Cruise to Cloud Native: Chapter 3

Bringing your team on board into your cloud native journey

DATADOG

aws

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Cruise to Cloud Native in 3 episodes

Episode 1: From bare-metal to AWS
(*7 May*)

Episode 2: Getting more from advanced services
(*16 May*)

Episode 3: Bringing your company onboard!
(*Today*)

Top migration challenges we hear from customers

"We see challenges with existing software contracts, license portability, and vendor willingness to price reasonably during the move of dozens/hundreds of vendors"

"We want to evaluate and onboard new software vendors during migration"

"We want to bring on-premises governance controls to cloud apps"

"We need to drive culture change beyond IT as we transform our businesses to digital and from on-premises to cloud"

Culture

Practices

Tools

Consider how you integrate applications & modular services

	Synchronous: API-based	Asynchronous: event-driven
Inter/intra-service	Common for communication between apps	Common for communication within apps
Scalability	Tools required to manage point-to-point connections	Nearly infinitely scalable
Cost	Provisioning for peak use leads to low CPU utilization	Scales to 0—cost benefits of “pay for use”
Latency	Can be very low	Higher in theory—but latency requirements are rarely as low as you think (think about P50, P99, etc.)
Agility	Easy to get started; hard to use point-to-point in large scale	Decoupled systems increase agility dramatically

CLIENT EXPERIENCE ROI WITH ENTERPRISE MODERNIZATION WITHIN 36 MONTHS

We asked a sample of our customers across different industries to share their experience around how they quantified benefits and return on investment (ROI) to measure the business impact of Enterprise Modernization.

Source: The Total Economic Impact of ThoughtWorks Digital Transformation Services (2019)

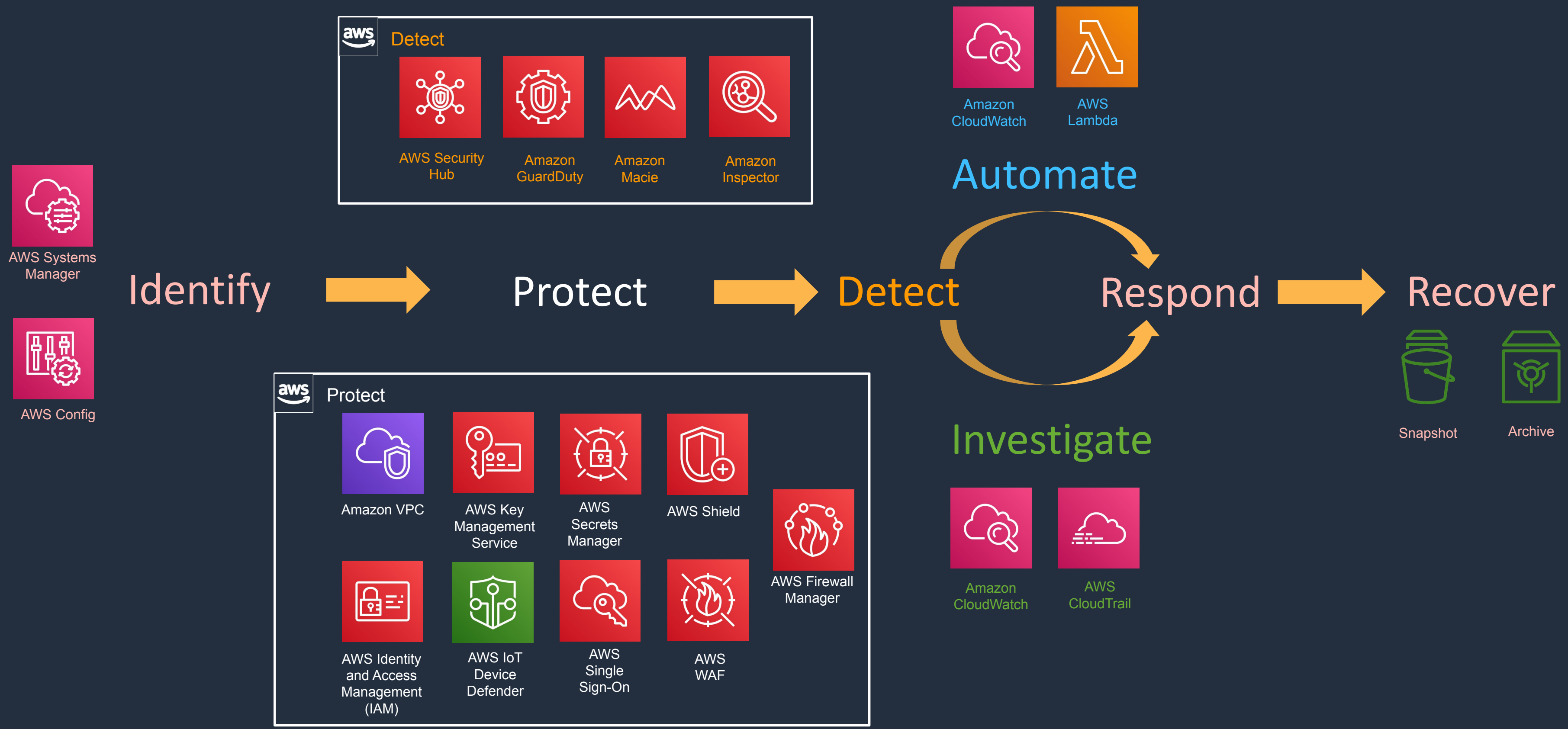
“Customers realized an 88% ROI

79%	Improved speed-to-market
10%	Reduced cost of legacy application maintenance
6%	Reduced cost of new application maintenance
5%	Accelerated customer onboarding

Now…

Move fast **AND** Stay secure

Layered Security Services



Detect

AWS Security Hub

Amazon GuardDuty

Amazon Macie

Amazon Inspector

Amazon CloudWatch

AWS Lambda

Automate

AWS Systems Manager

AWS Config

Identify

Protect

Detect

Respond

Recover

Snapshot

Archive

Investigate

Amazon CloudWatch

AWS CloudTrail

Protect

Amazon VPC

AWS Key Management Service

AWS Secrets Manager

AWS Shield

AWS Firewall Manager

AWS Identity and Access Management (IAM)

AWS IoT Device Defender

AWS Single Sign-On

AWS WAF

AAA with AWS

Authenticate	Authorize	Audit
IAM Username/Password Access Key (+ MFA) Federation	IAM Policies	CloudTrail

AWS Principals

Account Owner ID (Root Account)

- Access to all subscribed services.
- Access to billing.
- Access to console and APIs.
- Access to Customer Support.

IAM Users, Groups and Roles

- Access to specific services.
- Access to console and/or APIs.
- Access to Customer Support (Business and Enterprise).

Temporary Security Credentials

- Access to specific services.
- Access to console and/or APIs.

General Best Practices

- Clearly define an AWS account-creation process.
- Define a company-wide AWS usage policy
- Create a security account structure for managing multiple accounts.
- Leverage AWS APIs and scripts.

IAM General Best Practices

- Lock away your AWS account (root) access keys
- Create individual IAM users
- Use groups to assign permissions to IAM users
- Grant least privilege
- Configure a strong password policy for your users
- Enable MFA for privileged users
- Use roles for applications that run on Amazon EC2 instances
- Delegate by using roles instead of by sharing credentials
- Rotate credentials regularly
- Remove unnecessary credentials
- Use policy conditions for extra security
- Monitor activity in your AWS account

SLIs, SLOs, and SLAs

SLIs

A **Service Level Indicator** is a quantitative measurement that expresses an aspect of the service (commonly a **metric**).

SLOs

A **Service Level Objective** is a target value for a service, as measured via an **SLI**.

SLAs

A **Service Level Agreement** is a contract that defines the results (and consequences) of meeting (or missing) one or more **SLOs**.

Business Stakeholders

- Product Managers
- Developers
- SREs
- Executives
- **Customers**

Data-driven decision making

Good data helps you make good decisions by lowering cognitive load, empowering teams to be independent, and unlocking creativity and potential.

Security Posture Management

Security Posture Management

Assess and visualize the current and historic security posture of your cloud environment, automate audit evidence collection, and catch configuration issues.

Security Signals

Security Signals are generated using Detection Rules. Detection Rules detect threats across different sources and are available out of the box for immediate use.

Demo