
AWS
re:Invent
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ARC210

The Well-Architected way

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AWS

“Everything fails all the time, so plan for failure and nothing fails”

Dr. Werner Vogels

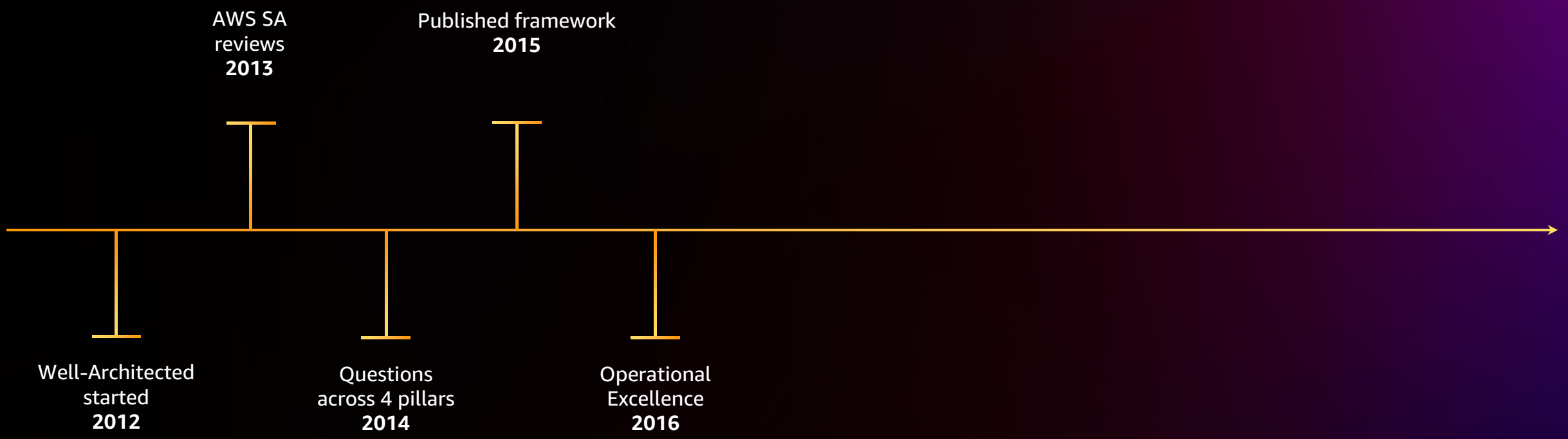
CTO, Amazon.com

Overview of AWS Well-Architected (AWS WA)

When you look at the workloads
your team is building,
can you answer the question:

“Are you Well-Architected?”

A brief history of AWS WA



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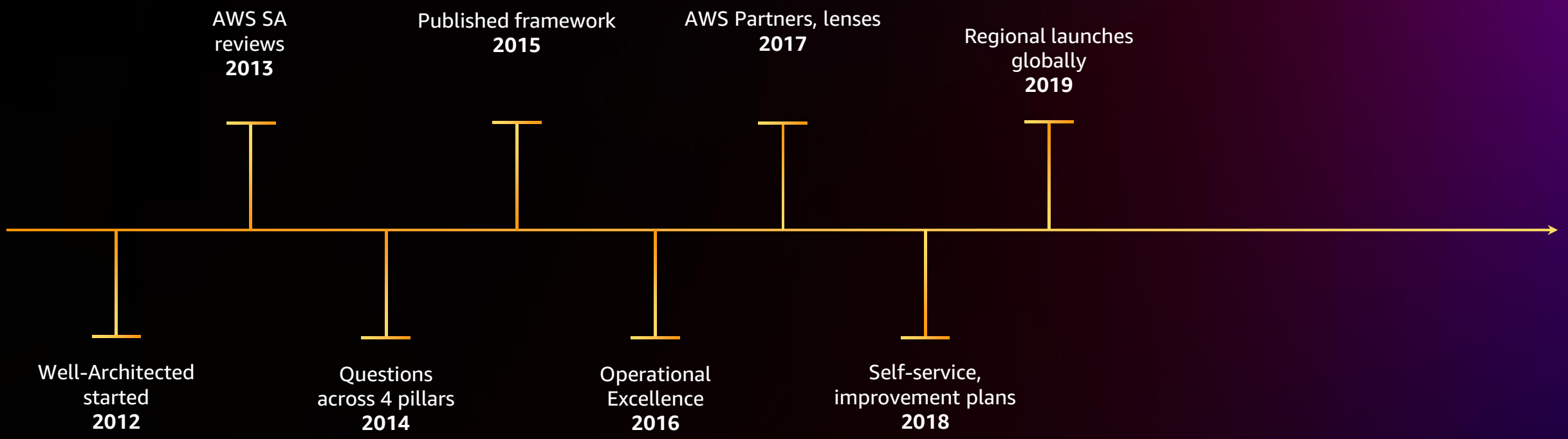

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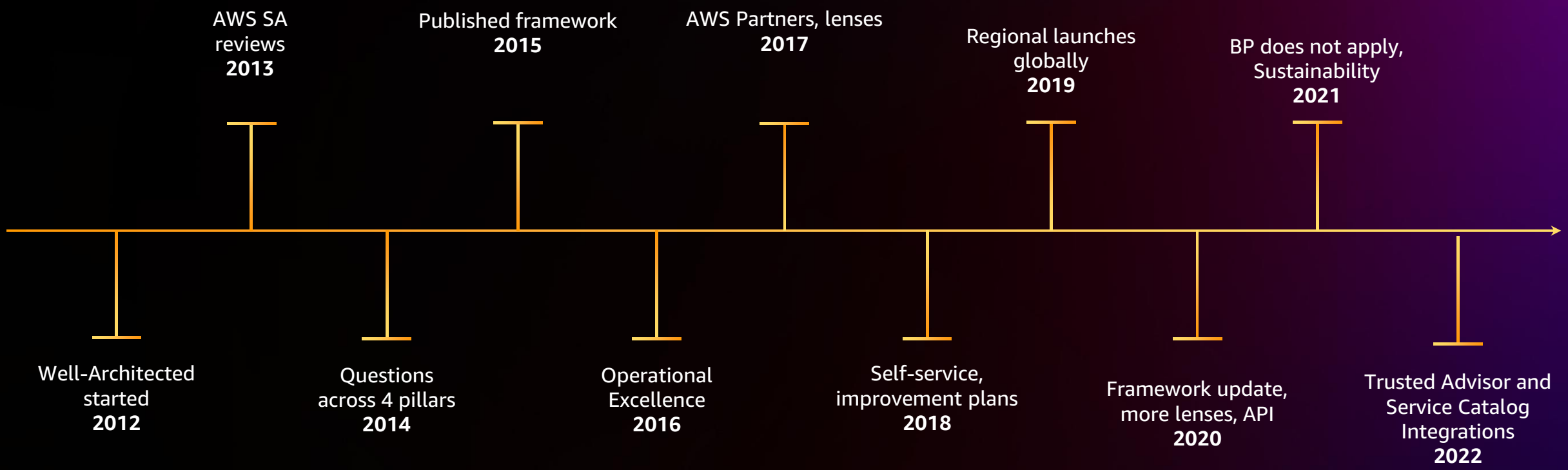


What is the AWS WA Framework?

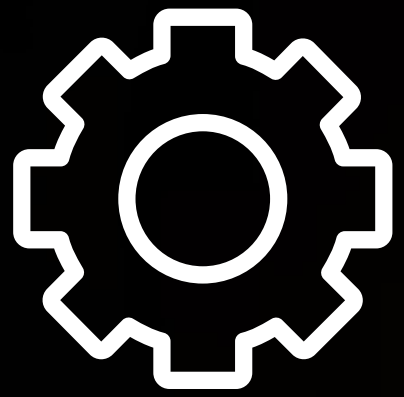
Pillars and lenses

Design principles

Questions

Best practices

What is the value of the Well-Architected Tool?



Implement continuous improvement for your workloads and architectures

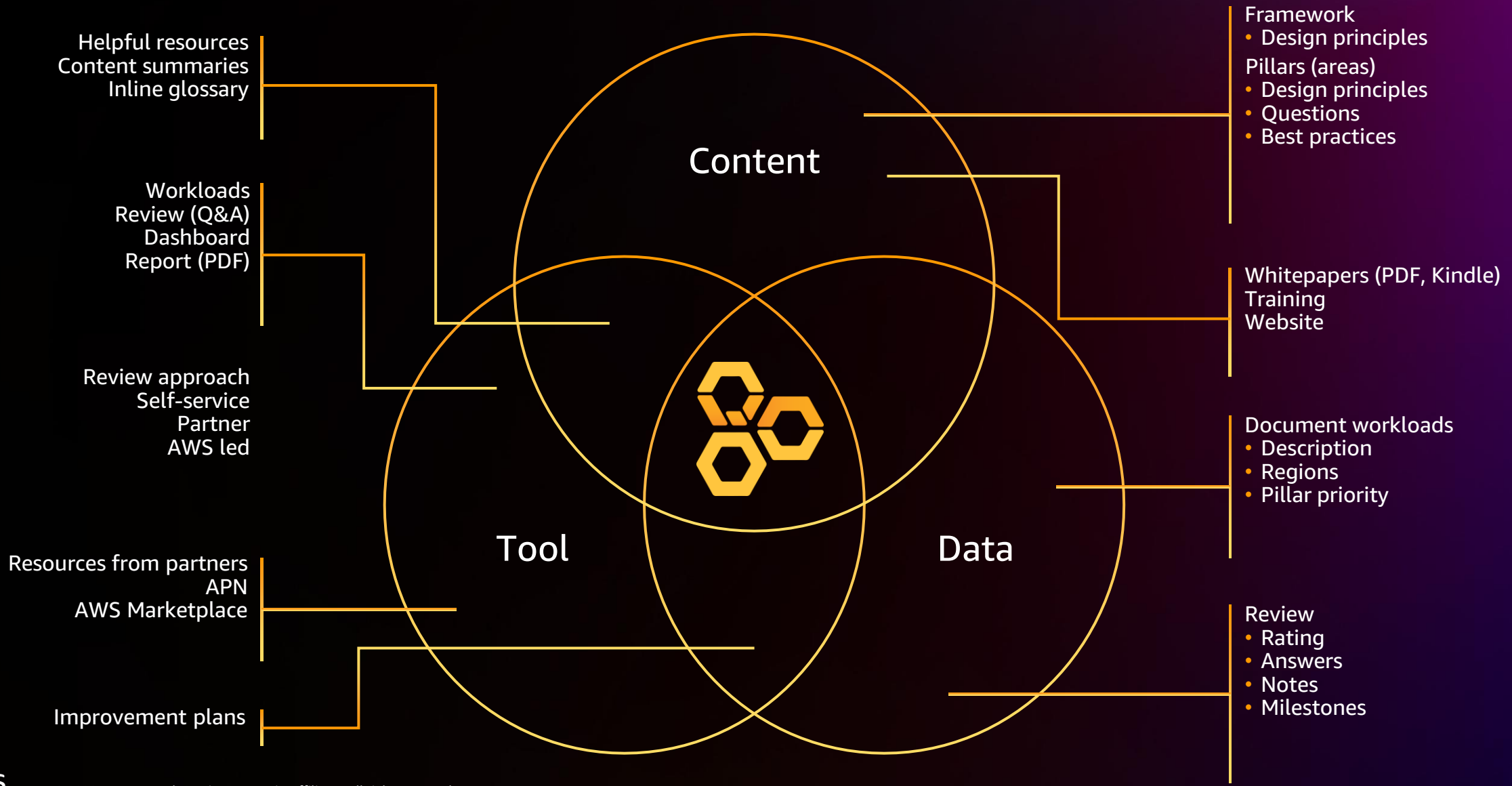
What is the value of the Well-Architected Tool?

Identify risks

Document decisions and trade-offs

Improve workload health

What is AWS WA?



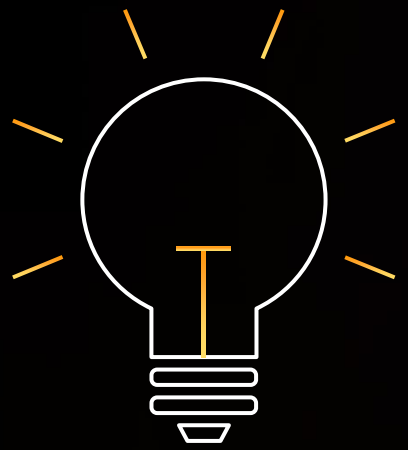
“Good intentions never work, you need good mechanisms to make anything happen”

Jeff Bezos

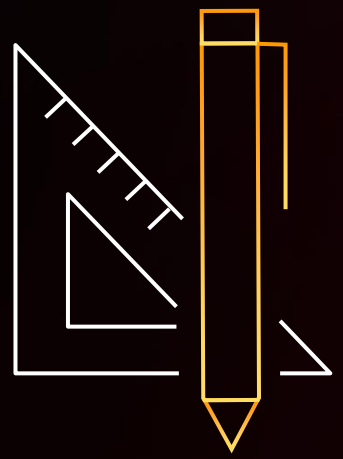
Founder, Executive Chairman Amazon.com

How can I implement AWS Well-Architected for my organization?

How to use the AWS WA Framework



Learn



Measure

Improve

AWS WA hierarchy

AWS WA Framework
general workload best practices

AWS WA lenses
Industry, domain, and technology specific

Custom lenses

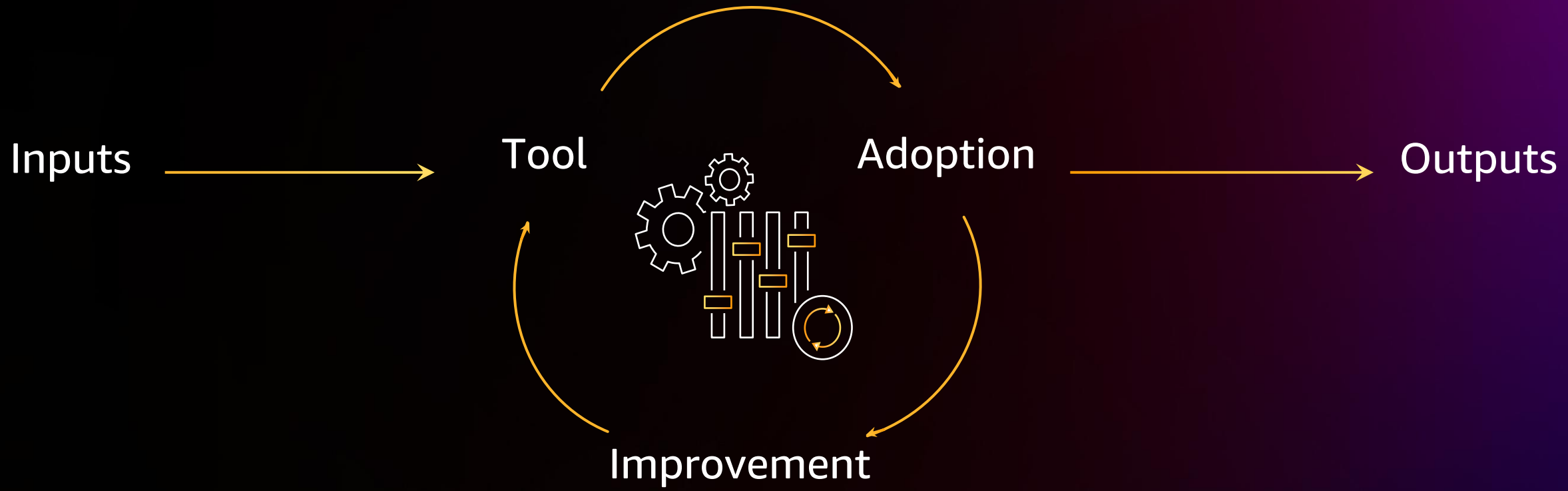
AWS WA custom lenses
Organization-specific best practices

More general

More specific

AWS Well-Architected way

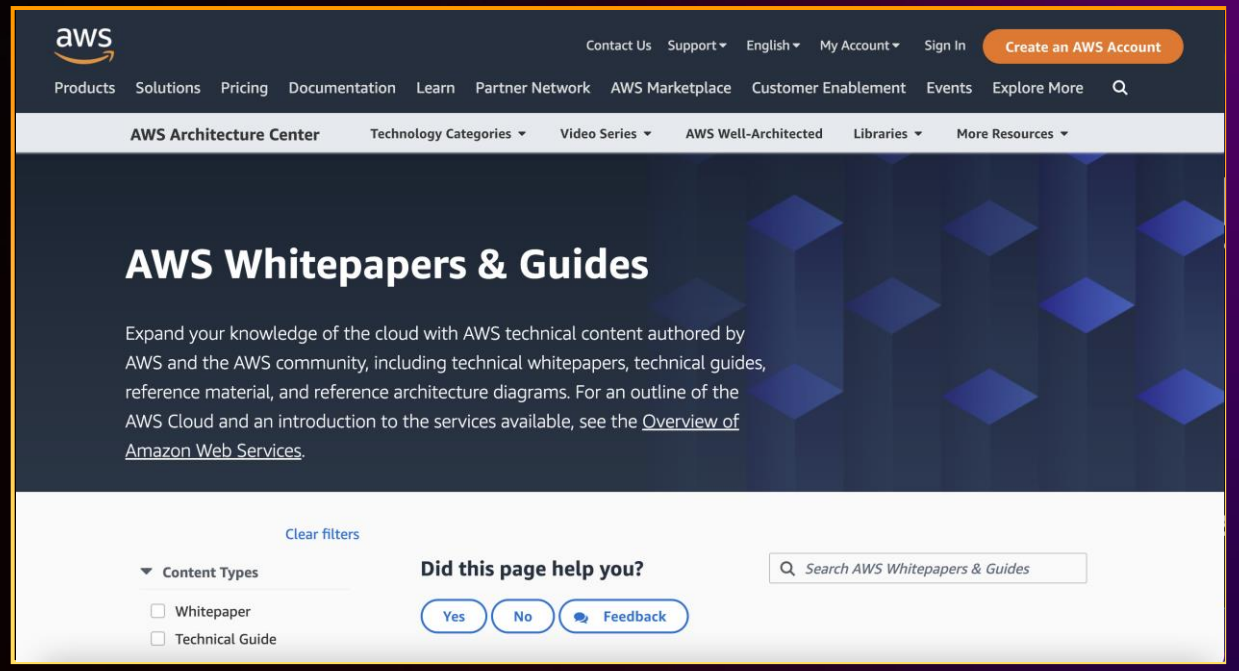
THE COMPLETE PROCESS OF A MECHANISM



Inputs overview

AWS WELL-ARCHITECTED WAY

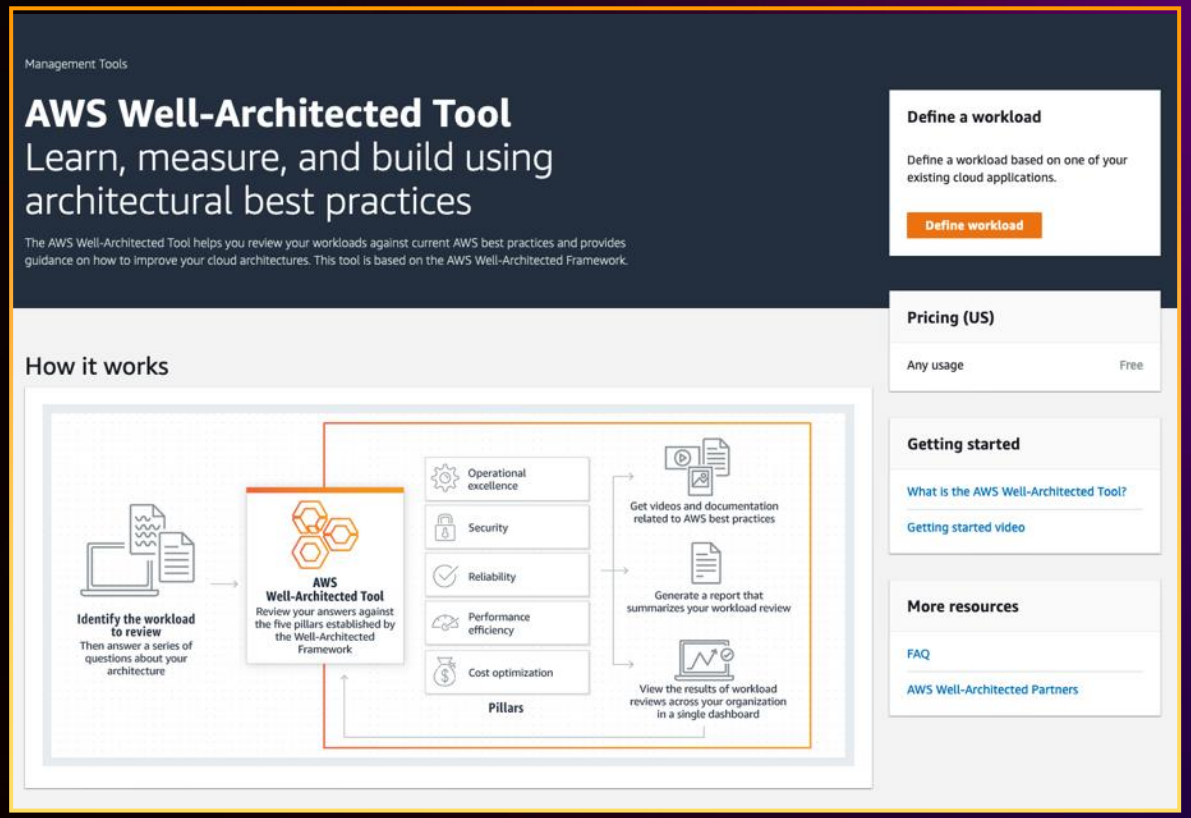
- ✓Align prioritization to determine what matters to your organization
- ✓Identify internal and external customer needs
- ✓Reference Well-Architected whitepapers



Tools overview

AWS WELL-ARCHITECTED WAY

- ✓AWS Console
- ✓APIs
- ✓Workload definition
- ✓Document your decisions
- ✓Consistency across workloads



Adoption overview

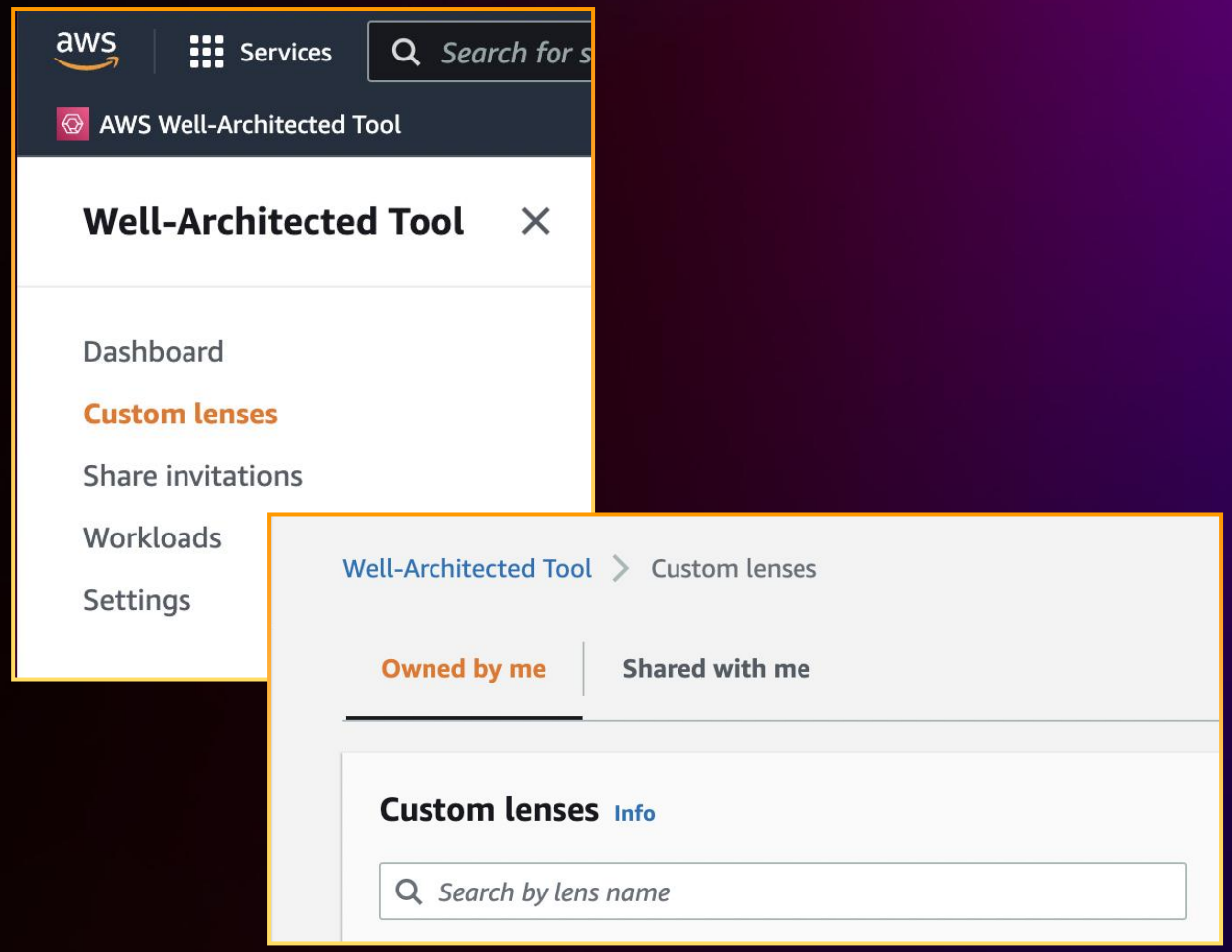
AWS WELL-ARCHITECTED WAY

- ✓Determine a phased approach to scale reviews
- ✓Tailor the guidance using custom lenses
- ✓Collaborate across teams
- ✓AWS Organizations

Adoption overview: Custom lenses

AWS WELL-ARCHITECTED WAY

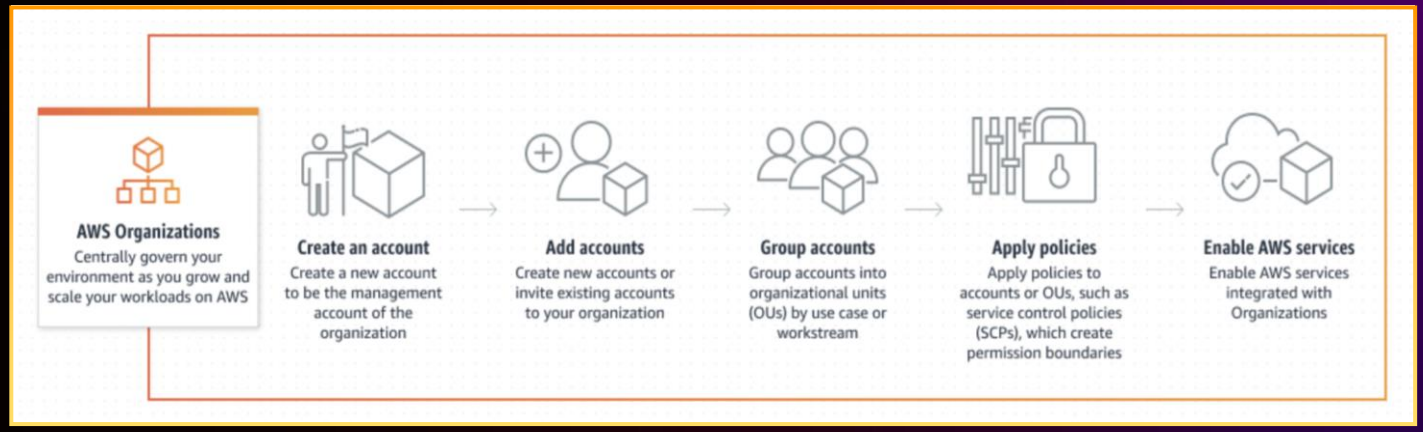
- ✓Tailor the guidance using custom lenses
- ✓Collaborate across teams and share lenses
- ✓Use tags to a lens



Adoption overview: AWS Organizations

AWS WELL-ARCHITECTED WAY

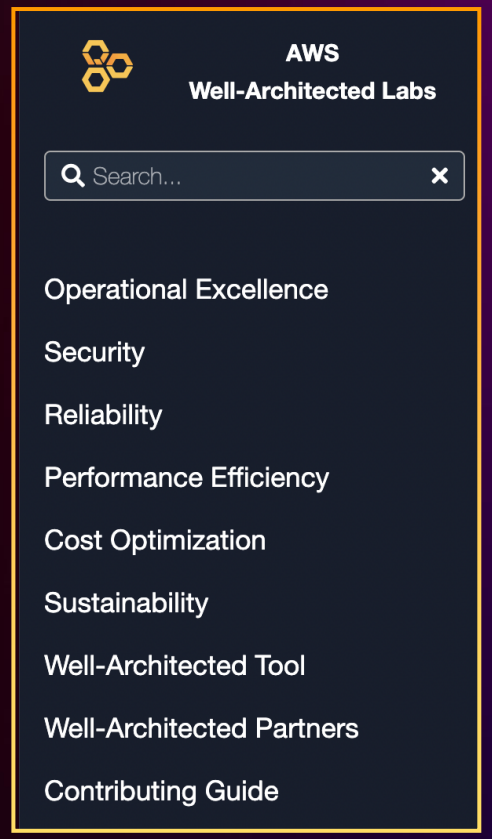
- ✓Develop shared understanding of your workloads
- ✓Evaluate internal and external customer needs
- ✓Review and optimize priorities



Adoption overview: AWS WA Labs

AWS WELL-ARCHITECTED WAY

- ✓Understand best practices across the six pillars of the AWS WA Framework
- ✓Learn how to build secure, high-performing, resilient, and efficient architectures
- ✓Gain guidance to help implement designs that will scale with your application needs



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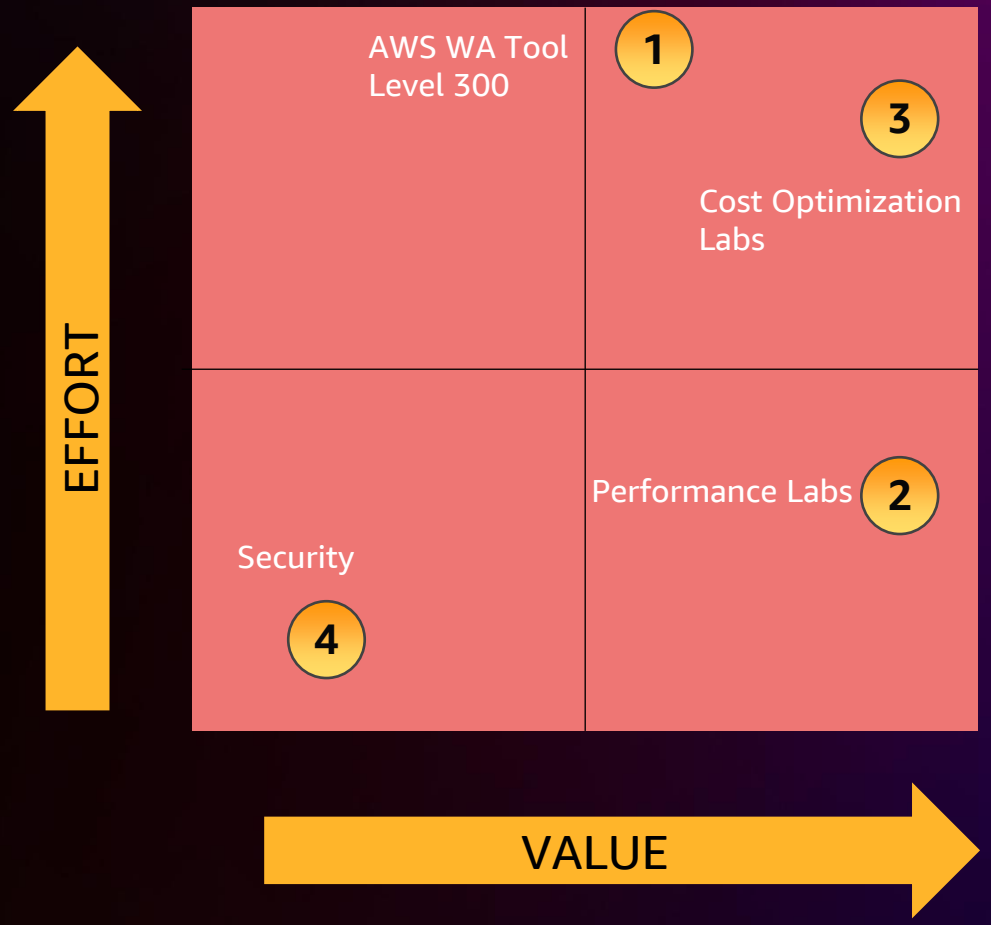
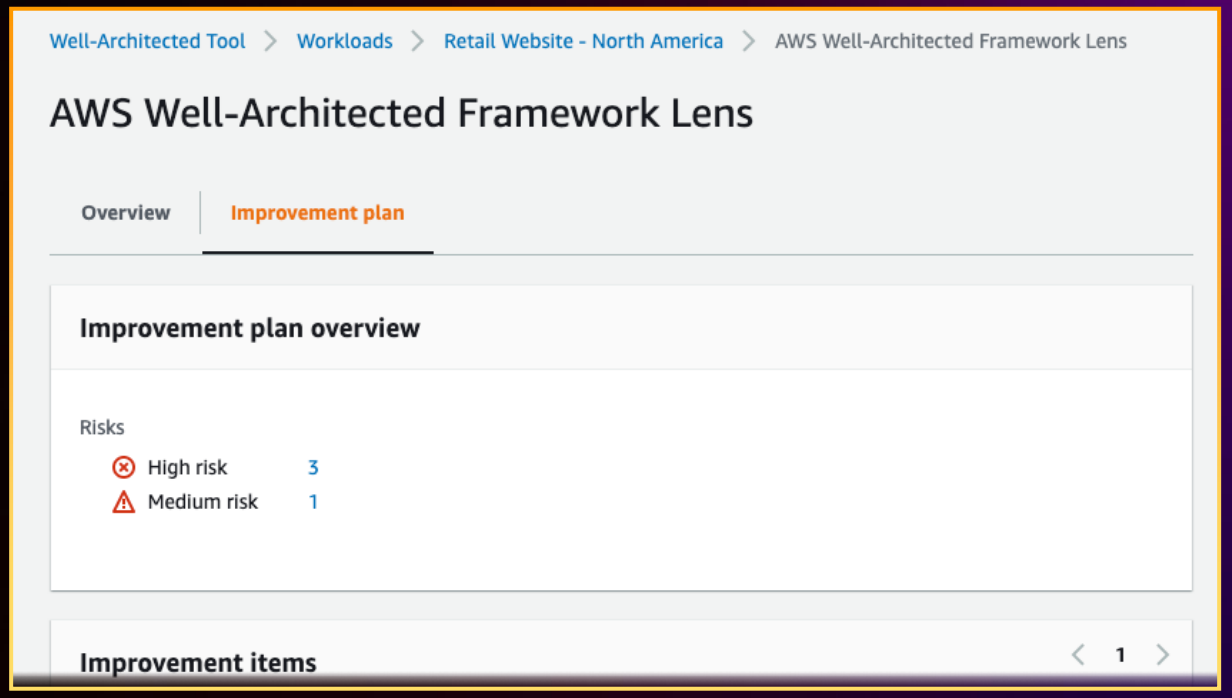


Improvement overview

AWS WELL-ARCHITECTED WAY

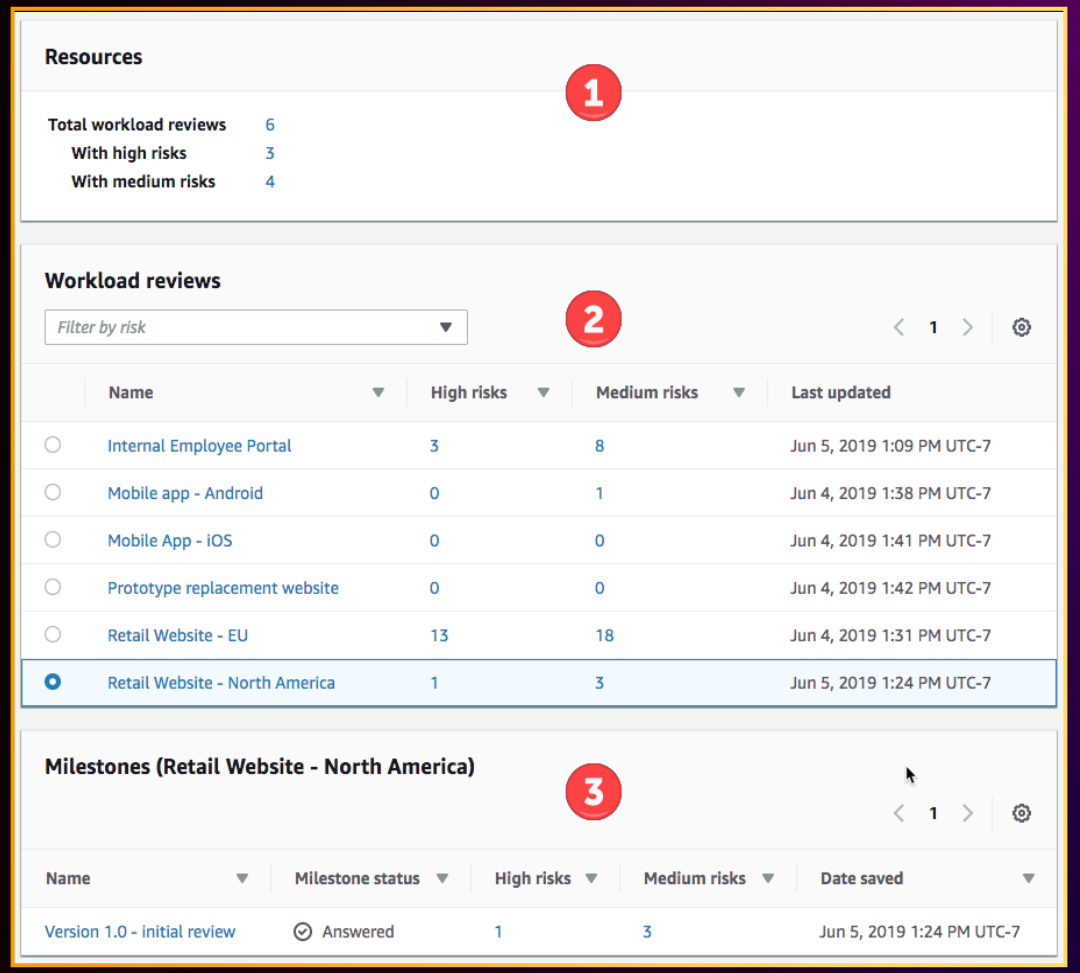
- ✓Develop and use improvement plans
- ✓Build a mechanism to prioritize and track progress
- ✓Integrate with ticketing systems
- ✓Better risk management
- ✓Review tool generated reports



Outputs overview

AWS WELL-ARCHITECTED WAY

- ✓De facto standard to measure and improve workloads
- ✓Adherence to recommended guidance from AWS
- ✓Better workload and organizational health
- ✓Cost Optimization



Introducing Trusted Advisor/Service Catalog

NEW

What's new with
AWS Well-Architected

https://go.aws/3bbrv8d

Trusted Advisor Integration

Service Catalog Integration

Liberty Mutual Insurance: A Well-Architected Journey

Matthew Dorrian (he/him)

Senior Solution Architect
Liberty Mutual Insurance
AWS Community Builder

Alison Bridger (she/her)

Solutions Architect
Liberty Mutual Insurance

About Liberty Mutual Insurance

Liberty Mutual INSURANCE

Our purpose: We exist to help people embrace today and confidently pursue tomorrow.

Our promise: We promise protection for the unexpected, delivered with care.

$48.2 billion annual consolidated revenue
#78 on Fortune 100 List

Nearly **45,000** employees

6th largest global P&C insurer

29 countries & economies globally

4,000+ technology employees

aws

Well-Architected for the Enterprise

Gather momentum

- Enterprise wide imperative focused on WA enablement & adoption
- Representatives throughout the org
- Dedicated time & effort

Engage the audience

- Centralized guidance/support focused on ease of onboarding & discoverability
- Supplemented with enterprise LM context
- Woven into definition of Engineering Excellence

Capture maturity metrics

- Measure our progress towards best practices
- Visibility into lens, usage, risk categories
- Learnings led to tailored education & enriched enterprise resources

Iterate & learn

- Incremental pillar by pillar roll out
- Faster feedback cycles influences LM WA roadmap

Liberty Mutual INSURANCE

Insights & metrics so far

700
Reviews
since 2020

10-20 per month
in 2022

50%
Serverless lens

Data Privacy by Design

Custom lens

PILLAR GRAVITY

Liberty Mutual INSURANCE

Well-Architected for the Team

Enterprise Materials and Docs

- Provide link between AWS Well-Architected best practices and Liberty enterprise efforts and guidelines
- Helps educate engineers ahead of the review

Conversation over Checkboxes

- Encourage engagement over participation
- Conversations help engineers identify improvement opportunities

Engineer Participation

- All squad engineers included in the review
- Team members encourage engagement from their peers
- Everyone plays a part

Inclusion of non-engineers

- Best practices require engagement from non-engineering job families, e.g., Scrum Master and Product Owner

Liberty Mutual INSURANCE

McDonalds: Failure Mode Analysis using AWS WAR Custom Lenses

Vamshi Komuravalli

Principal Architect, Digital Architecture
McDonald's Corporation

We are the World's Largest Restaurant Company...

40K
Restaurants

2.2M
People Working for McDonald's and Franchisees

100+
Countries

65M+
Customers served every day

Served Every Day

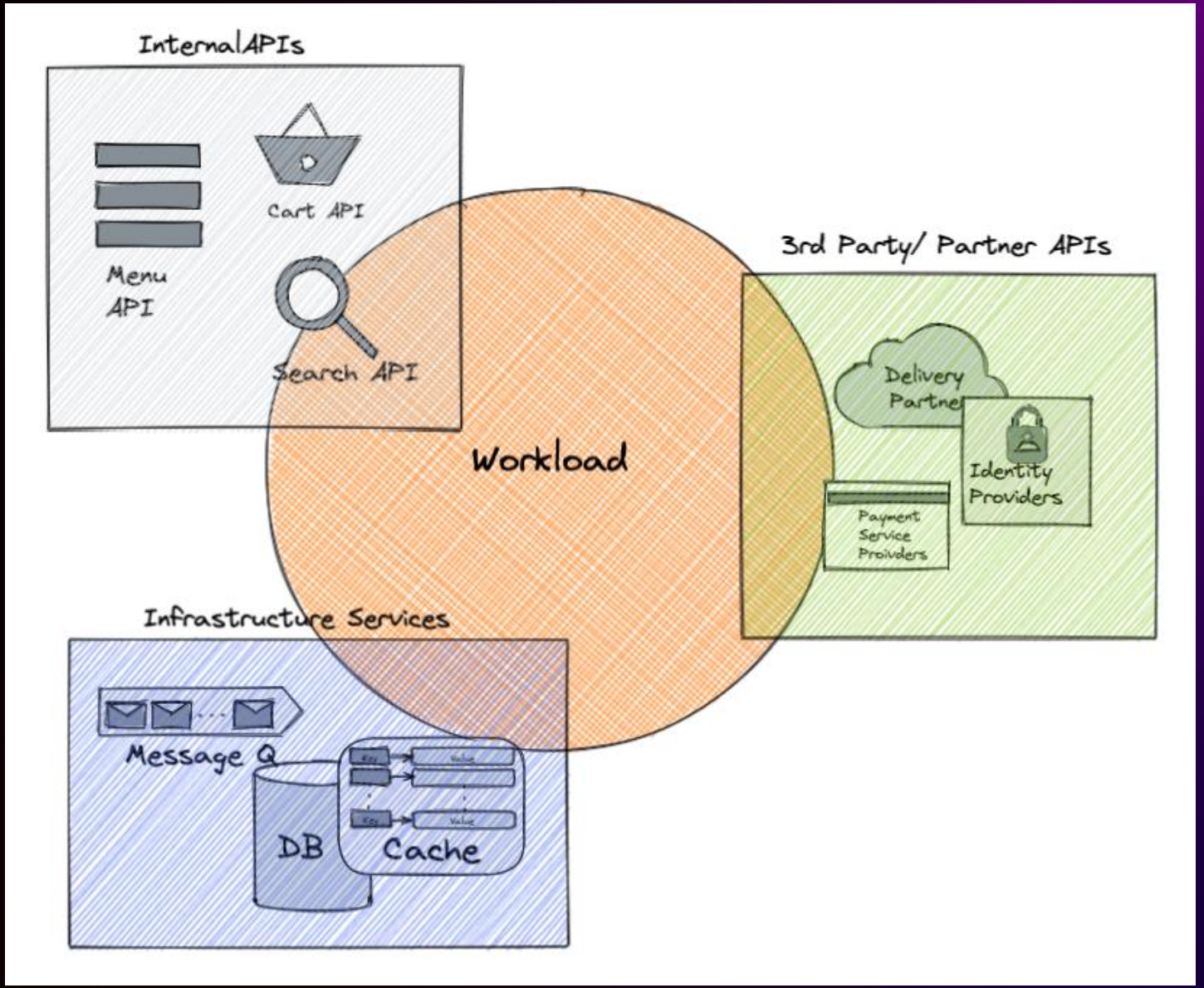
A solid architectural foundation is required to work with the complexities introduced by our scale and highly franchised business model.

What is Failure Mode Analysis?

Key idea of this process is to improve resiliency of a system by identifying possible failure points & building recovery mechanisms to be resilient to these failures.

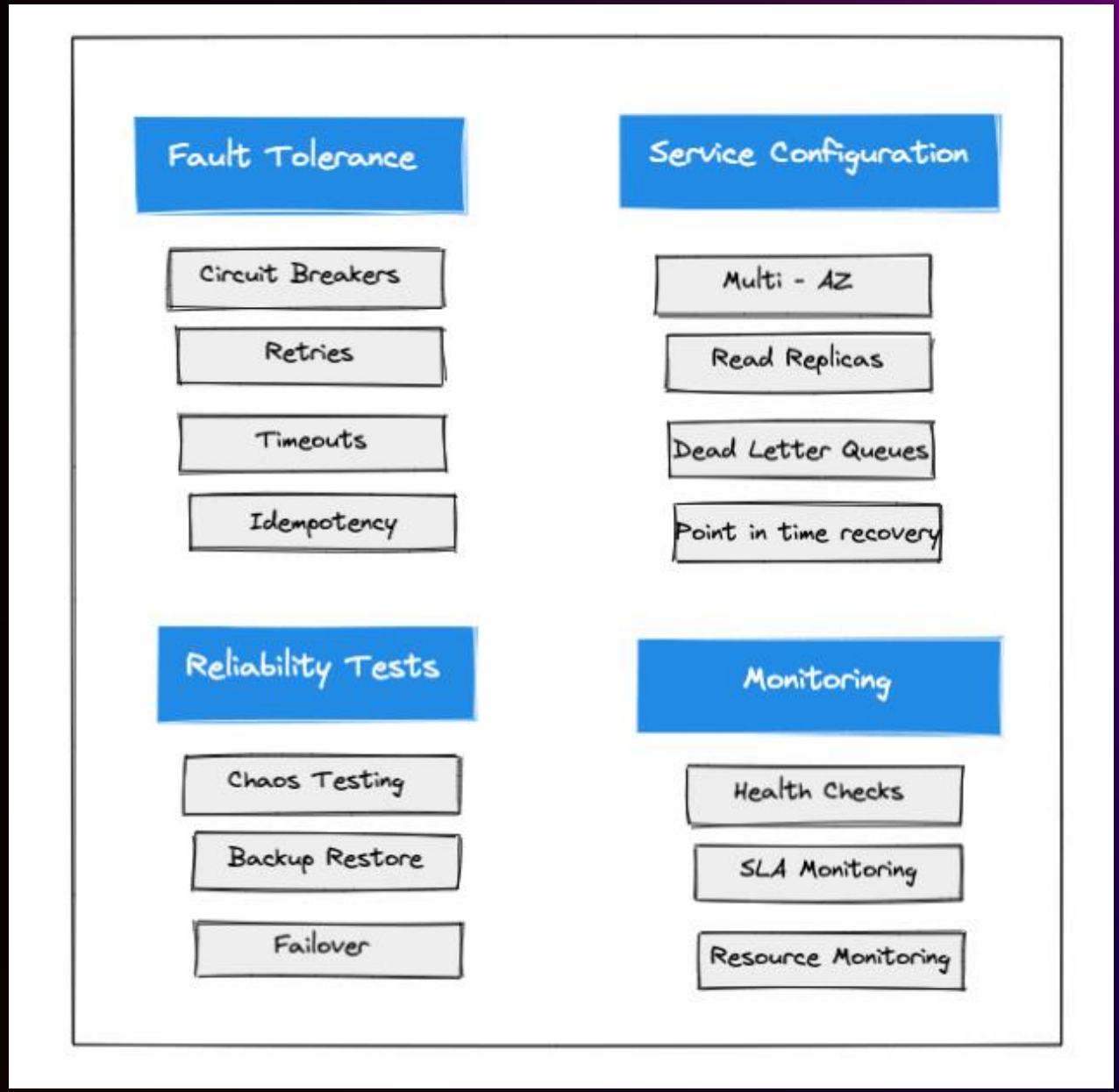
What causes a workload to fail?

What is the business impact of the failure?

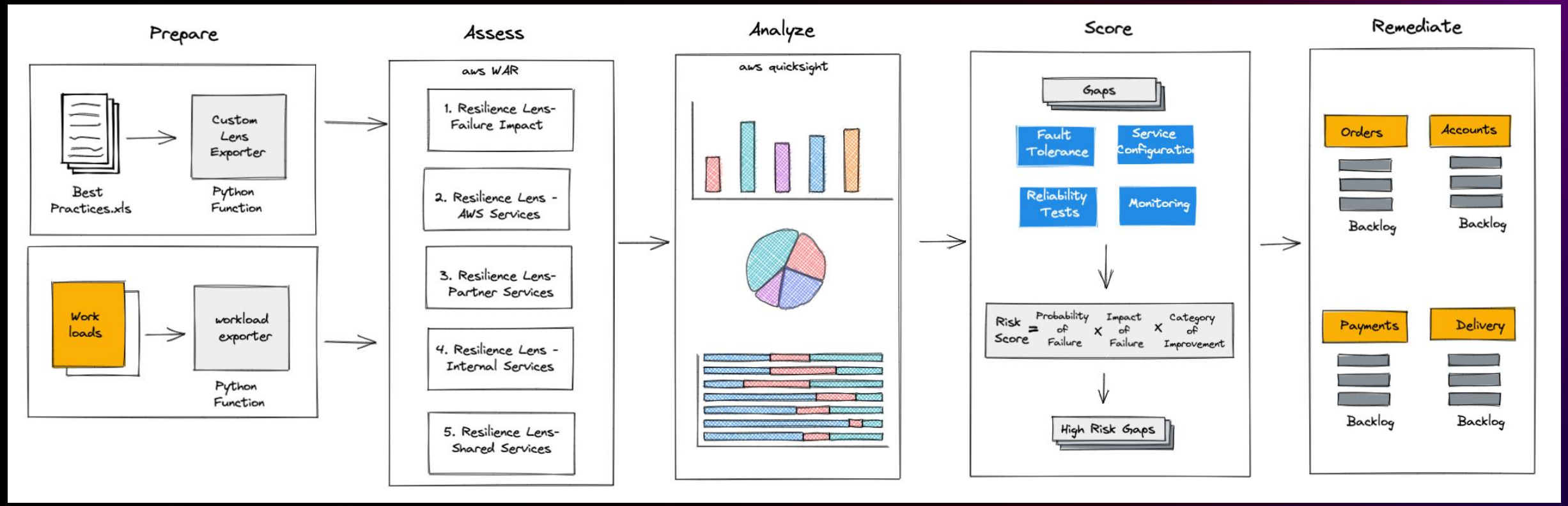


How do we make the workload resilient to failures?

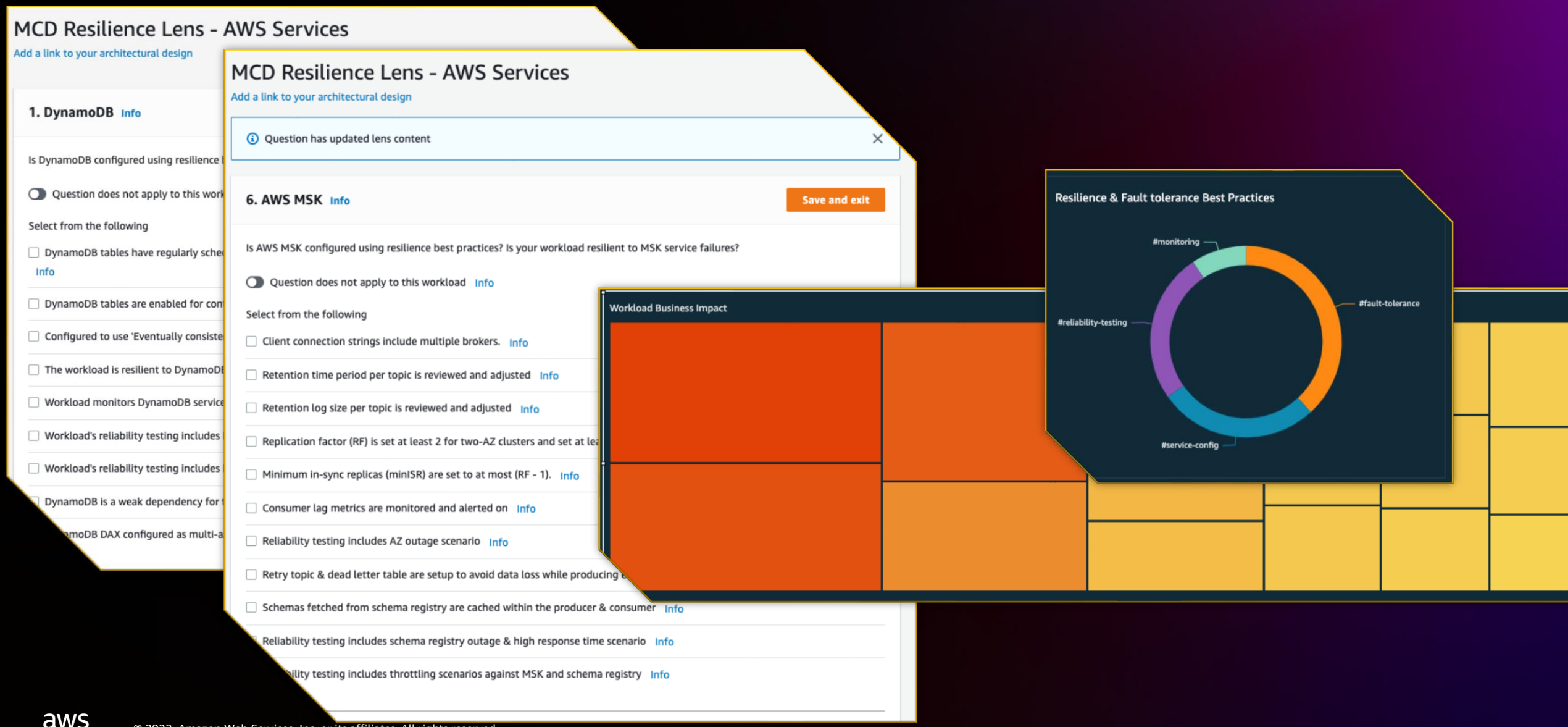
Identify improvement opportunities in implementation of resilience best practices across the workloads.



Multi-Step Approach for Analysis & Remediation



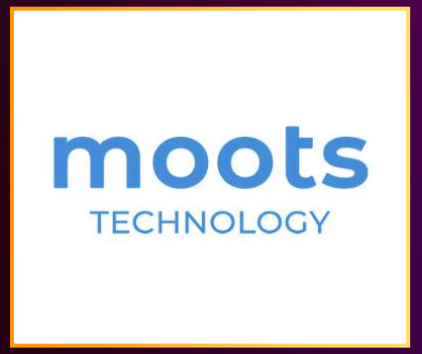
Example Custom Lenses & Results



AWS WA customer impact

- Reduced AWS costs by 30%
- Reduced mean time to fix misconfigurations by 50%
- Identified and quickly remedied security vulnerabilities and cost inefficiencies
- Assisted with regulatory compliance requirements
- Provided a high level of transparency

- Secured internal investment to help reduce risk
- Focused time on work that drives investment and improvement
- Consolidated workloads and clarified best practices across 350 engineering teams
- Reduced risk and increased security across its workloads



- Reduced high-risk issues by 25 percentage points
- Reduced medium-risk issues by 27 percentage points
- Reduced dependency on client-side server maintenance
- Improved internal processes for future growth
- Mitigated critical hardware failure risks

Customer benefits: AWS Well-Architected Partner

- ✓ Avoid costly architectural misses
- ✓ Better visibility of architectural risks
- ✓ Higher quality architectural guidance
- ✓ Improve architectural outcomes
- ✓ Access to AWS service credits
- ✓ Better ROI
- ✓ Improve decision making
- ✓ Access to AWS Well-Architected experts
- ✓ improve vendor SAT
- ✓ Innovate faster
- ✓ Alignment

Learn more:

SCAN ME

When you look at the workloads your team is building, can you answer the question:

“Are you Well-Architected?”

Questions?

Thank you!

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