
AWS
re:Invent

ENT292-L

Transformation, migration, and governance: Lessons learned

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Vice President, Migration, Marketplace, and Control Services
AWS

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EVP & CIO
Bristol Myers Squibb

AWS re:Invent

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Customers are having to evolve faster than ever

ESPECIALLY IN INDUSTRIES SUCH AS

PUBLIC SECTOR

FINANCIAL SERVICES

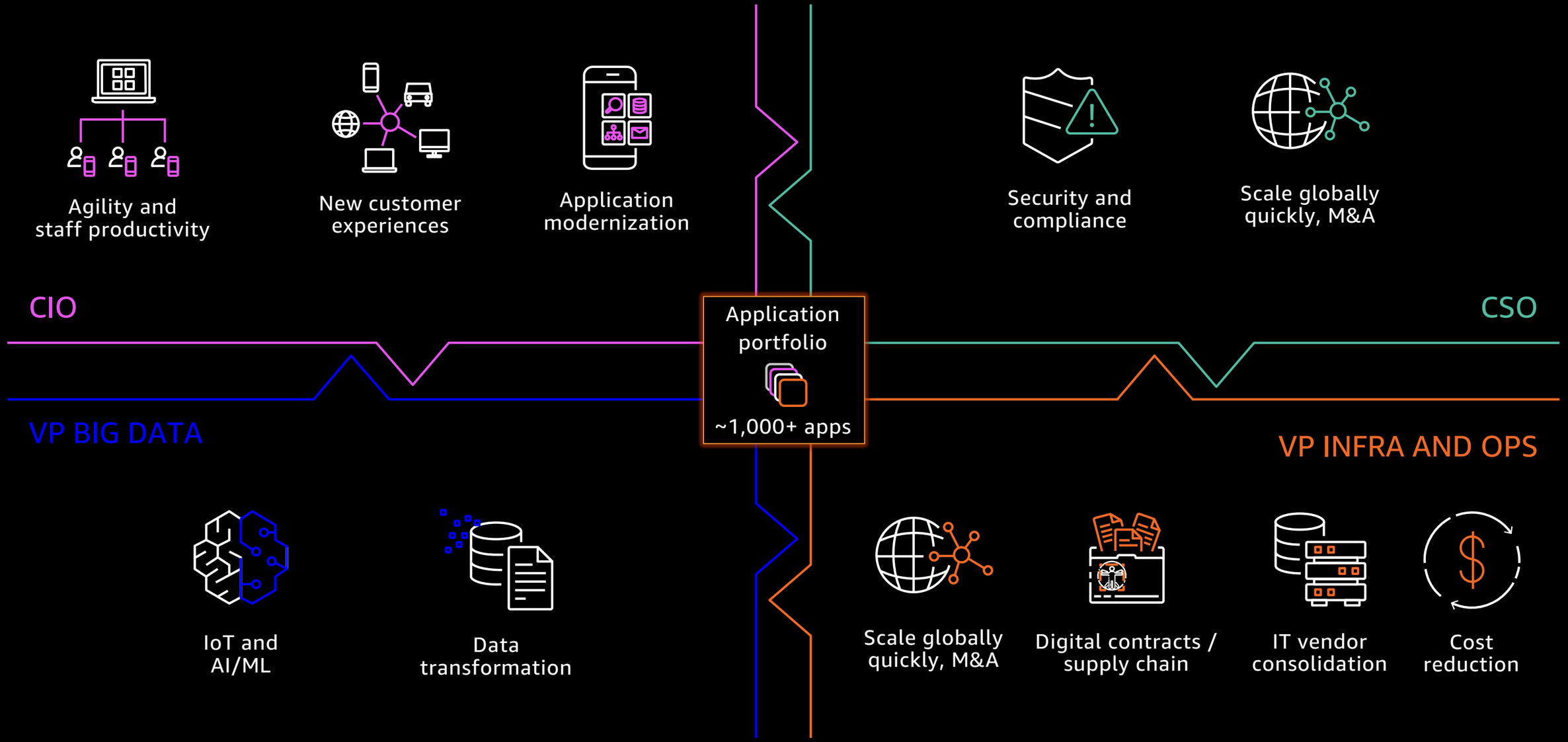
HEALTHCARE & PHARMA

RETAIL

SUPPLY CHAIN

Billions of cell phones. Pervasive cloud computing. 20 million software developers. Increased automation.

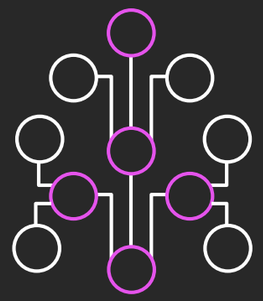
Drivers for transforming your business



Transformation & modernization drives application change velocity

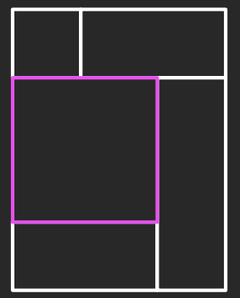
WE FOUND THAT, COMPARED TO LOW PERFORMERS, HIGH PERFORMERS ESTABLISH:

3–5x	46x	5x	170x	90%	440x
Smaller teams	More releases	Lower failure rate	Faster MTTR	More automation changes	Faster innovation time



>15,000 releases per day
amazon

VERSUS



~1 per month
Statusquo.com

Operating over 150+ applications on AWS, enabling Aon's 'Cloud Smart' strategy

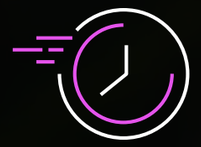
"Building natively on AWS has allowed us to deliver our Supply Chain Risk Management Platform, Aon's Vendor Identity Verification product, in 50% less time. In parallel, we have been able to operationalize AWS in all regions, migrate many applications, and introduce new capabilities and a new cloud operating model with third-party tools built around the AWS Service Catalog."

—Rajeev Khanna

Chief Technology Officer, Aon



New data & analytics services built on AWS



50% reduction in ideation to delivery time



Cost optimization with AWS Compute Savings and RI



Enabling Aon's Cloud Smart strategy by operationalizing in all regions

The U.S. Navy migrated its largest SAP (ERP) system, 72,000 users spread across six U.S. Navy commands, to AWS GovCloud (US)

“The magnitude of this accomplishment is incredible. The Navy ERP tech refresh is our largest system cloud migration to date and will enhance the performance of our force.

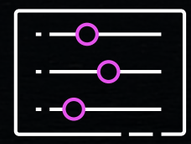
I am proud of the team efforts to accomplish this on an accelerated schedule, cutting the projected timeline nearly in half.”

—Richard Spencer

Former Navy Secretary, U.S. Navy



50% reduction in expected migration time



Reporting time reduced from 5 hours to 0.5 hours



Increased data protection



Highly scalable infrastructure

Benefits as seen across thousands of migrations

31%

Average infrastructure cost savings

43%

Fewer security incidents per year

62%

IT staff productivity boost

3x

More features delivered per year

Sources: IDC, Nucleus Research, AWS Analysis

Lessons learned from customers successful at migration & modernization

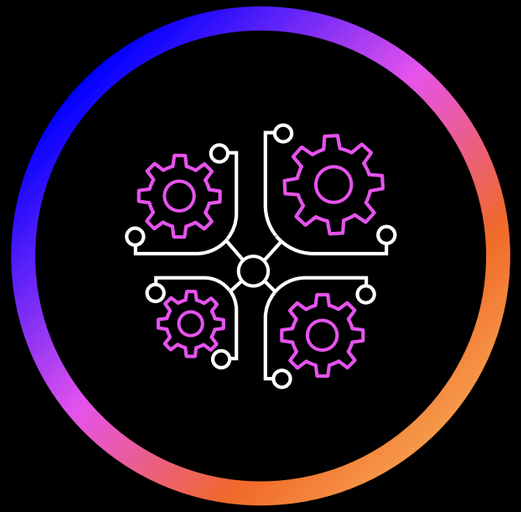


AWS re:Invent

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MAKE A PLAN FOR YOUR APPLICATION PORTFOLIO



BUILD AN OPERATING MODEL & A SERVICE MANAGEMENT FRAMEWORK



DON’T DO IT ALONE!

USE AN EXPERIENCED PARTNER



MAKE A PLAN FOR YOUR APPLICATION PORTFOLIO



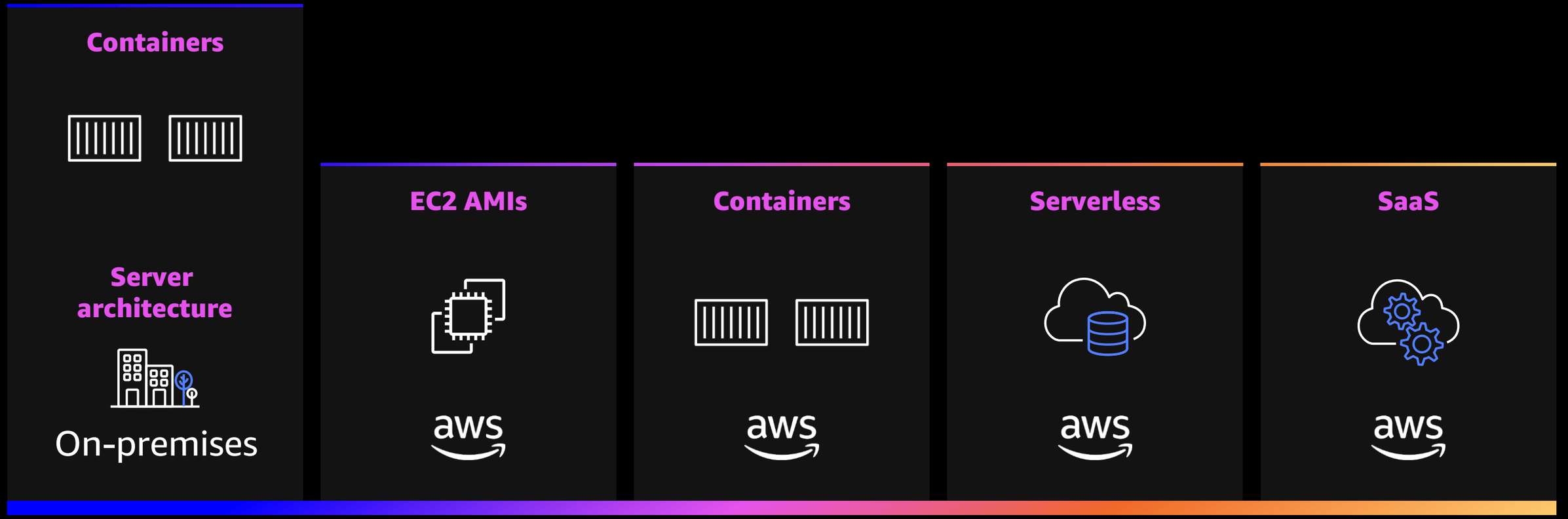
BUILD AN OPERATING MODEL & A SERVICE MANAGEMENT FRAMEWORK



DON'T DO IT ALONE!

USE AN EXPERIENCED PARTNER

Modernization of the enterprise application portfolio presents lots of choices & decisions



Server architectures are often monolithic

High potential for cost rationalization

Make a plan for your application portfolio

FOCUS ON YOUR DIFFERENTIATORS

Reduce the size of your estate*



Retire **10%+**



SaaS **20%**

Move to AWS



Lift & shift

+ **50%**



Re-platform

Transform on AWS



Modernize

Serverless / containers / microservices

20%

Proven application migration customer journey

ASSESS

Migration Evaluator

Rapid migration business case (RMBC)



Rapid discovery



TCO report

Pre-MRP accelerators



Briefings & workshops

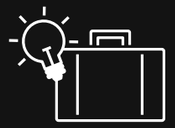


Immersion day

MOBILIZE



Discovery and planning



Business case



Migration plan



Landing Zone



Security & compliance



Operating model



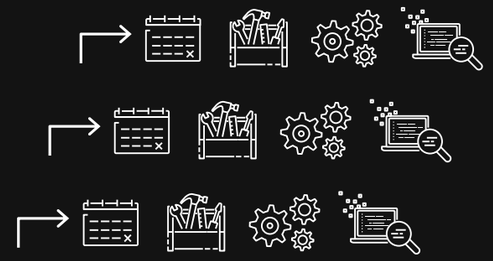
Migration experience



Skills / center of excellence

MIGRATE & MODERNIZE

Migrate



Operate



Modernize



CREATE A CASE FOR CHANGE

MOBILIZATION THROUGH EXPERIENCES

ACCELERATE MIGRATION AT SCALE

Rich toolset to support each phase of migration

ASSESS | MOBILIZE | MIGRATE & MODERNIZE | OPERATE AND OPTIMIZE

AWS

INVENTORY
- Migration Evaluator
- AWS Application Discovery Service

BUSINESS CASE
- Migration Evaluator
- Migration Portfolio Assessment

DEEP DISCOVERY
- AWS Application Discovery Service

PLANNING
- AWS Application Discovery Service
- Migration Portfolio Assessment

LANDING ZONE
- AWS Control Tower
- AWS Service Catalog

WORKLOAD AND DATA MIGRATION
- CloudEndure Migration
- AWS Server Migration Service
- AWS DataSync
- AWS Database Migration Service

OPERATIONS
- AWS Management & Governance Services

AWS Migration Hub

PARTNERS

INVENTORY
ATADATA™, bmc, Corent, Flexera, modelizeIT

BUSINESS CASE
CloudChomp, Cloudamize, CloudHealth TECHNOLOGIES, turbonomic

DEEP DISCOVERY
ATADATA™, bmc, Corent, Flexera, modelizeIT

PROFILING & VALIDATION

APPDYNAMICS, dynatrace, New Relic, DATADOG, NETSCOUT

PLANNING
ATADATA™, bmc, Corent, Flexera, modelizeIT

WORKLOAD AND DATA MIGRATION
ATADATA™, BURST, talend, NetApp, rivermeadow, ATTUNITY, wanDISCO

PROFILING & VALIDATION

APPDYNAMICS, dynatrace, New Relic, DATADOG, NETSCOUT

OPERATIONS
CloudHealth TECHNOLOGIES

PROFILING & VALIDATION

APPDYNAMICS, dynatrace, New Relic, DATADOG, NETSCOUT

Partner migration tools found on aws marketplace

AWS services addressing the on-premises to cloud phase

CREATE A SEAMLESS EXPERIENCE ACROSS THE EDGE, ON-PREMISES, AND IN THE CLOUD



VMware Cloud on AWS



AWS Outposts



Amazon RDS on VMWare



EKS Anywhere



EKS Distro



ECS Anywhere



Red Hat Open Shift on AWS (ROSA)



AWS Snow Family



AWS Storage Gateway



AWS DataSync



AWS Transfer for SFTP

Data transfer



Systems Manager



CloudWatch

Management & Governance



sallie mae®

“Now that we have our cloud platform, we’ve begun our journey to become more cloud-native and reshape the applications at the heart of our core business.”

—Mike Migliore

Senior Vice President of Application Delivery

Migrated 71 production applications in 7 months

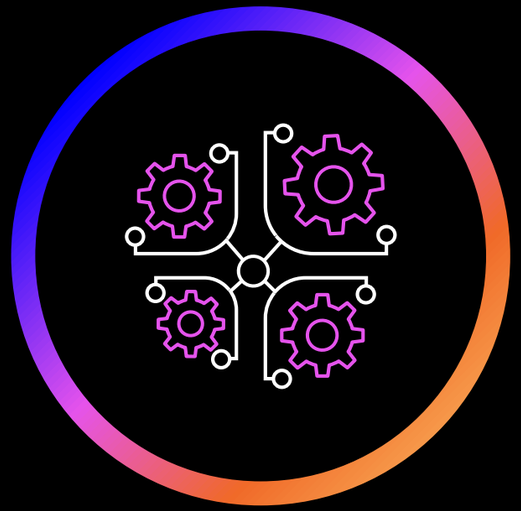
Cut planned maintenance by 30% through automated patching

Reduced costs by 30% and met savings objective in 1st year

Improved disaster recovery simulations by >50%



MAKE A PLAN FOR YOUR APPLICATION PORTFOLIO



BUILD AN OPERATING MODEL & A SERVICE MANAGEMENT FRAMEWORK



DON’T DO IT ALONE!

USE AN EXPERIENCED PARTNER

Why governance at scale is critical to transform



"By establishing a new Service Management Framework on AWS, built around CloudWatch, CloudFormation, Config, and Service Catalog, integrated with a number of our preferred software vendors, we established the confidence to migrate more workloads faster, knowing we could automate and govern secure operations at scale."

—Tristan Baker, Chief Architect of Data Platforms, Intuit

Identify technical / IT domains to modernize *for better automation and governance*



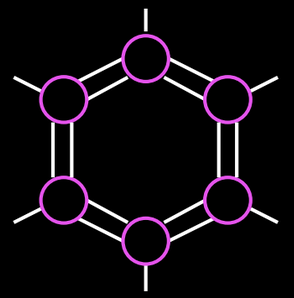
Virtual machine formats, OS standards & patch management



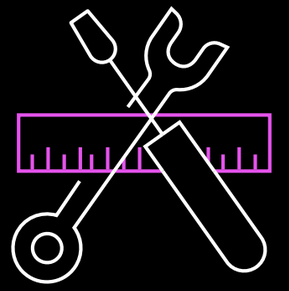
Security, identity, and network



Storage and database tools



Monitoring and control mechanisms



Training and learning new skillsets & tools

AWS enables faster cloud adoption by removing barriers

AWS management and governance automation services enable an operating model



Set up governance



Enable compliance



Provision & orchestrate



Monitor & observe



Centralize operations



AWS Control Tower



AWS CloudTrail



NEW! AWS Proton



NEW! AWS Distro for OpenTelemetry



Amazon CloudWatch



AWS Systems Manager



AWS Organizations



AWS Well-Architected Tool



AWS License Manager



AWS Marketplace



AWS CloudFormation



AWS X-Ray



AWS Cost Explorer



AWS Budgets



AWS Config



AWS Managed Services



AWS Service Catalog



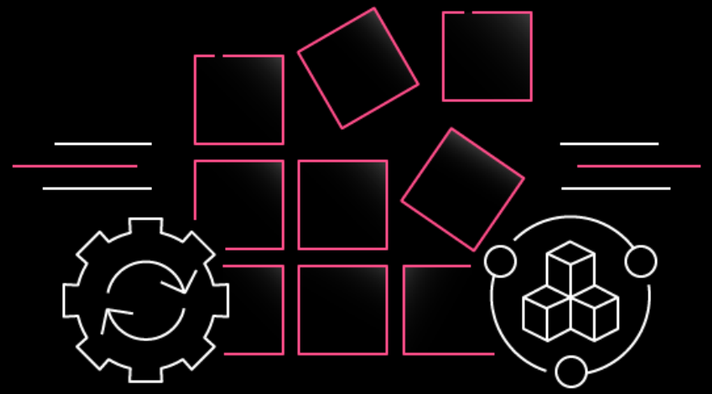
AWS Cost and Usage Report

INTRODUCING

AVAILABLE TODAY

AWS Well-Architected Management & Governance Lens

MANAGE AND GOVERN CLOUD APPLICATION ENVIRONMENTS



Use what you know by leveraging third-party software now integrated with AWS services

Stay in control by following prescriptive guidance for operational effectiveness and oversight

Achieve visibility at scale as resources, data, and applications change in a dynamic environment

Accelerate cloud migrations by following best practices learned from thousands of successful migrations

LEARN MORE | MGT305: Announcing the AWS Well-Architected Management & Governance Lens

Sample – Customer Service Management Framework

SECURITY

paloalto NETWORKS
Symantec
TANIUM
ARCHER

DEVELOPER PORTAL

GitLab
Jenkins
CLOUD FOUNDRY
ATLASSIAN

CLOUD CENTER OF EXCELLENCE

Dome9 SECURITY
AWS Service Catalog

MONITORING

New Relic.
(x) matters
Moogsoft
servicenow

FINANCIAL MANAGEMENT

coupa
workday.
APPTIO

AWS MANAGEMENT & GOVERNANCE PORTFOLIO

- AWS Identity and Access Management
- AWS Organizations
- AWS Control Tower
- AWS Config
- AWS Service Catalog
- AWS Marketplace
- AWS CloudFormation
- AWS Systems Manager
- AWS CloudTrail
- Amazon CloudWatch

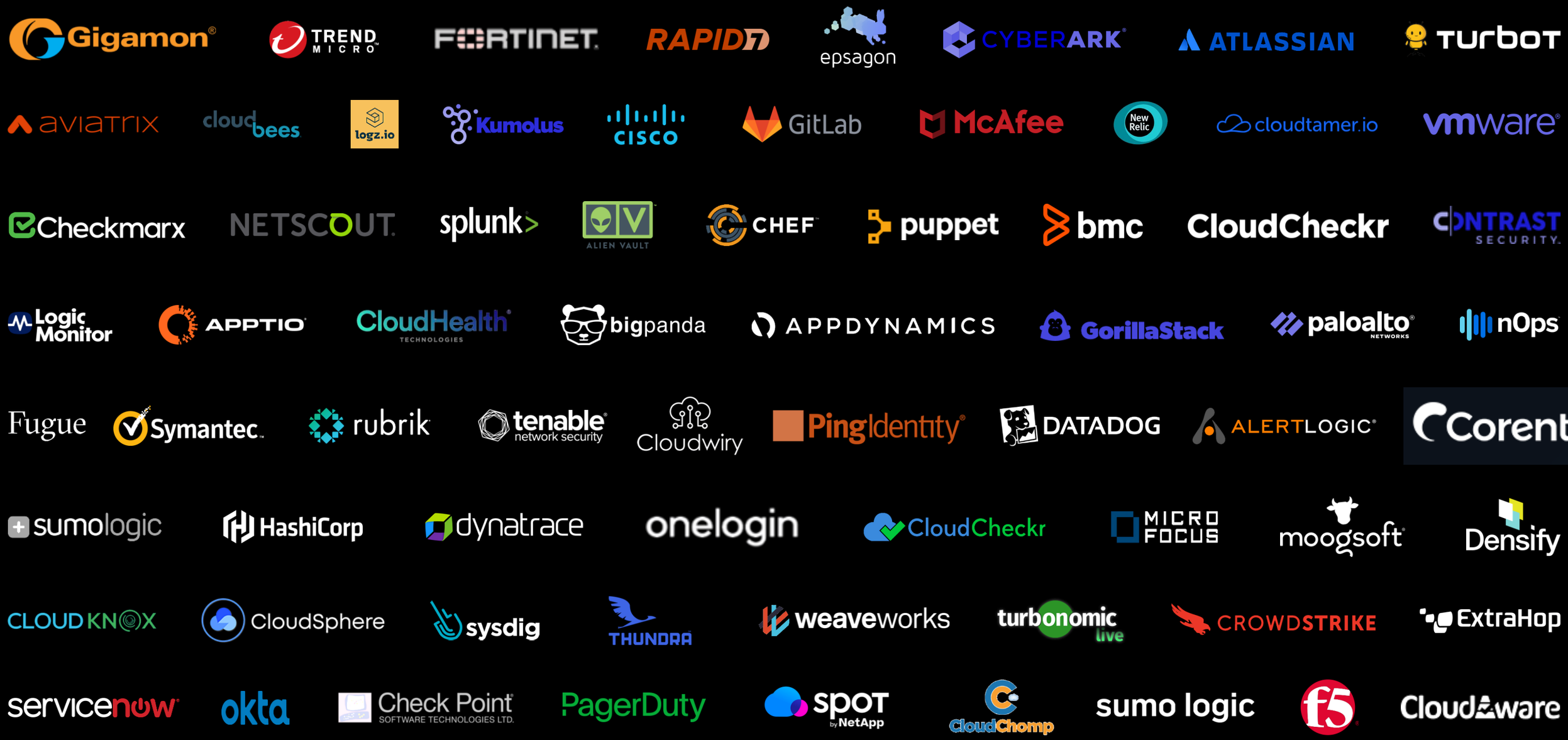
AWS RESOURCES

EC2 | Amazon Redshift | S3 | EBS | EKS

ON-PREMISES RESOURCES

OTHER CLOUD RESOURCES

Management and governance partners we're working with



Software is modernized in four buying centers

PROCUREMENT, LEGAL, IT FINANCE [CHICAGO]

aws marketplace

SAP Ariba

coupa

servicenow

APPTIO

CIO

Business Application Portfolio

BU CIO: App Portfolio

BU CIO: App Portfolio

BU CIO: App Portfolio

VP BIG DATA

Enterprise intelligence

- Machine learning
- Third-party data
- Big data and data lakes

Amazon Redshift

VP INFRASTRUCTURE & OPS

OS portfolio standards: Windows 10, Red Hat

Storage formats: Amazon S3

Identity and access: AWS Organizations

BI and analytics: Amazon Redshift

Compute platforms: Amazon EC2

Monitoring & perf. mgmt.: Amazon CloudWatch

DevOps tools: AWS Service Catalog

DevOps tools: AWS Config

Networking: Amazon Route 53

Databases supported: Amazon RDS

Expenditure mgmt.: AWS Security Hub

Migration tools: MIGRATION HUB

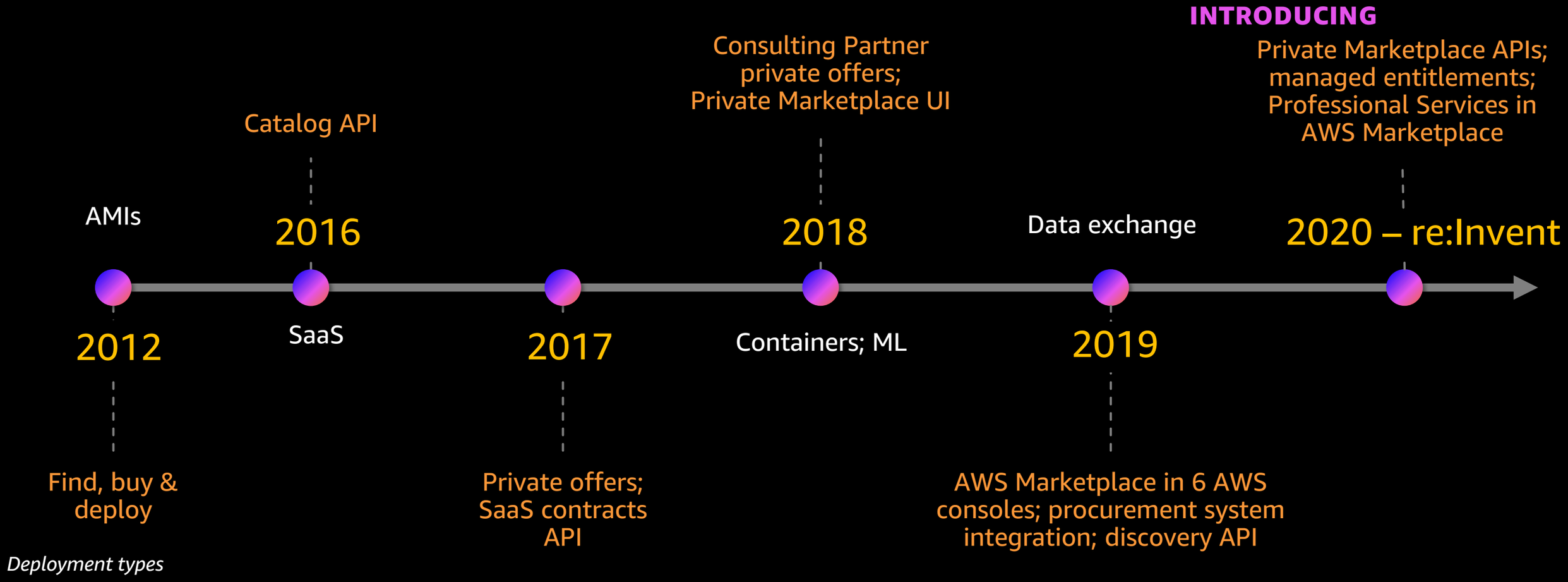
SECURITY—CSO

NETWORK SECURITY

ENDPOINT

THREAT DETECTION

AWS Marketplace provides 7,000+ software products for provisioning to simplify modernization



LEARN MORE | MKT203: Migrate & build faster on AWS with services in AWS Marketplace

LAUNCHING

AWS Service Catalog AppRegistry

PRE-ANNOUNCING

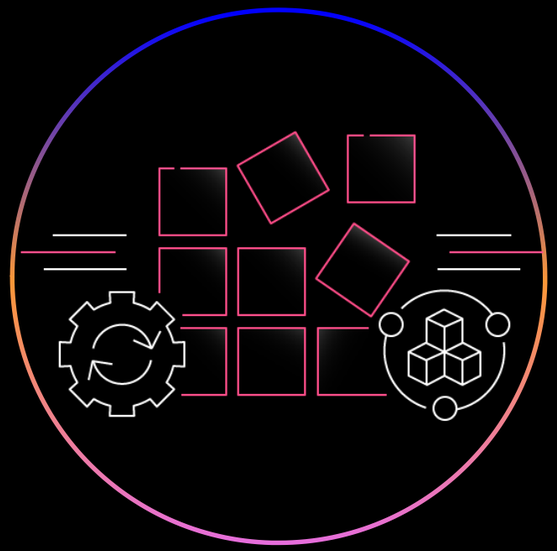
AWS Systems Manager
Application Manager

INTRODUCING

AVAILABLE TODAY

AWS Service Catalog AppRegistry

DEFINE AND MANAGE APPLICATIONS AND METADATA



Create application definitions
Including resource collections and metadata from AWS services and ISV partners

Maintain a single source of truth
By integrating AppRegistry with your application development processes

Get application context for your resources
Know what application your resource belongs to and vice versa

LEARN MORE | MGT302: Gaining application-level governance and cost visibility

Early reactions to AppRegistry

from management and governance partners



"... New Relic is excited to work with AWS on their launch of AWS Service Catalog AppRegistry and work together on solving our customers' problems."

—Bill Staples, Chief Product Officer, New Relic



"Pairing Apptio Cloudability's cloud cost management capabilities with data from AWS Service Catalog AppRegistry provides comprehensive visibility into the total cost of applications running on AWS . . ."

—Scott Chancellor, VP of Engineering



"AWS Service Catalog AppRegistry will help Cutover simplify the migration of applications to AWS and the orchestration of change once there, by making it easy to have a central registry of all applications . . ."

—Ky Nichol – CEO, Cutover



"AppDynamics and AWS helps our customers by ensuring application performance through their migrations and adoption to the cloud. AppDynamics is excited to continue partnering with AWS on AppRegistry."

—Vipul Shah, Chief Product Officer, AppDynamics



"We are excited to support AWS AppRegistry to enable customers to better control costs, meet and exceed compliance standards and optimize AWS deployments. Splunk is proud to provide the application observability support to customers for this tool and continue to serve our joint customers by enabling greater visibility into the complete cloud environment and operations."

—Bill Hustad, Vice President of Global Go to Market, Partners at Splunk"



"With AWS Service Catalog Application Registry, we can now help segment complex application workloads and track changes in resources across AWS accounts . . ."

—Joseph Spurrier, CTO – cloudtamer.io

INTRODUCING

PRE-ANNOUNCING

AWS Systems Manager Application Manager

MANAGE APPLICATIONS, NOT JUST INDIVIDUAL RESOURCES

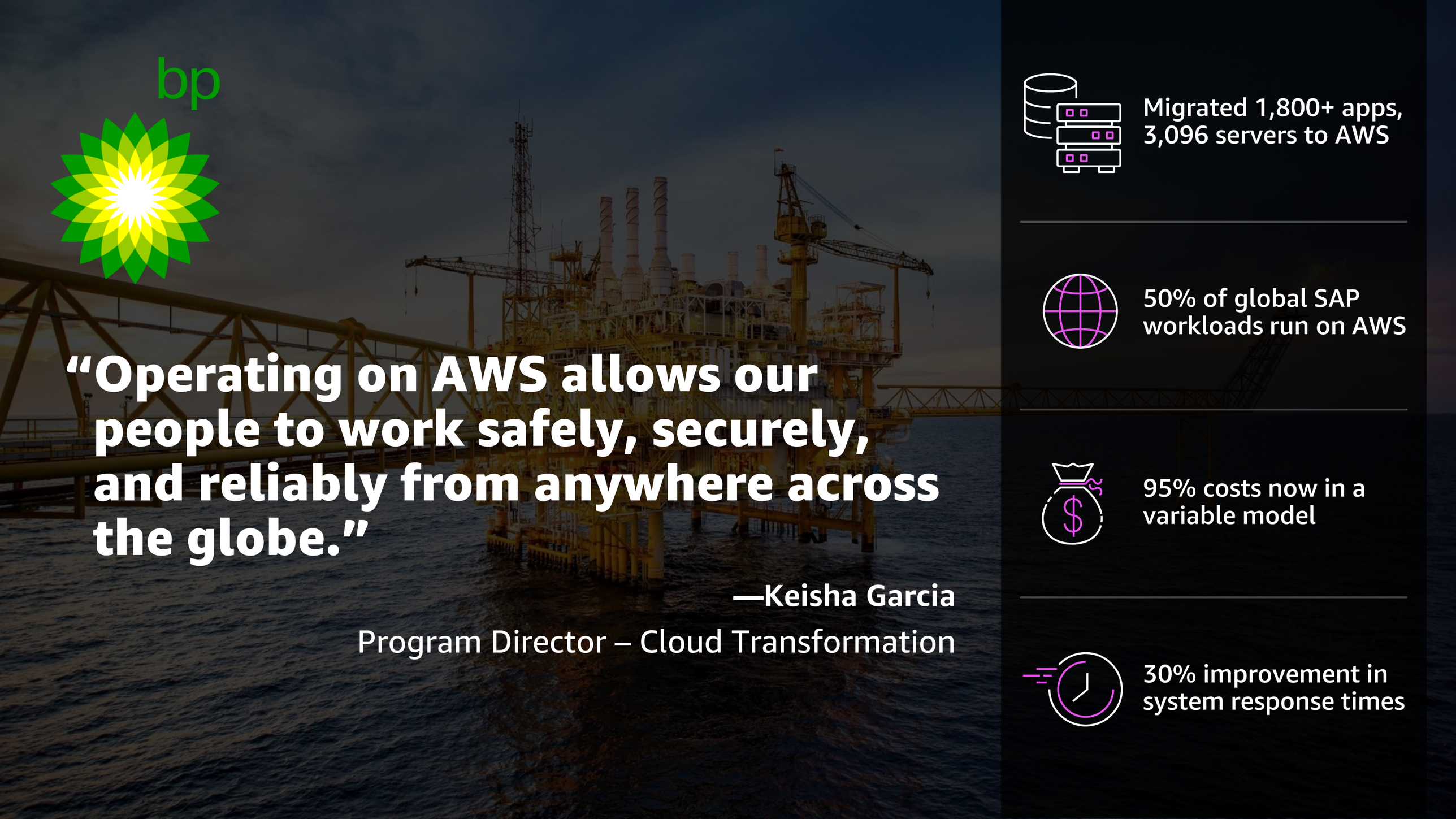


Discover application components and dependencies
Like resources, configurations, and operational issues

View operational data for applications
Aggregated from multiple AWS services

Take actions in the context of applications
Remediate using automation runbooks

LEARN MORE | MGT401: Automate anything with AWS Systems Manager



bp

“Operating on AWS allows our people to work safely, securely, and reliably from anywhere across the globe.”

—Keisha Garcia

Program Director – Cloud Transformation

Migrated 1,800+ apps, 3,096 servers to AWS

50% of global SAP workloads run on AWS

95% costs now in a variable model

30% improvement in system response times

We are inspired by a single vision:
Transforming patients lives through science.



Paul von Autenried
Executive Vice President
and Chief Information Officer
Bristol Myers Squibb

Bristol Myers Squibb™

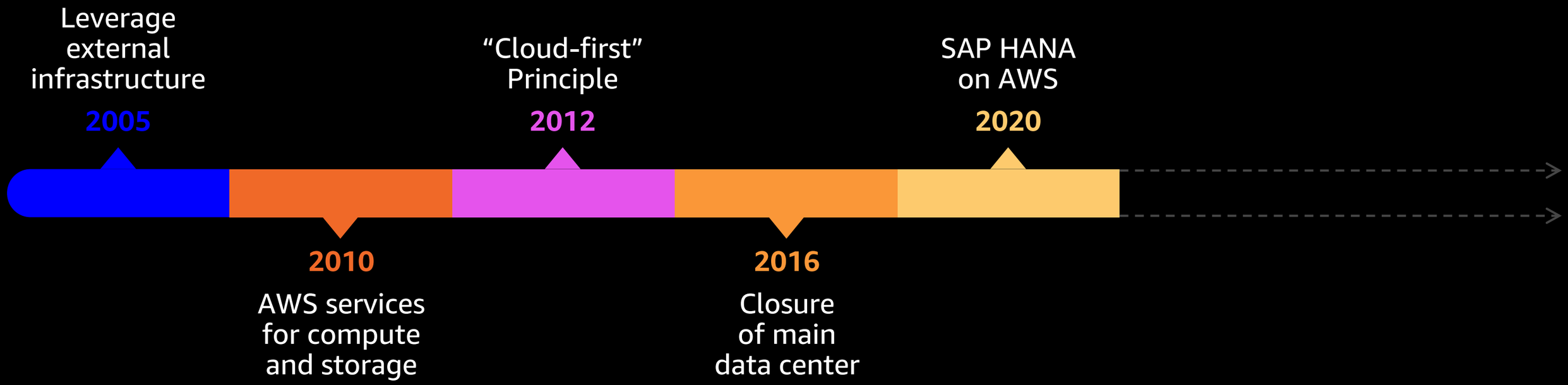
Building the *leading* biopharma company

- Oncology
- Hematology
- Cardiovascular
- Immunology
- Fibrosis

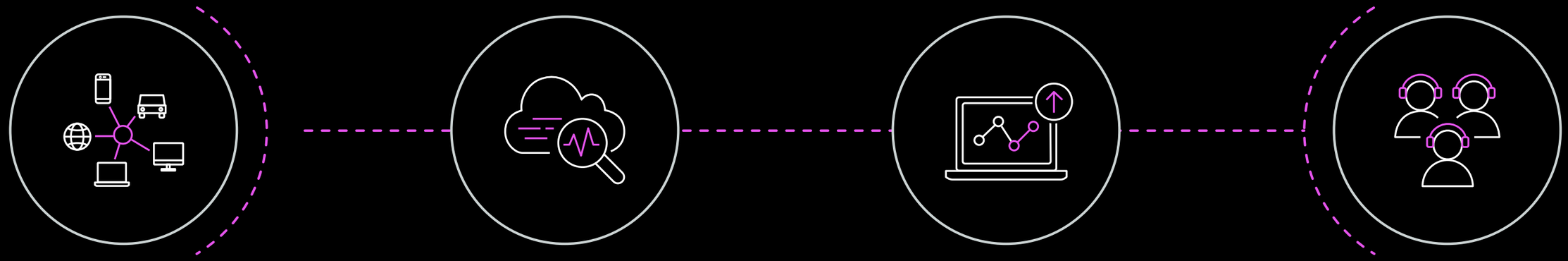


Bristol Myers Squibb™

Drivers of our shift to Cloud



BMS business results driven by cloud



Increase IT elasticity

Efficient access to real-world healthcare data for researchers

Greater agility during acquisitions and divestures

Smooth transition to remote working for a global workforce

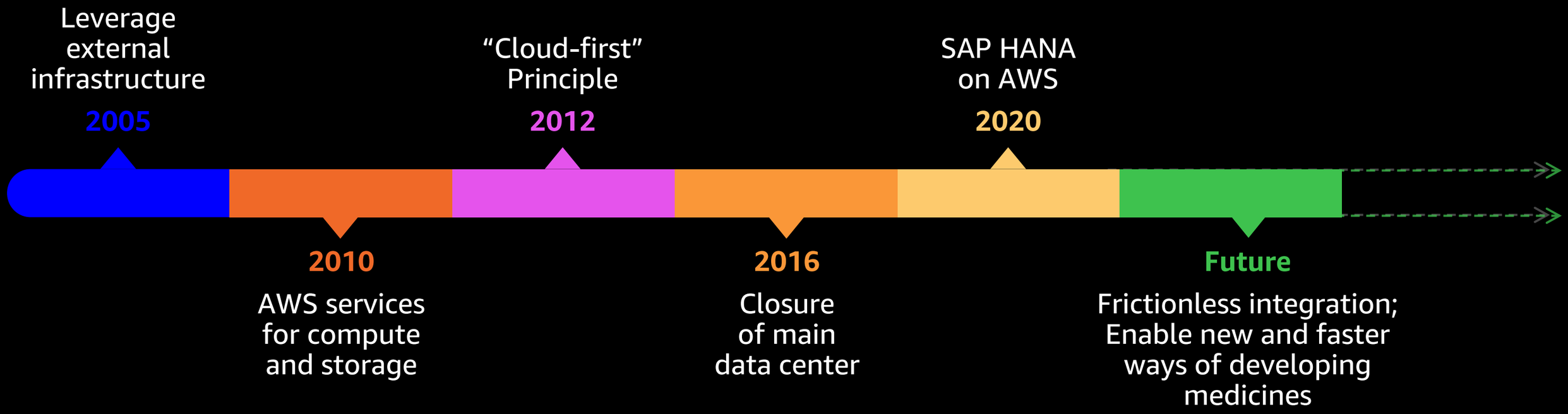
Our scientists and researchers should be focusing on *our mission*

Prepackaged governance kits simplify serverless journey

Serverless kits help our internal IT solutions run like mini-SaaS



Look to the future



Our Patients are at the center of everything we do.



Bristol Myers Squibb™



MAKE A PLAN FOR YOUR APPLICATION PORTFOLIO



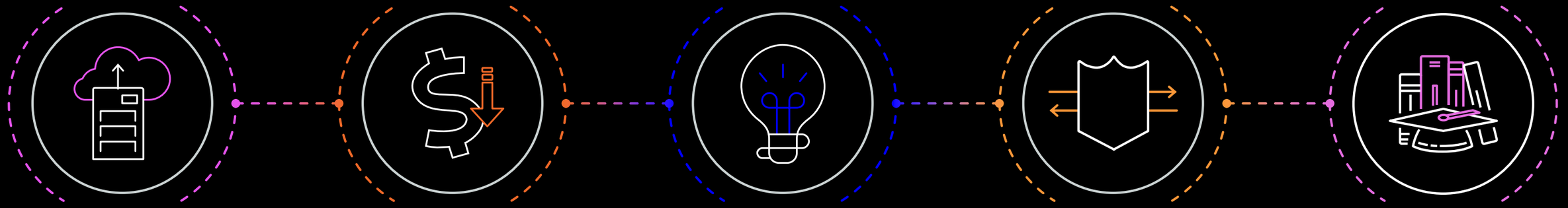
BUILD AN OPERATING MODEL & A SERVICE MANAGEMENT FRAMEWORK



DON’T DO IT ALONE!

USE AN EXPERIENCED PARTNER

Why involve a partner?



Reach desired business outcome faster

Reduce your operational costs

Focus on innovation

Reduce security and compliance risk

Develop your skills

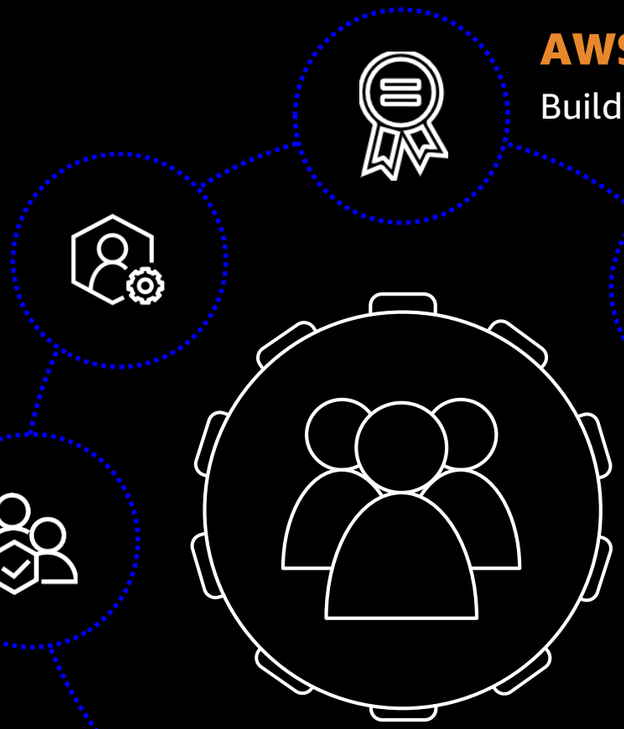
AWS Migration Competency Partners now exceed 130



- AWS Migration Competency Partners (130+)
- Established AWS migration practice
- At least advanced-level AWS Consulting Partner
- AWS certifications and certified consultants

AWS customer skills enablement

MIGRATE AND BUILD FASTER IN THE CLOUD



AWS Training and Certification
Build skills and validate expertise

AWS Managed Services
Operate your AWS infrastructure on your behalf

AWS Professional Services
Accelerate your business outcomes

AWS Partners
A global network with deep AWS expertise

Professional Services in AWS Marketplace
Services to configure, deploy, and manage third-party software

AWS IQ
On-demand help from AWS Certified third-party experts

AWS Support
People, technology, and programs to optimize and secure your environment

THOMSON REUTERS

Thomson Reuters migrates applications at scale to AWS to meet data center exit timeline

“We’re leveraging AWS’s comprehensive set of cloud services to develop insightful new products and services that will help our customers reinvent the way they work and operate effectively in complex arenas.”

—Justin Wright

Vice President of Architecture and Development



411 applications, 12,000 servers migrated



97.8% automation with 10x change volumes



Migration completed five months ahead of schedule



Developed internal platform to apply machine learning at scale

Actions we recommend

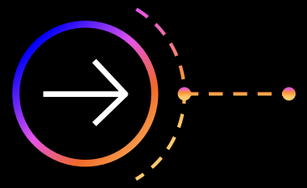
01 Be selective on which apps to transform; focus on differentiators

02 Design and build a service management framework to enable your cloud operating model

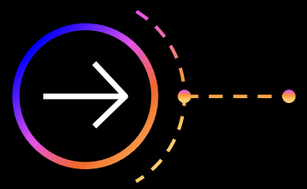
03 Choose partner(s) to guide you and bring skills and experience

aws.amazon.com/cloud-migration

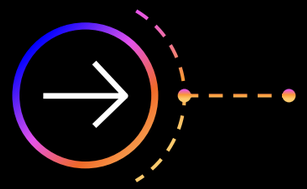
Sessions to attend



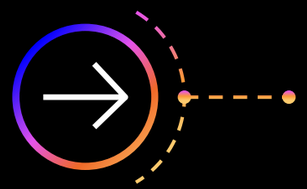
MGT302: Gaining application-level governance and cost visibility



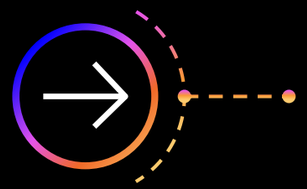
ENT213: Application modernization



MGT291-L: Speed up innovation with cloud management and governance



MGT401: Automate anything with AWS Systems Manager



MKT203: Migrate & build faster on AWS with services in AWS Marketplace

Thank you!

David McCann

Vice President, Migration, Marketplace and Control Services

aws.amazon.com/cloud-migration

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