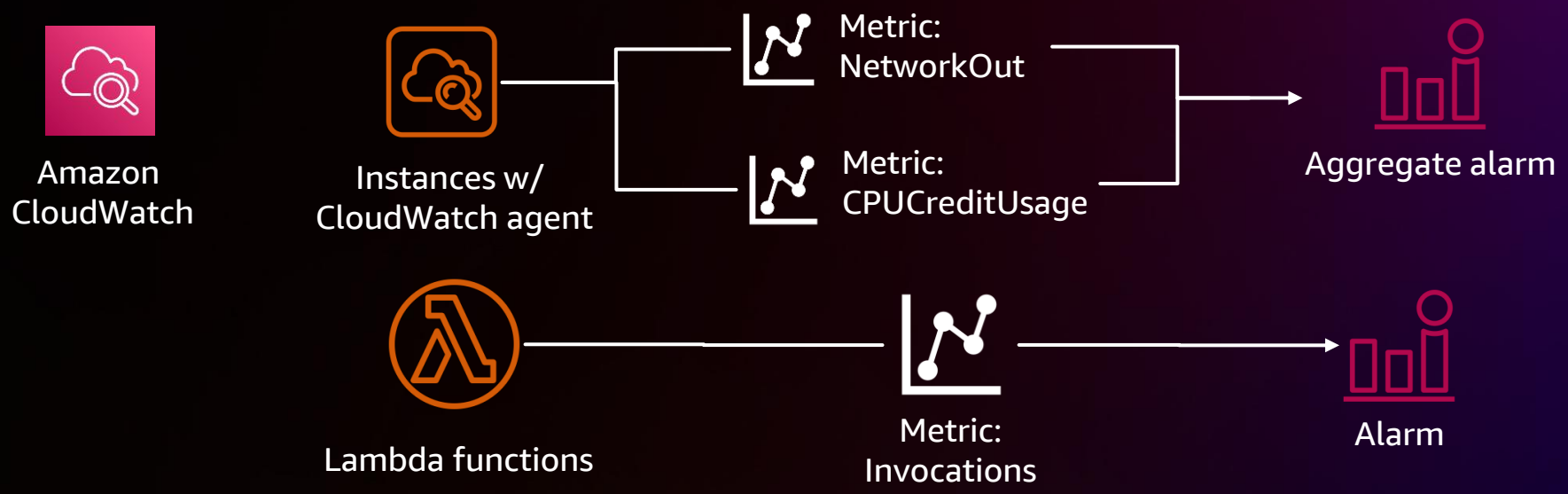
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Monitor

8–12 hours



Minutes or seconds:



© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Build

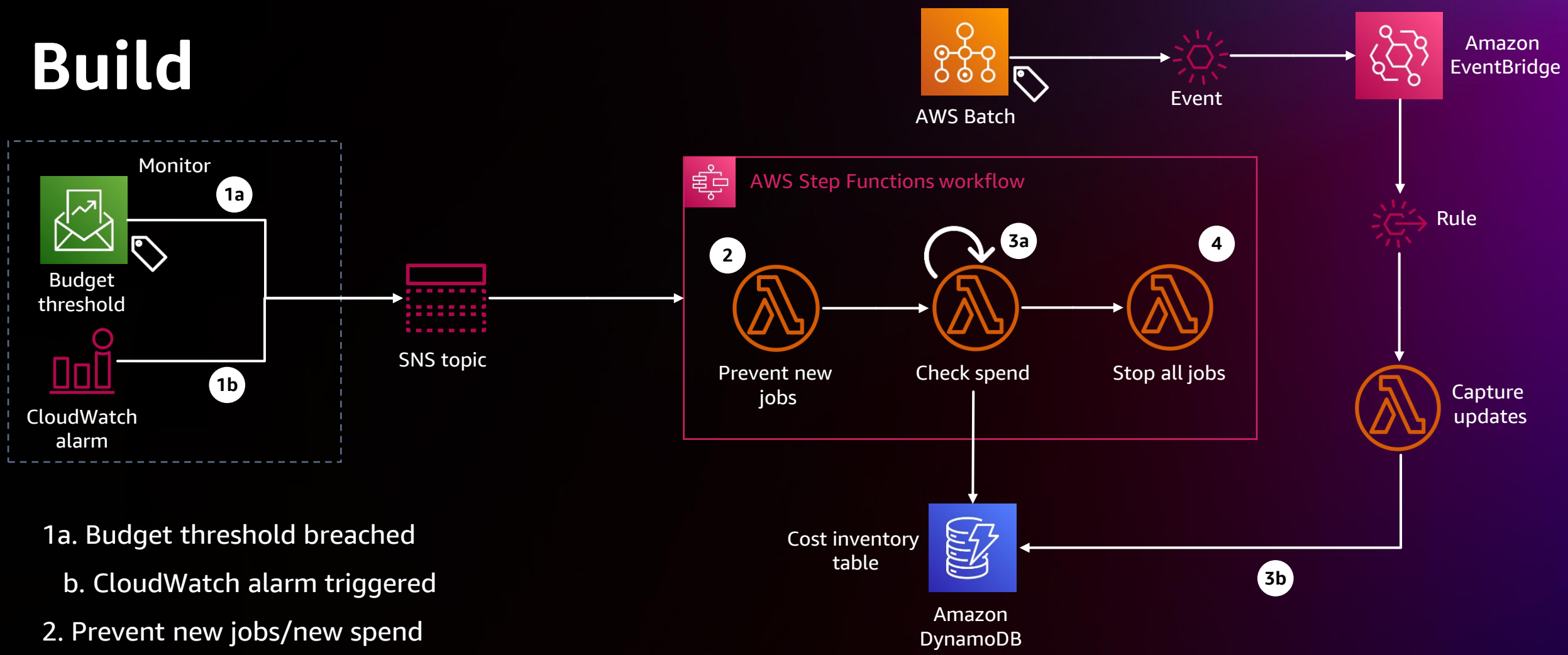
Use Lambda functions to remediate cost events

Consider event-driven triggers for cost events

Optimize code and thoughtful error handling

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Build



1a. Budget threshold breached

b. CloudWatch alarm triggered

2. Prevent new jobs/new spend

3a. Track in-flight job spend by polling cost inventory table

b. Capture changes to in-flight jobs, such as finished jobs

4. Stop all jobs once cost inventory table indicates 100% spent

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Examples

Lambda Emergency Throttler
https://github.com/aws-samples/lambda-emergency-throttler
AWS Samples GitHub

AWS Batch Serverless Cost Guardian
https://aws.amazon.com/blogs/hpc/avoid-overspending-with-aws-batch-using-a-serverless-cost-guardian-monitoring-architecture/
AWS HPC Blog

aws
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Thank you!

Michelangelo Markus
markumi@amazon.com

Patrick Guha
patrguha@amazon.com

Please complete the session survey in the **mobile app**

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.