AWS State, Local, and Education Learning Days

New York City, NY

aws Learning Days
State, Local, and Education

Cloud Foundations

10:15am – 11:15am

100 level

Migration and modernization with AWS: lessons learned and best practices

Learn insights on AWS tools and services, and modernizing applications during migration

11:30am – 12:30pm

200 level

Foundational best practices to strengthen your cloud journey

Foundational cloud principles to ensure secure, reliable, compliant, and operationally excellent AWS environment

1:30pm – 3:00pm

200 level

AWS Foundations hands-on workshop

Customize your AWS learning with interactive technical workshops and personalized lab experiences.

3:15pm – 4:15pm

300 level

Designing modern applications in AWS

Unlock serverless potential: reduce costs, boost scalability, and enhance security with cloud-native architectures

Foundational Best Practices to Strengthen Your Cloud Journey

Vlad Fatu (he/him)

Solutions Architecture Manager
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George Christman (he/him)

Solutions Architect
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aws Learning Days
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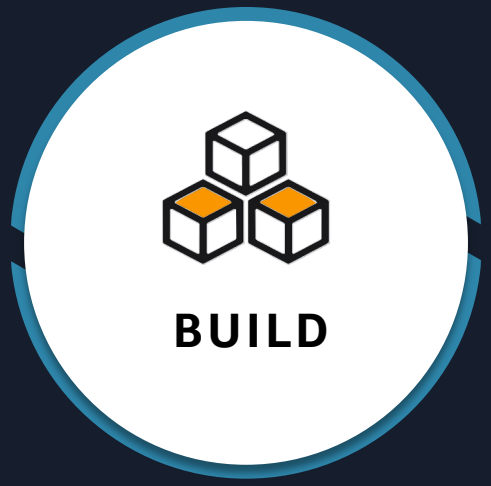
Whatever journey you’re taking, you need a foundation

What do organizations want on AWS?



Make a difference

Deliver and innovate rapidly

Secure and compliant environment

Why do our customers adopt the cloud?

Organic and new revenue growth

Innovate rapidly (TTV)

Global reach

New products and segments

Operate with efficiency

Enhance productivity

Pay for what you use

Reduce carbon footprint

Cloud capabilities drive business outcomes

Business insight

Data-driven decision making

Lower the cost of curiosity

Reduce risk

Operational resilience

M&A, divestiture

How do organizations adopt the cloud?

Develop cloud-native apps

Innovation

Use SaaS

Focus on core business

Modernize workloads

Insight, scale, resiliency

Migrate workloads

Quick, minimal disruption

Foundational cloud capability areas

Requirements

Secure

Flexible

Resilient

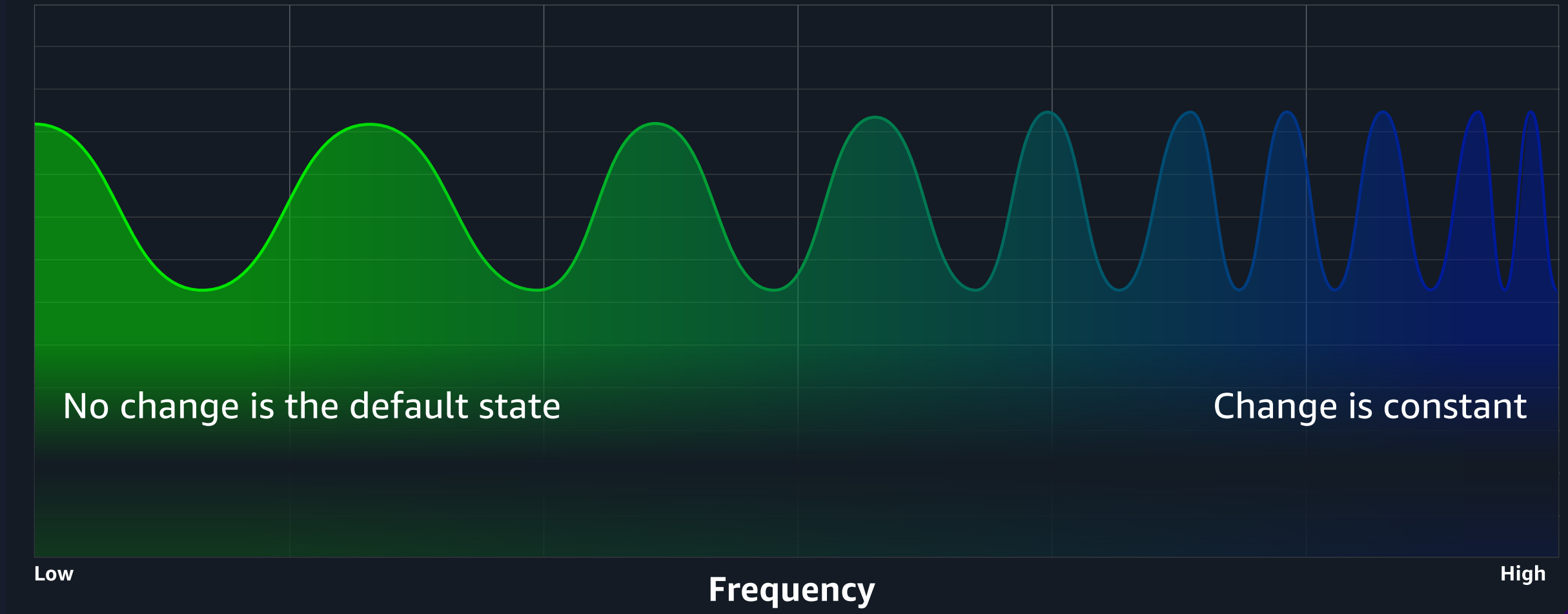
Scalable

Operations-ready

Cost-effective

Extensible

Digital transformation in the cloud



Cloud Foundations on AWS enables . . .

Agility

Response to change

Increased velocity

Quicker time to value

Reliability

Resilient and available

Efficiency

Pay-as-you-go, Elastic, and fit-for-purpose

Risk management

Security and policy enforcement

The Cloud Foundations capabilities

Governance, risk management, and compliance

- Log Storage
- Data De-identification
- Tagging
- Service Onboarding
- Change Management
- Forensics
- Records Management
- Audit & Assessment
- Governance

Operations

- Developer Experience & Tools
- Observability
- Patch Management
- Image Management

Security

- Identity Management & Access Control
- Encryption & Key Management
- Secrets Management
- Data Isolation
- Security Incident Response
- Vulnerability & Threat Management
- Application Security

Infrastructure

- Network Connectivity
- Network Security
- Workload Isolation
- Template Management

Business continuity

- Disaster Recovery
- Backup and Recovery
- Support

Finance

- Cloud Financial Management
- Resource Inventory Management

Why use the AWS Well-Architected Framework?

Build and deploy faster

Lower or mitigate risks

Make informed decisions

Learn AWS best practices

How can you use the AWS Well-Architected Framework?

As a mechanism to drive better outcomes for customers who build and operate workloads in the cloud

Learn

Measure

Improve

What is the AWS Well-Architected Framework?

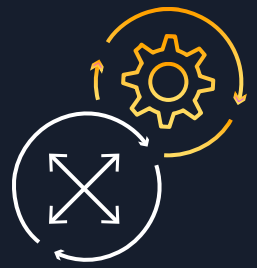
Pillars & Lenses

Design principles

Questions

Best Practices

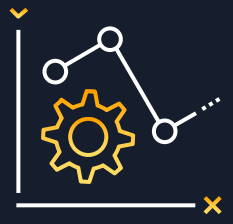
Pillars of the AWS Well-Architected Framework



Operational Excellence

Security

Reliability



Performance Efficiency

Cost Optimization

Sustainability

General design principles

- Stop guessing your capacity needs
- Test systems at production scale
- Automate with architectural experimentation in mind
- Consider evolutionary architectures
- Drive architectures using data
- Improve through game days

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Operational Excellence design principles

- Organize teams around business outcomes
- Implement observability for actionable insights
- Safely automate where possible
- Make frequent, small, reversible changes
- Refine operations procedures frequently
- Anticipate failure
- Learn from all operational events and metrics
- Use managed services

Operational Excellence best practice areas

- Organization
- Prepare
- Operate
- Evolve

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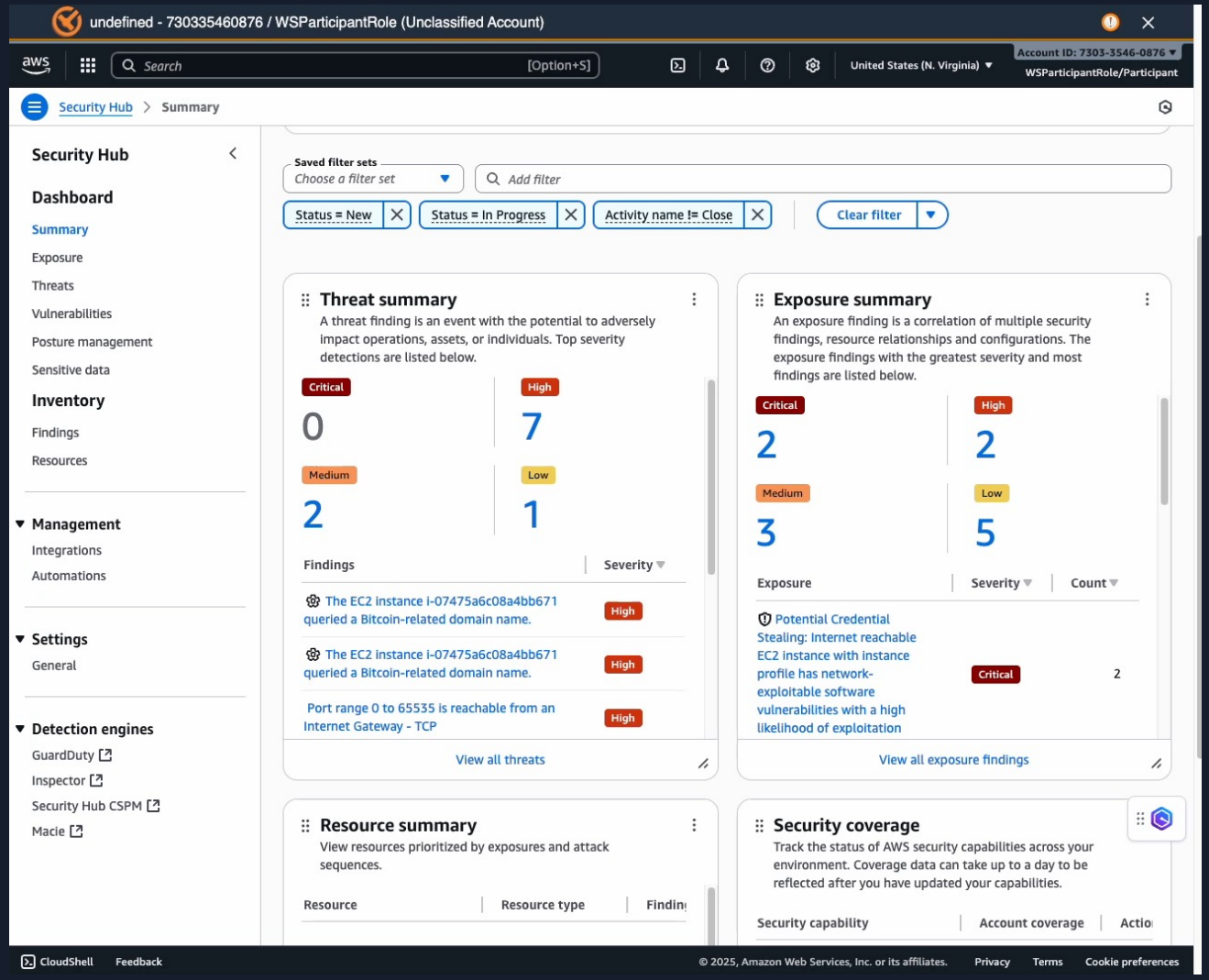
Security design principles

- Implement a strong identity foundation
- Maintain traceability
- Apply security at all layers
- Automate security best practices
- Protect data in transit and at rest
- Keep people away from data
- Prepare for security events

Security best practice areas

- Security Foundations
- Identity and access management
- Detection
- Infrastructure protection
- Data protection
- Incident response
- Application security

Security Hub



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Reliability design principles

- Automatically recover from failure
- Test recovery procedures
- Scale horizontally to increase aggregate workload availability
- Stop guessing capacity
- Manage change through automation

Reliability best practice areas

- Foundations
- Workload Architecture
- Change Management
- Failure Management

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Performance Efficiency design principles

- Democratize advanced technologies
- Go global in minutes
- Use serverless architectures
- Experiment more often
- Consider mechanical sympathy

Performance Efficiency Best Practice Areas

- Architecture selection
- Compute and hardware
- Data management
- Networking and content delivery
- Process and culture

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Cost Optimization design principles

Implement cloud financial management

- Adopt a consumption model
- Measure overall efficiency
- Stop spending money on undifferentiated heavy-lifting
- Analyze and attribute expenditure

Cost Optimization best practice areas

Practice Cloud Financial Management (CFM)

- Expenditure and usage awareness
- Cost-effective resources
- Manage demand and supply resources
- Optimize over time

Cost Optimization on AWS

FinOps practitioner

AWS Cost Explorer

Cost and usage details and anomaly detection

AWS Compute Optimizer

Right-sizing recomendations

AWS Budgets

Control budgets and alerts

AWS Trusted Advisor

Identify idle resources

Reserved Instance (RI) Reporting

Purchase option recommendations and reporting

AWS Cost and Usage Reports

Raw billing data

Cloud Intelligence Dashboards

Foundational

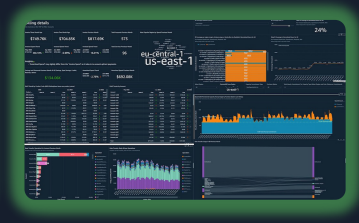
Cost Intelligence Dashboard

High-level charts

KPI Dashboard

Define goals and track progress on cost optimization KPIs

CUDOS Dashboard



In-depth insights with resource-level granularity

Executives

Finance/procurement

Advanced

- Compute Optimizer Dashboard
- Cost Anomalies Dashboard
- Trusted Advisor Organizational (TAO) Dashboard
- Graviton Opportunities Dashboard
- Extended Support Cost Projection
- Sustainability Dashboard
- Containers Cost Allocation Dashboard

FinOps practitioners | Product owners | Engineering and operations

Cloud Intelligence Dashboards Framework

Data sources

Foundational

AWS Data Exports

- AWS Cost And Usage Report
- Cost Optimization Hub Data
- FOCUS Data
- Carbon Data

Advanced

AWS Compute Optimizer

AWS Trusted Advisor

AWS Cost Anomalies

AWS Budgets

AWS Health

AWS Support

Additional

AWS Config

AWS Security Hub

3rd Party Sources

Data Lake

AWS Glue

Amazon S3

Amazon Athena

Business Intelligence

Dashboards

Amazon QuickSight

Decision makers

Finance & Procurement

Executives

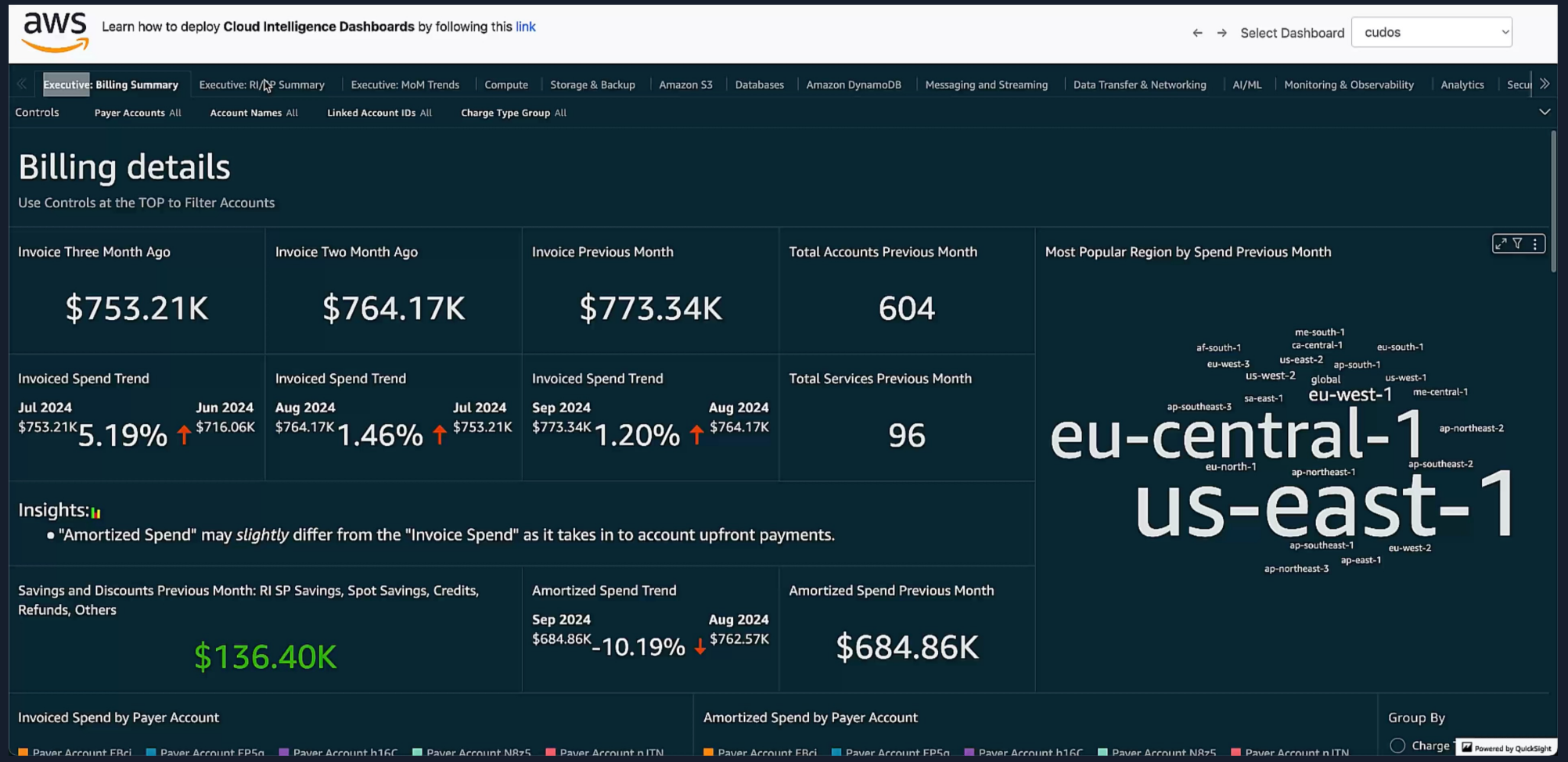
Engineering Leads

Product Owners

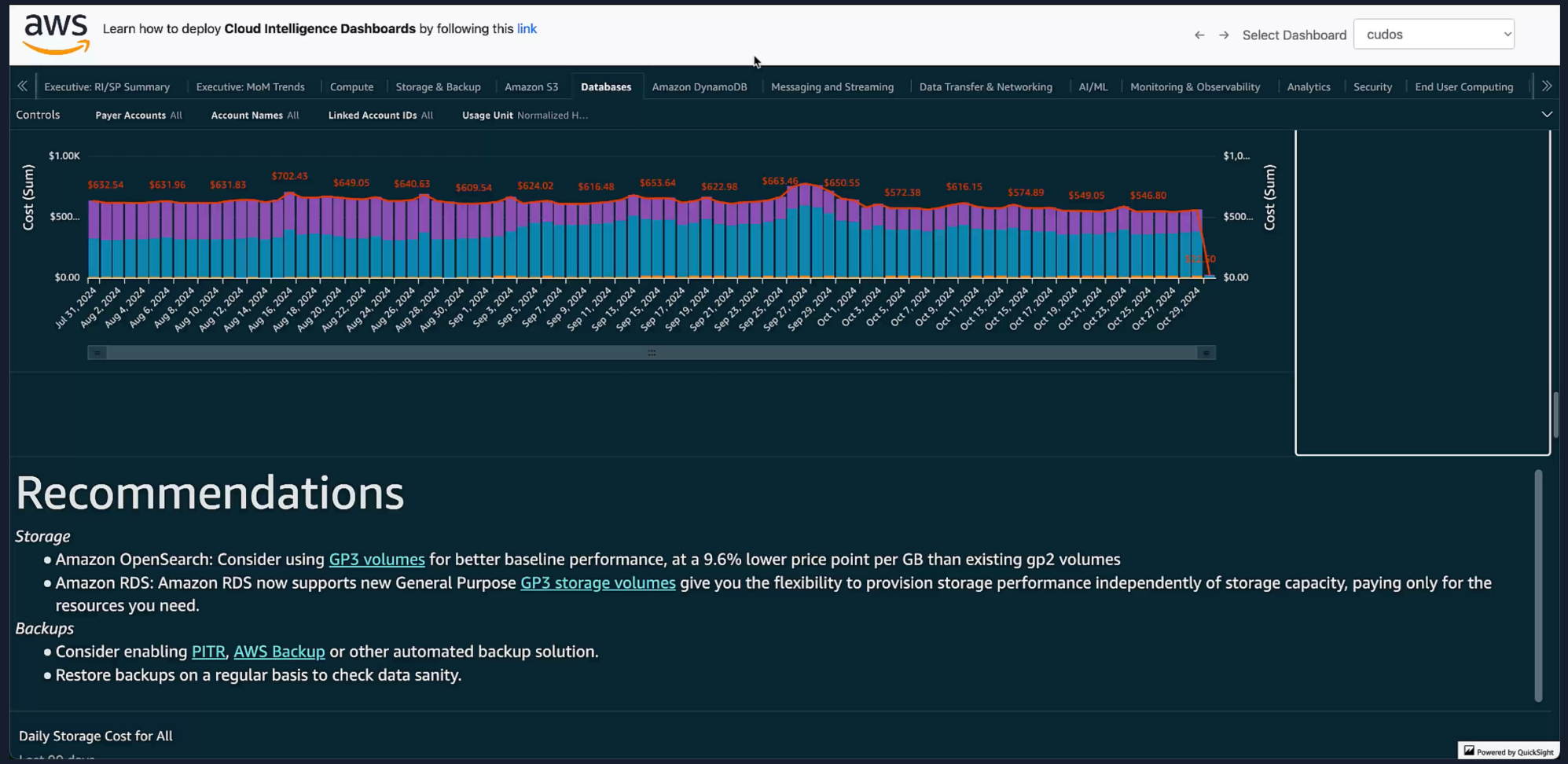
FinOps Practitioners

Security

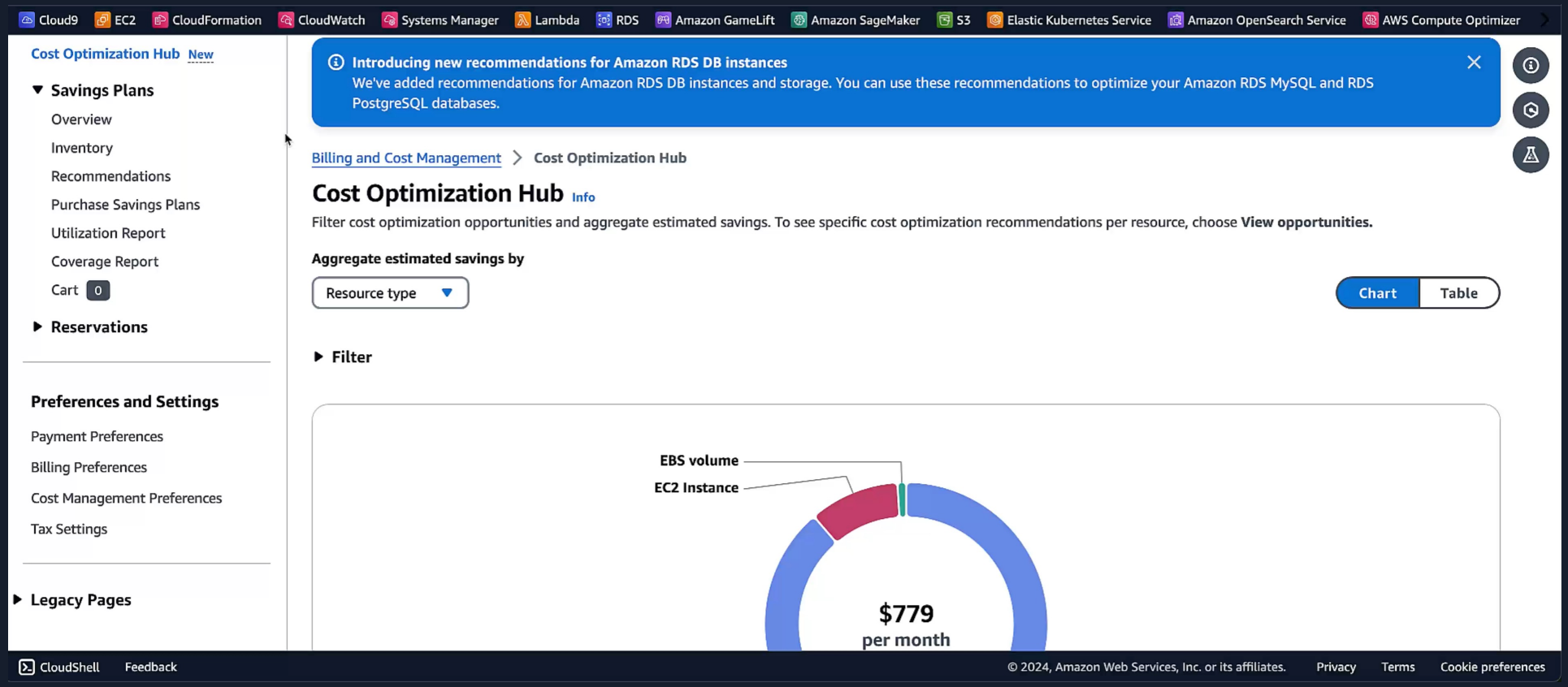
Cost and Usage Dashboard Operations Solution



Cloud Intelligence Dashboards



Cost Optimization Hub



Sustainability design principles

- Understand your impact
- Establish sustainability goals
- Maximize utilization
- Anticipate and adopt new, more efficient hardware and software offerings
- Use managed services
- Reduce the downstream impact of your cloud workloads

Sustainability best practice areas

- Region selection
- Alignment to demand
- Software and architecture
- Data management
- Hardware and services
- Process and culture

Audience Pool #4

Given what we discussed, how mature is your current AWS environment?

MENTIMETER QR CODE

Thank you!

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1:30pm – 3:00pm

200 level

AWS Foundations hands-on workshop

Customize your AWS learning with interactive technical workshops and personalized lab experiences.

Please complete the survey for this session

Track : Cloud Foundations

Session: Foundational best practices to strengthen your cloud journey

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