

ADD0

ALL DAY DEVOPS

NOVEMBER 12, 2020

Margaret Valtierra

**Enabling a Self-
Service Public
Cloud Culture at
Morningstar**





Challenges

- Offer self-service, decentralized account structure
- Encourage developers to own AWS security best practices & cost optimization
- Comply with regulated industry standards

Solution: Robots?

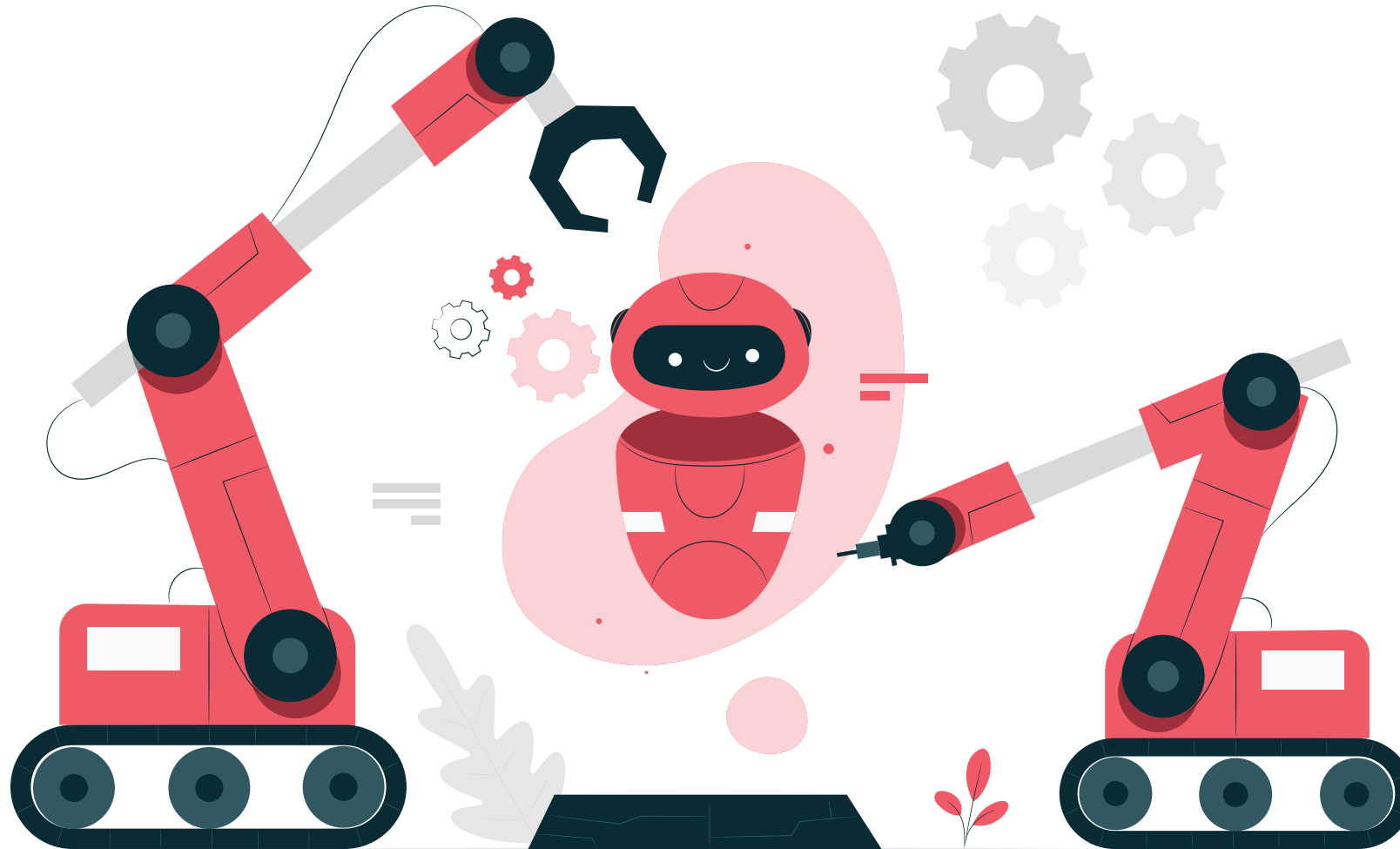


Image source: Freepik.com

About Me

Margaret Valtierra
Program Manager, Morningstar
AWS Community Hero

Get in touch
@margaretvaltie

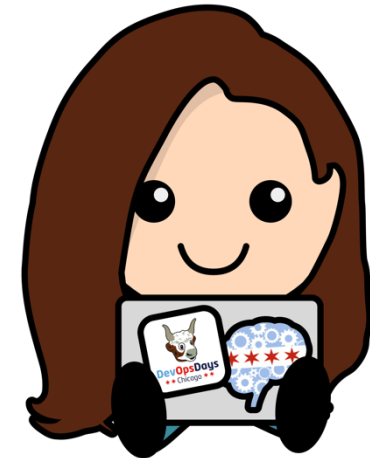


Image by @sosplush





Tl;dr:

- Managing 600+ AWS accounts is hard
- Guardrails to empower developers
- Incentivize teams to own best practices
- Automate compliance and scanning



Goal: Strong Cloud Foundations

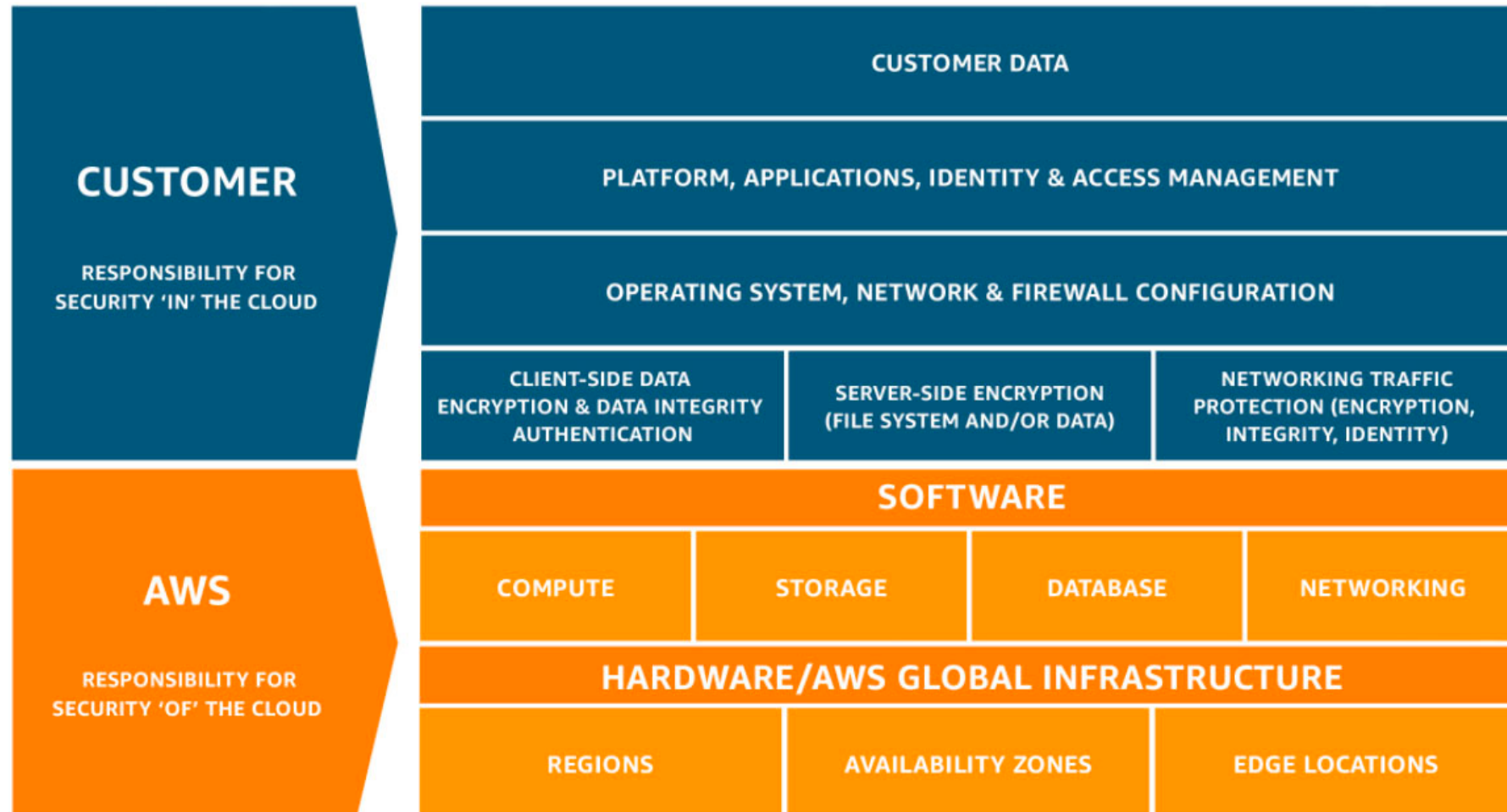




Guardrails for cloud

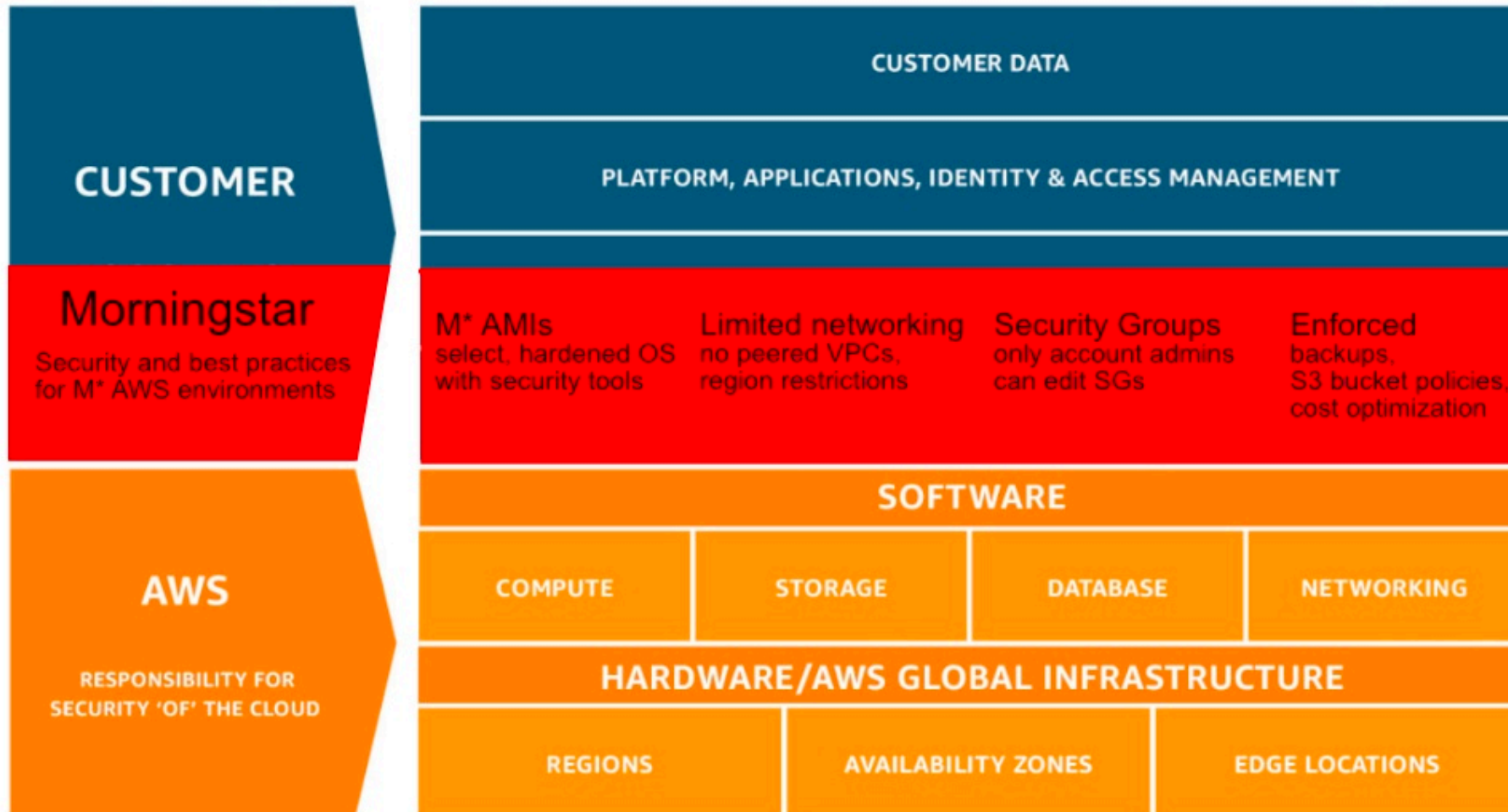
- Design for cost
- Use infrastructure as code
- Build in security
- Cloud-native tooling

AWS Shared Responsibility Model



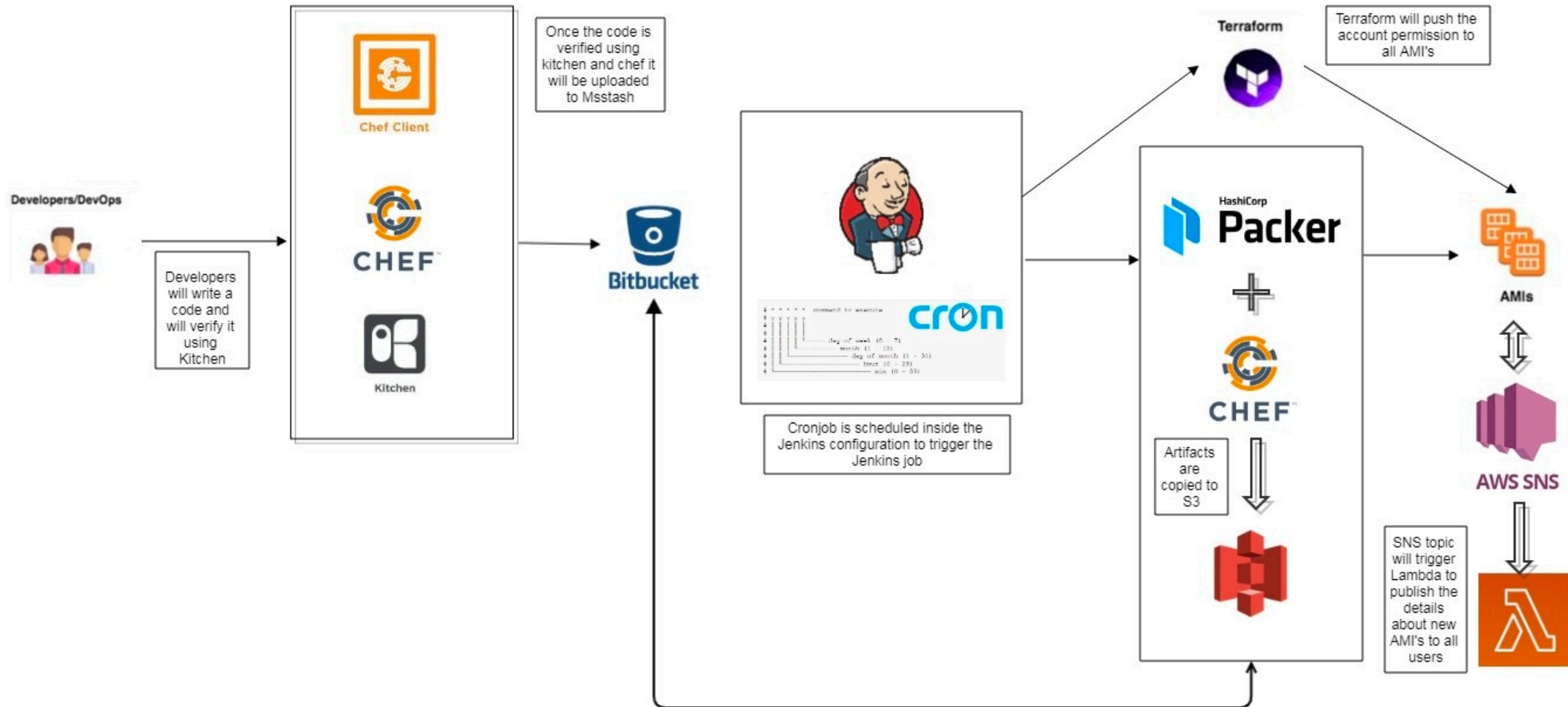
Source: AWS Shared Responsibility Model

Morningstar Responsibility Model

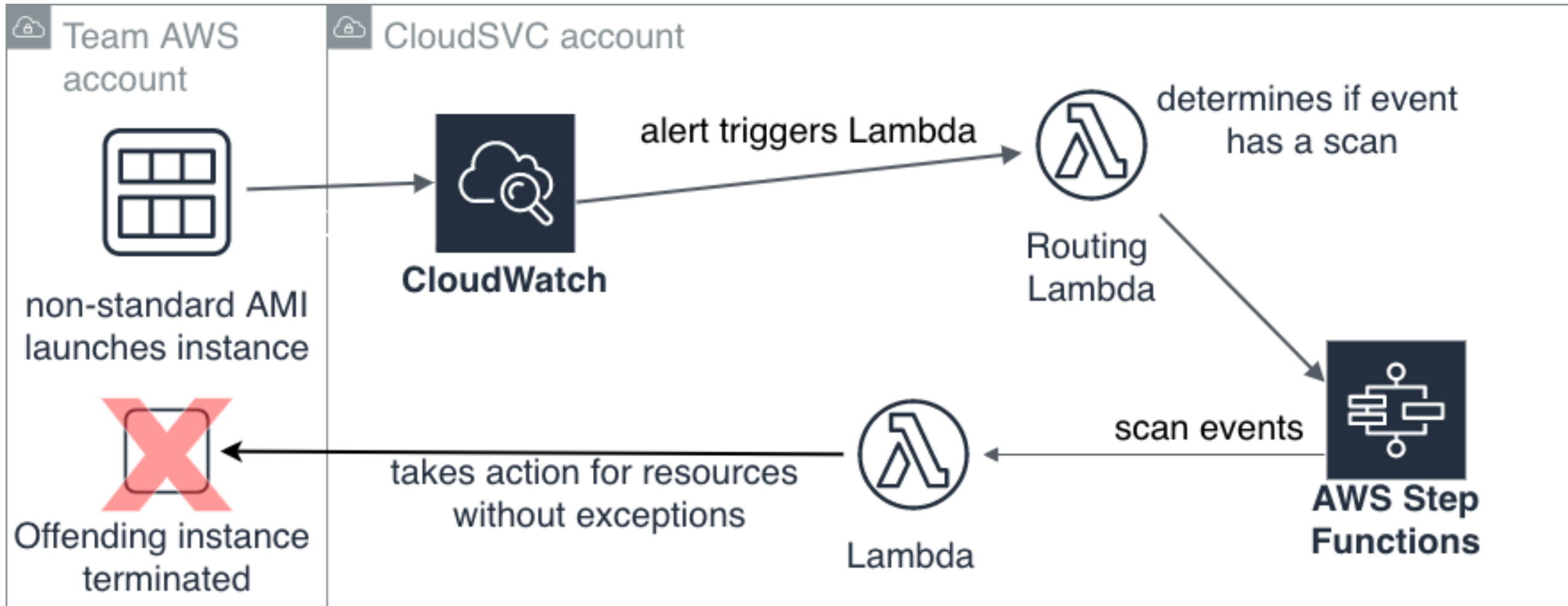


Source: AWS Shared Responsibility Model

Morningstar AMIs



Trust, but auto-terminate



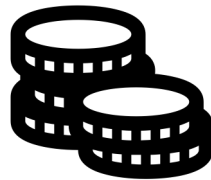


Goal: self-service





Cloud Services COE



Architecture

Security

Finance

Infrastructure

Operations

Architectural
Guidance
POCs

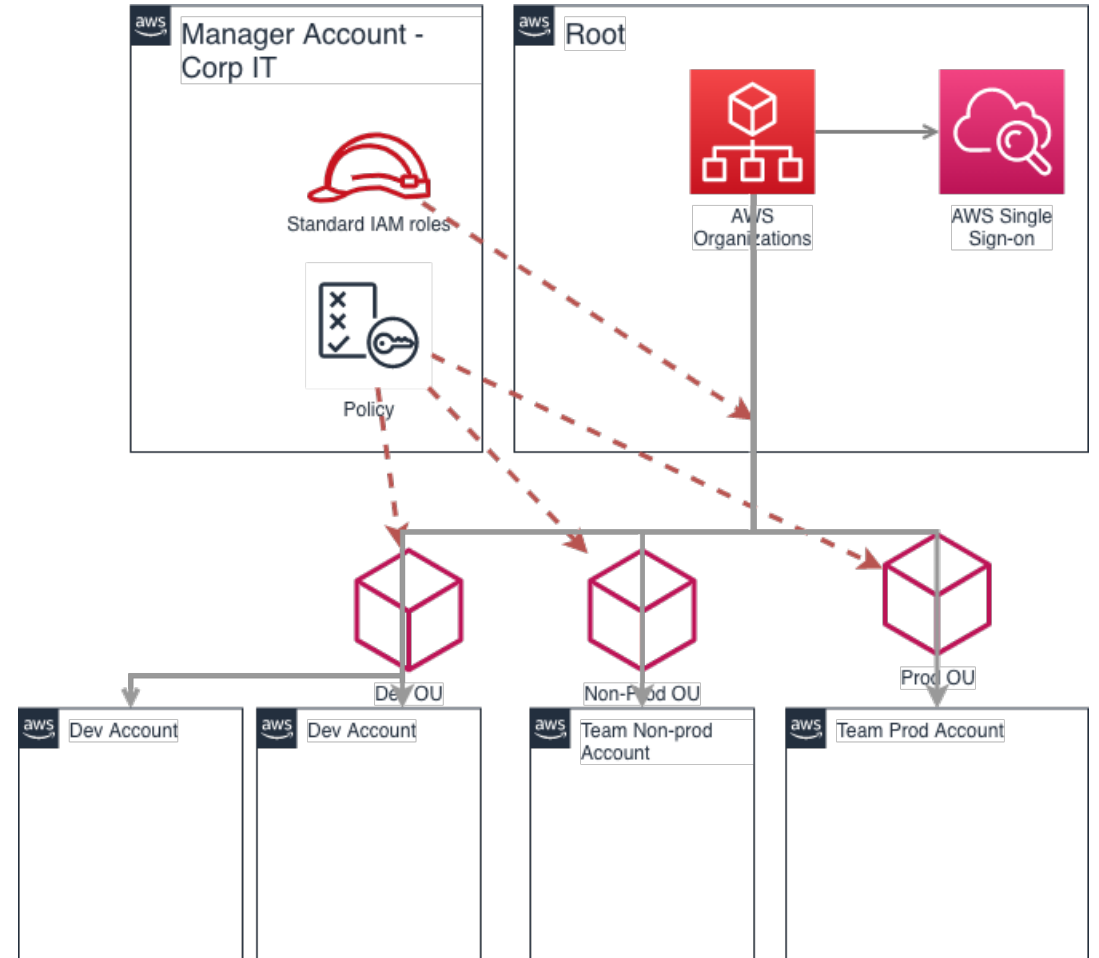
Governance
Security
Scanning

Financial Governance
Budgeting
Cost Optimization

Account Creation
Connectivity
Infrastructure As Code

Deployment pipelines
Backups
Operational Support

Segment data, not knowledge



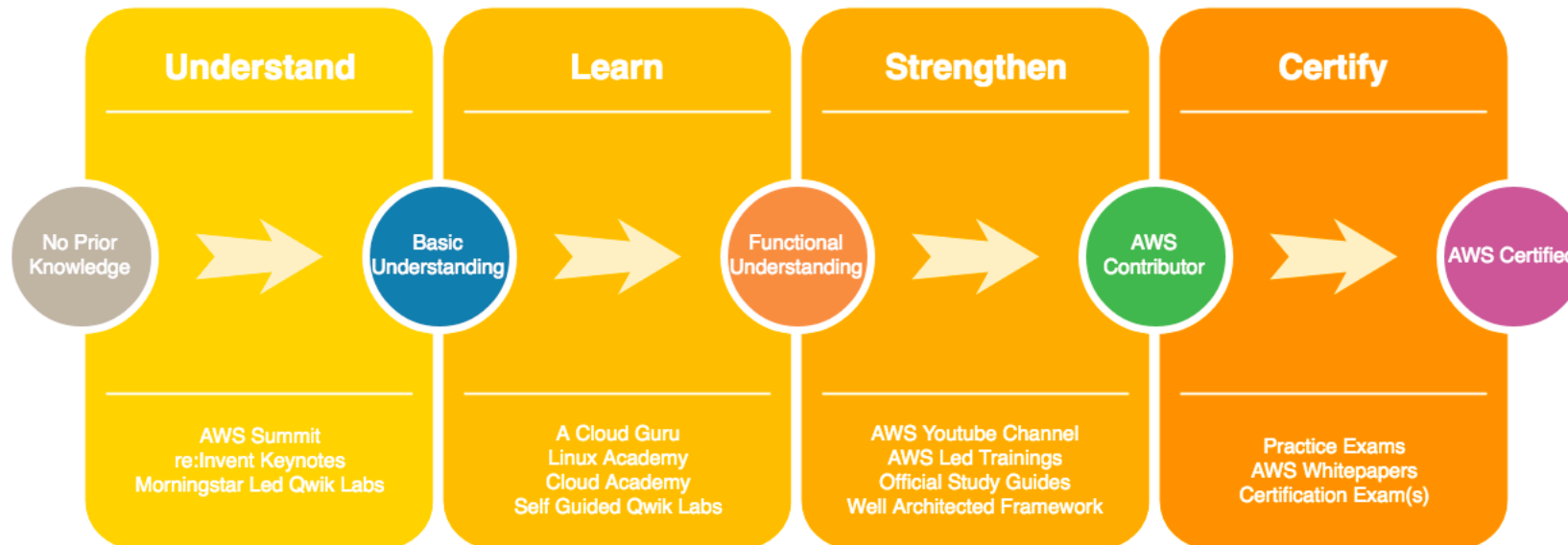
Guardrails at scale





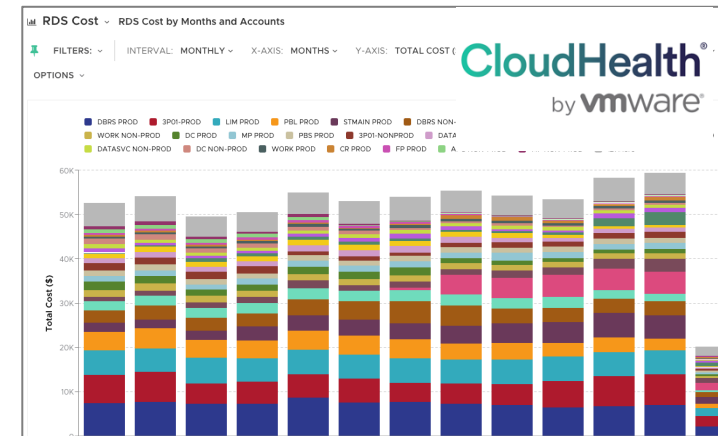
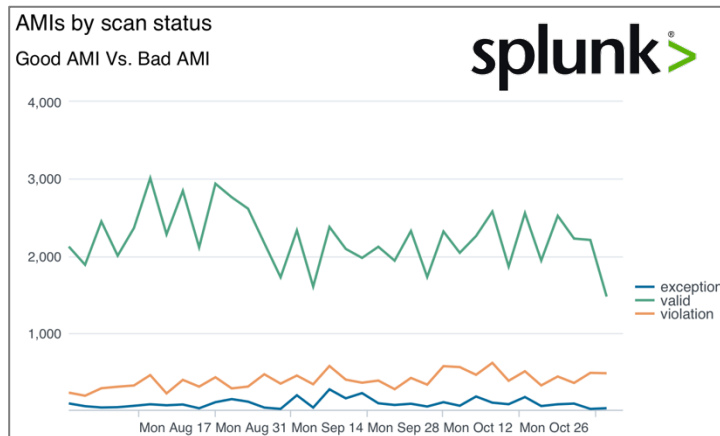
Share the knowledge

- 24x7 AWS support
- Office hours with AWS
- Sandbox accounts

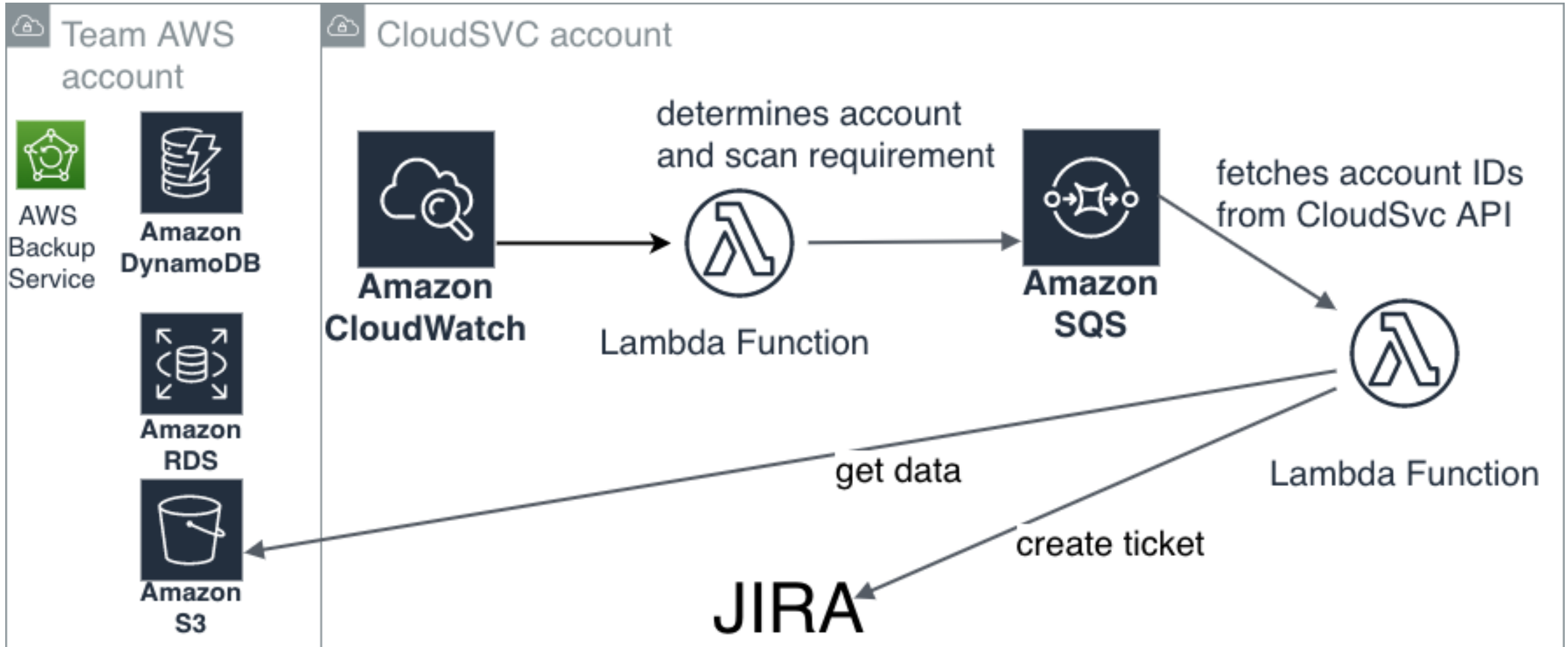


Visibility and awareness

- Share visibility into cloud inventory
- Identify cost drivers
- Understand usage patterns
- Leverage management tools



Backup scanner





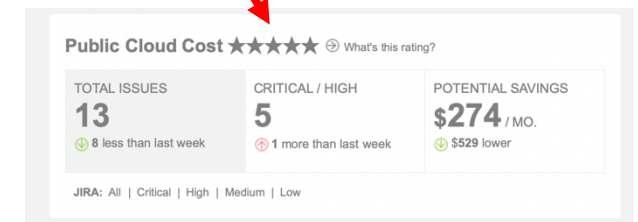
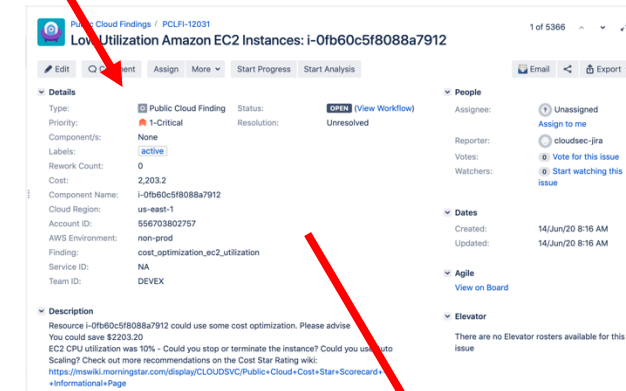
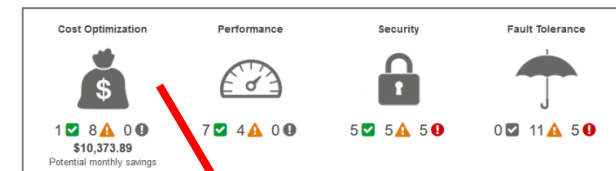
Goal: Behavior Nudges



Public cloud scorecards

- Based in AWS best practices
- Automated data collection
- Native AWS tools and reports
- Cloudsvc API for custom accounts and exceptions

AWS Trusted Advisor



Trusted source

- Trusted advisor and well architected framework
- Actionable account-based recommendations



Actionable steps for developers

The screenshot displays the ADDO interface for 'Public Cloud Findings'. The top navigation bar includes links for Dashboards, Projects, Issues, Boards, Plans, Dataplane Reports, easyBI, Calendar, and a Create button. The left sidebar lists various project shortcuts like Create board, Issues, Reports, Releases, Components, Calendar, Satisfaction, and Scheduled Issues. The main content area shows details for a specific finding: 'Unattached EBS Volume: vol-0fa91b850a83a9bf9'. This finding is categorized as a 'Public Cloud Finding' with a '2-High' priority and an 'active' status. It is associated with the 'Youtrack Upgrade Test 9' component in the 'us-east-1' region, under account '0000009100' and environment 'prod'. The finding ID is 'cost_optimization_ebs_utilization'. The description states that the volume is orphaned and provides instructions on how to terminate it to save costs, including a link to AWS documentation.

Field	Value
Type	Public Cloud Finding
Priority	2-High
Component/s	None
Labels	active
Rework Count	0
Cost	17.2
Component Name	Youtrack Upgrade Test 9
Cloud Region	us-east-1
Account ID	0000009100
AWS Environment	prod
Finding	cost_optimization_ebs_utilization
Service ID	NA
Team ID	BOB

Description: Volume vol-0fa91b850a83a9bf9 with 0 snapshots is orphaned. Please terminate the volume or, if required, take a snapshot, ti volume. Terminate Savings: \$17.2/month or \$206.4/year. Snapshot, then terminate savings: \$8.6/month or \$103.2/year. <https://docs.aws.amazon.com/whitepapers/latest/cost-optimization-storage-optimization/optimizing-amazon-ebs-storage-htr>

Severity

Issue type

Savings impact and links to resources

Scorecards are kinda our thing

MORNINGSTAR[®]

Fidelity[®] Growth & Income FGRIX ★★ Silver
Analyst rating as of Jan 31, 2020

[Quote](#) [Fund Analysis](#) [Performance](#) [Risk](#) [Price](#) [Portfolio](#) [People](#) [Parent](#)

NAV / 1-Day Return 38.87 / ↑ 0.28 %	Total Assets 6.4 Bil	Adj. Expense Ratio ⓘ 0.610%	Expense Ratio 0.610%	Fee Level Below Average	Longest Manager Tenure 9.71 years
Category US Fund Large Blend	Investment Style Large Value	Min. Initial Investment 0	Status Open	TTM Yield 2.17%	Turnover 32%

USD | NAV as of Oct 16, 2020 | 1-Day Return as of Oct 16, 2020, 4:31 PM GMT-05:00

Morningstar's Analysis ⓘ

Silver
Analyst rating as of Jan 31, 2020.

Fidelity Growth & Income's First-Quarter Struggles Don't Affect Its Rating
 Our analysts assign Silver ratings to strategies that they have high conviction will outperform a relevant index, or most peers, over a market cycle.

Process Pillar
 Above Average
This fund's disciplined and consistent approach earns it an Above Average Process rating. Manager Matt Fruhan aims to beat the S&P 500 by building a yield-rich, large-cap-focused portfolio of businesses that he considers worthwhile long-term holdings. ...

People Pillar
 Above Average
Manager Matt Fruhan's experience combined with Fidelity's resources earn the fund an Above Average People rating. Fruhan has led this fund since 2011. He's currently at the helm of other well-known Fidelity funds, including Fidelity Large Cap Stock FLCSX...

Parent Pillar
 Above Average
Fidelity earns an Above Average Parent rating because of its ability to stay ahead of its competition. The firm's successful stock-picking mutual funds fueled its rise to prominence, and it has adapted well to investor preferences that have shifted ...

[View Live Scorecard](#)

Cloud Services, YOUR RATING
October 19, 2020

hasn't changed

INFORMATION TYPE
Confidential

YOUR OVERALL RATING
★★★★★

YOUR PEER'S RATING
★★★★★

Public Cloud Cost ★★★★★ ⓘ What's this rating?

TOTAL ISSUES
64
 ⓘ 2 more than last week

CRITICAL / HIGH
0
 ⓘ no change

POTENTIAL SAVINGS
\$646 / MO.
 ⓘ \$9 higher

To improve your cost star rating, start reviewing the Trusted Advisor recommendations under your AWS account. If you have questions, contact CloudServices@morningstar.com.



Prove it.

- **\$200,000 in cost optimization**
- **1,300 unapproved AMLs terminated**
- **700+ public S3 buckets discovered**





What's next for Morningstar

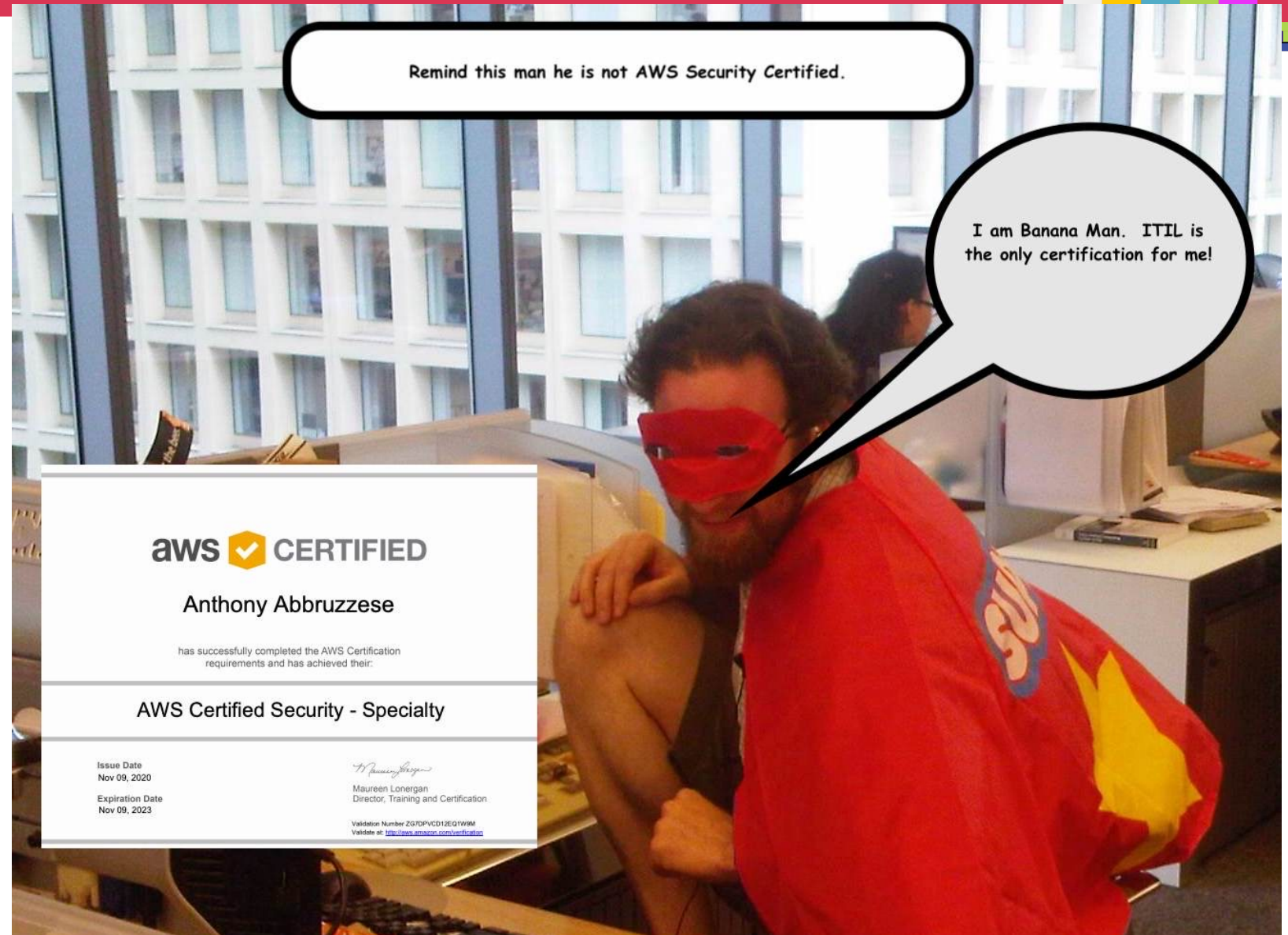
- Scanning for more services
- Expanded scan criteria
- Automated actions for tagging
- Complex analysis and workflows



Join us!

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Thank you!

Get in touch!
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[@margaretvaltie](https://twitter.com/margaretvaltie)

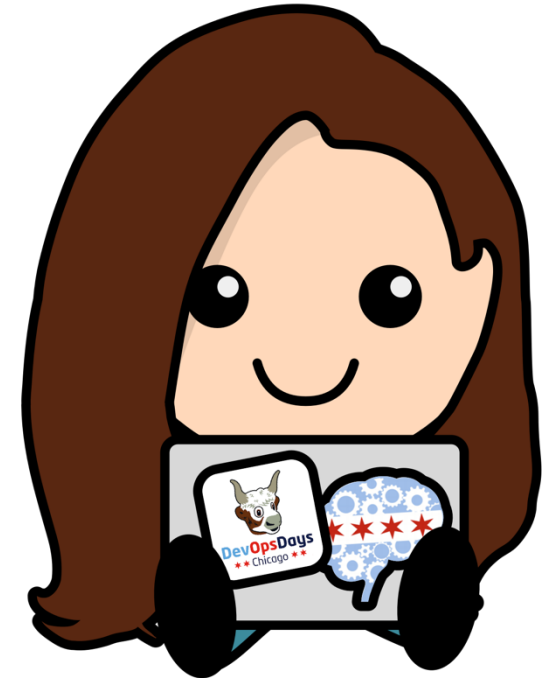


Image by @sosplush



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